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## design decade OCTOBER 1940

|  | INTRODUCTION | 217 |
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# THE MONTH IN BUILDING 

TRENDS. An upward surge in all types of building activity during July boosted the 1940 cumulative total of building permits above the 1939 mark for the first time (see tabulation, right). More quickly reflecting the industry's pulse, F. W. Dodge Corp.'s compilation of contracts awarded shows that August was the busiest building month since June 1930 when all business indices were coasting down the Depression slide. Thanks to national defense, construction contracts let on industrial buildings in August totaled $\$ 39.6$ million, four times the August 1939 volume.

PERMITS
(Source: U. S. Dept. of Labor)

|  | Monthly data |  |  | First Seven Months |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | July '40 (millions) | $\begin{aligned} & \text { Compar } \\ & \text { June ' } 40 \end{aligned}$ | with July '39 | $\begin{aligned} & 1940 \\ & \text { (millions) } \end{aligned}$ | Comparison with 1939 |
| Residential | . . \$118.0 | +25\% | +22\% | \$694.2 | +7\% |
| Non-residential | .. 63.5 | +28 | +14 | 320.2 | -9 |
| Additions, repairs | .. 33.7 | $-5$ | +15 | 201.5 | -1 |
| TOTAL | . 215.2 | +20 | +19 | 1,215.9 | +1 |

LANDLORD. Manager of 365 apartment projects and personal landlord of some 640,000 people is a big job. Month ago it was dumped on the broad shoulders of short, balding William P. Seaver when the Senate confirmed his appointment as Assistant Administrator of the U.S. Housing Authority. In his new capacity, Seaver will supervise the management and operation by local housing authorities of completed public housing projects.
Until this year USHA's management problem was small, for in January only eight projects had been opened to ten:nts. Today, with about 65 projects open, the problem is huge. And, it will increase every month until the last of the $\$ 800$ million program's 365 projects for 640,000 people, 160,000 families, are finished. (About 270 of them in 30 different States are now under construction.) To solve it, USHA selected a freckled and bespectacled man well versed in most every phase of building. Seaver has been an architect, engineer, real estate operator, banker and at the time of his USHA appointment was the New York zone manager in charge of rental housing for the Federal Housing Administration. He has estimated costs and supervised construction on 300 four- to twelve-story residential projects financed by the New York Title Co.; he has designed subways, "elevateds," sewer systems, a $1,300 \mathrm{ft}$. pier and the approach to New York's Manhat$\tan$ Bridge; he has organized one New York bank and as consultant to another has appraised and managed 430 distressed business and residential properties.
"My job," says new Assistant USHAdministrator Seaver, "is to see that only low income families become tenants . . . [and] involves making homes of houses, neighborhoods of projects."

RUMOR of the month, checked as far as possible by The Forum, has Promoter Roy S. Thurman about to launch a second and smaller edition of Rockefeller Center (without the Rockefellers) for the nation's capital and has famed Modern Architect Frank Lloyd Wright as the chosen designer. Through the screen of "the most fantastic secrecy" which month
ago was supposed to be veiling the development, several details could be seen: to cover a twelve-acre Washington site, the proposed project will probably include a skyscraper hotel, several apartment buildings, shopping facilities, a motion picture theater, an auditorium and a park. Also perceived was a lack of financial backing for the $\$ 12$ million rumor.
That Washington has everything to gain by adding to its becolumned skyline a project by the No. 1 U. S. architect is not debatable. Nor is the physical need for such a project: In addition to the horde of Government workers who came to Washington in the New Deal's wake and upped the population about 36 per cent in the last ten years ( 1940 pop.: 663,153 ), official estimate is that 10,000 more have been added to the payrolls this year as national defense office employes. Result: despite the recent building boomlet, there is still a shortage of residential and office quarters.

DEFENSE. Slow at first, the giant wheels of national defense gathered speed last month, ground out many a significant development for Building:
Biggest news of the month for every U. S. industry was enactment on Septem-


William P. Seaver-Nation's Mo, I Landilord
ber 16 of the nation's first peacetime compulsory military training law. For the building industry, and particularly those parts of it affiliated with the Army, it means the rapid production of housing for draftees. Immediate plans include the calling by January 1 of 400,000 men between the ages of 21 and 35 , inclusive, and a like number by next Spring. But, according to a last-minute amendment to the conscription bill, none of these men may be inducted into the army until housing accommodations have been provided which meet the standards generally accepted by the U. S. Public Health Service. To cover the cost of this Army housing (estimated at about $\$ 350$ per draftee) as well as transportation, food, etc., Congress was expected to pass in jig time an appropriation bill involving about $\$ 1$ billion. ( $\$ 338$ million for housing was appropriated fortnight ago.)
Also on September 16 the President exercised his recently granted authority to muster the States' armed forces and the Reserve Officers into the regular Army by calling 60,500 of the 240,000 National Guardsmen to the colors for a one-year period. And, just ten days later the President trumpeted the bugle for another 35,700 . Thus, almost over night the nation's armed forces jumped from 316,000 (enlisted strength at mid-September, about 85 per cent of the authorized 375 ,000 maximum) to 414,000 . And bigger jumps are still to come. Result: the Army finds itself with an acute housing problem. - To the rescue came Congress with its second supplemental defense appropriation bill which provided $\$ 128$ million for troop cartonments and housing facilities (enough to care for continually expanding enlisted personnel, all the Guardsmen to be called and with some left over to care for about 100,000 draftees). Also in the bill was an appropriation of $\$ 100$ million for the construction of dwelling units for married enlisted personnel, married civilian employes of the Army, Navy and Marine Corps and the families of workers engaged in defense industries. As finally enacted, the bill gives the $\$ 100$ million to the President who will allot it to the Army, Navy and Maritime Commission who, in turn, may choose any Government

## Mssourit turerid passwoon

... PROVED PRACTICAL IN DESIGN DECADE


THIS SOLUTION to a given living-room problem is highlighted by the recessed bay effect for the long window, produced by furring down the ceiling with Masonite Tempered Presdwood. The built-in sofa is flanked on either end by a built-in Tempered Presdwood utility cabinet.


THIS IS AN ALTERNATE SOLUTION to the same problem, stressing utility. Built-in sofa is flanked on one end by a built-in Tempered Presdwood desk, and on the other by a built-in radio cabinet. This design also allows more space for bookshelf area. Notice cubby-holes beside desk.

Many achievements of design decade would not have been possible without Masonite Tempered Presdwood. When this board became known in the early ' 30 s , it fired the architect's imagination. Here was a material he had been looking for - a material that opened up unlimited possibilities for new and unusual treatments. An all-wood fibre board . . . hard . . grainless . . . moistureresisting $\ldots$. with a marble-smooth surface that can be cut or sawed into every conceivable shape with ordinary woodworking tools. A surface that will not warp, chip, split or crack when properly applied. And above all, a material that can produce expensive-looking effects at low cost. Today the possibilities of Masonite Tempered Presdwood are being explored more than ever. Shown on this page are two alternate solutions to the same living-room, illustrating the flexibility Tempered Presdwood combines with permanence and durability.


REG. U. S. PAT, OFF.
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## THE MONTH IN BUILDING

agency they wish to handle the necessary construction.
The last provision, or possibility, permitted the U. S. Housing Authority to get only one of its feet inside the door, despite its fight to get all the way in. With a paternalistic interest in USHA, Senator Robert F. Wagner (Dem., N. Y.) before the bill's passage hot-footed it to the White House, squawked to the President about discrimination against his USHA, and between the two of them influenced the Senate to authorize direct allotments to USHA at the discretion of the Army or Navy. But, when the bill came back to the House for concurrence in Senate changes, the Representatives balked until the door was again all but shut on USHA. Unfriendly to USHAdministrator Nathan Straus and cohorts, the House is doing its best to see that the public housing agency has little, if any, part in the national defense program.
Of financial importance for private builders, the wording of the act limits the average dwelling unit cost of housing under the President's fund to $\$ 3,500$ including land, utilities, accessories and other collateral expenses. (In the opinion of experts this unit cost limitation throws the program toward the construction of small detached houses rather than toward the building of multi-unit structures.) It also permits the Government agencies to let the work out to contractors on a fixed fee basis without advertising for competitive bids.

- Still on the legislative fire when The Forum went to press was another housing bill which would authorize an appropriation of an additional $\$ 150$ million also to be entrusted to the President for distribution. As passed by the House, the bill instructs the President to allocate the money to the Federal Works Administration and then instructs FWAdministrator John M. Carmody to proceed with the housing program through the Public Buildings Administration, a subsidiary agency which has been building Government buildings for years and was once known as the Office of the Supervising Architect of the Treasury. Unlike USHA whose public housing projects are actually built by local housing authorities, PBA has authorization for and is experienced in direct construction whereby it lets contracts to private builders either via competitive bidding or the more likely cost-plus-fixed-fee procedure. The House draft of the bill limits the average cost per dwelling unit to $\$ 3,000$ within the continental U. S. and to $\$ 4,000$ elsewhere. (Reason for the latter limit: building costs are extremely high in Alaska.) In addition, average costs notwithstanding, no single unit may itself cost more than $\$ 3,950$ in U. S. proper ( $\$ 4,750$ outside),
exclusive of administrative expenses, land acquisition, public utilities and community facilities.

Other features of the bill worth noting: 1) PBA would be given broad powers in disposing of the housing after the emergency and would not be required immediately to dump the properties-an action which might depress the housing market and involve unreasonable Government

## STATUS on September 25 of national defense legislation that affects the building industry: <br> \section*{APPROPRIATED:}

$\$ 128$ million for Army cantonments and housing facilities to care for expanded enlisted personnel and recently inducted $N a$ tional Guardsmen.
$\$ 100$ million for allocation by the President to house military personnel, defense workers and families. Construction is to be handled by any agency.
$\$ 100$ million "blank check" for the President, $\$ 10$ million of which has been carmarked for RFC Mortgage Co. to invest in FHA-insured rental housing projects.
$\$ 338$ million for the Army to cover the cost of buildings, housing and incidental construction at military posts to care for draftees.
PENDING:
$\$ 150$ million for the President to allocate for general defense housing purposes to Federal Works Agency for construction by either Public Buildings Administration or "any agency."
losses. One possibility is that PBA might turn the projects over to local housing authorities for the accommodation of low incomers. 2) PBA is authorized to build for the account of other agencies using their funds. This provision dovetails handily with the Army and Navy housing program launched in the second supplemental defense appropriation law (see above). Plans are already afoot whereby the Army and Navy will farm out most of its housing construction to PBA. 3) PBA may call on local real estate companies to operate and manage its projects, if it so desires. 4) There is no requirement that PBA charge rents sufficient to make its projects self-liquidating. On the contrary, the agency would probably charge defense industrial workers whatever they can pay and subsidize its housing to the tune of the unearned balance of the economic rent.

Such was the bill as it was sent to the Senate fortnight ago. But, it was substantially altered before it got there. A Senate committee, mindful of FHA worries about the effect of defense housing on real estate conditions in communities where it has
written much mortgage insurance, added a clause giving FHAdministrator Stewart McDonald the next thing to a veto power over the President. Thus, the Senate committee would like to have the FHA check and approve the President's designations of housing shortages to be relieved by PBA-built housing. Moreover, being considerably less antagonistic to USHA than the House, the Senate committee suggested that specific mention of PBA be omitted from the bill, that the term "any agency" be substituted. Unless these differences of opinion are ironed out on the Senate floor, chances are that the legislation will become balled up in the conference committee where members of both houses must adjust the two versions of the bill and bring out one that is mutually satisfactory; and House conferees are not apt to give an inch on their stand against USHA. Even when the bill is passed it will still take another act of Congress to oil the established machinery with funds. (The $\$ 150$ million will have been only authorized, not appropriated, as is the $\$ 100$ million for military housing, see above.)

- A fourth housing plan took shape last month as the President allotted to the RFC Mortgage Co. a $\$ 10$ million piece of the $\$ 100$ million "blank check" which Congress sent him some time ago. If FHA will agree to insure the private enterprise mortgages that will be involved, RFC's multi-millionaire president, Jesse Jones, may use this money for 20 per cent equity investments in rental housing projects such as have been built right along under FHA's large scale housing program. Plan is that these projects be built for normal or long range markets which will be little affected by termination of the national emergency. RFC would step in where private equity investors hesitate, then after the projects are complete and operating successfully try to sell out. On the basis of 20 per cent investments, the $\$ 10$ million would produce about $\$ 50$ million worth of moderately low rent housing, and perhaps more; for, if private enterprise buys out the Government, the $\$ 10 \mathrm{mil}-$ lion would become, in effect, a revolving fund. Accomplishment of this phase of the defense housing program hinges on the agreement of wary FHA to insure the mortgages. If it does and if private capital is leery of the mortgages as well as the equity investments offered, Jesse Jones may finance the total cost of the initial projects to get the ball rolling. Idea is that when timid private investors see S. R. O. signs in front of these trail blazing projects, they will buy the FHA-insured mortgages as well as the equities and will be less cautious about launching additional projects.

Hatched in discussions between Defense Housing Coordinator Charles F. ("Chuck") Palmer and several Government housers, this part of the program at mid-month was still far from perfection.
(Continued on page 50)


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# FORUM OF EVENTS 

## WESTERN ARCHITECTURE INVADES SHANGHAI



Warning evil spirits from sliding down the steel work to harass prospective tenants, a piece of old temple cornice rests temporarily on top. In U. S. the roof tree suffices. Buildings under construction are totally enclosed with woven bamboo-shown at bottom of picture in enlarged detail.


East met West in Shanghai's famed civic center, now in ruins as a result of the war.


Foundations are on piles driven into Escalators have penetrated newer department the soil with this heave-ho pile driver. stores and Western cosmetics are prized.


For the Great China Hotel, take three parts Classic Renaissance to one part Chinese and serve to taste.


But for the bamboo sun shades, this block of apartments might be at home in Vienna or Philadelphia.

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Your telephone company will be glad to co-operate in planning efficient, economical telephone facilities. Just call the Bell Telephone Business Office nearest you and ask for "Architects' and Builders' Service."
FORUMOF EVENTS

## A. R. P. VIGIL AT ST. PAUL'S



Sir Muirhead Bone, Admiralty Artist, recording events of this war as he did in 1914-18, pictures a night watch by volun teers chiefly from the architectural profession On the evening of September 11, shortly after Sir Muirhead made this sketch, a one-ton time bomb fell in the churchyard, and after four days and nights of digging the British "suicide squad" succeeded in dislodging it and carried it to the Hackney marshes where it was harmlessly detonated.

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Independence Hall in Philadelphia, if Board of Trade's Planning Committee ideas carry through, will face a new "Constitution Gardens," reconstructed as of the 18th century.

Tacoma Narrows Bridge, now open, gives direct access from Tacoma to peninsular area north, hooks up defense units at Bremerton Navy Yard, Fort Lewis and McChord Army Air Field. C. H. Eldridge, engineer.

(Forum of Events continued on page 64)

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THE BULLETIN BUILDING in Philadelphia: an example of the effects that may be achieved with ARMCO Stainless. Doors, details and trim are 18-8 chromium nickel stainless. Architect: George Howe.

# in the design decade 

ROTUNDA of the land-plane building of LaGuardia Field, New
York, illustrates the appropriateness of ARMCO 18-8 Stainless
for interior work. Doors, frames, moldings and counters are
made from this versatile metal. Architects: Delano \& Aldrich.


At the beginning of the Design Decade, stainless steel was neither plentiful nor its architectural possibilities clearly understood. All that has changed. Today there is an abundance of flat-rolled stainless, the kind most commonly employed. Architects and other building men realize that this versatile metal has almost unlimited applications: that first it is available in various finishes, from a soft, satiny surface to a high mirror polish; that it is a solid rustless metal; that it may be formed readily to any conceivable design; that it will not tarnish or stain; that even when its shimmering surface becomes soiled it cleans with magic ease; that its cost is not excessive when its many benefits are weighed. But perhaps the most important attribute of stainless steel is its equal facility in either patrician role or plebeian. Stainless steel is truly the metal that meets artistic desires and pleases common eyes.

From canopy to kitchen it is in character all the way. Stainless steel has made great strides in this Design Decade. It will make greater strides in the next. We invite your interest in Armco Stainless Steel, and in our broad facilities for helping you make the most of your conception. The American Rolling Mill Company, 2651 Curtis Street, Middletown, Ohio.


STAINLESS STEEL

FROM CANOPY TO KITCHEN, ARMCO Stainless is in character.
This kitchen of the FORUM Cafeteria in Chicago, with its bright, easy-to-clean stainless equipment, is attractive and will remain that way for years. Architect: George B. Franklin.


## BRIXMENT Mortar is More DURABLE!

FOR permanent strength and beauty, mortar must be durable-must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.
Brixment mortar is more durable. This greater durability is due partly to the strength and soundness of Brixment mortar, and partly to the fact that Brixment is waterproofed during manufacture. This waterproofing helps prevent excessive moisture from entering the hardened mortarhence helps prevent scaling and spalling when the Brixment mortar is frozen.

Walls built with Brixment mortar therefore retain their original strength and appearance. Even in
parapet walls and chimneys, where exposure is particularly severe, Brixment mortar will never require re-pointing.


3



I940

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A brief decade ago, Tile-Tex was a stripling in the ranks of industry . . . serving well and striving to serve better . . . facing with confidence the years of tomorrows that lay ahead.

And so today, now that these tomorrows have become yesterdays, Tile-Tex has stepped forward from the ranks to assume leadership . . . leadership that is looked to in its own branch of industry for further guidance . . . for pioneering development and progress in the tomorrows yet to come.

When Tile-Tex pioneered the process of combining asphaltic binders with asbestos fiber and other ingredients for use as resilient flooring, it was hailed as a revolutionary discovery in the field of Soft-Tread Floorings . . . not alone for comfort and safety of footing . . . but as a forward step towards lower first and final cost.

The creation of Tile-Tex was an achievement in itself . . . yet the pioneers of this new product had the vision that impels unceasing search for betterment. Tile-Tex laboratory experts strove for greater breadths of utility . . . Tile-Tex designers sought for new beauty of pattern, colors and delicacy of shading . . . and Tile-Tex engineers concentrated on perfection and uniformity of production.

And so today, this pioneering company pridefully presents its contribution to a Decade of Progress . . . the beauty, comfort and utility of the Tile-Tex triumvirate!

## TILE-TEX FOR FLOORING

 TILE-TEX FOR WALLS AND NOW FLEXACHROMETo Help You and Your Staff

While all the details of these Tile-Tex products are available in Sweets Catalog, may we send you complete data and sheets . . . . helpful informative material for ready reference? Your request will bring it by return mail.

## ONLY A

## Ground ave $^{\text {Polished suss }}$

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THE accurate, mirror-like reflections provided by a quality structural glass are very important. They contribute vitally to the beauty and richness of the installation. They are largely responsible for the effect of spaciousness, elegance and modern smartness for which structural glass has become famous.
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* The new Suede-finish Carrara is subjected to special treatment, after grinding and polishing, to soften its surface reflections.


IT TAKES A QUALITY GLASS like Carrara, with a ground and polished finish, to provide accurate, mirror-like reflections such as those shown in these locker-room partitions.
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"A Promise is only a Promise-Performance is History". The following Ratings and Dimensions Table shows the actual performance record of the new ECONOLUX.

| Size No. | $\begin{gathered} \text { Gals. } \\ \text { Oil } \\ \text { Per Hr. } \end{gathered}$ | Capacity Rating |  | Dimensions |  |  |  | Heating Surface Sq. Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Steam } \\ & \text { E. D. R. } \end{aligned}$ | $\begin{aligned} & \text { Water } \\ & \text { E. D. R. } \end{aligned}$ | Floor Space | Water Line | Top of Boiler | Top of Jacket |  |
| 75 | . 7 | 300 | 480 | $20^{\prime \prime} \times 20^{\prime \prime}$ | $18^{\prime \prime}$ | $27^{\prime \prime}$ | $41^{\prime \prime}$ | 22 |
| 100 | 1.0 | 400 | 640 | $20^{\prime \prime} \times 20^{\prime \prime}$ | $23^{\prime \prime}$ | 34" | $48^{\prime \prime}$ | 30 |
| 125 | 1.25 | 550 | 880 | $20^{\prime \prime} \times 20^{\prime \prime}$ | $28^{\prime \prime}$ | 43" | $57^{\prime \prime}$ | 40 |
| 175 | 1.7 | 750 | 1200 | 281/2"x281/2" | $24^{\prime \prime}$ | 35' ${ }^{\prime \prime}$ | 49'1 | 50 |
| 225 | 2.2 | 950 | 1520 | $281 / 2^{\prime \prime} \times 281 / 2^{\prime \prime}$ | $27^{\prime \prime}$ | $41^{\prime \prime}$ | 55" | 60 |
| 250 | 2.5 | 1100 | 1760 | 281/2"x281/2" | $30^{\prime \prime}$ | 46" | $62^{\prime \prime}$ | 70 |
| 300 | 2.9 | 1300 | 2080 | $301 / 2^{\prime \prime} \times 301 / 2^{\prime \prime}$ | $29^{\prime \prime}$ | $43^{\prime \prime}$ | $59^{\prime \prime}$ | 80 |
| 350 | 3.4 | 1500 | 2400 | $301 / 2^{\prime \prime} \times 301 / 2^{\prime \prime}$ | 32 " | 48" | 64" | 90 |
| 450 | 4.5 | 2000 | 3200 | 301/2"x301/2" | $41^{\prime \prime}$ | $63^{\prime \prime}$ | 79" | 120 |

S. T. Johnson Co., Oakland, Cal., and Phila., Pa.

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In a few days Grasmoor House will be "home" to many discriminating families. They will choose this beautiful residence for the luxury of its interior design, the quiet refinement of its landscaped setting. Because cost-wise building men and architects know the value of steel construction, Stran-Steel was specified for Grasmoor House.

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## Survey on Wind Damage Shows

## the best records have been made


"DAMAGE TO ROOFS by wind is often a serious problem. Some of the wind damage is done by suction. Some is done by wind getting under exposed laps of roofing and ripping off large sections."
"WHAT ARE the records on this?"

"WIND DAMAGE to roofs without gravel or slag surfaces was more than twice as frequent as to coal tar pitch roofs . . . and the damage was almost six times as much."

"A TAR ROOF has 400 pounds of gravel or 300 pounds of slag every 100 sq . ft . That alone is considerable protection against wind damage. Laps aren't exposed; the whole roof is tightly, sealed by heavy top pouring of coal tar pitch."

'THE EFFECT of this is shown by a survey made by one company which is interested in roofing problems. It kept records of about 7,500 roofs over a five-year period ending last fall."

"WHEN YOU REALIZE that the pitch and gravel roof not only has greater resistance to wind damage but also greater resistance to sun damage, to water damage, to hail damage, to fire damage . . . you know why the coal tar pitch and gravel roofs have made the fine old records for long life."

When you hear of a built-up roof that has lasted 30 or 40 years, you usually find that it is of coal tar pitch. Nothing has happened in the roofing business to indicate that any other type of built-up roofing can equal those old records of the tar roofs.
For your own sake, specify Koppers Coal Tar Pitch Roofing.

OTHER KOPPERS PRODUCTS:
Tarmac Road Tars for paving drives, parking areas, walks, etc. . . . Bitminousbase Paints . . . Pressure-treated Piling and other timber products.

E
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## Why versatile Douglas Fir Plywood is one of today's most important design materials!

## There is a grade, a size and a thickness of this "modern miracle in wood" for every use!

- Douglas Fir Plywood's contribution to modern design is one of increasing importance. Its versatility, large sizes and great strength permit the combination of flexible planning and streamlined beauty with sounder, speedier construction. Thanks to this "modern miracle in wood," interior walls can be beautiful as well as crack and puncture-proof. Sub-floors can be squeakless as well as laid in half time. Walls can be nearly 6 times more rigid than when horizontal board sheathing is used. Concrete surfaces can be formed that are smooth and flawless. A grade or type of this engineered lumber has been developed for every building purpose. Each is stamped with a distinctive "grade trade-mark" to make specification and identification easy and simple.


## dribhilt methods are revolutionary :

Two other important developments are the Dri-Bilt with plywood methods. In the standard Dri-Bilt method, Douglas Fir Plywood replaces conventional materials for sheathing, subflooring, interior walls and ceilings, etc., and is applied by on-thejob methods. In the DFP Dri-Bilt method, wall and ceiling sections, etc., are pre-fabricated from the proper grades of Douglas Fir Plywood away from the job-site in shed or warehouse. Both methods cut weeks from building schedules. Both are accepted by FHA and approved in Uniform Building Code.

For more information, consult Sweet's Catalog or write for this free literature: Suggested Specifications for Douglas Fir Plywood; Dri-Bilt with Plywood Manuals; Finishing Booklet. Douglas Fir Plywood Association, Tacoma Building, Tacoma, Washington.

The diagram at right shows how the various grades of Douglas Fir Plywood should be used in home construction.


Finish roofing

5/16" Plyscord sheathing

1/4" Plywall ceiling

Insulation

3/8" Plywall

Asphalt paint
vapor barrier

5/16" Plyscord sheathing

EXT-DFPA exterior finish

Furring strip

1/2" Plyscord sub-floor

Concrete formed with $1 / 2^{\text {" }}$ Plyscord. which is then used for sub-floor

© The walls of this attractive living room in Newport-Balboa, California are $3 / 8^{\prime \prime}$ Plywall V-joined and lightly stained Th V -joined and lightly stained. The ceiling is Plyscord, painted. This combination was used effectively throughout the entire residence. Frank Green, architect.


Plyscord is the perfect base for every type of finish floor. It goes down in half time, never warps or cups, makes floor far more rigid .. an important facmore rigid... an important facor in earthquake or high wind areas. Iinoleum laid over Plyscord never shows boardmarks.


- Plyform was responsible for the smooth concrete walls oi Station WJSV, Wheaton, Md. James Middlebrooks, CBS engineer; Burton Corning, architect gineer, Burfon Corning, architect as exterior finish on the attractive Life House in Portland. Ore.


SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"

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EXT.-D.F.P.A.

## INDUSTRIAL DESIGN COMPETITIONS FOR THE 21 AMERICAN REPUBLICS

## COMPETITION PROGRAM

## Announcement:

The Department of Industrial Design of the Museum of Modern Art, 11 West 53rd St., New York City, announces the opening of two competitions for the twenty-one American Republics.

The first competition is open to any resident of the United States of America with the exception that employes of the Museum of Modern Art are not eligible to compete.

The second competition is open to any resident of the twenty other American Republics: Mexico, Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, Panama, Cuba, The Dominican Republic, Haiti, Venezuela, Colombia, Ecuador, Peru, Brazil, Bolivia, Chile, Paraguay, Uruguay, and Argentina.

The competition opens with publication of this program in The Architectural Forum. Publication of the premiated designs will also be made in The Forum.

## COMPETITION I.

For residents of the United States of America.

## PURPOSE

The purpose of this competition is to select a group of designers capable of creating a useful and beautiful environment for today's living, in terms of furniture, fabrics, and lighting. In order to bring the best designs on the market, arrangements have been made whereby stores and manufacturers will commission the designers selected through this competition, and work with them on the production and sale of their designs throughout the country. The Museum will handle the competition, and will consult on design during the period of production. The Museum will have no participation in the manufactare or sale of finished pieces or any responsibility in this connection.

## FLEXIBILITY

The Museum has received assurances that the pieces selected through this competition will be produced and sold throughout the country. They will be used in the most varied kinds of rooms, and in all sorts of combinations. They will go into rooms with different exposures, and in regions of varying
climates. For these reasons, flexibility of use is desirable. Design of pieces to be built in as part of the architecture is not a part of this program. All pieces are to be movable, though pieces which attach to the architecture but are not built in are allowable.
Pieces must be suitable for quantity production and possible to produce within a normal price range for the middle-income groups.

## CHARACTER

Many of the pieces of furniture in common use are inherited types, and today's pattern of living has adapted itself to them rather than determined them. This program demands a solution starting with a sound analysis of the requirements, and a fresh approach to what our way of living calls for in furniture, fabrics, and lighting. The best solutions will inevitably be a contemporary expression and will reflect today's social, economic, technological, and esthetic tendencies and possibilities. In order to allow as much room as possible for new ideas, no specific pieces will be called for in this program; a solution which provides adequately and handsomely for the various normal activities of a typical American middle-income group family is desired.

## DESIGN CATEGORIES

Designs are called for in the following categories, and competitors may enter in any one or more.
A. Seating for a living room.
B. Other furniture for a living room. (Mechanical equipment such as radios, phonographs and clocks is not included.)
C. Furniture for a dining room.
D. Furniture for a bedroom.
E. Furniture for a one room apartment.
F. Furniture for outdoor living on terraces or porches of a house or apartment.
G. Movable lighting equipment to provide illumination for several uses; i.e., for reading, es ting, writing, and so forth. These are not to be built-in fixt ires.
H. Woven fabrics-for drapery, upholstery, or other uses.
I. Printed fabrics-for drapery, upholstery, or other uses.

## FUNCTIONS OF FURHISHINGS

The normal activities in these areas for which furn shings are needed are, in part, as follows:
Living room-This is the center for social life. Furniture is needed for the occupants to sit down and converse, read, relax, study, write, entertain, serve food or drinks, play games, keep books, magazines and papers, and so forth.
Dining room-Two to eight people must be accommodated for meals. Storage space for china, glass, and silver must also be provided. It is assumed that a maid would serve on some occasions and not on others.
Bedroom-Facilities for sleeping, for storage of men's and women's clothing and accessories, and for dressing must be provided here.
One room apartment-Living is necessarily compressed in a one room apartment. All the activities of the other three rooms go on here in limited space, and ingenuity is at a premium in making useful and attractive furniture for these needs.
Outdoor living area-The use of outdoor terraces and porches in conjunction with a house or apartment is a characteristic and ever-increasing feature of American living. This requires furniture which can stay outdoors, or can be moved out from inside and perhaps be used in both places. Furniture for having meals outdoors, for relaxing and conversation, and so forth are possibilities here. A wider range of materials may perhaps be used for this category than for any other.

