Most home owners have a fairly definite idea of what they want. Few of them are familiar with all the features they should have in a new home—to give it needed structural strength and year-round comfort—to make it economical to heat—to make it easily salable in case resale becomes necessary, thus protecting their investment.

They look to you for guidance on the points which are unfamiliar to them. For instance, most owners today know they want insulation. But in many cases it is left to you to recommend the most serviceable, the most economical insulation for sidewalls and top-floor ceilings.

By specifying Celotex Guaranteed Insulation, you will earn their everlasting thanks. Because Celotex Vapor-seal Sheathing and Vapor-seal Lath provide needed structural strength and continuous fuel savings—because these products are permanently protected against termites and dry rot by the exclusive, patented Ferox Process—and because they are guaranteed in writing for the life of the building! Yet, with all these advantages, Celotex Guaranteed Insulation is economical—because it replaces other needed materials!

Celotex national advertising now tells your clients: "NOW IS THE TIME TO BUILD! It is a hedge against inflation • Financing is easy • Interest rates are low • Material costs are low • Labor is plentiful!"

*When issued, applies only within Continental United States

THE CELOTEX CORPORATION
919 N. Michigan Ave., Chicago, Ill.

Please send complete information about Celotex Guaranteed Insulation.

Name__________________________

Address________________________

City____________________________

County__________________________ State__________

CELOTEX SPURS BUILDING

CELOTEX BUILDING PRODUCTS

INSULATING SHEATHING, LATH, INTERIOR FINISHES
ASPHALT SHINGLES, SIDING, ROLL ROOFING
HARD BOARDS • ROCK WOOL BLANKETS, BATTs
GYPSUM PLASTERS, LATH, WALL BOARDS

Sales Distributors Throughout the World
LAKE COUNTY TUBERCULOSIS SANATORIUM
A distinguished addition to the roll call of modern American buildings.

RECENT WORK OF VICTORINE AND SAMUEL HOMSEY
A varied portfolio of modern and traditional architecture by two Delaware architects.

THE ARCHITECT'S WORLD

THE DIARY
Rambling remarks of a peripatetic observer.

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

PRODUCTS & PRACTICE
Latex cushions aid architect in designing furniture . . . Laminated wood arches offer an interesting new design form.

CBS STUDIOS, NEW YORK CITY
Remodeling on a giant scale, with polished stucco, special air conditioning, and "acoustivanes" thrown in.

BUILDING MONEY
One full year of war bends Canada's building curve upward—a reassuring record for U. S. builders now entering a year of national defense . . . Owensboro, Ky., scrapples the bottom of the low cost house market with three-room dwellings with lot at $1,750 . . . A case-by-case diagnosis of eight ailing FHA-insured rental housing projects . . . From mansion to rooming house to apartment—a convincing remodeling case history . . . A small Indianapolis subdivision benefits by architectural design . . . Building's vital statistics charted and tabulated.

MONTH IN BUILDING

FORUM OF EVENTS

BOOKS

LETTERS
THE MONTH IN BUILDING

BUILDING TRENDS. A seasonally expected June drop in residential permits put Building's cumulative half-year total in some $1,100 reporting cities a shade below the healthy 1939 level (see tabulation, right). The industry entered the second half-year with the recorded mortgage volume up 15 per cent, FHA home mortgage insurance up 10 per cent, marriages up 7 per cent, costs fractionally higher than a year ago but down slightly from their mid-winter highs, rents steady, foreclosures down (see charts and statistics, p. 216).

TO DEFEND. National Defense developments of the month on Building's far-flung front:

- Disclosure that Congress would have balked at the housing amendment authorizing USHA to build defense projects had it realized it was tacked on a naval expansion bill (Arch. Forum, July 1940, p. 9).
- Eager to leave for the Republican National Convention, Congress passed the bill without careful reading, now accuses USHA of trickery for having sneaked into the legislation. However, at mid-month, USHA still had no additional funds with which to try its new wings.
- Introduction of a bill (unlikely of enactment) to appropriate $70 million for the Navy to use in building its own housing. Sponsor: Representative Vinson of Georgia, Chairman of the House Naval Affairs Committee who did not realize the meaning of the USHA amendment to his Naval expansion bill, had a vague notion that FHA would do the building.
- Introduction of another bill (more likely of passage) by Senator Wagner of New York which would give the President $300 million for defense housing to be divided as he sees fit among existing agencies in the building business—the War and Navy Departments, Public Building Administration, FSA and USHA. Chances are that the dollars would be dealt to all these agencies.
- Announcement by Army experts that it will cost about $350 per man to provide temporary housing for draftees called to the colors under the pending compulsory service bill. Scope of the task is indicated by the Army's desire to have some 550,000 new men under arms by year-end.
- Probability is that this rush order will be given to private large scale residential builders by the War Department on the basis of directly negotiated contracts (a cost-plus-fee, rather than the usual cost-plus-percentage basis). Since the buildings will be frame, army housing will involve a colossal carpentry job.
- Assignment to National Defense Housing Coordinator Charles F. Palmer and his new assistant, former Assistant USHA Administrator Jacob Crane, of these general powers: 1) To conduct surveys of general and specific defense housing problems and see that necessary action is taken. 2) To determine whether construction should be handled by private or Government builders and to cooperate with both. 3) To coordinate all defense housing activities. 4) To explore existing housing legislation, draft any needed legislation. 5) To forecast exact housing needs from information supplied by the Defense Advisory Commission.
- Latest Washington advice indicates that the Public Buildings Administration will handle all self-liquidating Government housing, that USHA will step in only where subsidies are required.
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TO MARKET. Newest contender for a place in the prefabrication sun is PHC Housing Corp., currently the subject of considerable attention in several magazines of general circulation. Having spent ten years and "hundreds of thousands of dollars" on design and production research, cost analysis and the construction and demolition of a half-dozen handmade indoor houses, the newcomer in recent months has changed its name (from Pre-built Housing Corp.), moved its New York City offices to the top story of an old midtown building (from an old uptown movie studio) and bought a Jackson, Miss., plant (from a wood working company). But, contrary to the claims of some reporters, the newly installed machinery is not turning out houses at the would-be record rate of "several dozens a week." Month ago, PHC's Jackson plant had accounted for only one more indoor house, plus parts for two others which were scheduled for shipment to faraway New York State.

To show for its sizable investment in research, PHC has a new house building technique which looks good but not simple and inexpensive. Principal features: A 30-in. module, a "bridge" frame of 1 x 6 in. wood members reinforced with steel; lap siding with attached insulation which hooks on the frame; panels of copper or conventional roofing material similarly applied; narrow floor, wall and ceiling panels which are clipped in place; a porcelain enamel steel bathroom-kitchen plumbing assembly not unlike Pierce Foundation's pride and joy (Arch. Forum, May 1940, p. 365). Advantages claimed: 100 per cent prefabrication of "assemblies," 100 per cent salvage value, conventional appearance, strength, quick erection with little skilled labor and without nails and—yet to be proved—low costs.

Potentially, PHC Housing Corp. is big, for several interested big names are potential financiers and several potential orders may mean big business. But, despite its auspicious and much ballyhooed start, the corporation undoubtedly has many lessons still to learn—both in the shop and in the field. Prefabrication is a tough game. In more than 40 years of trying by more than 100 contestants no one has nicked the bull's-eye, and only two or three have even hit the target. So, a large gallery is waiting to check the marksmanship of one-time automaker Ernest W. Pavey (P), Viennese engineer Henry Hasenburger (H) and Rockefeller Center Architect Harvey Wiley Corbett (C) who comprise the PHC first team.

The Architectural Forum
MASONITE PRESDWOOD TEMPRTILE

... NO NEED FOR A SHOE HORN

FOR UTILITY ALONE, this bathroom deserves special mention. There's ample space for towels and toiletries without that "storeroom" air. The uses of Presdwood Temprtile are in good taste. And notice how easily the board can be cut to fit into small places to give an over-all effect of spotless smartness. For this room, the board could be enameled any pastel shade with a contrasting color for striping. The framing around the tub has a lot of utility value because it not only provides a seat for foot bathing, but also allows an extra cabinet for soaps.

WHEN there's just so much in the budget, and you're using the proverbial "shoe horn" to try to squeeze in all the extras, let Masonite Presdwood Temprtile help you save dollars. It's the practical, inexpensive way to get the tile effects you want — without sacrifice in construction quality. This hard, all-wood board is there "for good," once it's properly applied. There's no breakage and it won't shrink, warp, split or crack when used according to instructions. The two rooms shown here have been designed expressly to illustrate the flexibility of Presdwood Temprtile, and the many unusual effects that can be easily achieved at exceptionally low cost.

FOR COMPLETE, even to a built-in radio in the china cabinet. Presdwood Temprtile is a wise material to select for kitchens because it can be kept clean with little effort, and it does not absorb cooking odors. Here it might be enameled white, with black enamel striping. Indirect lighting can be installed in the overhead wall valances which, incidentally, are made of Masonite Tempered Presdwood. This material is also excellent for the counter tops, because it is able to stand up under years of hard service without scuffing or scratching.

MASONITE

THE WONDER WOOD OF A THOUSAND USES
SOLD BY LUMBER DEALERS EVERYWHERE
COPYRIGHT 1940, MASONITE CORPORATION

IF YOU would like to examine a sample of Masonite Presdwood Temprtile free, just fill out and mail this coupon to:

MASONITE CORPORATION
Dept. AF-9-40
111 W. Washington St., Chicago, Ill.

Name.
Address.
City.
State.

Copyright 1940, Masonite Corporation

TO PRESS. Waving Vol. 1, No. 1 of the United Construction Workers News, CIO's infant building union last month fanned out the sole candle on its birthday cake, dried the ink of its first published page. on the whole mess of craft unionism, is outmoded and impossible to maintain at a time when speed is of the essence on the job. The program of the new month's issue is designed to alert building workers in the vicinity not to work long for want of better living quarters.

Narrowest of the housing bottlenecks is at Bremerton, home of the Puget Sound Navy Yard just west of Seattle. In addition to a 15,000 civilian population—up 50 per cent from the 1930 census—Bremerton now has 7,800 Naval officers and men plus 7,000 Navy Yard workers. The latter group is larger than at any time during World War I.

Despite the denials of the local Apartment Operators Assn., which sees no housing shortage and asserts that rents have not been raised, impartial observers offer convincing evidence that Bremerton's population has outgrown its shelter; garages have been converted into bedrooms; beach shacks are commanding $50 rents; the municipal jail sleeps seven or eight newcomers per night; others sleep in trailer camps, parked automobiles, tents and on the city park's well-worn grass. And, those Government hired skilled workers who seek good apartments are confronted with $75 rents, obviously too big a stretch for their small purses.

TO COURT. Lost amid the blare of national defense headlines has been recent news of Trust-buster Thurman Arnold's drive against alleged restraints of building trade. But, the Justice Department is doing business as usual. To wit: month ago in Pittsburgh eighteen of the ten most local and national officials in AIF's populous carpenter union (including International President William L. "Big Bill" Hutcheson and his entire executive board) lost their fight to escape prosecution under the Sherman Anti-Trust Act when Federal Judge F. P. Schoomaker dismissed their demurrers to a conspiracy indictment. The way was thus opened for the first actual court trial—probably in November—to be held as a result of the "Buster" Arnold's six-month grand jury investigation of the Smoky City's building industry.

TO SLEEP. An important and growing naval center, Seattle would seem to merit the early attention of National Defense houses. Reports last month from Tim Foroux, the local correspondent indicate that the ever-increasing number of navy yard workers in the vicinity may not work long for want of better living quarters.

The maiden report of M.I.T.'s Albert Farwell Bemis Foundation. A technical pamphlet replete with tabulations, examples and graphs galore, its title is "A Method for Analyzing the Economic Distribution of Shelter." Its author, the Foundation's smart Director John Burchard.

With the aid of a new formula and several rule-of-thumb assumptions, House Burchard proves that with an economic rent of 11.1 per cent of the cost of shelter (an assumed national average) and the allocation of 20 per cent of income to shelter (another assumed national average), only 3 per cent of the non-farm, non-relief families can afford houses and lots valued at more than $10,000. Going down the scale, only 11 per cent can afford properties valued at more than $5,000; only 22 per cent, at more than $4,000; 65 per cent, at more than $2,000. If interest charges are removed entirely from the economic rent, the market for the ordinary $4,000 property jumps from the 25 per cent mentioned above to 59 per cent. And, about the same result is achieved by knocking the value down to $1,000. On the other hand, these same assumptions indicate that taxes play a much smaller part in determining the size of the housing market, for, when all taxes are omitted from the economic rent, the potential market for the $4,000 house jumps from 25 per cent of the total to only 37 per cent. This percentage is about the same as that which results from the elimination of the entire cost of land.

While Burchard's findings present a fairly accurate picture of the national market, substantiating The Forum's estimates*, on a local basis it is apt to be out of focus—unless, of course, the locality in question happens to jibe with the general assumptions as to income distribution, economic rent levels, family income levels, etc. In fact, one of Burchard's prime conclusions is the vital need for more detailed local or regional information on all aspects of the housing problem. To those, who wish to delve deep into the demand for housing, Burchard's Foundation offers its theoretical thesis.

EARNINGS for the six-month period ended June 30, 1946

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<th>Industry</th>
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* Arch. Forum, April 1989 and February 1940.
\* Net loss
\* 28 wks. to July 13
\* 12 mos. to June 30

THE MONTH IN BUILDING

THE ARCHITECTURAL FORUM
Light, Permanently Finished

DOORS of FORMICA

FORMICA doors on wood cores are light, stable in dimensions and shape, colorful, easy to keep clean and very durable. Where heavier doors of a metallic type are desired Formica can be very effectively combined with bronze.

Formica "Realwood" for doors is a surfacing material combining an actual veneer of real wood with all the qualities of a plastic—chemical inertness, permanent finish, freedom from crazing, and absence of porosity to prevent stains. There are also more than 70 Formica colors and patterns of other kinds, and inlay of one color over another. Let us send literature and color charts.

THE FORMICA INSULATION COMPANY
4620 Spring Grove Ave., Cincinnati, Ohio

FORMICA FOR BUILDING PURPOSES

SEPTEMBER 1940
Elevators in the 40-story Hotel New Yorker are in motion day and night. Their swift smooth flight from floor to floor may seem gentle to guests—but it's far from gentle to the wire rope in the shaft.

Here's why Bethlehem hoisting, compensating, and governing cables are used extensively in the New Yorker: Bethlehem Elevator Cable is designed to handle every kind of elevator service.

Every wire is special steel, precision-drawn on modern equipment. The entire rope—core, wires, strands—is packed with scientific lubricants that stay in the rope, do not leak out in service.

To specify Bethlehem Elevator Rope in your next building design will do much to increase client satisfaction. This cable is a quality product, through and through. It's safe, dependable, economical in buildings large or small.
Butter one brick with Brixment mortar, colored with any good black mortar color. Then butter another brick with mortar made from lime and cement, and the same mortar color.

Set both brick aside for a couple of weeks. You'll find that the sample made with Brixment mortar retains its full, rich color, while the other turns dull or pale.

**BRIXMENT Mortar Does Not Fade Mortar Colors!**

FADING of mortar colors is ordinarily caused by the action of aggressive chemical compounds (usually tri-calcium compounds) present in lime and cement mortars. If sufficiently strong, such chemicals may burn or bleach the pigment.

Brixment mortar, however, is practically free from such compounds. Brixment mortar therefore cannot fade mortar colors.

Furthermore, the waterproofing material incorporated in Brixment during manufacture, gives added protection—helps prevent the color from being leached out of the mortar joint by rain... For these reasons, Brixment is endorsed by manufacturers of mortar colors, for use with their products.

If you have a mortar color job, get a bag of Brixment and try it with your favorite mortar color. Sack for sack, we believe you will find that the mortar color goes further and looks better with Brixment than with any other mortar you have ever tried.

**BRIXMENT For Mortar and Stucco**
PROFITING by the experience of industry, which uses CAREY Built-Up Roofs extensively throughout the nation, architects are specifying this same weather-defying protection for residences, with gratifying results.

No roof is better than the materials that go into it. CAREY Roofs are built up—layer on layer—with CAREY Feltex, the superior asphalt-saturated felt, and the finest asphalt the world affords. The result is a roof that retains its elasticity under all weather conditions . . . will not melt and run under the sun's heat . . . will not crack under zero temperatures.

Still another factor enters into every CAREY Roof—the intangible, yet invaluable factor of experience. Back of every CAREY Roof are research facilities of a nation-wide organization and manufacturing skill developed through 67 years of progress.

For residence and apartment construction requiring built-up roofs, specify CAREY Products.

THE PHILIP CAREY COMPANY
LOCKLAND Dependable Products Since 1873
CINCINNATI, OHIO
Home owners — more and more — want beauty and luxury in their bathrooms; no doubt about that.

Yet all too often the one item of equipment that can do more than any other to add EYE APPEAL is selected or specified without a study of the many different types available. We refer to the CABINET.

The point we make is this—Deluxe bathrooms, as a matter of consistency, should be equipped with Deluxe cabinets and ensembles. For only a few dollars more, you can equip your bathrooms with the finer MIAMI Cabinets — then you have real beauty—complete harmony.

Don't permit cheap cabinets to let your bathrooms and your reputation down. Build them "UP" with MIAMI CABINETS.

See the MIAMI Catalog in Sweets—or write Dept. AF for your copy.
The Auditorium before the arrival of the Wabash Avenue El. Below, the theater interior photograph overemphasizes the ceiling and its decoration; with the normal lighting of the stage as the one bright focal point, the decoration falls into key.

Stressing the importance of The Auditorium as an architectural milestone, and the epoch-making work of Adler & Sullivan, Chicago's Art Institute has staged an exhibition that will remain open until October 20. Ferdinand Peck conceived the combination of theater, hotel and office building, and rallied the financial support. The two latter adjuncts were to carry the financial load for the theater which set new standards in acoustics, sight lines and ventilation. Dedicated December 9, 1889, it continues to serve its purpose today.

Of The Auditorium's creation, the reminiscent impressions of Frank Lloyd Wright form an historical document of unique value: he was at the time a junior draftsman serving the man he has always called Master—Louis Sullivan.

FRANK LLOYD WRIGHT:

The Auditorium was the largest and most important commission Adler & Sullivan, or any architects in America, had had up to that time. The building became famous before it was completed.

We used to call Dankmar Adler "Chief" in those busy days when The Auditorium was building, and he stood squarely in the midst of the great turmoil, solidly dominating the whole building process, from the trenches where the footings were going into a floating foundation, to the great trusses that later spanned the greatest room for opera the world has ever seen.

Contractors would take a drink before they came to "get it" from the Chief. I’ve heard him take one of them on as a mastiff would pick up a rat, shake him and drop him. I’ve seen them red-faced and perspiring leaving his little place next the outer office, mopping their brows, but jacked up to better work and more of it. Or perhaps condemned to tear out what they had done and do it over again as he had told them to do it in the first place. Most of the profit gone out of the job because they had tried and failed to fool the Old Man. These would be green ones. Those who knew him feared and respected him mightily. He was master of their craft and they knew it. His bushy brows at that time almost hid a pair of piercing gray eyes. His square gray beard and squarish head seemed square with the building, and his personal solidity was a guarantee that out of all that confusion would issue the beauty of order.

During that constructive war time I’ve heard Louis Sullivan’s cry of "Adler!"

(Forum of Events continued on page 12)
The Portland cement stucco facade of this new C.B.S. studio was applied quickly and economically over the old front—then polished mechanically to a smooth, hard surface. Architect: Fellheimer and Wagner, N.Y. Plastering Contractor: F. L. Hewes, N.Y.; Stucco Manufacturer: Artstone Roccor Corp., Brooklyn.

IT DOESN'T LOOK LIKE STUCCO
IT DOESN'T FEEL LIKE STUCCO

...BUT IT IS

STUCCO

It's as hard as granite and as smooth as your watch crystal... but actually the clean, crisp facade of the Columbia Broadcasting Company's new studio is Portland cement stucco—finish coat of Artstone stucco made with Atlas White cement!

After the stucco was applied, its 4428 sq. ft. of surface was ground and polished mechanically with carborundum bricks... in much the same manner as a terrazzo floor. Result is a smooth, rock-hard, semi-glazed surface that repels dust and dirt particles, and can easily be cleaned with soap and water.

Here, then, is an old material in a new dress particularly suitable in cities where dust, smoke and oil fumes dirty modern structures. Stucco was highly economical—it made it possible to modernize without ripping out the front of the old building to stay within the building line. Projections were removed, the many window openings were bricked in, the old brick and limestone front was roughened and scratch, brown and finish coats of stucco applied.

Let Portland cement stucco made with Atlas White cement help build your next house or remodel your next building. It blends well with any architectural style or material. And it's surprisingly low in initial and upkeep cost. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

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

Polishing stucco surface with carborundum bricks.

FACTORY-MADE STUCCO IS PREFERABLE

ATLAS WHITE CEMENT
A UNIVERSAL ATLAS PRODUCT
FORUM OF EVENTS

Louis Sullivan and his balance-wheel partner, Dankmar Adler. Below, the section indicates a form for the theater that has, in the last half century, been refined but not radically altered. At bottom of page, the original perspective.

Adler—"the cry rising every now and then in emergency appeals to the chief. In emergencies, not only lieber meister but all of us always turned to Adler. "Adler!" was the common cry in the drafting room as on the works. And Adler never failed anybody. We used to feel him back of us just as the gangs on the building did. He would range up alongside the boards and put a heavy point straight without hesitation. At other times he would ponder, with a guttural growl, and invariably come out with what was needed to straighten out the problem. And tough problems were coming up day in and day out for years.

Sullivan, designing partner, was novice in those days. The respect of the two partners for each other—and affection too—seemed unbounded. Adler, master of that particular plan for The Auditorium, was Sullivan's best critic, and his judgment quieted and strengthened greatly the final result.

Adler himself had never developed the facility in design naturally possessed by Sullivan, but Sullivan himself at that time had no such grasp of building technique as was necessary to build this vast, complicated building, and had acquired no power at all over either the men building it or the men owning the enterprise.

