THIS MODERN 6-ROOM HOME

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$108.00

Awarded Honorable Mention in
St. Louis Chamber of Commerce
Better Homes Contest... Walter J. Hubbard,
Architect.

"It's running into too much money. We'll have to cut down somewhere. What about sidewall insulation—do we have to have that? Heat always goes upward. Isn't it enough if we insulate the second floor ceiling?"

How many times have you had to argue this out with a client? How many times have you had to explain that side walls provide the greatest single area of heat waste—that insulating top-floor ceilings alone is like going out in a blizzard with a fur cap and a suit of underwear?

It's easier to win such an argument when you talk in terms of Celotex Insulation, because if Celotex Vapor-seal Sheathing is omitted, the materials it would have replaced cost very little less. In the attractive home shown here, designed by Architect Walter J. Hubbard for H. R. Pueser, Normandy, Missouri, complete Celotex Insulation added only $108 to the total cost. And that covers Celotex Vapor-seal Sheathing all around, ½” Celotex Lath on exterior walls, and 1” Celotex Lath in top-floor ceilings!

Omitting the 2½/₃” Celotex Vapor-seal Sheathing would have meant a net saving of only $18—a cost more than offset by the proportionate fuel saving that its use will realize in a single season. Let us send you all the facts now. Mail the coupon!

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Fifty studies of new houses under $10,000 with plans, interior
and exterior photographs, construction data and unit costs.
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A room-by-room comparison of two new houses, modern and
traditional.

MONTH IN BUILDING
VERSUS
A dinner, speeches and floodlights open two shows of archi­
tecture at New York’s Architectural League.

BOOKS
Renaissance engineering . . . House construction . . . Techni­
cal publications . . . A biography of Vanbrugh.

LETTERS
Housing cont’d . . . Roger Allen reports a convention.
BUILDING TRENDS. More favor-able than the current course of total building permits, which was pulled down in January by sharply decreased resi-dential construction (see tabulation, right), is the steadily diminishing number of non-farm real estate foreclosures. January total for the entire U.S. was 6,483 cases—well under the previous post-Depres­sion low, well under the Federal Home Loan Bank Board’s “average month” of 1927 when 7,588 cases were reported. Wholesale building material prices con­tinued their seven-month advance in Jan­uary, due primarily to higher prices for paint and paint materials. Retail costs (cost of constructing a house), on the other hand, decreased fractionally in the face of slightly lower labor rates. Trend of residential rents remained steady.

HOUSING HOPE. Nothing would cast the public housing movement in bet­ter light than lower costs and increased investment by private capital. In late February the U.S. Housing Authority program with one bold step moved in both these desired directions, as four local housing authorities sold a total of $81,379,000 of bonds in the open market at a substantial saving in interest cost.

Back in November, 21 local housing authorities began saving themselves money by offering at public sale blocks of six months’ temporary loan notes, the proceeds of which were used to cover construction costs and thus postpone the date upon which permanent financing must take place. Bearing interest at 0.45 per cent or 0.60 per cent, these notes (884 million of which are now in the hands of private investors) cost the par­ticipating local authorities much less than the 3 per cent (average) permanent loans being made by USHA.

Carrying this principle further, housing authorities in Allentown, Penna., St. Petersburg, Fla., Syracuse, N.Y., and Utica, N.Y., decided to go to Wall Street instead of to USHA for at least part of their permanent loans. All local author­ities must meet at least 10 per cent of their projects’ development costs from local sources, but three of these four pioneers bet­tered the minimum: Allentown and Syracuse floated bonds which will cover 26 per cent of the costs of their projects, and Utica, 25 per cent.

Syracuse, for instance, offered $998,000 of serial bonds which were purchased by three Wall Street security dealers at a net interest cost of 2.48 per cent to the authority and were then reoffered to the investing public at prices to yield from 0.20 to 2.65 per cent according to maturity. Balance of the cost of the Syracuse project will be financed by a loan from USHA which will bear interest at about 3 per cent.

While Wall Street fortnight ago still had $800,000 of the Syracuse Housing Authority bonds on its shelves, the initial sale of these permanent loans to private investors was proclaimed a success. So much so that 1) USHA Administrator Straus has openly predicted a “steady re­duction of the share of the U.S. Gover­nment in the financing of the public housing program. . . . Before long it may be as low as 60 per cent, or even less”; 2) the New York City Housing Authority im­mediately asked Wall Street to bid on about $81,359,000 of bonds to finance 100 per cent of the cost of a non-Federal housing project. The winning bid meant an interest cost of 3.14 per cent to the authority.

FOURTH STEP. Always a pioneer in the housing movement, New York State month ago took its fourth step for­ward as the State Legislature authorized life insurance companies to invest in the stock and debentures of limited divi­dend housing companies organized under State law. Subject to the approval of the State Superintendent of Housing, these companies may condemn property for sites for low cost projects to house families of moderate income, may thus enter the “no man’s land” between the realms of public and unassisted private housing.

New York State is already attacking the housing problem on three other fronts: 1) participation in the 8,800 million U.S. Housing Authority program, 2) launching of a $150 million State-wide program patterned after USHA, and 3) authorization of life insurance companies directly to invest up to 10 per cent of their assets in large scale housing. At mid-month the Legislature was still hesitant about taking a fifth step—to permit savings banks to invest in low cost housing.

20TH CENTURY ARCHITECT. When spring came to Chicago in 1934, spring fever came to young Architect Miles Lanier Colean. He dusted off his barren drafting board in the offices of Cowles & Colean, boarded a train for the A.I.A. convention in Washington. And in Washington he has been ever since—a mainspring in the Federal Housing Ad­ministration. Last month word came that FHA, but not Housing, had seen the last of “Mike” Colean as he prepared to assume new duties as a housing researcher for the progressive Twentieth Century Fund.

A virtual unknown in 1934, the name “Colean” was made as rapidly as FHA’s itself. Before the May A.I.A. convention had struck tent, Colean bumped into the group of men who were framing the Na­tional Housing Act: Frank Walker, Frank Watson, Marriner Eccles, Winfield Riefler, “Matt” Daiger, et al. He quickly proved his abundant knowledge of building, was promptly asked to remain in Washington to help iron out some of the wrinkles in FHA’s enabling legislation. Next month when the Act was passed, Miles Colean entered the FHA organization literally on the ground floor—he was given a shabby two-by-four office in the base­ment of Washington’s old Walker-Johnson Building.

For a while he was the only man in the sparsely populated organization who worked openly to get the main part of the FHA program rolling. Some con­sidered FHA to be first and foremost an advertising agency, others thought of it as a mortgage bank or an insurance company and, for a long time, it actually was a glorified installment credit proposition with Title I property improvement loans in the limelight. No one worked harder than Colean to push above these misap-[Continued on page 4]
More interesting uses of Masonite Presdwood Temprtile

Masonite Presdwood Temprtile offers not only smart tile effects at low cost, but also a durable, grainless surface that is highly moisture-resisting. Properly applied, it will not warp, chip, split or crack. And it can be painted or enameled any color.

Housewives dream of a kitchen like this. Here Masonite Presdwood Temprtile is painted white with red stripes. Wall clock is an ordinary electric clock mounted behind a removable section of Presdwood Temprtile upon which Roman numerals have been painted. Snack bar and planning desk are Masonite Tempered Presdwood, as are the sink top and splash board.

Spick, span and modern is this bathroom. Presdwood Temprtile wainscot is painted white with black striping. Above the Temprtile, Tempered Presdwood is used. In remodeling work these boards can be nailed right over old walls. Built-in dressing-table and the convenient cabinets for towels, perfumes and medicines are faced with Tempered Presdwood.

Waste space under the stairs can often be used for a smart little powder room. Here the wainscot is Presdwood Temprtile and upper walls are Tempered Presdwood grooved at the joints. These Masonite boards are excellent for oddly shaped areas because they can be cut or sawed to any size or shape with ordinary tools.

The new-home and remodeling ideas shown on this page will be carried to millions of consumers in Masonite’s national advertising appearing in May publications. We would like to have you examine Masonite Presdwood Temprtile at close range and will gladly forward a sample. The coupon below is for your convenience.

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PRESWOOD
TEMPRTILE
THE WONDER WOOD OF A THOUSAND USES
SOLD BY LUMBER DEALERS EVERYWHERE

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THE ARCHITECTURAL FORUM

(Continued from page 2)

precipitations the fundamental purpose of FHA—to promote the construction of better, cheaper, more soundly financed houses.

By the time FHA moved to its present quarters—the old Department of Justice Building—Colean had moved up to the office of Technical Director. There he installed machinery for two of the most important parts of the building program, land planning and technical advice, and for another phase of operations which was later to come into its own—large scale rental housing. By efficiently running this machinery, Colean has had more added to the site planning, design and construction of houses than any other individual in the U. S. First, he developed the minimum property and construction standards which every FHA-insured dwelling must meet; then through the publication of innumerable booklets and he defined FHA to the housing industry that it was wise to accept his standards.

While he is a reformer at heart, Colean has accomplished his reformer's goals via practical techniques. Thus, he has never urged builders to be patriotic and to forget about the sordid business of making a living. Instead, he has emphasized the economic side of his convictions, has pointed the way toward lower costs where markets are larger. Even the titles to some of the pamphlets issued under his direction bear out this practical approach. For example: "Planning Profitable Neighborhoods" and "Low Rental Housing for Private Investment."

Slight of build with thinning hair, 42-year-old Colean is, except for his incessant pipe smoking, quite unlike the average exhibition of both appearance and manner. Confronted with a building problem, he looks beyond the immediate solution into the economics of the thing, sees how much people can afford to pay for housing, what the new housing means to the neighborhood and what the new neighborhood means to the community.

In addition, foresightfulness. "Mike" Colean has other characteristics which have helped FHA become one of the most universally respected of all New Deal agencies. He is a born cooperator and, fortunately, has always had an able staff with which to cooperate. Furthermore, despite his spectacular achievements, he has not tried to be spectacular—unlike some other Government agencies, FHA accomplishes much, boasts little.

Not the least among FHA's accomplishments is the widespread acceptance of the so-called "garden apartment"—the rental housing project which lies low to capitalize on light, ventilation, views, privacy and, last but not least, construction economics. Fascinated by the possibilities of this type of residential construction, Colean studied the subject thoroughly. But, not until he had set up the machinery for the main portion of the FHA program (Section 203) and not until he had been made Deputy Administrator in charge of the Rental Housing Division (as well as his Land Planning and Technical Division), did garden apartment dreams begin to materialize. FHA purposely let its rental housing activities coast along without pushing, while it concentrated on small house promotion. Under Colean, however, privately financed moderately priced rental housing began to hum; by the end of 1939 some 340 projects involving about $140 million of FHA-insured mortgages had taken shape from coast to coast. Equally significant, by year-end Colean and his lieutenants had also vetoed mortgage insurance applications for some 700 other projects which either fell short of his standards or were considered unnecessary in the light of local market conditions. Financial record of the insured projects speaks for itself and for Colean: to date only five mortgages have been foreclosed (representing about 3 per cent of the total mortgage principal), and three of them have been satisfactorily restored. In other words, during the program's five-year life only two projects have come back to FHA to roost.

But, in recent months, work of Colean's Rental Housing Division has steadily tapered off. Congress last summer tucked a crippling amendment on the National Housing Act which has restricted the construction of large scale rental projects by requiring prevailing wages and by limiting mortgages to construction costs. (Only six such developments were approved by FHA during 1940's first two months.) Moreover, FHA itself is becoming even more restrictive in this phase of its operations, will henceforth approve only those projects which make tangible contributions—low rents, improved design, etc.

Despite the absence of fanfare, the entire FHA program is today entering a new phase. It has passed the point where it must chart new courses for the building industry to follow; it has reached the operating stage. And Architect Miles Lanier Colean, now assistant to FHA Administrator Stewart McDonald, feels that his work has been accomplished. (Both Government and Building will add that it has been very admirably accomplished.)

Timely and prudent, therefore, is the Twentieth Century Fund's invitation to Mr. Colean to serve as research director for a survey of U. S. housing needs and residential construction stimuli. He has accepted and will soon undertake a task big enough for any man. Through Colean the Fund proposes "to determine how residential construction can be accelerated with a view to contributing substantially to the restoration of a higher level of employment, meeting the recognized need for more adequate housing for the American people, and making more effective use of the country's available resources."

In his new capacity, Colean will concern himself so much with the creation of primary data as with the assembly and organization of existing information which will be greatly augmented by the 1940 census of population, housing and business. While periodic progress reports will probably be issued, at the end of perhaps two years a committee of Twentieth Century Fundsters, on the basis of Colean's findings, will formulate a program of recommended action.

Colean's new appointment has offered a long desired opportunity for thousands of grateful building men to show him the only kind of recognition modest "Mike" Colean would like—a quiet salute for a job well done, a quiet good wish for future accomplishments.

VACANCIES BY INCHES.

Traditional way to measure the supply of housing is to estimate the number of vacant dwelling units, then to compare the figure with the number of available units. Today this vacancy ratio is roughly estimated at 1½ per cent for single-family dwellings, a little more than 3 per cent for all types of residential properties. In 1931 the figures were about 9½ per cent and 4½ per cent, respectively.

An encouraging trend for the building industry, this 1931-1939 drop in vacancies is substantiated by conditions in metropolitan Cleveland where the supply of vacant housing is measured in inches by an unique yardstick. Thus, for the past fourteen years, the research department in County Auditor John A. Zangerle's office has tabulated the weekly amount of space (in inches) devoted to advertising residential vacancies in the Sunday Cleveland Plain Dealer. Stacked up beside the 1931 figures, last year's vacancies in inches looked like this for the three classifications of housing covered by the survey:

<table>
<thead>
<tr>
<th>Year</th>
<th>Apartments</th>
<th>Houses</th>
<th>Furnished apts. &amp; houses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1939</td>
<td>7,153</td>
<td>19,391</td>
<td>1,045</td>
</tr>
<tr>
<td>1931</td>
<td>5,836</td>
<td>6,035</td>
<td>345</td>
</tr>
</tbody>
</table>

Total                                13,338 15,441

Auditor Zangerle's statistics indicate that apartment vacancies dropped 46 per cent during 1931-39; house vacancies, 44 per cent (Continued on page 66)
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WHAT is the first thing that catches the eye as you enter the bathroom? The cabinet, of course!