## ROOM SIZES

In order to provide a more exact idea of the normal living areas in which such pieces might be used, the following room sizes are given as a rough approximation of common shapes and conditions. These figures are not intended to bind the competitor in any way, and are given simply as an indication of scale and for correlation of the problems.
Living room 18 by $22 \quad$ Bedroom 15 by 15 Dining room 15 by $15 \quad$ One room apt. 19 by 25 An $8^{\prime} 6^{\prime \prime}$ ceiling and windows along one side may be assumed.

## ineligible pieces

In all the categories of this program, pieces which have been previously designed and made may be submitted, with the following exceptions, which are ineligible:

1. Pieces on which any manufacturer or distributor has any rights.
2. Pieces which have been commercially produced for sale.
3. Pieces which have been publicly exhibited.
4. Pieces which have been published. (Pieces may, however, have appeared in publication photographs where they were
not being shown for themselves, as a chair in a photograph of a house, for example.)
5. Pieces which are not original creations of the competitor. Any cases which do not fall into these classifications and whose eligibility is in doubt must be submitted to the Competition Director whose decision on them will be final.

## REQUIREMENTS FOR SUBMISSION

## Furniture \& Lighting-(Categories A-G)

In order to give competitors maximum freedom in presentation, as few specific requirements as possible are given.

1. All drawings shall be submitted on $20^{\prime \prime}$ by $30^{\prime \prime}$ sketch boards or equivalent. Drawings on tracing paper or other paper may be mounted on boards of this size. A single line border shall be drawn $1 / 2^{\prime \prime}$ inside of each edge of the sketch boards.
2. Any number of drawings may be submitted. Enough material must be submitted to show the jury that the designer is capable of carrying out designs for the complete category.
3. Drawings may be in any medium, and arranged in any way.
4. Each piece must be shown in sufficient drawings (plans or half-plans, sections, elevations, details of construction, and so forth) so that the piece can be built from these drawings.
5. Scale of drawings is left to the competitor's discretion, and may vary as he sees fit. In the furniture categories, it is suggested that in general the scale of $3^{\prime}=1^{\prime}-0^{\prime \prime}$ be used. The scale of every drawing must be clearly indicated. All important dimensions must be shown and materials clearly specified.
6. In addition to the technical drawings, each piece must be shown in a colored perspective or isometric at a large enough scale to give an accurate idea of the appearance of the finished piece.

## Suggested Additional Material-not required

In addition to the required drawings and renderings of each piece, the following submissions are suggested as a further aid to the jury. These are not requirements, and competitors who do not send any extra material of this sort will not be handicapped in any way.

1. If the actual piece exists, one or more photographs of it may be submitted mounted on the sketch board with the drawings, or on a separate sketch board, $20^{\prime \prime}$ by $30^{\prime \prime}$.
2. A scale model, preferably at the scale of $3^{\prime}=1^{\prime}-0^{\prime \prime}$, may be submitted. This may be anything from a structural or diagrammatic model to an accurate replica.
3. Photographs of study models or constructions of any sort which might help in visualizing it may be added.
4. Samples of any special materials, finishes, special constructions (joints, etc.) and so forth may be submitted, either attached to the boards or separately.

## Fabrics-(Categories H-I)

Required in Category H: at least two actual weaves one yard long, and of sufficient width to show the material adequately. Required in Category I: full color renderings for at least two prints. Each rendering should be $20^{\prime \prime}$ by $30^{\prime \prime}$ outside, but may be larger if necessary, and must show at least two full repeats. These renderings may be on any paper, stiff or flexible, which the competitor wishes.
Information must be attached to the weaves or written on the renderings, giving the intended use of the material and any unusual or significant features about it.

## COMPETITION DIRECTOR

Correspondence and entries should be addressed to:
Eliot F. Noyes, Director, Department of Industrial Design
The Museum of Modern Art, 11 West 53rd Street,
New York, N. Y

JURY
Alvar Aalto, Finnish architect and furniture designer. Professor of Architectural Research at Massachusetts Institute of Technology.
Alfred H. Barr Jr., Director of the Museum of Modern Art.
Catherine K. Bauer, Special Consultant to United States Housing Authority.
Edgar Kaufmann, Jr., Design Editor of New Directions, and Merchandise Manager in Home Furnishings of Kaufmann Department Stores.
Edward D. Stone, New York architect.
Should any of the jurors be unable to attend the jury meetings, substitutes will be designated by the Museum.

## TECHNIGAL EXPERTS

A committee of technical advisers from manufacturers of each main type of furniture, a lighting expert, and an authority from the field of textile manufacturing will be present for consultation at meetings of the jury. They will have no vote, but will advise on questions relating to price and manufacture of the pieces.

## DATES

The competition opens with this announcement and closes on January 11, 1941, at midnight. Any entries bearing postmarks later than this will be rejected.

## NOTIFICATION OF ENTRY-COMPETITION NUMBER

Anyone intending to enter the competition must notify the Competition Director in writing, giving full name and address. This notification does not constitute obligation to submit. The Museum will acknowledge this notification by sending him an official entry blank and a competition number.

## ANONYMITY OF SUBMISSIONS

The drawings and fabrics shall bear no identifying name or symbol. All material submitted shall have clearly marked on each separate sketchboard or other item the letter of the design category of that particular entry, and the competition number of the competitor. On all drawings this shall be on the upper right hand corner of the sheet in letters one inch high. On fabrics, a cloth or paper shall be attached to the upper right hand corner with these letters one inch high. On models or other material, these letters shall be clearly marked at any convenient place and in any legible size on the object. This number on each separate item sent in by competitors will be the only means of identification of them, and the Museum cannot take any responsibility for entries sent in without numbers or for entries whose numbers are not firmly attached.

## QUESTIONS

Any questions may be sent to the Competition Director who will issue one bulletin simultaneously to all competitors who have registered. The bulletin will become a part of the program. No question received after November 8, 1940, will be answered.

## Jury meeting

The jury will meet one or more times. The first meeting will be held beginning January 20,1941 . If the Museum determines that any subsequent meetings of the jury are necessary announcement of the time of such meetings will then be made.

## JURY PROCEDURE AND POSSIBLE CALL FOR MODELS

The jury and the technical advisers will first examine the submissions for the purpose of rejecting any which in the jury's opinion can not be produced in quantity within a middle price
range. The jury will then consider them from the point of view of design. They will select one or more winners for each category, except the categories, if any, that the Museum may determine should be further considered with use of models. If the Museum determines that any categories should be further considered with the use of models, the jury will select finalists from the competitors submitting designs in such categories. The finalists thus selected will be notified. The finalists who have submitted photographs of the finished object will be asked to have the object sent to the Museum, express collect. Other finalists will be given the opportunity of providing models for themselves. If such other finalists advise the Museum, within the time specified by it, that they do not intend to submit models, the Museum will have the right to cause such models to be constructed either in rough or finished form. Models which the Museum causes to be constructed will belong to the Museum but will not be exhibited, except at jury meetings, without the designer's permission.

## AWARDS

The purpose of this competition, as stated at the beginning, is to secure a group of designers who have the ability to create a useful and beautiful environment for today's living. The opportunity to design for production and to be paid for it is therefore the logical award. With this in mind, the awards will be as follows:

The winning designer in each category within 30 days after the final judgment will receive an offer from a manufacturer to enter into a contract for the production of the winner's, designs selected by the jury. Such contract will provide for payment of royalties or fees to the designer at the usual rates. The jury will have the right to select more than one winner in each category and if it does so, all winners in such a category will receive similar awards.
However, in the event that the designs submitted are not, in the opinion of the Museum or the cooperating stores, suitable for being produced for sale, the right is reserved to give an award to each winning designer of $\$ 250.00$ in cash in lieu of an offer of contract for production.

## HONORABLE MENTIONS

The jury may, in addition to determining the winners in each category, select designs for Honorable Mention. Arrangements may be made for the production of pieces based on the designs chosen for Honorable Mention and if this is done the designer will receive the usual royalties.

## PRODUCTION

All designs that are chosen for production will be manufactured during the Spring of 1941 in collaboration with the designers. In order to maintain the essential character and integrity of the designs, the Museum will arbitrate on any changes which the stores or the manufacturer may suggest and the designs as finally produced must be acceptable to the Museum. The Museum understands that the cooperating stores will advertise and promote the sale of the finished products throughout the country and will give proper recognition to the designers. Wherever feasible, a seal will be attached to all articles manufactured from winning designs, specifying the name of the designer and that the design was chosen in this competition.

## EXHIBITION

The Museum has scheduled for October 1941 a large exhibition of the pieces which will be manufactured from the winning
designs. At the same time, the stores in all the large cities of the country will have this complete line for sale. The Museum's show will have nothing to do with the merchandising of the pieces, and will treat the material from a design point of view. It will retain the winning drawings, the honorable mentions, and any others which have interesting points for exhibition. Drawings which do not receive prizes or honorable mentions will be exhibited only after securing the designer's permission. Winners may be asked to redraw or amplify their drawings slightly for the sake of the exhibition.
A circulating exhibition of material from this show will be made up at the close of the exhibition in the Museum building.

## RETURN OF SUBMISSIONS

Drawings, fabrics, and models will be returned to the competitors after a reasonable amount of time. Prize winning designs and Honorable Mentions will be kept for purposes of exhibition, publication, and for the traveling show.

## GENERAL CONDITIONS

All persons entering the competition do so on the understanding that the Museum will not be liable in any manner for any contracts to be offered to winning designers. While the Museum will endeavor to take proper care of all designs, fabrics, models and other articles submitted in the competition, the Museum will not be responsible for any loss or damage thereto.

## COMPETITION II.

For residents of: Mexico, Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, Panama, Cuba, The Dominican Republic, Haiti, Venezuela, Colombia, Ecuador, Peru, Brazil, Bolivia, Chile, Paraguay, Uruguay, and Argentina.

## PURPOSE

The purpose of this competition is to discover designers of imagination and ability in the other Americas, and to bring some of them to New York for a period of a few months. The competition is interested particularly in bringing out suggestions on the part of these designers as to how their own local materials and methods of construction might be applied in the making of furniture for contemporary American requirements.

## MATERIALS

All the countries which this competition includes have many local materials such as woods, fibers, skins, and so forth which are handsome and practical for use in furniture. The Museum is interested particularly in designs which make intelligent and imaginative use of such materials. For example, bamboo, caroa fiber, tucum, jute, carnauba, tin, copper, and both precious and other woods seem to have possibilities.

## CHARACTER

Designs submitted should be straightforward solutions for today's living requirements, and should be contemporary in spirit.

## REQUIREMENTS

Each competitor is required to submit original drawings for a few pieces of furniture such as might be used in a living room, a dining room, a bedroom, or an outdoor area. About four pieces would be considered a normal submission. These should be drawn or mounted on sheets of opaque paper 50 by 80 centimeters. Drawings should include necessary plans, sections, and elevations, and also a colored perspective or isometric. Drawings should be about one quarter full size where
possible, but this is left to the discretion of the designer. Materials must be fully specified. Where possible, samples of the materials, fabrics, and so forth which are intended to be a part of the design should be sent with the entry. Explanations, notes, and details should be given where necessary.
Drawings are to bear no identifying name or symbol. Each competitor must enclose with his drawings a plain opaque sealed envelope containing the full name and address of the competitor. A receiving department will number all drawings, models and other material submitted, and place the same number on the envelope.

## DATES-COMPETITION DIRECTOR

All entries must reach the Museum not later than January 15, 1941. Any writing on the drawings may be in Spanish, Portuguese, or English. Correspondence and entries should be sent to:

Eliot F. Noyes, Director, Department of Industrial Design The Museum of Modern Art, 11 West 53rd Street. New York, N. Y., U. S. A.

## JURY

Alvar Aalto, Finnish architect and furniture designer. Professor of Architectural Research at Massachusetts Institute of Technology.
Alfred H. Barr, Jr., Director of the Museum of Modern Art. Catherine K. Bauer, Special Consultant to United States Housing Authority.
Edgar Kaufmann, Jr., Design Editor of New Directions, and Merchandise Manager in Home Furnishings of Kaufmann Department Stores.
Edward D. Stone, New York architect.
Should any of the jurors be unable to attend the jury meetings, substitutions will be designated by the Museum.

## NOTIFICATION OF ENTRY

Anyone intending to enter the competition must notify the Competition Director in writing. This notification does not constitute obligation to submit. Notification should give full name and address of the competitor.

## AWARDS

The jury will meet at the end of January, 1941, and from theentries will select a number of designers as winners. Winners will receive a round trip ticket to New York, and $\$ 1000.00$ for expenses during a three or four months' stay here. During this period they will work with the Museum on the possibility of producing their designs. They will visit stores and manufacturing plants, and look into ways of utilizing the products of their countries for American use.
At least three such awards will be made, and if sufficient ability is found through the competition, the jury may double the number of awards.

## EXHIBITION

The Museum will hold an exhibition of the designs submitted in this competition. Examples of the materials used in the pieces as designed will be exhibited at the same time. This will later be made up into a traveling exhibition which will circulate to the museums of the United States. All entries will be kept during the period of these exhibitions.

## RETURN OF SUBMISSIONS

Drawings will be returned to the competitors at the conclusion of the exhibitions. Prize winning designs will belong to the Museum and will not be returned. The Museum will take all possible care of the submissions, but no responsibility can be taken for loss or damage.


- Yielding, as did the bathrooms of a generation ago, to the demands of a luxury-loving public seeking the modern note in every environment, the toilet rooms of this day are taking on a lively brightness and cheerfulness that lifts toilet facilities out of the oblivion of commonplace conveniences.
A major factor in promoting this rencissance in toilet room environments has been the strikingly modern designs of toilet partitions sponsored by Sanymetal, all three of which are available in "Porcena" (porcelain enamel) finish. Sanymetal was first to detect the need for, and apply successfully, the merits of porcelain enameled metal in the manufacture of toilet partitions. Beauty and sound mechanical construction making for faultless performance, enduring quality for the years to come, and
generous protection against obsolescence, all are combined in these toilet partitions.
Sanymetal has for $\alpha$ period of twenty-five years manufactured metal flush type and full panel type toilet partitions. Today, Sanymetal offers five distinct types of toilet partitions, of which these three, Normandie,Embassy,Academy, are available in three different finishes. Quick to recognize the merit of galvanized, bonderized steel,Sanymetal has perfected itsown exclusive formulafor applying a luxurious and lasting finish called "Tenac" to this highly suitable material. With these five types of Sanymetal Toilet Partitions and three finishes to select from, the trend to modernity in toilet room environments is certain to continue, quicken and grow. Write for new Catalog No. 78 illustrating five distinctive toilet room treatments.


# PAINT LASTS LONGER OVER ALUMINUM FIRST COATER 



At the U. S. Forest Products Laboratory, Madison, Wis., these two sections of Douglas fir siding were painted exactly the same except for the first coat. On the left, the ordinary type of oil paint priming was used. On the right, an Aluminum first coat. Both sides then got the same two white topcoats. After 6 years exposure to sun and moisture, the Aluminum primed section was in far better condition as you can plainly see.

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.

ALCOA
atuminum HOUSE PAHNT

## AND I'LL TELL YOU WHY!

A first coat of Aluminum House Paint keeps topcoats more elastic and durable. First, because very little oil from the topcoats penetrates the Aluminum and disappears in the wood. Second, the highly impervious Aluminum coat permits less moisture to penetrate into the wood to cause swelling of the grain.

With a tougher paint film and with less strain upon it, you naturally get longer life. The paint weathers evenly, chalks slowly, and does not check
so soon. When repainting finally becomes necessary, a first coater of Aluminum House Paint isn't needed again; just two topcoats. The benefits of the original Aluminum first coater extend through the numerous repaintings. The life of the new topcoats, too, is lengthened by it. It saves your client money on maintenance.
For literature, write PAINT SERVice bureau, aluminum Company of America, 1947 Gulf Building, Pittsburgh, Pennsylvania.

The Name

## HOPE'S <br> Guarantes :sis WINDOWS 1940



Minneapolis Club

Minneapolis, Minn. IT IS GRATIFYING TO KNOW THAT HOPE'S STEEL CASEMENTS INSTALLED SO LONG AGO ARE GIVING SUCH RELIABLE SERVICE. OUR METHODS OF MANUFACTURE AND OUR DESIGNS HAVE OF COURSE UNDERGONE MANY CHANGES BUT OUR STANDARD OF QUALITY, ESTABLISHED OVER ONE HUNDRED YEARS, REMAINS UNCHANGED.

HOPE'S WINDOWS INC., Jamestorm, N. Y.


Form follows function... and economy follows the use of Concrete as your design medium. Whether your building is to be severely functional, or elaborately enriched, selection of this material will open up "new worlds" of design.

Concrete can be molded into practically any shape or form. Distinctive, harmonious textures are created economically in the forms along with integrally cast detail. Walls, frame and floors are erected as one firesafe unit.

In short, it's the money-saving,
time-saving way to build your apartment, school, factory, or other building. Ask your architect or engineer about concrete. Illustrated literature on request (free in U.S. or Canada); or a representative will call.

- Shangri-La Apartments, Santa Monica, Calif. Wm.E.Foster of Beverly Hills, architect; H. C. Whittlesey, structural engineer, A. N. Tims, construction superintendent for owner.


## PORTLAND CEMENT ASSOCIATION

Dept. 10-7, 33 W. Grand Ave., Chicago, III.
A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work


## Nrom min

## Flat Class products and their uses have developed during the Design Decude 1020-1940

TUF-FLEX


Here's a glass that literally soaks up heat and lowers airconditioning costs. Characteristically, too, it greatly reduces glare-saving money and eyesight by increasing production, boosting employee efficiency. Aklo HeatAbsorbing Plate Glass in display windows, in groceries, bakeries, flower shops and other places where heat damages merchandise, saves money by reducing spoilage.

From 4 to 5 times stronger than regular plate glass, TufFlex heat-tempered clear plate glass has greatly extended the uses of glass. It withstands impact and thermal shock to an amazing degree; can be bent or twisted and return to its normal plane instantly. When broken, Tuf-Flex crumbles into small, relatively harmless particles, its manner of fracture providing a distinct safety factor. Used in marine craft for portholes and windows; as windows in oven doors; as shelving; for display cases; as Tuf-Flex doors in smart, modern buildings.

Vitrolux has created a new era in the design of signs; soffits for store entrances and for interior display panels. In the home, the theater, hotels and in many other places, Vitrolux makes possible new achievements in luminous ceilings and panels. By day Vitrolux appears colorfully opaque; by night, when backed with illumination, Vitrolux becomes softly but vividly luminous, diffusing its illumination evenly.

Control of daylight for interior installations, or artificial illumination is now at the command of the architect. Thermolux diffuses light and directs it-downward, upward or straight across a room. Thermolux consists of mats of spun glass sandwiched between panels of clear or pattern glass. Thermolux, as partitions for offices, public buildings and homes, frees the designer from small-panel types of glass, being available in sizes up to 6 by 9 feet.

Attractive display of perishable products that must have proper refrigeration is achieved with surprising ease by the use of this improved glass insulating medium. Thermopane consists of a double or triple-glazed metal-sealed unit. Dehydrated air spaces between each pane of glass assure highly effective insulation and freedom from condensation. The natural clarity of polished plate glass thus gives unhampered vision into commercial refrigeration cases, and well-conceived displays have full opportunity to function effectively as merchandising factors.

A new range of Vitrolite colors, new applications of this colorful glass and the newly developed satin finish have given this product a new functional place in modern construction and design. Add to this the fact that it is easily cleaned . . . impervious to odors and moisture . . . and you have the reason why so many architects and designers are constantly using it to give added beauty and attractiveness to their designs for storefronts, theaterfronts, bathrooms and kitchens.

Glastone offers the many advantages of Vitrolite and the additional advantages of solid masonry. Glastone utilizes Vitrolite as a permanent finish securely adhered to slabs of lightweight concrete. The Vitrolite facing is free from pressure or load from any direction, the concrete block carrying the wall load and the design of the unit automatically providing for expansion and contraction.

As a design medium, Decorative Glass with its distinctive character, is now coming into its own. The many new patterns of decorative glass are widely employed in homes and public buildings to stimulate or accentuate the basic design . . . in some cases, to permit ample light without sacrificing privacy. Many of the patterns are available as wire glass.

When architects demanded delicately Colored Plate Glass to broaden their field of creative effort with ground and polished plate glass, the answer was, first-three shades of blue, then peach, then green and now golden plate glass. The degree of coloring is such that the plate glass retains its visibility when used for Picture Windows or decorative purposes. Colored Plate Glass has broadened the field of design with mirrors.

Companion to modern glass storefront materials, Extrudalite holds the glass front firmly and in a velvety grip. Extrudalite cushions the glass against breakage and chipping, while providing an appropriate decorative setting. Extrudalite is a special alloy highly resistant to rust and corrosion. The various units of Extrudalite are sufficiently diversified in size, design and price to fit every class of construction.

## Blue Ridge Decorative Class has created

## New patterns to create new effects...A New Type

## Glass that Creates a

 New Usefulness for GLASSBLUE RIDGE DECORATIVE GLASS has furnished the architect with a new design aidfreeing him of many former restrictions . . . permitting large areas to be glazed without the limitations of small-pattern panels . . . adding to architectural design in some instances, complementing it in others. The various patterns of Blue Ridge Glass are used by architects to aid directional design, and when double glazed in different ways, to provide unusual effects, hard to obtain by any other means. The distinctive patterns of Blue Ridge Glass mark them at first glance as synonymous with-TheDesignDecade.

BLUE RIDGE INDUSTRIAL GLASS, including Aklo Heat-Absorbing Glass, has contributed in good measure to modern industrial design and practice. Aklo is daily effecting worthwhile savings in Industry and Commerce -lowering air-conditioning operating costs... reducing spoilage of perishable products in retail establishments . . . increasing production and employee efficiency by reducing glare and resulting eyestrain.

Inquiries are invited from Architects and Designers in the solution of their problems. Write Blue Ridge Sales Division, Libbey•Owens•Ford Glass Company, Toledo, Ohio.




## Blue Ridge Figured and Wire Class

## FOR STROIS TOIE IIID COLIR IIRIIITIOI <br> 

Centre Theatre and WFBR Broadcasting Station, Baltimore, Md., Armand Carroll, Philadelphia, Pa., Arch.; Alberene Black Serpentine facing and bulkheads.

The use of black is a distinct design feature of modern architecture. Instead of monotoned buildings with accents obtained by ornamentation, contemporary designers resort to strong, accenting changes of materials. The demand for a black material which will retain its color and maintain its polish is met by Alberene Black Serpentine, and the wide-spread use of this natural, quarried stone by outstanding architects and designers attests their satisfaction with it. Having great toughness and density, Alberene Black Serpentine can be cut into sections as thin as $7 / 8^{\prime \prime}$, which makes it even more economical for panels, spandrels, bulkheads and facing. The Centre Theatre in Baltimore, where the stone is used with Roman Travertine, shows a pleasing, accent-
ing use. The stone is neither reflective nor mirror-like. A request on your business letter-head will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York. Quarries and Mills at Schuyler, Va. Sales offices in principal cities.

## Aberene iblack NEIPPENTINE

Moderate in cost . . . negligible in upkeep


## "No fooling!...

## These glass block partitions go up faster'n they

You're due for a surprise if you haven't already prescribed your first partition of metal-locked glass blocks; it goes up so quickly and easily: It is strong and rigid, giving a feeling of permanence, yet it can be taken down and erected in a new location, with $100 \%$ of the materials salvaged.

The architect has been quick to recognize the decorative possibilities of glass block for interior work. Now he can allow free rein to his imagination, knowing that what's outmoded tomorrow can easily be changed to meet new requirements, and at low cost.

Extruded Aluminum shapes, used for the metal members in this construction, hold every course of blocks in uniform alignment. And Aluminum, with its subdued beauty and neutral color, fits in well with the sparkling beauty of the glass blocks. The smooth surfaces of blocks and metal are trim and neat in appearance, and are easily cleaned. Aluminum offers endless decorative possibilities, here and elsewhere, architecturally.

You can get complete data on metal-locked glass block construction from Owens-Illinois Glass Company, Pittsburgh Corning Corporation, Pittsburgh Plate Glass Company, and Revere Copper \& Brass, Inc. Or write Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.


## L E T T ER S

## Chin Up

Forum:
Your article on p. 210 of the September issue of The Architectural Forem on the subject, "Three Jinx in New Apartments," has naturally been of great interest to us, in view of the fact that this company holds a mortgage on the Highland Village project and also the Fair Oaks project, both insured under Section 207 of Title II of the National Housing Act.
We have no objection whatsoever to publication of the fact that these two mortgage loans now are in process of foreclosure, but at the same time, we also believe that certain comments contained in your article do not create a true impression, with respect to the consequences of these foreclosures to this company.
In the first place, your headline reads: "Three Jinx in New Apartments are high rents, low working capital and out-of-season completion. Eight projects, four insurance concerns and FHA take it on chin."
In the second place, in paragraph $\mathfrak{z}$ of your article, you state:
"FHA is not alone in its misery, however. Four top-notch life insurance companies are holding bags instead of mortgages. . . ."
We do not believe that this company is "taking it on the chin" in so far as these two mortgage loans are concerned, nor do we experience any "misery" therefrom. Careful perusal of Section 207 of the National Housing Act will reveal that this company had two alternatives when the defaults occurred. We had the choice of exchanging our loans for "debentures having a total face value equal to the original principal face amount of the mortgage, plus such amount as the mortgagee may have paid for (A) Taxes, special assessments, and water rates, which are liens prior to the mortgage; (B) insurance on the property; and (C) reasonable expenses for the completion and preservation of the property, less the sum of (i) that part of the amount of the principal obligation, that has been repaid by the mortgagor, (ii) an amount equivalent to 2 per centum of the unpaid amount of such principal obligation, and (iii) any net income received by the mortgagee from the property . . ." or of acquiring the property and transferring the title to the Federal Housing Administrator and receiving debentures equal to the unpaid balance of the mortgage loan, and certain expenses incurred during the time of foreclosure. In either case, the debentures received will bear $23 / 4$ per cent interest, will be the obligation of the Federal Housing Administration, and will be guaranteed by the U. S. Government. In
other words, this company will exchange its defaulted obligations, or the property acquired, for an obligation of the U. S. Government yielding 2.75 per cent. In the present market, U. S. Treasury $23 / 4$ per cent bonds, $1960 / 65$, are selling on a 2.30 basis.
Perhaps, in the Section 207 loans, there is probable loss of which we are not aware, in spite of our careful investigation of these loans. Consequently, we shall appreciate it if you will point out to us any such probability.

Elbert S. Brigham, President
National Life Insurance Co.
Montpelier, Vt.
President Brigham must be aware that the two mortgages in question (aggregating about 82 million) originally grossed him at least 4 per cent, that after his overhead and collection expenses they probably netted him at least $33 / 4$ per cent. With Government bonds substituted for the mortgages, he is now netting $23 / 4$ on the investment. On $\$ 2$ million the 1 per cent difference amounts to 820,000 a year. The Forum suspects that a $\$ 20,000$ annual loss, while infinitesimal to a company whose assets total $\$ 215$ million, is a bit of a "misery"-at least a dimple on its chin.-Ed

## DESIGN DECADE

Too late to catch the announcement of Museums (September issue, pp. 46, 47) which will present Design Decade exhibi tions in collaboration with THE FORUM tions the following comments. THE FORUM is proud to salute these distinguished new collaborators.

## SAN FRANCISCO



Forum:

The last ten years have seen a tremendous development in arts, crafts, and industrial design, in this country. Influences from abroad, discoveries in techniques and new materials, the creativeness of young designers aware of contemporary living in the U. S., growing penetration of art into industry, combined to make this a period worth noting in the evolution of contemporary styles. Modern design tendencies that were at first superficial and decorative have settled into a sincere harmony between form and function, and standards of both execution and of appreciation have noticeably risen. In many fields, a distinctive contemporary style has emerged.

Just now, when the world is undergoing changes of which we cannot foresee the extent, but which we also cannot escape, seems an appropriate time to stop and take stock of what has happened here in this field of design.

The plan of The Architectural Forum to devote an issue to a thorough survey of the past decade in design seems to me most timely. Further, to stimulate shops and museums-so greatly concerned with placing design before the public-to conduct their own surveys in their own communities in the form of exhibitions, spreads the good work far and wide, beyond the research scholar and expert, to the great general public, in a tangible form easy to understand, and therefore influential. In summing up the past ten years, The Forum may be also orientating movements in design for the next decade.
We look forward to the design exhibition we plan to hold in October-November as an opportunity to point out once more to our public quality in design and the connection between art and every day life-two major aspects of all our work at the museum.

Grace McCann Morley, Director San Francisco Museum of Art

## RICHMOND

Forum:
Your splendid program with its cooperation by the museums throughout the country is showing what can and what has been done, is quite in keeping with the sound and progressive reputation which The Architectural Forum has made itself. Unfortunately the taste of too large a percentage of the American public is still limited by superficial and misdirected traditions. Your courageous magazine has been one of the main factors in correcting this condition.

Hans Van Weeren-Griek, Curator Virginia Museum of Fine Arts

## MEMPHIS

## Forum:

Every cycle of civilization has had its dominating factor. Today we see rising in every part of the globe a struggle for mastery based on this factor: mass production.

Mass production has made fantastic strides during the last century, but the last decade has outdistanced the previous ninety years in the progress of design of manufactured articles. At first it was only necessary that a machine or article of manufacture would work. Today much more is demanded. Factors of safety, cleanliness, efficiency, speed, appearance, new materials, etc., modified the fact that a machine or manufactured article should only work. Design, then, was found to answer all these requirements.

Since the Renaissance intellectual design had been subordinated to other qual-
(Continued on page 104)


## PENBERTHY INJECTOR COMPANY



She wants her questions about home ownership and home remodeling answered!
She has plenty to say about buying. Her influence can mean a lot to you.
She realizes what the security of a home of their own can mean for her family. But she is a smart buyer-she wants her home conveniently, efficiently planned. She has a lot of questions on financing, planning, construction and materials she wants answered.

How can you take full advantage of women's intelligent interest in home ownership? The answer? Make full use of a powerful force of consistent advertising in the magazines their whole family reads regularly.

Why not be the man she takes her husband to see? Make known to you community the easy way for both men and women to answer their question: It helps people understand home ownership and remodeling.