The Chicago Auditorium was entirely Adler's commission and more largely Adler's own building than Sullivan's—where its constitution and plan were concerned. The dramatic expression of the interior was Sullivan's; and that of the exterior, Richardson's influence, I should say, except the square tower developed by Adler's criticism and, after the footings were already in, raised by Sullivan to a more dominating mass. This tower was the best feature of the outside, the one causing most trouble and receiving most careful study from both men. They were both satisfied with it, but the additional height caused serious settlement that never ceased to worry the Chief.

Most of this work in planning the Auditorium took place in the Borden block, now destroyed, but long before the opening we all moved into the new offices in the tower, where we were in constant touch with what went on below, an industrial world under a great architect.

Stage craft has not advanced much since that day. Adler's Auditorium stage would stand up with the best stages in the world today. Acoustics were Dankmar Adler's specialty. There is no house in the world equal to the Auditorium in that respect. Among all the theaters built by Adler, and later by Adler & Sullivan, there were no failures acoustically.

A pity that the great room should not now be the Chicago home of grand opera!
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To fill a lack in Golden Gate Exposition of 1939, Timothy Pflueger was commissioned to provide this year’s Palace of Fine Arts with a section on architecture. With the aid of ideas from Dr. Grace Morley and Dr. Walter Heil of San Francisco’s museums, and with the designing and executive talents of Ernest Born, the resulting show is a three-star feature of this year’s Fair.
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their delicate work, in creative building the skilled hands of the carpenter are
directed by the architect, who specifies the material with which he works. When the
architect specifies Genuine White Pine, the carpenter's hands respond with better work.
He likes its durability, its soft, even texture, the way it saws with or against the grain,
its nailing qualities, and the way it takes and holds paint. The architect likes it, too,
for Genuine White Pine builds homes that gracefully express his best creative ability.

Unlike The Surgeon whose own skilled hands perform
their delicate work, in creative building the skilled hands of the carpenter are
directed by the architect, who specifies the material with which he works. When the
architect specifies Genuine White Pine, the carpenter's hands respond with better work.
He likes its durability, its soft, even texture, the way it saws with or against the grain,
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The Sanymetal Representative is prepared to help you plan toilet rooms for every type of structure. Consult him. Write direct for Catalog No. 77.

The appearance of a book of respectable size dealing with the modern house in America, completely unfortified by the customary admixture of foreign examples, is an indication that if the modern house has not yet come of age, it is well along on its way. Of the 64 houses shown, representing the work of 44 architects, the geographic range spreads all the way from the traditional stronghold of New England to the West Coast. Varying widely in treatment, and hence in their appeal to different tastes, the houses nevertheless show a high average standard of quality, and taken as a whole the book is an excellent record of contemporary U. S. domestic architecture. An inevitable disadvantage of such a collection is that little if any of the material is unfamiliar; Forutan readers, for instance, have already seen virtually all the houses in the magazine at some time during the past few years.

HOUSES FOR GOOD LIVING, by Royal Barry Wills. The Architectural Book Publishing Co., Inc. 104 pp., about 150 illustrations. 9 x 12. $4.00.

The work of Royal Barry Wills needs no introduction to anyone even slightly familiar with residential architecture. The attractive Colonial cottages have appeared in virtually all the magazines which publish houses, firmly establishing Mr. Wills' reputation as an architect capable of handling traditional forms with superlative skill. This book, devoted exclusively to houses designed by his office, is as handsome a promotion piece as any architect has ever had, with beautiful photographs, excellent reproductions and a pleasing layout. Interspersed with the traditional work are a few modern houses, designed in collaboration with Hugh A. Stubbins, Jr., one of which is shown at the left. In addition to the illustrations of executed houses, there is a brief but valuable introduction for the lay reader, covering styles, the analysis of needs, budgeting, ways of saving money and the function of the architect.

HOUSING IN SCANDINAVIA, by John Graham, Jr., University of North Carolina Press. 223 pp., illustrated. 6½ x 9. $2.50.

Books on Scandinavia and its housing are legion. Whether it is the climate or the pleasant manners of the people, most writers have come away to produce such uncritical effusions that the achievements of the Middle Way have been glorified out of all resemblance to reality. To some extent this book suffers from the same ailment. Its chief defect, however, is that the author is never quite sure whether he is doing a travel book or a study of housing, and the factual material is hopelessly enmeshed in pointless anecdotes and quotations in the best after dinner speech manner. On the positive side it must be said that there is a great deal of information in the book, and the patient reader can extract enough data from it to get a quite complete picture. An excellent chapter dealing with land shows clearly how the Scandinavian countries, with limited resources, have nevertheless been able to show results in both housing and city planning.
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Art or Action
Forum:
After reading "The Architect in War Time" on p. 25 of your July issue, I am wondering how much the plight of the architect in America differs from that of our English brothers. Yes, I know that the A.I.A. has put out a questionnaire, and as a result the Army and Navy can merely fill out a card indicating who can do what. Probably the R.I.B.A. did the same, months ago, but their government seems to have found little or no use for any architect who can't join the fighting forces. The job of planning has been taken from the planners and given to the statesmen.

The British author seems to put the blame on the architect himself, for permitting and even abetting, in past years, the public's impression that he is a long-haired dreamer rather than an analyst and coordinator—a master builder. Has the profession in the U.S. done any better for itself? Out here where I live, the term architect still connotes the would-be maker of beauty rather than of usefulness, the trimmer of buildings rather than the guide to efficient function and economy of structure. What, if anything, is the profession doing to correct this picture? What can I as an individual do to put the architect in his proper light?

Now that I've set down those questions I'm depressed by a doubt: perhaps too many of us fit the picture as it stands. Perhaps it is our conception rather than the public's that is distorted. I wonder how many of us who call ourselves architects really measure up to the level of efficiency society has a right to expect of those who should be planning and building its shelter. Certainly I for one do not measure up to it.

You will not be able to answer these questions in a decision handed down from the editorial throne—perhaps no one of them. What Forum could do, if it would, is to give us more interchange of opinion, a fuller reflection in your pages of thoughts like these that must be keeping many of us awake at nights. The architect is said to be able to express himself only with a drawing pencil; aren't there some of them who can express thought in words? Forum ought to be able to smoke them out. Whether for defense or for normal life, this nation has a building job ahead. Are the architects good enough to lead it?

T. E. WHITTLESEY
Kansas City, Mo.

Forum redirects this letter to the man to whom it is written—the Architect of America, will print his reply.—Eo.

Airports
Forum:
As one who is following our National Defense program with the grave concern it merits I am moved to question a statement in your otherwise admirable article on U.S. Airports in the August issue. In discussing the value of underground air bases you give two reasons: 1) "... the complete difference between the U. S. and Europe from the viewpoint of air vulnerability" and 2) Expense. Does your first assumption admit the possibility that Nazi air bases may be established in Mexico, Central and South America and Canada— in any or all of these places?

In the light of World War II events to date (and believe me it is a World War!) does that seem too fantastic? Has anything happened in Europe, is anything happening now, to warrant our discussing this as too fantastic? In my opinion, more dangerous than any Fifth Column, more to be feared than mass sabotage, would be any government and public adoption of the "theory of impossibility." And as for expense, how can we justify any attempt to rationalize expense where one of our two primary arms of defense is involved? This has been a war of the air; every indication suggests it will continue to be. Is it also too fantastic to believe that the fleet will prove to be our Maginot Line? Too fantastic to believe that Hitler will not attempt to match salvos with us but will take to the air and sea?

I prefer not to see us gamble with our most highly trained personnel and most flexible defense arm—aviation. Damn the logic and damn the expense. Let's be sure!

Boston, Mass.
RICHARD DONOVAN

Forum makes no claims to authority on military matters, but insists on its right to report the best available military opinion on underground airports. If Nazi attempts were made to establish bases in this hemisphere, and were successful, the question might still be answered in favor of many small surface airports.—Ea.

Forum:
With national defense occupying so prominent a place in the press these days, it was not surprising to open the latest Forum and find a leading article on airports. In face of the mounting hysteria, however, it was a surprise—and a pleasant one—to find so reasonable an approach, and so calm an evaluation of the present situation and immediate problems. In this connection I liked particularly the brief but quite adequate summary of the question of underground airports; I also liked the consoling reminder that the development of airports and aircraft for war might still pay dividends to the country in their use for peace. More power to your sane and adult editorial approach!

But what of the airports themselves? In the entire article there is not a single complete presentation of an executed airport, showing a plan of the terminal, hangars and field. La Guardia Field, a great achievement, is dismissed with scattered pictures, a sketch plan, and a comment on the "fantastically primitive" method of getting from the building to the planes. Surely the American and the European architectural firms in this country is worthy of more than this. In Washington another great airport is going up, but all we are shown outside of a plan is the discarded scheme by Fellheimer & Wagner. Interesting as this project may be, it represents, in my opinion, an unfortunate attempt to make a building look like an airplane simply because it happens to serve for air transportation. The excessive use of glass, the modernistic interiors and the unarchitectural appearance of the design as a whole is a deplorable reversion to a type of European building that has already fallen into disrepute. Again I call your attention to the La Guardia buildings, modern, but still with the monumental character of all great architecture. A similar criticism might well be applied to the page on Exterior Design, a flippant dismissal, apparently, of practically all the work that American architects have done on terminal buildings. Again I ask, why must an airport terminal look like an airplane? To judge from the space given to the different examples and the comments made, Forum is impressed with (1) the Kansas City terminal (a trite brick rectangle) (2) nothing else, outside of two unbuilt projects. A final criticism. Data on airport design is important; so are general articles on the subject. Having re-read the article several times I am still at a loss to know which approach you selected. There are not nearly enough data on fields, hangars, expansion, etc., to serve the designer, and on the other hand there is more detailed discussion than is needed in an article covering the field in a broad way. Perhaps this is unimportant, but the subject is not, and both a calm appraisal and adequate, accurate information are urgently needed.

J. H. BANKS
New York, N. Y.

To Reader Banks, equal thanks for the orchids and brickbats. Forum believes that a good project is better than a bad building, that there is more than one good terminal in the U. S., that contemporary design is neither exclusively European nor in disrepute, that a terminal building should not look like an airplane—or for that matter, like Mount Vernon, an adobe house, a girl's school, or anything but a terminal building.—Ea.

(Continued on page 69)
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ARCHITECTS OF THE MONTH ... work separately and combine ideas (page 159)

BUILDING OF THE MONTH ... the structure is part of the cure (page 146)

PRODUCT OF THE MONTH ... beaten like eggs, baked like a cake (page 195)
Determined to produce the best possible solution of a highly specialized problem, the designers of this tuberculosis sanatorium have achieved one of the most distinguished buildings in modern America. Into it went months of meticulous study of the problem in all its aspects—study in which client and architects played an almost equally important part. The result adds new and convincing proof of the thesis that painstaking analysis, rather than divine inspiration, is the essence of contemporary architecture.

Equally, if not more important, is that here, at last, is a tuberculosis sanatorium which not only works as it should but looks what it is: a pleasant place to rest. Implied in this definition is the further requirement that such a building must be a pleasant place to stay in bed or close to bed, thus making generous terraces for daytime use a mandatory requirement. In most former solutions, these have been apologetically placed at the ends of the building or sandwiched between solid units; here they are frankly made the outstanding feature of the design. Its modernity is consequently no mere architectural whim.

Located on a gentle rise in the midst of a partly wooded 22-acre tract in wealthy Lake County, a Chicago suburb, the sanatorium represents the culmination of a campaign instituted by the National Tuberculosis Association and carried through by local doctors, association members, and public spirited citizens. Until its construction, the County had no adequate facilities for the discovery and treatment of the tuberculous, despite an annual death rate from the disease of 38.
In addition to the patients' pavilion and its administration-clinic wing, a nurses' home, and a residence for the superintendent are included. The buildings are arranged in a line from east to west, and face south down a wooded slope. Approach and parking areas, on the north, are screened from the patients' section by a striking covered way (above), extending almost 100 ft. from the main entrance and affording simultaneous covered access from a number of cars.

The general plan of the main unit follows the familiar pattern in which in-patients' rooms occupy the major portion of the building and administrative offices and the out-patients' clinic a centrally located wing. Due to the fact that the institution as a whole is not large (92 beds in place of the usual 200-300) and the out-patient load light (two mornings a week), the wing has been kept small and the several sections combined more closely than is usual. Thus all three are served by a single stair (right) and elevator, and much of the clinic has been placed in the basement and the back of the first floor of the patients' pavilion. This leaves room on the entrance floor for offices and an exceptionally generous and attractive lobby and waiting room (above, right) and results in an intimate arrangement in keeping with the scale of the building.
Opening off the main lobby is the office of the superintendent, on one side, and the clinical department and patients' pavilion on the other. Downstairs are the clinical waiting room and the recreation room, upstairs fluoroscope, treatment, and operating rooms. Kitchen, food storage, and maintenance rooms are located in the basement of the main portion of the building.

The balance of the plan is given over to the main function of the institution—housing for in-patients. Patients' quarters are located almost entirely on the south side of the main part of the building, and take the form of standardized 2- and 4-bedroom dormitories opening directly onto the continuous balconies. Ambulant patients occupy first floor rooms, with access to the lounges, or day rooms, at either end of the building, lamp and occupational therapy rooms, and the patients' dining room, all of which are on this floor. The sunnier second floor rooms are reserved for semi-ambulant and infirm patients, with meals served in the room on trays sent up in heated trucks from the basement kitchen. Seriously ill patients, pre-operatives, and post-operatives are housed in the private rooms at the back of this floor, which were deliberately placed on the north side to be free from sunlight and external disturbance.
TUBERCULOSIS SANATORIUM, WAUKEGAN, ILL.

FOUR-BED WARD

SECTION E.

SECTION F.

SECTION G.

SECTION A.

SECTION B.

SECTION C.

SECTION D.

EXTERIOR ELEVATION OF WARD DOORS & WINDOWS
PATIENTS’ ROOMS are each equipped with a steel clothes locker, running hot and cold water, and a cabinet for wash basins and clinical utensils. Above each bed is a goose-neck reading lamp, nurses’ call button, and a radio, telephone, and electric outlet. Each room has an overhead fresh-air inlet, as well as upper and lower movable window sash designed for draftless ventilation (details, left). Double doors opening onto the sun-terraces are sufficiently wide to permit easy passage of beds. Balconies are divided between each pair of 2- or 4-bedrooms by an obscured glass partition (details, right) extending to the railing.
CLINIC and x-ray rooms (plan, above) are carefully studied for easy access of beds, hospital carts, and wheel chairs. The generous laboratory takes care of routine laboratory work necessary in every hospital as well as the special requirements of a tuberculosis institution. In addition, research of a bacteriologic and pharmacologic nature are an important part of the sanatorium function.

OPERATING suite (plan, below) is air conditioned for patients' comfort and to maintain a physiological equilibrium during major surgical operations. Illumination of the main operating room is wholly artificial because this simplifies cleaning and since many electrically lighted instruments are used. The light and airy room next to the operating room is primarily for out-patients receiving pneumothorax treatment, but also contains basal metabolism apparatus, electrocardiograph, and oxygen tanks on trucks. The proximity of the fluoroscopic room to the operating rather than the x-ray section is intended to avoid the necessity for transporting surgical patients through the building.
CONSTRUCTION OUTLINE

FOUNDATION: Reenforced concrete footings.

STRUCTURE: Reenforced concrete structure.


ROOF: Twenty year bond tar and gravel dead level, Reilly Tar and Chemical Corp.


ELEVATORS: Cab—W. S. Tyler Co. Doors—Variety Fire Door Co.


LAUNDRY EQUIPMENT: Machinery—U. S. Hoffman Machinery Corp.


(Continued on page 158)
NURSES' HOME is as modern as the hospital which it serves. Identical rooms are located in a single line on one side of a well-lighted corridor, with toilets and bath at one end, kitchen and lounge at the other. Second floor is similar, except for lounge and kitchen. Like the patients' rooms, all of the nurses' rooms in this ideally oriented institution face south, slit windows on the north serving the corridors.
DOCTOR'S HOUSE has been given an appealingly domestic character without departure from the planning principles which governed the design of the balance of the buildings. Again, major rooms are placed in a row on the south side, while the corridor receives adequate north light. Center portion of windows is fixed, upper and lower parts open for ventilation.
A PORTFOLIO OF RECENT WORK

BY VICTORINE & SAMUEL HOMSEY

OF WILMINGTON, DELAWARE
The architects' own house is located on a partly wooded tract in a farming section near Wilmington. A serious problem was presented by the fact that the best location for the main rooms is on the north, and it was met by an open plan which takes advantage of the sunlight coming through the large plant window on the south. While none of the rooms is unduly large, the plan is sufficiently flexible to meet all requirements of entertaining. Placement of the children's wing was determined by the prevailing winds from the southwest; with the service wing on the east it forms an exceedingly pleasant entrance court and the resulting composition is in excellent character with the surroundings. The main interiors are done in birch, and walls painted dusty pink and gray-white, a restful color scheme based on the large painting in the dining room, shown on the opposite page.
LIVING-DINING
Of primary importance is the workshop, one of the most interesting rooms in the house. It is used by the owners as a second office, and by the entire family for the pursuit of hobbies such as painting and modeling. A view of the exterior of this handsome room is shown on the opposite page. The illustration below shows the plant window, hall and dining room.

CONSTRUCTION OUTLINE

STRUCTURE: Cypress siding, Sisalkraft paper, t. & g. diagonal sheathing, fir studs, rock lath and plaster. Floor construction—wood joists, t. & g. subfloor, pine and oak finish flooring, E. I. Bruce Co.

ROOF: Covered with cedar shingles.


PAINTING: Interior—all by E. I. DuPont de Nemours and Co., Inc. Exterior—creosote and oil stain on walls; paint on soffits; sash—Samuel Cabot, Inc.


KITCHEN EQUIPMENT: Range—Hot Point electric, Edison General Electric Appliance Co., Inc. Refrigerator—Stewart-Warner Corp.

BATHROOM EQUIPMENT: All fixtures by Hajoca Corp. Cabinets—Charles Parker Co.

PLUMBING: Cold and hot water pipes—Type “L” hard tubing, Bridgeport Brass Co. Water pump—Fairbanks-Morse and Co.


J. S. CORNELL & SON, CONTRACTOR
The Drama League Theater, built for a young and active local organization, required maximum space for a minimum budget. As is evident from the photographs, no money was wasted on embellishments, although this does not detract from a distinguished architectural solution. The interior walls are of exposed cinder block, painted by the League members themselves; auditorium chairs were purchased second-hand. The plan has been so arranged that the lobby, green room and stage can be used simultaneously for rehearsals; on social occasions a kitchenette in the green room can serve the lobby as well. Unit gas heaters replace the conventional central heating plant, eliminating excavation, the need for janitor services, and permitting the heating of only those spaces in use.
Built for the DuPont Company, this development which consists of thirty dwellings, serves foremen and superintendents of the new Nylon plant. Provision has been made for expansion to about one hundred units. The houses were built from six plans, varied in color and details of the exterior. The general scheme places garages near the lot lines to the north, leaving the other three exposures free; with 100 x 150 foot plots there is ample room around each house and no lack of privacy. By staggering the houses so that none is directly back of another, by varying the depth of set-backs, and by careful placing of trees, the group has been given an unusual degree of openness and individuality.
CONSTRUCTION OUTLINE

FOUNDATION: Concrete block walls on poured concrete footings.


ROOF: covered with 18 in. red cedar perfection shingles.

FIREPLACE: Poker control—The Donley Brothers Co.

SHEET METAL WORK: Flashing, gutters and leaders—26 gauge galvanized Toncan metal, Republic Steel Corp.

INSULATION: Outside walls—fiber board sheathing. Second floor ceilings lathed with 1 in. plaster lath—Armstrong Cork Products Co.


FLOOR COVERINGS: All floors oak except kitchen and bathrooms—linoleum, Bloane-Blabon Corp.

WOODWORK: Trim and doors—stock design, Morgan Woodwork Co. Garage doors—3 1/4 in. cypress, shop built.


PAINTING: All paint—E. I. DuPont de Nemours & Co., Inc.


PLUMBING: Cold and hot water pipes—3/4 in. tinned copper.

HEATING: Hot water system with oil burner—National Radiator Corp. Valves—Detroit Lubricator Co.

E. S. ADKINS CO., CONTRACTORS

SEPTEMBER 1940
This house was designed for winter use only, and provides accommodations for the owners and guests. Located in a setting of rice fields and thick woodland, the house has been painted black, and fits unobtrusively into its dark background. Heating is provided by means of fireplaces, which accounts for the unusual number of these units.
CONSTRUCTION OUTLINE


ROOF: Covered with 5-ply built-up, Barrett Co. Deck—1 in. Celotex, Celotex Corp., canvas, Con-Ser-Tex, William L. Barrell Co., Inc.

FIREPLACE: Damper—H. W. Covert Co.

SHEET METAL WORK: Lead coated copper.

WINDOWS: Sash—white pine, double hung.


PAINTS: By E. I. duPont de Nemours.

ELECTRICAL INSTALLATION: Wiring system—BX. Switches—Bryant Electric Co.

BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp.; fittings by Speakman Co., Inc.

The architects comment: "It was required that the exterior be Georgian. We tried to retain the dignity and inviting character of the style without too much waste in unnecessary embellishment. In spite of the symmetrical layout we tried to keep it flexible, with easy circulation and the possibility of varied exhibitions. At present the Wilmington Academy is temporarily located in the basement, which is above ground and well lighted. It is hoped to build a connecting building on the north for the school and to use their present studios for additional storage and study space. There is also ample room for the addition of large galleries at each end of the building if these should be required in the future."
CONSTRUCTION OUTLINE

FOUNDATION: Concrete, Waterproofing—metallic, Truscon Laboratories.


SHEET METAL WORK: Flashing—16 oz. copper, Cheney Co. Ducts—galvanized copper-bearing steel plate, Bethlehem Steel Co.

INSULATION: Roof and ceiling over boiler room—Celotex, Celotex Corp. and Atoz, Neil Products Corp.


STAIRS AND ELEVATORS: Spiral stairs—Logan Co. Freight elevator—Green Elevator Co.


DOORS. By W. D. Crooks & Sons and Truscon Steel Co.


PAINTS. By E. I. du Pont de Nemours Co.