And, after all, what fixture is more important architecturally and artistically than the bathroom cabinet? What fixture receives more banging and hard treatment?

Isn't it important, then, that you specify a Lawson TIME-PROOF Cabinet in keeping with the quality and character of the home?

The Lawson All-Porcelain Finished Cabinet is the answer to this long-felt need. Large and roomy, this cabinet has been acclaimed as the handsomest on the market. It is as easy to keep clean as glass itself.

NO OTHER CABINET GIVES YOU ALL THESE FEATURES

1 One-piece seamless steel body, finished in Vitreous Porcelain
2 Easy-to-clean, rounded inside corners
3 Square outside corners and 7/8" return flange provide easy setting in tile
4 Adjustable, Stainless Steel Shelf Supports and Standards
5 Stainless Steel Tooth Brush Holder
6 Bar and Spring Door Stop—shock absorbing
7 Razor Blade Drop
8 Chromium Plated Piano Hinge
9 Bullet Door Catch
10 "Jiffy" Ratchet Mirror Clips

Write today, without obligation on your part, for AIA File No. 291 and begin at once to specify this truly fine, truly modern cabinet.

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COPPER CORPORATION
(Snow, sleet, freeze or blow a gale)

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Be it ever so beautiful, the roof over your client's head is no better than its flashings, gutters and downspouts.

First step to Architectural peace of mind is to write specifications that laugh at the elements. Flashings, gutters and downspouts that will:

- stand the onslaught of sleet and rain and ice and snow and sun.
- that are rustproof and corrosion resistant.
- that never need to be painted as a rust preventive.

That means Copper! For your own peace of mind, as well as your client's protection, make it Chase 16 oz. Copper.

Chase Gutters and Downspouts are all 99.9% pure Copper. Every length is guaranteed to be full weight "16 oz. copper" and stamped with the unmistakable Chase trade-mark.

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CHASE COPPER ROOFING PRODUCTS
All Chase gutters, downspouts, heads, elbows, ridge rolls and flashings are full weight 16 ounce copper.

CHASE COPPER TUBE
For little more than the cost of rustable pipe you can use Chase Copper Tube and Sweat Fittings.

CHASE BRONZE SCREEN CLOTH
Bronze screen cloth, made of standard gauge wire, is strong, rustproof, resists corrosion, and never needs painting.

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Chase bathroom fixtures are made in two distinctive designs ("Doric" and "Round"), with matched accessories.

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☐ PLUMBING BRASS GOODS ☐ THRU-WALL FLASHINGS
☐ EXTRUDED SHAPES ☐ RESIDENTIAL LIGHTING FIXTURES
☐ COMMERCIAL LIGHTING FIXTURES

Name ____________________________
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While congress, newspapers, radio and forums are telling of the dire need of defence and security, America's architects will do something about the security of living conditions in American HOMES. By doing what?

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you can't call it window glass ... because it is practically free of that waviness and consequent distortion which distinguish window glass from plate.

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

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

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

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

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Flexglass has been selected by the Design Committee for the 15 ft. curved curtain-wall forming the background for the Glass and Metal Section in the Exhibit of Contemporary American Industrial Arts at the Metropolitan Museum of Art, New York.

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On the evening of March 5, the Architectural League of New York opened a unique exhibition: VERSUS. A competing display of traditional and modern architecture, the show was heralded to the public at large by a huge mobile by Alexander Calder (see left, and contents page), hung on the staid front of the League's clubhouse, and inaugurated with a dinner at which representatives of the two schools expressed their views. Their speeches are given below. Most interesting and unexpected of the consequences of the exhibition was the unprecedented attendance of both lay and professional visitors, a fact reflected in the attention devoted to the exhibit by the press.

Like the architects who prepared the exhibition, critics found themselves in two camps. Said Royal Cortissoz of the modern exhibit: "bleak . . . beauty goes completely by the board . . . a weakness for the cult of ugliness." Edward Alden Jewell of the New York Times found the traditional exhibit "dull—and some of the photographs of the older 'classical' structures have mellowed—that is to say, yellowed." Time took delight in the modernists' credo "that made traditionalists sputter. Sample sputter-causer: 'The heritage of our generation is the accumulated rubbish of a century of fake fronts.'"

To Lewis Mumford, writing in the New Yorker, there was little excuse for the exhibition: "That there is still any debate about these matters in architectural circles is a sign of curious architectural innocence. . . . On one floor are depicted the dead buildings that were built to resemble other dead buildings. On the upper floor is a vivid array of fresh buildings, evolved freely out of the needs and tastes of our own day. One floor is a cemetery, the other is a delivery ward. How can they clash? How can there be any question of choice?"

**HUGH FERRISS, Chairman of the Exhibition Committee.**

In presenting VERSUS the aim of the League's Exhibition is to exemplify dramatically the opposition between the two leading schools of American architecture. We thereby set the arena for an heroic conflict of ideas, the outcome of which we consider of first importance.

Its importance to architects and allied artists is obvious. All of us are bound up, in one way or another, with the fate of architecture, and its fate is now in doubt. Economic problems aside, the world is in the upwaging of a scientific and technological evolution so rapid as to be, in effect, revolutionary. Can architecture remain, essentially, what it was in the past, or must it undergo some radical and basic transformation? Our careers are bound up in the answers to be given that question. But professional interest aside, we believe this matter to be of real public concern. If it is a truism that our lives are formed and executed by architecture, we have become an enormous and outstanding part of that environment. If people in general are as yet unaware of the silent but universal influence exerted on their daily lives by architecture, I know of no reason why they should not be made aware of it.

**EDGAR I. WILLIAMS, President, The Architectural League of New York.**

American Architects have always been bashful about expressing their architectural ideas. In fact our architectural progress has been affected and probably delayed by a certain humility and lack of courage in stating our own convictions. We started as a group of colonies and we still stick pretty generally to our colonial architecture. After the Civil War the financial and social chaos was conquered and we demonstrated our ability and strength as a nation to push forward in a period of rehabilitation the like of which has no parallel in history.

But what of our architecture? We could not wait; we were too humble. We copied Victorian architecture, Gothic architecture, French architecture, Roman architecture. We imported our teachers from other countries. We have always bowed to Europe in the pursuit of the Arts. So again, what of our architecture? Shall it spring from a consideration of the elements of building or shall it spring from a belief that the elements of construction are merely to be used to perpetuate and slowly change traditional esthetic forms so that by this approach we may continue to develop an architecture of our own?
ARCHITECTURE IS AN ART

By Wm. Adams Delano, Architect

Shortly after I left college there was a popular music hall song that contained these lines:

"First she said she wouldn't
Then she said she couldn't
Then she whispered, 'Well, I'll see.'"

Of course in the end she did. My replies to Edgar Williams' repeated demands were much the same, but as you see, I am here. My reasons for not wanting to speak on this much discussed subject were and are that there is little to add to what has already been said. When you have listened to arguments on both sides you feel much as when you hear two boys wrangling: One says, "Yes, you did." The other, "No, I didn't." It goes on until one or other gets a black eye: Nothing has really been decided.

I remember my mother had a story she was fond of telling about a man and his wife: Some string had been cut in the house and the husband stoutly maintained that it had been cut with a knife. The wife, on the other hand, said it had been cut with a pair of scissors. She could not swim and as she went down the pond because, at the end of a hundred or five hundred years, the result will be about the same whatever you believe or I believe. The important thing is to hold in one's work to the principles one believes in and keep one's mouth shut—which I am not doing. In Harold Nicholson's life of Dwight Morrow he tells the story of how Mr. Morrow went, during the last war, to see some important British Minister and while he was sitting there a young man came in, full of his own importance and much excited. He said that unless what he proposed was carried out there would be slight chance of England winning the war. The Minister said to him: "John I am afraid you have forgotten Rule 6." The young man retired somewhat abashed and Mr. Morrow said to the Minister, "What is Rule 6?" The Minister replied: "Rule 6 is 'Don't take yourself too seriously.'" Mr. Morrow said, "That is a good rule. What are the other rules?" and the Minister replied, "There aren't any others." We must not take ourselves too seriously. We are in the midst of a revolution and we must recognize it as such. The Revolutionists are much more vociferous than the Conservatives—Revolutionists always are—but after they have shouted themselves hoarse their voices become a whisper. What they have said continues as an echo which reverberates in diminishing volume for many years. The good we have done remains: the evil lies interred with their bones. For I am an optimist at heart and believe that mankind is on the upgrade in spite of all that is going on about us. I know a great many will not agree to that thesis. As long as men build there will be improvements in methods, which only the blind cannot see, but these new methods must be tested by time.

I often think of an artist as a man on a bicycle. He has to keep going or he loses his equilibrium and falls off. On the other hand he must not go too fast or he is apt to "come a cropper." Today I feel that some of us in our exhilaration take the grade too fast and may have a spill. We forget that there are aesthetic as well as physical laws that put a limit on architecture as on bicycling. I am a strong believer in tradition but tradition tempered with motion. Our trouble today, it seems to me, is that our scientific knowledge—what we have learned about chemistry and physics and machinery—has outstripped our intellectual capacity to make full use of these instruments. We have invented radio and movies, airplanes and new methods of construction, but so far I have not learned how to control these instruments so that they are today being used as means of propaganda and destruction. To make it pertinent to this evening's discussion—we are using all the new methods of construction, all the new gadgets, without reference to what our forefathers have handed down to us. We are discarding most of the spiritual qualities which over long years men have attempted to build up because we, in the conceit of youth, think these qualities are antiquated. We think we know a great deal more and better than they. This is perhaps inevitable but it is only a passing phase and from it will emerge a truer sense of how these new inventions can be used—not only functionally but gracefully. Andrew Lang, in one of his essays, wrote:

"Tis the fault of all art to seem antiquated and faded in the eyes of a succeeding generation."
Visitors in the modern exhibit. Forum editors can spot Lawrence Grant White, Mr. and Mrs. George Kosmak, J. André Fouilhoux, Walter Sanders, Richard and Wm. Adams Delano, Harvey Wiley Corbett, Frederick Woodbridge, Morris Ketchum, Ely J. Kahn, Thomas Williams.

Mrs. Antonin Raymond, Hugh Ferriss, Holger Cahill, Miss Elizabeth Litchfield.

Foreground: Otis P. Swift, Mrs. Edward D. Stone, Dan Cooper, Mrs. Peter Grimm, Alexander Calder. Against the far wall (right to left): Robert Brown, Mrs. Clara Furgio Thomas, Peter Grimm, Miss Ruth West, Howard Myers.

This I am sure is profoundly true. I should like to add, however, that in each generation—no matter what the fashion of the time—certain things are so well done that when many years have passed they come into their own again and are recognized as outstanding works of art.

Some years ago I was asked to put down what my architectural beliefs were. This was published and I looked it over a day or two ago. I doubt if I can say better what I believed and said in 1922. May I repeat parts of it to you tonight?

"I believe that Architecture is an Art and not a business. Furthermore, I believe that it is the most difficult of all the Fine Arts. It must serve practical needs and at the same time create an emotion, and the architect's only tools for attaining the latter are such vague qualities as line, mass, proportion and color.

"I believe that well-trained architects can give this emotional quality to a structure in a degree that engineers, trained in a different school, cannot. I believe, therefore, that while Architecture involves Engineering, it goes far beyond it.

"I believe that the tendency today to let the engineering element dominate is unfortunate for I do not believe, as many modern designers profess to believe, that to express a function frankly of necessity creates a pleasant emotion; but I do believe that no structure can lay claim to being great Architecture which does not clearly express its purpose and which does not adequately meet the needs for which it was created.

(Continued on page 22)
FIRST FLOOR EXHIBIT

EXHIBITION COMMITTEE:
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WHITE, LINDLEY M. FRANKLIN, OTTO R.
EGGERS, GEOFFREY PLATT
SECOND FLOOR EXHIBIT .... designed by GEORGE NELSON
EXHIBITION COMMITTEE: WALLACE K. HARRISON, GEORGE HOWE, EDWARD D. STONE, in collaboration with THE ARCHITECTURAL FORUM
Most-talked-of feature of the second floor exhibit was the model room—popularly known as "the upside-down room"—designed and executed by Dan Cooper. Hailed as a stunt, turning the room on its side actually proved first-rate exhibition technique; in no other way could a room be shown to crowds with equal completeness or effectiveness. At right, a detail of the "Living" section of the modern exhibit.
"Remember a telephone upstairs!"

- This is the second appearance of the absent-minded professor, whose little misadventures will appear in these pages to remind you not to be absent-minded about upstairs telephones!

The Professor sometimes gets the little things mixed up, but he never forgets important matters like an upstairs telephone. Be sure you remember to provide for an additional telephone on the second floor to save those stair-climbing steps. The best way, of course, is to include telephone conduit and outlets while the house is under construction. They cost little then and are easy to install. A few lengths of small pipe are usually sufficient for the average home, to provide free passage for wires through concrete, insulation, fire-stops and around duct-work, and to avoid exposed wiring later.

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ARCHITECTURE IS AN ART by Wm. Adams Delano (cont’d)

"I believe that the law of gravity is still in operation and that engineering feats, which enable the architect to carry great loads without apparent support, are not thoroughly satisfying to the eye. I still believe that an impression of enduring stability is one of the most essential qualities of great Architecture. I believe that size has little to do with great Architecture; a small structure which solves the problem perfectly may well awaken as keen an emotion as a vast one. "I do not believe that because sunlight is considered beneficent to human beings, the walls of the rooms in which they live and work should be built entirely of glass. There may be too much of a good thing. (Let some eminent physicians proclaim that too much light all day long is bad for human beings and glass walls would be shunned like the plague!) I do not believe that any new form of ornament, however bad, is better than an old and proven one; but I welcome the tendency today to create new forms rather than copy old ones and I rejoice in the many new materials—which give wider scope to the designers’ imagination."