USG's now famous books have helped over $\mathbf{2 0 0}, \mathbf{0 0 0}$ families answer their questions about home ownership and home remodeling. Both men and women read USG national magazine advertisements featuring them. You can put these books to work for you. They save your time. They tell and sell for you!


When prospects have answered their own questions, they know about and they want the quality you recommend. They demand fire protection, insulation, quality materials and the befter, safer construction you suggest to them. They are excellent prospects for you. They are ready to act!

These are the highlights on USG's 1940 advertising program. It is helping the entire building industry because it is belping people understand what they want to do.

Here's a program with month-after-month consistency! It covers both new home building and home remodeling. It answers questions on both subjects, inspires action in both markets.
Every month, USG advertising is finding pros-pects-good prospects who are building and remodeling now. Can you cash-in on this USG program? Can it help you? Why not ask your U SG representative or write your nearest USG office.

 MAGAZINE, COLLIER'S, etc.

## UNITED STATES GYPSUM COMPANY

# LOW FIRST COST 

TWO INSTALLATIONS - ONE, LITTLE; ONE, BIG Where revere copper tube was used because of its low first Cost!

 the 204 houses of the Colonial kitchen chair; yet exacting engiPa., is scarcely larger than a kitchen cficent. Each of these houses neering tests show it to be highly because they were sold for had rigid first cost requirements because copper Tube was used excluless than $\$ 5000.00$. Yet Revere Copper The low installed cost. In sively-because Revere Copper Tube had low state that the unaddition, the builders of the Clairton project stions, is closely usual operating e
linked to copper.
he $W \mathrm{~m}$. In forced circulation hot water hientesville, Pa., 2000 feet of Henry Smith aparment installed. Circulation to individual Revere Copper Tube was in electric circulators. Smaller pipe apartments is speeded by 7 electric circularly important that sizes are used and it is therefore The smooth interior surface of there be no hindrance to flow. Tr eristance to a minimum and there
Copper Water Tube reduces flow resistance to Copper Water that there is $10 \%$ to $15 \%$ greater culation in copper with the same circube is such that a balanced Range of sizes of Copper Water Tube is such cizes, with the resystem can be designed using minimum pipe and can be made at sylt that installations are neat and efficient for iron or steel pipe. sult that instalare competitive with those for inomies of Revere Investigate the use, advantages and econor, heating and air Copper Water Tube in hot and cold water, booklet sent on conditioning lines. Fully
request. Just write to:
. . MIMS: BALTIMORE, MD. . . . NEW BEDFORD, MASS. . . . TAUNTON, MASS. . . . ROME, N. Y. . . . DETROIT, MICH. ... CHICAGO, ILL.

Executive offices: 230 Park Ave., New York, N. Y.
Sales and distribution in most of America's major cities
 type of automatically fired hot water boiler. Designing the system for high B.T.U. emissions, plus constant maintenance of heat at exactly the right degree, permits the use of minimum size radiators. This means easy concealment and a material saving in installation cost!' The system is ideal for indirect domestic water heating, producing an ample supply of hot water, winter and summer.

Send for literature describing fully the installation and operation of Hoffman Hot Water Controlled Heat units


No "Cold 70" or variable room femperatures


Exact balancing of heat supply against heat loss


Low cost, year around domestic hot water


Small, easily concealed radiators

## HOFFMAN

Hoffman Heating Specialfies are sold everywhere by leading wholesalers of heating and plumbing equipment


## * IT'S EASY TO CREATE STRIKING COMBINATIONS OF ZOURI METAL AND PORCELAIN ENAMEL...

The lustre of aluminum or bronze surfaces-the brilliant contrast and wide choice of color in K.Z.S. Porcelain Enamel-the interesting shadow lines and contours of numerous decorative mouldings; these are the stimulating materials with which the designer of a complete Zouri Store Front works. There are practically no limitations. Curved surfaces may be specified, large or small show windows may be safely planned, K.Z.S. Facing in Alumilite or Porcelain Enamel may be used to any height, since each panel is individually and mechanically suspended with strong spring clips.
Before you start your next store front design, investigate the complete up-to-theminute ZOURI Store Front. Write ZOURI STORE FRONTS, NILES, MICHIGAN, to-day.
ZOURI STORE FRONTS INCLUDE:
SASH AND BARS AWNING BARS MOULDINGS AND SHAPES SIGN LETTERS
ALUMILITE FACING AWNING BARS PORCELAIN ENAMEL FACING


story of what has happened to the machine, to the objects and to the environment it produces. For countless generations men made things with their hands or with tools that were ingenious extensions of their hands. For countless generations, too, a few men made machines, but they generally ended up as toys in the court of some bored potentate or as implements of war: there were enough slaves or serfs to do the work. This story is concerned only with the machine since it first became a significant factor in production: And because it is largely an American story, it follows that this land of extremes has produced the worst as well as the best manifestations of the contemporary design approach. Finally, the critical observer must conclude that the decade just closed, nearly two hundred years after the Industrial Revolution, has for the first time shown a substantial accomplishment in relating machine inspired design to a machine inspired way of life.


The social consequences of machine production need no recapitulation here, but against the background of this issue it is interesting to note the effects on the creative arts. Perhaps the most important thing that happened was the subordination of the aristocrats of state and church, patrons of the arts since the beginnings of recorded history, to a new class: merchants, bankers and industrialists whose ignorance of art was equaled only by their total lack of interest

in it. Also important as a disintegrating element was the machine's sudden extension of design possibilities and the consequent undermining of a handicraft tradition hitherto disciplined by limited materials and limited techniques. Looking back, it is easy to see how the normal processes of design development were disrupted by the formidable combination of social and technical changes, and throughout the nineteenth century the arts and artists languished, finally to express their frustration in escape or rebellion. Gaugin fled to Tahiti, William Morris tried to turn the clock back with a return to the handicrafts, and the Pre-Raphaelites took refuge in sickly dreams of the glories of a dead era. The artist became a kind of social vermiform appendix, and as his usefulness declined, so did the respectability of his profession.
The new favorite of the mighty was the engineer-inventor, whose function was not to glorify the rulers, but to make them still richer, and in his hands the crude early machines were brought to such a degree of efficiency that the once


It is characteristic of any period that all of its creations have a certain family resemblance, an underlying unity of form which does not spring from the imagination of the artist, but rather reflects the surrounding world and especially the prevailing modes of production. This is evidenced by the above photographs, although such parallels can obviously be carried to absurd lengths. Similarities in the Miro painting and the highway photograph do not necessarily mean that the painter ever saw a road intersection, but they do suggest that the technical trend toward complex curves is not without its effect on contemporary artists. With the emergence of the designer as the conscious exponent of a machine esthetic, design enters a new stage. Not only are the arts influenced by the machine, but the reverse is also now true. It is this interplay of influences that gives the 1930-40 period-"Design Decade"-its peculiar interest and importance. The rapid maturing of design does not mean that any millennium has been reached. Streamlining, for instance, has been perverted from functional design to a mere selling trick. The small radio is one of thousands of examples that might have been selected. Occasionally this tendency is carried to sheer idiocy, as in the case of a coffin manufacturer who asked his designer for the latest in streamlined caskets.
Sometimes the influence is reversed, as in the piece of heavy machinery illustrated. Since the vertical skyscraper style is distinctly inferior to pure machine design at the present time, its use in such cases can only mean pointless retrogression. There are other unfavorable factors, some beyond the control of the designer. One is superficial styling to speed up obsolescence and thereby stimulate sales. There is deceptive packaging, the use of sheet materials over open structural forms to give an illusion of greater size and weight. Equally important is the manufacturer's understandable fear of styling his product beyond the limits of public acceptance, particularly since mass production methods discourage gambling with the enormous sums needed to re-tool the modern plant.






1


1930


1931



The vertical style reached a peak early in the decade and has showed no further progress. Distinguished examples of work along other lines are illustrated in 13 and 14. The significance of Rockefeller Center lies not in any new exterior expression, but in the fact that single ownership of three city blocks made group planning possible. Office building lobbies have reflected passing fashions of the period; at present they follow the broad general trend of greater simplicity and directness.
7. "Four-Fifty Sutter" Building in San Francisco, Calif., Miller \& Pflueger, architects. 8. Chrysler Building in New York, William Van Alen, architect. 9. Daily News Building in New York, Hood and Howells, architects. 10. Empire State Building in New York, Shreve, Lamb \& Harmon, architects. 11. Insurance Co. of North America in New York, Shreve, Lamb \& Harmon, architects. 12. Field Building in Chicago, III., Graham, Anderson, Probst \& White, architects. 13. Philadelphia Saving Fund Building in Philadelphia, Pa., Howe \& Lescaze, architects. 14. Johnson Wax Co. Building in Racine, Wis., Frank Lloyd Wright, architect. 15. Rockefeller Center in New York (1933-1940). Reinhard \& Hofmeister; Corbett, Harrison \& MacMurray; Hood \& Fouilhoux, architects.




The structures most closely related to industry represent the peak of present-day architecture. Two examples are shown on the opposite page. An interesting illustration of evolution in factory design is shown above (1), where a recent addition was made to an earlier building. Windowless factories are a development within the decade; one type (3) uses glass block walls, another (2) depends entirely on artificial illumination. There is no indication that these will supplant the glassenclosed type (6).

1. Factory for American Can Co., Jersey City, N. J., Carl G. Preis, architect \& engineer. 2. Simonds Saw \& Steel Co., Fitchburg, Mass., The Austin Co., engineers and builders. 3. Kimble Glass Co., Vineland, N. J., William Lescaze, architect. 4. Dough Rounder for Baker Perkins, Inc., Harold Van Doren \& Assoc., designers. 5. Chicago Bridge and Iron Co. Hortonspheroid in Southern Texas. 6. De Soto Press Shop, Detroit, Mich., Albert Kahn Inc., architects.


4


Nyholm


5

6

A. C. Gilbert Co. "Airflow" electric fan, Robert Heller, designer.


Charles D. Bridell, Inc. "Memo-Valet," Egmont Arens, desi

Werner

Minnesota Mining \& Mfg. Co. scotch tape dispenser, Barnes \& Reinecke designers.

D. Gestetner Co. duplicating machine, Raymond Loewy, desig


Todd Protectograph checkwriting machine, Henry Dreyfuss, design


1

1. Offices of Museum of Modern Art in New York, Goodwin \& Stone, architects. 2. Holophane Co. flush lighting unit. 3. Parab-o-lume ceiling, Republic Steel Corp., Berger Division. 4. Offices for the Meyercord Co., Abel Faidy, designer. 5. Mary Barron slips, The Davidson Brothers Co., New York.


The variety and improved appearance of business machines is echoed in the offices themselves. As in houses, the 1930 tendency toward interiors of the operating room type has not persisted. The stamped metal ceiling (3), designed for scientific light distribution, is a good example of textural richness produced by industrial developments. Below, a new slip, functionally designed to maintain its proper position regardless of the wearer's posture.


Hedrich-Blessing





The Offices of Paul Schweikher, Theodore Lamb and Winston Elting, Associated, were formed in 1940, Mr. Elting having come into the firm from private practice. Distinguished for outstanding domestic work, much of which has been published in previous issues.

Contributors to the development of the project: William B. Fyfe, Joseph Salerno, and Ralph Rapson.

## a general production farm in the middle west

"This farm study is based primarily on the theory that the most successful farming operation in the Middle West is the so-called Dairy and General Production Farm.
"Such a farm presupposes a location on an important highway, where much of the farm produce would be sold. All feed except concentrates is raised on the farm. The adjacent fields are rotated for pasturage. The access to the fields from the farm group is past the machine shed and the horse stalls.
"The farm buildings are grouped in one singlestory structure, divided into zones separated by masonry walls and fire doors. Hay, the greatest fire hazard, is contained in a separate fireproof haykeeper. Circulation throughout the group is under shelter. Feed is carried on an overhead conveyor. A through passage wide enough to take a manure spreader extends the length of the horse and cattle zone. "All animal shelter is oriented for the best sunlight, with the axis turned slightly toward
the southeast. Prevailing summer winds will carry animal odors away from the house. "Stalls placed in a single line give all cows equal light during winter months. The narrow barns are easily ventilated. While the group, because of its length, would seem to indicate high construction costs, the plan requires no heavy timber construction, uses standard lumber lengths and simple framing. Masonry walls can be either local stone, rammed earth or concrete. Sod roofs are suggested for their insulation value and economy.
"The residence has a large area for the important activities of cooking, laundering, sewing and canning. This space overlooks the farmyard, drive and farm market, while the zone for sleep and relaxation faces a lawn and garden. An oversize washroom and bath, provided with lockers, is adjacent to the entrance.
"The large fireplace is placed in the northwest corner, backed against winter winds."




Ingersoll adjustable rail miller, Herbert Rosengren, design


Hydraulic Press Mfg. Co. Hi-speed press.
Towmotor Co. lift truck, John Gordon Rideout, design


Brown \& Sharpe vertical milling machine.


Cream separator by International Harvester, Raymond Loewy, consultant designer.


American Machine \& Foundry Co. Glen Power-plus mixer, Herbert Rosengren, designer.



M.I.T., engineering and architecture. Harvard Business School. Worked with Raymond Hood, Erich Mendelssohn. Architect for commercial buildings, structures at N.Y. World's Fair. Consulting designer on interiors for new Tiffany \& Company building, New York City.

## EXECUTIVE OFFICE

A super-mechanized office for the modern executive. Control centers in the desk, which is equipped with a series of rotating, changeable file units, panel-board. The large window is equipped with vertical louvers, mirrored both sides, which automatically turn to reflect light at a constant angle through a translucent glass fiber screen as shown in the plan diagrams (below, right). At night the louvers close to form a reflecting screen for the lights. In combination with daylighting, flourescent lighting, controlled by photo-electric cells, is used.

Material frequently used for reference is kept on microfilm, run through a projector operated by the secretary. Television screen is directly below. Blackboards can be used with regular chalk and flourescent chalk, the latter visible only when ultra-violet ceiling lights are used. The "whiteboard" extension can be used for confidential matter, or extended to partition off the alcove. Also provided in the office are a private phone booth, a rest area or exercise room, a bar, conference and lounge area. Ceiling units contain the conditioned air supply, projected light sources, loud speakers, and smoke ejectors, based on the principle of the venturi tube.
A. Multi-use desk. B. Translucent, heat-absorbing, glass fiber screen. C. Vertical louvers. D. Fluorescent lighting units. E. Mechanical and electrical equipment for light control. F. Window areas (transparent glass, lightproof curtains mechanically operated). G. Secretary. H. Files. I. Projectors (microfilm, movies, slides, etc.) J. Screen for rear projection. K. Fixed mirror. L. Television screen. M. Dressing room. N. Rest area. O. "Whiteboard" and display area. P. "Whiteboard" extension. Q. Private phone booth. R. Bar. S. Conference and lounge. T. Adjustable wire mesh graph. U. Ceiling units.







2

Large scale projects for recreation are distinguished, but unimpressive in number. American architects and planners have done enough to indicate their competence to handle such projects with ingenuity and vigor: only the opportunities are lacking. Two of the examples shown $(2,3)$ are by-products of bridge construction. At the other end of the scale are a number of week-end and beach houses (7-11), also limited in number but extremely varied in conception and execution.

4 Fairchild Aerial Surveys



1. Band shell in Midland, Mich., Alden B. Dow, architect. 2. Triborough Stadium, Randall's Island, New York, Dept. of Parks. 3. Chrystie-Forsythe playgrounds in New York, Dept. of Parks. 4. Jones Beach in Long Island, N. Y., Long Island State Park Commission. 5. Philco radio, L. J. Pierson, designer. 6. Grandstand at Narragansett Park, Pawtucket, R. I., Mark Linenthal, engineer. 7. Bath Houses at Hampton Bays, Long Island, William Muschenheim, architect. 8. Week-end house in Northport, Long Island, A. Lawrence Kocher and Albert Frey, architects. 9. Beach House in Aptos, Calif., William Wilson Wurster, architect. 10. Residence in Woodstock, N. Y., William Muschenheim, architect. 11. Beach House in Lake Dluff, III., offices of W. L. Pereira, architect.




Three outstanding designs for recreation. Streamlining is legitimate in the tricycle, because the younger generation expects the latest expression of modernity in its playthings. The design also reduces the number of stampings to a minimum. Commendable in the camera is the directness of expression: there has been no attempt to make a complicated instrument look like a box Brownie.

Top Left-Heddon fish lures. Top right-Tot bike for American National Co., Harold Von Doren \& Assoc., designers. Right-Eastman Kodak 16 mm . camera, designed in collaboration with Walter Dorwin Teague.


CREATED BY MERRY HULL AND ROBERT GEISSMANN FOR THE design decade
NUMBER OF THE
ARCHITECTURAL FORUM

Born Ohio, 1908. Studied fine cr's at Ohio State University. Art director, photographer, designer of furniture and interiors. For photograph and biography of


Purse unit. Made of plastic, aluminum, or other lightweight material. Contains powder, rouge, mascara, two shades of lipstick, memo pad and pencil, key compartment. Coin compartment opened from outside.

Two piece sport dress. East-west zipper instead of usual vertical opening. "Loophol" device at waist forms attachment between blouse and skirt; belt threads through holes in skirt, loops in blouse, engaging both.


Travel coat. Waterproofed wool or Byrd cloth. Sleeves cut full to cover any type of costume. Pocket on left sleeve; inside zipper pocket for money and papers. Multiple leather pocket on skirt of coat replaces separate purse.


Travel-bureau. Luggage of aluminum or plastic comes apart to fit into wood cabinet. Units combine to make suitcases of varied sizes. Separators in cabinet slide out for use as "trays" when luggage is in use.



Sculptor. Born Los Angeles 1904. Has lived in Japan, Indiana, New York City. His work may be found in Mexico, Rockefeller Center, and in Buffalo, Toronto, Honolulu and New York museums. Has done some industrial design.

## PLAYGROUND EQUIPMENT

"A multiple length swing teaches that the rate of swing is determined by the length of the pendulum not by its weight or width of arc. (Constructed of pipe and scaffolding joints.)
"The spiral slide will develop instinct regarding the bank necessary to overcome the centrifugal force developed by the rate of slide. (One photograph shows the skeletal structure, the other shows

F. S. Lincoln Photos

the model with the slide contour formed by strips of tape in much the manner in which one could make it of steel sheet or possibly wood. It could also be built of a number of other mediums, such as cupric magnesium oxide covered with latex or cement with ship cement surfacing and if a weather resistant plastic could be found, that would be very wonderful.) The whole construction is in cantilever balance.
"The basketball stop is adjustable as to height and verticality and has a movable counterweight to keep it in place while at the same time minimizing weight of construction.
"The seesaw is adjustable as to height. The climbing plaything supplies a variety of climbable forms and textures: upright rungs, corrugated post, a series of rings to climb in and out of, a series of beads like oversize fishnet buoys and a rope with a ball on the end."


Samuel H. Gottscho

The cinema interior exhibits few remaining traces of period influence, most architects having come to realize that in a room that is dark most of the time there is little point in decoration beyond that provided by lighting and acoustical treatments. Figure 4 shows a distinguished, unconventional theater entrance, and the Esquire Theater exterior (5) is interesting for the frank acceptance of the auditorium as a windowless box Where decoration counts, as in the mosaic wall (6) and the translucent plastic ceiling (9), it is being handled with increasing freshness and assurance.

1. Radio City Music Hall in New York, Reinhard \& Hofmeister; Corbett. Harrison \& MacMurray; Hood \& Fouilhoux, architects, 2. Pix Theater in White Plains, New York, Ben Schlanger, architect 3. Normandie Theater in New York, Rosario Candela, architect 4. Telepix Cinema in Boston, Peter \& Stubbins, architects. 5. Esquire Theater in Chicago, Pereira \& Pereira, architects. 6. Longchamps Restaurant in New York, Louis A. Abramson, architect, Winold Reiss, designer and decorator. 7. Waring mixer, Peter Muller-Munk, designer 8. Cocktail set, Ernest Hagerstrom, designer. 9. St. Francis Hotel Bar and cocktail lounge, San Francisco, Calif., Timothy L. Pflueger, architect. 10. Ben Marden's Riviera in Fort Lee, N. J., Louis A. Abramson, architect.



Born 1903, California. Pomona College, Otis Art Institute. Began as sculptor, built first house 1934. Since nuted for excellence and imaginative quality of his domestic work.

THE HIGHW AY HOTEL was designed to provide the same degree of elegance in accommodations as the good hotel. Each room has maximum privacy; there is a screened individual garden and a garage. Only clerestory windows lighting the bathrooms and providing cross ventilation for the living-bedroom are visible from the outside. The main building is shaped to become a baffle to highway view and sounds, to provide restaurant, parking and dining facilities visible from the highway, and to become a signboard which would be especially useful if the building were part of a standardized chain.
(Continued on page 92)




2


1


3

5


The Fokker yacht (1) was one of the first attempts at modern design in naval architecture; also significant was its extensive use of plywood. Figure 3 shows an amusing and handsome gadget: the frankfurters are impaled on strips of metal which form an electrical connection and become the heating elements. The plane (2) is typical of recent sport and training models.

1. "Q.E.D.", Anthony Fokker, designer. 2. Bellanca plane. 3. "Miracle Chef" grille. 4. Viz-Lite hand-generator flashlight. 5. John Wanamaker's "House of Vistas" at N. Y. World's Fair. William A. Stokes Co. Furniture, Jan Ruhtenberg, designer.


# HOME 

With modern clearly intrenched wherever building has to pay a return, domestic architecture still shows stout resistance. But today every city and many towns can point to their modern houses, and many of the new "traditional" houses show greater openness and flexibility, some use of new materials and always the new equipment. An uninhibited generation of home buyers is beginning to question the resale value of the old copybook designs ten years from now. The modern house, which opened the decade as a completely intellectualized importation in the International manner, now shifts to indigenous forms and materials with wider appeal. More and more of these houses will be built, eventually acquiring the same sentimental aura now attached to the houses modern will replace.

Outstanding among the changes in house design is the growing importance of the concept of flexibility, itself a reflection of new ways of living. Expressed in the linking of indoor and outdoor areas, and in the merger of inside spaces formerly divided into fixed cubicles, these developments have at the same time humanized the modern house and added to its efficiency.

1. House in Soulé Tract, Calif., Clarence Mayhew, architect. 2. House in Pasadena, Calif., Robert Trask Cox, designer. 3. House in Los Angeles, Calif., Richard J. Neutra, architect. 4. Collier's House of Ideas, Rockefeller Center, New York, Edward Stone, architect, Dan Cooper, decorator. 5. House in Lincoln, Mass., Gropius and Breuer, architects.



The single-family modern house exhibits one of the most interesting design progressions of the decade. Beginning as a slavish copy of International Style types imported from abroad, it has rapidly shifted in character, the most recent examples showing a successful combination of traditional warmth and intimacy and modern flexibility and openness. The change can be attributed partly to the public's dislike of hard white boxes, partly to the architects' growing impatience with the narrow limits of the style. Prefabrication, after its over-publicized beginnings, has now settled down as a small but steadily growing business. It has still to produce designs basically adapted to industrial production and thereby drastically reduce costs. Town houses, designed within a much more rigid program and conditioned by the paramount necessity of admitting a maximum of light to the interior, crystallized much earlier and show fewer changes.



1. House in Fairfield, Conn., A. Lawrence Kocher \& Gerhard Ziegler, architects. 2. House in New Hartford, Conn., Howe \& Lescaze, architects. 3. House in Southampton, Long Island, Peabody, Wilson \& Brown, architects. 4. House in Calif., Richard J. Neutra, architect. 5. House in Highland Park, III., Dubin \& Dubin, architects. 6. House in Mount Kisco, N. Y. Edward D. Stone, architect. Donald Deskey, consultant designer. 7. American Houses, Inc. prefabricated house in White Plains, N. Y., Robert W. McLaughlin, architect. 8. House in Calif., Gardner A. Dailey, architect. 9. House in Whitemarsh, Pa., George Howe, architect. 10. House in Des Moines,

Iowa, Kraetsch and Kraetsch, architects. 11. House in Berkeley, Calif., William Wilson Wurster, architect. 12. House in Chatsworth, Calif, Richard J. Neutra, architect. 13. House in Los Angeles, Harwell Hamilton Harris, designer. 14. House in Lake Forest, III., George Fred Keck, architect. 15. House in Bear Run, Pa., Frank Lloyd Wright, architect. 16. House in Stockton, Calif., William Wilson Wurster, architect. 17. House in Oregon, John B. Yeon, A. E. Doyle and Associates. 18. House in Lincoln, Mass., Gropius and Breuer, architects. 19. House in Kohler, Wis., William Deknatel, architect. 20. House in Stanford University, Calif., Frank Lloyd Wright, architect. 21.

House in Maine, George Howe, architect. 22. House in Lake Bluff, III., Pereira \& Pereira, architects. 23. House in Georgetown, Conn., Hornbostel \& Bennett, architects, Henry Wright, associate. 24. House in Modesto, California, John Funk, architect. 25. House in Hockessin, Del., Victorine \& Samuel Homsey, architects.
TOWN HOUSES: 1. House in New York, William Lescaze, architect. 2. House in New York, Morris Sanders, architect. 3. House in Chicago, III., James F. Eppenstein, architect. 4. House in New York, Michael M. Hare, architect. 5. Apartment in New York, Sanders \& Breck, architects.


8
Haskell
9
Richard Garrison
10

The two strips of photographs on these pages illustrate the two main trends in modern interior design. As might be expected, they parallel the developments previously noted in exteriors. The upper strip shows examples of the earliest modern-and modernistic-interiors and their more recent counterparts. At the beginning of the decade, to find the appearance of livability associated with the conventional idea of home, it was necessary to turn to one of the traditional styles (8). Later interiors (9-13) demonstrate conclusively that the same desirable qualities can be expressed in contemporary terms.


1. Apartment in New York, William Muschenheim, architect. 2. Penthouse apartment bedroom in New York, Lee Simonson, designer. 3. House of Tomorrow, Chicago World's Fair, George Fred Keck, architect. 4. Mandel House in Mount Kisco, N. Y., Edward D. Stone, architect, Donald Deskey, collaborating designer. 5. Cahn house in Lake Forest, III., George Fred Keck, architect. 6. New York studio, Russel Wright, designer. 7. Living Room, Russell

Barnett Aitken, designer. 8. House in Sudbury, Mass., Derby, Barnes \& Champney, architects. 9. House in New York, Morris B. Sanders, architect. 10. House in Miquon, Pa., Kenneth Day, architect. 11. House on Mt. Desert Island, Maine, George Howe, architect. 12. House in Glendale, Calif., Harwell Hamilton Harris, designer. 13. House in Los Angeles, Calif., Richard J. Neutra, architect.



1. Hotel suite in Chicago, Skidmore, Owings \& Merrill, architects. 2. Punch bowl, Russell Barnett Aitken, designer. 3. Tommi Parzinger, designer. 4. Marguerita Mergentime, designer. 5. House in Kohler, Wis., William Deknatel, architect. 6. House in Pasadena, Calif., Robert Trask Cox, designer. 7. House in Pasadena, Calif., Harwell Hamilton Harris, designer. 8. Radio Nurse, Isamu Noguchi, designer, Dictograph Corp., mfgr. 9. Big Ben clock, Henry Dreyfuss, designer, Westclox Company, mfgr. 10. Walter Von Nessen, designer. 11. Russel Wright, designer. Raymor Mfg. Division, mfgr. 12. Kurt Versen, designer. 13. Waylande Gregory, designer. 14. Royal Metal Mfg. Co., Donald Deskey, designer. 15. Air King Radio, Van Doren \& Rideout, designers. 16. Lyric radio, Russel Wright, designer. 17. Philco radio, Ben Nash, Inc., designers. 18. Kadette radio, Barnes \& Reinecke, designers. 19. RCA Victor radio, John Vassos, designer

The variety of accessories for the contemporary interior has increased each year, with distinguished painters and sculptors ( $2,8,13$ ) beginning to show interest in this field. The influx of fresh talent has done much to broaden the scope of interior design, which has been moving steadily away from the mechanical frigidity of earlier work.
The sequence of small radios is of particular interest, showing the first plastic case (15), one of the earliest modern designs (16) and a change in the placing of knobs and dial for greater convenience (17). Recent examples (18, 19) show an excellent integration of parts and a variety of satisfying solutions. The metal chair (14) is one of the few new designs for steel tubing; the seat and back of perforated sheet metal is a good illustration of the manner in which pattern is being emphasized through the imaginative use of standard industrial products.



10-11







Three more interiors $(5,6,7)$ show the range of treatments open to the modern designer. Stock furniture designs, while lagging behind other developments for the house, include such attractive and useful pieces as 12 and 13 . An ingenious piece recently produced (13) can be used as shown and as a dining table; the ends can be used separately as stools or end tables. Fashions in wallpaper are confusing, and the designer must conform to the momentary dictates of market and manufacturer. Typical are the examples above: illustration 1, executed in 1931, still looks more fresh than 3, executed about nine years later by the same designer.

1. Wallpaper, Teresa Kilham, designer. 2. Wallpaper, The Birge Co. 3. Wallpaper, Teresa Kilham, designer. Imperial Paper Corp. 4. House in Pasadena, Calif., Robert Trask Cox, architect. 5. Living room in Chicago, III., Samuel Marx, architect, Dorothy Wright Liebes, textile designer. 6. Dining room in New York, William Pahlmann, designer. 7. Hardman Piano, Lee Simonson, designer. 8. Steinway Piano, Donald Deskey, designer. 9. Dyna Tone piano, radio, phonograph. 10. Radio, record player and television unit, John Vassos, designer. 11. Mats and napkins, Marguerita Mergentime, designer. 12. Sideboard, Dan Cooper, designer, M. Bartos, mfgr. 13. Folding table for Artek-Pascoe, Bruno Mathsson, designer.



7


8


9


11


12
S. H. Gottschio



The use of old furniture in modern rooms (3), unthinkable in the early Thirties, has become quite respectable in the Forties. The change has been valuable, both in undermining the rigid style concepts of early modern and in fostering a trend toward warmer interiors. In this connection the efforts of designers of furniture,
 rugs, and accessories have been of great assistance. An especially ingenious example is shown in 6 , a sideboard which contains linen drawers, trays, silver compartment and a small bar.