TURNER CONSTRUCTION CO., CONTRACTORS.
The revolutionary phase of modern architecture is now over. It has successfully re-established the principles of efficient planning and sound structure as things which must come first, instead of being subordinated to pictorial "composition" or stylistic puerility. But this assumption means that modern architecture can no longer claim exemption from criticism on esthetic grounds. Modernity is not enough. As at all times in the past a building must stand or fall by its superficial appearance, which in any case is all the Man in the Street has to judge by.—Editorial introduction in The Architectural Review.

A few months ago I wrote something about the *cliché* in contemporary architecture, suggesting, among other things, that although we may dislike on sight some of the rather tiresome mannerisms we observe in many architects' work, we ought to take a longer view and recognize them as an attempt—successful or not, and probably unconscious—to answer the need for a familiar idiom as the basis of architectural language; one such as we once had but were compelled temporarily to discard at the same time as we threw overhead the mummbo-jumbo of exotic poses that the connoisseur's architecture of the nineteenth century had grown into. I said that we must not be too hasty to despise certain superficial substitutes for a modern vocabulary until the latter is forthcoming from modern architecture itself, for these constitute the only non-period vocabulary so far devised. . . .

We dislike *clichés* or mannerisms only when they are a substitute for design—in the same way that we dislike verbal *clichés* when they are a substitute for thought. The *cliché* that architecture in its maturity employs, however, are the accepted language of design itself, the terms in which architecture expresses its ideas in a way that will make them clear to the Man in the Street. Of this kind of necessary *cliché* the classical column is, of course, the supreme example, together with the various standardized units that go to make up the orders. For in classical, and even more in Renaissance, architecture the process of design was reduced in a remarkable degree to a matter of the handling of standard units much in the way that a modern structural engineer handles his standard sections, canons of taste taking the place of the laws of mechanics. But these units get their *effect* to a considerable degree by association, and in architecture of other periods the same principle is there, in a less cut-and-dried fashion. In fact architecture cannot speak clearly without it. For however eager we may be to re-establish today the visual appreciation of architecture . . .

In classical architecture the translation of design into terms of a shorthand composed of easily recognizable symbols or groups of incidents is most marked, but it occurs in all architecture—except the modern. In medieval architecture the symbolism is of a less sophisticated kind; it is less a symbolism by association and more a direct pictorial symbolism. It was on its purely physical appeal that many of the arguments of the Gothic Revivalists were based: the aspiring lines of the Gothic spire, the rich mystery of the chancel hidden behind a fretted screen, were the kind of attributes that suggested its advocacy on ethical grounds, that fitted it for its role as the answer to pagan materialism in an age that was seeking an emotional rather than a rational expression. . . .

It was in America, a country that always does things on a more spectacular scale than any other—whether railway smashies, pastiche architecture, natural catastrophes or racketeering—that this differentiation of style according to function was most highly developed. So much so that the symbolism almost approaches to being a form of functionalism; style is determined by purpose instead of period. The Corinthian column is associated exclusively with banking and finance. To the public eye it is the actual symbol for a bank, the label by which it is identified, and no longer a classical motif used for decorative purposes. Roman bath forms mean railway stations and that horrible invention Collegiate Gothic means educational establishments—it was devised when the founders of colleges demanded a style quite distinct from that which had been adopted by big business. . . .

We have recently become aware that the absence of any recognizable language is the handicap that principally prevents the development of modern architecture work, heraldic beasts and twisted chimneys suggest romance and pageantry; qualities he likes attributed to architecture he looks at if not in that which he lives in. The difference, in fact, between the architect's and the public's view of the familiar elements of the various architectural styles, is the difference between the two conceptions I am trying to analyze, the *cliché* and the symbol.

The architect's . . . own search for the shorthand notation which we call a style probably derives only from his wish for an array of ready-made solutions, ready to his hand, to all the design problems he meets with. But to his public they mean something quite different. If the contemporary architect looks at the fashionable corner window as something from the box of tricks that he can employ to give personality to a building, his public values it, though unconsciously, for what it symbolizes: in this case perhaps some degree of release from the rigidity of the four solid walls within which he is usually confined, or possibly the idea of a diagonal view as a change from the boring view either down or across. In the same way the motifs the architect or builder employs in the ordinary suburban house are not, in the householder's eyes, simply architectural shapes that he likes his home to be provided with. He does not look at them esthetically at all. He demands them partly because they are a social symbol, a make-believe of the middle-class world of his ambitions—the lower class always apes the upper class of a generation before—and partly because half-timbered gables, tile hanging and lattice windows suggest shelter and coziness. Similarly, when he goes on a holiday and makes a trip to see the local sights, he genuinely admires columns and pediments, but not for esthetic reasons. For him they suggest dignity and formality, and rosy brick-
The number of separate unions in the building trades is staggering. In the New York area, for example, there are 68 different organized trades affiliated with the Building and Construction Trades Council; it is conceivable that on any given job all of these different trades might be involved, even though that is unlikely; the simplest dwelling will require at least a score of them. The possibility of securing the cooperation of all these trades in anything like a rationalized or uniform system of training is on the face of it somewhat remote. . . .

Some of these crafts are indeed highly skilled and so specialized that they are comparable to the printing trades in the amount of training absolutely requisite to their practice. But this is not true of others besides the sophisticated can recognize and a kind of beauty that others besides those with trained vision can enjoy.

APPRENTICES . . . AND BUILDERS

By Harry Lorin Binse
FORMERLY MANAGING EDITOR OF LITURGICAL ARTS

Excerpts by permission from an article in The Commonweal for August 2, 1940.
This followed an analysis of the apprentice system in the New York Printing trades

The seven locals further reported that of these apprentices were in their one that time will solve: when the appearance of modern buildings has become sufficiently familiar it will be possible for them to acquire associations of all kinds. Nowadays the forms of modern architecture easily enough suggest efficiency and skillful organization; that is why the most successful modern buildings are factories, hospitals and department stores; but they less easily evoke the dignity demanded of a city hall or the coziness demanded of a country cottage. Partly it is a matter of time, but partly also modern architecture must go half way to meet its public by the development of a characteristic others besides the sophisticated can recognize and some of its Senior Field Representative, Mr. John E. Galagher, a life-long union man who was particularly well suited to persuade the various unions to give the information required for the Commission's survey. The results of his survey were of form were all carefully tabulated by Mr. George Brown, then of the Commission, whom I must thank for much of the material in this article. . . .

Out of 123 building trade union locals in the Greater New York area, 63 were willing to give membership figures. Their membership totaled 67,215. Out of 83 locals reporting, 29 had no apprentices whatever. The remaining 54 locals reported 2,885 apprentices, which meant one apprentice for approximately 20 journeymen in those locals that had any apprentices at all. If one prorates the number of apprentices over the total membership, including the membership of those unions that have no apprentices at all, the result is one apprentice for about every 30 journeymen. Add to all this that the declared average age of mechanic members is 42½ years, and it is obvious that the New York building trades unions are in no way providing for the next generation of mechanics.

The record of a specific union may serve to make all this clearer. The bricklayers have in Greater New York seven locals, all of which reported as one unit. Their total membership is about 1,000, and the average age of mechanics, 40. In June, 1939, all seven locals reported a total of 275 apprentices, and apprenticeship in this trade is a four-year affair. The seven locals further reported that only 25 of these apprentices were in their fourth year, which gives some idea of
Shoddy quality of so many large-scale housing enterprises. Just how hit-or-miss all this is can be gleaned from a few other facts elicited by the survey. The only qualifications apart from age required for apprenticeship enrollment among bricklayers is that they shall have taken out citizenship papers, if he is not already a citizen. The only thing the apprentice is required to do through his four years is work on jobs—no school, no examinations (compare this with the specific provisions in the printing trades union contract as to precisely what work and how much of it a boy is to do in each year of his training). After the four years of bricklaying, the only requirement for admission to the union as a journeyman is sponsorship by two other journeymen. About all one can say of this situation is that it does possess the virtue of simplicity. . . .

Anyone who has ever given any thought at all to the exquisite effects in brick produced by Spanish craftsmen through the centuries, or by such an architect as Dom Bellot in France and England, or by such a genius as Jefferson in the United States, can begin to comprehend how high a mystery this craft can be. One could be forgiven for wondering how long the craft will continue a mystery under such an apprentice set-up as that described above. . . .

If there were not a single bricklayer in New York, it would be a simple matter to meet all New York's building needs with an endless variety of other materials. So, it may be asked, what does it matter whether such trades die out or not? In many of the trades it does matter. What matters is not the death of the craft, but rather its principles of physics and chemistry and engineering and economics; of this all those who stand to benefit directly should bear the expense. It would be unjust and unfair that such education should be paid for entirely out of public moneys. Since it seems that the nature of construction work prevents any given employer from guaranteeing continuity of employment, apprentices should be indemnified to the trade and not to the employer, which means that for each trade there should be set up apprentice clearing houses calculated to keep apprentices evenly distributed over the work in process at any given time and to minimize apprentice layoff time.

Above all, there should in every trade be definite apprentices standards of achievement and skill. These are a few of the primary problems that await solution; if they are not solved by private initiative, it is inevitable that government must act, representing the interests of society. And there is probability that will deprive the unions of one of their great pillars of strength—their right to determine their own membership. That right and that strength are today threatened seriously by a hit-or-miss, ill-considered attitude toward the problems of apprenticeship.

ART IN THE PREPARATORY SCHOOLS

By Thomas M. Folds

ART DIRECTOR, THE PHILPERS EXETER ACADEMY

Condensed from an address before the annual convention of the American Federation of Arts at San Francisco, July 11, 1940

Fortunately art instruction in the college preparatory schools is not yet included among the academic courses for all. Today's college entrance examination in art would undoubtedly increase the prestige of this subject in the curriculum, it would at the same time impinge it within the rigid framework of an a priori theory of education which would not make those allowances for adventure in learning lying at the root of all true art appreciation... If we deny the student this adventure, most of the art we feed him is so much spinach, which he will eventually disgorge. He must be given freedom to explore problems and media that expand his own abilities and interests. In other words most of us who are teaching art in the preparatory schools believe in the old saying that what is "one man's meat is another man's poison." We assume that, although it is good for some boys to paint in oils, it is better for others to paint in water-colors, or not to paint at all, but to build, to carve, to use the camera or explore other media. Since there are many approaches to general art appreciation, we believe it is our responsibility, no matter how exasperating this may prove at times, to help each student follow that approach which develops his own natural ability.

One way of doing this is to combine activities in many different media within the walls of a single studio. If you were to poke your head into the average preparatory school workshop, you would probably see many different projects in sculpture, drawing, painting, display technique, and architecture carried on side by side—some of them individual projects, others collaborative efforts. The main value in such a program lies in the individual learning of the student, and not in the group progress. For each boy is curious about the other fellow's problems; and one of the art instructor's tasks is to stimulate this curiosity without resorting to the formalized lecture pattern which most colleges must put up with. In this way the young architect generally learns something about painting; the painter learns something about architecture; and both learn about sculpture, or industrial design, or even the comparatively restricted fields of mapmaking and exhibition technique.

Now, up to a certain point this method of teaching is similar to that developed by the progressive schools. And we freely acknowledge our debt to their pioneering work. At the same time, however, we are aware of certain weaknesses in this type of teaching, of its tendency, for example, to rob creative activity of discipline by offering the student too much freedom. Well, we have no intention of extracting discipline from studio activity. We have no intention of using art as an aspirin tablet for curricular headaches, as a cure for regimented teaching in other subjects. But if the framework of our teaching is flexible, if it makes those necessary allowances for individual aptitudes and interests, there is no reason why it cannot offer both freedom and discipline.

Perhaps the kind of discipline needed most today is the discipline of cooperative
constructive thinking, which we sometimes lose sight of in our enthusiasm for encouraging individual talent. "Rugged" individualism has been corroding democracies for a good many years. Certainly it has not promoted that group enthusiasm for community ideals which is the backbone of any healthy culture.

One way to develop such group enthusiasm, such cooperative constructive thinking, is through education in community planning. But where in the secondary school field can you find evidences of such activity? Very few courses in art, civics, social studies or history include it in their programs. Yet there are certain rudimentary studies in community planning which are quite as necessary for the development of a citizenry to-day as the elementary principles of law and economics which we customarily include in the high school education of every American boy and girl.

How can this be done? Obviously not by tacking a one-year art course onto the fringe of the curriculum and offering it to a small number of gifted or maladjusted students. Art is a complex language which can be learned only over a period of many years. Logically it should be a continuous training ranging from kindergarten up through the secondary school into the college, changing in content as the child or adolescent changes, growing with him until it becomes an integral part of his mental habits, his whole conception of life. And if art is a language—a universal language, then why should it be restricted to only a few privileged people? Why should it not become a basic part in the framework of every child's and adolescent's education?

In a democracy communities are not built by the privileged few but by the people as a whole; and when better communities are built, the people will build them. Without their group enthusiasm for better planning and building, without their tolerance of new forms and their general art appreciation, city planners and architects must file away their drawings and blueprints in despair. For we no longer live in the comparatively simple communities of the seventeenth and eighteenth centuries, which reflected the harmonious thinking and will-to-style of the people themselves, rich and poor alike. The early American community was the product of a single living tradition in design, from the mills by its river to the town communities of the church and the homes. It had not yet been flooded by great backwashes of stylistic clichés handed down from cultures long dead. And for this reason the teaching of art or the study of community planning was not needed in the early American school: the town itself was a work of art and a daily lesson in color, texture, and form to every one of its inhabitants.

The art course today is a modern invention designed to answer modern needs. And one of the greatest modern needs is the generation of real art appreciation among the masses. Stimulating interest in community planning must be our next move. Teaching boys and girls how to dabble in paint or plasticene is only a small part of the program. If the school is going to develop good American citizenship, then it must reorganize its art and history courses to include the study of people—how they live and how they build. What meaning has a course in American history if it overlooks the character of the early Yankee community or of its formal contemporary in the old South? Here are the visible evidence of much misunderstood words "freedom" and "liberty." What meaning had they then, and what meaning have they now? The textbooks young people read ignore this aspect of history. They tell of beautiful Washington, but not of its obsolete Baroque mansions on which stubbornly resists a century's industrial expansion. They tell of Boston, breeder of revolution and early American patriotism, but not of Boston clinging pitifully today to its past, faced tight in old corsets, chopped into narrow, tortuous streets and infected with malignant slums. Here is the history of degeneration in aesthetic conviction and civic pride—the result of a hundred years of rugged individualism run berserk. Why have the history books overlooked all this?

The same question might be asked of our art teaching. Too often it is limited to only three or four fields, particular those of the pictorial and plastic arts. Yet there is always a certain number of students whose talents lie along the lines of planning and building; and it is important that the curriculum develop these talents. Fortunately this is being done to a certain extent in many of the eastern preparatory schools. A year ago, for example, a small group of boys in one school made a two-year study of architecture and city planning, pooling the information they had gathered in a series of three-dimensional wall displays, then finally designing and building a scale model of a hypothetical modern American community which included stores, school, parks, community center and housing units for varying income groups. Boys specializing in exhibition technique designed the wall displays; those primarily interested in painting worked on murals for the community center, and fledging sculptors designed the reliefs for the entrance to the school. In this way the study of community planning became the focal point of a considerable variety of different creative activities as well as an extension of the school's history courses. It marked the beginning of a new approach to secondary school education.

If we are going to prepare young people to recognize the importance of the arts in modern life and to participate intelligently in the planning and building of their physical environment, then projects of this kind must be extended throughout all levels of the secondary school, woven into the fabric of both art and history teaching. And though there is no one way to do this, because individuals, schools and local traditions differ from one another, yet I believe that the stimulation of cooperative constructive thinking in the field of the arts, which form the stuff of our visual and physical environment, should be an important part of every school's program. For this kind of teaching lays the groundwork of democratic culture.

THEY SAY—

"It is easy to become interested in and ready to buy a motor car that costs $750 but looks to be worth $8,100; it is difficult to become interested in and ready to buy for $5,000 a new house which looks to be worth only $82,500."—GUSARD F. LINDSAY.

"In 1929 materials were as rich and costly as the purse could buy, and the purse was overflowing. . . . In 1940 designers have striven to replace the distinction of perfect lines and the luster of rich materials with the impact of a new idea or the drama of light and color."—ARRICX LÉOIXIS HARMON, writing of the Metropolitan Museum's exhibition of Contemporary American Industrial Art.

On the occasion of the presentation of Building Congress Certificates of Superior Craftsmanship to mechanics who helped build the new Aetna Life Building, New York: "Twenty-five per cent of this type of building is done by mechanics in the mechanical and electrical trades, the major portion of their work being concealed from the public view. The 25 per cent of the building cost that applies to mechanical and electrical equipment is to me not merely a quarter of the cost; it is the essential quarter."—CLYDE R. PLACE.

"First place for personality of the year goes to Frank 'Get-away-from-it-all' Lloyd Wright, who got away with it so successfully at the R.I.B.A. The impressive appearance of this almost legendary prophet, his soft, dawdling voice, his obvious sincerity and easy charm captivated his audience and achieved without effort the surrender of the avant garde. Not till long afterwards was the question asked: 'What really was the preacher's message?' Was it really no more than fragments well phrased but disconnected, a few wisecracks, and some colored films? No, because he had brought for a few weeks Romanee into our lives, and for a time A.R.P. was forgotten."—The Architects' Journal, London.
Wednesday, July 17.—Having noted last month only the bare fact that the Albert Kahn office was putting into effect a profit-sharing plan, Mr. Kahn now tells me some of the details. Some 25 key men will share in the profits and be put in a better position to carry on the practice after the retirement or death of the principals. To this end a new corporation has been organized, and the key men who have served for from 13 to 35 years will be stockholders. Two classes of stock will be issued: 10,000 shares of A, held by Albert and Louis Kahn who provide the paid-in capital, and 2,500 shares of B which will be given the key employees. These holders of B stock are to receive, of the profits, a dividend of 86 per share before any dividend is paid the A stockholders. In the event of the retirement or death of the principals, the capital is to remain for a period of eight years thereafter. In that period the B stockholders will replace out of earnings the capital invested and will own all but a very small portion of the stock.

Mr. Kahn points out, the plan assures a continuation of the organization and secures the future of the men who helped to bring about its success. It also provides for inviting others into the organization, men who may prove themselves of special worth. Moreover, other details of the plan indicate that it is designed not only to increase the privileges and security of the key men but also their present and future responsibilities.

Friday, July 19.—While a large part of the world is wondering what form civilization will take tomorrow, Tulane University is unearthing civilizations of the past in the little known artifacts of the Mayans. At Campana San Andres in western El Salvador, Tulane’s research expedition has found the remains of one of the most important southern Mayan outposts. In five years an interesting ancient city will have been uncovered, if the schedule is not interrupted. Meanwhile some cities elsewhere in the world, now above ground, may have been returned to the dust.

Monday, July 22.—Karl Billner, who built the first concrete bridges in Oregon, and who invented both aerocrete and the vacuum process of hastening concrete setting, is out with a new scheme. He substitutes reinforced ice for the usual form work in arch construction—puts up an assembly of pipes, pumps refrigerant through them and sprays water on to form ice around the pipe reenforcement. Sounds pretty good, particularly in these dog-days.

Wednesday, July 24.—This whole defense job of ours, as Alfred Rheinstein pointed out today, is essentially a matter of timing along a great assembly line. Starting at the end, instead of the beginning, our product is, let us say, a man in an airplane dropping a bomb upon an enemy vessel at sea. The line leading back from that product attains almost infinite complexity. Not only have the munitions, plane and trained man been brought together at the right time and place, but housing has had to be provided for skilled artisans who made the plane’s instruments, factories have had to be expanded to produce the duralumina, railroad facilities have had to be enlarged to bring young men to the training fields and thence to the air bases. The ramifications are almost beyond listing, yet each contribution has its own place in the process, its own time to appear. Viewed as an assembly line job, it appears more clearly within the realm of the possible. Master expenders are the first need—they and their schedules.

Wednesday, July 31.—Harry Anderson, who knows everything there is to be known about what is going on in the world of furniture and interior decoration, gave me an imperative phone call today. I was summoned to see a new sort of furniture—possibly revolutionary—which had been designed by Eliel Saarinen, Robert Swanson and R. Ratili. We had several illustrations of it in August FORUM, page 12, but there’s a lot more to the story than the short caption could give. When one enters a furniture store he is asked whether he would see bedroom, dining room or living room “suites.” This new product doesn’t fit into that scheme of selling at all, for with the exception of beds and dining table, the various pieces are for use in any room. The designers have dug up the old unit idea—buried some years ago after the furniture trade had treated it as just another seasonal “style.” Whether your need is for a bureau, a sideboard or a library print case, the net of it is a chest of drawers. A table is a table; a straight chair is at home in bedrom, dining room or hall. If the functional and esthetic needs are met in the simplest manner, if the machine craftsmanship is faultless and the materials quiet and durable, without shouting for attention, the resulting furniture should be at home in any environment which hasn’t gone all-out period. Add the factors of low cost, and size standardization for the combination of units; take a tip from the kitchen cabinet trade and make units in lengths that can be put together to fill exactly any length of wall; design so as to outwit the baseboard’s traditional job of keeping wall cases away from the wall; make it possible for the buyer to match and extend what he has bought, whether next year or next decade. Do all these things that Saarinen, Swanson and Ratili have done or are contemplating, and you have what seems to me to be the first rational furniture idea that has happened along in some time.

Friday, August 2.—I suppose the landlord has always had and will continue to have his full share of trouble. Possibly in his corporate form, directing a low cost housing project, he felt that Utopia had been achieved and his tenants hereafter would continuously glow with pleasure over being alive and so ideally housed. It was a brief dream. The tenants’ association looms up to assure the landlord that of real troubles he ain’t seen nuthin’ yet. Knickerbocker Village in Manhattan was a limited dividend project built with the aid of an RFC loan. It has a tenants’ association whose aims are to prevent rent increases, to seek better services, to acquire more privileges, and to build up a community spirit. To some of the tenants recently came a formal notice that their leases, soon to expire, would not be renewed. Into the courts goes the argument. The landlord claims the prerogative under the law of renewing or declining to renew leases. The tenants claim that the project is a public utility, built with public money, and that the final authority for granting leases and renewals is vested in the State Housing Commissioner. Not only the 1,600 families of Knickerbocker Village, but tenants and housoers generally will await the answer as to when is a landlord not a landlord.