Of course my friends on the opposition bench (and, thank heaven, I have many!) will not agree to some of these statements. Which of us is right posterity alone can tell. We in the thick of the battle cannot see clearly—there is too much smoke—but we can at least be generous and try to understand the other fellow’s point of view, and perhaps by mutual concessions to our differing opinions arrive at the betterment of the art we all love.

TRADITIONALIST ARCHITECTURE AND INTEGRATED BUILDING

By George Howe, Architect

In a recent paper a famous Gothic specialist declared emphatically that the architecture of “the house, the school, the church” belongs to a continuous tradition we dare not, cannot, break. It seems that pride of ancestry sets them apart from the rest of building. Almost at the same time a man holding the highest place in the council of his profession was saying with public irony, "In the new world of mechanisms, to which we are now committed, we are expected to relinquish our aristocratic pretensions. It is indicated to us that architecture as a fine art is henceforth an anachronistic pomposity." Apparently art without aristocratic pretensions cannot be fine. Both men would seem to imply that an eternal gulf divides the architecture of the soul from the engineering of the body. Taking these and other traditionalists at their word engineers have gracefully yielded them the spirit and kept the flesh, together with the flesh-pots, for themselves.

Every so often in history a tool is invented which profoundly affects men’s lives. Such a tool is modern engineering, and like its predecessors it has run afoil of tradition. Tradition is a transmitted habit of behavior which relieves men of making thoughtful decisions at every step. Without it life would be a succession of intolerable hesitations. With it we are condemned to almost insuperable inertia.

Beginning as a servant of the arts and the crafts, engineering has gradually taken command of a large part of our activities, including most of construction. The advantage of the engineer’s direct attack on the functions of working, communicating, and building is obvious, as well as his ability to produce structures of a new strength and beauty without benefit of ancient forms and proportions. Meanwhile the restrictive framework of traditional planning has been visibly cracking under the strain of expanding social and economic pressures, structural systems, and mechanical requirements. One might suppose, then, that architects in general would have been only too ready to experiment whole-heartedly, in their own more inspired field, with the powerful tool of engineering design. Actually too many of them, like the eminent gentlemen I have quoted, have seen in it a tinker’s rather than a creator’s tool. At first glance the persistence of this attitude may seem incomprehensible.

Considered in historic perspective the resistance has not lasted long. In professions less emotional than architecture, in mathematics, for instance, the same sort of continued opposition was met in the past. Even simplifications in the impersonal process of counting were fought at every step. You will recall the events surrounding the introduction into Europe from Arabia of the symbol zero, and of positional numeration. The algorithm, the crass practical system of calculation which has made modern mathematics possible, threatened the existence of the abacus, the familiar counting-frame of our childhood, with its pretty colored balls on wires. The battle between the two is described by Professor Tobias Dantzig:

"Today, when positional numeration has become a part of our daily life, it seems that the superiority of this method, the compactness of its notation, the ease and elegance it introduced in calculation…should have assured the rapid and sweeping acceptance of it. In reality the trans-

(Continued on page 24)
Let's look inside the Largest Selling Boiler

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tation, far from being immediate, extended over long centuries. The struggle between the abacists, who defended the old traditions, and the algorists, who advocated the reform, lasted from the eleventh to the fifteenth century and went through all the usual stages of obscurantism and reaction. In some places, Arabic numerals were banned from official documents; in others, the art was prohibited altogether. And, as usual, prohibition did not succeed in abolishing, but merely served to spread bootlegging, ample evidence of which is found in the thirteenth century archives of Italy, where, it appears, merchants were using the Arabic numerals as a sort of secret code.

The odd consequences of the resistance are only incidentally amusing, its nature is important. Though it is an example of opposition to a new craft tool in its purest form, its fanatical intensity shows that more than craft-union self-interest is involved in the conflict. Men tend unconsciously to make their ways of working an act of faith, and to identify them with their religious beliefs. Bishop Berkeley, a noted scientist and mathematician himself, looked on the invention of the infinitesimal calculus as an attack on the Catholic Church. He answered Isaac Newton's epoch-making work, in which the virtues of the system were exposed, in a tract called "The Analyst," with the subtitle "A Discourse Addressed to an Infidel Mathematician." Fear seems to underlie the contempt he pretended to feel for Newton's "fluxions" and "differences," the equivalents of our derivatives and differentials:

"He who can accept a second or third fluxion, a second or third difference," he wrote ironically, "need not, methinks, be squeamish about any point in divinity."

Accompanying this fear of new instruments we find a strange reverence for tools already familiar. Leibniz, for instance, at the very moment when he and Newton were developing the calculus, saw in the symbols zero and one the same sort of mystical meaning classicists seem to see in the egg and dart. Laplace has told how the deeply religious mathematician contrived a system of number notation, using only these two symbols, and deduced from it strange consequences in theology:

"Leibnitz saw in his binary arithmetic the image of creation... He imagined that unity represented God, and zero the void... This conception was so pleasing to (him) that he communicated it to the Jesuit, Grimaldi, president of the Chinese Tribunal for mathematics, in the hope that this emblem of creation would convert the Emperor of China, who was very fond of the sciences. I mention this merely to show how the prejudices of childhood may cloud the vision even of the greatest men!"

Long ago a few isolated, prophetic minds saw in the seaving of the architectural soul from the engineering body impending death for architect and architecture alike. At the same time they saw signs of a fresh vitality in purely useful structures and began to experiment in a technologically founded system of design, integrating architecture with engineering, living with the machine. Gradually the movement they initiated took on the proportions of a school of thought. At various times its advocates have used new, living, functional, dynamic, organic and other similar adjectives to qualify it, its opponents every name but architecture. Someone has called it integrated building and the term seems to me more exact than any other.

Building serves three purposes, to meet the social and economic needs of living, to delight the senses, and last but not least to symbolize all that men aspire to hold and to command.

Engineering has proved it can serve the first purpose in new and unique ways. It has also offered the senses new delights in forms determined no longer by an external discipline of proportion and detail, imposed on inert matter, but by the control of internal directed forces. The symmetry of their complex interplay is magnificent in its nakedness, its canons of perfection are not geometric but dynamic. Finally, to become the symbol of our spiritual as well as our material aspirations, the purposefulness and symmetry of engineering only need to be turned to spiritual uses. "The house, the school, the church" of integrated building are to be engineering inspired by creative democracy without aristocratic pretensions. Creative democracy has so many new enemies, within and without, it needs weapons of accomplishment more effective than those it once inherited from ancient oppressors.

I say are to be because I do not intend to argue that integrated building has reached its goal or followed at all times a clear and consistent course. For myself I shall be satisfied if in our time it establishes a direction to follow. Meanwhile it is better to build than to talk. A considerable number of works by recognized masters of integrated building in Europe and America exists. In the presence of an invention by any one of these men we may well say, as Schumann did on the appearance of an early composition by Chopin, "Hats off, gentlemen, a genius!" In another place the same musician-author gives us the answer to those lay critics addicted more to argument than action. "And if you are not satisfied, old gentlemen," he wrote to certain disparagers of the new music, "why not give us works yourselves—works, works, not always words?"
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31 Refrigerator porcelain
32 Sparkling chromium trim
33 Fully tested and N. U. L. approved
34 Product of Borg-Warner Corporation

LOW COST ACCESSORIES
35 Well-type economy cooker
36 Dependable electric clock, with
   Non-glare lamp
   Automatic time control
   Time interval reminder
   Two condiment canisters

For Your Clients
A New NORGE Electric Range

For clients who prefer a gas range, Norge offers a complete new 1940 line of Super-Concentrator and Evenheat Gas Ranges, including four Certified Performance models, for natural, manufactured and bottled gases... with a host of features that bring new ease, comfort and speed to gas cooking.

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You'll want a complete set of new data sheets on Norge kitchen appliances, giving every detail that will make your planning easier. Write today, to the Kitchen Planning Department.
Satisfy Your Most Critical Clients—and the Tight-Fisted Ones Too!

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Marlite

The only pre-finished wall material offering all these advantages

1. UNLIMITED DECORATIVE SCOPE.
   Over 100 colors (from pastels to full strength colors) and many patterns: plain, tile, marble, and genuine wood-veneers, to choose from.

2. EASY TO CLEAN. Marlite's glass-smooth surface is easily kept clean and fresh with a damp cloth.

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For Complete Product Information
See Our Catalog in Sweet's 11-34

MARSH WALL PRODUCTS, INC.
41 MARSH PLACE • DOVER, OHIO
Buchman-Albany Corp., Insulates 23 Apartment Bungalows throughout with

- More and more KIMSUL* insulation is being used by forward-looking contractors... This time by Buchman-Albany Corporation, builder for Wilson Sullivan Company, developer of Buckingham Gardens, newest home-building project in Albany, N.Y.

Because gas heat was specified for all 23 bungalows in this development, an extra-efficient and permanent insulation was required. KIMSUL was selected, because it met the requirements, and did so at low cost.

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Before you decide on any insulation, find out how much more KIMSUL does for the money. Mail coupon today!


The libraries are crammed with histories of architecture, its monuments, styles and types. The lack of a comparable literature on engineering is startlingly accentuated by the appearance of this book by the late General Parsons. The author was an engineer, and a distinguished one. He designed the first part of the New York subway system, surveyed for the Hankow-Canton railway, was on the board of consulting engineers for the Panama Canal and was retired from the army as Brigadier General of Engineers. Somehow during a full career he managed to collect enormous body of facts presented in his book, and one of the by-products of his researches abroad was the obtaining of a Carnegie grant for the re-classification and cataloguing of the Vatican Library.

The Renaissance was an excellent choice for such a work. Long recognized as a high point of human culture, its considerable technical and scientific achievements have nevertheless been treated incompletely, and many of its greatest figures such as Leonardo, Brunelleschi, Peruzzi and Michelangelo have been presented only as artists. Here they appear in new roles, as civil and military engineers, scientists, and practical builders. The scope of the book is broad: it covers mining, assaying, abstract scientific research, canal and bridge design, building regulations, water supply, street paving and cathedral building. Many chapters are devoted to Leonardo, who was almost the Renaissance in one man. There are perhaps twenty separate studies of the outstanding structures of the period: the Rialto bridge in Venice and Santa Trinita in Florence, the dome of St. Peter's, the dome of the cathedral in Florence, and Brunelleschi's difficulties with his critics and detractors, the reader is also given a very precise evaluation of the design of the dome both in relation to existing knowledge of the period and in the light of present-day engineering data. Obviously such treatment gives infinitely more than mere scholarship, and it is typical of the book as a whole. The book will unquestionably become a classic in its field. It is an extraordinary synthesis of the technical knowledge of the Renaissance and can be recommended without reservation to anyone interested in the technique and history of building.

FRANK LLOYD WRIGHT: Supplement to the Loan Exhibition held by the Institute of Modern Art, Boston. 10 x 7$\frac{1}{2}$, 75 cents.

The exhibition noted above is devoted only to residential work by Frank Lloyd Wright, and this illustrated supplement is consequently somewhat limited in its scope. Because of the dearth of available material on Wright's early houses it is of some value to architects, as it includes a number of plans and photographs of houses designed around 1900. There is also a chronology and a foreword by Dean Hudnut of Harvard.

JAPANESE ARCHITECTURE, by H. Kishida. Japanese Government Railways, 133 pp., illustrated. 5$\frac{1}{4}$ x 7$, 35 cents.

An attractive, brief and competently written guide to Japanese architecture, this book follows a well-established practice of many official tourist agencies abroad, which publish serious studies on various phases of national activities as a means of attracting visitors. The illustrations show a cross-section of the architecture from the earliest times to the present day, and there are a few color reproductions of prints; the text gives the main lines of historical development and descriptions of the most important structures.

ALL ABOUT HOUSES, by Groff Conklin. Julian Messner, Inc. 194 pp., illustrated. 7 x 9. $2.00.

There is no news here for the small house architect, but the book suggests itself as a good elementary guide to small house construction for the client. A simple wood-frame house is taken as the example, and the entire construction process is explained in text and some 400 pictures. This method of visual instruction seems practically foolproof, and the book should give the layman a clear picture of conventional building procedure.

USE AND ABUSE OF WOOD IN HOUSE CONSTRUCTION, by R. F. Johnson and E. M. Davis. U. S. Department of Agriculture, Washington, 28 pp., illustrated. 6$\frac{1}{4}$ x 9$, 10 cents.

A popular pictorial presentation of important features of home building. Based on a survey of 600 homes being built in various parts of the country, this booklet concentrates on those aspects of construction shown to be most in need of change or improvement. Proper framing methods, adequate nailing, wall braces, diagonal sheathing, roofing materials and foundations are among the subjects covered. The book is gauged accurately for the lay audience and tells its valuable story briefly.

(Continued on page 116)
Harmony in the room-for-work is as necessary as in the home. The architect has been an important factor in persuading the businessman that his day-home should be as pleasingly furnished as his evening- and weekend-home. Wood Venetians harmonize with the wood in paneling and the wood in furniture that lend softness and comfort to the office. Then, too, Wood Venetians admit light and ventilation in exactly the amount desired. The busy executive, with many men to see, does not wish to blind his visitors with the pitiless glare of the sun. Wood Venetians at the windows add to the eye-comfort of all in the room. Only wood blends with wood...

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Although we do not make steel, we have for over 30 years produced "Electromet" ferro-alloys and metals used in making steel. With the knowledge accumulated from this experience, we are in a position to give impartial assistance to architects, engineers, designers, and others who work with steel. If you are interested in the manufacture, fabrication, or use of steel of any kind for a specific purpose, consult us without obligation.

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Here is a new conception of utility. The sides, running in a slight slant to the bottom, provide extra bathing area. The wide front rim is at once a shelf and a seat.

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1 1/4" DOORS...YOU ALWAYS USE THREE BUTTS ON THEM...

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REMEMBER...THIN DOORS ARE MORE APT TO WARP THAN THICK DOORS!