1. Spun aluminum bun warmer, Russel Wright, designer. 2. Kenilworth Studios ash tray, cigarette box and candy dish, Robert Gruen, designer. 3. Town house in Chicago, Ill., James F. Eppenstein, architect. 4. House in Modesto, Calif., John Funk, architect. 5. Residence in Lincoln, Mass., Walter F. Bogner, architect. 6. Sideboard, Frederick Kiesler, designer. 7. House in Santa Ana, Calif., Robert Hiden, designer. 8. Heywood-Wakefield Co. coffee table, Leo Jiranek, designer. 9. Handtufted sculptured rug, Stanislav V'Soske. 10. "Airfoam" rubber upholstery, Goodyear Tire \& Rubber Co. 11. Gladding, MeBean \& Co. pottery, Morris Sanders, designer.



8
Paul Davis



Born 1912 Omaha, Neb. Studied University of Illinois, Cranbrook Academy, Fontainebleau. Worked with Ely Kahn, William Gehron, Richard Neutra. City planning consultant for Los Angeles City Housing Authority. At present associated with Gregory Ain, Los Angeles.

## LOW COST HOUSE

This house was designed for the Southwest. Its cost (for single units) has been estimated in Los Angeles as under $\$ 2,500$ including all fees. In quantity the price would be close to $\$ 1,500$. As it stands it would be suitable for summer use in other parts of the country, and with modifications, for year-round living.
The scheme differs fundamentally from conventional construction in that the entire house is supported on a rigid, earthquake-proof frame, as shown in the drawing below. It uses the exterior walls and partitions only as screens without structural value beyond that needed for rigidity of the walls themselves. Mr. Stein states that a basic purpose of the design is to make possible a really low cost house of suitable quality: "A distinctive feature of this design is that in the mild climate of the Southwest, it is entirely feasible for one to build such a house with only the money for the supports, roof, and minimum mechanical necessities. This could be done for about $\$ 750$, including labor. Heavy straw mats that are fireproof and good insulation could then be hung to form the exterior walls and the house would be comfortably habitable. The house could then be completed as soon as convenient.
"If a complete house were desired, it could be built and amortized within the space of a few years, thereby eliminating mortgage payments during the period when maintenance and repair charges begin to mount up.
"The plan as shown provides a private bedroom or study. Lounging or sleeping space off the living room could be closed off with folding doors or heavy curtains. This area has direct access to the bath.
"One wall of the house has windows in service areas only. This could face the street or abutting property. Sleeping areas would open on a walled bedroom garden. Living and dining terraces could be walled as desired.
"The arrangement of doors and windows permits the sun to enter the house freely with almost any orientation. Economy and efficiency were the controlling factors in the design of the service areas. "This scheme offers a modern dwelling to the house-starved low income family, thanks chiefly to the radical departure from the prevailing system of load support.
"For the rest, the plan abides by the teachings of functionalism, modified only by the need for maximum economy. Its spirit is meant to be akin to the architectural humanism of Frank Lloyd Wright rather than the inhibited abstractionalism of the International Stylists.
"The larger philosophy in back of the plan is this: the home for the average American family must be brought down to the price-level of the automobile; yet it should be more than a mere gadget; it must be a witness to man's humble spirit of romanticism as well as to his proud insistence upon up-to-date rationality and mechanical perfection; it must harbor the imponderable longings of his soul as well as serve the measurable needs of his body."

Contilever construction reduces nunber of supports, decreases length of footings.

Minimun number of structural
menbers decreases costs, permits exact morkmenship.

Diagonal placing of supports provides gre ter stability during earthquakes, windstorms; also decreases size of members.

All supports breced for earthpucke stresses, relieving roof of undue strain.

Exterior walls non-bearing, peraitting entire freedom of spacing of openings; decreasing iabor costs.

Single reinforced footing inter-
INTEGEATED section reduces earth ua'e hazard. STRUCTURAL
Footings $1 / 3$ as long as in common S Y S T EM system; permits iesigning for beam action, lassening earthquale hazard.




Stephen Deutch

Any prediction concerning the kitchen made in 1930 would probably have noted an increasing number of standardized units, forecasting a perfectly functioning room, the last word in machine design. This trend is still important, but the publication of the Willey house kitchen (3) in 1938 started another trend, based on a less rigid interpretation of the kitchen's uses. The project on page 269 suggests further simplification of kitchen equipment with greater flexibility of use.

Equipment reached a high point quite early, as in the 1933 refrigerator (5). Design changes in the past few years have involved only surface styling for the most part. Kitchen utensils, such as the kettle above, include some of the best designs produced to date.



3

1. Club Aluminum tea kettle, Trace and Warner, designers. 2. Kitchen Aid mixer, Egmont Arens, designer. 3. Kitchen in Minneapolis, Minn., Frank Lloyd Wright, architect. 4. Kitchen, American Radiator \& Standard Sanitary Corp., George Sakier, designer. 5. General Electric Refrigerator, Henry Dreyfuss, designer. 6. Servel Gas Refrigerator, Lurelle Guild, designer. 7. General Electric range, Ray Patten, designer. 8. Westinghouse Electric range, Harold Van Doren and Assoc., designers. 9. General Electric range, Ray Patten, designer.


[^0]

1932


1939


1940




3

4



2


Shigeta-Wright, Ianelli

The efforts of industrial designers in the field of kitchen utensils have produced many inexpensive and attractive tools. (1). The electrical appliances $5,6,7$ and 8 constitute a strong argument for Mr. Hamby's contention (see facing page) that the kitchen of the future will have individually wired cooking utensils in place of the present range.

1. Washburn kitchen utensils, Henry Dreyfuss, designer. 2. Kitchen Aid coffee mill. Egmont Arens, designer. 3. Flex-Seal pressure cooker. 4. Pyrex double boiler, Corning Glass Works. 5. McGraw Electric Toastmaster, Barnes \& Reinecke, designers. 6. Waffle iron, McGraw Electric Co. 7. Chicago Flexible Shaft Co. coffee maker, Alfonso lamelli, designer. 8. Nesco roaster, C. E. Waltman \& Assoc., designers. 9. Kitchen. Fordyce and Hamby and George Nelson, architects.



Studied University of Illinois, has worked for developers, architects and industrial designers. Own practice since 1933. Authority on small house and kitchen design. Consultant on architecture for McCall's Magazine.


Born New York City. Unorthodox design training. Distinguished textile designer, noted for use of American themes. Has put politics, folk art and the contemporary scene into her designs. Main work with manufacturers and department stores.
"Clearest indication of coming changes in kitchen design is found in the host of individually wired gadgets: toasters, roasters, broilers, percolators, etc. In this kitchen it therefore seemed logical to replace the range with such utensils, and with the projected ones of Miss Mergentime. It also seems reasonably certain that women will continue to prefer large kitchens. Here we have space for dining, a porch for tea, an alcove for laundry.
"This kitchen was designed on a basis of operation only. There is a position for the work required by each type of recipe, with food, dishes and utensils instantly available. For greater flexibility of use, the refrigerator
is arranged in several units whose temperatures range from 70 degrees to minus 20.
"The design contemplates the use of many other worksavers: garbage bags, disposable plates, inserts for pots and pans, knee-operated sinks, etc."
The utensils by Miss Mergentime are of transparent material, the heating wires forming a visible pattern. Removable handles serve to plug in the utensils, which are also used as serving dishes. The Thermodome (left, below) is used for roasting. The double boiler has removable inserts for cooking, integral rims. The doublewalled glass has a brine filler. Such glasses would be kept in the refrigerator for use with chilled beverages.

DISHES

FOOD


Elimination of floor fixtures permits adjustment to correct height for operator. All cabinets within easy reach. Wall


Created by marguerita mergentime




10


The bathroom, already one of the best rooms in the house by 1930, has been cleaned up in the intervening years, but not fundamentally improved. One of the outstanding fixtures (12) was developed early in the decade. The prefabricated bathroom (11), representing a basic design change, never got into production. An interesting organization of fixtures for greater simplicity and convenience is shown in 14. The tremendous volume of product redesign is indicated by the before and after pictures on the opposite page.

1. General Electric sink with garbage disposal unit, Ray Patten, designer. 2. U. S. Manufacturing Co. fly swatters, Henry Dreyfuss, designer. 3. Dripcut Sales Co. server. 4. Birtman Electric Co. flat iron, redesign by Alfonso Iannelli, 1932. 5. A. C. Gilbert Co. Kitchen Kit electric food mixer, redesign by Robert Heller, 1936. 6. Montgomery Ward's hand vacuum cleaner, redesign by Walter Dorwin Teague. 7. "Technotrol" thermostat, redesign by Barnes \& Reinecke. 8. Fairbanks-Morse Co. stoker, redesign by Alfonso Iannelli. 9. Apex Speedliner Washer, redesign by Henry Dreyfuss, 1939. 10. Kohler Co. bathroom. 11. Prefabricated bathroom unit, Buckminster Fuller, designer. 12. American Radiator and Standard Sanitary Corp. wash basin, George Sakier, designer. 13. Crane Co. bathroom fixtures, Henry Dreyfuss, designer. 14. Collier's House of Ideas bathroom in New York, Edward D. Stone, architect.


1937




1. House in Miquon, Pa., Kenneth Day, architect. 2. Koven boiler, Gustav Jensen, designer. 3. Spencer Heater, Gilbert Rohde, designer. 4. Tenite valve handle for Youngstown Pressed Steel Co. 5. Briggs Beautyware plumbing fixtures. 6. Detecto Scales, redesigned in 1938 by Robert Heller. 7. General Electric washing machine, Ray Patten, designer. 8. Bendix washer Bendix Home Appliances Engineering Department. 9. Maytag washing machine, Harold Van Doren and Assoc., designers.


5

1930


6


6



Born 1895, Milton, Mass. Inventor machines, building products, Dymaxion house, Dymaxion car, onepiece prefabricated bathroom. Outstanding exponent of industrialization of building. Author "Nine Chains to the Moon." At present technical consultant to "Fortune."

## THE MECHANICAL WING is a

compact, mobile package in which the me chanical essentials of contemporary U. S. living can be transported to the Vermont farmhouse, lakeside camp site, week-end or vacation house, or incorporated in a permanent dwelling. It is attached to a tubular steel A-frame trailer, frame integral with axle. Attaches to car by ball joint hitch, weight sprung by car. Has integral jacks on casters for maneuvering by hand, blocking up Wing, etc. A-frame alone is useful as luggage, fuel, boat and water carrier, also as a crane for manipulating heavy objects. Note hinged-up tubular barrel chock.
Bath-dressing room unit supplied optionally with (1) water line connection where running water available, (2) combination compressed-air, water
and chemical fog-gun cleansing devices, (3) hermetically sealed waste packaging and chemical disposal apparatus.
The energy unit is located between bath and kitchen. Contains diesel engine (h.p. optional), electrical generator, air compressor and tank, battery and radiator. The last uses domestic hot water to warm incoming air. The fan shown can be reversed in summer to exhaust warm air from living units.
Kitchen and laundry unit, with sink, laundry tub, electric range and refrigerator, storage space for dishes, silver and linen. Dry warm storage shelves over diesel above sink.
Side walls: waterproof, synthetic-resin-glued plywood truss. Walls and floors of the three units (Continued on page 92)
 드늘


EDWARD D. STONE
University of Arkansas, Harvard Architectural School, M.I.T. One of outstanding modern architects, co-architect for New York's Museum of Modern Art.

DAN COOPER
University of Virginia Architectural School, N.Y. School of Fine \& Applied Art. Interior designs for many private and public buildings. Work in contemporary field since 1934.
 -


## PINT HOUSE

The familiar concept of the one-room apartment has been developed in an ingenious way, with certain fundamental improvements based on a new apartment house plan. Rooms set on a diagonal intersect a curved front, creating a series of private balconies. The long vista through the room from its entrance would be attractive. For cross ventilation the short exposed wall of
each apartment is provided with movable sash; this would be of translucent glass, and so tilted that there would be no loss of privacy for the adjoining terrace. There is a dining table at the end of each apartment which can be pushed through a wall opening into the kitchen. Sleeping facilities would be provided by one of the numerous types of convertible couches on the market.



Design progress in multi-family buildings during the decade can be seen in a comparison of the two buildings above, the false horizontals of (1) giving way to a much more honest and satisfying treatment. In housing generally, however, the few outstanding examples are only an indication of what the architect could do if he were not hamstrung by prevailing conditions of small scale land ownership. Design development in this field will of necessity be confined to minor improvements in plan and surface treatment until some means of planning in larger units is found.

1. Beaux-Arts apartments, New York, Kenneth M. Murchison, Hood, Godley \& Fouilhoux, architects. 2. Apartment house in New York, Frederick L. Ackerman, architect, Ramsey \& Sleeper, associates. 3. Carl Mackley houses, Philadelphia, Pa., W. Pope Barney, architect, Albert Kastner and Oscar Stonorov, designers.


Robert M. Damora


Dana A. Barnes



2


The best of the large scale projects make use of the effective repetition of standard units ( $3,6,7,8$ ). The greatest opportunities for the future are probably to be found in the free plan, unconfined by an existing street layout; the closest approximations here are 4,5 and 6 , all government projects constructed in the open country. Examples of moderately priced furniture and accessories are shown on the opposite page (9-11).

1. Rockefeller apartments in New York, Harrison \& Fouilhoux, architects. 2. Parkchester project in New York, Metropolitan Life Insurance Company Board of Design. 3. Castle Village apartments, New York, George Fred Pelham, Jr., architect. 4. Greenbelt, Md., Farm Security Administration, Douglas D. Ellington and Reginald J. Wadsworth, architects. 5. Greenhills, Cincinnati, Ohio, Farm Security Administration, Roland A. Wank, G. Frank Cordner, architects. 6. Chandler Farms, Inc. Houses, Arizona, Farm Security Administration, Cairns and DeMars, architects.


4




Quantitatively less important than the products of heavy industry, scientific instruments have nevertheless played a significant role in giving direction to contemporary design. This is particularly true in the case of medical instruments and equipment, whose special requirements have resulted in a profusion of new forms. The refreshing absence of surface styling reflects the uncompromising insistence on mechanical perfection. Here as in industry the finest achievements have been produced by men not primarily concerned with esthetic effects. Only in the buildings, with a few outstanding exceptions, have survivals of eclecticism had a restraining effect on design development.


1. Sectional view Bausch \& Lomb microscope. 2. ClayAdams centrifuge. 3. Hospital Supply Co. sterilizers in Welfare Island Hospital, New York. 4. Clay-Adams pelvic calipers. 5. Bausch \& Lomb CTA-8 microscope. 6. General Electric dental X-ray cones.



3


7

1939


Kellett-Richle

1939


The bulk of the big general hospital has prevented a wholesale adoption of the vertical style, and in some cases attempts have been made to apply vertical and horizontal treatments to the same framework. Distinguished buildings in the field are not lacking, however, and include such excellent examples as the Denver Children's Hospital (7) and (13), the Lake County Sanatorium (14), and others shown on these pages.

1. House and offices of Dr. P. M. Lovell, Los Angeles, Calif., Richard J. Neutra, architect. 2. Presbyterian Medical Center in New York, James G. Rogers, architect. 3. The Eye Institute of New York City, James G. Rogers, architect. 4. U. S. Marine Hospital in Seattle, Wash., Bebb \& Gould, architects. 5. New York Hospital, Cornell Medical Center in New York, Coolidge, Shepley, Bulfinch \& Abbott, architects. 6. Los Angeles County General Hospital of Los Angeles, Calif., Allied Architects Association of L. A., architects. 7. Children's Hos-



4

1939


10
MoLaughlin Air Service


5


6

Whittington

1939


1939

pital in Denver, Colo., Burnham Hoyt, architect. 8. Building for Minnesota Dept. of Health, Minneapolis, Minn.. William M. Ingemann, architect. 9. Little Traverse Hospital in Petoskey, Mich., Skidmore \& Owings, architects. 10. Hospital for Chronic Diseases, Welfare Island, New York, Butler \& Kohn, York \& Sawyer, associated architects. 11. Hospital in White Plains, New York, Schultz \& Weaver, architects. 12. Memorial Hospital for the treatment of cancer and allied diseases in New York, James G. Rogers, Inc. and Henry C. Pelton, architects. 13. Fresh water pool, Children's Hospital in Denver, Colo., Burnham Hoyt, architect. 14. Tuberculosis Sanatorium, Waukegan, IIl., William A. Ganster and Offices of W. L. Pereira associated architects.


"A study of conditions in the field of allergy indicates certain needs for trusted clinical expression. To create a plan form, it has been necessary to observe the benefits derived from a few isolated private clinics. Much work has to be done here. The field is comparatively new; laboratories have at hand or under test many of the treatment necessities. Commercial research has in this field the material available and the resources to develop more. Clinical and diagnostic facilities have not kept pace with the treatment available. "These drawings are $\alpha$ visual outline of a concrete program expression-they are no cure, nor are they the only solution. They only recognize the basic requirements of a need which in its solution must accept all the aids of nature and medicine. The job is yet to be done.
(Continued on page 92)

LEGEND: 1. Yard. 2. Green house. 3. Animals. 4. Clinical laboratory. 5. Office. 6. Drugs and extracts. 7. Rest room, technicians' lockers, 8. Doctor. 9. Treatment rooms. 10. Business. 11. Nurses' work room. 12. Memorial lobby. 13. Dark room. 14. X-ray. 15. Eye, ear, nose and throat. 16. Examination room. 17. Allergy laboratory and extract research. 18. Office. 19. Research and immunological laboratory. 20. Library and clinical photography. 21. Out-patient records, literature. 22. Mechanical research. 23. Ward. 24. Pharmacy 25. Utility and kitchen. 26. Doctor and consultation room.





Born Oklahoma. Studied at Ohio State University, craft work at Ohio Wesleyan. At present successful New York designer of gloves, clothes and accessories.

## CATERPILLAR ARCH SHOE

The arch of the foot is made up of many small wedge-shaped bones which permit upward expansion (1) but maintain a basic arched position under the weight of the body. In ordinary shoes this upward flexing is not permitted by the viselike construction of steel and leather, and bending takes place only at the ball of the foot. The "Caterpillar Arch" is designed of articulated segments of plastic, shaped like keystones. Perfect support is obtained under the body's weight, but when the foot takes a step the arch expands upwards as the bones do. The Caterpillar Arch
provides basic support with freedom of motion. Figure 2 shows a simple design using this construction. The extension of the plastic heel into a strap at the back of the foot is held firmly by the shoe band around the ankie. A cushion is built into the rounded sole for pavement shock. Illustrations A, B, C and 4 show suggestions as to the mechanical structure possible with the design. The segments could be strung on steel bands or held rigid under pressure by use of a leather base. Once anchored, they must be rigid in the lowest arch to support the foot firmly.


"Functionalism" is an overworked word. Nevertheless the remarkable progress in design for shops and stores is based largely on a new understanding of the meaning of functional design. The shop exists for trade: it can only serve to attract customers and to please them once they are inside. Every picture in this section illustrates in one way or another various attempts at functional design for merchandising. In no field has the triumph of the modern architect been more complete. Reasons: the comparative lack of prejudice against change in the commercial field, and the necessity for every shopkeeper to meet the highest standards set by his competitors.

1929


1


1931


## 1931



1935


1937


1940

1. Sommers Shoe Shop, New York, Percival Goodman, architect. 2. London Character Shoe Shop, Newark, N. J., Vahan Hagopian, designer. 3. Eastman Kodak Store, New York, Walter Dorwin Teague, designer. 4. Socatch Bakery Shop, Chicago, Ill., Holabird \& Root, architects. 5. Longchamps Restaurant, New York, Louis A. Abramson, architect, Winold Reiss, designer and decorator. 6. Steuben Glass Shop, New York, Platt \& Platt and John M. Gates, architects, McMillen, Inc., decorators. 7. Dress Shop, Berkeley, Calif., John E. Dinwiddie, architect. 8. Steckler Shop, New York, Morris Ketchum, architect, Victor Gruenbaum, associate.

.完 .


1939



The great advances in commercial design are based primarily on the designers' concentration on essential merchandising ideas. All of the shops on these two pages have been selected from this viewpoint. 1: Counter used as display feature. 4: Furniture arranged in model rooms. 5: Modernization of the old arcade: the shop merges into the window. 7: Emphasis on comfort for women shoppers.


2

4

3: Department store becomes parking space for customers. 6: Luxury for the shoe shop: the usual row of chairs disguised as a long divan. Quilted wall completes the setting. 11: Large simple shapes give unity to displays of small objects. 15: Special fixtures for favorable presentation and convenient storage of prints.

1. W. T. Grant store, Buffalo, N. Y., Alfred S. Alschuler, architect, Raymond Loewy, designer. 2. Mme. Huntingford packaging, Lucille Knoche, designer. 3. Sears Roebuck \& Co. store, Los Angeles, Calif., J. S. Redden, architect. 4. Showroom for Hermann Miller Furniture Co., Chicago, Gilbert Rohde, designer. 5. Lederer shop, New York, Morris Ketchum, Jr., architect, Victor Gruenbaum, associate. 6. Halle Bros. shoe dept., Cleveland, Ohio, Gilbert Rohde, designer. 7. Lord \& Taylor layette dept., New York, Raymond Loewy, designer. 8. "Free Finger" gloves, Merry Hull, designer, Daniel



2




Nowhere is the broad range of modern design better illustrated than in the field of commercial design. Extremes are alike, however, in their emphasis on functional elements, as in the stair and columns in 1 and 3 , and the decorative use of lighting units in 1,8 and 11 . In equipment $(2,5)$ the invariable trend is toward the smooth, curved forms produced by stamping and molding.

1. Chase National Bank, New York, Reinhard and Hofmeister, architects. 2. National Cash Register, Walter D. Teague, designer. 3. Crane Co. display rooms, New York, Landefeld \& Hatch, architects. 4. Automaticket vendor, Esquire Theater, Chicago, III., Pereira \& Pereira, consultants. 5. Uarco check-writer. 6. Van Raalte, Inc. showroom in New York, Eleanor LeMaire, designer.

2. Table and Chair, Altman \& Kuhne Shop, New York, Gruenbaum \& Krummeck, designers. 8. Mannequin display, Bamberger Dept. Store, Newark, N. J., Raymond Loewy, designer. 9. Beauty Shop in New York, Morris Sanders, architect. 10. Dress Shop in Berkeley, Calif., John E. Dinwiddie, architect. 11. Interior, Orrefors Glassware Shop, New York, Hans Foy, designer.





Design for mass merchandising is closely restricted by display and counter storage requirements. To date the most successful examples have concentrated on producing a well-organized general scheme, subordinating in this manner the thousands of different articles. The supermarket (1) is a comparatively new type for which a completely satisfactory solution has yet to be found. Still ahead of the store is its best equipment. The portable scales above mark a high point in this field.

1. Ralph's Grocery, Santa Monica, Calif, Morgan, Walls \& Clements, architects. 2. W. T. Grant Department Store in Buffalo, New York, Raymond Loewy, designer, Alfred Alschuler, architect. 3. Cushman Bakery Shop, Raymond Loewy, designer. 4, 5, 6. Toledo Scales and Enterprise meat chopper, Harold Van Doren \& Assoc., designers.


6



CREATED BY MORRIS KETCHUM, JR., FOR THE design decade
NUMBER OF THE ARCHITECTURAL FOR

Born 1904, New York City Graduated Columbia College and School of Architecture. Worked in various New York offices, in independent practice since 1935. Work residential and commercial. Best known for outstanding shop designs.

## STORE BLOCK

This project represents a fundamental re-design of the conventional business block. It involves development of minor streets as traffic arteries, with all Main Street parking and deliveries eliminated. It consists of a flat slab on regularly spaced columns, covering the entire area, under which shops are freely disposed. The usually unrentable rear half of the block is developed as usable space. Shops would be constructed of standard, easily changed elements, making alterations both as to size and shape a simple matter. Presented as a basic idea, not as a complete solution for a given location, the project is extremely flexible. The office building could be larger, differently placed, or eliminated. Parking, obviously, could be provided on an adjacent lot rather than on the roof. The shops could be rented in any desired combination. With these possible modifications, the scheme represents an admirable solution for any city of average size: economical, rentable, and a fundamental contribution to improvement of the existing town plan.


An interesting feature of the scheme is that many of the shops have a window display space longer than the entire block frontage. Coupled with this great advantage is the added convenience to shoppers, who can go on their way unimpeded by sun or rain. The amount of display space and solid wall in any given shop would be regulated entirely by the shop owner's requirements. As in modern office buildings, there would be one central heating plant. Storage space is located in the basement, with direct access for trucks. Another set of ramps leads to the roof, where parking for 342 cars is provided.
The structural framework is laid out on a 20 foot module; columns are set back 5 ft . from the street to allow for continuous show cases where desired. The floor is formed of steel beams supporting removable concrete slabs, so that stairs, dumbwaiters, plumbing, air conditioning and electric services may connect to the basement at any point.
"Human circulation," says the architect, "favors the stores. From upper parking lot and office building the crowd pours through the center of the block on its way to Main Street. Each store becomes an island, with window shoppers on all sides. Inside entrances are now as important as those on the street, while the bus and car traffic on the minor street favors those shops at the rear. With proper location of traffic aisles all stores can be seen from the street, and all stores can be permitted overhead signs leading out to the street.
"When this original block is duplicated by neighboring blocks along both sides of Main Street, it would result in all auto traffic being routed along the parallel streets at both sides. This in turn would lead to the eventual use of Main Street for pedestrians only, with the closing up of all cross streets except main traffic arteries.
"When that happy day arrives, Main Street's paving can be torn up, gardens planted, and the citizens can enjoy open air lounging and dining with their window shopping, with no traffic light to bother them."


Located at the parking level is a waiting room, with lunch counter, office, and automobile accessories shop. Escalators lead down to the main shopping level. Elevators take passengers directly from the waiting room to the offices above. Cars would be parked and delivered by attendants. The architect points out that parking charges could be deducted by merchants from customers' purchases, providing a double incentive for use of both shops and parking space.


FIRST FLOOR PLAN
ret

roor garden

typical opfice floor plam

The typical floor plan allows for adequate light and air in all offices. The framework is exposed on the outside. As in the shops, prefabricated wall sections would give the tenant any desired combination of wall and window.

This sequence of one New York store's windows begins with a traditional setting, goes through several modernistic phases to surrealism, and ends with a traditional setting again. But the circuit is not complete, as a comparison of the first and last illustrations will show.


1932


1934


 dows, Tom Lee, designer. 5. Mannequin, Lester Gaba, designer. 7. Marcus \& Co. window, Wm. Bayard Okie, Jr., designer. 8. Lord \& Taylor window, Dana O'Clare, designer. 10. Elizabeth Arden window, Howard Ketcham, designer. 12. Saks Fifth Ave. Rousseau window, Sidney Ring, designer. 13. Marcus \& Co. Chirico window, Wm. Bayard Okie, Jr., designer.


If the entire issue were devoted only to packaging it would still be difficult to show all of the outstanding examples that have appeared in the past ten years. The problem is one of getting attention, presenting the product favorably, and introducing functional improvements in the package itself. Illustrating the latter are the coffee sacks (1) and the cotton container (3). All show great skill in organizing the lettering as an integral part of the complete design.

1. Coffee containers for Great Atlantic \& Pacific Tea Co., Egmont Arens, designer (1932). 2. Higgins Inks, Egmont Arens, designer. 3. Bauer \& Black Cotton Picker, Gustav Jensen, designer (1929). 4. Wieboldt's wine packaging, Charles C. S. Dean, designer. 5. Mme. Huntingford cosmetics, Lucille Knoche, designer. 6. Coronet Gin Bottles, Morris Sanders, designer. 7. Radox Bath Preparation, Breen \& Olifiers, designers. 8. Wieboldt's paints, Charles C. S. Dean, designer. 9. Atlas batteries, Egmont Arens, designer.




The educational institution is one of the strongholds of a conservatism which is clearly expressed in the great majority of school buildings. However, the growth of progressive education and the community's increasing demands on the school plant are being reflected in new designs. A break with the "styles" is visible in the substantial body of distinguished modern work, whose influence is spreading to include not only the schools, but colleges as well.







1. Adler Planetarium in Chicago, Ernest A. Grunsfeld, Jr., architect. 2. New School for Social Research in New York, Joseph Urban, architect. 3. Hessian Hills School in Croton-on-Hudson, N. Y., Howe \& Lescaze, architects. 4. Military Academy, Los Angeles, Calif., Richard J. Neutra, architect. 5. Fine Arts Center in Colorado Springs, Colo., John Gaw Meem, architect. 6. Grade School in Northville, Mich., Lyndon \& Smith, architects. 7. High School in Ansonia, Conn., William Lescaze, architect, Vernon F. Sears, associate. 8. High School in Columbia, Miss., Overstreet \& Town, architects. 9. Museum of Modern Art in New York, Goodwin \& Stone, architects. 10. Sierra Union High School in California, Franklin \& Kump, architects. 11. High School Gym-nasium-Auditorium in Farmington, Mich., Lyndon \& Smith, architects.


## RINDergarten



That the demands of contemporary schools and other educational institutions can only be fully met by a contemporary approach in architecture has been demonstrated beyond dispute in the ten years just past. Ample light demands the glass wall, and this is now being supplemented by photo-electrically controlled (3) artificial illumination. The requirements of flexibility, as important in museums as in schools $(5,6)$ have also emphasized the validity of the modern solution.

1. Kindergarten, grade school in Northville, Mich., Lyndon \& Smith, architects. 2. Hessian Hills School, Croton-on-Hudson, N. Y. Howe \& Lescaze, architects. 3. G. E. photoelectric light control unit. 4. School in Lincolndale, New York, Van der Gracht \& Kilham, architects. 5. Avery Memorial Museum in Hartford, Conn., Morris \& O'Connor, architects. 6. Museum of Modern Art in New York, Goodwin \& Stone, architects. 7. AIA exhibit, San Francisco, Ernest Born, architect. 8. Art Museum in Portland, Oregon, A. E. Doyle \& Asso., architects. 9. Theater and Art Center, University of Wisconsin, Michael M. Hare, Corbett \& MacMurray, associated architects, Lee Simonson, consultant.