Tuesday, August 6.—George F. Diehl of Detroit reminds us that 40 States are now operating under registration laws for architects. To this group should also be
Rico. The States still in the process of Admiral the District of Columbia, Alaska, Hawaii, the Philippine Islands and Puerto Rico. The States still in the process of making registration laws or contemplating that possibility for themselves are Kansas, Maine, Massachusetts, Missouri, Nevada, New Hampshire, Vermont and Wyoming.

Thursday, August 8.—Motored up over some of the comparatively new motor parkways reaching into New England. The men who do the parkway building have learned well the needs brought by increasing speed, in longer radius curves, judicious banking and the separation of traffic lines by planting. One thing I am afraid they have not learned—or perhaps it is not their job—a bridge design. The Merritt Parkway collection of bridges carrying overhead crossings is certainly the worst I have seen. Simplicity in an overhead bridge on a parkway is certainly the number one requisite. In this particular series over the Merritt Parkway, the designers seem to have run the whole gamut of involved and meaningless convolutions of concrete. Apparently they just could not make their pencils behave.

Brattleboro, Vt., Saturday, August 10.—This expedition into New England seems to have turned out to be a quest of simplicity. The run of the mine architecture that one sees today in city and in country flaunts a sort of sophisticated elaboration. Perhaps its great fault is a lack of simplicity. Roadside public tourist cabin groups, suburban residential developments leave upon the motorist’s mental film a kaleidoscopic dazzle of irrelevant detail. The one thing that brings one up short—too often at the expense of a bump from the rear—is the simple old barn of farmstead that has by some miracle escaped the additions of the present era. Perhaps the speed of motor travel leaves no opportunity for other things to register. To the quick glance the ultimate in simplicity is the only picture that comes into sharp focus out of the continuous blur. I am gaining a vastly increased respect for the old barn.

Monday, August 12.—David Lynn’s annual report as Architect of the Capitol, to the President, contains as usual some interesting items, such as: every fall the Capitol and usually also the Senate and House Office Buildings are washed down by the fire department of the District of Columbia—a custom that has held for many years; the statue of Will Rogers by Jo Davidson has been added to Statutory Hall by the State of Oklahoma; the statue surmounting the dome of the Capitol known as the “Statue of Freedom” was designed by Thomas Crawford, the father of F. Marion Crawford, the novelist, and the sculptor died before the plaster model was shipped from his studio in Paris. Through the generosity of Archer M. Huntington the Library of Congress has been given the Hispanic Room, which was designed by Paul Cret and built by the Architect of the Capitol acting as contracting officer for the project.

Wednesday, August 14.—I must confess that the announcement of Alvar Aalto’s appointment to M.I.T.’s faculty seemed to me not wholly good news. Here is a man chosen by his own country to direct the rebuilding of homes for 500,000 Finns, the creation of twelve entirely new cities and the building or reconstruction of 40 or 50 hospitals. Before he can sail back to tackle this staggering job we grab him, but a little pry into the catalogue of which is the essence of his own country’s reconstruction needs. Some months before the appointment was made, Aalto sketched for me his hope that out of America would rally about him a group of young men fired with the opportunity of rebuilding for their own country. That he is already established; that an interchange of picked research students will soon be under way between Finland and the U. S.; and that Alvar Aalto, far from retiring to a professor’s easy chair, is rearing up all available forces to build anew on his own country’s制度 and perhaps more of the world. All of which is a personal view of what lies behind the news; if it be untrue, blame me.

Thursday, August 15.—I suppose the day of the great country house will return. It always has. Nevertheless, from the myopic viewpoint of the present, the great mansions seem definitely on the way out. To look for a moment only at Long Island: The Otto Kahn chateau at Huntington, no longer desired by the family after the banker’s death, has been handed over by lawyers. New York’s white wings, town tax officials, and is at the moment said to be plotted for a small residential development, with the likelihood that the hundred-room chateau itself will have to be razed. Destruction is also rumored for Colonel Henry H. Rogers’ famous “Port of Manhattan” the summer beach house at Southampton. Mrs. Graham Fair Vanderbilt’s estate of 115 acres at Manhasset has passed into the hands of the subdividers. Clarence Mackay’s Roslyn estate is at the moment awaiting a buyer. Up in Westchester the magnificent house and gardens of the late Senator Cuyler are ordered by the estate to the city of Yonkers, refused by reason of the cost of maintenance, and put on the auction block. The responsibilities and financial burden of a great country estate would seem to have the present generation completely cowed. Their tastes, whether by reason of a cyclical development or the present picture of the world, are conspicuously simple. So, it will be recalled were those of Marie Antoinette, momentarily rebelling at the excesses of Louis XVI’s court. Great houses, however, continued to be built thereafter, and doubtless will be built in a not distant tomorrow.
HOUSES

HOUSE IN REDDING, CONN.
HENRY N. WRIGHT, DESIGNER. HORNBOSTEL & BENNETT, ASSOCIATES
The designer comments:

"The design of the house was determined largely by the advantages and disadvantages of the site. For once, the best view and the most favorable orientation happened to coincide. The plot faced a lake on the south; outlook in other directions, while pleasant, did not compare with the view of the lake. All of the major rooms, without exception, were therefore assigned to this side of the house. On the other hand, the area suitable for building was limited to a rocky knoll, accessible only from the west. It would have been next to impossible to have placed the garage in any position other than that chosen; more important, it was considered essential that the kitchen and dining space be at the east end of the house, so as to receive
year-'round morning sunshine. This, coupled with the factors already mentioned, fixed the location of the balance of the rooms. In the process, what started out as a one-story plan necessarily sprouted a second floor, since this seemed the only way to provide the required space and desired circulation.

"Client and designer were both convinced modernists, but neither was convinced that real modernism consisted in draping an old-fashioned plan in a cubistic exterior. Rather, the effort was to achieve a workable, open plan—open in the vertical dimension as well as the horizontal. With this as the objective, sloping roofs were found a help rather than a hindrance; consequently they became an essential part of the scheme. Finally, the owner's desire to demonstrate the practicability of brick cavity walls and to experiment with radiant heating had much to do with the solution—the former by determining the character of the exterior, and the latter by permitting construction directly on the ground."
Our experience with the heating system is an Odyssey in itself. Every conceivable obstruction was encountered. No contractor could be discovered willing to undertake the work at a reasonable figure; the bank reduced its loan by an amount sufficient to cover the cost of replacing the system; there was no guarantee that, once installed, it would work.

"Credit for surmounting these barriers belongs to the engineer-owner, who finally undertook to supervise the work himself. Carried out on a day labor basis, costs were as low if not lower than for a comparable convection system, and—while detailed performance data are yet to be obtained—the ability of the system to heat the house in sub-zero weather is already amply demonstrated.

"The arrangement of the system is unique in that both floor and ceiling surfaces are used. This "split" system is the result of a number of complicated considerations. Floor heating was used because it assured a warm floor despite basementless construction, because it was a simple, economical way to introduce about one-half of the required heat, and in order to minimize stratification, an important consideration in high rooms.

"Floor panels were necessary for the study and the second floor rooms—which had wood joist floors—and seemed desirable for the floor-heated rooms to help to provide enough heat without overheating the floor, and to permit room-by-room control and speed-up the response of the system to sudden demands for heat. Finally, small floor coils were provided for the bathrooms with wood joist floors, because we thought it would be nice to have warm floors in these rooms.

"The main floor coil presented no great problem. It is simply a sinuous pipe coil about 500 ft. long buried in a concrete slab which also acts as protection for the membrane waterproofing over the structural slab. To provide some leeway for expansion, sand was poured around the bottom of the pipe and at the bends before placing the slab.

"The ceiling panels were somewhat more difficult. Metal was used in order to reduce the necessary size by permitting a 180° panel temperature if necessary. Corrugated iron siding, galvanized and painted to match the ceilings, proved ideal. It fits snugly over 2, 3, or 4 pipe coils, the regular 2 ft. width thus providing similar panels of varying capacity.

"The balance of the system is identical with any forced circulation hot water plant. An oil burning boiler controlled by an aquastat furnishes water which is pumped first through the ceiling panels and then through the floor coil. Temperature control is by a standard thermostat, usually set at about 65° F., attached to the circulating pump."
A side hill site, characteristic of the Beverly Hills country, pointed the logic of a long thin plan for the house of another of the many artists who have deserted New York for the Pacific Coast. In the photographs there is abundant evidence of Mr. Frankl's instinctive feeling for the part that furniture and interior decoration can play as complementary factors in gracious living. The entrance gallery, looking down into the living room, the vista through the house into the walled garden, the doubling of baths and dressing rooms adjoining the owners' bedroom, these are distinctive features of an unusual plan. The three photographs at left of the opposite page—top of entrance steps, grilled window at the foot of the stairway, and the trellis-roofed wall garden recall a Japanese utilization of intricate shadow silhouettes. Cost $12,940.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—7/8 in. cement plaster on galvanized iron hog wire, backed with waterproof felt and 16 gauge wire 12 in. on center horizontally, 2x6 in. Douglas Fir studs, 16 in. on center, 3/4 in. hardwall plaster on wood lath. Floors—1/2 in. white oak on 1x6 in. diagonal subfloor. ROOF: Covered with 5 in 2 perfect red cedar shingles.

**SHEET METAL WORK:** Flashing, gutters and leaders—26 gauge galvanized iron.


**FLOOR COVERINGS:** Living room and bedrooms—oak. Halls—12x12 in. red tile, Gladding McBean Co. Kitchen and bathrooms—linoleum, Armstrong Cork Co.

**PAINTING:** Interior walls and ceilings—lead and oil. Floor—stain, fill and wax. Exterior walls—brushcoat. Roof—stain.

**ELECTRICAL INSTALLATION:** Wiring system—rigid conduit. Switches—H & H, Arrow-Hart and Hegeman Electric Co. Fixtures—Generally recessed flush ceiling and soffit lights.


**HEATING AND AIR CONDITIONING:** Gas fired warm air system, booster fans with electric control—Hayes Furnace Co. Water heater—"General Trojan," General Electric Co.
CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—Hudson River common brick, 10 in. cavity wall, 1 in. furring, rock lath and plaster. Floors—8 in. concrete laid on cinderfill; concrete poured in two layers with 1 oz. copper armored Sisal-kraft between. Ceiling (study and terrace)—Homasote, Agasote Millboard Co., balance plaster.

ROOF: Covered with asbestos shingles.

SHEET METAL WORK: All 16 oz. copper, Anaconda, American Brass Co.


HARDWARE: By Schlage Hardware Co.


PLUMBING: Hot and cold water pipes—copper tubing.

An unusual variant of the square plan for a small house, recognizing the importance of the car and its shelter but denying it the exclusive floor space it usually receives. The work space, adequate when car is in, more than generous when car is out, fits unusual family requirements. Close by the central chimney snuggles a compact gas-fired warm air furnace, and in the corner are toilet and shower. Instead of the shingled roof indicated in the detail section, a mica-covered asphalt roll roofing was used, its battens capped with channels of galvanized iron. The wide overhang at eaves provides weather protection for the outswinging casements that alternate with fixed glass. Neon cove lighting, continuous recessed curtain track and the corner fireplace are unusual details. Cost, $7,000.
CONSTRUCTION OUTLINE

FOUNDATION: Concrete.
STRUCTURE: Exterior walls—frame, metal lath and stucco; inside—insulation, studs, lath and plaster. Floor construction—oak finish.
ROOF: Covered with asphalt roofing.
MATERIALS: Damper—H. W. Covert Co.
SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron.
WINDOWS: Glass—double strength, quality A, plate and Tapestry obscure.
FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum.
WALL COVERINGS: All rooms—plaster.
HARDWARE: By Schlage Lock Co., Cement Hardware Co., and Sargent & Co.
PAINTS: By Reardon Co. and Minwax Co.
ELECTRICAL INSTALLATION: Wiring system—BX.
BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp.
Some remarkable trees and two outcropping rock knolls with a hollow between sold the site to the owner and dictated the general plan. A long low building bridges the dip between the two rocky anchorages, utilizing the lower level for main entrance, garage and service quarters as indicated in the basement plan on opposite page. On the exterior the marked horizontality is accented by the unusual color scheme of black slate roof and walls of horizontal V-jointed siding painted gray down to the window sills, white below. Indications of life in 1940: subordination of food service, elaboration of owners' bath-dressing room, built-in radio, the self-contained electric organ.
CONSTRUCTION OUTLINE


ROOF: Covered with Black Bangor Pennsylvania slate. Deck covered with 1/2 in. Celotex Promenade Traffic Top, Celotex Corp.

INSULATION: Ground and attic floor—4 in. of rock wool between Joists. Weatherstrip—American Weatherstrip Co.


KITCHEN EQUIPMENT: Range, refrigerator—Edison General Electric Appliance Co.


PLUMBING: Cold and hot water pipes—copper tubing, Anaconda Copper Co.

AIR CONDITIONING: Fox Sunbeam air conditioning system, Fox Furnace Co.

SEPTEMBER 1940
The key to successful planning for a steep and irregular site, as shown by any number of outstanding California houses, lies mainly in the arrangement of the vertical circulation. In this respect the present example is of unusual interest. The stairs are located in the center of the plan, with landings at half-levels providing great flexibility in room arrangement. On the main floor there is one level, extending from the kitchen through the dining and living rooms to the library, a convenience not always found in hillside houses. Complete privacy is assured the bedrooms on the floor below, and a large covered terrace adjoining the master bedroom adds considerably to the living possibilities of the house. Cost: 58 cents per cubic foot.
Holding rather closely to a three-foot module, the architect has approached the minimum of complexity in structure. Between the uniformly spaced square studs the wall is completed on the outside by sheathing and asbestos siding; on the inside by plywood, or left uncovered. Where light or ventilation is desired the three-foot space between the studs is filled by a single sash hinged at top to swing out. In some of the taller windows a lower unit of the sash remains fixed. At the south end of the west terrace a wall of local stone forms within its hooked end an outdoor fireplace.
The famous Cape Cod flavor, found unusually close to its native heath, and complete to the flintlock musket over the fireplace. Inherent difficulties of combining a central chimney with a central staircase have been adroitly sidestepped as plans and exterior show, by simulating an addition to the mass on which the chimney centers. Dormers retire discreetly to the rear. As a first stage, the second story rooms were merely framed and left for finishing in the future. The cubage is 22,846; the cost with upper story unfinished, $5,900.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete blocks.
ROOF: Covered with asphalt shingles, Bird & Sons.
WINDOWS: Sash—wood, double hung. Glass—single strength, quality B.
WOODWORK: White pine throughout.
ELECTRICAL INSTALLATION: Wiring system—BX.
BATHROOM EQUIPMENT: All fixtures by Kohler Co. Cabinets—Hess Warming & Ventilating Co.
PLUMBING: Soil pipes—heavy cast iron. Water pipes—Streamline copper, Mueller Brass Co.
I F J MANUFACTURE is by an entirely new process from liquid latex, the milk of the rubber tree, which is beaten into an air-filled froth, poured into molds, and baked. Upper pictures show native "milking" a tree, workman adding a jellying agent to beaten batch of latex, and operation of pouring an automobile seat cushion. Cores attached to the top of the mold form voids.

LATEX CUSHIONS

Scratch an architect, and nine times out of ten times you will find a furniture designer, amateur or semi-pro. Strictly amateurs, but with many an idea which has since found its way into general use, were the early modernists who had to furnish their first efforts at the International Style with hand-made approximations of Bauhaus designs for the machine age. Very much a professional is famed Finnish architect Alvar Aalto, with a "line" of standardized designs popular all over the world and now to be reproduced in the U. S. (Arch. Forum, Aug., 1940, p. 14). In between are the many who frequently include a built-in couch or breakfast room set-up in their detail drawings, sometimes fit out entire jobs with furniture of their own design.

For all of these, as for the furniture business and the automobile industry, the newly developed latex cushion promises to be a tremendous boon. Intended to replace all types of padding, and in many instances coil springs as well, this versatile new material is molded into a wide variety of standard shapes and may be fabricated by hand into many others. Its greatest advantage, so far as the designer is concerned, is accurately predictable shape and pre-determined softness—plus its ability to produce any degree of curvature or flatness desired; perfectly square corners are just as feasible with the latex cushion as are conventional, rounded profiles. To the user, it offers unusual comfort, permanent durability, and a sanitary, odor-free, self-ventilating padding of known quality.

Unlike ordinary upholstery bases, the latex cushion is a machine-made product. Molded from liquid latex—
PRODUCTS AND PRACTICE

LATEX CUSHIONS

FABRICATION AND APPLICATION. 1. shows attachment of fabric strips to standard cushions for use in fastening the cushions in place. 2. shows fabrication of various special cushions from flat stock. 3. use of band saw in cutting down molded cushion. 1., 2., and 3. are Goodyear AIR-FOAM. 4. shows springless chair upholstered with Firestone DIATEX webbing and AIRTEX. 5. shows application of AIRFOAM cushion over plywood for theater seat. 6. porosity tester developed by Goodrich to prove that their AIR-CELL is cooler than conventional upholstery.

ZIN-SQUARES

CUT-AWAY view showing construction of an oversize, super-soft chair with reversible Goodyear AIRFOAM cushions and spring bottom. Cushions are standard shapes available in many sizes; split units, similar to the upper and lower halves of those shown, are also available for fixed mounting. Inset shows use of flat stock on arms.

2IN-SQUARES

FOAM. 4. shows springless chair upholstered with Firestone DIATEX webbing and AIRTEX. 5. shows application of AIRFOAM cushion over plywood for theater seat. 6. porosity tester developed by Goodrich to prove that their AIR-CELL is cooler than conventional upholstery.

THE ARCHITECTURAL FORUM

the creamy, tasteless, odorless juice found just under the bark of the rubber tree—the finished product contains a myriad of tiny, interconnecting air cells. These are created by beating the latex in an oversize egg beater, rather than by the addition of the chemicals used in making sponge rubber, and result in a softer product of more uniform texture. The creamy batter thus produced is poured into a mold of the desired shape, usually cored to form regularly spaced, round voids, and oven baked to set the mixture.

In addition to hundreds of standardized cushions of every conceivable shape and size, single and double faced flat dimension stock in various thickness (from 1/4 in. to 4 1/2 in.) is available. The material can be cut with ordinary shears and special shapes fabricated by cementing together different stock elements. For attachment of the cushion to the base, and for fastening upholstery materials, fabric tape and beads are cemented to the finished cushion.

In use, latex cushions are often applied directly over a rigid plywood base, perforated for ventilation, thus eliminating the conventional coil springs and webbing. For greater resiliency, regular coil spring construction may be employed, or a special, perforated rubber webbing with a certain amount of elasticity and remarkable ability to resist sagging may be used. Final finishing with upholstery fabric is considerably simplified, due to the smooth, even shaping of the cushions and the fact that no tufts or button ties are needed to hold them in shape. Literature giving exact sizes and shapes of available standardized cushions and flat and cored sheets may be obtained directly from the manufacturers.
W. P. A. JOB-FABRICATES LAMINATED WOOD ARCHES

Glued-up units span 48 foot University of Washington theater at low cost

One of the most intriguing aspects of recent factory design has been the use of bent structural members, formed by bending and welding together ordinary rolled steel beams. Such "rigid arches," to use the engineering term, combine beam and column or rafter and column into a single structural member whose simple curving lines and look of easy strength can be compared only to the trunk and branches of a tree. They have essentially the same appeal as the "streamlined" shape; both are instances where engineering has hit upon forms whose eye-appeal transcends the utilitarian considerations which dictated their conception. Result has been that in many a recent auditorium, exposition hall, or other project posing a structural problem warranting the use of specially fabricated steel members, the rigid arch has been employed for its decorative, as well as its structural qualities. But for the designers of smaller buildings this interesting new structural element has remained largely inaccessible.

Door opener for the latter group is the laminated wood arch. Developed abroad, and first used here by the Forest Products Laboratory, it affords virtually all the advantages of its welded steel cousin on a smaller scale and with readily worked materials. Already, extensive use of curved laminated wood arches in barns, theaters, and churches in the Middle West, and the amazing strength developed by sharp bends in laminated wood furniture, combine to promise much for the future of the sharply bent, rigid wood arch corresponding in form to the welded steel frame.

ASSEMBLY of glued-up arches from 26 boards had to be completed in 25 minutes to prevent setting of the glue; this, not "Boondogging" accounts for the number of workmen, 2 to each clamp, in the above picture. Nine-sixteenths inch boards were bent dry, without steaming.

GLUE BENCH and form, shown above with completely assembled arch in place, served for all eight arches, held clamps at about 2 foot intervals consisting simply of rough lumber and threaded rods. Three piece hinged band served as an outer form.

COMPLETED ARCH, ready for trimming and finishing, after 2 days in the clamps. Dotted lines near knee indicate line on which arch is to be trimmed, later to receive flat facing boards. Entire arch was then coated with waterproofing compound.

SEPTEMBER 1940
ERECTON of the eight completed arches was a simple matter of setting them on their bases and joining them together at the center with a hub. Arches support 48 ft. oval roof.

COMPLETED THEATER owes much of its attractive appearance to the structural arches and connecting purlins, frankly exposed on the inside. Capacity 200, surrounding center stage.

The engineering department of the University of Washington, in cooperation with the local Works Progress Administration, has recently demonstrated that all that is needed to exploit this possibility is a little ingenuity and some good, strong, glue. Faced with the problem of enclosing an oval, 48 ft., center stage theater for the University's Drama Department, they developed an attractive, space-saving, laminated wood arch, set up a gluing bench on the job, and proceeded to assemble seven of the arches in short order and at remarkably low cost. The procedure thus developed is applicable to the small mill or construction project anywhere.

All of the wood used in the construction of the arches came to the job in the form of 9/16 in. by 5 1/8 in. Douglas Fir boards, 20 ft. in length (56 pieces per arch). Since the developed length of each arch was almost 40 ft., it was first necessary to splice these 20 ft. boards in pairs, using a 7 in. bevel lap, glued. In the assembly of the arches, joints were placed so that none occurred within the sharp bend of the "knee," and joints in adjacent boards were at least 2 ft. apart, those occurring over one another being separated by at least three boards. This necessitated a trial assembly of one of the arches without glue, and careful cropping and numbering of the spliced lengths so that joints would fall in predetermined positions.