"IT WON'T WARP",
SAYS THIS THIRD BUTT...

It holds the door in line, prevents warping, removes side strain and wear from the other two hinges. You get low cost "Anti-Warp Insurance" when you use Three Butts on every door in the house. The Stanley Works, New Britain, Connecticut.

STANLEY

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APRIL 1940
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Genuine Red Cedar Shingles have a combination of very definite residential building qualities enjoyed by no other material. Triple coverage on roof with protection from hail and wind storms... attractive texture and shadow lines on both roof and side-walls, particularly when double-coursed on side-walls... attractive appearance that lasts... definite insulative qualities... low cost per square per year of life... dependable grades under the Certigrade inspection label.

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Sold only in certificated lumber sources.
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WALL OF PROTECTION

Is Built On The
CORRECT SCIENTIFIC
Principle of

VAPOR CONTROL

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Controls Vapor

LEFT:
When vapor from the inside of a room with high temperature strikes Sealed Lok-Joint Lath it is turned back by a double asphalt coating on the studding side, thus retarding vapor from getting past the warm side of the wall.

RIGHT:
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Fenestra
HEAVY CASEMENT-TYPE STEEL WINDOWS
"Why does the Kimball Home always look so nice?"

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"You're money ahead when you paint with white lead."

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**BRIXMENT**

*For Mortar and Stucco*
ANOTHER PRIZE WINNER!
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PROFIT FOR YOU! You can make more money by installing gas equipment for the "4 Big Jobs." Ask your local gas company for information!

GAS TURNS HOUSES INTO HOMES

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APRIL 1940
Today, at a remarkably low cost, the roofs of the homes you build can have style, beauty and the priceless safety of fireproof, rotproof asbestos-cement shingles. In the RU-BER-OID—ETERNIT line there is a shingle in keeping with the architectural style of every home and in a price range to fit any building appropriation.

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Architects and builders are using U-S-S Galvanized Copper Steel extensively for large buildings. Its advantages are just as important for the home. Write for our latest booklet giving complete information.

COST OF NEW HOME $8000... plus 75 cents!

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In the Gradutrol Humid-U-Stat Minneapolis-Honeywell has developed a superior humidity control. We are so confident of its efficiency and of the superiority of the Gradutrol System of which it is a part that we ask you to compare it point by point with any humidity controller in the field. After such an appraisal, we are confident that there will be no question in the choice of such an instrument or pneumatic control system.

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APRIL 1940
Public Housing and USHA, cont.

Forum: ... The question appears to have been very well handled. However, I note that the method used in determining the proper economic rent was not covered. In the determination of this figure, it was assumed that the same rental value would exist throughout the entire 60 years. Necessary replacements and upkeep were taken into consideration. However, even when replacements and proper upkeep, the rent of the housing unit 30 years old cannot approximate that of a new unit. There is, during the early years of the life of the project, more subsidy than the 50 per cent noted in the article. Long before the 60 years is up, it is doubtful that the units will rent for even 50 per cent of the rental value, thus fixed at the beginning (once and for all). Then where is the money coming from to fully amortize the loan? Whether the Federal Government or the local housing authority will shoulder this additional subsidy remains to be seen. At best, it is an added burden to be passed on to posterity. 

I wonder if it occurred to the authors as it has to many of us that the very low income groups might be housed in buildings twenty to 40 years old with less subsidy. Just why the self-supporting family with income of $1,200 should live in a place inferior to the subsidized lower income worker is not clear. I understand that in Great Britain during the past few years they have turned to making use of old houses for subsidized rentals. The administrative problems, while not simple, would not be unsurmountable. Such a program would have more of the element of justice. ... 

MRS. NEIL VAN EENAM
Washington, D. C.

With reference to Point 1, THE FORUM feels justified in assuming that rents in USHA projects will be comparatively constant during the 60 year amortization period. Reason: rents for these projects are now at rock-bottom levels, are well below the current rent level of slum dwellings which were built 60 or 90 years ago and which are in much worse condition than the USHA project will ever be. Furthermore, the long-term trend of maintenance, replacements, etc., is considered in calculating the economic rents of USHA projects. Point 2: It has, indeed, occurred to THE FORUM that the low income groups might be housed in second-hand dwellings — see September 1939 issue, p. 148—En.

Forum: ... I was distressed to note that you did not use your usual accuracy in the brief reference to the Princeton operation under the head of "Research." As you recall, this was carefully covered in your December 1938 issue (page 486), but when referred to in the article on the USHA, the whole point is missed. I did not exchange the buildings with the municipality and therefore the bonds are not guaranteed. Furthermore, there is no mention of the fundamental idea of having the Housing Authority turn over the buildings to the municipality in lieu of taxes. I know that this January issue will be widely read, and naturally regret these oversights. ... 

GERRHARD H. LAMBERT
New York City

To Reader Lambert, apologizes for an inexcusable error. The Lambert Project in Princeton, N. J., was approved by the Housing Authority for $30,000 of 4 per cent tax-free bonds. The authority agreed to give the project to the city at the end of 25 years in return for tax exemption of the property—En.

Forum: ... In answer to the question, "Are housing subsidies too high?" four means of producing low rents are alleged. These are low land and construction costs, low interest rates, low operating and maintenance costs, and direct subsidy. In view of the fact that the USHA subsidy is sufficient except to a negligible degree to pay off its own loans, the cost of land, construction, and interest cannot be reflected in the rents. Thus it cannot be said that lower land, construction, and interest costs will mean lower rents. Ironically, the opposite might very well be true, because better building, costing more money, might take less operating and maintenance costs, and since these latter items are reflected in the rent, the rent conceivably might be commensurately lower. 

In your discussion of USHA slum clearance, it is evident that the technical, statutory definition of a slum is in mind. It must be remembered, however, that the U.S. Housing Act of 1937, as amended, has for its objective not only the eradication of slums, but the elimination of unsafe and insanitary housing conditions. This additional clause can mean only one thing: that equivalent elimination may be accomplished within or outside the strict limits of slum areas. Although the whole concept needs further clarification, so far as the expressed intention of Congress is concerned, equivalent elimination need not be totally accomplished by the elimination of unsafe and insanitary dwellings within slums. Scattered elimination is fully in consonance with the written, not presumed, objectives of the law. ... 

Concerning subsidies ... you make the statement that since Federal income taxes are calculated on a sliding scale, upper incomers bear the burden. This would be true if there were any earmarkings of income taxes for housing. But the subsidy funds come out of general appropriations. Since income taxation constitutes but a minor item of taxes collected by the Federal government, and since, further, tax studies show that low income people bear proportionately a greater percentage of the tax burden than do high income people, it can be said that low income people themselves are paying the subsidies for low rent housing. It is noted that you attribute the inability of the present subsidy to care for all of the $800,000,000 so far authorized, to a Congressional error. I would be interested in verification of this, for the sum could have been deemed sufficient for the whole program. The statutory provision is that USHA never will be responsible for its own loans, the cost of land, construction, and interest cannot be reflected in the going rate of Federal interest, plus 1 per cent of the total cost of any project. It is clear from a reading of Section 10 (b) of the U.S. Housing Act of 1937, as amended that Congress did not have in mind the necessity for maximum contributions under circumstances. USHA has run short because it has found it necessary to use the maximum in each case. ... 

JESSE EPSTEIN
Housing Authority of the City of Seattle
Seattle, Washington

The FORUM (1) referred to housing in general—not USHA housing in particular—when it referred to the four means of producing low rents, (2) said and still believes that "equivalent elimination" of sub-standard dwellings will toe the mark set by the USHAct, but will not clear slums, (3) accuses Congress and Government houses of erring in not realizing that it would require full Federal subsidies in the large majority of cases to produce the low rents set as the program's goal—En.

Pooh, Bah, Hum

Forum: ... The March issue has just arrived, joyously announcing (p. 2) that the FHA will now guarantee the mortgages on small rehabilitation projects, running from 16 units of $100,000. 

After many years of experience in the apartment field in New York, let me say (1) Experienced builders are not interested in dividends limited to a 6 per cent return, even when the promised dividends are up to a good surplus. (2) These same builders, and the above mentioned lending institutions, will not apply for FHA guaranteed mortgages because they cannot afford to wait six months to a year for commitments, for the Great Bureaucracy to unwind its red tape and graciously consent to insure these expenditures (pooh—bah—hum). Furthermore, there is an under-current of feeling, especially among the more ignorant—or is it the more experienced?—type (Continued on page 120)
Windows are playing a greater part in home decoration, in health and in charm than ever before. That's why windows must be trouble-free—to let in healthful sunbeams and not leak air or heat.

Eight years ago, Curtis introduced Silentite, the first "insulated" window. For the first time, homeowners could have windows which didn't rattle, jam or stick. And they got the further benefit of a window with built-in weather-stripping to provide greater year-round comfort and to help save up to 25% of the average fuel bill. Over 100,000 American homeowners are enjoying Silentite windows today.

Here are some of Silentite's patented features to remember when you're selecting windows for the modern home: 1. Lifetime springs replace weights and cords; 2. Sash glides smoothly in metal channels; 3. Sturdy, built-in weather-stripping (Pittsburgh Testing Laboratory says it's the most effective known); 4. All wood parts given Curtis toxic-dip; 5. The beautiful designs of Mitertite trim add to room beauty; 6. "Pre-fit" sash—speeds installation costs; 7. Narrow mullions admit more light and look better.

Let us tell you more about the entire Silentite window family—first choice with America's leading architects. If you live in Canada, write to Edwards Curtis Limited, 991 Somerset Street West, Ottawa, Ontario.

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Please send me full details on the Silentite Window Family. I'd like to know about other Curtis Woodwork too.

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New Type MO Multi-breaker

This new Square D Multi-breaker provides service entrance with 35 ampere mains and two lighting circuits, circuit breaker protection and branch circuit switching. It eliminates fuses—a movement of a lever restores the circuit. Built with either surface or flush mounting. The list price is only $2.65.

There are larger Multi-breakerRPs for every type of building. Ask your electrical contractor or write for bulletin CA-543.

CALL IN A SQUARE D MAN

SQUARE COMPANY
DETROIT - MILWAUKEE - LOS ANGELES
IN CANADA: SQUARE D COMPANY CANADA LIMITED, TORONTO, ONTARIO
Proctor & Gamble Co. Research Building,
Cincinnati, Ohio
Architect: Henry Manley, New York City, associated with engineers of Proctor & Gamble Co.
Contractor: T. W. Conner, Cincinnati, Ohio

1. Insures a Trouble-Free Piping System

Long before this Research Building was started for one of the world's largest makers of soap, the engineers conducted exhaustive tests on pipe — and Republic Toncan Iron Pipe was written into the specifications.

No wishful thinking — plain, common sense business procedure was employed to make certain that pipe trouble in this building would be kept at a minimum through the use of this alloy of refined open hearth iron, copper, and molybdenum.

Let the experience of these cautious engineers guide you when prospective builders entrust to you the plumbing, heating, and power piping systems of structures of every type. Specify pipe for long life — for economy in maintenance — with just three words — Republic Toncan Iron.

And if you would like to review the service records of Republic Toncan Iron Pipe in buildings of every type, ask for Booklet 333. Write Republic Steel Corporation, General Offices, Cleveland, Ohio.

Republic Toncan Iron Pipe — selected after exhaustive tests

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BERGER MANUFACTURING DIVISION
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STEEL AND TUBES DIVISION
UNION DRAWN STEEL DIVISION
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MADE OF THE ALLOY OF REFINED OPEN HEARTH IRON,
COPPER AND MOLYBDENUM THAT GROWS OLD SLOWLY
When you want weather-proof exteriors, specify EXT-DFPA

EXT-DFPA is widely used for modern streamlined residences, stores, service stations!

EXT-DFPA—the exterior type of Douglas Fir Plywood—is made with synthetic resin binder, hot-pressed under hydraulic pressure to form panels that are guaranteed by the manufacturer against ply separation due to moisture or any sort of weather condition. All EXT-DFPA is made in strict accordance with U.S. Commercial Standard CS45-38 and is edge-branded with a distinctive “grade trade-mark” for easy specification and identification.

EXT-DFPA is unsurpassed for use as exterior finish on residences, stores, service stations, warehouses, farm and other buildings... for signs and displays, boats, refrigerator cars and boxes, milkhouses, auto trailers, bus bodies and floors, gusset plates for bolted and ring-connected joints in trusses for roofs and bridges. EXT-DFPA is made in a variety of thicknesses and sizes and in several appearance grades. All progressive lumber dealers handle it.

For your information, consult Sweet's Catalog or write for any of this free literature: Suggested Specifications for Douglas Fir Plywood; Commercial Standard CS45-38; Construction Manual for Douglas Fir Plywood Dri-Bilt Houses; or Finishing Booklet. Douglas Fir Plywood Association, Tacoma Bldg., Tacoma, Washington.

RESISTS HURRICANE AND SALT WATER
Built in 1936 and located near the ocean, neither the salt-laden storms, heavy waves nor the September, 1938, hurricane had any effect on the EXT-DFPA exterior of this residence in Marblehead, Mass. It was designed by Donald Chapin Gross for John T. Robbins. 3/4" 5-ply was specified.

SPECIFIED BY AIR CORPS
More than 1,000,000 sq. ft. of EXT-DFPA were used in the Army Air Corps' emergency barracks building program undertaken at 11 air fields in August, 1939. Economy, speed of erection and permanence were the reasons for the selection.

Left: IDEAL FOR ALL BOATS
More and more boats, from dinghies to cruisers, are being built every year of EXT-DFPA, each a testimonial to its water-proofness.

Left: LOOK FOR THIS EDGE BRAND
Every genuine EXT-DFPA panel has this “grade trade-mark” stamped on its edge. Specify and insist on it... for it’s your protection.

SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"
DOUGLAS FIR PLYWOOD
REALLY LUMBER
MADE LARGER, LIGHTER
SPLIT-PROOF
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APRIL 1940 63
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WITH "SEALAIR" ALL-ALUMINUM CONSTRUCTION!