Hedrich-Blessing



CREATED BY RICHARD M. BENNETT FOR THE
design decade
NUMBER OF THE ARCHITECTURAL FORUM

## MICROFILM LIBRARY

Microfilming is here. Its present development is amazing. Over 100 newspapers now can be purchased on film which results in a saving in volume of some $95 \%$. For records of all kinds it is valuable in that beside space saving it is accurate. Rare books can be photographed at a cost of a cent or two a page, making it possible for any rural library to have the intellectual if
not the economic wealth of our great institutions. There are two problems at present. Eye fatique and the necessity of not allowing the general public actually to handle the film which can be easily ruined by scratches, tearing, etc.
The perspective shows a microfilm wing of a library,-because even the most rabid enthusiast does not believe books are doomed.

Born Ohio, 1907. Harvard University. Worked in New York and Boston for architects and industrial designers. Work mainly residential and educational. Won Wheaton College Art Center Competition with Caleb Hornbostel. Now visiting lecturer or critic at Pratt Institute, Vassar College and Yale University.

The PLAN

1. Control. Those taking out film for home use can borrow small "readers."
2. The index (see drawing 2.)
3. Projectors for newspapers and encyclopaedias etc. See Drawing 3.
4. The reading room. Looking along axis $y$ the louver-plastic walls afford a view of the garden which allows a change in the muscular effort of the eyes affording rest-along x which is the direction of one's screen the louvers cut out direct outside light.
5. Garden.
6. Reference and newspaper film stacks. 7. Research. These patrons will service their own machines.

Drawing 1

1. Projector in stack room under reading room. By an Iconoscope the projectors could be in a central room, but the ideal will be when the books can be televised right to one's home.
2. Screen adjustable to any angle.
3. Control and communication to stack room.
4. Writing area. Looking along this axis one can see out into the garden.
5. Light on back of one projector lights work space of opposite neighbor.
6. Adjustable chair.
7. Reader dialsets numbers on call board. Emergency light augmented by phone.
(Continued on page 94)

2
3



Firm of Lyndon \& Smith was formed in 1935; both principals graduates of University of Michigan. New firm established this year. Noted for distinguished modern schools.

1. BUS GARAGE
2. BOILER ROOM
3. INDUSTRIAL ARTS SHOP
4. BICYCLE STORAGE
5. STAFF AUTO PARKING
6. SOUND RECORDING STUDIOS
7. MUSIC ROOM
8. STAGE
9. AUDITORIUM STUDIO 10. PROJECTION ROOM
i1. LOBBY
10. EXHIBITION CASE
11. OFFICES
12. TOILETS
13. CAFETERIA
14. HOMEMAKING \& MODEL ROOMS
15. SCIENCE
16. COVERED PLAY AREA
17. LOCKERS \& SHOWERS
18. GYMNASIUM
19. SPECTATORS
20. CONTROL BOOTH
21. FUTURE BUILDING
22. TEACHERS' AREA
23. ACADEMIC AREAS


## GRADE SCHOOL

"We have assumed the problem of providing for approximately 350 children in a satellite area of temperate climate attending school for the intermediate grades.
"We have assumed that the unit will need extension within a reasonable future, and the plan is arranged with that definitely in mind. With the increased use of buses for trans-
portation of pupils, it is the thought here to provide adequate loading and unloading facilities, storage and maintenance of buses.
"The storage and protection of pupils' bicycles is recognized as a definite part of the school's transportation problem.
"Limited sheltered parking spuce for staff automobiles is included.
"The auditorium and music rooms are designed to eliminate the parallel wall "flutter" in acoustics. The thought here was that these rooms will be used more for sound recording, broadcasting and projection purposes.
"The 'classroom' part of the structure is designed for extreme flexibility. Its intention is to provide a
(Continued on page 94)


1. CONTINUOUS CLEAR GLASS
2. CONTINUOUS ALUMINUM SHADE
3. LIGHT DIRECTIONAL GLASS BLOCKS
4. ACTIVITY AREA
5. RECESSED TUBULAR LIGHTS
6. STORAGE UNITS
7. UTILITY STOCK
8. EXHIBITION CASE
9. WINDOWS
10. LOCKERS
11. OPEN SHELVES
12. CHALK BOARD


Breaking through the stranglehold of eclectism in school and college architecture are those units to which no sentimental significance is attached. An outstanding example is the magnificent swimming pool (2) in the Yale gymnasium, concealed behind an absurd Gothic shell. Splendid illustrations of recent engineering design are the gymnasiums $(3,5)$ at the right. Below, one of the earliest modern auditoriums.

1. American Seating Co. folding chair storage space, Hornbostel and Bennett, architects. 2. Swimming pool, Yale gymnasium, in New Haven, John Russell Pope, architect. 3. Swarthmore College Field House, Karcher \& Smith, architects, Robert E. Lamb, designer. 4. Auditorium, New School for Social Research in New York, Joseph Urban, architect. 5. Gymnasium, Lincoln Hall in Lincolndale, New York, Van Der Gracht \& Kilham, arehitects.





## TRANSPORTATION AND COMMUNICATION

Uneven development is the chief characteristic of transportation design. Airplanes, where functional considerations are all-important and with no tradition to live down, show phenomenal progress. The automobile, on the other hand, despite mechanical improvements and better styling, is still far from a definitive solution which would involve real streamlining and consequently fundamental redesign. The new trains are chiefly notable for mechanical alterations (diesel and steam-electric drive), structural improvements (light-weight alloys) and better interior design.


1930 CHRYSLER


1931 CHRYLLER






7

8


Fred R. D


The changes in the design of broadcasting studios closely follow technical developments. At first rectangular rooms with banal mural decorations, they have acquired distinctive form through the use of acoustically necessary elements. An interesting example is the convertible studio ( 8 ) which can be used as a lounge, bar and small music room. Typical of the many visually satisfying objects produced by engineers in this field are the transmitter tube and microphone.

1. CBS broadcasting studio, "before" 2. WCAU, Philadelphia, Robert Heller, designer. 3. CBS broadcasting station, New York, William Lescaze, architect. 4. Theater, studios and offices (KNX), Hollywood, Calif., William Lescaze, architect, Earl Heitschmidt, associate. 5. CBS broadcasting station, New York, Fellheimer \& Wagner, architects. 6. RCA transmitting tube. 7. Automatic Electric Co., Desk Monophone. 8. Miniature broadcasting theater for Music Corporation of America, Beverly Hills, Calif., Robert Hiden, designer. 9. American Television set, Lurelle Guild, designer. 10. Microphone. 11. Pickwick Dam control room, TVA, Roland Wank, principal architect.


1938



9
8.




One of seventh generation of milliners. Flunked business course in New Rochelle, went to L. S. Ayres in Indianapolis to learn merchandising but was no good. Went to Philadelphia to design textiles and has been a successful hat designer ever since. Criteria: 1. Would I wear it? 2. Does it match the material of the costume and the mode of living?


## CONVERTIBLE HAT

## for convertible car

The push-button-operated convertible top has brought back the open car. It has also created the problem of a hat suitable for driving with the top down, equally suitable for town wear. The Convertible Hat is presented as one solution: it is convertible, collapsible, packable. Upper left: the hat worn as a turban for country driving. Upper right: On arrival in town the detachable brim is taken from a handbag and (lower left) adjusted over the turban. Different arrangements of brim and turban are shown at the lower right, and left.



## 1




NUMBER of the architectural forum

1919 Graduate University. Turned from engineering to fashion illustration, later to industrial design. Has offices New York, Chicago, London; designs range from heavy machinery to cosmetics packaging. Only U. S. designer who could cross the country in a car, bus, plane and train of his own design.

B. DRIVER
B. GENERAL SEATING
C. GELUB LOUNGE
E. BUFFET
F. MEN'S ROOM
F. MEN'S ROM ROOM
G. LADIES' ROOM
H. REAR OBSERVATION

## BUS

-ntinental bus below could be used on such highways as the new The transcontinental bus between Harrisburg and Pittsburgh. It chanism and a Pennsylvania Tumpike betwel engines, hydraulic steering under capacity load. for long hauls, has two dimately ninety miles per hay terminal in limousines, cruising speed of approximatled to the super-highway passengers would be sho for a rapid, comfortable The interior plan provides and change to the bus ar soundproofed unit. The lounge chairs and built-in a fully air conditioned a modern train. Deep-seated and rear observation secthe convenience of a mors persons. There are front andfet and toilet facilities. sofas seat about forty-sid polaroid glass, a bar and giving him 360 -degree tions with glare-proof polarorent plastic turret, giving The driver



The new fast motorways are bringing a new pattern to the countryside, and permitting the car to realize its potentialities. Bridges reached their high point in the Bronx-Whitestone bridge (10). Also outstanding is 11, whose pylons are the decade's best example of what the architect should not do when presented with a first-rate piece of engineering. Railroad terminals made a brilliant advance in the Cincinnati station, where seating is logically disposed by the train gates. Typical of the newest trend in terminals is 6 , with its emphasis on comfort and pleasing appearance.

1. Pennsylvania Turnpike, Harrisburg to Pittsburgh, Samuel W. Marshall, Chief Engineer. 2. Texaco service station, Walter Dorwin Teague, designer. 3. Garage in Joplin, Mo., Robert Braeckel, designer. 4. Rockefeller Garage in New York, Reinhard \& Hofmeister, Harrison \& Fouilhoux, architects. 5. Waiting room in Cincinnati Terminal, Fellheimer \& Wagner, architects. 6. Burlington Station in LaCrosse, Wis., Holabird \& Root, architects. 7. Mississippi excursion boat, The Streckfus Steamers, Inc. 8. Lincoln Tumnel, New York, John C. Evans, Chief Engineer. 9. Triborough Bridge, New York, Aymar Embury II, architect. 10. Bronx-Whitestone Bridge, New York, Aymar Embury II, architect. II. Yaquina Bay Bridge in Newport, Oregon, Dr. C. B. McCullough, Bridge Engineer. 12. Murphy Footbridge, T.V.A., Roland A. Wank, architect.



5


11




1. Grumman "Sky-Rocket. 2. Bowlus Sailplanes. 3. Bartow revolving airport beacon. Lenses by Corning Glass Works, Corning, N. Y

## CURTAINS OF CONCRETE

 two inches thin!

> Architectural Concrete Slabs, hung from floors, provide decorative exterior walls with high structural strength, eliminate cost of fenestration and sprinkler system, save construction time, and allow adequate light and ventilation for a 3 -story garage.

THAT is part of the story of a unique parking structure built at unusually low cost at Washington, D. C. The use of thin Architectural Concrete Slabs-little more than $2^{\prime \prime}$ thick, yet with strengths of 8,000 to 10,000 pounds per square incheliminated the need for $9^{\prime \prime}$ masonry walls and reduced the support such walls normally require. At the same time, they served as forms for the parapet and the fender curbs on the parking floors (see sketch).

The Architectural Concrete Slabs, measuring $3112^{\prime} \times 91 / 2^{\prime} \times 21 / 4^{\prime \prime}$ thick, are hung from the floors. They form a decorative concrete curtain of pleasing texture between the open structure and the street. They are made with Atlas White
cement and exposed yellow quartz aggregate, reinforced by a $4^{\prime \prime} \times 4^{\prime \prime}$ welded, galvanized mesh. Their size cuts construction time and reduces the number of joints. Perforations in certain of the slabs take the place of windows to provide light and ventilation as well as decoration. Larger openings allow direct access for firemen, saving the cost of expensive fireprotection equipment.

Write for further information, or see SWEET'S CATALOG - Section 4. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Bldg., New York City.
offices: New York, Chicago, Phila., Boston, Albany, Pittsburgh, Cleveland, Minneapolis, Duluth, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

## THE MONTH IN BUILDING

(Continued from page 4)

Neither McDonald nor Jones appeared over-enthusiastic and both will require further prodding by "Chuck" Palmer before bricks are laid. However, preliminary discussions have two projects all but built: one in Newport News, Va., another in Moline, Ill.-both centers of booming defense activity.

- Of prime interest to building managers and mortgagees is legislation now before Congress to revive but completely revise the Soldiers' and Sailors' Civil Relief Act of 1918 which, among other things, lightened the rent and mortgage payment loads carried by men called to the colors. Both the recent National Guard mobilization and the compulsory military service acts were accompanied by civil relief provisions similar to those in the World War I law, but these provisions will be brought up to date and superseded by the more complete legislation now under discussion. For instance, while the families of inducted Guardsmen and draftees are currently protected from eviction provided rent bills do not exceed $\$ 50$ per month (the 1918 figure), under the proposed law the ceiling will probably be raised to $\$ 80$ to reflect the general rent rise that has taken place in the past 23 years. The proposed law will also continue the blanket moratorium on mortgage foreclosures and will probably revive the
clauses providing relief from tax sales and from the suspension of insurance policies which were not included in the recent Guard and draft acts.

Also directly related to the progress of the national defense program are these important building developments:
$\rightarrow$ Appointment by Housing Coordinator Palmer as "special consultants" to his defense department: Executive Vice President Herbert U. Nelson of the National Association of Real Estate Boards; Manager S. M. Buckingham of the Cleveland Terminal Building, a representative of the National Association of Building Owners and Managers; Research Director Miles Lanier Colean of the Twentieth Century Fund's defense housing survey at which The Forum this month takes an advance peek (see p. 60, col. 2); Director Coleman Woodbury of the National Association of Housing Officials; Washington Builder Gustave Ring, the nation's most successful developer of low rent FHA-insured housing projects. Also, Engineer R. L. MacDougall, Atlanta lumber manufacturer and general contractor, as assistant coordinator of "program execution."

- An increase in the monthly volume of marriage licenses to the highest level yet recorded by The Forum's five-year-old index-a promising sign (see col. 3).
$\rightarrow$ Release of the initial 1940 Housing Census statistics-fortunately for defense housers, they cover vacancies and spot many a potential bottleneck (see p. 52).
- Acceleration of the already favorable pace of building activity to a ten-year record (see top of p. \%).

DEMAND. Like Spring, the prospect of compulsory military training turns young men's fancies. And, according to marriage statistics, the conscription bill enacted last month outdid Spring as far as ringing wedding bells is concerned. Based on reports received fortnight ago, from municipal officials in 34 leading U. S. cities, The Forum's monthly index of marriage licenses skyrocketed to 44,750 in August, 78 per cent above the July 1940 level and 67 per cent above August 1939. The highest point reached since The Forum began its compilation in 1935, the August figure stood about 28 per cent above the June figure, normally the year's peak, and swelled the cumulative eightmonth total to 205,000 , about 17 per cent larger than the volume for the comparable 1939 period.

The trend of marriages has always been considered one of the prime factors behind Building's behavior, for a marriage means a new family and usually the rent or sale of another dwelling. While the current upward surge in marriages must be discounted somewhat by the nature of the incentive-the nation's first peacetime military draft-it is nevertheless highly significant for Building. Conscription of married men will be deferred, and with (Continued on page 52)

## "SMOOTH" IN APPEARANCE and in OPERATION



Soap dispensers were never intended to serve merely as ornaments. But an efficient soap dispenser can be ornamental.

That fact is demonstrated clearly in the case of the Ivory Soap Dispenser. For here is a modern dispenser that's equally "smooth" in appearance and in operation.

There's a particularly inviting appearance to a washroom equipped with Ivory Dispensers. Not alone because this gracefully designed dispenser adds a modern touch to a washroom. But because-thanks to the pure, gentle,
rich lathering Ivory Soap it deliversit does such an efficient job of cleansing face and hands.

Ivory Dispenser service is low in first cost and in up-keep. An illustrated folder will tell you all about it.



## BRUCE FINISH IS PART OF THE WOOD

## Heies's ©anty That's MORE THAN SKIN-DEEP!

YOU insist on beauty, you finish that is integral with the insist on economy. Bruce Factory-Finished STREAMLINE flooring gives you both in a way that has captured the admiration of architects everywhere. A1though its installed cost is usually lower than that of ordinary hardwood flooring finished on the job, a STREAMLINE floor has a better, tougher, more lustrous finish. Its beauty is sealed in and protected against wear by the famous Bruce-Way process-a
wood. Slightly beveled on sides and ends, a STREAMLINE floor presents a distinctive "pattern" that adds immeasurably to the beauty of a room and its furnishings. Available in Oak, Maple and Beech in several grades and shades; $25 / 32^{\prime \prime}$ thick with $314^{\prime \prime}$ face. Installed exactly like ordinary strip flooring. Mail the coupon today for complete details and specifications on this modern hardwood flooring.

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## 1470 Thomas St., Memphis, Tenn.

Gentlemen: Please send complete data on Bruce Factory-Finished STREAMLINE flooring and a Scratch Test Panel.
$\qquad$
$\qquad$
$\qquad$

## THE MONTH IN BUILDING

(Continued from page 50)
the subsequent birth of children these men stand a good chance of total exemption. Thus, it is safe to say that a sizable proportion of couples whose marriage has been hastened by the draft will require housing, and thus will distort the normal curve of housing demand. Moreover, since most of the newlyweds naturally fall in the lower income, younger group, the unduly increased demand will be almost wholly for low cost or low rent shelter. Probability is that, to begin with, most of the couples will look for small rental apartments.

In conjunction with residential vacancy data collected in the 1940 housing census (see below), a city-by-city analysis of the marriage statistics spotlights several communities which may expect particularly sharp increases in housing demand: - Atop The Forum's 34 -city list percent-age-wise is New Haven where August marriage licenses soared to 391, about 160 per cent more than were issued in the corresponding month last year.

- Louisville, with 805 , registered a 125 per cent advance.
- New York City's 14,696 August licenses, up 120 per cent, comprise, as might be expected, the largest of the 34 totals.
- On a par with New York City percent-age-wise was Cleveland, which issued 2,368 licenses in August.
- Thirteen other cities reported increases of 50 per cent or greater: Baltimore, Boston, Buffalo, Chicago, Columbus, Minneapolis, Newark, Omaha, Philadelphia, Providence, Rochester, Seattle, Washington, D. C.
- Only four cities reported decreases: Los Angeles, Oakland, Richmond and San Francisco.

PINCH. When Government year ago phrased the questions to be included in its exhaustive 1940 Housing Census, it probably did not realize the importance of the answers to efficient accomplishment of the national defense program. But, when the census was completed in early May, Director William L. Austin of the Commerce Department's Census Bureau caught on quickly, ordered his crew of Washington house-counters to feed vacancy statistics first into their electrical tabulators. Month ago these vital housing figures began to trickle out of Census Bureau's sputtering machines.

First basketful of preliminary statistics covered 176 cities of 25,000 or more population, showed that of the $8,562,611$ dwelling units counted in these communities on April 1, only 425,974, or about 5 per cent, were vacant. While these vacancies comprised mainly dwelling units unoccupied and for sale or rent, they also included some units held for absent households and a few temporarily occupied by non-resident households. Moreover, they
(Continued on page 54)

## IM TDPEKA's Mcodern MCunicipal Cuabitoriume



## IJII-9.jay

 STEEL FLODA ANO SOOF SYSJEM

## EFFECTS ECONOMIES IN FIREPROOF ROOF DECK CONSTRUCTION

CONSISTING of channel-shaped joists of Wheeling rust-resisting Cop-R-Loy, the Long-Span System permits quick construction of a fireproof floor or roof deck. These joists are prefabricated for the job of the proper length to span from girder to girder or from truss to truss. They can be quickly welded into a rigid deck or floor which serves immediately as a working platform for tradesmen-roofers, steamfitters, electricians, etc. Write for details and specifications on this modern warp proof, fireproof steel floor and roof system.

## THIS LINOLEUM GIVES YOUR HOUSES MORE INTERESTIMG FLOORS



## YOUR CLIENTS WILL LIKE EMBOSSED LINOLEUM

WOMEN like Armstrong's Embossed Linoleum because its richly created designs are ideal for informal rooms . . . add an interesting play of light and shadow . . . prevent floor boards from showing through. Cleaning this floor is simple, too, because the raised and depressed areas are streamlined. Daily dusting and occasional washing and waxing are all the care required to keep it fresh and new-looking for years. No refinishing is necessary.

Genuine embossed linoleum is an Armstrong exclusive, which cannot be imitated in cheap substitutes. Use it . . . and your clients know they are getting a quality floor. And they know, too, that genuine Armstrong's Linoleum will give years of service without expensive refinishing. Rich colorings that can't wear off . . . extra resilience for comfort underfoot . . . high resistance to scuffing and denting . . . these are features that home owners look for and get when you specify genuine Armstrong's Embossed Linoleum.

Get the whole story on Armstrong's resilient floors. See Sweet's or write for a copy of our new file-sized booklet. Armstrong Cork Company, Floor Division, 1203 State St., Lancaster, Pa.

Armstrong manufactures the only complete line of resilient floorings-Linoleum, Rubber Tile, Linotile (Oil-Bonded), Asphalt Tile, and Cork Tile. Our Architectural Service Bureau can give you unbiased suggestions.


## ARMSTRONG'S FLDORS LINOLEUM

Rubber Tile - Linotile (Oil-Bonded) - Asphalt Tile - Cork Tile - Linowall Wall Covering

## THE MONTH IN BUILDING

(Continued from page 52)
also include dwelling units in resort areas which are normally occupied or available for occupancy only during certain seasons. Thus, the 5 per cent vacancy average is somewhat distorted by the 19.4 per cent vacancy in Atlantic City, N. J., and the record-breaking 23.9 ratio in Warwick, R. I., both summer resort cities which were doing far from a boom business on April 1. Final vacancy statistics will show separately those dwelling units which are for sale or rent and will therefore present a more accurate picture of housing conditions.

Much that is significant for national defense housers may be gleaned, however, from the Census Bureau's preliminary figures. Of the 62 cities in which World War I industrial production was bottlenecked by housing shortages (Arch. Forum, Aug. 1940, p. 138), seventeen are included in the initial 1940 census report-and most of them on April 1 reported below average vacancies, ill omens for the current national defense program.
Total dwelling units, the total number vacant and the vacancy ratio for each of these seventeen communities stack up like this:
$\begin{array}{lrrr} & \text { Units Vacant Ratio } \\ \text { Alton, Ill. } \ldots \ldots .{ }^{2} & 8,639 & 128 & 1.5 \%\end{array}$
Bethlehem, Pa. ... 15,051 $201 \quad 1.3$
Bridgeport, Conn.. 40,207 1,327 3.3
Chester, Pa. ..... 15,314 $472 \quad 3.1$
Cleveland, Ohio ..250,940 $\quad 8,472 \quad 3.4$

| Dayton, Ohio .... | 60,664 | 1,141 | 1.9 |
| :--- | :--- | ---: | :--- |

Indianapolis, Ind.. $115,564 \quad 4,248 \quad 3.7$
New Brunswick,

| N. J. .......... | 8,807 | 138 | 1.6 |
| :--- | ---: | ---: | ---: |
| New London, Conn. | 8,663 | 433 | 5.0 |
| New Orleans, La.. . 137,630 | 4,865 | 3.5 |  |
| Newport, R. I. ... | 8,096 | 632 | 7.8 |
| Perth Amboy, |  |  |  |
| N. J. ......... 10,356 | 106 | 1.0 |  |
| Philadelphia, Pa...532,631 | 25,474 | 4.8 |  |
| Portsmouth, Ohio. 11,111 | 246 | 2.2 |  |
| Stamford, Conn. .. | 16,366 | 766 | 4.7 |
| Warren, Ohio .... | 11,224 | 82 | 0.7 |
| Waterbury, Conn.. | 25,519 | 578 | 2.3 |

To this list might well be added those cities whose airplane and airplane engine industries have sprung up since the World War I armistice and whose housing conditions are summarized in the initial census report:

|  | Units | Vacant | Ratio |
| :---: | :---: | :---: | :---: |
| Baltimore, Md. | .234,723 | 8,771 | 3.7\% |
| Hartford, Conn. | 44,889 | 740 | 1.6 |
| Paterson, N. J. | 39,959 | 1,273 | 3.2 |
| Wichita, Kan. | 36,367 | 1,623 | 4.5 |

With or without emergency industrial and military expansion, these additional communities appear ripe for further residential development, for, having vacancy ratios below 2 per cent, they are pinched the hardest by the general housing shortage:
(Continued on page 56)

## " centemeno dthe Boand-

our architect is a FLOOR EXPERT $/$


- UNDREDS of school and hospital main1 tenance staffs are tossing bouquets to architects who have specified long-lasting Armstrong's Asphalt Tile floors. And don't think the boards aren't happy.

The cost of Armstrong's Asphalt Tile is low. Upkeep is really economical. Routine sweeping, occasional washing and waxing, do the trick. Expensive refinishing is never needed. This is the only type of resilient material
which can be used safely on concrete in direct contact with the ground, on or below grade. There are 41 rich plain and marble colors to choose from. This asphalt tile is quickly handset, a block at a time. Custom-cut insets can be added for very little extra. See "Sweet's" or write for Floor Beauty at Low Cost. Armstrong Cork Company, Building Materials Division, 1204 State Street, Lancaster, Pennsylvania.


FOOTSTEPS DON'T RESOUND on the resilient floor of Armstrong's Asphalt Tile in this auditorium of the Chaffey Junior College, Ontario, Cal. Five rich colorings, tan marble, old rose marble. travertine marble, Pompeian red, and black keep this area from looking cold and institution-like. Architects: Allison \& Allison, fiooring contractor: Seaside In dustries (Los Angeles).

THE LOW-COST FLOOR WITH THE LUXURY LOOK!



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Take the precaution that thousands of architects and engineers rely on-Modine Unit Heaters America's recognized standard. This is no time to experiment or skimp. Insure proved productive heating backed by Modines' billion hours of satisfactory service.

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## Winning Architects Everywhere! Prenstone STRIP SHINGLES IN "TRI-TONE BLENDS" ASBESTOS - CEMENT

## More Roof Beauty-Lower Cost



Home of C. W. Spieth. Braview, Louisville, Ky.
Desiened by Mr Spor Designed by Mr.Spieth.
"Tritone" green blend.

Front and rear views Front and rear views
home of $R, H$, Siekhome of R. R.
mann, Pleasant Ridge. mann, Pleasant habo,
Ohio. Designed by Geo, Ohio. Designed by Geo,
P. Lilly. "Tritone" gray blend.

Duplex, Bond Hill, Ohio. Designed by Geo. J. Graf. "Tritone" gray blend, strip shingles.

## INDIVIDUAL SHINGLE EFFECTS AUTOMATIC COLOR BLENDS STRIP SHINGLE LOW COST FIRE-PROOF-PERMANENT

- CAREY brings to architects and home owners a sensational roofing developmentCAREYSTONE asbestos-cement strip shingles in "tri-tone blends." So popular is this shingle that many architects are using it on their own homes.

By an ingenious method of manufacture, each panel in the strip is produced in a separate color tone, with individual wood-grain texture and corresponding staggered butt. The colors blend automatically. Lay the shingles as you will, there can be no "bunching" of tones.

CAREYSTONE strip shingles in "tri-tone blends" meet every architectural demand for roof beauty and harmonygive the identical appearance of expensive color blending by hand-and at an all-time low cost for this type of shingle and this roof effect.

Available in blends of green, grey, autumn (red, brown and straw). Write today for samples and full details of this strip shingle that offers more beauty at lower cost.
-

# EICHLEAY Moves Buildings 



## to save Investment

Instead of tearing down and rebuilding to make way for a streetwidening project in Youngstown, Ohio, Eichleay moved these two structures $27^{\prime}$ to new foundations where they will continue to give years of service and continuous earnings on their original investment.
The Stambaugh-Thompson Warehouse (top) is a wall-bearing, brick-and-masonry building, $310^{\prime}$ long and $35^{\prime}$ wide, loaded with mill supplies and heavy hardware- $\alpha$ total weight of about 9,000 tons.
The Central Square Garage, a $\$ 400,000$ steel frame building, is $327^{\prime}$ long and $65^{\prime}$ wide, weighing about 10,000 tons. Business went on as usual during the entire moving.
Consult Eichleay on your particu-
lar moving problems.
moving - shoring - rigging FOUNDATIONS - UNDERPINNING new equipment installation PLANT RE-CONDITIONING

THE MONTH IN BUILDING
(Continued from page 54)

| Units | Vacant | Ratio |
| :---: | :---: | :---: |
| Bristol, Conn. .... 7,742 | 93 | 1.2\% |
| Canton, Ohio .... 29,627 | 429 | 1.4 |
| Clifton, N. J. . . . 13,367 | 233 | 1.7 |
| Cumberland, Md.. 10,293 | 180 | 1.7 |
| Decatur, III. ..... 17,553 | 254 | 1.4 |
| Elyria, Ohio ..... 7,153 | 71 | 1.0 |
| Gadsden, Ala. . . . 9,479 | 180 | 1.9 |
| Garfield, N. J. ... 7,950 | 109 | 1.5 |
| Granite City, Ill. . 6,495 | 99 | 1.5 |
| Hamtramck, Mich. 11,677 | 109 | 0.9 |
| Hazleton, Pa. .... 8,957 | 117 | 1.3 |
| Lebanon, Pa. .... 7,489 | 96 | 1.3 |
| Lorain, Ohio . . . . 11,444 | 124 | 1.1 |
| Nanticoke, Pa. ... 6,045 | 102 | 1.7 |
| New Britain, Conn. 17,332 | 103 | 0.6 |
| Norristown, Pa. .. 8,557 | 149 | 1.7 |
| Richmond, Ind. . 10,316 | 141 | 1.4 |
| Rochester, Minn... 6,372 | 91 | 1.4 |
| Royal Oak, Mich.. 6,747 | 101 | 1.5 |
| Scranton, Pa. .... 36,164 | 650 | 1.8 |
| Sheboygan, Wis. . . 11,277 | 172 | 1.5 |
| Torrington, Conn.. 7,125 | 100 | 1.4 |

Also worth examination is the extent of the housing shortage in the largest of the 176 cities included in the preliminary census report-those with 100,000 or more dwelling units and not already presented above:
Cincinnati, Ohio $143,777 \quad 8,319 \quad 5.8 \%$ $\begin{array}{llll}\text { Denver, Colo.. . } & 100,429 & 4,135 & 4.1\end{array}$ Detroit, Mich.. . $450,238 \quad 15,578 \quad 3.5$ $\begin{array}{llll}\text { Kansas City,Mo. 131,871 } & 10,899 & 8.2\end{array}$ Milwaukee, Wis. 169,754 5,322 3.1 Minneapolis,

Minn.
146,727
$4,655 \quad 3.2$
New York,
N. Y. .......2,221,237
169,879
7.6
$\begin{array}{llll}\text { Pittsburgh, Pa.. } & 179,889 & 4,754 & 2.6\end{array}$
$\begin{array}{llll}\text { St. Louis, Mo... } 251,242 \quad 16,730 & 6.7\end{array}$
Severity of the housing conditions in all 176 communities is aggravated by three prime facts: 1) The volume of vacancies includes in many cases resort houses which were normally unoccupied at the time of the census; q) it is logical to assume that since April 1 many vacancies have been filled by virtue of industrial expansion for British war orders and national defense, increased employment and marriages (see p. 50 , col. 3), and mounting consumer purchasing power; 3) many of the vacant dwelling units are unfit for habitation. On the basis of 1934-36 real property inventories conducted in 203 urban areas, it is estimated that about one-third of all vacant dwelling units are either unfit for use or in need of major repairs to prevent them from becoming uninhabitable. In these inventories the condition of only about one-quarter of all vacant units was classed as "good."
CHEAP. To spike contentions that private builders are either unwilling or unable to supply low cost housing for national defense workers, Director Thomas
(Continued on page 58)

## 妾

What has a brave knight of old to do with the floors we build today?
500 years ago, when a knight set out for a tournament, he put on enough armor to build a miniature locomotive. You couldn't see a square inch of his skin! Slightly awkward, but mighty good protection. For he was letting the armor take the punishment, meeting the blows with metal instead of flesh.