In gluing up the arches, the thin boards were bent dry, without steaming or treatment of any kind. Casein glue (I. F. Laucks No. 888, 20 lbs. per arch) was applied to one side of each board in a specially constructed roller machine (detail, preceding page), the entire operation of applying the glue to each of the 46 boards and clamping them together being completed in from 18 to 22 minutes by 30 men—just within the 25 minute limit set by the manufacturer of the glue as the time beyond which the glue would begin to set. Each arch remained in the clamps, under pressure of about 75 lbs. per sq. in., for 24 hours, after which the clamps were loosened to permit placing of additional boards to form a square corner at the knee of the arch and then re-tightened for still another 24 hours. Minimum time for the assembly of the eight arches on a single glue table was thus 16 days. After removal of the clamps, the arches were trimmed to exact size and additional straight boards glued to the outer faces where the bent boards "feathered off." Final step was to treat the completed arch with waterproofing compound.

REAR VIEWS of completed building, with and without plywood facing. Bebb and Gould were consulting architects, with Edward Wallington, architect for the University of Washington, as resident architect.
Remodeled from a former school of music located directly across the street from the overcrowded headquarters of the Columbia Broadcasting System, this modern building is the last word in broadcasting studio design and equipment. It includes two major studios with audience facilities, five smaller studios, and miscellaneous offices and laboratories. The principal studios are two floors high and are located on the basement and second floor levels for easy public access from the street; the plans above show the arrangement of the lower of the two studios, which are identical. Details above and at the right explain the arrangement of these rooms in terms of their four major elements: performance, audience, broadcast control, and sponsor. A similar set-up is duplicated on a smaller scale in each of the minor studios on the upper floors.
ACOUSTICAL TREATMENT is intended to result in studios more "live," or brilliant, than any built up to the present time. Brilliance and proper diffusion of the sound are achieved by the use of non-parallel opposite surfaces and serrated walls and ceilings, thus eliminating slaps, dead spots, and echoes.

A special feature of the two large studios is the use of "Acoustivanes" (left, patent applied for). These are large, shell-like vanes which resonate at predetermined frequencies to add to or amplify these frequencies. The result is, a musical program of greater definition, character and realism.

The Acoustivanes are operated from the control console and can be set at any desired position by means of push buttons, which, in turn, operate mechanism propelled by means of vacuum cylinders to turn the Acoustivanes at the desired position. Behind the Acoustivanes, highly absorbent acoustical material is covered with stretched linen. The control engineer can set the Acoustivanes at various positions to add to the resonance at various frequencies, and to expose varying amounts of the absorbing surface behind the vanes.

Supplementing the Acoustivanes and the regular contour of the enclosing surfaces, are absorbing materials on walls and ceilings covered with perforated asbestos board. Acoustical elements of seven different absorption characteristics were carefully selected and distributed to assure the desired reverberation qualities of the studios. This is the first time that the combination of this variety of acoustical construction has been used. For the first time also, precast perforated asbestos board was used.

To reduce the infiltration of extraneous noises, the six enclosing surfaces of the studios and control rooms were isolated by means of felt lined clips.

All available wall and ceiling surfaces of the sound locks were lined with 2 in. rigid rock wool element covered with perforated asbestos board. Clients' rooms were acoustically treated with Acoustone. The entrance lobby as well as the lobbies of Studios 21 and 22 have Acoustone treatment on the ceiling for general noise reduction.
AIR CONDITIONING—The building is equipped with a special air conditioning system, employing both intake and exhaust fans, so as to maintain pressure within the studios at normal levels for acoustical reasons.

EXTERIOR FINISH—The problem of finishing the front of the building with an easily cleaned plastic material which could be used to unite new and old work was solved by the use of special stucco finish. In order to prevent this surface from collecting dirt from motor exhaust and floating dust particles, it was given a hard, semi-glazed finish, cleanable with soap and water, by polishing the stucco surface with carborundum bricks. This treatment, while an entirely new development in the field of exterior finish, is almost exactly similar to the method now used in finishing terrazzo floors, and is easily carried out.

CONSTRUCTION OUTLINE


ROOF: Cinder concrete arch, cinder fill, slag finish.


INSULATION: By Johns-Manville Corp.

WINDOWS: Sash—pivoted steel, Glass—plate, Pittsburgh Plate Glass Co.


FLOOR COVERINGS: Studios and control rooms—rubber, Goodyear Tire & Rubber Co.; remainder—linoleum, Sloan-Blinson Corp.


HARDWARE: By Russell & Erwin and Penn Brass & Bronze Works.

PLUMBING: Fixtures by Crane Co. Hot and cold water pipes—galvanized; remainder—cast and galvanized, lead connections.


ACOUSTIVANES—Akeley Camera, Inc.

CANADIAN BUILDING BOOM BUDS as increased war
orders reveal serious bottlenecks in housing and industrial production. Rising construction
curve may point to similar trend for defense-minded U. S. Building.

For one full year, USA's next-door neighbor has been squaring off for total
war, humblyезly at first, energetically now. Canada's mobilization of men and ma­
ch ines is still unfinished business, but its accomplishments to date may well serve
as a pressure gauge for the defense-minded U. S. building industry now gearing into
a war-era economy. The Forces this month, therefore, cooks an eye northward, scans the horizon for statistics and events
that indicate a pattern of development, reports its observations.*

Total construction. Stimulated by Britain's
unloosening of pursestrings for war goods, Canadian Building has overcome a weak
start, is currently going great guns. Unlike
World War I, when activity ebbed to a
low level, World War II has bent Can­
da's construction curve into a vigorous
upturn, as spotlighted by the charts above
contrasting Building's behavior in Canada
and U. S. since 1913. During the early
and passive war months total construction
also remained quiet, even slumped slightly.
In April, however, a precipitous rise be­

* With the aid of Daily Commercial News
and Building Record's Editor A. C. Jameson,
Building in Canada's Editor John R. Walker,
The Financial Post, MacLean Building Re­
ports, Housing Commissioner F. W. Nicolls,
Dominion Statistician R. H. Coats, Employ­
ment Service Director R. A. Rigg.

gan. Contracts in June totaled 839.1 mi­
lion, the highest for any month since No­
ember 1930.
Impressive as is Canadian Building's
mid-year showing, it is shadowed some­what by other records: in June the
Canadian business index skyrocketed to
the highest point in twenty years. But, in
making such a comparison, it must be re­
membered that Building started its climb
from a relatively low point, whereas other
lines of business had already reached a
much higher level of recovery. For the
first four months of this year the official
business index ran 36 per cent above its
1926 level—an increase of almost 20 per
cent over last year. In the same period
construction, running 32 per cent under
its 1926 level, gained 46 per cent over
last year. And, for the full six months, it
jumped 50 per cent. The upturn's brisk­
ness testifies that Canadian Building is
hastily making up for lost time.

Closely paralleling the Canadian curve
for the past two decades, U. S. Building's
trend line also dipped slightly with the
outbreak of European hostilities. A mild
upward tilt, however, can now be observed
(see chart above). Whether this presages
a sharp upturn similar to Canada's, as
U. S. votes billions for defense, is a perti­
nent question in view of the last war's slump. Its answer requires a more de­
tailed look at Dominion happenings.

Bottlenecks. Entering World War I, Cana­
dian Building had just passed the crest of
a boom, was headed for a collapse. Sus­
pension of construction activity during the
war, however, left Canada with a severe
housing shortage. Despite high labor and
material costs in the peace years, con­
siderable building was undertaken, push­
ing the construction curve to an all-time
peak in 1929. Faced with a saturated
market, Canadian Building next followed
the pattern set by U. S. Building, nose­
dived, reached another very low level of
activity by 1932. Some recovery occurred
between 1934 and 1937, but was followed
by a recession in 1938. Entering World
War II, Canadian Building this time
brought with it a large deficiency in hous­
ing and other building types accumulated
during depression years, thus differs rad­i­
cally from its position of 25 years ago.
U. S. Building today likewise faces en­
tirely different conditions than it did in
World War I. As in Canada, there is an
accumulated shortage of up-to-date build­
ings, particularly housing, although per­
haps not to the same degree, for U. S.
Building's recovery from depression depths
is more pronounced. Even under stimulus
of a war boom, Canadian Building only
now has reached the level where U. S.
Building has been striding along, if statisti­
cal adjustments are made for the one-to
eleven difference in population.
Most serious building shortage in Canada, as evidenced by the Government's emergency subsidies, is in industrial facilities. Significant for private enterprise, however, is the fact that not all current factory construction is for munitions, nor are all new industrial projects sagged with government funds. Both Ford and General Motors of Canada, for example, are expanding their plants without benefit of subsidy. Grain storage capacities and flour mills are being increased in all parts of the Dominion. Canneries and food processing companies likewise are stepping up production.

Soaring employment, greater buying power, plus the fact that the blockade of Europe forces Canadians to fall back on home goods more than ever before, have combined to produce a notable shortage in commercial buildings. Well-located stores and shops are fully rationed.

Significant also is the absorption of surplus office space, noticeable even before the war's onset. In Ottawa the shortage is reported acute. To house essential war services there, the government has had to convert apartment houses into office buildings besides erecting two temporary frame structures each with 50,000 sq. ft. of floor. Vacancies in first class office accommodations in other cities where military command is centered are estimated at less than 3 per cent.

Most significant for private enterprise is the growing shortage of houses. No Dominion-wide survey of housing needs has been made, so estimates are largely guesses. Local surveys indicate, however, that in nearly all the big cities vacancies in rentable properties run only 1 or 2 per cent, in several even less, thus setting an all-time low. (U. S. residential vacancies are also at a low level; see chart, Annu. Forum, July 1940, p. 68.) Doubling-up of families in single dwellings is figured to be 7 or 8 per cent in most Canadian cities and towns. As the business curve shoots upward, many of these families will double, come into the market, further reducing vacancy percentages. Conservative estimates of the Dominion's Housing Administration reveal that some 50,000 dwelling units are needed to relieve the shortage. Particularly pressing, as in U. S. Building's case also, is a supply of houses for incomes under $5,000 a year.

Progress in uncooking Canadian Building's various bottlenecks is apparent in recent construction trends (see charts, left):

- A comforting omen to U. S. builders and developers who may fear a housing slump impends, Canada's residential curve is holding its own surprisingly well. A boomlet in apartment houses, just gaining momentum in Quebec, Ontario and British Columbia, stopped dead with the declaration of war, but has since been counter-balanced by a forward surge in other residential types. Although the half year total of 82,5 million for total residential runs about 3 per cent under last year, due chiefly to low returns for March and February, the figure of 828.8 million expended for approximately 10,200 privately-owned houses represents an increase of roughly 6 per cent over 1939 and exceeds every six-month record for the past ten years.

- Equally comforting is the performance of another dark horse—business construction. Efforts to catch up with the shortage in stores and office space have spurred this type of building activity to new recent highs: the half year total was 45 per cent ahead of 1939.

- Not surprising, but nonetheless significant for U. S. builders and designers, is the spirited behavior of Canada's industrial construction. Already 92 per cent above the first half of last year, further kiting of the curve is anticipated as the need for more factories becomes greater.

- Running true to war form, engineering construction leads the parade with a half-year increase of 149 per cent. As usual, some war casualties can be counted. Construction of schools, mental hospitals, post offices and other public buildings has stopped, both by the Dominion to conserve financial resources for war production and by the provinces and municipal governments to avoid competition with the Federal government in money markets. For the same reasons highway construction is severely curtailed. Offsetting these casualties, however, is a bumper crop of war babies. Large sums are being spent on land defense works, camps, barracks, ground-works and training buildings, particularly those required by the air force and air training plan.

Costs and employment. If further proof of boom times ahead for Canadian Building is needed, it can be found in the news of rising costs—another omen for U. S. Building to reckon with. Interest rates remain steady under the government's policy of lending money for low cost housing in conjunction with private institutions at a flat rate of 5 per cent to the borrower. (Due to the war, these loans are now limited to $4,000.) The price index of building materials, however, has jumped to 95 after averaging 90 for the past two years (see chart, right). Reason: higher prices for lumber and paint.

Current index figures for building labor costs are not obtainable, but observers report that recent wage agreements show an increase of 10 to 12 per cent in some localities. Employment was definitely up in June, being greater than in any summer since 1931—but still far from 100 per cent (see chart, right). Confirming statistics come from the building trades unions: in May less than 20 per cent of the union members were without work as contrasted with 90 per cent in the month before and more than 30 per cent last year. Local shortages of labor—notably carpenters, masons, bricklayers, welders and mechanics—are reported by some observers, but a general shortage of skilled workers is flatly denied by the Dominion's Labor Department.
In this evolution the government has followed recommendations advanced by Canada’s National Construction Council, whose membership includes the Royal Architectural Institute, engineers and general contractors’ associations, various manufacturers’ associations. Formed in 1919 to afford a common meeting ground for trade and professional associations and to find ways and means of cracking the depression, the Council lobbies potently in behalf of increased business and employment for its members. Council’s first major accomplishment was to induce the Dominion to spend about $800 million on public works as emergency measures for relieving widespread unemployment in 1934 and 1935. It was also a chief factor in securing legislation to prime the housing market. On break of war, it immediately went into action, petitioned the government with a plan to mobilize entire construction industry for participation in war projects. Although its recommendations have since been accepted in part, the Council itself has not yet been invited to cooperate as intimately as it hoped.

Building costs are rising, chiefly because of higher wholesale prices for materials and the growing possibility of a labor shortage as Canada’s building employment curve rises.

Subsidies. In light of the foregoing statistics, it is clear that Canadian Building owes its building boom mainly to the large sums tossed into the war hopper by the British Supply Board and the Dominion’s government for factories as well as military projects. Plants well out of reach of German bombers are needed to insure England a continuous supply of shells, chemicals, guns, ships, aircraft and —as important as armaments—foodstuffs. War contracts already exceed existing production capacities. To make possible additional orders, new factories and plant extensions must be built.

The same problem of providing new production facilities for national preparedness confronts U. S. Building—but not to the same degree. U. S. is already highly industrialized, with many plants that can be easily modernized or converted into war use, whereas Canada starts largely from scratch.

So urgent is the demand for industrial space that the British Supply Board assumes the capital cost of building and equipping Canada’s war factories, thus veers with U. S. policy of coaxing new plant construction by allowing companies with defense contracts to charge off the cost of necessary new buildings and equipment to short term depreciation in calculating excess profits. In some instances Canadian manufacturers are given lump sums for plant expansion. Where such extensions are not feasible, or where products hitherto not made in Canada are to be produced, the building of new plants is authorized. In addition, the Board contracts for one year’s output.

At mid-year, despite much d Oddling and dawdling in early war months, some 35 Canadian companies had been subsidized with more than $850 million for plant extension and construction. In July another $30 million in building subsidies was announced. And, early last month the Minister of Munitions disclosed a new expenditure of $10 million, said the total for war plants might soon reach $170 million. This capital investment is expected to produce war materials to the tune of $850 million annually.

Already completed, many of the smaller subsidized plants are now turning out shell components, gun barrels, gun carriages, instruments and specialized equipment. Construction has started on a $111 million chemical plant in Ontario, on two $20 million major explosives plants and on a 88 million shell-filling plant. The Bren gun factory is doubling its capacity. Exact location of the new plants which will make Canada Britain’s principal arsenal is kept a military secret, but most of them will be in Ontario and Quebec, where the supply of electric power is ample. Largest war plants, however, will be in western Canada where existing facilities for production of ammonia and ammonium nitrate are being extended. Meanwhile, capacity of basic industries—steel, brass, aluminum, machine tools, etc.—are likewise being stepped up.

Besides paying the cost of industrial expansion for war goods, the British and Canadian governments are spending sizable sums for straight-out military projects: approximately $15 million for ground work and $50 million for buildings needed in the Commonwealth Air Training Plan; another $7.5 million for airdromes required by the Royal Canadian Air Force; about $20 million more on land defenses, training camps, barracks, etc., all since the break of war. But, more significant for Canada’s Building’s future is the recent speeding up of this program. All airdromes and training projects, the government announces, will be ready for use by year-end instead of one and two years hence, as originally proposed.

Organization. With rapid-fire construction the new order of the day, the Canadian government has revamped many cherished practices. Earlier system: National Defense Department engineers prepared all plans, supervised all construction. In some instances day labor was hired to produce contracts to charge off the cost of necessary new buildings and equipment to short term depreciation in calculating excess profits. In some instances Canadian manufacturers are given lump sums for plant expansion. Where such extensions are not feasible, or where products hitherto not made in Canada are to be produced, the building of new plants is authorized. In addition, the Board contracts for one year’s output. Where such extensions are not feasible, or where products hitherto not made in Canada are to be produced, the building of new plants is authorized. In addition, the Board contracts for one year’s output. Where such extensions are not feasible, or where products hitherto not made in Canada are to be produced, the building of new plants is authorized. In addition, the Board contracts for one year’s output.
Houses and Lots at $1,570 Redefine Low Cost,
put Owensboro, Ky., on Building's map. Secrets: minimum construction, mass production.

Accepted definition of the low cost house was revised last month as a pair of marketwise subdividers in Owensboro, Ky., put finishing touches on a group of three-room houses selling with land for a mere $1,570 and launched a new project in which four-room units sell for only $1,970. Financed with mortgages requiring monthly payments of only $14 and $18, respectively, the projects' 104 houses comprise the nation's first large FHA-insured operation in which prices are under $2,000.

Situated about 130 miles west of Louisville on the Ohio River, Owensboro has a population of 30,125, four large industrial plants, several small ones, a large tobacco market, nearby oil fields and four operative builders. Three of these builders do a comparatively small volume, have never erected more than five small houses at a clip. The fourth builder is the Sandidge-Murphy Development Co., which was organized in November, 1939, by Insurance Man Christopher Caruther Sandidge and President Gleeson Murphy, Jr., of the local Murphy Chair Co., and has since put Owensboro on the building map. Aged 30 and directors of the city's energetic Chamber of Commerce, both men had learned a thing or two about housing—Partner Sandidge through his insurance connection with local real estate, Partner Murphy through his employment of factory labor and a previous house building enterprise. Year ago when FHA's Title I new construction program was publicized, they saw an opportunity to mass produce low cost dwellings to take the place of “the unsanitary and almost uninhabitable shot-gun houses in Owensboro renting from $10 to $15 per month.”

To this end, they teamed up, bought a five-acre track garden at the city limits, subdivided it into forty 58 x 70 ft. lots with the aid of a U-shaped gravel drive, and ran in storm and sanitary sewers. With the design assistance of the Ratican-Medley Co., which was given a complete "lock and key" construction contract for the 39 houses*, Partners Sandidge and Murphy developed a three-room floor plan with five exterior variations. Original intention was to build the five variations of the basic model, have a grand opening and attempt to sell the other houses in advance of construction. But, in March rumors of the forthcoming development leaked out, prospects stormed the company's offices, looked at floor plans, sketches and specifications and bought all 39 houses within 23 hours.

Most of the purchasers are young married families. Each anted $15 cash to reserve a lot and agreed to pay $923 more when his house was complete. (Earning an average of $800 per month, none of the purchasers made cash down payments in excess of the combined $100 minimum.) Since all of the houses sold for $1,570 and were financed with FHA-insured Title I Class 3 loans, their purchasers are required to pay $15.24 monthly toward interest and 15-year amortization of the loan plus $2.44 a month for insurance and taxes—a total of $18.68.

Construction began April 15 under a schedule which called for the launching and, later, the completion of six houses per week. However, delays wrecked this schedule; all houses were under construction at once and were finished between June 15 and July 15—an average of three houses a week. Subdivider Sandidge figures that, output plus the economies of large scale purchases, reduced costs about 20 per cent.

Costs were further minimized by the use of standard length materials, design standardization, tinsel rather than painting plaster walls and omission of sheathing, insulation, gutters, and leaders. Moreover, heating equipment is not included in the sales price, but may be readily attached to the double-flue chimney in either living room or kitchen (see plan, opposite). Most purchasers have installed gas floor furnaces at about $68 and, according to the local gas company, may expect a fuel bill of about $8 per month during the heating season. Other owner additions: garages, driveways, flower boxes, shrubbery and kitchen cabinets.

* One house came with the land.

Fired by the enthusiastic reception given their efforts, Messrs. Sandidge and Murphy—the day their trail-blazing project sold out—purchased another and larger land tract eight and one-half acres across from a large public park and, like their foreunner, conveniently near schools, churches, stores and employment sources. As in the previous development, cost of the 65 lots when improved came to about $1800 each. Only innovation was the development of a four-room house with exterior variations which sells for $1,970 including a lot measuring either 40 x 100 ft. or 48 x 84 ft. Month ago, twenty of these two-bedroom houses had been sold, plus 22 one-bedroom units, and 42 houses were under construction. When completed and their Title I loans closed, it is expected that purchasers of the four-room units will be required to apply $11.60 each month toward interest and amortization plus $3 per month to cover taxes and insurance. If a gas-fired floor furnace is installed, fuel bills will boost this $17.60 monthly total by an estimated $6.50 during the heating season. (Cash deposits and down payments are the same for both size houses: $15 and $85, respectively.)

Subdividers Sandidge and Murphy are quick to admit that their houses are not the best they could build but believe that Owensboro's low incomes are getting the most housing possible for the money. And they undoubtedly are.
Owensboro's low cost houses feature several good plan details (large kitchen-dining rooms, ample storage space). Construction is minimum, but meets FHA's Title I requirements and local building code. Three-room houses (above) sell for $1,570, including lot and gas, water, light and sewer connections. Four-room unit (upper right) sells for $1,970. Ceiling heights: 7½ ft.

CONSTRUCTION OUTLINE

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.

Before a Congressional audience back in February 1938, FHA Administrator Stewart McDonald was asked if it had been necessary to foreclose any of his Government-insured large scale rental housing projects. His curt reply was "No," but he qualified it with the frank admission, "One of them is scaring me a little bit." Exactly one year later that scare materialized, for on February 26 one of FHA's large garden apartment projects went under the foreclosure hammer. And, the sparks set off a long string of frightening fireworks which have popped the country over (St. Louis, Minneaspolis, Dallas and New York) and have kept FHA hopping until last month it took over the eighth Government-insured project to go wrong. Today, FHA faces the unhappy prospect of paying insurance on $10,125,000 worth of defaulted mortgages, 11 per cent of the aggregate amount insured, and of operating 2,394 dwelling units, 8 per cent of the program's total as of December 31.