Before writing specifications for your next residential job, be sure you have all data on Kawneer stock and standard Windows—now furnished in both double-hung and casement types with effective built-in "Sealair" weathering.

These famous windows are no longer in the luxury class. In fact, over a period of years, their cost is actually lower than that of windows made from less durable materials. Upkeep expense is practically eliminated, since no painting is ever required. And no rusting, rotting, shrinking, swelling, or warping can occur. Complete line of factory-fitted units, with putty or metal glazing, is available in over 125 standard sizes and arrangements. Aluminum or bronze screens and storm sash are also available.

Write today for latest data. THE KAWNEER COMPANY, NILES, MICHIGAN.
The portfolio which starts off this issue is an advertisement. The editors think it is one of the best advertisements for architectural service ever published. It is aimed at the biggest market for architectural service ever known. It is intended to show the builders of America that better design can sell the low cost house.

Included is a score of houses priced at about $5,000. These houses meet the needs and the pocketbooks of about 3,000,000 potential home owners. But they are not very attractive. Some are even ugly—despite, and often because of efforts at ornamentation. Only a few have even the rudiments of good design. Not one really takes advantage of the opportunities which the basic floor plans and readily available stock materials afford. And so there is also included a series of sketches to show what can be done.

These sketches are no mere collection of pretty pictures. True, the tenderer has sometimes taken the liberty of showing the planting as it might look five years later. But the houses themselves have been redesigned in a way that will vastly improve their appearance even before the bushes begin to grow. Most of these suggested improvements add but little to cost and some represent a saving.

1940, by all accounts, will see a boom in low cost houses. FHA has lowered requirements on Title II (20-25-year) loans. RFC will now discount Title I (15-year) mortgages which conform to these new standards. Enterprising builders have begun to reach the pay-dirt in the hitherto untapped vein below the $3,500 level. A survey by The Forum (March 1940, p. 207) shows that those who have met this market plan 60 per cent more work this year than last. And, if these facts do not convince you, a Sunday's drive through your home-town suburbs will. The long-awaited low cost house is here. Droves of low cost houses are being built all over America. They will be built in huge quantities during the next few years. Will the follies of the Twenties be avoided in the Forties? Will the architects give the little house a great big hand? If they do, chances are good that America will give the architects one too.

*Almost every issue of The Forum presents small house. During the past five years Reference Numbers on small houses have been published in April, '35; October, '35; April, '36; November, '36; April, '37; July, '38; November, '38; April, '39; July, '39; October, '39.—Ed.*
Low cost houses are not all alike, even those which have the same number of rooms arranged in much the same way. Some have basements and basement stairways, some do not. Some are turned sidewise to the street, some endwise. The larger ones have stairways leading to future attic rooms. Each scheme satisfies a specific set of requirements which the others fail to meet. The houses on this page are the smallest and simplest kind which have no stairways at all. Because they are not very wide, this type is almost always placed with its side to the street.

The first two plans are very similar. Both are framed in two simple spans with 10 and 12 ft. joists, room sizes are almost identical. While the upper version is no doubt slightly cheaper to build, the second has the advantage of providing private communication between bath and bedroom and the bath. This is accomplished with a tiny, angular hallway which takes space only from the corners of the three rooms.

The third plan, while almost the same arrangement, is almost half again as large as the first two. The extra space is given over to larger rooms, especially a larger living room, and to more generous closets. Since equipment, doors, windows, etc., remain the same as in the smaller plans, it is doubtful whether this increases costs in proportion to the benefits realized. The fourth plan provides space for an enclosed, ground-floor heater, and exceptionally generous closets. The hallway, however, seems unnecessarily wasteful.

THE EXTERIORS on the opposite page might apply to any of these plans, actually are based on the first two. The projecting bedroom element, as in the upper plan, is utilized to provide a hood for the entrance door, tied-in with the general roof line. In place of two pairs of slit shutters, a single pair of louvered shutters is used, and strip shingles are substituted for the hexagonal type. Main reasons for the improvement in appearance are, however, the carefully studied trim, larger and better-looking windows, and a bigger chimney. As indicated by the rear view, there is no reason why the back of the house cannot be as attractive as the front.
**CHIMNEYS** are an exceedingly important element in the design of the low cost house. Spiky chimneys may be avoided by corbelling-out just below the roof line, and the extra space utilized to ventilate the attic, thus adding immensely to summer comfort. The chimney shown in the perspective is the middle type, with vents front and back.

**GUTTERS** should be an integral part of the cornice, not an afterthought. Any of the stock types, whether wood or metal, may be used, but it must be remembered that all kinds take the place of the usual wood molding. Where the gutter is provided in addition to such a molding, the cornice becomes too heavy, and downspouts awkward.
MINNESOTA: $2,750 with lot ($250).

MICHIGAN: $2,900 with lot ($350) heater by owner.

INDIANA: $3,350 with lot ($300) and heater.

IOWA: $2,600 without lot.

End-to-the-street plans, like those on this page, save valuable lot-frontage. They are therefore much used for houses midway in size between the smallest, basementless type and the larger kind which have provision for attic rooms. Usually, as in the three upper plans, this means separation of kitchen and bath, and where a basement stairway is provided it is placed between the kitchen and the back bedroom, with the rear door opening into the landing.

A deficiency of this arrangement is that it leaves no natural place for the bedroom closets, and these are often tucked in rather carelessly. Sometimes, as in the second plan, one of the closets is located so as to cut off private circulation between one of the bedrooms and the bath.

To this difficult problem, the answer given in the upper plan is perhaps best, although the chimney is unfortunately placed. The bottom plan sticks to the usual side-to-the-street arrangement by locating the basement stairway as an addition on the rear.

EXTERIORS for end-to-the-street houses need not necessarily be gabled in that direction, as the photographs at the left demonstrate. The designs on the opposite page present both types, the upper drawing employing the projecting living room of the bottom plan, the middle drawing a modification of this idea which creates a hooded entrance, and the lower drawing a flat front.

Biggest problem in the design of this type is to keep the house from looking too high out of the ground. This may be done either with area-ways (a simple construction is shown on page 219) or by grading up at the front of the house, a particularly good solution for the house with a money-saving partial basement. Chimneys and cornices are treated as shown on the previous pages. Be sure to keep the projection of the roof along the rake to a minimum, as indicated in the sketches.
ENTRANCE PLATFORMS cause the low cost builder a good deal of trouble and, if badly handled, will spoil an otherwise commendable design. Here, as always, the best solution is the simplest one. Be sure to have a full step at the door, so as to make the platform as low as possible, raise the grade so that only two steps are needed, and keep the platform wide so that it doesn't look skimpy.

GRADING up at the front of the house will immensely improve its appearance. When this is combined with the half or quarter basement, no areaways are needed and it actually saves money.
GROUPING

The biggest mistake most developers of low cost houses make is to assume that because they have hit upon a successful formula of plan and exterior, which sells, that this is the only solution adapted to their locality. Besides producing a monotony which is but little relieved by varying the shutters and adding a false gable here and there, this has the effect of limiting the market. A much better scheme is to vary the size and type of house, relying for economy on standard elements, plumbing, etc., rather than a stereotyped plan, and thus incidentally to meet the needs of a much larger group of customers. When this method is combined with varying setbacks, group planting, etc., as in the scheme illustrated above, an attractive community pattern may be established. None of the houses in this group departs from the plans already in use in low cost work, and their juxtaposition in groupings of this type is capable of almost endless variation. An essential contributing factor is the location of unsightly electric supply lines at the back of the plot.
Next in the low cost scale are houses with basement stairways, placed sidewise to the street. These particular examples show the importance of good design by contrast: they are paired as to plan, represent good and bad extremes on the outside. The upper two are "variations" by the same builder, from a plan which is notable for its workable efficiency.

Strangely enough, the plan on the left, which goes with the old-fashioned exterior that has been crossed out, is in several respects superior to the one on the right. The arrangement of the bath is better, closets more nearly adequate, and room sizes more generous. Despite these superiorities, there is little doubt as to which was easiest to sell.

Both of these little houses have front kitchens, both have projections at the side. In the one that has been crossed out, money has been misspent on an awkward hood and badly painted shutters; without this "decoration," the better-proportioned windows and attractive doorway make the second by far the better looking.
NEW JERSEY: $2,990 with lot, heater.

PLANTING must be properly planned for the low cost house to look its best. Avoid spiky, pointed plants and concentrate planting. A few larger, more spreading bushes are much more effective than numerous small plants, and a box hedge a real asset.

INDIANA: $2,966 with lot ($350).

AREAWAYS lift the all-important grade line, simplify the problem of making the entrance platform good looking. A sheet of metal or flexible asbestos, bent in a curve, makes a simple, gravel-bottomed areaway at almost no added cost.

NEW YORK: $2,500 with lot.

STOOPS can make or break the low cost design. They should be broad, of simple materials, not too "blocky." Basement areaways should be kept away from the platform to allow room for planting and in order to prevent accidents.
Artsocraft of the low cost field is the type of house which provides for future finished bedrooms in the space beneath the roof. This means an attic stairway, preferably rising from the bath-bedroom hall, and a roof pitch steep enough to accommodate the upstairs rooms, usually 45°. Dormer windows are a desirable, but not a mandatory feature. Ordinarily, the position of the stairway is such as to require a rear dormer to afford sufficient headroom at the upper landing.

This arrangement permits the addition of two second-floor bedrooms. The principle design problem it presents is the treatment of the rear dormer, which is likely to be very crude and boxlike unless carefully handled. To this problem, the small rear views on the opposite page present two solutions: the “salt box” cross-section (dimension diagram above, at right) with a high wall at the back, or a rear dormer set back as much as possible from the rear wall.

Where the attic stairway is parallel to the line of the ridge, no rear dormer is needed. While this is undoubtedly the cheaper arrangement, it permits but one additional room on the second floor, which may not warrant the added cost of the stairway. In the example given above, it has the additional disadvantage of not affording private communication between the second-floor bedroom and the bath, but this is perhaps not so serious in a house with three bedrooms as in one with only two.
DORMERS present a major problem in the low cost house when provision is made for future second-floor bedrooms. In the case of the individual dormer, the most important thing is to keep the "cheek"—or window jamb and sidewall detail—as narrow as possible. How to do this is shown by the upper drawing. The lower drawing shows first and second floor plans for the dormer in the lower sketch at the right. This dormer owes most of its charm to the fact that it is set back from the rear wall of the house, and this, in turn, calls for the modifications of the stairway shown on the plans.
Not all low cost houses employ the standard five room arrangement shown on the preceding pages. Another solution, applicable in specific cases, is the four room type with but one bedroom. Where needed, provision can be made in the plan for the addition of future bedrooms, as in the above example. Omission of one of the rooms in the original construction budget permits larger rooms and lowers initial cost.

**IOWA:** approx. $2,500.

**INDIANA:** $3,095 with lot ($295).

**INDIANA:** $3,165 with lot ($325).

Single-bedroom plans are capable of considerable variation, as indicated by these two versions. Inclusion of a few such units in every low cost development would add to the variety of the house types and thus improve the appearance of the groupings, while providing facilities tailored to the needs of childless couples and old people, thus broadening the potential market. The addition of a second floor room, as shown in the unusual example below, makes this type suitable for a variety of needs, including those of the family which requires a separate dining room.

**WISCONSIN:** $2,925 with lot ($425). Tub, lavatory, heater and interior finish by owner.

The house designs shown on the preceding pages represent the collaboration of New York Architect William Hamby and Forum Editor Henry Wright. Examples of existing practice in the low cost field were furnished by the Federal Housing Administration.
The value of architectural service in the low cost field is not, and should not be limited to exterior treatment alone. This design shows that it goes much deeper than that. To the problem of low cost design—and low cost construction—the architect brings an idiom all his own, and, at the same time, peculiarly American. Neither "Modern" nor "Traditional," his solution—whether in its flat, gabled, or hip roof version—goes to the root of what the buyers of low cost houses are looking for: better facilities for better living. Whether the buying public is ready to accept so fundamental an approach remains to be seen. THE FORUM, for one, hopes that it will.

In any event, builders of low cost houses have much to learn from this excellent and thoughtfully studied plan. An adequate vestibule and coat closet are provided. Space for dining is definitely set aside. The rear living room and porch are a feature of most new homes in the higher brackets, and cost no more in this location. Storage space is sufficient and properly disposed. The attached garage is convenient and attractive. There is more than a suspicion that even a few of these features might "sell" the most conservative.
The result of years and thousands of dollars of research, this three-bedroom prefabricated house was erected last month by the John B. Pierce Foundation at a cost of about $82,600, including built-in furniture but excluding land and builder's overhead and profit. In both plan and construction it is a distinct improvement over the Foundation's preceding experimental house (Arch. Forum, Sept. 1939, p. 44) whose exterior walls were a bare 1/4 in. of plywood.

After wood columns had been set on concrete piers, structural exterior walls were built up horizontally in three operations: 1) long waist-high plywood girders were set in place at the floor level, 2) stock wood casement windows were separated by plywood panels into which they slide when opened and 3) atop these went another layer of plywood girders. Typical wall section, outside-in: 1/4 in. plywood, 1 in. mineral wool insulation, 1 in. air space, 1/8 in. plywood. Roof is constructed of rafters, plywood sheathing and asphalt shingles. Despite unfavorable weather conditions, the house was enclosed in two days, ready for occupancy in ten days.

Particularly noteworthy in a house costing only $82,600 are the generous over-all dimensions (94 x 32 ft.), the three bedrooms which will comfortably sleep six persons, the abundant closet space and the extent of built-in furniture. Since the mortgage on a house may cover the cost of all built-in equipment, the last mentioned feature would reduce the purchaser's cash outlay for furniture—an important consideration in the low income brackets. The house is heated through a plenum chamber by a coal-burning grate which occupies a fireplace position in the living room.

A detailed analysis of the design, construction, equipment and cost of this significant low cost house will be presented in The Architectural Forum for May.
BEDROOMS in the $2,600 house are compact but large enough to permit easy circulation. Master bedroom, left, boasts two closets, built-in chests, shelves, a dressing table and a desk. With the exception of the center segment of the triple window, all casements slide back into the plywood walls, permit 100 per cent ventilation. Upper bunk in other corner bedroom, above, may be shifted to the floor. Bunks in third bedroom are built-in.