## How to give floors a coat of armor

Floors today need plenty of protection against scuffing and furniture and wear. If a purely "penetrating" finish is used, it just sinks in, and leaves the wood itself exposed to damaging blows and use. If you use a built-up finish, such as a shellac, you're giving the floor a coat of armor. Then the finish-not the wood-takes the punishment. What's more, shellac sinks into the surface, too, and gets a powerful protective grip that can't be peeled off! You can crack down with hammer blows, you can have 500 couples jitterbugging on it, you can bowl on it or rollerskate over it-the wood won't mar, because the tough, elastic shellac takes all the blows!

## Floors that look new <br> when the house is old

Sturdy protection like that makes a homeowner happy not just when the house is new, but down through the years. That's why it always pays to specify a good grade of pure white shellac.

Write to the Shellac Information Bureau, 70 Pine Street, New York City, for a free copy of the standard specifications for architects, as approved by the American Bleached Shellac Manufacturers Association.

## SHELLAC <br> INFORMATION <br> BUREAU



* An announcement of a new development for protection of plaster corners, at lower cost:
-1/TCOB presents Supers - the only major improvement in corner beads in 15 years

Combines all the corner bead advantages of everroduct that asinto a superior prong-time sures your clients of longplaster beanty!

## MITCOR STEZL COTRPANY <br> MILWAUKEE, WISCONSIN <br> CANTON, OHIO

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This new steel louver attic ventilator is substantial, well made, costs less than wood ventilators and is easier to install. In frame construction the flange is nailed to the sheathing and siding or shingles butt against the ventilator ing. In brick construction ventilator is ing. In brick construction ventilator is recessed joints. Drawings below show installation in frame and brick construction.
Donley attic ventilators are made of 20 ga. steel, electrically welded. They are finished with two coats of high grade paint and are complete with bronze flyscreen at back of louvers. Made in four sizes (see table below) to fit most requirements. Free area is much greater than same sizes in wood.
Carried in stock by many building material dealers. See them or write direct for descriptive folder and prices.

|  | For WallOpening |  | Free Area, <br> Number <br> Width <br> Height |
| :---: | :---: | :---: | :---: |
| Square Inches |  |  |  |

The DONLEY Brothers Co. 13945 Miles Avenue Cleveland, Ohio


ATTIC VEITILATOR TO. 816-P ATTIC VEMTLLATOR NO, 816-P Inotalled in prage mall, Inatalled in Brick mall

## THE MONTH IN BUILDING

 (Continued from page 56)E. Colleton of New Jersey's FHA office has advised national defenders via the press that his charges were already considering plans for the construction of 20,000 "defense housings"; has concluded: "From our current experience, private business is not only capable but also eager to provide quarters where needed."

Director Colleton's boast is not idle chatter. According to FHA records, New Jersey builders who have already launched really low cost house programs (sales prices: $\$ 3,300$ and less with lot), have plots available for 2,144 houses, 507 of which have already been sold and 258 already built. Typical of these going projects are: 1) A Kenilworth tract of 750 lots, 153 of which have been sold for an average developed price of $\$ 3,200$ by the Blue Ridge Manor Development Co.; 2) General Housing Corp. has sold 100 of its projected 400 houses in Hamilton Township (near Trenton), has room for 300 in Haddon Township and 350 in a new tract near the industrial city of Paterson where 27 units were sold for an average of $\$ 3,250$ before construction began fortnight ago; 3) In Woodbridge, Better Homes Corp. with 150 houses planned, has already sold 36 for $\$ 3,000$ each; 4) Alhar Home Builders Corp. sold all of its 50 units in East Rutherford for $\$ 2,750$ each in one day with the aid of a model house, now plans to develop other tracts.
RECOUP. Property owners by force rather than volition, two New York landlords have recently taken significant steps to help themselves:

In swank Westchester County, eleven savings banks have banded together, cooperatively advertised their acquired houses and month ago had made 39 sales totaling $\$ 290,700$-an average consideration of about $\$ 7,400$ per property. Known collectively as the Central Committee of Westchester Mutual Savings Banks, the group reaches the buying public via quar-ter-page advertisements in the New York press, catches its eye by flagging the wide range of offering prices ( $\$ 4,000$ to $\$ 35,000$ ), by mentioning low down and monthly payments and by listing 25 properties in a few of the 30 closely grouped communities in which they are available. Typical listing: "Dobbs Ferry-6-room bungalow. Frame. Every modern improvement. Newly decorated. Plot, $50 \times 100$. Now $\$ 5,500$." Most of the sales are handled through established brokers.

The second large scale landlord, Nassau County to the east of the city on booming Long Island, last month prepared home seekers, realty investors and builders for its third annual real estate auction. The means: half-page newspaper advertisements heralding the availability of books describing with the aid of photographs and plot plans the 5,000 -odd foreclosed (Continued on page 60)


- Go after that BIG Small Home Market with LOW-FIRST-COST, LOW-FUEL-COST Lochinvars.
Lochinvar's oil burner principle is the one practical form of automatic heat for the small home. Lochinvar, a pioneer manufacturer (and a large one), is responsible for much of the important progress in gravity-oil design and construction.


## Luchindar

## They Sell-and They Satisfy!

The small home owner will buy Lochinvar's "Automatic Oil Heat at Lowest Cost" just as naturally-and logically-as he will buy his modassurances you offer him in Lochinvar-such as:


1. Baffles permanently fixed above the air holes. Patented and exclusive con
struction: can't get out of adjustment; peak efficiency and economy always.
2. Stainless steel casing; burner holes won't corrode, rust, break down.
3. Burner designed exclusively for the furnace-and
vice versa. Both units built in our plant (another exclusive feature).
No home is too small for Lochinvar automati heat. Lochinvar's quantity production methods and volume sales keep the cost down
Units designed to deliver $125,000,100,000,80,000$, 65,000 , and 50,000 B.T.U.'s. All are approved and listed as standard by Underwriters Laboratories.


LOCHINVAR PRODUCTS
Division of Michigan Tank and Furnace Corp.
14247 TIREMAN AVENUE DEARBORN, MICHIGAN

When writing Lochinvar for descriptive literature, ask also about the equally dependable and economical oil burning

WATER HEATERS


Hot water at $1 / 3$ to $1 / 2$ the cost of other fuels.

# RRASSO 30 YYARR' EXPYRRITNGE Your safe guide and safeguard in assuring MODFRN,SUCCDSSUL SIORY FRONIS 

ThERE is no need for uncertainty in the selection and purchase of your store front construction. It's easy to distinguish between promises and proof, because proof can only come from actual EXPERIENCE over the years.
For three decades, architects and designers have looked to Brasco for the latest and best in store front construction - ultra-modern design - the application of all newer metals and finishes permanent beauty - sound engineering - girderlike strength — assured safety to glass.

Today, Brasco is still up ahead and still initiating the trend toward new and higher store front values. The. line is most complete, in both Rolled and Extruded constructions,embodying every essential item from sidewalk to coping. AND A GOOD STORE FRONT NEED NOT BE HIGH-PRICED.


At left, Brasco Alumilited Aluminum Store Front Construction, combining both rolled and extruded sections. Architect, David Harrison, Baltimore.


BRASCO MANUFACTURING CO. HARVEY (Suburb of Chicago) - ILliNOIS National Distribution Assures Effective Installation

Solid Stainless Steel, Aluminum, Bronze, Copper, Extruded Bronze or Extruded Aluminum, in Any Finish.


BRASCO MFG. CO., Harvey, II
Send Samples and Details of Brasco Modern Store Front Construction.

## Firm.

Address
Individual

"my architect didn't forget a thing that meant a better home
--for example he specified the
"Better see him," continued the satisfied home owner.
Get acquainted with the LUCKE-the only permanent, scientific and successful method of installing the modern built-in bath. Guarantee your clients that they will have no tub settlingno risk of water damage-but full assurance of leak-proof protection to ceilings and walls beneath bath, making redecorating or refinishing expense unnecessary from leaky bath tubs.
The LUCKE is quickly and easily installed on any type of wall or tub. It is not costly at all and saves money, worry and bother for your clients year after year. Once installed it is impossible for the tub to sag or pull away from the wall.

## WILLIAM B. LUCKE, INC. Manufacturers <br> WILMETTE, ILL.



Get all the facts-learn the full importance of the LUCKE-see why it will pay you by helping you to gain greater community confidence.


## THE MONTH IN BUILDING

(Continued from page 58)
properties which the county will put on the block during October. Owned in fee simple by the county, the properties range in size from tiny beach houses to multiacre estates and all are offered at "upset" prices representing the amounts of taxes due or, of course, the highest bids above these figures. The auction will be unlike the ordinary tax sale in that title of the properties may be immediately transferred and guaranteed; and the properties may not be redeemed by the former owners. (This enforced provision prompts taxpayers to pay up promptly, helps the county maintain an above-average tax collection record.)

Included in the bargain offering are country estates with acreage at $\$ 1,000$ and up; year-round houses at $\$ 500$; vacation, waterfront houses at $\$ 300$; business lots at $\$ 95$, residential and waterfront sites at $\$ 65$; and acreage for builders and developers at $\$ 100$ and up per acre.
Stated purpose of the auction is restoration of "these parcels to progressive private ownership." Hope is that during October, as last year, the county will dispose of about $\$ 1$ million in tax liens and thus convert the properties from market drugs into revenue producing assessables. The county estimates, perhaps over-estimates, that about half of the thousands of Nassau houses built during the past year have been erected on sites acquired by builders at the 1938 and 1939 auctions. Example: Sunrise Spring Corp. is erecting some 1,000 houses in Franklin Square on lots picked up at previous auction.
GUIDE. Early in July the Twentieth Century Fund's Executive Director Evans Clark wisely foresaw the need for authentic information on emergency housing Thus to his Housing Researcher Miles Lanier Colean, he suggested that the Fund's barely begun survey of general housing needs be shifted to defense housing matters. To the Fund's credit is the fact that what was to be a brief report has been expanded to a book of some 175 pages jampacked with vital facts and that its timely guide for defense housers will be finished in quick time and distributed later this month. Privileged to scan advance proofs of the book's early chapters, The Fordm herewith briefs their highlights:

Chapter I is a detailed diary of housing mistakes and contributions made during World War I by Government with its 195 million housing dollars-particularly by the Emergency Fleet Corporation and the U. S. Housing Corp. (For further details on World War I housing activities, see Arch. Forum, Aug. 1940, p. 138.) Like the Congressional Committee which soon after the Armistice investigated war housing operations, the Fund comes to two general conclusions: 1) the housing
(Continued on page 62)


## CAST IRON GAS-FIRED

 Winter Air ConditionerCompletely new in design, this unit sets a new standard of efficiency, economy and convenience in automatic gas heating. New type combustion chamber and flue economizer, are made of durable gray iron castings. Gray Hammerloid finish with black base. 5 sizes. Gravity gas furnace has same heating element and finish.


## STEEL COAL-FIRED

## Winter Air Conditioner

One of the newest RYBOLT units, Series 4200 , smartly styled, moderately priced. Full height reversible blower cabinet. Handsomely finished in smooth gray Hammerloid enamel. Adaptable for folder on complete RYBOLT line.
the rybolt heater co. 617 MILLER ST. • ASHLAND, OHIO



WASHABILITY. SUNCHEK Blinds launder easier than curtains. Simply "tubbing" them in warm Lux or Ivory Fiakes sods-metal parts and all - then rehanzing at the win low to dry, restores their natu-
ral beauty and freshness.


FLEXIBILITY. The flexible construction of SUNCHEK construction of SUNCHEK cleaning so much easier... cleaning so much easier...
eliminating those hard-to-get-at slat surfaces. No longer is the cumbersome task of dusting necessary, when "flexing" the slats causes all loose particles to be literally "bounced off."


FOUR SLAT POSITIONS $\ldots$ are possible through the use of the new, pat-
ented Sun-E-Clipse Adjuster. Now, any part of the blind may he opened or closed as desired-all slats opened-all slats closed-upper halfopened, lower half closed-lower half opened, upper half closed.


DURABILITY. In spite of their light, airy construction, the durability of SUNCHEK Blinds under ordinary-yes, even extraordinary use! - is almost unbelievable. There are no wood slats to warp .... no metal slats to bend permanently out of shape.



## THE MONTH IN BUILDING (Continued from page 60)

was too good, too costly; 2) the housing operations of the two Government building agencies were too slow, too inefficient. In brief, "The major deficiency was lack of planning."
In Chapter 2, titled "Facing a New Emergency," the Twentieth Century Fund report points to many hopeful signs and many a potential stumbling block along the way of efficient national defense housing expansion. Favorable are these conditions, none of which was present in the former crisis: 1) labor shortages threaten neither the construction nor manufacturing industries; 2) building materials of all kinds are readily available and no scarcities are anticipated for the near future; 3) transportation facilities seem adequate to avoid the problems of priorities, delays and capital risks; 4) there is an ample supply of building money; 5) there is real momentum behind current private house building activity; 6) both Government and private enterprise have had widespread experience in low cost housing; and finally 7) "the skill of designers and the capacity of builders are both much greater."
Noting that in Government's allocation of initial defense orders, housing was not properly considered as a feature of industrial expansion, Colean warns that the provision of "sufficient and adequate shelter . . . must parallel, and not lag behind, the expansion of (these) industries. Such a parallelism is essential to an impregnable defense." Another warning: if housing needs are entirely neglected or if it is assumed "that in some way housing will take care of itself, the result can only be a repetition of the last war's [industrial] delays and stoppages."
"The special housing problem of the emergency is not due to increased population, or a different sort of population, but to a displaced population." Therefore, in Miles Colean's opinion, two important facts immediately present themselves: 1) Major existing housing problems will remain. "If subsidies are necessary to provide housing for the lower paid workers [USHA], we shall still have to pay them. If, in order to stimulate private financing, the Government has had to assure protection of mortgage investment [FHA], it will still have to in the crisis ahead." 2) To minimize the emergency's special housing problem (population displacement) it is essential that heady policies be adopted regarding the location of plant expansion.
Two other influences will complicate this housing problem for both Government and private builders: 1) "Improvement in the economic position of a large number of families will itself increase the pressure for better housing, whether or not these families are members of the shifted group." 2) Most of the shifted or displaced families will be in the low in-
come group which normally occupies the "medium grades of used housing" and for which comparatively little new housing has been designed.
For private builders, who accounted for more than 90 per cent of the 200,000 dwelling units started during the most intensive year of World War I activity, Colean offers some advice and joins them in their fondest hope. His advice: "All dwelling construction now under way or contemplated will have to be pushed to completion since in this way our stock of housing can be increased before pressures of special needs and unforeseen obstacles appear." His hope: "Chances of maintaining private house building should be greater than in 1917 and 1918. We see the obvious desirability of limiting, as far as possible, the administrative burdens of Government and the general tax burden on the public. We can see, too, the probable greater speed, flexibility and economy of private as against public housing."
To permit private building to do its utmost, Colean says national defenders must: 1) avoid heavy concentration of industrial activity; 2) minimize the need for labor migration, particularly low paid, unskilled labor; 3) balance defense activity with the supply of housing and building capacity of communities; 4) "make known the size and character of housing needs to builders before the crises develop"; and 5) make known "how far the building industry can adapt itself to suddenly increased and specialized demands." But, he also believes that Government itself must aid private operations, first, by removing obstacles, by offering inducements and by generally guiding defense activity and, secondly, by direct housing operations where private initiative is unable to function.

## EARNINGS



Fixtures that help you put more beauty and greater protection into modern bathrooms


The compact, space-saving Cosmette is ideal for the powder room . . . only $1312^{\prime \prime} \times 20^{\prime \prime}$. Made of twice-fired vitreous china. Chromium fittings. In white and more than 60 colors.


The DeLuxe W Water-saver Closet stands clear to leave the wall free from defacement. It is an economical, compact, quiet-operating fixture, only $27^{\prime \prime}$ in height.


The graceful Wilmington has 100 square inches of shelf space, consealed front overflow, splash guard, built-in soap dish, two styles of trim. (Patented).


From the threshold of a new decade, Case glances back on its past ten years of pioneering the importance of the bathroom. It has been a period of progress in the beauty, utility Achievements in the Decade $^{\text {en }}$ 1930-1940 and mechanical excellence of higher-quality plumbing fixtures. Noteworthy among its achievements have been the developments of the $\mathrm{T} / \mathrm{N}$ one-piece water closet, illustrated above. Compactness, quiet operation and non-overflow have won wide renown for the T/N. Today it is, in fact, America's most famous plumbing fixture. Other Case achievements have been no less outstanding. As a result, Case fixtures have been specified for thousands of residences and public buildings where only the finest would do. It is gratifying to us to have helped you in adding beauty through design and color, and health protection through mechanical improvement, to the modern American bathroom. Case fixtures are on display in distributors' showrooms everywhere. For information, write Dept. E100, W. A. Case \& Son Mfg. Co., Buffalo, N. Y.

## AWARDS

To the following, all graduating seniors, from schools recognized by the A.I.A., the Alpha Rho Chi Bronze Medal for leadership, service and merit. This national social fraternity, limiting its membership to students of architecture and the allied arts, awards annually the Alpha Rho Chi Medal to men selected by the faculties of the respective schools.
James B. Addy, Georgia School of Technology.

Albert Arneson, University of Minnesota.

Charles S. Ash, University of Kansas.
J. Herbert Brownell, University of California.

John H. Farrens, University of Michigan.

John P. Hamill, Alabama Polytechnic Institute.
Tallie B. Haule, Oklahoma A. \& M. College.

Thomas S. Jones, Columbia University.


- Fifth Avenue Hospital addition, New York City. Architects, Reinhard \& Hofmeister.

IN the hospital interior shown above, not only the floor, but also the border, base, wainscot, wall surface, and stairway are Terrazzo. You see it everywhere but in the ceiling.

Terrazzo, one of the world's oldest floor finishes, is proving its versatility in modern design and construction in hospitals and almost every other type of building. Its color and design possibilities are unlimited. It thrives on pounding and actually improves with wear. It eliminates replacements and cuts upkeep to almost nothing.

Are you modernizing, building an addition, or erecting a new structure? Specify Terrazzo for enduring beauty, amazing durability, and lasting economy. For detailed information on Terrazzo, see Sweet's Catalog, or write today to 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 $\ldots$ and higher upkeep for other cypes of floors.
2. COMFORT. Finished Terrazzo is casy to walk on. It is less slippery than any waxed surface, Furthermore, errazzo can save you enough money
to acousticate your ceiling, thus giving to acousticate your ceiling,
3. CLEANLINESS. Terrazzo can be sealed so as to be practically non-ab-
sorbent. 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 geo-metric-in virtually any combination of colors.
5. DEPENDABLE INSTALLATION. This Association's objective is to see that your Terrazzo installations turn out exactly as you want them. Write us today for complete information on the above points or see our advertisement in

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION

Herbert F. Heidt, Carnegie Institute of Technology.

Charles E. Hughes, III, Harvard University.

Charles Gordon Lee, University of Pennsylvania.

Manuel Morris, Kansas State College.
Leif E. Olsen, University of Illinois.
Ieoh M. Pei, Massachusetts Institute of Technology.
Lawrence M. Pleasant, Ohio State University.

Kenneth M. Schaefer, Washington University.
Rolland 0 . Simpson, University of Washington.
T. Freeland Sims, University of Southern California.
Robert C. Taylor, University of Illinois. John B. Thomas, Syracuse University.
J. Lee Thorne, Pennsylvania State College.

John G. York, University of Texas.
The School of Design in Chicago. On the basis of work submitted by talented high school and college students throughout the country three scholarships for the coming year have been awarded: to Alfonso Carrara of Chicago; Milton Halberstadt of Cambridge, Mass.; and Homer Page of Oakland, Calif. The number of applicants was so great and the quality of the work so high, that the School offered two additional part scholarships to Louis Sigalos of Chicago and to Richard Schofield of Bridgeport, Ill.

## COMPETITION

Bridge Design. The American Institute of Steel Construction announces another in its series of annual competitions open to registered students of structural engineering and architecture in recognized technical schools of U. S. A. and its possessions. Prizes: $\$ 200, \$ 100$ and $\$ 50$. Subject: a steel overpass bridge to carry a single track railroad over a highway. Drawings must be in not later than February 10,1941 for judgment by a jury of nationally known engineers and architects. Further information from American Institute of Steel Construction, 101 Park Ave., New York.

## EDUCATION

Federation Technical School, 116 East 16th Street, New York, began on September 9 its sixth year of operation, adding to its postgraduate courses in architecture and engineering, new courses in naval architecture, marine engineering and aeronautical engineering.

College of the City of New York. The School of Technology is offering special (Continued on page 68)

## "Why is it-the old

Blake Home looks

## better than many

houses built only a
few years ago?"


WEATHER IS HARD on most painting materials. But Eagle White Lead mixed with linseed oil makes a weather-resisting paint. It has been preserving the beauty of American homes since 1843 . This tough, time-worthy paint doesn't crack - doesn't scale. Play safe - specify Eagle Pure White Lead.

REASON NO. 1-It was designed by a good architect.
REASON NO. 2-It has always been painted with a pure pigment paint Eagle Pure White Lead in oil.

# $\mathrm{LOOK}_{t o}$ for LEADERSHIP IN BATHROOM 

NEW beauty and utility distinguish modern MIAMI Bathroom Cabinets and Accessories -reflecting over two decades of design improvement during which MIAMI has become the industry's dominant factor-pioneering new ideas and setting the standard of highest quality and craftsmanship.

MIAMI leadership began 22 years ago when we popularized the all steel cabinet in "Crystal Snow" -a beautiful finish that would not retain stains. In succeeding years, MIAMI pioneered the Venetian all-over, glass door . . the mirror clips that replaced the unlovely rosettes . . the razor blade drops . . the round mirror cabinet . . the electriclighted cabinet completely wired at the factory, the ensembles for deluxe bathrooms and many other betterments.

EVOLUTION OF THE MODERN BATHROOM CABINET


The wood cabinet of 21 years ago.


All-steel bathroom cabinet, popular in 1923.


MIAMI'S first lighted cabinet introduced in 1925.


The Imperial-one of MIAMI'S newest, chromium trimmed, indirect lighted, bathroom cabinets.

## MIAMI DESIGN IMPROVEMENT of

 CABINETSMIAMI today offers $\alpha$ distinguished selection of modern cabinets and cabinet ensembles for glorification of the bathroom . . original creations with sparkling plate glass mirrors . . brilliant chrome frames . . artistic lighting . . recessed shelves . . cabinets that lead the world in advanced design and reflect the highest type of craftsmanship.

## Build your hathrooms "UP" with MIAMI CABINETS

For only a few dollars more than the cost of a cheap cabinet, you can equip any bathroom with one of MIAMI'S finer creations that will add immeasurably to bathroom beauty, convenience and luxury.

Answer the clamor for bathroom glamour by specifying MIAMI Cabinets and Accessories. See our Catalog in Sweets.

The Moderne (above)- $\alpha$ spacious cabinet concealed behind a beautiful, circular mirror. The ingenious hinge, on which the door is swung, permits the door to be pulled outward over the lavatoryan ideal arrangement for shaving or dressing the hair.

No. 905 -This unit is the first complete hotel bathroom cabinet. Wired at the factory, and includes lights and all necessary accessories. Saves about $\$ 5.00$ per bathroom.



Bathroom by Standerd
evening courses in architecture and building construction. These deal with materials, plan reading and estimating, structural design, reenforced concrete, drafting, heating and ventilating and air conditioning, superintendence, and a review course for State licensing.

Columbia University, New York, offers in its late afternoon and evening courses ten devoted to various phases of architecture, including regional planning, housing
management, and two courses on the small house.
Harry Carnohan, well known for his paintings of Western landscapes, who was awarded the 1935 Purchase Prize by the Dallas Museum of Fine Arts, has been appointed to the teaching staff. He will direct studies in the drawing, painting and sculpture department of the School of Architecture, afternoon and evening studio classes in drawing, and morning and evening classes in painting.


Pecora invites your specification and request for details
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ESTABLISHED 1862 BY SMITH BOWEN

## CALENDAR

October 15-18. Eighteenth Annual Convention, American Institute of Steel Construction, The Greenbrier, White Sulphur Springs, W. Va.

October 16-28. Porcelain Enamel Institute's Annual Forum, University of Illinois, Urbana.

October 29. Exhibition covering 50 years of Frank Lloyd Wright's work. The Museum of Modern Art, New York.

November 1-January 2, 1941. "Art Finds a Way" an exhibition in the Brooklyn Museum demonstrating the origin and development of production techniques in several fields.

## DIED

Lucius W. Briggs, architect, 74, in Worcester, Mass. Spanning an architectural career of more than half a century, the architectural monuments designed and carried into execution by Mr. Briggs dot conspicuously the map of his native city. He was educated in the public schools, took a special course in architecture at the Massachusetts Institute of Technology, and gained a practical knowledge of his profession in the services of local architectural firms.
He established his own practice in 1896, and three years later organized the firm of Frost, Briggs \& Chamberlain which designed many important structures in Worcester County over many years.

In 1912 he withdrew from this firm and established the L. W. Briggs Company. One of the most important of his works was the Worcester Memorial Auditorium, in the design of which he was associated as local architect with Frederic C. Hirons of New York, winning a national competition.
Mr. Briggs had been a member of the A.I.A. since 1902; a member of the Boston Society of Architects; and a member of the Planning Board of Worcester for ten years.

Frank W. S. King, architect, 70, at Springfield, Mass. Mr. King was chairman of the Board of Appeals of the Municipal Building Department. He had served as a former president of the Architectural Society of Western Massachusetts. Among the buildings he designed were a number of Springfield's schools, court houses, and churches.

Frederick Judd Waugh, internationally known as a painter of marines, 79, at Provincetown, Mass. Mr. Waugh was probably the only artist who gained the
(Continued on page 72)

## JUST WHAT THE FUNCTIONAL DESIGNER ORDERED!



Attractively combined with glass, U•S•S Stainless Steel here produces a business-getting store front that is as practical as it is beautiful. No painting required. An occasional washing preserves the brand new look

U.S.SSTAINLESS STEEL has exerted a profound influence on design in the past decade. Its high strength permits lighter, more graceful sections, without sacrifice in safety. Its ability to retain the original bright surface makes bright metal work both practical and permanent.
An attractive surface used to be something put on after the structure was complete. U•S•S Stainless Steel lets you build permanent beauty into the structure. But U•S.S Stainless Steel, in the hands of an ingenious designer, is far more than a mere means of enhancing beauty. It saves
weight, increases strength, prevents 'corrosion. In every way, it increases structural efficiency and adds utility value.

Opportunities abound. All the interesting innovations made with $\mathrm{U} \cdot \mathrm{S} \cdot \mathrm{S}$ Stainless Steel during the last ten years are only a beginning. It's highly probable that some design on which you are now working can be materially improved through judicious use of this metal. New applications are discovered every day.
Are you taking full advantage of the properties of $\mathrm{U} \cdot \mathrm{S} \cdot \mathrm{S}$ Stainless Steel in your designs? Write today for complete information.

The railroads use U•S•S Stainless Steel effectively in modern passenger equipment. Stronger, more efficient structural members save space, lighten conbers save space, lighten con-
struction. Interior trim stays struction. Interior trim stays
bright, is always easy to clean.

Something new in fireplaces. In perfect keeping with this modern home, the fireplace utilizes the permanent mirror-brightthe permanent mirror-brigh--
ness as well as the heat resistness as well as the heat resist-
ance of $U \cdot S \cdot S$ Stainless Steel.

Kitchens have received a new lease on life since the advent of U.S.S Stainless Steel. Kitchens like this are a joy for life, because of their refreshing sparkle
 U•S•S STAINLESS STEEL

AMERICAN STEEL \& WIRE COMPANY, Cleveland, Chicago and New York CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago COLUMBIA STEEL COMPANY, San Francisco

United States Steel Export Company, New York



WITHIN the last decade, Crane plumbing products for bathrooms and kitchens have established new and important design trends which offer architects greater scope in planning.
The Crane Neuvogue style, for example, has introduced an entirely new conception of functional beauty. Crane has made significant contributions in lavatory, bathtub and closet design. In Crane panel-design plumbing fixtures, the architect finds the means of providing matched bathrooms in a wide price range.

In kitchen equipment, too, Crane has gained nation-wide interest by developing still further the porcelain enameled sink. Crane sinks today deservedly rank as America's finest.

It is a matter of pride with Crane Co. that these improvements in design are not intended for the few but for the many . . . that Crane Quality is available for every size of house, no matter how small.
You will find it a rewarding experience to visit a Crane Display Room. See for yourself why Crane design can serve you better.