FHA is not alone in its misery, however. Four top-notch life insurance companies are holding bags instead of mortgages; the sponsors, several of them architects and builders, are holding paper instead of stock while counting lost equity dollars; and a group of real estate management companies, bucking a wave of unfavorable publicity, are having trouble renting their empty projects. For the benefit of future rental house builders, THE FORUM herewith presents a case-by-case diagnosis of the eight ailing projects—three are analyzed in detail below, the other five in outline on page 211, col. 3.

MANHASSETT VILLAGE, ST. LOUIS, MO.

Of all the cities on FHA's list of 218 rental housing projects, St. Louis has the blackest mark. In fact, the program's 28,833 dwelling units have been built in and around St. Louis—and 959 of them, in two projects, have come back to FHA to roost. First in St. Louis and first in the nation to run into trouble was Manhassett Village.

In its May 1938 issue, THE FORUM discussed the market for FHA-insured garden apartment projects, observed: "1) The market is thin at $15 per room and above; only about 10 per cent of all U. S. rental families can make such monthly payments for shelter. 2) Quantitatively, this market is well supplied. Vacancies are most numerous at the top of the rental ladder. . . . 3) Any high rent apartment project is a comparatively risky undertaking for the investor and, in turn, for FHA." In February, the first FHA-insured apartment project was foreclosed; month ago the eighth turned sour. Presented on these pages, the diagnosis of this ailing octet shows that comparatively high rents were contributing factors to financial collapse. Average rent in only one project was below the $16 per room per month level mentioned in the May FORUM, and it was only a scant 27 cents below. More important, the diagnosis points out several other obstacles to successful rental housing.

FAIR OAKS APTS.
lange was finished a year later. Fact that February is nowhere near either of the usual renting seasons, and that the inflated capitalization dictated rents averaging $15 per room per month contributed further to its miserable rental status upon completion. Only 60 of the 324 dwelling units were rented at the announced scale of $849 for the three-room units to $37.50 for the fours. Despite a knock-down in rents to $845-51, in February 1940 at the time of foreclosure, the number of rented apartments had increased to only 115, an occupancy ratio of 36 per cent. Of the 60 three-room units, 32 were rented of the 244 four's, only 61. In June, management of the project was placed in new hands, an aggressive advertising campaign was launched, rents were further shaven, and by early August, 32 additional units had been rented, bringing the occupancy to 145, or 41 per cent.

With the project continually operating at a sizable loss and without sufficient working capital to fill in the gap, the architect-builder owners defaulted on the mortgage principal and interest payment due September 14, 1939. Foreclosure proceedings were started and by early March FHA was the owner and operator of the project, having given the New York Life Insurance Co. Government-guaranteed low interest debentures in an amount equal to the unpaid principal of the mortgage. Thus, pending an opportunity for FHA to sell the property at a fair price, Manhattan Village is, as originally and ironically advertised, a Government housing project.

**Diagnosis.** Most of the reasons for the project's failure are apparent in the foregoing discussion of its development. In summary: 1) Construction program was ill-timed in that the project was completed between the normal renting seasons. 2) Owners lacked sufficient working capital to run the project while it was being tenanted. 3) Financial organization of the sponsoring company was publicized unfavorably in the press and in Congressional hearings. 4) Owners of competitive apartment projects within the city conducted a hostile campaign. 5) Operation of a free bus service to distant schools, a shopping center and public transportation lines did not satisfactorily take the place of conveniently nearby facilities. 6) Promotional activities of the sponsors left much to be desired. 7) Experience indicates that more time might wisely have been spent on relating the project's design to the market. 8) Garage compound is somewhat remote from residential buildings. 9) Rent scale was too high in relation to project's location and design. 10) Management policies were open to question: in an effort to correct the high-rent mistake and please all of its tenants, large concessions were offered—frequently involving three or four months' rent. Result: no one was pleased and the whole rental picture was confused.

In addition to these more or less obvious obstacles to success, there are two

---

**FAIR OAKS APTS. MINNEAPOLIS, MINN.**

**BUILDING:** walk-up

**Dwelling units:** 60

**Valuation or capitalization:** $315,000 (77 per cent)

**Mortgagee:** Prudential Insurance Co.

**Factors contributing to failure:** Rent scale too high. Project got off to poor start.

---

**PARKLAKE HOMES MINNEAPOLIS, MINN.**

**BUILDING:** walk-up

**Dwelling units:** 86

**Average monthly rent:** $16.75 per room

**Valuation or capitalization:** $508,000

**Total mortgage:** $405,000 (80 per cent)

**Mortgagee:** Prudential Insurance Co.

**Factors contributing to failure:** Rent scale too high.

---

**STEVENS PARK DALLAS, TEX.**

**BUILDING:** walk-up

**Dwelling units:** 96

**Average monthly rent:** $14.72 per room

**Valuation or capitalization:** $508,000

**Total mortgage:** $405,000 (80 per cent)

**Mortgagee:** Prudential Insurance Co.

**Factors contributing to failure:** Rent scale too high. Project got off to poor start.

---

**LARCHMONT ACRES MAMARONECK, N. Y.**

**BUILDING:** 2 6-story elevator units

**Dwelling units:** 303

**Average monthly rent:** $17.50 per room

**Valuation or capitalization:** $2,175,000

**Total mortgage:** $1,650,000 (76 per cent)

**Mortgagee:** Northwestern Mutual Life Ins. Co.

**Factors contributing to failure:** Rent scale too high. Project got off to poor start.

---

**GARTH-GREYBROOK SCARSDALE, N. Y.**

Same original owners as Larchmont Acres (see above). Because of improved renting conditions foreclosure proceedings, although started, are being delayed on this project and probably will never be completed.

**BUILDING:** 2 7-story units

**Dwelling units:** 301

**Average monthly rent:** $18 per room

**Valuation or capitalization:** $1,807,000

**Total mortgage:** $1,350,000 (77 per cent)

**Mortgagee:** Prudential Insurance Co.

**Factors contributing to failure:** Completed out of season. Rent a little too high in view of large local competition at this level. Internal trouble in management—disagreeing promoters preferred foreclosure to investing more funds.

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**Vital Statistics—eight ailing projects against the averages.**

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<thead>
<tr>
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$ Average covers the 218 rental housing projects on which FHA had insured mortgages as of December 31, 1939, if does not cover the 51 projects which were financed under mortgages containing release clauses and which are not, therefore, comparable with the eight projects listed in the tabulation.
basic reasons for the failure of Manhassett Village. In the first place, there is some doubt as to whether or not St. Louis offers a market for new rental housing at moderate to high rents. Amply qualified to judge is Economist Roy Wenzlick, a St. Louis resident and an adviser via his monthly Real Estate Analyst to financial institutions throughout the country. His research shows that "Greater St. Louis has never been a strong apartment city. In 1939, the last year for which definite figures are available, less than 10 per cent of our population lived in heated apartment units. . . . There was no shortage in apartment space in St. Louis at the time that these (Manhassett Village) units were authorized. The average vacancy in apartment units was about 7 per cent."

Surprising in the light of these statistics is the fact that FHA officials have authorized mortgage insurance in Greater St. Louis on fourteen rental projects whose 1,800 dwelling units have boosted the area's available supply by about 5 per cent. Justification for the two largest projects involving 954 dwelling units (Manhassett Village and another foreclosed project—see below) is admittedly weak and is the second basic fault responsible for FHA's current trouble. Thus, when general business activity and employment took a nose dive in the last half of 1939, New Deal spenders urged FHA to take part in the pump-priming program by getting more and bigger rental projects into construction, and in a hurry. Under this pressure, FHA became more venturesome, less exacting, and as a result now paying some of its follies. Had FHA's high command paid attention to its knitting, probability is that Manhassett Village would never have gone beyond the planning stage.

LUCAS-HUNT VILLAGE, ST. LOUIS, MO.

The third largest FHA-insured development in the U. S., this 604-unit project had three strikes against it before going to bat: 1) It was identified with Manhassett Village. 2) It had most of the unfavorable characteristics of Manhassett Village, and then some. 3) When it was ready for occupancy, Manhassett Village was ready for the wringer, and everyone in St. Louis knew it.

Project. Covering 49 acres of fairly high but flat and barren land, Lucas-Hunt Village is situated in the northwestern, most populous section of suburban St. Louis County, 35 minutes by automobile from the city's center, about one hour by bus or trolley. However, these public conveyances do not run within walking distance (Continued on page 34)

* Interestingly, Economist Wenzlick's appraisal department has estimated the present worth of Manhassett Village as an investment at $1,257,000, as opposed to the original $2,016,000 capitalization which reflects the $131,720 write-up of land value and was offered as security for the $1,600,000 FHA-insured mortgage.

REPLANNING TRICK, pulled from a remodeler's hat, houses six families, ups gross income 125%*

Not even a magician would undertake on short notice to double the earning power of the average business enterprise. But, real estate management is one business in which this trick can be performed and with but little sleight of hand. A convincing demonstration recently took place in Chicago where Realty Managers Cook & Jackson with $18,500 worth of remodeling up their corporate sleeves converted a rundown rooming house into swank apartments and boosted gross income 125 per cent.

Once the private home of a prominent Chicago family, the Indiana limestone building contained eighteen rooms, plus six baths in its three stories and basement and was sandwiched between two other triple-decked residences. At the rear of the 41 x 192 ft. lot facing a public alley was a four-car garage and a four-room servants' apartment accessible from the street via a canyon-like walk at the left of the house. Pioneering a trend that has since become general, the building 26 years ago became a rooming house. For $150 per month the owner leased the entire property to a manager who rented the unaltered rooms to whomever and for whatever he could get. In recent years his gross take averaged $245 monthly ($2,940 per year) or $275 monthly ($3,300 per year) including the $30 monthly rent for the garage apartment. Of the owner's $1,800 share, annual taxes ate $980 on the basis of a $1,076 assessment (1939).

Situated in the 1,500 block of North Dearborn Parkway, the building is a northerly stone's throw from the city's famous Lincoln Park and a three blocks easterly walk to Lake Michigan where Lake Shore Drive connects in fifteen minutes with Chicago's business center. While the general neighborhood from the 1,000 block to the Park has become infested with cheap rooming houses back into respectable rental projects all point to a revival of real estate values. To capitalize on this trend, the Lake Shore Trust and Savings Bank, as trustee, agreed to let Cook & Jackson remodel and manage the building.

Thanks to the smart planning of Architect Frederick B. Schmidt, the task of converting the original one-family house into a half dozen apartments proved comparatively simple. Only about 160 lin. ft. of existing partitions had to be knocked down, and only about 200 ft. of new partitions had to be erected. Movement of the front entrance 10 ft. to the right and seven steps down was the only important structural alteration. Sandblasting the limestone and installing bronze "sun screens" were the only other improvements to the facade.

Most remodeling dollars were spent on interior finish and equipment. Major items: new plumbing fixtures, piping and wiring, new all-electric kitchen equipment, refinishing floors and painting. Remodeling totaled $15,500 and was completed by mid-February. (Plans for the garage building, which has not yet been touched, provide for conversion of one of the four automobile stalls into tenant storage space and rehabilitation of the overhead apartment.)

Four of the six apartments were rented immediately; the others were gone by June. Ranging from $75 to $100, rents for the main building total $550 per month, $6,600 per year, or about 125 per cent more than before remodeling. Garages, at $80 each, will swell the total to $6,960, and the garage apartment, at $800, will jack it up to $8,040.

Optimistically hoping for and confidently predicting no change in the property's 1939 assessed valuation, Managers Cook & Jackson expect the two buildings to net about half their gross income, pay off remodeling costs in less than four years.
Simple changes in floor plans converted this ancient one-family Chicago house into six attractive apartments. Provision of two stair wells in the original building made new fire escapes unnecessary, give all but the first floor front apartment a separate service entrance. Monthly rents, first to third floors, front: $75, $95, $85; rear: $100, $85, $100. Note that white wainscoting in $100 apartment living room (below) was all on one wall in original living room (left). Each big original bathroom (right) was cut in two, refinished.
A BUILDER DODGES PROSPECTS

until his 17 houses are built, then sells them in a hurry.

Measured in building dollars and cents, Indianapolis trails the top-flight U.S. building centers, ranks 26th behind sprawling New York City. But, in the calibre of its home shows, Indianapolis leads the pack. Recent castings of these annual extravaganzas have included an indoor "shopping center" and a three-house indoor "subdivision" (ARCH. FORUM, June 1939, p. 4, June 1940, p. 4). They have attracted a lot of public attention (estimated attendance 1940: 100,000) and, equally important, have brought many a dollar and market lesson home to local builders.

One of these market lessons was taught to Builder Robert L. Mason, a recognized specialist in large residences for upper incomes, who erected a small indoor house as the 1938 show's focal point. Consumer reaction enlightened him on the large market for low cost houses, and he has been building them ever since. Seventeen of Mason's houses, ranging in price from $5,400 to $7,500 and designed by one of the city's outstanding architectural firms, are concentrated in a small suburban subdivision which has much to commend it.

Site selected for the operation would have made any subdivider's mouth water. Five miles northwest of Indianapolis' business center, it had been subdivided some twenty years ago, but meanwhile had been only sparsely developed with a handful of houses. The block purchased by Good Homes, Inc., the new project's sponsor and Mason's employer, supported only a trio of houses at one end—it's only debit. The block's credits were many: it was serviced by a 50 ft. landscaped parkway on one side, by a city street car line on another and by a 30 ft. concrete driveway (super alley) down the center; it was conveniently located with respect to public schools, Butler University (two blocks distant), and shopping facilities (one mile distant); and all its essential utilities were already in place and paid for—sidewalks, sanitary sewers, water, gas and electricity.

Good Homes, Inc., made only one change in its land find: lot stakes, originally set 41 ft. apart, were pulled up, put down 48 ft. apart, making seventeen lots of a uniform 135 ft. depth. Then, Architects Pierre & Wright (Edward D. and George C., respectively) were commissioned to design a house for each lot, different in floor plan as well as exterior appearance. To their credit are the completed houses which feature several design details less aptly handled in the average house in their price class—simple ornamentation, low front stoops, chimneys in scale with the houses, combination living-dining rooms, numerous closets in addition to full basement storage space.

For one who had only recently dropped down from the big house field, Builder Mason learned quickly one of the fundamentals of low cost housing; he completed all seventeen houses exactly according to the architects' plans and specifications before trying to sell them. This permitted production to move smoothly without the costly delays and changes in design and specifications which usually result when a half-built house is purchased and becomes, as often as not, half speculatively built, half owner built. Further to minimize construction time and costs, Mason used power saws, steel scaffold brackets and other well-known short cuts. But, he did not skimp on the quality of material and equipment. To wit: specifications include solid brass hardware, factory assembled window and screen units, balsam wool insulation, precast basement area way walls, etc.

Since conditional commitments for FHA mortgage insurance were obtained for all the houses prior to construction, operations were watched by FHA as well as city inspectors. But, when with the aid of a couple of newspaper feature articles and a little classified advertising all houses were sold, only ten of FHA's commitments were exercised. Purchasers of the other seven houses either plunked down 100 per cent cash or made more than the minimum FHA downpayment. In the latter cases, the insurance company mortgagee accepted uninsured loans. Sales prices ranged from $5,400 to $7,500 including lots (about $1,000 each), one-car detached garages (about $175) and complete landscaping. Feeling his way down the cost ladder with encouraging success, Builder Mason now plans to build a group of $3,000 to $4,000 houses.

CONSTRUCTION OUTLINE (house, right)

FOUNDATION: Concrete block.


ROOF: Covered with 215 lb. thick butt asphalt shingles.


WINDOWS: Bash and screens—Silentite, Curtis Companies.


STATISTICAL BEHAVIOR GOOD as Building enters second half of year.

PERMITS—total

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<th>YEARS</th>
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<tr>
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MARRIAGES—34 cities

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<th>1940</th>
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<td>PRINCIPAL</td>
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<tr>
<td>CUMULATIVE</td>
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</tr>
<tr>
<td>LATEST MONTH</td>
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</tr>
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</table>

FOOTNOTES:

1. Valuation of building permits to some 2,100 communities; source, U. S. Department of Labor.
2. Valuation of contracts awarded in leading markets; source, F. W. Dodge Co., data by U. S. Dept. of Commerce.
3. FHA, Department of Housing and Home Finance; source, FHA.
4. FHA—mortgage selections (000,000) = $119.7 (data for educational purposes only); source, FHA.
5. Mortgage acceptances = 68.1; source, FHA.
6. Rental housing units = 262.9; source, FHA.
7. Modernization loans = 25.2; source, FHA.
8. FHA—mortgage selections (000,000) = $119.7; source, FHA.
9. FHA—mortgage selections (000,000) = $119.7; source, FHA.
10. FHA—mortgage selections (000,000) = $119.7; source, FHA.
11. FHA—mortgage selections (000,000) = $119.7; source, FHA.
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39. FHA—mortgage selections (000,000) = $119.7; source, FHA.
40. FHA—mortgage selections (000,000) = $119.7; source, FHA.
Look what a world of difference TERRAZZO makes!


A GLANCE at the floor of this $1,500,000 Milwaukee school indicates the infinite color and design possibilities of terrazzo.

Years from now another glance at the same floor will show terrazzo still beautiful . . . with its original colors and design still clean-cut and sparkling. Further maintenance costs are practically nil.

There you have three reasons for the ever-increasing use of FINE TERRAZZO made with marble chips and Atlas White portland cement.

For remodeling or new construction, take advantage of terrazzo’s unlimited possibilities in color and design and specify it on your next job. Atlas White (plain or waterproofed) gives terrazzo at its best—moderate in first cost, low in upkeep. See our ad in Sweet’s Catalog or write for free booklet showing 24 true-color specimens of FINE TERRAZZO.

Universal Atlas Cement Co. (United States Steel Corp. Subsidiary), Chrysler Bldg., New York City.

. . . FOR FINE TERRAZZO SPECIFY
ATLAS WHITE PORTLAND CEMENT
Buckeye Conduit is made of Steel, Lacquer and Loyalty

The most important element in conduit that will help you on the job is the men who make it.

Buckeye Conduit is made in the largest and most modern conduit mill in the country. We're proud of that but we're a lot more proud of the men in those mills. Conduit making is still an art, and while these men of ours are as big and tough as they come, they're artists at their jobs. You'd know in a minute what we mean if you could see how skillfully the welder proceeds with his work only when the steel is heated within the narrow limits that mean perfect welding temperatures, and the pride he takes in every length he forms; if you could see the painstaking care of the men in the cleaning, baking and finishing divisions; and finally the sharp eyes of the inspectors who ruthlessly throw out any length that is not as perfect as it can be made.

These men -- many of them here for 20 to 30 years -- are as proud of their product as any painter could be of his work. You couldn't hire them to turn out a length of Buckeye that wasn't a tribute to their loyalty and skill. It is men like these at Youngstown that make us in the sales department proud to offer you the fine conduit they produce.

THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon and Alloy Steels
General Offices - YOUNGSTOWN, OHIO
Glass is Modernizing Main Street

by bringing new beauty and versatility to store front design

There is a kind of glass in the Pittco line to meet every store front need. Polished and Suede-finish Carrara Structural Glass, PC Glass Blocks and Architectural Glass, Pittsburgh Plate Glass, Herculite Tempered Plate Glass, Tapestry Glass, Pittsburgh Mirrors... these are some of the glass products which have widened the scope of design and helped architects to make Main Street modern.

All these Pittco Products are of high quality. All are meant to be used together to create harmonious, unified store fronts. And all of them can be readily obtained in identical quality anywhere in the country.

In your store front work, call on the versatility of glass to help you create striking, original fronts that get action for your clients. Mail the coupon now for more detailed information about Pittco Store Front Products and for graphic examples of the magic of glass in modernizing Main Street.

At the New York World's Fair, see the miniature Pittco Store Fronts in the Glass Center Building, and the full-size Pittco Fronts of the Avenue of Tomorrow in the Forward March of American Building.

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City, State:

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PITTSBURGH PLATE GLASS COMPANY
"PITTSBURGH" stands for Quality Glass

SEPTEMBER 1940
It's easy with floors of Armstrong-Stedman Reinforced Rubber Tile

Armstrong-Stedman Rubber Tile is comfortable and restful—a feature that weary nurses and doctors appreciate. It is easy and inexpensive to maintain by daily dusting and occasional washing and waxing—a fact that appeals to cost-conscious superintendents and hospital boards.

Colors in "Sweet's"

For more complete data on this accepted hospital flooring, write now for a file-sized copy of *Quiet, Comfort, and Color in Floors*. Armstrong Cork Company, Building Materials Division, 1204 State Street, Lancaster, Pennsylvania.

**ARMSTRONG'S FLOORS**

**RUBBER TILE**

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

**APARTMENT JINX**

(Continued from page 212)

of the project, must therefore be reached via project-operated buses. These vehicles also transport children to school in Pine Lawn and Pasadena, shoppers to a wide variety of Pine Lawn stores, amusement seekers to a second-run theater in the same community.

The project's buildings as well as its site are less attractive than Manhassett's. Arranged in an uninteresting regular pattern, the 27 three-story walk-up buildings contain 240 three-room dwelling units and 364 four-room units—a considerably better distribution of apartment sizes than in Manhassett Village. However, their organization and exterior design (see photograph) unaccomplished by meager landscaping have prompted some observers to describe them as bare and barrack-like. Eight garage buildings make room for 431 automobiles.

**Financing** of Lucas-Hunt Village followed closely the shaky steps taken in the development of its predecessor. Again, it is charged, the builder's secretary bought the land and sold it to the sponsors. The reported prices: $75,000 and $850,000, an overnight write-up of $277,000, or 300 per cent. On the basis of this land value and development costs, the completed project was valued and capitalized at $3,400,000.

Northwestern Mutual Life Insurance Co. supplied 80 per cent of this amount ($2,700,000) in return for an FHA-insured mortgage, while the written-up land value and the architect's and builder's services were anted as an equity investment to cover most of the 20 per cent balance.

Result: Lucas-Hunt Village was subjected to the same press and Congressional attacks as helped ruin its sister project.