KITCHEN AND BATHROOM feature equipment designed by the Foundation, most of which will soon go into industrial production. Plumbing lines serving both rooms are compactly arranged, pre-assembled in the shop, handily installed behind removable porcelain enamel panels in the bathroom. Since most of the equipment in this house, including the heating system, is similar to that installed in the predecessor house completed last September, the results of operating tests are available. They will be discussed fully in the May issue of THE FORUM.
Two inexpensive concrete block houses by Developer R. C. Dewey with exceptionally well-studied plans. Both are without basements, and have centrally located ground floor heaters. The upper plan provides unusually generous living and dining space, an adequate kitchen and utility room, and two bedrooms in a compact square, utilizing the device of tucking one of the bedrooms on a second floor beneath the roof. In the lower plan, which includes the same accommodations on a single floor, the problem of dining space has been solved in an interesting way. Sales price including lot: $4,500 and $4,400, respectively.

CONSTRUCTION OUTLINE

A clearly articulated design, in which the doors and windows indicate very precisely the workings of the plan. Color values of the exterior are the exact reverse of the conventional scheme, but both the white roof and dark walls of natural redwood represent a practical solution. Natural woods have also been used effectively in the main interiors. Especially noteworthy is the plan, a straightforward arrangement which solves admirably every problem commonly found in the one-story house. Cost: about 92 cents per cu. ft.

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—redwood siding, studs; inside—Gold bond plaster, National Gypsum Co. Floor construction—joists, Oregon pine sub-floor, oak finish floor.

ROOF: Covered with tar and gravel.

FIREPLACE: Damper—Richardson & Boynton Co.

SHEET METAL WORK: Gutters—built-up composition. Remainder—Armco, American Rolling Mill Co.


HARDWARE: By Schlage Lock Co.

PAINTING: By W. P. Fuller Co.


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


HEATING: Warm air system, filtering, humidifying, Aladdin Co. Water heater—American Radiator-Standard Sanitary Corp.
The salt-box is a common dwelling type in New England, but only rarely are the one- and two-story fronts reversed as in this example. There was reason for the change, however, as the land slopes up to the rear, and the two-story section faces south. The type of living-dining room shown is a practical solution for the small house with a central chimney, offering both convenience and economy. The second-floor bedrooms are well-placed, each enjoying a southern exposure and cross-ventilation. Cost: about 35 cents per cu. ft.

**CONSTRUCTION OUTLINE**

The principal view is to the north of this house, which simplified the problems of fenestration in a climate where direct sunlight within the rooms is not desirable. The south wall is protected by a roof over part of the terrace, and by an overhang which screens the remaining windows. An interesting feature is the sun deck, glazed in part to break the wind. Further evidence of climatic influence is to be seen in the plan, where every effort has been made to provide ample through ventilation. Cost: 40 cents per cu. ft.
The owners' requirements included a living-dining porch at the rear, convenient circulation between the kitchen and main entrance, and a guest room with a separate bath; it was also stipulated that the house be Early American with a fair amount of paneling and other characteristic detail. Despite the emphasis on archaeology, the plan shows a thoroughly livable arrangement and a very efficient use of space. The house is set in the approximate center of an ample plot, and is so oriented that the main rooms have east, south and west exposures. Cost: about 35 cents per cu. ft.
CONSTRUCTION OUTLINE


ROOF: Covered with shingles, Bird & Sons.

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


STAIR: Risers and stringers—white pine. Treads—oak.


WOODWORK: White pine throughout.


KITCHEN EQUIPMENT: Range—General Electric Co. Refrigerator—Frigidaire Corp.

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

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—Streamline copper, Mueller Brass Co.

The stone house, as distinguished from the frame house with stone veneer, is a comparatively rare type in the domestic field. There is ample local precedent, however, for both the construction and appearance of this small residence. The plan gets the most out of a limited area, space having been given to a few units of good size rather than to many small rooms. With two walls of glass and ample space for dining, the kitchen seems to have been handled most successfully. Cost: 28 cents per cu. ft.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—stone, 2 in. wood furring, wood lath and plaster. Floor construction—pine sub-floor, oak finish.

**ROOF:** Covered with asbestos shingles.

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

**INSULATION:** Attic floor—rockwool bats.

**WINDOWS:** Sash—double hung wood; storm sash. Glass—Pennvannan, quality B, Pittsburgh Plate Glass Co.

**WALL COVERINGS:** Main rooms—wallpaper. Kitchen and bathrooms—Linowall, Armstrong Cork Co.


**BATHROOM EQUIPMENT:** All fixtures by Hajoca Corp.

**PLUMBING:** Cold and hot water pipes—copper.

**HEATING:** Hot water system.

Located on a heavily wooded island, and facing a striking view of the San Francisco skyline, this example shows an interesting approach to the problem of designing for the site. The white, crisply edged mass looks well in the setting of luxuriant foliage, and the placing of the living floor on the upper level opens up the view and leaves space below for a garage and general storage. Further emphasis is given the view by the line of folding doors which serve as a front wall, and by the deck. Cost: about 38 cents per cu. ft.

**CONSTRUCTION OUTLINE**


**ROOF:** Covered with Pabco roofing, Paraffine Co.'s. Deck—Oregon pine, W. P. Fuller Co. paint.

**FIREPLACE:** Damper—Superior Fireplace Co.

**INSULATION:** Roof—insulation board, Celotex Corp.


**FLOOR COVERINGS:** Main rooms—Oregon pine. Kitchen and bathrooms—linoleum. Congoleum-Nairn, Inc.

**WOODWORK:** Trim and cabinets—Oregon pine. Folding doors by Richards-Wilcox Mfg. Co.

**HARDWARE:** By Russell & Erwin Mfg. Co.

**ELECTRICAL INSTALLATION:** Wiring system—knob and tube. Switches—General Electric Co. Fixtures—Bayd Lighting Fixture Co.


**BATHROOM EQUIPMENT:** All fixtures by Kohler Co. Cabinets—Hallensheid & McDonnell.

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

A summer house, located on the south shore of Long Island. Budget limitations dictated the use of exposed frame in most of the rooms, and this in turn suggested a modular plan. All rooms, rafters, partitions, closets and stud spaces are laid out on two-foot centers. Wall heights were established to permit the use of standard eight-foot panels without cutting. Most interesting of the many excellent features is the staggered roof, permitting ventilation of the living room at its highest point. Cost: 93 cents per cu. ft. includes unusually high cost of bringing services and utilities to the houses, which, when subtracted brings the house into the $10,000 cost range.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete block.
STRUCTURE: Exterior walls—frame, beveled cedar siding, 15 lb. felt, Douglas fir studs; inside—studs exposed, Idaho pine sheathing or various types of panels.
ROOF: Covered with Perfection cedar shingles.
FIREPLACE: Damper—H. W. Covert Co.

SHEET METAL WORK: Ducts—galvanized iron; remainder—16 oz. copper.
FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum, Congoleum-Nairn, Inc.
WALL COVERINGS: Various types of paneling; some wallpaper in Master bedroom. Bathrooms—Plywood, Masonite Corp., over pine sheathing.


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


A pleasant solution for the one story house in which the traditional symmetry of the front has not been permitted to hamper the workings of the plan. There is a good arrangement of all the service facilities, the laundry functioning as a service vestibule, and a separate stair serving to isolate the maid's quarters from the rest of the house. The rear elevation, customarily ignored in the great majority of traditional houses, has been developed here as an attractive background for the terrace and garden. Cost: 31 cents per cu. ft.
The architect comments: "A young doctor, interested in being as contemporary as possible both in his work and living, was looking for a low cost house and offered me a chance to experiment. Completely traditional construction was used, and the house was so designed that it can have two rooms added." A number of excellent features are to be noted, the use of tile in the corridor, extending to become part of the hearth, the sheltered entrance, and the pleasant fenestration of the living room. Cost: 36 cents per cu. ft.

**CONSTRUCTION OUTLINE**

- **FIREPLACE:** Damper—Colonial Damper Co.
- **SHEET METAL WORK:** Flashing and ducts—Armco, American Rolling Mill Co.
- **WINDOWS:** Sash—Crittall Federal, Inc. Glass—Libby-Owens-Ford Glass Co.
- **FLOOR COVERINGS:** Main rooms—red oak. Halls—concrete. Kitchen and bathrooms—linoleum, Armstrong Cork Co.
- **WOODWORK:** White pine throughout. Garage doors—Frantz Mfg. Co.
- **HARDWARE:** By Yale & Towne Mfg. Co.
- **PAINTING:** Material by Sherwin-Williams Co.
- **ELECTRICAL INSTALLATION:** Wiring system and switches—General Electric Co.
- **BATHROOM EQUIPMENT:** Fixtures by Kohler Co.
- **PLUMBING:** Hot and cold water pipes—wrought iron, A. M. Byers Co.
- **HEATING:** Warm air system. Boiler, grilles and regulator—Wisconsin Oil Burner Co. Water heater—Welsbach & Co.

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The architect comments: "The first idea for this house—one room—was short lived due to district restrictions, as was the flat roof, and the final result was as shown. A steep hillside was the site and the problem was to use it with a minimum of foundation cost. As it was, we ran into some deep fill and had to redesign the foundations. The main rooms have a magnificent view overlooking Hollywood, and through the generously designed balcony the relatively small home has the feeling of spaciousness. The playroom below serves as a studio for the owner, whose hobby is painting." Cost: $3.60 per sq. ft.
CONSTRUCTION OUTLINE


SHEET METAL WORK: Flashing, leaders and ducts—Tomen galvanized iron, Republic Steel Corp.

WEATHERSTRIPPING: Ideal Weather Stripping Co.


WALL COVERINGS: Kitchen and bathrooms—Sanitas, Standard Coated Products Co.

HARDWARE: By Schlage Lock Co. Garage doors—Pacific Overhead Door Co.

PAINTING: Materials by Sherwin-Williams Co.


PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—galvanized iron.

A high roof provides space for a future bedroom upstairs, and a dormer at the rear has already been constructed. The present bedrooms open off a separate hall, with the bathroom so placed that it will conveniently serve the additional room. There is a well-protected porch which acts as a link between house and garage and serves to increase the size of the dwelling at little extra expense. Cost: about 38 cents per cu. ft.
The use of a low-pitched roof furnished an opportunity to give added spaciousness as well as interest to the main interiors of this house, and the roof is particularly effective when seen from the street level above. The plan is excellent, with a flexible disposition of living space and an efficient arrangement of services. The house faces the garden, all rooms opening to the terrace through glazed doors which extend from floor to eaves. Cost: $1 per sq. ft., excluding garage.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—stucco over 15 lb. felt, Douglas fir studs; inside—stucco on gypsum board lath. Floor construction—Douglas fir sub-floor, joists and finish flooring.

**ROOF:** House—covered with redwood shingles. Garage—covered with Pabco roofing, The Paraffine Co.'s, Inc.

**FIREPLACE:** Damper—Superior Fireplace Co.

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

**INSULATION:** Roof—aluminum foil.

**WINDOWS:** Sash—pine casements. Glass—Fenvernon, quality B, Pittsburgh Plate Glass Co.

**FLOOR COVERINGS:** Main rooms—Amhaco broadfelt, American Hair & Felt Co. Kitchen, laundry and bathrooms—linoleum, Armstrong Cork Co.


**PAINTING:** All material by Sherwin-Williams Co.

**ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—toggle.


**PLUMBING:** Supply pipes—galvanized iron.

**HEATING:** Gas fired forced draft furnace. Heaters—Thermador Electric Heating & Mfg. Co.
A plan for a completely level lot, located on a hillside overlooking the city. The curved street which touches three sides of the lot presented a major problem, as it was considered desirable to open the main rooms to the view without loss of privacy. A solution was found in the use of screen walls and trellises and in an admirable plan arrangement. The placing of the entry well within the mass of the house, for example, is a particularly good illustration of the skill displayed in handling a difficult site. The design is marked by a very positive treatment of vertical and horizontal elements which contributes much to the open appearance suggested in the plan. Cost: 41 cents per cu. ft. (including garage).

**CONSTRUCTION OUTLINE**

**FOUNDATION:** Reinforced concrete.  
**STRUCTURE:** Exterior walls—cement stucco over 15 lb. felt on 2 x 4 in. studs; inside—interior stucco. Interior partitions—interior stucco or white pine 3-ply veneer. Floor construction—oak over T. & G. subfloor. Wolmanized girders, American Lumber & Treating Co.  
**ROOF:** Covered with El-Rey roofing.  
**FIREPLACE:** Heatilator Co.  
**SHEET METAL WORK:** Flashing—galvanized iron.  
**INSULATION:** Outside walls and roof—1/2 in. Celotex, Celotex Corp.  
**FLOOR COVERINGS:** Main rooms—Carpet. Kitchen and bathrooms—linoleum, Armstrong Cork Co.  
**WALL COVERINGS:** Kitchen and bathrooms—Sanitas, Standard Coated Products Co.  
**WOODWORK:** Trim and doors—white pine.  
**HARDWARE:** By Schlage Lock Co. and Richards-Wilcox Mfg. Co.  
**PAINTING:** By Sherwin-Williams Co.  
**ELECTRICAL INSTALLATION:** Wiring system—BX. Switches and fixtures—General Electric Co.  
**KITCHEN EQUIPMENT:** Range—Hot Point, Edison-General Electric Appliance Co. Refrigerator—electric, Stewart Warner Corp. Sink—Kohler Co.  
**BATHROOM EQUIPMENT:** Basin—Kohler Co. Tub—tile, Gladding, McBean & Co. Accessories—Hallensheid & McDonald.  
**PLUMBING:** Cold water pipes—galvanized iron. Hot water pipes—wrought iron.  
**HEATING:** Marvelaire filtering system. Water heater—American Radiator Co.
The architect comments: "This house was built near the top of a rather steep lot sloping up from the street. The disadvantage of such a lot is that the view is back over the street, and retaining privacy without losing the view is difficult. A solution in this case was attempted by keeping the walls near the entrance blank. Living room, dining room and den are usually used as one large room, but the den can be shut off by sliding wall panels. Cost: 44 cents per cu. ft. (including garage and basement).