CRANE CO., GENERAL OFFICES: 836 S . MICHIGAN AVE., CHICAGO


## NINE "IDESIGN DECADES"

Alexander Smith has been weaving carpets for more than nine decades. From each decade it has carried forward something of value to build up a cumulative experience which has been immensely helpful to architects who regard carpet as an integral part of interior design rather than a mere adjunct to $i t$. The nature and quality of the service we offer may best be gauged by the number of outstanding architects with whom we cooperate. This service is available to you at any time without cost or obligation. Whenever you encounter a problem which involves carpet just write us. When we answer your letter we shall also send you our comprehensive book, "Nearly Right Won't Do in Contract Carpets." Contract Division, Alexander Smith \& Sons, 295 Fifth Avenue, New York.


## ALEXANDER SMITH CARPET

popular prize in the Carnegie International Exhibition in Pittsburgh five times in succession.

Mr. Waugh also tried his hand at writing boys' books and at architecture. He designed some eight years ago the Episcopal Church of St. Mary's of the Harbor, Provincetown, Mass.

## MISCELLANEOUS

For the Care of European Children. For the organization of solicitation in the
building trades and professions, an Architects' Division has been formed to cooperate with the U. S. Committee for the Care of European Children, Inc. J. André Fouilhoux, New York architect, is serving as chairman.

Rockefeller Home Center, through its president Edwin K. Simpson, announces the appointment of Walter Sanders of Sanders \& Breck, architects, as Director of Design. Mr. Sanders' experience at


Pratt Institute where, as an instructor, he was incidentally engaged in promoting the special clinic for small house service, will be an aid in carrying out the Center's purpose of offering the public authoritative information about building houses.

Butlding and Wages. Following some months of discussion in the Boston Building Congress, President William Roger Greeley (of Kilham, Hopkins \& Greeley, architects) made a report to his organization in which he pointed out what seemed to him to be the key $\log$ in the nation's building jam. Excerpts from the report follow:
We are met again to consider conditions in the construction industry in Boston. We represent all the elements of that industry. We are together as friends, and we desire to go forward in full cooperation upon some plan that will encourage the building of those structures of all kinds so much needed today in our community.

Briefly the situation which challenges us is this: A-There are practically no buildings being built for investment; BThere are no buildings being built even for speculation except at wage levels below those recognized by Government as minimum; C-The limited activities which exist in the construction industry are practically restricted to five items: 1) Speculative Building-houses and apartments on reduced wage scale; 2) Public Building -housing, schools, municipal structures, under a program of Government spending for which all citizens are taxed for the deficits: 3) Private corporation quarters, for companies forced to expand their space, and provided with large surplus funds-largely insurance and industrial firms (the construction cost is so great that buildings are commonly charged partly to advertising) ; 4) Private improvements to useless and unsalable properties; 5) Private houses for a scattered few, by the use of open shop contractors.

This is the shrivelled remainder of a once thriving industry. Along with this inactivity there is a condition of disrepair and shabbiness in our city that cries out for thousands of mechanics with hammers and trowels and paint brushes to get to work. And the thousands are here with us, waiting for employment, but they sincerely believe that the wage rates of the period of riotous prosperity of the 1920's will be paid by present impoverished and overtaxed owners.
There is only one way to be steadily employed, and that is at the market rate. If the market rate is too low, as in many industries, such for instance as agriculture, it is a long, hard, puzzling problem to do anything to improve it. Pushing up the
(Continued on page 76)


## Why 3 DESIGN DECADES Have Chosen Medusa White

The past decade of design has chosen Medusa White as one of its outstanding building materials. But Medusa White was also selected by the previous ten years of design and by the decade before that. Architects, for more than 30 years, have selected Medusa, the original white Portland cement, to create buildings in stucco and cast stone that have outstanding individuality and charm.
On this page are shown two examples of the use of Medusa White stucco in the past design decade, one the beautiful home of the radio comedian and movie star, Bob Burns. Architect H. J. Knauer, contractor James E. Denham and plastering contractor Ross Green utilized Medusa White stucco manufactured by the Standard Stucco Co. of Burbank, Calif. . . . A. N. Gaefler recently remodeled his Hollywood Terrace, using Medusa White stucco applied by A. D. Hoppe, plastering contractor and supplied by the Blue Diamond Co. of Los Angeles.
Medusa White stucco is the most versatile of all building materials. It meets all color and texture requirements for stucco and creates marvelously beautiful cast stone trim. In the next design decade, use Medusa White, that has so faithfully served during the past 30 years. Send the coupon below for the Medusa White Stucco book.


MEDUSA PORTLAND CEMENT COMPANY
1013 Midland Bldg., Dept. 0 . Cleveland, Ohio
Gentlemen: Please send me a copy of the Book "Medusa White Portland Cement Stucco."

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Address.
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Company of Canada, Led., Puris, Ontario, Canada

## MODERN DESIGN PANELING OF CLEAR

## ARKANSAS SOFT PINE



Residence, Dallas, Texas. Goodwin and Tatum, Architects


Sent on request

Illustrating a pronounced departure from the premise that all pine paneling is, per se, "knotty pine." This installation demonstrates the delicate, natural figure, with its absence of bold contrasts, characteristic of clear Arkansas Soft Pine. The species is distinguished by close grain, soft, uniform texture and freedom from pitch and hard streaks. As shown above, the figure's decorative value is retained with a transparent finish only slightly off natural in tone. The wood is equally well suited to paints and enamels, because of its uniform absorbing qualities and freedom from any risk of raised grain or discoloration. ... Arkansas Soft Pine paneling is produced in this and other patterns appropriate to modern design, as well as in those suited to


ELEVATION OF STREAMLINE


DETAIL OF STREAMLINE MOLDING Early American and period treatment; also in AIA-approved patterns for door and window trim. Complete instructions for simplified practice in specification writing, including Don Graf Data Sheets, detailed cross sections, etc. will be mailed promptly on request. (See also Section 8/9, Sweet's Catalog, 1940.)


##  <br> 

# for a tip on ELEVATOR ROPE 

If you're specifying elevator rope for any building, large or small, consider the example of Chicago's famous Wrigley Building. Here, a large percentage of hoisting, compensating and governor ropes are made by Bethlehem.

Bethlehem's New Elevator Rope is a quality product, embodying the improvements made during a 2 -year, $\$ 1,000,000$ mill-modernization campaign. Only special steel is used in these new Bethlehem Elevator Ropes. Each wire is drawn to precision tolerance. The rope is properly lubricated, from core to crown, and fitted together as accurately as a fine watch.

The new Bethlehem Elevator Rope is being used in a large and steadily increasing number of buildings from coast to coast. It's safe, efficient and economical.
rate, above the market, has proven to be a means not of enriching the worker, but of killing the industry. New England now knows that its most humane and wellmeant insistence on higher wages in its textile industries, instead of enriching the operatives, starved them and their industry out of New England. The market will not be beaten. It will stand for prices that purchasers of goods will pay, and if the goods to be sold cost more than purchasers will pay, the market ceases to be a market,
and everyone concerned loses-producer, middleman, retailer, consumer, community, yes and nation. . . .

If the farm hands were to demand for their long, tedious, exacting day's work as much money as the building mechanic now insists on getting for his, the latter would starve on his $\$ 10$ per day. . .

As in time of prosperity all wages go up, so in periods of adversity all must come down, if people are going to continue to exchange goods.


## AZROCK means quality!

Demanded from every floor covering is one prime qualificationlong life and the ability "to take it." AZROCK Floor Tile has this qualification. Its basic ingredient is Uvalde Rock Asphalt, a product famous the world over for exceptional service wherever used.

AZROCK is beautiful, too. Available in many sizes and varied colors, both plain and marbleized, it offers unlimited scope for individual, striking patterns and designs. Colors never fade for they go all the way thru each tile.

The gentle resiliency AZROCK furnishes-making it comfortable to walk upon, quiet, easy on nerves -comes from a random interlacing of cotton fibres thru-out the tile. AZROCK is fire-resistant, insulates
against extremes of temperature as well as electricity. And, for simplicity in cleaning, each AZROCK Tile (1.) is micro-cut, fits so close there are no cracks for dirt to collect in; (2.) contains an integral wax finish, makes waxing easier.

Whatever the problem in floor covering-home, commercial or in-dustrial-there is a proven AZROCK Tile to serve you.

## AZROCK

> Uvalde Rock Asphalt Co. (In Business Since 1912)

Gen. Offices: San Antonio, Texas; Mines: Blewett, Texas; AZROCK Plant: Houston, Blewett, Texas; AZROCK Plant: Houston,
Texas; Distributing Contractors: in prinTexas; Distributing Con
cipal cities of U.S. A.

The price of labor like that of materials must be sensitive and respond to the market, if there is to be a healthy market. This means that the price is bound to fluctuate. There is, however, always a price at which labor will find a market. Today in any of our villages there are a hundred house owners doing their own carpentry, painting and general repair work, while their neighbors-the plumber, mason and painter-are on relief. The average householder doesn't paper his parlor himself, nor does his wife, if they can afford a paperhanger.
Let me take you to the end of the street upon which I live and show you two men, each the head of a family. One is a young college man who is getting $\$ 18$ a week for collecting garbage. He does not wish to be on relief. The other is a plasterer who is idle at $\$ 1.50$ per hour, and is being supported by taxes laid upon others, among whom is the student-garbage-man. Is this plasterer wise? Is he not helping to strangle himself and his neighbor too? Even so, he is not to blame, and this is why. Too many American business men in the past exploited human labor and reduced their employes to economic slavery. These employes and their colleagues, like normal red-blooded men, have reacted against such oppression. They have lost confidence in their employers and have chosen new leaders, who, with enthusiastic but warped vision, have led the confiding workingmen from the frying pan into the fire-from economic slavery into economic suicide. The false standard of an adequate hourly wage has been set up as a road to prosperity for the worker. This worker is slowly learning to his dismay that one dollar an hour is no panacea when you are unemployed. To work and be paid an actual fifty cents an hour would buy him more potatoes than to loaf at a theoretic rating of one dollar-fifty cents that he gets is better than a dollar that stays in his would-be employer's pocket. If we are to save the situation for him and for ourselves it must be by persuading him that if he will work on a basis that will give him a fair annual income, he will be employed more steadily than he has been, and will help to create prosperous conditions. . . .

The active part of the building market today is the small house ranging in cost from $\$ 4,000$ to $\$ 5,000$. This is the part of the market that is controlled by nonorganized building mechanics. Those who are building these houses are asking for wages that they can get. If they were asking more they too would be idle.

It has been claimed that because bricklayers will work in Los Angeles for $\$ 1$ per hour, while demanding $\$ 1.65$ in Cleveland, they have been fourteen times as busy in (Continued on page 80)


Every architect has his own individual ideas when window designs are under consideration. Well-proportioned glass areas, attractive dividing lines to harmonize with the building design ... an abundance of daylight ...controlled ventilation... are a few of the important architectural demands.

With all of the Fenestra Steel Window types and sizes the widest possible choice is avail-
able for every window opening in every kind of building. A typical example is illustrated above, where Architect Hubert Burnham has specified Fenestra Fencraft Steel Windows.

This heavy case-ment-type steel window provides these ten important features: 1. Increased Beauty. 2. More Daylight.
3. Better Ventilation. 4. Easy Opening. 5. Safe Washing. 6. Superior Weather-tightness. 7. Better Screens. 8. Added Fire Safety. 9. Reduced Maintenance. 10. Lower First Cost. Complete details furnished upon request. See Fenestra Catalog in SWEET'S for 1940 (31st consecutive year) or use coupon below.



THE SHADOWGRAPH TELLS THE STORY by amplifying distortion and defects 20 times
(1) This is high quality cylinder drawn window glass. The bent and twisted lines shown by the shadowgraph testing device indicate the presence of considerable distortion. This glass became obsolete in 1928.
(2) Here is what most manufacturers offer today as top quality window glass . . . Made by the sheet drawn process, it shows a characteristic distortion in the waviness of the black lines.
(3) Now look at this "shadowgraphed" sample of the new Lustraglass. Obviously an important improvement. The lines are straight showing relatively perfect visionfreedom 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.


# WRAT WOUTLD YOU CALLIT? 

. . . "but it can't be window glass," they said, "because the distorting waviness which identifies all window glass has been practically eliminated . . . and if it sells at the price of window glass, it certainly can't be plate glass". . . Here is a problem-the modern marvel of the window world-a new Lustraglass with amazing "whiteness of metal," with greater tensile strength, with a diamond-like luster never seen before, with important ultra-violet ray transmitting properties, plus a platelike clarity at window glass prices . . . This new Lustraglass is so revolutionary in its perfection that we really don't know how to classify it. What is your answer?


# Ackley, Bradley \& Day, Pittsburgh Insulate "Charette Homes," Sewickley, Pa., weith 



Because it has the wanted features, kimsul* Insulation is specified by an ever-growing list of architects, builders and contractors. One of the many recent developments using KIMSUL is "Charette Homes", a group of 20 homes for discriminating people in the Borough of Sewickley, Pa. This development is being built by the owners, Ackley, Bradley \& Day, under strict architect supervision.

KIMSUL'S popularity is a result of its many ad-
vantages. KIMSUL is clean, light in weight and installs with remarkable speed and ease. Furthermore, it is highly resistant to fire and moisture. And because of the unique stitching feature which holds it in place, KIMSUL stays put-won't sag, sift or pack down inside walls. Before you decide on any insulation, find out how little it costs to insulate with KIMSUL! . . . Dealers are invited to investigate the profit opportunities in KIMSUL.

## SEE HOW QUICKLY AND EASILY KIMSUL INSTALLS



1. Attached to top plate with lath and nails . . .

2. Exactly fits standard widths of stud spacing...

3. KImSUL is nailed at bottom-cut off-that's all!


# Quality engineering IN HOME CONSTRUCTION 

## Homes large or small -handled with profit - built in 10 to 30 days

Within the past four years, ring in the wood frame house. $\$ 4,000,000$ of architect-designed homes have been erected - with Precision-Built Construction. These homes are of all sizes, all types; they are in all parts of the country.


The whole story is told in complete detail in tomorrow's homes - a book of nearly 400 pages, which we would like to send you. This book tells of shop fabrication, of field erection, of exclusive wall-size panels, of estimating - shows how the architect can be sure of profits on small homes as well as large; shows how to save time in plan-

ning, drafting, estimating and supervising the job. The finished house is ready for occupancy, 30 days after your plan is approved. The Precision-Built method employs the Bemis $4^{\prime \prime}$ module-the most frequent increment occur-

The use of this module means standardization, integration, simplification and time-saving - yet it does not in any way restrict the flexibility of your design.
Precision-Built Homes are built of standard materials and with quality construction throughout. They are doubly insulated; they stay "new" longer; they are eligible for F.H.A. Insured Mortgage Loans.


TOMORROw'S HOMES is privileged to architects (in the U.S.) without charge. It is profusely illustrated with photographs, working details, rafter tables, area, lineal foot and cubic yard tables. It shows you how to build even low-cost houses at a profit. We invite you to write for your copy, using your firm's letterhead. Only one copy to a firm.


## HOMASOTE

TRENTON
C OMPANY NEW JERSEY

## FORUM OF EVENTS

## (Continued from page 76)

Los Angeles. In other words, while the Cleveland man has earned $\$ 1.65$ for his one hour, the Los Angeles man has earned $\$ 14$ for his fourteen, so that building trades mechanics are reported as receiving in Cleveland more per hour and less per year than in almost any other big city in America.
It is in the cities that a complete demonstration of the inflated costs of construction is spread out before us. No building has been built or can be built on a profitable basis as an investment for money. An office building cannot be made to pay over 1 or 2 per cent, and so there is practically no construction of this type going on. . . . The present wage levels are fast bringing about a situation in which city buildings are becoming more and more dilapidated and obsolete, with less and less replacement by modern structures. We are plunging our cities into mediaevalism. . . . Few if any colleges, academies or private schools can afford buildings at their present cost. Even municipalities are limited in building schoolhouses to the bare essentials. . . .

The accumulated savings of the American people are at their highest point in our history. The mortgage loan rates are lower. People need homes. There is material in plenty. There is labor. There must be a way to set the labor to work, release the money, and produce the houses.
The only factor in the situation which can be altered to bring about action is the total cost of the house. The cost of financing is already the lowest on record. The cost of materials is governed by the severest kind of competition. No stone is left unturned by manufacturers and merchants of brick, lumber, cement, etc., to undersell their competitors. Wages paid for building materials are low compared to wages paid for putting them together at the site. In the New England market the brick which are used in house construction are made by artisans who receive $371 / 2$ to $621 / 2$ cents per hour, with head burners getting from 80 cents to $\$ 1.10$. The masons who lay up the brick demand $\$ 1.50$.
The roofing arrives at the job, having been made by artisans receiving from 55 to 90 cents. It is placed upon the roof by roofing mechanics who demand $\$ 1.371 / 2$. Common (which means "unskilled") labor receives $371 / 2$ to 70 cents in the fabricating shop, but demands, with Government approval, 85 cents at the site of the building. This latter sum is more than twice what the same labor is willing to work for in many of the plants where the materials are made. If, however, masons and carpenters and other mechanics would work at wages comparable with what their neighbor mechanics are satisfied with in the production plants of the building industry, a house costing $\$ 5,000$ on the present wage-hour scale would drop to about $\$ 3,800$ and there would be a flood of building.

Human affairs are still governed by very simple laws. If 75 per cent of the people work for wages that are low enough to meet the market, and the other 25 per cent combine and refuse to work for less than a wage arbitrarily fixed above the market level, then the 75 per cent will automatically be unable with their small earnings to hire the services of the high priced mechanics. The latter will therefore be idle and the former will be forced to support them in their idleness. This is the situation in our land today. It is an artificial situation. The unbalance in wages is causing a deadlock in national industry and recovery. If it continues pressures will result which will break the deadlock.
It seems as if this were obvious. If men should agree together not to work for less than $\$ 1,000$ per day, everyone (Continued on page 84)


# CHaThaM PaRk'S PLANFOR BETTERLIVNGGIncludes Clean, Automatic COAL heat 



Chatham Park, Chicago's new village of apartment homes, is composed of 554 Duplex houses, garden apartment's, and suites grouped along beautifully landscaped, private roadways.

Shaw, Naess \& Murphy Robt. G. Regan Company Architects


The atmosphere of quiet charm and good taste seen in this living room typifies the conservative, modern design of the entire community.

CHATHAM PARK'S every feature stresses the cherished attraction of the home . . . soundproof suites, individual garages, pleasant recreation rooms, protected play areas for children . . . a far cry indeed from oldfashioned "flats" with their back yards and rows of eyesore porches.
The community has a hot-water heating system that's far from ordinary, too. Boilers below ground level in a central heating plant are fed by four ram-type stokers, and this proper automatic combustion eliminates smoke. The heated
water is distributed through seventy-two buildings to convectors hidden behind decorative screens. Tenants simply turn a knob for clean, healthful heat from COAL, the fuel that fits the plan.
HAVE YOU A heating problem requiring a modern solution? This railroad's Fuel Service Engineers will gladly work -at no charge-with architects, owners and engineers, to develop heating plans to fit specific needs. Further helpmeeting precise fuel requirements-is offered by the modern mines along the Chesapeake and Ohio Lines.

May we help you? For information or the assistance of our Fuel Engineers, write GEORGE H. REINBRECHT, Coal Traffic Manager, Chesapeake and Ohio Lines, 2909 Terminal Tower, Cleveland, Ohio.


## How the

# design decade has improved public seating 



W HIIE architects have been bringing about vast improvements in the appearance and utility of public buildings, the American Seating Company has been keeping pace in the designing and building of public seating.

Through research, engineering and testing; in closest harmony with architects and builders, new ideals have been attained in functional beauty as in serviceability.

As always, our engineering department is ready to cooperate in working out details of seating problems.

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Pioneers and pacemakers in theatre, auditorium, school, church, stadium and transportation seating
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That's what you get with those complete, sensational new fixtures of Fluorescent at its finestHYGRADE MIRALUMES!


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T'S a story of immediate interest to every Architect 1 -Hygrade Fluorescent Light!

For with MIRALUMES, you can modernize lighting overnight! Interiors become more efficient - and more beautiful. People see better-work better-feel better!

But only MIRALUMES provide this Fluorescent! For MIRALUMES are the only Fluorescent Units made complete-lamps, fixtures and starters-under one roof! Designed, engineered, built and guaranteed by HYGRADE!
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WRITE TODAY for free catalogue, with complete facts on MIRALUMES: Address: Department AF10 Hygrade Sylvania Corp., Ipswich, Mass. - or see your Electrical Contractor.

## IMPORTANT!

Hygrade MIRA LUMES are quality manufactured to meet the approval of Underwriters Laboratory, Inc., and are protected by exclusive HYGRADE patents.


COMMERCIAL MIRALUME C205: 200-watt unit: 4 40-watt tubes; length 49 inches.

## FORUM OF EVENTS

## (Continued from page 80)

could understand why they would be idle. Why is it not easy to see that they will be idle at any price above the market level, whether that price is $\$ 1,000$ per day or $\$ 10$ per day? It is only at the market price that men can be continuously employed. If the market for houses is $\$ 3,600$ per house, then mechanics who will build such houses will be busy. . . .
Our only source of wealth is productive labor. This comes first, wages come afterwards and are secondary. A society or community of people can live without wages, and live well. They cannot live without working. Can we unlearn our hatreds and jealousies and political pulling and hauling, and get down to the A, B, C's of a successful industrial people?

In Rebuttal, Ernest A. Johnson, vice president of the Boston Building Congress:

We have had an opportunity of perusing Mr. Greeley's submission as it relates to the construction industry in Boston and we agree that the summary he makes as to the present situation is essentially correct and contains the meat of the problem around which discussion should take place.
We point out that in 1931-32 a great deal of agitation and publicity was given to a proposal made by the Building Trades Employers' Association and miscellaneous employers that led the general public to believe that a reduction in wages by the building trades unions would create a tremendous demand for new building and stimulate the construction industry. Many conferences were held between employer and labor groups at that time. Our trade unions decided to voluntarily reduce their wage scales, and stated at that time: "Labor seeks relief and has done its share in an effort to stabilize wages, stimulate construction and provide employment opportunities. We await results."
The results were, no stimulation occurred. There was no urge on the part of property owners and managers of real estate, chain stores, retail stores, utilities, in fact, in no direction did we find that reductions ranging from 15 to 20 per cent in wage scales had any effect whatsoever in stimulating new building. In fact, we circularized large corporations and industries that held on lease or were direct property owners of large investments and that were constantly engaged in building or extensive alteration and remodelling jobs, and the answer in every instance was that wage scales in the construction industry were not a deterrent to the going ahead in the building of new properties, and their program only took into consideration the demands made upon their business. . . .
We ask, however, the same questions we asked in 1931-32, which are just as pertinent today as they were then, and we expect that you gentlemen have the answer: If you feel that wage scales are too high, are there any building projects contemplated that are being held up because of the present wage scales in the building industry? In the event of a wage reduction, what projects involving the construction, addition to and repairs of buildings will go ahead?
If these questions can be answered then we have no doubt that we could have a sane discussion of this most important subject.
Reference and comparison is made to the price of labor and the price of materials. We point out that labor in the last ten years has signed agreements running over a period of two and three years. If in that period a demand for labor
(Continued on page 88)

# HERMAN HELBON 

 FOR HEATING COMMERCIAL AND INDUSTRIAL BUILDINGS OF ALL TYPESTthan ever before of the need for quality products . . . products which offer all important operating advantages and economies . . products which will carry on without the frequent attention and repairs so certain to delay production and business.

Briefly, this explains the growing trend toward installation of Herman Nelson hijet Heaters in new and remodeling projects of all sizes and types. There's a reason why greater dependability, longer life and operating economy can be obtained with Herman Nelson hijet Heaters. The Propeller-Fan Type, Blower-Fan Type and De Luxe hijet Heaters have all been designed and constructed to provide superior heating results and greater economy of operation than any other unit heater of the same type and capacity.

The complete line of Herman Nelson hijet Heaters answers today's demand for a method which provides heat where it is wanted, when it is wanted, without waste of fuel or space, in all types of industrial and commercial buildings. A wide range of sizes and capacities in each type of hijet Heater permits selection of the proper unit for every industrial and commercial heating application.

## A COMPLETE LINE OF HERMAN NELSON hiJet HEATERS

A complete line of Herman Nelson hiJet Heaters answers today's demand for a method that provides heat where it is wanted, when it is wanted without waste of fuel or space.

Like all Herman Nelson hiJet Heaters, the Propeller-Fan Type incorporates many exclusive features. A few of those outstanding features follow: 1. Loops in heating element absorb difference in expansion and contraction between individual tubes. . . . 2. Tubes project from side of supply header, above center line, assuring proper distribution of steam. . . . 3. Streamline

fan with wide face area operates most efficiently and quietly. . . 4. Her-Nel-Co Motor for single, 2 or 3 -speed operation. . . . 5. Patented, extra heavy, red brass stay tube maintains proper relationship between headers without increasing strain on loops. . . . 6. Steel arms absorb and dissipate torsional vibration.

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[^1]
## LCNduring the

 Design Decade has devoted a major part of its engineering effort, not to "streamlining" visible equipment, but to developing door control machinery which does a superior job from concealed positions, thus preserving the architectural designer's work intact. This we think is the most important contribution a
manufacturer of operating equipment can make to the progress of design, as it benefits all work, traditional or contemporary. There are many places, however, where exposed door closers must be used. For these The LCN "Miracle," a standard closer in streamlined housing (shown above), is a Design Decade product which has proved the answer to many a designer's need. Norton Lasier Company, Chicago.

IN Preparation for national defense


PROPELLER FANS FOR OFFICE AND PLANT


Professional, experienced, talented engineers are available to you in each of ILG's 42 branch offices for consultation on simple or complicated ventilating, heating or air conditioning problems. Feel free to call on them at any time-consult your classified telephone directory or write today for address of our hearest office.
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Marlite in Jack Dempsey's famed New York Restaurant.


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 xecutive Office, Radio City, N.Y.

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cOMMERCIAL INTERIORS must enliven the desire to spend . . . keep customers appreciative of the managements' efforts to please. Smartly modern, thrillingly beautiful . . . Marlite will enable you to originate store, hotel, restaurant and other interiors that will give your clients that business advantage. Marlite affords you more scope . . . more freedom . . . to plan "vogue-creating" environments.

Obtainable in 63 colors and patterns . . . exquisite plain-colors . . . the smartest of tile-patterns ...rare marble and luxurious wood effects... Marlite lends itself to every type of interior, every style of decorative treatment, every need for modernity. It's ideally suited for interiors of department and chain stores, restaurants, night clubs, hotels, beauty parlors, funeral homes, commercial, office and transportation buildings, doctor and dental offices, banks, etc. It can be used for counter fronts, display windows and cases, elevator interiors, cocktail bars, etc., as readily as for walls and ceilings. Marlite can be applied to any wall surface . . . curved or flat . . . new or old... by good carpenters. It comes in large sheets that are cut to size with ordinary carpentry tools. A damp cloth keeps its glass-smooth surface lustrously clean.

The convenient coupon below will bring you a colorfully illustrated book of inspiringly beautiful interiors created with Marlite. The local Marlite representative will be glad to consult with you.

MARSH WALLPRODUCTS, INC. 61 Marsh Place, Dover, Ohio See Our Catalog in Sweet's 11/41 for Complete Product Information

Today's architecture demands that every interior appointment be in keeping with the general scheme. In Auer's complete line of Air Conditioning Registers and Intakes, the modern note prevails, and interesting effects are created with utmost simplicity. By construction which permits easy adjustment, all air directional objectives are achieved. Bar and fin type models yield high percentage of open area.
Aver also makes a varied line of patterns in Metal Grilles for concealment and enclosure purposes, and is experienced in cooperating with architects to accommodate the design to the requirement.

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## WORLDS TALLPST HOTRL RECOMMENDS $\operatorname{Iorunswick}$ WHALE-BONE-ITE SEATS



S INCE 1915, when Chicago's popular Morrison Hotel was built, not one penny has been spent for replacement of the Whale-Bone-Ite closet seats installed throughout. After 25 years, they still look as good as new!
It's the tough, thick hide of molded Whale-Bone-Ite that resists severe abuse. It has no surface coating to wear off; no cracks where dirt can hide or moisture penetrate. Smooth all over, Whale-Bone-Ite Seats clean with ease. Strong antiseptics don't mar the glossy, non-fading ebony finish. Even the hinges are molded-in-leaving no metal exposed to corrosion.
In hotels, hospitals, schools, on ships and railway cars, in industrial, commercial and public buildings everywhere, Whale-Bone-Ite Seats are giving the same satisfaction. Though installed five, ten, twenty or more years ago, none has ever worn out.
With testimonials like this to back their judgment, is it any wonder that architects seeking soundest dollar value for clients write "Whale-Bone-Ite Seats" on plumbing specifications? They're priced competitively. Refer to your Sweets Service for typical models, or write for free catalog showing full style range, specifications, and prices.

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For homes, Brunswick offers a full line of DuPont Pyralin sheet-covered seats

## modine CONVECTOR ENCLOSURES



## RUST PREVENTION BY

$\mathrm{F}^{\mathrm{OR} \text { thirteen years architects have specified Mo- }}$ dine Convectors as standard equipment in some of America's finest homes. Simplification and standardization, plus new design features, have brought lower initial and installation costs.
Modine Copper Convectors assure room beauty and comfort in heating. Placed within decorative enclosures, recessed in the wall or openly installed, the smartly styled units impart a distinctive beauty to any room interior.
As the enclosures are exposed to humidity, they are Bonderized, to assure positive paint adhesion and protection from corrosion. Bonderizing seals the metal from moisture, bonds the finish to the metal and prolongs the life of the enclosures. Should the finish become nicked or scratched, the Bonderizing prevents the spread of rust around the injury and eliminates this major cause of finish failure.
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Section of a Convector enciosure given a typical finish over perfectly cleaned bare metal, intentionally scratched and exposed to salt spray for 913 hours. Finish has failed.


Section of Modine Convector enclosure given same type of finish over Bonderizing, intentionally scratched and exposed to salt spray for 913 hours. No rust development around scratch.
Section of Modine Convector

## Bonderite <br> mous

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This label is a guarantee of an invisible quality. It indicates conscientious building of a complete product, as well as assuring rust proofing and finish stability.