**Rent.** Not surprising therefore was the fact that upon the ill-timed completion of the first two buildings in November 1939, only eleven families moved in. By the time the balance of the project was completed in February, 38 more units were occupied, and in the following five months 56 more leases were signed at the original rent scale—$42.37, or an average of $15.67 per room per month excluding garages at $2 apiece. Then, like Manhassett Village, the project went under new management.

Rents were trimmed to $41.48 and, thanks to more energetic promotion, nineteen more units were leased by August 3, date the project was officially taken over by FHA. With only 124 out of 604 apartments rented, the project's 21 per cent occupancy ratio makes Manhassett Village's measly 41 per cent appear large by comparison.

**Diagnosis.** Due to their many similarities, particularly in the more unfortunate de-
"Mister, I'll make you a liberal allowance on your old Dutch Boy paint job."

If a painter made a proposition like that, the property owner would hardly believe his ears.

Yet as a matter of fact, good paint does have a trade-in value.

This value is not brought to light until it's time to repaint. Then the owner discovers whether he's turning in a good car—or a jalopy.

Generous "trades" are the rule when the previous painting was done with Dutch Boy White-Lead. This fine paint cuts down the cost of the new job in two ways:

1. No old paint to be removed! Dutch Boy does not crack and scale. There are no scaly surfaces that have to be burned and scraped off (that's slow, costly work) before they can be repainted.

2. No new priming coat. Since the Dutch Boy is smooth and unbroken, it is not necessary to prime the surface before applying the new paint.


NATIONAL LEAD COMPANY

111 Broadway, New York; 116 Oak St., Buffalo; 906 West 18th St., Chicago; 820 Freeman Ave., Cincinnati; 1215 West Third St., Cleveland; 722 Chestnut St., St. Louis; 3240 26th St., San Francisco; National-Boston Lead Co., 880 Albany St., Boston; National Lead & Oil Co. of Penna., 1276 River Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Building, 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.
There is a

Different

IRON FENCE!

APARTMENT JINX
(Continued from page 34)

tails, Manhasset and Lucas-Hunt Villages failed for about the same reasons (see p. 311, col. 2). Had the latter project been postponed until the former had been given an opportunity to measure the various dimensions of the St. Louis rental market, chances are it would never have been built—at least, not as it is.

HIGHLAND VILLAGE, ST. PAUL, MINN

Vying closely with St. Louis for the dubious honor of having the most foreclosed FHA-insured apartment units, the Twin Cities have seen three projects containing a total of 535 dwelling units immersed in financial hot water.

Project. Biggest of the trio, Highland Village, once known as Lakeland Manor, is situated midway between the Twin Cities' downtowns on high ground commanding an excellent view of much of St. Paul and part of the Mississippi River gorge. Its well landscaped, rolling 22 acres sprout a natural growth of trees. And besides being comfortably near the Ford plant, the Ford Bridge to Minneapolis and a high-priced boom-time subdivision called Highland Park, the project is admirably located with respect to shopping and public transportation centers. Moreover, a nearby golf course supplements recreational facilities on the site.

Inside its sixteen two- and three-story buildings are 265 one- and two-bedroom apartments. A detached garage compound makes room for 150 automobiles and may be readily expanded in line with demand.

Finance. In approving Highland Village for mortgage insurance, FHA valued the entire development at $1,395,000, and on the basis of this figure the contractor-owner obtained the $1,100,000 proceeds of 79 per cent loan from the National Life Insurance Co. of Vermont. Upon completion of the project, however, county officials for tax purposes placed a "fair and true" value of only $4,300,000 on the land, $862,400 on the improvements. The $907,400 total, only about 65 per cent of the project's capitalization, raised many a St. Paul eyebrow when publicized editorially in the local press. Furthermore, some observers conclude that the contractor-owner obtained a loan large enough to cover more than his costs and built the project as a speculative sales venture. Fact that he disposed of it prior to completion (October 1939) lends weight to this conjecture.

Rent. Upon completion of the buildings in December (three months too late for Minnesota's normal renting season), rents were set at $45-60 for the one-bedroom apartments, $80-75 for two-bedroom units (Continued on page 38)

What old New England sea captains could tell modern home-builders about

KEEPING BEAUTIFUL
WOOD BEAUTIFUL

Back in the days when Americans toted a gun for Indian protection every time they ventured outdoors—they already knew the secret of having beautiful woods indoors. For even then New England captains brought shellac from India, to give pine-paneling and floors that hand-finished effect we now admire.

Beauty-loving colonists dissolved the shellac in pure alcohol, applied it in thin coats after the woods had been sanded smooth, and then brought it to a polish with a coating of wax from their own bee-hives.

A Lasting Beauty Treatment

Today, except for the use of paste wax, the beauty treatment for good wood is identical in process, and even more effective in results. Shellac is the toughest, most enduring finish that can possibly be used—it doesn't crack under hammer blows, doesn't break down in bowling alleys, comes out gleaming and fresh after a busy night in a ballroom.

Specify a Pure Shellac

On your next building, make sure those good floors stay that way for years to come—beautify them and protect that beauty, by specifying a good pure shellac. Write 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.
Sloane-Blabon Linoleum
One of Your Dependable Aids

A striking note is achieved by the use of special insets in this child's room of a home in Newton Center, Massachusetts.

Sloane-Blabon Battleship Linoleum was specified for installation throughout the new U. S. Veterans' Hospital at Dallas.

In the new Men's Dormitory at Ohio State University, Columbus, 10,000 square yards of Sloane-Blabon Battleship Linoleum was used.

Its durability, ease of maintenance and quietness made Sloane-Blabon Linoleum the choice for the offices of the Cities Service Company, N. Y.

You can bank on Sloane-Blabon Linoleum to meet your most exacting requirements when it comes to the floor covering. Whether the primary requisite is one of design and color to accent a particular decorative note in home or apartment, or whether the practical qualities of long wear, resilience and quietness are paramount, there is a Sloane-Blabon Linoleum to fill the bill.

Wherever installed, Sloane-Blabon Linoleum offers the plus advantages of cleanliness and of ease and economy of maintenance.

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SEPTEMBER 1940
BE SURE YOU'LL NOT NEED A TRAFFIC COP IN THAT KITCHEN

Smooth circulation in the area devoted to the preparation and serving of food is a primary consideration with every restaurant, hotel, hospital and public institution.

Only by proper planning in advance can traffic jams with resultant breakage and delays be prevented in a kitchen.

Many architects avail themselves of the experience of John Van Range Kitchen Engineers before planning these departments.

Have you such a problem under consideration?

APARTMENT JINX

(Continued from page 36)

—an average of about $15 per room per month when due weight is given to half rooms. Five months later when foreclosure proceedings began, the 265 apartments were less than half rented. Today, in an effort to get the project in the black before expiration of the State-required one-year redemption period (for which FHA must wait before taking possession) the management is changing the heating system over to natural gas with the hope of saving half the annual fuel bill and is offering $10 for each successful tip as to the name and address of families who might be interested in renting a Highland Village apartment. With the aid of leaflets publicizing this novel offer, the management hopes to bring occupancy up to at least the 75 per cent level where the project will begin to show a profit. But, despite the development’s difficulties, rents have not been lowered.

Diagnosis. As in St. Louis’ cases, major reasons for the failure of Highland Village were its out-of-season completion date and the fact that its owners were apparently more interested in its construction than its operation and were without sufficient working capital to carry the project through what will probably be its most troublesome year. Numerous other factors have combined to discourage the renting of its apartments: 1) Dwelling unit rents are too high to appeal to low incomers, and, according to some observers, the apartments lack the interior appointments necessary to attract higher income groups. 2) Unsavory publicity was given the discrepancy between the FHA and local appraised valuations. 3) Several elements of design have met with consumer disapproval. For instance: Since there are no service roads on the site, garbage collections must be made from front doors, and, when a tenant is away for the day, his unsightly garbage pail may stand beside his door for many hours. 4) Three-story buildings are without inside access to the basements, and basement locker space has been criticized as inadequate. 5) Attitude of the local FHA office, which has acted as though there were something to be hidden, has not been helpful.

SUMMARY

In addition to the three ailing projects discussed in detail above, another five have suffered by their sponsors’ mistakes: two smaller developments in Minneapolis, one in Dallas and a pair of large elevator projects in suburban New York (see tabular summaries, page 211). Significantly, all eight have run into trouble for one or more of four reasons:

1 Poor timing of construction contributed to the downfall of no less than seven of the eight projects. FHA cannot require that a project be completed at the outset of a locality’s normal rental season; it can only preach its obvious importance.

2 Insufficiency of working capital, particularly when combined with the off-season completion of a project, is usually fatal, but fortunately, is something FHA can control. When most of its ill-starred projects were approved for mortgage insurance, FHA required that the sponsoring corporations have a minimum working capital equal to only 1 per cent of mortgage principal over and above the estimated funds necessary to carry development of the projects through the construction and normal renting period. Having learned by bitter experience that this figure was dangerously low, FHA has long since jacked it up to 3 per cent.

3 Dubious financial procedure has been advanced as the reason for the failure of half the eight projects. Due largely to the alleged writing-up of land values in the two foreclosed St. Louis projects, Congress last year amended the National Housing Act to limit the principal amount of Government-insured rental housing mortgages to the estimated cost of completed physical improvements, exclusive of land, public utilities and streets, taxes, interest and insurance during construction and organization, legal and miscellaneous expenses incidental to construction. Interestingly, this proviso, in conjunction with a decree that labor on such projects be paid prevailing wages, has greatly curtailed the volume of construction under this section of the Act.

4 High rent is the final common cause of housing failure. As shown in the tabulation on page 211, original room rents in all eight ailing projects were well above the program’s $14.50 average. Having admittedly burned its fingers by authorizing above-market rates, FHA five months ago ruled that it would approve no future projects in which this figure exceeds $13.50, with the possible exception of those planned for metropolitan centers of one million population or more, where the ceiling was set at $13.50 per room.

If their sponsors had paid stricter attention to local housing markets and had FHA several years ago brought currently existing limitations into play, chances are that most of the eight ailing projects would never have been built or, if built, would be in better health today. But, they may still get well. FHA Administrator Stewart McDonald before the same 1937 Congressional audience that heard his first foreclosure scare announced: “I do not think there is a single large rental project in St. Louis that has not gone through receivership at some time.”
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BOTH PHOTOS: Offices of Griesedieck Bros. Brewery Company, St. Louis

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SEPTEMBER 1940

45
WINSLOW AMES, Director
Lyman Allyn Museum
New London, Connecticut

A selective review of the last ten years in American design will have interest for every reader. If “Design Decade” can “serve to differentiate between good and mediocre design,” it will have taken a progressive step in editorial policy, and you will have done much to close a gap in the field of American art publications.

CHARLES H. SAWYER, Director
Worcester Art Museum
Worcester, Massachusetts

The DESIGN DECADE program is of real significance not only as a historical record of the products of the past ten years, but also as an indication of what the immediate future may bring. It is especially valuable for the student and for the young designer to have, at this time, an opportunity to see these developments in perspective.

HUGH S. MORRISON, Chairman
Dartmouth College
Department of Art & Archaeology
Hanover, New Hampshire

In this past decade, FORUM leadership in recognizing significant work, in assembling data and interpreting trends, has been a major factor in the progress of modern design. It is fitting that you should celebrate achievement in which you have so much contributed, and at the same time forecast another decade.

JAMES CHILLMAN, JR., Director
The Museum of Fine Arts of Houston
Houston, Texas

One of the chief values of an effort such as the DESIGN DECADE of THE ARCHITECTURAL FORUM lies in the emphasis given to the unity of the arts. DESIGN DECADE should do much to emphasize the fact that the design of a good garage is of a kind with that of a stained glass window and in its way just as much a means of expression.

DONALD B. GOODALL, Director
Utah State Art Center
Salt Lake City, Utah

Articles of use tend to represent the truest creative elements consistent with a time and people, and the well designed artifacts of the past decade represent the soundest elements of contemporary expression. That THE ARCHITECTURAL FORUM sees fit to bring general attention a visual survey of design developments is important.

LESLEY CHEEK, JR., Director
Baltimore Museum of Art
Baltimore, Maryland

The exciting new consistency of contemporary sign must be pointed out to Americans everywhere to help their interpretation of a changing world, and to emphasize the growing responsibility of each citizen as a purchaser. THE ARCHITECTURAL FORUM, devoting a special issue to the important decade just closing, is doing America a service.

MRS. RUTH LAWRENCE, Director
University of Minnesota Gallery
Minneapolis, Minnesota

It is hoped that the DESIGN DECADE will do much to clarify the fact that we are living in an age in which new cultural and artistic concepts are being formulated. In this program there is a splendid opportunity to evaluate our age and to appraise our values.

BLAKE-MORE GODWIN, Director
The Toledo Museum of Art
Toledo, Ohio

FORUM's DESIGN DECADE program recognizes the most significant contribution which America has made to the progress of art: design for industry. THE ARCHITECTURAL FORUM is making a distinct contribution focusing attention upon this progress, and its comprehensive survey should give it further impetus.
THE FORUM's projected "Design Decade" issue will be of inestimable value to countless Americans who have become eager to appraise an integral aspect of our country's growth as a civilized nation. THE FORUM's innovation will be applauded by every museum official who is investigating the educational potentialities of his institution.

KEITH MARTIN, Director
The Kansas City Art Institute
Kansas City, Missouri

DESIGN DECADE is indeed an appropriate title, not only for the series of exhibitions contemplated, but also for the decade just closing in history. The program is an important step in recapitulation, necessary in order that we may see the direction of our efforts and evaluate them.

ROBERT TYLER DAVIS, Director
Portland Art Museum
Portland, Oregon

The DESIGN DECADE program promises to be an important step in the development of public awareness of good design. Appreciation must be more widespread before our best architects and designers can create a vital, coherent contemporary style. THE ARCHITECTURAL FORUM is to be congratulated for its active efforts in this direction.

A. G. PELIKAN, Director
Milwaukee Art Institute
Milwaukee, Wisconsin

THE FORUM's DESIGN DECADE program represents the most comprehensive plan attempted so far to bring to the attention of the public the astonishing progress made by our architects and designers. It indicates that America is destined to take the lead in the allied arts as applied to commerce and industry during the coming decade.
AWARDS

To W. H. Ansell, presidency of the Royal Institute of British Architects, to fill the unexpired term of the late E. Stanley Hall.

To Palmer & Lamden, award in Baltimore, for their selection of its best buildings erected in 1939, in one of seven classifications—Apartments and Group Houses. To Lawrence A. Menefee, in the classification Row Houses.

For decorating the S.S. President Van Buren, Tom Dietrich, Appleton, Wis.; R. P. Sanderson, Scottsdale, Ariz.; Edmund Lewandowski, Milwaukee; Maxine Selinder, Yonkers, N. Y.; Henry Simon, Chicago.

For decorating the S.S. President Adams: Philip Guston, New York; Jean Swiggett, Long Beach, Calif.; James L. McCrerry, Brooklyn, N. Y.; Cleveland Bisbee, New York; Muna McKim, New York.

To the following mural painters selected as a result of a national competition, commissions for decorating the S.S. President Garfield: Esther Bruton, Alameda, Calif.; R. Phillips Sanderson, Scottsdale, Ariz.; Edmund Lewandowski, Milwaukee; Maxine Selinder, Yonkers, N. Y.; Henry Simon, Chicago.

For decorating the S.S. President Garfield: Arthur Young McKee, graduate of Pennsylvania State College, the Theophilus Parsons Chandler Fellowships in Architecture for the year 1940-41, awarded by the School of Fine Arts, University of Pennsylvania.

For the following mural painters selected as a result of a national competition, commissions for decorating the S.S. President Garfield: Arthur Young McKee, graduate of Pennsylvania State College, the Theophilus Parsons Chandler Fellowships in Architecture for the year 1940-41, awarded by the School of Fine Arts, University of Pennsylvania.

To John C. Wheeler, Murfreesboro, Tenn., graduate of Georgia School of Technology, and to Joseph Gellerman, Staten Island, N. Y., graduate of New York University, Graduate Scholarships by the School of Fine Arts, University of Pennsylvania.

To Jesse M. Shelton, Atlanta, Ga., in Factories.

To Armand Carroll, Philadelphia, in Retail Commercial Buildings and Theaters.

To Crisp & Edmunds and Edward H. Gildik, associated architects, for Other Outstanding Structures not including Private Residences.

In two classifications—Non-retail Commercial Buildings, including Garages, and in Altered Facades, no awards were made.

Competitions

Augustus D. Curtis Award. Annual competition conducted by Edison Electric Institute, in lighting by fluorescent lamps of a commercial interior made during the twelve months' period ending March 1, 1941. First and second awards consist of a certificate to the utility company and cash prizes of $200 and $100 respectively to the individuals responsible; third and fourth cash prizes of $50 and $25 respectively will be awarded to individuals. Completed presentations must be filed at Edison Electric Institute, 420 Lexington Ave., New York on or before April 1, 1941. Further details may be had from the Institute.

Industrial Design. The Museum of Modern Art, New York, will conduct a competition open to anyone in the U.S., Cuba, Mexico, Central or South America, covering such fields as architecture, vehicles and lighting. Judgment early in December. Exhibition of the designs submitted.
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The basic unit of the Wheeling Long Span Steel Joist System is a channel shaped joint whose top flange is considerably wider than the bottom flange. These joists are available in depths of 5", 6" and 8" and are 12, 14 or 16 gauge COP-R-LOY. Architects and builders should write today for complete data and specifications.

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FORUM OF EVENTS

(Continued from page 48)

and of the pieces produced from them is scheduled for early fall of 1941. Programs will be ready in the early fall, for copies of which apply to The Museum of Modern Art, 11 West 53rd St., New York.

EDUCATIONAL

NEW YORK UNIVERSITY. A comprehensive conference course for the benefit of laymen who plan to build, buy or remodel small homes and apartments. Monday evenings beginning in September at the School of Architecture. Members of the faculty, DeWitt Clinton Pond, Edward D. Stone, Simon B. Zehik and Albert C. Schweizer, will be assisted by guest lecturers including Aynar Embury II and George Licht.

NEW YORK UNIVERSITY. A course in the making of working drawings designed for students of architecture, engineering draftsmen, contractors, builders, estimators, real estate operators and dealers in building materials and mechanical equipment. Saturday mornings beginning with the fall semester.

NEW YORK UNIVERSITY. A course in the application and interpretation of building laws in New York City, with Samuel L. Becker, professional engineer and lawyer, as lecturer. Wednesday evenings beginning with the fall semester.

NEW YORK UNIVERSITY. A new advanced course in housing and site planning of large scale projects. William F. R. Ballard and Carol Aronovici will conduct the program. Monday and Thursday evenings beginning in September.

NEW YORK UNIVERSITY. Two courses in plan reading and estimating: elementary course Saturday afternoons; advanced course Tuesday evenings, beginning with the fall term under the direction of A. Benton Greene.

NEW YORK UNIVERSITY. Series of Thursday evening lectures on modern industrial design by the following lecturers among others: Gilbert Rohde, Raymond Loewy, Donald Deskey, Henry Dreyfuss, George Sakier, Walter Dorwin Teague, Russell Wright, Herbert Bayer, Martin Ulman, Eleanor Le Maire.

SCHOOL OF DESIGN, CHICAGO, After its summer session in combination with Mills College, Calif., the School of Design returns to 247 East Ontario St., Chicago, for its winter work under the direction of L. Moholy-Nagy.

CALIFORNIA GRADUATE SCHOOL OF DESIGN, PASADENA, supplementing on a graduate basis the undergraduate work in design done in colleges and design training schools. Walter Baermann, director and chairman of the faculty.

STUART SCHOOL and the associated Child-Walker School of Design have been combined at 102 The Fenway, Boston, to offer for private school and high school graduates a comprehensive education in the creative arts.

SYRACUSE UNIVERSITY. The Department of Architecture announces the appointment of Melvin L. King of Syracuse, William Kaelber of Rochester, and L. Andrew Reinhard of New York as new members of the Cooperating Committee of Architects.

(Continued on page 56)
ARMORED AGAINST TROUBLE

...and so are BARRETT ROOFS!

NATURE gave the humble tortoise a tough shell for protection.
The gravel or slag wearing surface of a Barrett Specification Roof has much the same purpose... it is an armor to the waterproofing. It not only guards the building against fire and mechanical damage to the roof, or damage by hail, but it also provides positive protection against the actinic rays of the sun, and permits the use of greater quantities of coal-tar pitch—the world's greatest waterproofing compound.

These are just some of the reasons which explain the superiority of Barrett Specification Roofs. Add the fact that when these roofs are applied by Barrett Approved Roofers according to time-proved Barrett specifications they are bonded against maintenance expense for periods up to 20 years.
The result is a degree of certainty in performance that finds few equals in the building industry.

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The fire-safe gravel or slag wearing surface of a Barrett Specification Roof offers lasting protection to the waterproof covering.
Shucks! If we had one of them new-fangled G-E gas furnaces, Maw wouldn’t have to git up all winter t’keep a fire goin’.

Have you seen this new G-E line of gas furnaces?

Whatever your heating or air conditioning problem may be ... General Electric’s complete lines will solve it for you!

G-E Oil Furnaces (for steam, hot water or vapor); compact; high heat transfer rate and low water content offer quick steaming; unusually economical in operation.

G-E Oil Winter Air Conditioners circulate warm, clean, moistened air from one compact unit. Highly efficient in operation. Adding a single switch offers the advantages of air circulation in summer. Cooling equipment can be added at any time desired.

G-E Unit Air Conditioners for low-cost air conditioning in shops, restaurants, offices, etc. Available in a complete range of sizes. Low in cost. Easily installed, little or no duct work needed.

There is a G-E Water Cooler for every commercial and industrial need. G-E Condensing Units are available in a wide range of beverage coolers, food display cases, storage refrigerators, ice cube makers, walk-in refrigerators and locker storage plants.