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—cement stucco over 15 lb. felt on 2 x 4 in. studs; inside—hard wall plaster or ½ in. plywood.

**FLOOR CONSTRUCTION**—Wolmanized girders, American Lumber & Treating Co., Douglas fir sub-floor and Armstrong Cork Co. finish cork flooring.

**ROOF:** Covered with El-Rey roofing.

**FIREPLACE:** Superior Fireplace Co.

**INSULATION:** Roof—Alco aluminum foil, Aluminum Co. of America.

**WINDOWS:** Sash—sugar pine, casement, Whitco hardware, Vincent Whitney Co. Glass—double strength, plate, Libbey-Owens-Ford Glass Co.


**HARDWARE:** By Schlage Lock Co.

**PAINTING:** Material by Sherwin-Williams Co.

**ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—Arrow, Hart & Hegeman Electric Co.

**KITCHEN EQUIPMENT:** Refrigerator—Electrolux, Servel, Inc. Sink—Kohler Co.

**BATHROOM EQUIPMENT:** All fixtures by Kohler Co. Shower—tile, Gladding, McBean & Co. Cabinets—Hallensheid & McDonald.

**PLUMBING:** Cold water pipes—galvanized iron. Hot water pipes—wrought iron.

**HEATING:** Gas fired warm air heaters. Water heater—General Heater Corp.
A small winter residence for a family of four and occasional guests. Economy was an important factor in the design, and the effect of a small lot may be seen in the plan, as in the living room where little space was available for windows. Arranged in a compact block, and covered by a white hip roof, the house has a solid, comfortable appearance typical of the more conservative local dwellings. Cost: about 34 cents per cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete.
ROOF: Covered with shingles.
SHEET METAL WORK: Ducts—galvanized iron; remainder—copper.
FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum.
WOODWORK: Garage doors—overhead type.
PAINTING: Materials by Samuel Cabot, Inc.
ELECTRICAL INSTALLATION: Flexible armored conduit.
KITCHEN EQUIPMENT: Range—gas. Refrigerator—electric.
The architect comments: "The feature of this house is the large high-ceilinged living room, with the space of the living room extending over the kitchen, study and stair, giving two-thirds of the ground area to the living room. The result is a feeling of spaciousness in a very small house and coolness during the summer. The next feature is the use of colored glass in the high windows; over the kitchen there is a sheet of blue transparent plate, and in the south wall of the living room is a sheet of peach-colored glass. The latter is well up under the eaves and only the winter sun reaches it. The projecting eaves shelter the walls and reduce glare." Cost: about 32 cents per cu. ft.

CONSTRUCTION OUTLINE

ROOF: Covered with built-up asphalt roofing, Bird & Son.
FIREPLACE: Damper—Heatilator Co.
SHEET METAL WORK: Flashing—Toncan galvanized iron, Republic Steel Corp.
HARDWARE: By Sargent & Co.
BATHROOM EQUIPMENT: All fixtures including water heater, pump and septic tank, Crane Co.
HEATING: Heating and winter conditioning, Century Co.
A one-story house which approaches a practical minimum in size. The Z-plan is highly suitable for its purpose, as it gives formal interest to the exterior and permits the creation of a protected terrace at the rear. The kitchen-dining arrangement is a most ingenious and economical use of space. Textured brick walls and wood siding have been used effectively on the exterior and do much to enrich the plain rectangular mass. Cost: about 45 cents per cu. ft.

**CONSTRUCTION OUTLINE**

**FOUNDATION:** Reinforced concrete.

**STRUCTURE:** Exterior walls—12 and 8 in. brick; inside—plaster. Floor construction—cement slab; Lithocrome coloring, L. M. Scofield Co.

**ROOF:** Covered with built-up roofing, Philip Carey Co.

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

**SHEET METAL WORK:** Flashing and downspouts—galvanized iron.

**INSULATION:** Roof—Eagle Picher Sales Co.

**WINDOWS:** Bash and screens—Detroit Steel Products Co. Glass—double strength, quality B, Libbey-Owens-Ford Glass Co.


**HARDWARE:** By Schlage Lock Co. and Frantz Mfg. Co.


**ELECTRICAL INSTALLATION:** Wiring system—rigid conduit and metallic tubing. Switches—tumbler, Bryant Electric Co.


**BATHROOM EQUIPMENT:** All fixtures by Crane Co. Cabinet—Hallensheid & McDonald.

**PLUMBING:** Soil pipes—cast iron, A. M. Byers Co. Hot and cold water pipes—galvanized steel.

**HEATING:** Floor furnace, gravity type, Ward Heater Co. Water heater—Bastian-Morley Co., Inc.
Conventional in its use of Colonial precedent save for the fenestration, this example brings out the changes taking place within the framework of traditional house design. Aside from admitting more light, the windows as arranged make the use of shutters a superfluous decorative note. A center stair was required to leave space for the future bedrooms, and it also makes possible the complete separation of living and sleeping quarters with a minimum of difficulty. Cost: 35 cents per cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete block.
DOOR: Covered with red cedar shingles.

FIREPLACE: Damper—H. W. Covert Co.

SHEET METAL WORK: Flashing and leaders—copper. Gutters—fin, Ducts—galvanized iron.

INSULATION: Outside walls—Vapor-Seal, Celotex Corp. Roof—Balsam wool, Wood Conversion Co.

WINDOWS: Sash—wood, double hung. Glass—single strength, quality A.


WALL COVERINGS: Bathrooms—plaster. Remainder of rooms—Kelly Board, Calvin Tomkins, covered with paint or wallpaper.

HARDWARE: By Ostrander & Eshleman.

ELECTRICAL INSTALLATION: Wiring system—BX. Fixtures—Lightoller Co.


PLUMBING: Hot and cold water pipes—brass.

HEATING AND AIR CONDITIONING: Warm air system; Thatcher unit and oil burner with automatic humidifier and filters, Thatcher Furnace Co.
The "in-line" plan is frequently restricted in its use by conditions of climate, site, and owner preference for more conventional types. Rarely have its possibilities, both visually and practically, been better suggested than here. The shape is an extended rectangle, terminated at the ends by shelters and services; it relies for its effect entirely on fenestration and wall textures. Covered with low shed roofs, the house could hardly be more simple in form or construction. Advantages of the plan are obvious: the natural lighting and ventilation leave nothing to be desired, and each room is intimately related to the setting. The design is given additional consistency by the use of the exterior wall color within the house. Cost: $4.92 per sq. ft.
CONSTRUCTION OUTLINE

FOUNDATION: Reinforced concrete.
STRUCTURE: Exterior walls—T. & G. redwood with battens, 15 lb. felt, Douglas fir sheathing; inside—Insulite Co. boarding or plywood. Floor construction—hollow partition tile over concrete slab.
ROOF: Covered with white mineral surfaced roofing.
SHEET METAL WORK: Galvanized iron throughout.
INSULATION: Ceiling—2 in. Pakfelt, Plant Rubber & Asbestos Co.
WINDOWS: Sash—sugar pine casement.
GLASS: Single strength, quality B.
WALL COVERINGS: Living room—redwood.
HARDWARE: By Casement Hardware Co. and Frantz Mfg. Co.
ELECTRICAL INSTALLATION: Single phase 110/220 volt service.
BATHROOM EQUIPMENT: All plumbing fixtures by American Radiator—Standard Sanitary Corp.
The compact plan below shows a number of excellent features. The possibility of complete separation of sleeping and living quarters eliminates one of the common disadvantages of the one story house. Relation of the garage to the front door, basement and kitchen has also been well studied, although the difficulty of access from the latter to the main entrance is open to question. The placing of the baths was obviously established with an eye to economy, but the resulting separation of the maid's room and bath by the front hall might well prove inconvenient. The exterior, unfortunately photographed under difficult conditions, is a simple statement of the facts of the plan. Cost: 31 cents per cu. ft.
A ranch house of conventional design, its long lines reflecting the need for free circulation of air. The porch is a required part of the general scheme for living and is used as a passageway between the various parts of the house. In harmony with the house and its surroundings is the living room, an attractive informal room broken up into two units for greater flexibility of use. Cost: about 44 cents per cu. ft.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—Douglas fir frame, sheathing, building paper, California pine siding and battens; inside—redwood paneling or Celotex, Celotex Corp. or rough pine boards. Floor construction—reinforced concrete slab, except V-joined pine over fir sub-floor in living room.

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

**SHEET METAL WORK:** Flashing—galvanized metal. Weatherstripping—Accurate Metal Weatherstrip Co.

**INSULATION:** Outside walls—Cabot's Quilt, Samuel Cabot, Inc. Inside walls—redwood paneling or Celotex. Celotex Corp. or rough pine boards.

**WINDOWS:** Sash—outswinging pine casement. Glass—single strength, quality B, Libby-Owens-Ford Glass Co.


**WALL COVERINGS:** Bathroom—Salubra. Frederick Blank & Co.

**HARDWARE:** By Russell & Erwin Mfg. Co. and Stanley Works.

**PAINTING:** Materials by A. S. Boyle Co., Scofield Co. and Sherwin-Williams Co.

**ELECTRICAL INSTALLATION:** Wiring system—flexible metallic cable. Switches—tumbler. Bryant Electric Co.


**BATHROOM EQUIPMENT:** All fixtures by Crane Co. Cabinets—Lawco, F. H. Lawson Co.

**PLUMBING:** Hot and cold water pipes—copper, Anaconda, American Brass Co.
25. HOUSE IN MADISON, WISCONSIN
Requirements for this house were three bedrooms, one bath, a small kitchen, adequate storage space and a dark room. No provision for servant's quarters was desired. The house produced to fit the family's needs is on one floor, has unusually generous provisions for storage. An interesting feature is the inside utility room, placed to receive a certain amount of daylight. The exterior design also reflects the owners' requirements in the use of traditional siding and a pitched roof. Cost: 40 cents per cu. ft.
A traditional design of considerable vigor and freshness. The client required a house suitable for year-round living in a Vermont community and an appropriate background for his possessions. The plan is well adapted to the site, and despite its elongated appearance the house can be heated economically. Particularly successful in appearance is the rear elevation, in good character with the local architecture without rigid adherence to precedent. Cost: 31 cents per cu. ft.
CONSTRUCTION OUTLINE


ROOF: Covered with red cedar shingles.

FIREPLACE: Damper—H. W. Covert Co.

INSULATION: Roof—rock wool, Johns-Manville Corp.


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


HARDWARE: By P. & F. Corbin and Earle Hardware Co.

PAINTING: Material by Boston Varnish Co.


LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliances, Inc.

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

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—galvanized iron. Pump—Burke electric rotary, Desatur Pump Co.

Built in an economical rectangle, this example shows something of local influence in the long porch and the roof treatment. The climate makes a vestibule superfluous, and the front door opens directly into a corner of the living room; there is no direct access to the bedrooms from the main entrance, but the disadvantage would be slight in a house of this size. The rear terrace is a pleasantly informal addition to the living space. Cost: 50 cents per cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Reinforced concrete.


ROOF: Covered with cedar shingles.

FIREPLACE: Damper—H. W. Covert Co.

SHEET METAL WORK: Flashing and ducts—galvanized iron.


FLOOR COVERINGS: Kitchen—linoleum, Armstrong Cork Co.


HARDWARE: By Schlage Lock Co. and Hall Mfg. Co.


ELECTRICAL INSTALLATION: Rigid galvanized conduit and electrical metallic tubing. Switches—tumbler, Bryant Electric Co.


BATHROOM EQUIPMENT: All fixtures by Crane Co.

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—galvanized steel.

HEATING: Thermosatically controlled forced hot air furnace, Race Air Conditioning Co. Water heater—Bastian-Morley Co., Inc.
A compact little house, situated overlooking the Hudson River. In spite of its small size it contains three bedrooms of adequate dimensions and a separate dining room. The abrupt drop in level made possible the two-car garage below the house, in addition to the small amount of basement space needed. Placing of the terrace was determined by considerations of view, and this in turn helped establish the location of the living room. Cost: about $2 cents per cu. ft.
Hillside lots appear to be the rule in the Los Angeles area, but this one presented uncommon difficulties. The owners wanted all rooms save the library to be on one floor, and as there was a 27-foot drop in grade this led to the unusual solution illustrated. The library was placed on the second floor for privacy, and has about 2,000 sq. ft. of deck spaces. Glass was used liberally where the view made it desirable. Roof decks are an important part of the design, as there is practically no usable ground area. Cost: 36 cents per cu. ft. This figure covers the built-in furniture, which includes all beds, dressers, couches, desks, buffets and the radio cabinet.

CONSTRUCTION OUTLINE

FOUNDATION: Reinforced concrete.

STRUCTURE: Exterior walls—4 x 4 in. redwood posts 3½ ft. on center, outside, stucco; inside—plaster and U. S. Plywood Corp. panels. Floor construction—oak and plywood over sub-floor. Ceilings—Vermiculite plaster, Blue Diamond Corp.

ROOF AND DECK: Covered with Johns-Manville Corp. roofing.

SHEET METAL WORK: Armco galvanized iron throughout, American Rolling Mill Co.


HARDWARE: By Schlage Lock Co.

PAINTING: Materials by Matthews Paint Co.

ELECTRICAL INSTALLATION: Wiring system and switches—General Electric Co.


LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliances, Inc.


PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—galvanized.

Some time ago the director of the Seattle Art Museum spoke of a new type of residential architecture in the Northwest, which he called "Puget Sound architecture." The result of that phrase and idea is to be seen here and in the eight pages which follow: five houses which form the basis for a subdivision of unusual interest. The project was sponsored by a local business group, consisting of The Bon Marché department store, the Seattle Trust and Savings bank, and the Puget Mill Co., whose aim was to promote a sound addition to Seattle's residential sections by dramatizing the idea of a distinct regional type of architecture. The validity of the latter is a question left to the reader; there can be no question, however, as to the improvement these houses represent over the conventional development for moderate cost homes.