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Ideal for projects, where heating costs must be kept in line with the $\$ 4000$ home, but where you want satisfactory long-life equipment. Janitrol GAC Series Specification Sheets will give you complete information.

## FORUM OF EVENTS

## (Continued from page 84)

came, the price of labor contracted for in the agreements would continue. Not so with materials however. If the demand is weak, we admit that material prices fall off, but the minute the demand steps up, we find that material prices step up correspondingly. Materials are quite sensitive to the market. We have never heard of any plan from any of the component parts of the construction industry to bring about a regulation of their prices for any given period.

A great deal has been said about small house construction and general building trades work in and around residential properties. It must be obvious to you gentlemen that are engaged in this industry that in the field of house construction where sales prices range from $\$ 5,000$ to $\$ 15,000$ per dwelling, union wage scales do not prevail, and today the wages paid to workers engaged in this class of work are on the basis of the 1914 union wage scales. If we are to proceed on the premise that a drastic reduction in wages should take place to encourage construction of homes at lower prices, here is a definite example where it does not work. . . .

The construction industry would render a service to itself and help the general economic situation, if it could determine and adhere to a definite decision in regard to building tradesmen's wages based on a long range plan.

We point out further that those of us that are affiliated with the Building Congress, particularly, do not initiate building programs. We have no control over the economic situation that governs a building program. We are at the whim and mercy of the investor who is confronted with other factors which lead him to the decision as to whether he will build or will not build. In the meantime, awaiting such decision, we are expected to maintain a standing army of properly trained and skilled workmen, and labor is expected to refrain from asking for the top dollar during periods of boom building, and then during absolute prostration in the construction industry, it is expected that they will take up the slack and suffer wage decreases all out of comparison to the volume of work in the market.

American Designers Institute. In process of formation is a New York group, eventually to join the A.D.I. as its New York Chapter. A.D.I. has members from all States in the Union, and meets twice a year in Chicago during the Home Furnishings Market. Organization Committee for the New York group: Alphons Bach (chairman), Leo Jiranck, Ruth C. Kosmak, Tom Lamb, Ben Nash, John Vassos, Walter Von Nessen; Membership Committee: Paul Lobel (chairman), G. W. Blow, George Cushing, Belle Kogan, N. F. MacGregor.

Taliesin. Beginning with the October issue, Taliesin will appear as a bi-monthly publication of the Taliesin Fellowship, edited by Frank Lloyd Wright. This forthcoming issue will talk of Broadacre City. The models will be illustrated, the philosophy set forth, and there is to be explanation of the new production and distribution systems involved.
Each issue of the magazine will contain an article from the series "The Nature of Materials," written by Frank Lloyd Wright, in addition to special articles concerning the practice of architecture as a scientific art by members of the Fellowship or interested friends. The subscription price is $\$ 2.50$ yearly; single copies 50 cents. Further information may be had from the Secretary of the Taliesin Fellowship, Taliesin, Spring Green, Wis.
(Continued on page 92)


## counting Electrical Equipment Salesmen?

We know how you've felt about it and we, too, have done some tossing and turning. But with a company such as ours making something like 30,000 different electrical products, it's pretty difficult preventing our various division representatives stepping on each other's heels in their eagerness to keep you posted on latest developments.
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In constant touch with this clearing house is a staff of product specialists readily available whenever you need them.
We believe you're going to like this new arrangement even though we have only high-spotted its advantages. You'll get the complete story when our representative calls. Meanwhile, if you want to see how responsive, thorough, helpful this Clearing House Service is, just pick up the phone and call your nearest local Westinghouse district office.

# Westinghouse CLEARING HOUSE SERVICE FOR ARCHITECTS 



TO THE HISTORIANS tures of other men and their works might themselves still be hidden under the black baize, once the symbol of the professional photographer. So, belatedly but pleasurably, THE FORUM presents some of the (1)ithts whose great skill and taste his journal each month to

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THE ARCHITCCTURAL FONUM


That man! I told him I had spent all my money on the rest of the house and that I'd have to save on my window treatment. "Then, Mrs. Wilcox, you'll want Wood Venetians," The Architect replied.
"Venetian Blinds!" I stormed. "I know they're beautiful, but I know very well only rich people can afford them."
"That's where you're wrong," he said, very calmly. "Over a period of years, no window treatment could be more economical than Wood Venetians. With the proper amount of care, cleaning once a year and painting every five years-your Venetians will last as long as your house."
"Well, they look expensive," I said, weakly.
"Just think how much more pleasant and livable your house will be with Wood Venetians," The Architect continued, without even taking a breath. "A touch of the cord will bring in light and breeze or shut out the sun and dust. They're noiseless, they cannot tear your drapes, they won't rust or corrode, they -"
"Do you mean all Venetians?" I interrupted.
"I'm talking about Wood Venetians, Mrs. Wilcox. "I've noticed all your furniture is wood, so for the sake of harmony you'll naturally want wood blinds. Only wood blends with wood."

I sighed. "All right, have it your own way. Specify those Wood Venetians if you like." Then I tried to look a little indignant, but I'm not a very good actress. I was glad my architect had been so bull-headed, and be knew that $I$ knew he was right!

All practicing architects are invited to write the Wood-for-Venetians Association for the Wood Venetian Primer, "Only Wood Blends with Wood." It contains much valuable information you'll be glad to have.

## Wood Venetiants

[^2]
## DESIGN D

HIGHWAY HOTEL вY harwell hamlcon harbis
The highway hotel is an ideal subject for standardization. Standardized accommodations and service in a cross-country chain would provide the certainty the average motorist craves. Travel service could be included.
The restaurant might be only an accommodation to overnight guests or it might be made an attraction to hungry motorists and incidentally draw their attention to the sleeping facilities as well. Likewise gas and lubrication service might be limited to guests, or it might also serve passing traffic.
The private unit is laid out in 10 -foot 8 -inch horizontal units which subdivide into 32 -inch units. The shape of the rooms and the arrangement of the openings allow a variety of furnishing schemes. In rainy sections an overhang of the roof provides covered passage from car shelter to interior.

## (Continued from page 273)

## MECHANICAL WING by buckminster fuler

are separate, and locked together for transportation when all three or any two units are required by the customer. Individual units could thus be delivered, or a complete ensemble including trailer and reenforced translucent celloglass upper wall sections and roof.
Roof of fabric and plywood, airplane wing construction. Used as a lid over lower wall sections during transportation. When set up at site would be raised on tubular uprights at corners with diagonal wire bracing. Upper sections of partitions, doors and windows would be stored on floor during transportation.
The compact unit on the highway would afford little wind resistance, a low center of gravity and full rear-window view for the driver.

## (Continued from page 282)

## ALLERGY CLINIG By the offices of W. L. pereira

"Regarding first floor:

1. Each general unit falls into position on the plan without interfering with any other.
2. Examining rooms and units required for that phase of clinical operations are directly off the waiting room.
3. Treatment rooms, often administered by technical assistants are off the waiting room, but under the control of the reception desk.
4. The doctors and nurses are accessible to both Treatment and Examining wings.
5. The storage spaces for required chemicals are in separate rooms for each of the wings. There is no necessity for each Examining Room or Treatment Room to be stocked.
6. The Clinical Laboratory on this floor does only clinical work, such as blood counts, urinalysis, B.M.R.s'-routine laboratory. 7. All drugs and extracts are kept under ideal conditions in the room allocated for the purpose.
"Regarding second floor:
7. The Laboratory is subdivided into two principal units:
(a) Treatment and extract research for relief and preventions as applied to this Clinic on known and unknown causes of allergy.
(b) Immunological research.
8. The stairway goes down into the yard providing direct access to the greenhouse and animal quarters. These two units are important to the Research departments only.
9. The Library will have a complete collection kept up to date of clinical photographic prints.
10. The room adjacent to the Library will handle doctor and outpatient correspondence. It will also be the record room, and any literature sent out by the Clinic will be handled in this department.
(Continued on page 94)


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Address
City $\qquad$ State

## DESIGN DECADE

## (Continued from page 92)

5. The two wards on the South are for research on accepted cases. Either one can also be used as a small dining room for patients whose diet is part of the Clinic's work.
6. The small Mechanical Research Room is for the study of atmospheric conditions, filters, temperatures, etc. The ducts from this room will go to the two wards, where the research will be done. It will also be possible to eliminate all air from these two rooms except that which is brought in mechanically."

## (Continued from page 305)

## MICROFILM LIBRARY by hichard m. benkett

Drawing 2

1. Projector (independently ventilated).
2. Screen.
3. Cards and control buttons. Except in the largest libraries the entire index can be on one film. Weekly additions can be spliced on the end and entire new index film made at convenient intervals.

Drawing 3.

1. Projector on stack side of the partition. Film and servicing of machine kept away from public.
2. Screen (Similar to present commercial models).
3. Writing shelf.
4. Opening to control and stack room.
5. Plastic form fitting chair.

## (Continued from page 306)

## GRADE SCHOOL by Lxwoon, surth a wnm

frame, floor and ceiling with utility stacks located at regular intervals along the corridors. Further division of the space would be entirely by movable partition units working to a module of $3^{\prime}-0^{\prime \prime}$ to accommodate an ever-changing space requirement in varying curricula. This particular item seems to us the most important need for a school of this type and we believe the arrangement indicated would work very satisfactorily. The partitions can be arranged to form storage closets, toilets, preparation rooms, book shelves or glass display cases exposed to both the corridor and classroom sides for exhibition of current work.
"The principal entrance in lobby has a large display case for exhibition of premium work, with four sides of glass visible from both inside and outside of the building.
"The covered play area indicated is badly needed in most school plants to provide some shelter for play activity in rainy weather or in sunshine which is too bright.
"The gymnasium is separated as much as possible from the rest of the building to permit its independent use in the evenings by groups. Detailed division of locker facilities here probably should provide accommodations for adult groups from the community who might use the gymnasium.
"Orientation has been carefully considered in the light of our experience with difficulties controlling sunlight in study areas. The northeast and northwest exposures will permit a little sun to enter the room at the early and late hours of the day, but will eliminate the strong rays during school periods.
"The exterior wall of the classroom units presents an arrangement which we feel would be an improvement over usual design. The use of light directional glass blocks above the $7^{\prime}-0^{\prime \prime}$ line would provide good distribution of light from the sky at the far side of the room without the intolerable glare of ordinary block. By introducing a continuous row of clear glass windows protected by a narrow projecting aluminum shade, we would destroy a large part of the feeling of confinement experienced with areas totally enclosed in glass blocks.
"Considerable improvement in the noise problem within the study areas should result from the plan proposed. Most study areas will be removed from the noise of shops, music rooms, and street traffic."

No one would think of nailing flooring at the ends only...


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 eliminated in doors, too ... use a third buttDon't blame green lumber for warped and twisted doors. No door can be expected to remain true when supported at top and bottom only.
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## Play Safe! SPECIFY THE ROOF WITH A



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The old lobby photographed from the same spot. Comparison of the two photos shows the dramatic result achieved by Mr. Kahn, using Flexglass and modern lighting on the ceiling.

Lobby, Garment Center Blds., New York, modernized and transformed by Ely Jacques Kahn, Architect. 2,200 sq. ft. of Gray Opal and Gunmetal Mirror Flexlgass, (the Glass that Bends), used for ceilings. The first of the three terraces is shown.

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Philadelphia.


This is the slogan of the national advertising campaign on white-lead now being conducted by the Lead Industries Association. The purpose of this campaign is to promote a wider understanding of the advantages of white-lead paint.

# LETTERS 

(Continued from page 42)
ities in art. Beginning with Cezanne artists found that abstract art could be enough in itself. Nearly half a century of experimentation with abstract art evolved and reawakened in men the fundamental principles of design.
The past decade has seen these principles adapted to mass production so that every citizen is familiar with the advance, and in a sense there is art in every home.
The Architectural Fordm's "A Decade in Design" issue and exhibitions by collaborating museums and stores should make the average layman aware of the importance of art in the modern world.

Robert J. McKnight, Director
Memphis Academy of Arts

## CHICAGO

## Forum:

Forum's Design Decade idea is exactly in line with the program of information and education that we are in the process of developing in this field at the Chicago Art Institute.
As we see it, The Forum's concept offers a great variety of approach to those institutions cooperating, all, however, centering on the tremendously important fact that at last the machine and industrial
organization have become potentially and actually constructive instead of destructive forces in the arts of design.

A general recognition of this fact and an understanding of its implications by the public at large are vitally necessary to the healthy development of art as an integral part of our national life. The synchronization of well-thought-out exhibitions on this theme with an issue of a national publication such as Forum should move powerfully to this end.

Meyric R. Rogers, Curator
Dept. of Industrial Art
The Art Institute of Chicago
TULSA


Forum:
The significance of The Architectural Forum's Design Decade program is not only the summing up of the past ten years' accomplishments, but the timely presentation of these accomplishments during a decade pinched by Depression at one end and War at the other. Under the duress of these conditions, good ideas and original thinking have not been stifled, and progress has been made in all fields of design.

The program will also be significant if it effectively distinguishes good design
from poor design. We must not forget that some unfortunate, superficial directions have been taken by modern designers as has always been the case in the past. In addition, the program offers an excellent opportunity to compare modern designs throughout the country that have been tempered by local conditions-climate, topography, and the heritage of the people.

Design Decade gives now a significant perspective of the past ten years, as will the future survey of "Design Century" of which it is a part.

Eugene Kingman, Director

## Philbrook Art Museum

For subscribers who wish additional copies of "Design Decade" a limited number of copies are available at $\$ 2$ each. Orders, accompanied by remittance, should be sent to Circulation Office, The Architectural Forum, 330 East 29nd St., Chicago, Ill.-Ed.

## Beg Pongdon

Forum:
In the July issue of Architectural Fordm you show the floor plan of the new Theater and Art Center for the University of Wisconsin. You indicate a space where Table Tennis will be played but you make the mistake of calling it "ping pong."

Let me stress the fact that "ping pong" is definitely not the name of any sport, but is merely a trade mark name covering
(Continued on page 108)

# new tools 

Here are desks that, in appearance, complement the best of your sketches-that in the utter simplicity of their lines are perfectly adapted to today's decorative themes.
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## LETTERS

## Continued from page 104)

table tennis equipment. This trade mark is owned by an American manufacturer. There is no more reason to call our sport "ping pong" than there would be to call golf "Wright \& Ditson" and in the future we ask that you eliminate this term of "ping pong" in your publication as it gives free advertising to one firm handling this line of merchandise. Also it does not show respect to this sport which is considered the second fastest on earth (hockey being first).
Many years ago (about 40 to be exact) a little game was played on dining room tables-some people called it "ping pong" others "Klick Klack" while others termed it "pit pat." Since the advent of U. S. Table Tennis Association "ping pong" has been pushed in the background and Table Tennis has been supplanted in the minds of the players, spectators and newspapers. Associated Press and United Press bar the term "ping pong" because it is a trade mark name.

Let me remind you that there are over $10,000,000$ players in the U. S. and this sport of Table Tennis is now rapidly being adopted as an intra-mural sport by the leading universities. Table Tennis is not
just a National sport-it is International. Mrs. Wm. Gullforl, Chairman U. S. Table Tennis Assn. Kansas City, Kan. Forum editors, no mean table temisockers themselves, accept this called foot fault in deep chagrin and without protest.-Ed.

## Throat Cut

Forum:
In looking through some of my back issues of The Forum I came across an article in your November 1939 issue written by Mr. Robert H. Orr under the title "Are There Two Kinds of Architects?"

I am very interested in the text of this article because I happen to be one of the unfortunate men mentioned who have been forced into making plans for contractors.

I had planned to attend a college of architecture and try to become an architect. But I have found that I cannot live and save enough money to make this possible and have atout given up hope of attaining my goal.
The so-called standard fee set in the small residence field by draftsmen is .02 cents a sq. ft. of plan, which in the average low cost home with garage amounts to about $\$ 25$ or more. I have had a number of so-called contractors tell me that this was too high and that they could secure the same plan for $\$ 5$. So you see there are draftsmen in this obscure field, as Mr. Orr calls it, who are cutting one another's throat for that mere wage.

Why not issue junior certificates each good only when used in collaboration with an unlimited certificate? It would mean that men in my circumstances could learn the profession first hand . . . It would allow the junior to be absorbed in the profession he so earnestly desires to enter. He could enter the senior's office, handle the residential end, secure the then noncompetitive fee and plan a house for the prospective home owner that would be worthy of his profession and the owner's needs. F .. .

Jerrell B. Thompson, Jr.
Bakersfield, Calif.

## First

## Forum:

In reading the August issue, a discussion entitled "Projected Airport," on page 86, I note that the description credits the Cincinnati terminal with being the first railroad passenger terminal to employ a waiting concourse opposite the various gates leading to the trains.
Jarvis Hunt, architect of Chicago, employed this system in the Kansas City Terminal over twenty years ago.
This is not a criticism, and we believe it is only an oversight.

Gentry \& Voskamp
Kansas City, Mo.
The statement was ambiguous, but meant to indicate that Fellheimer \& Wagner had used this particular airport feature before, namely, in their Cincinnati Terminal.-Ed.

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## The 90 million Americans who may

SOUTH of the isthmus of Panama, like a fat pear hanging upside down from a slender stem, lies a continent inhabited by 90 million people -South Americans who may have to work for Hitler.

Already the conqueror is reaching greedily for the South American pear. Already the Nazi advance agents crawl over it like beetles . . . searching out the soft spots...nibbling at morale ... burrowing tunnels underneath the surface.

- Whether these moves by Nazi Germany mean Blitzkrieg or Handels-krieg-nilitary thrust or trade warthey promise to put Uncle Sam on perhaps the hottest spot of his career.

For although the Americas have, of late years, given the "Good neighbor" idea more than lip-service, they are off to a late start. The two continents in this hemisphere have, for centuries, drawn their oceans about them like blankets ... have had for each other that distrust which has its roots in ignorance.

Now, with the clock of Europe striking the eleventh hour, once again it appears that ignorance-like crimedoes not pay.

- Colombia, with its two-ocean seacoast . . . Venezuela, teeming with oil ... Ecuador, whose Galápagosos Islands command the Southern approach to the Panama Canal . . . Bolivia, which may have to become sole U. S. source of tin... Argentina, Europe's potential breadbasket...Brazil, bigger than the 48 United States and four-fifths as large as Europe ...

Through no act of its own, every one of these nations has, overnight, become a potential powder keg under Uncle Sam. With the U. S. still unprepared, with a two-ocean Navy four to six years away, there is good reason
for furrowed brows in Washington.
Should we give up hope? Watch the South American stars drawn into the Nazi constellation? See our trade arteries severed and our life blood drained away?

No. For, in addition to the moves being made in Washington, there exist forces which can help thwart the Nazi pull of gravity. These forces are the newspapers of both continents.

South and Central America have about 750 papers-a good share of which practice top-flight journalism.

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And since the Nazi hordes poured into Holland, South American papers have stepped up their U. S. news. The Brazilian or Argentine newsreader can now discuss the Third Term issue as intelligently as he can the Havana conference. Even U. S. comic strips are a daily feature. Popeye the Sailor caused a near-crisis in the spinach market.
But what's true south of the isthmus is less true north of it. The average U. S. newsreader, business man, industrialist, knows less about Buenos Aires or Rio, than he knows about Berlin or Battle Creek. But he wants to know more! The U.S. press is now recognizing that it is faced with a tremendous challenge-the discovery of South America.

There are signs that progressive papers, large and small, are accepting this challenge. Crack correspondents -men like William Simms of Scripps-


Howard; Walter B. Kerr Jr., of the N. Y. Herald Tribune, and Wayne Thomis of the Chicago Tribune, have been-or soon will be-filing stories direct from the trouble spots. Throughout the country, AP and UP South American dispatches are finding their way into print, instead of into Editors' wastebaskets.

And the Weekly Newsmagazine, as the national U.S. newspaper, is in the forefront of this march of enlightenment.

Staff correspondents, researchers, and photographers for the entire TIME family-TIME, LIFE, FORTUNE, and the MARCH OF TIME movie - have all helped to build up a remarkable reservoir of South American facts, contacts, and first-hand experience.

## go to work for Hitler



This invaluable background constantly enriches TIME's news from the southern continent. And now TIME is further increasing its coverage... opening a new office in Buenos Aires, expanding its staff in Rio ... digging for more and fuller stories from every Latin-American city.

Moreover, Time's news wires run both ways. time now supplies U. S. news to selected South American papers-news that, in these grave new days, makes important headlines.

True words and straight facts are weapons-weapons to be turned against ignorance, indifference, and fear. time is supplying these true words and straight facts in a battle unaccompanied by gunfire-but as critical to the U. S. as Saratoga or Gettysburg.

In these days of crisis, the free press is more than ever a vital force in making our democracy a living, working success. Therefore, TIME is seeking, in this series of advertisements, to give all the readers of ARChitectural FORUM a clearer picture of what the press in general, and TIME in particular, are doing to keep the people of this nation safe, strong, free, and united.



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Aluminum Company of America. ............................32, 40, 41
American Mat Corporation. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 10 . 17
American Rolling Mill Company, The . . . . . . . . . . .
Am

American Seating Co.r..........
11
American Telephone \& Telegraph Co.. .............................. . . . 78
American Window Glass Co... . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 106
Arkansas Soft Pine Bureau. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 74 , opp. p. 54
Armstrong Cork Company
Armstrong C Inc.
Auer Register Company, The
opp. p. 87
Bethlehem Steel Company. ........................................... . . . . . . . . . 22
Blue Ridge Glass Corporation . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 35-38
Brasco Manufacturing Company . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 59
Bruce Co., E. L. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 51
Brunswick-Balke-Collender Co., The. . . . . . . . . . . . . . . . . . . . opp. p. 8
Burnham Boiler Corporation.
Carey, Philip Company, The . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 55
Carnegie-Illinois Steel Corporation.
Case \& Son, W. A. Manufacturing Co. . . . . . . . . . . . . . . . . . . . . . . . . . . 63
Celotex Corporation, The . . . . . . . . . . . . . . . . . . . . . . . . . . . . Cover II
Chase Brass \& Copper Company
6,7
Columbia Steel Company
(United States Steel Corporation Subsidiary)
opp. p. 16
Coppes, Inc.
70
Crane Co
77
Donley Bros. Co. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Eagle-Picher Lead Company, The . . . . . . . . . . . . . . . . . . . . . . . . . . . 65
Eichleay Engineering Corp.. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 56
Fitzgibbons Boiler Company, Inc. . . . . . . . . . . . . . . . . . . . . . . . . . . . 24
Formica Insulation Company, The . . . . . . . . . . . . . . . . . . . . . . . . . 5
General Electric Company . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9, 117
(Stran-Steel Division)
Haskelite Manufacturing Corporation . . . . . . . . . . . . . . . . . . . . . . . 115
Hendrick Manufacturing Co. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 47
Hofrman Specialty Co., The
Hope's Windows, Ine. 33

Huntington Laboratories, Inc.
IIg Electric Ventilating Co. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 86
Jamison Cold Storage Door Co. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 112
Johns-Manville . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 21
Kaufmann \& Fabry Co. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 112
Kewance Boiler Corporation. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 81
Kimberly-Clark Corporation
98
Kitchen Maid Corporation, The . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 114
Knape \& Vogt Manufacturing Co.
25
Lead Industries Association.
35-38
Lochinvar Corporation ..... 58

Lucke, William B., Inc.opp. p. 86Masonite Corporations, Ine| $\cdots$ | 3 |
| :--- | ---: |
| $\cdots$ | 73 |
| 66 | 67 |

Medusa Portiand Cement57
Company106
(Youngstown Pressed Steel Division)
National Terrazzo and Mosaic Association, The ..... 64(United States Steel Corporation Subsidiary)85
elson, Herman, Corporation86
Parker Rust-Proof Company ..... 87
Pecora Paint Company, Ine. ..... 68
Pittsburgh Plate Glass Company ..... 20
Porcelain Metals, Ine. . ..... 34
Pratt \& Lambert, Ine. ..... 50
Red Cedar Shingle Bureau ..... IV
46Revere Copper and Brass, Incorporated
Ric-Wil Co., The. ..... 112
Russell, F. C. Company, The ..... 52
Sanymetal Products Co., Inc., The ..... 31
Sisalkraft Company, The . . .Sloane-Blabon Corporation62
97
milh, Alexander Carpet Company ..... 71
Spencer Heater98
95
Stensgaard, W. L., \& Associates, Inc.23
(Great Lakes Steel Corporation) ..... 88
Tamms Silica Company ..... 8,19
Timber Engineering CompanyCover 11
nited States Gypsum Company. ..... , 101
United States Steel Corporation. ..... , 49
(.orpy Subsidiary) ..... 76
W alrus Manufacturing Company ..... 61
Westinghouse Electric \& Manufacturing Co. ..... 89
Wiley, John \& Sons, Inc. ..... 114
Worthington Pump and Machinery Corporation ..... 118
Yawman \& Erbe Mfg. Co. ..... 104
Zouri Store Fronts. ..... 48


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6 COMPRESSOR SIZES . . . 8 COOLER SIZES . . . 8 CONDENSER SIZES

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IR CONDITIONING engineers have demanded the advantages inherent in the centrifugal type of cooling equipment . . . and Worthington has responded with a development program which now makes available a standardized line of units whose high efficiencies mark them as an engineering advancement of real importance.

Here is equipment designed and built to handle the heavy loads of present and future air conditioning service . . . with improved features which give full assurance of long service with low maintenance. It opens the way to air conditioning at lower cost than has heretofore been considered possible.

Electric motor, steam turbine, and gas turbine drives are available. Low pressure characteristics, relatively low operating speeds, and dual lubrication are among the points which invite consideration in the planning of any installation.

CARBONDALE DIVISION • WORTHINGTON PUMP AND MACHINERY CORPORATION General Offices • HARRISON, NEW JERSEY • Offices and Representatives in Principal Cities

## "KEYNOTES"

## OF ARCHITECTURAL DESIGN

High in Quality - Low in Cost
Truscon Series 101 "Campbell-type" Double-Hung Steel Windows


The Truscon "Campbell-type" Double-Hung Steel Window is a development of the original Campbell heavy double-hung window of which there are over a million in daily use. It is smaller, lighter in weight, and lower in price. But in the quality of its construction and ability to meet particular design requirements, they are the same.

The many sizes and types of Series 101 give the architect great freedom in design. Muntins may be omitted entirely, may be vertical or horizontal, or may divide the glass area into small lights. Twin windows offer a distinct saving: they
are made in one complete assembly with a specially designed, unusually narrow mullion.
All modern features of operation are incorporated in these windows. Spring balances equipped with tapes of zinc coated steel assure smooth, effortless operation. Spring bronze weatherstripping (factory installed) makes these windows $100 \%$ weathertight. Sash members are 14 gauge thickness assuring adequate strength and resistance to distortion. They are Bonderized-rust proofed-and the priming coat of paint is baked on at $300^{\circ} \mathrm{F}$. for 60 minutes.
Top hung full screens, fixed half screens, exterior sliding screens or interior full sliding screens are available for all standard sizes.
Complete details and specifications are included in Truscon's 80 -page catalog in "Sweet's" or a special catalog will be sent upon request.



## LOOKS BETTER ... IS BETTER .. . COSTS NO MORE



THIS HANDBOOK FREE
This Certigrade Cedar Shingle Handbook, prepared by a wood technologist, mailed free on request. One hundred pages detailing the uses, application and technical data. Write the Red Cedar Shingle Bureau, Seattle, W ash., U. S. A., or Vancouver, B. C., Canada.

Side-walls covered with dou-ble-coursed Certigrade Shingles and given a very wide exposure, create a strikingly attractive appearance adaptable to the Colonial style as well as today's modern small home designs.
The deep butt shadows are most effective and give the appearance of a much more expensive construction. The double course adds greatly to the known insulating qualities of Certigrade Shingles.

The exposed shingles in each course should be No. 1 Certi-grade-the under-course of No. 2 or 3 grades. Use 5 d
small head hot-dipped, zinccoated nails, two nails to a shingle, placed near the edge of the shingle, and not more than three inches above the butts.
The following table shows why double-coursing on sidewalls is economical due to the greater allowable exposure of the shingles.

| Length ofShingles(in inches) | Exposure of Shingles (in Inches) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Single Course |  |  |  | ouble ourse* |
| $16^{\prime \prime}$ |  | to | 71/2" | $8^{\prime \prime}$ | to 12 " |
| 18" | $6^{\prime \prime}$ |  | 81/2" | $8^{\prime \prime}$ | to 14 " |
| $24^{\prime \prime}$ | $8^{\prime \prime}$ |  | $111 / 2^{\prime \prime}$ | 12" | to $16^{\prime \prime}$ |

*Assuming exposed course is face or butt-nailed.
 CERTIGRADE Red Cedar for krode and quality CERTIGRADE
SHANGLES $\qquad$


Shingle



[^0]:    Robert M. Damora

[^1]:    Portland, Me. - Boston, Mass. - Westfield, Mass. - New York City • Watervliet, N. Y. - Buffalo, N. Y. - Syracuse, N. Y. • Washington, D. C. • Richmond, Va. - Roanoke, Va. - Charlotte, N. C. - Miami, Fla. - Birmingham, Ala. - Nashville, Tenn. • Memphis, Tenn. - Indianapolis, Ind. - Chicago, Ill. - Peoria, Ill. Philadelphia, Pa, • Harrisburg, Pa. - Scranton, Pa. • Pirtsburgh, Pa. . Johnstown, Pa. $\bullet$ Milwaukee, Wis. $\bullet$ Des Moines, Iowa • St Louis, Mo $\bullet$ Kansas City Mo Emporia, Kans. - Minneapolis, Minn. - Omaha, Neb. . Oklahoma City, Okla. - Detroit, Mich. - Grand Rapids, Mich. - Cleveland, Ohio • Cincinnati, Ohio - Toledo, Ohio • Dallas, Texas - Missoula, Mont. • Denver, Colo. - Salt Lake City, Utah • Spokane, Wash. - San Francisco, Cal. - Los Angeles, Cal.

[^2]:    WOOD-FOR-VENETIANS ASSOCIATION 939 Russ Bldg., San Francisco, Calif.

[^3]:    Agents in principal cities