You owe it to yourself and to your clients to look into these new General Electric gas furnaces for steam, hot water, vapor and warm air before specifying your next gas job. Clean, efficient, entirely automatic, they are the last word for carefree heating comfort! See, especially, the new Gas Winter Air Conditioner which gives the double benefits of automatic warm air heat plus winter air conditioning! Send for literature.
THE basement laundry, once the ugly duckling of the household, now performs its function not only more efficiently but in happier surroundings. Streamlining and beautifying home equipment has had its inevitable effect on architectural treatment. Now light, color, beauty and convenience are demanded. And steel has played a large part in this transformation. For instance:

Look what has happened to the heavy, dingy laundry tubs. Now you can provide them pressed from a U·S·S Vitrenamel steel sheet, surfaced with gleaming porcelain enamel. Water softeners and hot water heaters also are covered with porcelain enamel inside and out. None of these articles will rust, and they are as easy to clean as a china plate. Ever-brilliant faucets and equipment trim are made from U·S·S Stainless Steel. Galvanized U·S·S Copper Steel sheathes furnace and clothes dryer, and provides air-conditioning ducts which effectively resist humidity.

Note especially the steel floor joists. Strong, light, fireproof, they may be had in various patterns. Attractive when exposed and painted, they may be covered with steel sheeting if desired.

Specifying these advantages assures a delighted home owner. And you don’t have to be a steel expert. Simply require that products be marked with the U·S·S symbol of quality. If source information is wanted we will gladly supply it.

LOOK FOR THE U·S·S MARK

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Associated offices of W. L. Pereira, architect, Chicago, and Wm. A. Canster, architect, Waukegan.

The functions of Builders' Hardware in structures like the monumental Lake County Tuberculosis Sanitarium, Waukegan, Illinois, are many and varied. Because every item in the extensive line of Rixson Improved Mechanism in Builders' Hardware is outstanding for functional efficiency as well as for high grade material and workmanship, Rixson products have gained the preference of men who design, build and operate buildings that house large projects of every type.

Rixson products used in the Lake County Tuberculosis Sanitarium—widely proclaimed an achievement in impressive and effective architecture—include Rixson Single and Double Acting Checking Floor Hinges with Architectural Thresholds, each an outstanding example of Rixson advanced engineering and manufacture.

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FORUM OF EVENTS
(Continued from page 52)

COLUMBIA UNIVERSITY, NEW YORK. The School of Architecture has made changes concerning entrance requirements to be effective September, 1940. A minimum of one year (30 credits) of academic studies instead of two years (60 credits) is now required as entrance to the four-year professional course.

There is also offered a combined professional course: students who remain in Columbia College for three years and then transfer to the School of Architecture may receive their A.B. degree from college after passing the first year subjects in architecture. They receive the Bachelor of Architecture three years later.

Columbia University will offer the degree of Master of Science in Planning and Housing beginning with the academic year 1940-41. Candidates must be graduates in architecture, landscape architecture or civil engineering. Depending upon their previous experience and training, they will be required to follow a one or a two-year graduate course in Planning and Housing.

ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO. Merger of Armour Institute of Technology and Lewis Institute has been completed. H. T. Heald, for two years president of Armour, is to be president of the new institute. All upper class engineering subjects will be given at what will be called Armour College of Engineering, the present site of Armour Institute. The liberal arts courses will be offered on the old Lewis campus in what is to be called Lewis Institute of Arts and Sciences of Illinois, Institute of Technology.

VIRGINIA MUSEUM OF FINE ARTS, RICHMOND, announces the availability of Fellowships for Virginia Artists. A patron of the Museum has provided the sum of $10,000 for grants in aid to three Virginia artists under 38 years, the grants being made annually for five years beginning October, 1940. Application forms and further details may be obtained from the Museum.

CALENDAR
July 18-October 20. Fiftieth anniversary exhibition of The Auditorium and the work of Louis Sullivan and Dankmar Adler, Art Institute, Chicago.


September 26-28. First Annual Convention, Texas Society of Architects, Driskill Hotel, Austin. Preliminary plans are in the hands of George R. Johnson, chairman of Publicity Committee.


MISCELLANEOUS
School Architects. The American School and University will again publish its annual list of architects now at work on educational buildings or who have designed a number of schools and college buildings in recent years. There is no charge for the listing of architects' names, and those

(Continued on page 60)
BRASCO STORE FRONTS

"STORES of Tomorrow" such as these, "sell" the public first and always on the up-to-date brilliant design and appearance of the store itself—the inviting eye appeal of the modern Brasco Front.

Your own ideas, faithfully interpreted in every detail through the complete Brasco line, provide means for the merchant to establish the outward beauty and sales power upon which the success of his store so largely depends.

For this purpose Brasco offers an unusually comprehensive line of proven store front construction, both Rolled and Extruded—embodied sash, bars, mouldings and every essential complementary item, from sidewalk to coping, in modern design, completely unified and harmonious. Patented features provide girder-like strength and glass safety—heavy-gauged metals assure permanent beauty. Available in all modern metals—to suit any appropriation.

BRASCO MANUFACTURING CO.
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National Distribution Assures Effective Installation

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Send Samples and Details of Brasco Modern Store Front Construction.

SEPTEMBER 1940
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It is a permanent, positive method of wearproofing and dustproofing concrete floors—new or old. LAPIDOLITH LIQUID goes on a concrete floor as easily as scrub water. LAPIDOLITH LIQUID is merely flushed on finished concrete—safely, simply, economically.

Among the leaders of industry who are using LAPIDOLITH LIQUID for years:
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FOR WOOD FLOORS
Specify LIGNOPHOL
THE ONE APPLICATION PENETRATING WOOD FINISH
that preserves, beautifies and leaves nothing to wear off.

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Providing Case fixtures for public health offers a two-way route to public favor. To select Case plumbing fixtures is, first, to assure the favor that welcomes the promise of cleanliness and sanitation. And, this favor is doubled by the pure attractiveness of Case fixtures, their beauty of design, and range of colors. CASE twice-fired vitreous china is unequalled in cleanliness and in resistance to acids and discoloration, while the mechanical excellence of Case fixtures is positive assurance of life-time, dependable performance. On display in distributors' showrooms everywhere. Write to Dept. E-90, W. A. Case & Son Mfg. Co., Buffalo, N.Y.
THEY ALL VOTE "YES"
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1. Architect: Years ahead of anything I've seen, and they fit my plans to a "T.
I never dreamed a five-foot kitchen could be so complete, so beautifully designed,
so chock-full of practical features, so low in cost!

2. Contractor: We can put these in with our eyes closed. Whoever worked
out your installation details sure knew what he was doing. It's a perfect match
and a perfect fit from end to end. We've installed three today already.

3. Building Owner: I'm an old hand at this game—that's why I insisted on
General Electric kitchen equipment. I know I can depend on it to keep on
giving good service year after year. Quality is cheapest in the long run.

4. Tenant: We rented this suite because of the kitchen. It's a General
Electric, you know, and what a honey for looks and efficiency! I bet it saves
me a thousand steps a day.

The new General Electric "Package" Kitchens represent years of study on the
drafting board and in the field. They introduce revolutionary new features of vital
importance to architects who plan the kitchen; to contractors who install it; to building
owners who must maintain it; and to tenants who enjoy it.

Illustrated is the G-E 62-in. "Package" Kitchen. Six other packages ranging in size from 42 in. to 116 in.
are available. Complete with General Electric Refrigerator, Range, All-
steel Cabinets and accessories, sink, work surfaces, etc. All in a package,
complete from ONE source, your General Electric Distributor.
IT SAYS RIGHT HERE THE SPENCER MAGAZINE FEED HEATER CAN FURNISH HOT WATER—SUMMER AND WINTER

YOU'D BREAK HIS HEART IF HE COULDN'T FOOL WITH THIS OLD JALLOPY

The LADIES BUY the BOILERS

They may not know steel from cast iron, but they know exactly what services they want from the heating plant in their new house or apartment. One service is adequate heat, and the other is automatic, year-round domestic hot water regardless of the fuel used.

So Spencer Boilers (for every fuel), are especially designed with that in mind. There's the Beauty Jacketed "K" or "C" Steel Tubular with a range from 400 ft. to 1950 ft. (steam). Then the "A" Steel Tubular up to 42,500 ft. And for the most economical operation—the famous Spencer Magazine Feed Heater burning small sized, low cost anthracite or coke. All automatically supply year-round hot water by means of storage or instantaneous type coils.


Write for complete Catalogue.

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A Division of Aviation Manufacturing Corporation.
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SEPTEMBER 1940
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is only ONE type of
EICHLAY SERVICE

Eichleay moved this 10,000-ton, 327-foot long Central Square Garage 27 feet to a new foundation for a street widening project in Youngstown, Ohio.

Shops, mail and express offices located in the building were open for business as usual, while more than 400 automobiles used the garage throughout the operation. This is only one example of Eichleay service.

Call on Eichleay for moving buildings, machinery or other structures that require the specialized talents of experienced men.

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Rearranging industrial plants for modern, efficient operation is another Eichleay service. We invite industrialists to call upon us for surveys and quotations.

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All Janitrol Winter Air Conditioners, in popular sizes, are shipped to your clients as complete, ready-to-install units. * This means trouble-free operation. These units are thoroughly inspected before shipment ... Tested at the factory where modern facilities are available for such work.

SURFACE COMBUSTION CORPORATION • TOLEDO, OHIO

* JANITROL factory men are located in principal cities - a great service of experienced heating engineers which relieves you of many heating responsibilities.

Eichleay ENGINEERING Corp.
311 Ross Street Pittsburgh, Pa.
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DRY BASEMENTS REIGN ...

Where BONDEX is Used!

BEFORE — Here's a typical basement, damp and unhealthy, because hard rains seep right through the walls.

AFTER — Treated with Bondex Waterproof Cement Paint, the same basement is bone-dry and ideal for laundry work.

Fall Rains make Homeowners say . . .

"Let's Do Something About Dampness"

The rainy season brings a crop of leaky basements and rouses the anger of Mrs. Housewife against the rivulets that trickle across the laundry or playroom floor. That's where Bondex Waterproof Cement Paint comes in! Suggest a treatment of this world-famous finish that beautifies as it waterproofs basement walls.

For Non-Porous and Painted Surfaces
Use the New BONDEX-PRIMER

For painted and integrally-waterproofed surfaces, use one coat of the new Bondex-Primer followed by a finish coat of Bondex. For porous and non-painted surfaces use two coats of Bondex in a choice of 16 colors. Folder giving complete instructions will be gladly sent on request — use coupon.
THE LADIES will love you.

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"K.O.'s" KITCHEN ODORS
☆ WHISKS AWAY SMOKE, FUMES
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... and your popularity will be well-deserved! For ILG makes these nationally-advertised kitchen ventilators which lighten housekeeping tasks and save on decorating bills—an appliance in the kitchen which every home or apartment hunter looks for and wants. To ease-up your selling job on original plans or finished home, specify the ventilator which is trouble-free, weatherproof, supremely quiet, adjustable for different width walls, lives up to certified ratings and bears the famous ILG "ONE-NAME-PLATE GUARANTEE". Call in your nearest ILG sales engineer today, or write now for Bulletin H511.

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2899 N. CRAWFORD AVE., CHICAGO, I.LL.
OFFICES IN 42 PRINCIPAL CITIES

FORUM OF EVENTS

(Continued from page 60)

in Tours, France. Mr. Richards came to this country when he was 22 years old, and served in the office of the late Horace Trumbauer, architect of Philadelphia. Many of the great mansions of the east show evidence of his skill—the residences of Henry C. Frick, William K. Vanderbilt, Henry Spies, Charles M. Schwab, John Jacob Astor and H. H. Rogers. Probably the sculpture of his that is most frequently seen is the pair of lions flanking the entrance to the New York Public Library, and the sculptured pediment of the Grand Central Terminal.

CHARLES E. WELLS, engineer, 82, at North Adams, Mass. Mr. Wells was formerly division engineer of the New York City Water Supply, having charge of the construction of the Hillview section, Catskill Aqueduct. He also helped build the Pathfinder Dam in Wyoming for the U. S. Reclamation Service. During the World War he was resident engineer for the building of Camp Merritt, N. J., and supervising plant engineer under the U. S. Shipping Board for the construction of concrete ships at San Diego. Mr. Wells was a member of the American Society of Civil Engineers and of the Boston Society of Civil Engineers.

PERSONAL

Irving M. Addis, architect, announces the opening of an office at 3817 South Kedzie Ave., Chicago, where he would appreciate manufacturers' samples and catalogues.

Austin & Shambeau, architects of South Bend, Ind., have dissolved partnership. Ennis R. Austin, F.A.I.A., and N. Roy Shambeau will continue independent practice at the same location, 625 J. M. S. Building.

Carl H. Faltermeyer, architect, has opened an office at 41 Zane St., Glassboro, N. J., where he would be glad to receive manufacturers' catalogues and file data.

Hedrick & Lindsay, Inc., architects and engineers, announce the removal of their offices to 711 Main St., Houston, Tex.

The firm of Mellor & Meigs, architects of Philadelphia, has been dissolved following the death of the late Walter Mellor. Arthur I. Meigs continues independent practice at Radnor, Pa.

Maynard Lyndon and Eberle Smith announce that with Otis Winn, they have formed a professional group to be known as Lyndon, Smith & Winn, architects and engineers, with offices at 300 Murphy Building, 13700 Woodward Ave., Detroit, Mich.

Lauren Parrott and Clarence A. Smith II, associated architects, announce that they have opened a new office in the Bowen Building, Fitzgerald, Ga. Mr. Parrott has practiced in South Georgia for twelve years; Mr. Smith was formerly associated with Massena & duPont, Wilmington, Del., and with L. Phillips Clark, West Palm Beach, Fla.

Mayers, Murray & Phillip, architects, New York, have dissolved partnership. F. L. S. Mayers will maintain an office at 2 West 47th St., New York; O. H. Murray will practice in Rhinebeck, N. Y.; and Hardie Phillip will continue practice at 88 West 44th St., New York.

Perry, Shaw & Hepburn, architects, Boston, announce that as of July 1, last, Robert Charles Dean was admitted to the firm.
THE distinctive Pennvernon label is your assurance of quality window glass. It identifies a glass genuinely worthy of good windows. For Pennvernon is clear. It is brilliantly finished on both sides of the sheet. It possesses a quality of reflectivity and freedom from distortion exceptional in a sheet glass. It affords good vision. And each light is paper packed to protect the glass during shipment. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.

AT THE NEW YORK WORLD'S FAIR, VISIT THE GLASS CENTER BUILDING AND THE PITTSBURGH HOUSE OF GLASS.
Insulation needs no defense. Pity it is—but 'tis true—that in low-cost construction the POCKETBOOK cries out in self-defense.

Many architects have solved the budget-battle on "Insulation" by specifying that the walls (22% of normal heat loss occurs here) be AIR-SEALED with Brownskin. Brownskin Air-Sealing is permanent. Built in. Prevents the passage of wind, water, moisture, vapor. Keeps cold air out—heated air inside. Saves money every year on repair and fuel bills. It's the answer to Mr. Limited Pocketbook's prayer for a warm, dry, tight house.

ANGIER CORPORATION
76 WIDELL STREET, FRAMINGHAM
MASSACHUSETTS
Send for "Sam-the-Brownskin-Man"
SAMPLE BOOK.

Combine Beauty, Convenience and Economy.
This is the architect's primary aim in planning an office building. When it comes to the matter of blinds, the question is easily settled. Wood Venetians suit the tenant because they harmonize with his wood furniture—"only wood blends with wood." They please the owners of the building because of their unusual economy. Here is a statement from the management of the Dierks Building, Kansas City, Mo.:

At the time the Dierks Building was constructed, the windows throughout were equipped with wood-slat Venetian blinds. Every year since, we have been more appreciative of the beauty and economy of this window treatment. Venetians have enabled us to eliminate awnings, with their ever-present fire hazard. Actually, our total bill for Venetians is less than we would spend for the installation, annual storage and replacement of awnings. Accurate cost-accounting shows we spend an average of only 2.16 cents per square foot of window area each year for complete maintenance of Wood Venetian blinds. This includes annual washing, as well as painting, re-taping and re-cording at necessary intervals.

Of course, Wood Venetians have many other advantages. You'll find them in the booklet, "Only Wood Blends with Wood," a Venetian Blind primer offered free of charge by the Wood-for-Venetians Association. Write for it! You save money for your client when you specify Wood Venetians.

Wood Venetians
WOOD-FOR-VENETIANS ASSOCIATION
939 RUSS BUILDING
SAN FRANCISCO, CALIF.
Problem

Solution

to design a monumental Temple for a commanding site — at limited cost

CONCRETE

Concrete helped the designers of Holy Blossom Temple, Toronto, create a church of great beauty and significance—at a saving in first cost. Walls of pleasing board-marked texture were cast in place along with most of the ornament; even the window tracery is concrete, precast to facilitate construction.

Ask your architect or engineer how concrete helps build beauty, firesafety, durability and economy into your building, be it a church or a factory. Booklet, "The NEW Beauty in Walls of Architectural Concrete," picturing many examples will be sent on request (free in the U. S. or Canada). Or a representative will call. See Sweet's 4/48.

PORTLAND CEMENT ASSOCIATION
Dept. 9-7, 33 W. Grand Ave., Chicago, Ill.

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

Architectural Concrete . . . Architectural and Structural Functions Combined in One Firesafe, Enduring Material

Holy Blossom Temple, Toronto, Canada. Chapman & Oxley, architects and engineers; M. D. Klein, associate architect; Dickie Construction Co., Ltd., contractors.
LETTERS
(Continued from page 24)

Linden's London
Forum:
Linden's London shopping center
(ARCHITECTURAL FORUM, August 1946, p. 133) may
be a good story from the real estate standpoint,
but as architecture it is considerably below average,
and it seems to me up to a leading architectural journal to
point this out.
When a frankly speculative builder puts
up a row of jerry-built shops with a mis­
cellaneous collection of urns and pedi­
ments as "decoration," one is inclined to
take it for granted. But when this prac­
tice is modified merely by adding a whole
false floor, it is high time to rep­
sent stren­
uous objection, not implied commendation.
Certainly many a taxpayer which has ap­
peared between THE FORUM's covers has
accomplished in one story a great deal
more than this ambitious and no doubt
well-intentioned effort achieves in two.

GEORGE WILLIS
Newark, New Jersey

Forum:
. . . Who doesn't agree that good design
must be sincere and straight to the point?
Orchids then for the intelligent analysis
and criticism of airports, plus a gilded lily
for showing how a super-stratoliner might
look if plane designers operated on the same basis as the air terminal design­
ers. And, while we're handing out bou­
quets, add some scallions for not showing
how designers who want to do function­
ally honest architecture can afford this
luxury in practice.
Before moralizing again, take another
look at the Building Money section of the
same issue, wherein a formula for design­
ing successful shopping centers is fea­
tured. At first glance, an impressive group
of two-story buildings with stores on the
ground floor and apartments above, trans­
planted all the way from London, Eng­
land, to Linden, New Jersey. But no­
these are all one-story buildings, accord­
ing to the text. Street walls go 17 ft. above
the roof line, have dummy windows with
Venetian blinds: " . . . a brazen fake which
has deceived most observers."
How does one get around the hardboiled
fact that, commercially, this ersatz archi­
tecture is successful? The stores are fully
rented, the project thrives, the owner
pockets his profits, no doubt dreams of
new undertakings with more false fronts,
and all is well—except in the realm of
esthetics.

HENRY MARSHALL
Cleveland, Ohio

Refeshing
Forum:
The remodeled town house—August

NEW YORK, N. Y.
Objects of Reader Abbott's admiration, the
Architects Sanders and Breck; Smith-Miller.
Associate.—Eo.

Forum:
Having visited "The Terrace House" at
Rockefeller Home Center, I was pleased
to see it featured in your August number.
It synthesizes almost every desirable fea­
ture of contemporary domestic work.
Fully as impressive as Mr. Stone's archi­
tecture to my mind, are the furnishings.
Am I to assume you do not agree, be­cause
I fail to find in THE FORUM any credit
to Dan Cooper, who I understand col­
laborated with Architect Stone on the in­
derior design? It is unusual to find such
a sympathetic team of designers—unfortu­
nate that THE FORUM has failed to give
both the recognition each deserves.

GERALD WARD
New York, N. Y.

THE FORUM defers to no one in its regard
for Mr. Cooper, offers abject apology for an
incumable omission.—Eo.
JUST TO SHOW YOU HOW EASY IT IS...

TO ERECT GLASS BLOCK PARTITIONS LIKE THESE

Offices at 230 Park Avenue, New York City.
Installation made without interruption to business.

Offices in Postum Building, 250 Park Avenue,
New York City.
Pittsburgh-Corning P-C blocks.

Office in Terminal Building, 50 Court Street,
Brooklyn, New York.
Owens-Illinois Insulux blocks.

INTER-LOCKING METAL MEMBERS
FOR DRY-SET INTERIOR GLASS BLOCK CONSTRUCTION

REVERE COPPER AND BRASS INCORPORATED

Executive Offices: 230 Park Avenue, New York, New York

Write for illustrated folder on Revere pre-fabricated interlocking Metal Members for Glass Block Assembly.
Details like this help sell houses.

Those “adorable” breakfast nooks simply, beautifully built-in with U.S. ROYAL FOAM MOLDED CUSHIONING.

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SEPTEMBER 1940
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FOR FURTHER INFORMATION SEE OUR CATALOG IN SWEET'S
News of Building rarely travels at blitz speed. However, there is lots of it these days and much of it important. As a member of the Time Inc. group of publications, THE FORUM's staff is trained to anticipate news and to know how to write it. Because THE FORUM believes news is a major function of professional journalism, Building's professionals have come to depend on THE FORUM as their major news source.

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For the Lincoln Memorial is America’s most moving shrine. And here, under the spell of a personality so great that its living presence can almost be felt, Americans are re-reading words as luminous today as in that other day when the nation was so gravely endangered.

“...that is for us, the living, rather, to be here dedicated to that unfinished...” the great task remaining before us... that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, and for the people, shall not perish from the earth.”

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“Just the same—I can’t bear to think of you as a soldier! Our only son.”

Yet six months from now, if her boy goes into training, that mother will have forgotten that she ever grudged his service to her country.

The boy will come home from camp a man... with the self-reliance, the responsibility, the understanding of his fellows that make a man, and a leader of men.

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Cordially yours,

[Signature]

Leo P. McManus, Pres.

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Anaconda "Electro-Sheet" Copper, bonded to building papers, fabric or asphaltic compounds, is extremely flexible and easy to install. It is available in rolls of various lengths, and in widths up to 60"—with the copper in thicknesses of .0013", .0027" and .004" (1 oz., 2 oz. and 3 oz. per square foot).

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defy time and salt air with one sheet metal

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