The house illustrated here is interesting for its use of prefabricated plywood walls, and all interior and exterior finishes are applied directly to the structural units. The plan provides highly desirable conditions of light and ventilation, privacy for the sleeping quarters and a very satisfactory arrangement of services. Economy of construction is guaranteed by the simplicity of its outlines. Cost: 42 cents per cu. ft.
EDWIN J. IVEY, ARCHITECT ELIZABETH AYER, ASSOCIATE

CONSTRUCTION OUTLINE

FOUNDATION: Concrete. Waterproofing—Flintkote, Flintkote Co.

STRUCTURE: Exterior and interior walls and ceilings—plywood with interlocking joints, glued to light studs; inside muslin stretched on surface in white lead, painted as an ordinary plaster or canvas wall. New waterproof veneer of Douglas fir; patent system of the Speedwall Construction Co.

ROOF: Covered with red cedar shingles.

WEATHERSTRIPPING: Chamberlin Metal Weather Strip Co.

WINDOWS: Glass—single strength, quality—Libbey-Owens-Ford Glass Co.

FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum, Conoleum-Nairn, Inc.

WOODWORK: Fir used throughout.

HARDWARE: By Sargent & Co.


BATHROOM EQUIPMENT: All fixtures by Crane Co.

PLUMBING: Soil pipes—cast iron. Water pipes—wrought iron.

HEATING AND AIR CONDITIONING: LaSalle air conditioner, filtering and humidifying; unit includes oil burner and boiler, LaSalle Oil Burner Co. Water heater—Wesix Electric Heater Co.
There is an interesting contrast of texture in this house, and a very vigorous use of shadow. Flush siding on the garage doors, horizontal siding with shallow moldings, and a wall covered with vertical battens make up the three types of wood on the exterior. The plan shows all living quarters on the ground floor, with bedrooms inconspicuously placed over the garage. A small basement occupies the center of the house. Corner windows are a prominent feature of the design, as in many other houses of the group, and the characteristic mixing of traditional and modern elements is also to be noted. Cost: about 34 cents per cu. ft.
The discrepancy between the rear of this house and the handsome front elevation may be attributed to the somewhat complicated plan. The necessity of providing adequate living and sleeping quarters on one floor, with sufficient privacy for each group of rooms, presents a difficult problem to the architect where the amount of land available does not permit spreading out the various units. Here a central hall forms the nucleus of the plan, with additional corridors leading to the bedrooms and the outdoor terrace. Interiors, such as the living room shown on the opposite page, are simple in treatment and similar in character to the modified traditional exterior. Cost: about 26 cents per cu. ft.
WILLIAM J. BAIN, ARCHITECT

WEST ELEVATION

CONSTRUCTION OUTLINE


ROOF: Covered with hand split cedar shakes.

FIREPLACE: Damper—Superior Fireplace Co.

SHEET METAL WORK: All Armco iron, American Rolling Mill Co.


WOODWORK: Fir used throughout.


PAINTING: Material by I. F. Laucks Co. and Sherwin-Williams Co.


PLUMBING: Soil pipes—cast iron. Water pipes—galvanized steel, National Tube Co.

Most unusual in this house is the manner of getting into it; the main entrance is at the rear, reached by a pleasant walk through the gateway and along a sheltered terrace. The arrangement is consistent with the plan, which definitely orients the house to the rear garden. Rooms are ample in size and well placed; the kitchen seems particularly good in this respect, being within convenient distance of the front door and guest lavatory. The combined living-dining room is used in a very workable form, as the two spaces can be separated without difficulty if need should arise. Also worth noting is the size and number of closets. Cost: about 33 cents per cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete.
ROOF: Covered with hand split shakes.
SHEET METAL WORK: Armco iron throughout, American Rolling Mill Co.
WINDOWS: Sash—wood, double hung and casement.
STAIRS: Treads—oak. Risers and stringers—fir.
WALL COVERINGS: Bedrooms and halls—wallpaper. Bathrooms—Marlite, Marsh Wall Products Co.
WOODWORK: Fir used throughout.
HARDWARE: By Yale & Towne Mfg. Co.
KITCHEN EQUIPMENT: Sink—Kohler Co. Fan—West Wind Corp.
HEATING AND AIR CONDITIONING: Fully automatic oil burning air conditioning and heating plant.
A recognition of the importance of properly planned outdoor living areas is characteristic of most of the Puget Sound houses, and in this example it is given particularly clear expression. In addition to the terrace, sheltered by the house and garage, there is an outdoor extension of the living room, protected from sun as well as wind, and equipped with a fireplace. An advantage of the plan is that it gives a small house the appearance of considerable size at little expense. Less easily comprehended contributions to the new architecture of the Northwest are the Oriental touches on the exterior. Cost: 36 cents per cu. ft.
CONSTRUCTION OUTLINE

FOUNDATION: Concrete.


ROOF: Covered with Perfection shingles.

SHEET METAL WORK: Flashing and leaders—galvanized iron. Gutters—cedar.

INSULATION: Ceiling and attic—Celotex. Celotex Corp.


STAIRS: Treads—oak. Risers and stringers—fir.


WALL COVERINGS: Main rooms—wallpaper. Bathrooms—Marlite, Marsh Wall Products Co.

WOODWORK—Fir throughout.


PAINTING: Material by Reardon Co.


KITCHEN EQUIPMENT: Sink—Kohler Co. Cabinets—Burke Millwork Co.

BATHROOM EQUIPMENT: Fixtures by Kohler Co.

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—galvanized iron.

HEATING: Forced warm air system, filtered and humidified, Rossoe Mfg. Co.
The influence of climate is evident in this house, whose plan shows the effort made to obtain cross or through ventilation where possible; of equal interest is the clerestory window in the dining room, an excellent device for obtaining additional light and ventilation. The exterior is a good example of the contemporary trend in Florida residential architecture, modern in its general approach but distinctly regional in character. Cost: 49 cents per cu. ft.

CONSTRUCTION OUTLINE

ROOF: Covered with 4-ply built-up asphalt and paper roofing, gravel top. Deck—covered with Par-Kay, Wood Mosaic Co.
INSULATION: Outside walls, ceiling and roof—rock wool, Johns-Manville Corp. Weatherstripping—Chamberlin Metal Weather Strip Co.
HARDWARE: By Schlage Lock Co.
PAINTING: Materials by Sherwin-Williams Co.
ELECTRICAL INSTALLATION: Switches—Bakelite Corp. Fixtures—Novelty Lighting Corp.
KITCHEN EQUIPMENT: Range—Estate Stove Co. Refrigerator—Sparks-Withington Co.
PLUMBING: Hot and cold water pipes—copper.
A great deal of room has been packed into this small house, and the first floor plan makes the addition of two upstairs bedrooms a simple matter. The stairs have been placed to permit landing near the center of the second floor; their reversal allows for a more economical location of plumbing fixtures, and gives space for a closet in the entrance hall. The exterior is suitably modest in character, and completely free from the attempts at pretentiousness often seen in dwellings in this price class. Cost: about 18 cents per cu. ft.
To the houses on these two pages goes the distinction of belonging to one of the first subdivisions in the country restricted to dwellings of modern design. The two houses shown will form part of a group of five, laid out as illustrated in the isometric drawing. The Clauss residence above is typical of the group in its use of exposed hollow tile walls and large glass areas. Placed on a slope, it has an entrance midway between the two floor levels and has sleeping and living rooms on both floors. One advantage of such a scheme is that it extends the usefulness of the bathrooms, one of which serves as a guest lavatory; another advantage is the privacy afforded the glass-walled living room. Cost: about 25 cents per cu. ft.
CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete, Hermitage Cement Co.
WATERPROOFING: Mulsified Asphalt Co.
ROOF: Covered with roofing felt, Weaver Wall Co. Deck—Masonite laid in mastic, Masonite Corp.
FIREPLACE: Damper—Cahill Co.
SHEET METAL WORK: Armco galvanized iron throughout, American Rolling Mill Co.
INSULATION: Roof—rock wool, National Gypsum Co.
FLOOR COVERINGS: Main rooms—oak, Bond Wooff Co.; remainder—linoleum, Congoleum-Nairn, Inc.
WOODWORK: Doors—Huttig Sash & Door Co.; exterior and garage doors covered with Masonite, Masonite Corp.
HARDWARE: By Yale & Towne Mfg. Co. and Richard Willcox Co.
KITCHEN EQUIPMENT: Range and refrigerator—Westinghouse Electric & Mfg. Co. Sink and cabinets—Sears, Roebuck & Co.
BATHROOM EQUIPMENT: All fixtures—Briggs Beautyware, Briggs Mfg. Co.

The Seymour residence, second to be built, uses the same wall materials and detail as the first. It is also similar in its general arrangement, with staggered floors and entrance level.
The owners required "a one-story, maidless house with ample space for outdoor living, well protected from the prevailing winds. The owner, an enthusiastic gardener, desired the garden to be visible from the main living spaces." The plan is well adapted to meet these requirements, particularly in the relation of indoor and outdoor spaces. The one bath also serves as the guest lavatory, and the study is properly placed for use as an extra sleeping room. Cost: $77 cents per cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Reinforced concrete.
ROOF: Covered with Perfection shingles.
FIRESPLACE: Damper—Superior Fireplace Co.
SHEET METAL WORK: Galvanized iron throughout.
WOODWORK: Pine throughout.
HARDWARE: By P. & F. Corbin.
PAINTING: Materials by Sherwin-Williams Co.
ELECTRICAL INSTALLATION: Switches—Bryant Electric Co. Fixtures—Luminaire Co.
BATHROOM EQUIPMENT: All Fixtures by American Radiator-Standard Sanitary Corp.
PLUMBING: Hot and cold water pipes—galvanized steel.
A familiar and practical type is illustrated here. In appearance a one-story dwelling, the house is actually a complete two-story arrangement with the dormers concealed, as is customary, at the rear. There is a central stair, which works well with the upstairs; the main departure from the standard layout is the downstairs lavatory, conveniently located between the kitchen and living room. An equally useful addition to the plan is the small breakfast room, so placed that it also serves as a service entry. Cost: 38 cents per cu. ft.
Sliding windows and panels, no invention of modern building, are nevertheless among its characteristic features, and their use is well illustrated in this example. The house shows a reversed arrangement of living and sleeping floors, the result of a sloping site. View was an important consideration in the design, and its influence is particularly evident in the large curved window of the living-dining room. The overhangs were arranged to screen the windows in summer and to admit the sun in winter, a successful experiment according to the architect, who states that "on winter days we find that when the sun shines it provides sufficient heat for the house." A deliberate attempt was made to add interest to the exterior by a varied use of materials. Cost: 40 cents per cu. ft.
CONSTRUCTION OUTLINE

FOUNDATION: Concrete block. Water-proofing, American Asphalt Co.


ROOF: Covered with composition roofing, American Asphalt Co.

SHEET METAL WORK: Galvanized iron, Armco, American Rolling Mill Co.


WINDOWS: Sash—sliding; extruded aluminum shapes by Kawneer Co.; screens (fixed)—Orange Screen Co. Glass—Libbey-Owens-Ford Glass Co.

FLOOR COVERINGS: Living room—Masonite finish, Masonite Corp. All other rooms—linoleum, Armstrong Cork Co.


PAINTING: Materials by Pratt & Lambert, Inc. and I. F. Laucks, Inc.


BATHROOM EQUIPMENT: All fixtures by Kohler Co.

PLUMBING: Water pipes—copper, Chase Brass & Copper Co.

Several features uncommon in current small house work are shown here, in particular the completely symmetrical plan and the front entrance directly into the center of the living room. The latter makes use of the full height of the roof, with the beams made less conspicuous by the simple device of painting them. Two bays, shutters and small-paned windows combine to give an appearance of intimacy to the front, and one bay provides unusually pleasant dining space in the kitchen. Cost: 39 cents per cu. ft.

CONSTRUCTION OUTLINE

FOUNDATIONS: Cinder block.
ROOF: Covered with sheet metal.
FIREPLACE: Damper—H. W. Covert Co.
SHEET METAL WORK: Copper, 16 oz., throughout.
INSULATION: Attic floor—rockwool.
WINDOWS: Sash—Fenestro, Detroit Steel Products Co. Glass—single strength, A.
WOODWORK: Cabinets and doors—Morgan Sash & Door Co. Garage doors—Overhead Door Co.
PAINTING: All material by E. I Du Pont de Nemours & Co.
KITCHEN EQUIPMENT: Range, water heater, refrigerator—Edison General Electric Appliance Co.
BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Mfg. Corp.
PLUMBING: Hot and Cold water pipes—copper, Chase Brass & Copper Co.
HEATING: Warm air including winter air conditioning.
This house was designed for a family of four; the den is convertible into a guest room if extra sleeping space is needed. The plan is open, with the entrance hall, living room and dining room part of the same space. A very practical means of avoiding the expense of a third bathroom is shown in the nursery, where a lavatory has been installed. Outdoor living areas have been provided at both the front and rear, the former screened from the entrance by a free-standing wall of masonry and the latter within convenient reach of the kitchen. Cost: about $1 cents per cu. ft.
The familiar pattern of Mr. Neutra's residential work is easily recognized here, in the generous and orderly fenestration, the quiet interiors and the well-studied plan. One change that has tremendously enhanced the appearance of the exterior is the use of natural wood siding. The house was designed for a young couple who presented no unusual requirements. A limited amount of level ground suggested the development of a compact rectangle whose interior arrangement has been worked out with admirable efficiency. Cost: 34 cents per cu. ft.
CONSTRUCTION OUTLINE


ROOF: Covered with composition roofing, Johns-Manville Corp.

FIREPLACE: Superior Fireplace Co. damper.

SHEET METAL WORK: Flashing—galvanized sheet metal, Columbia Steel Co.


HARDWARE: By Schlage Lock Co.


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

PLUMBING: Cold water pipes—galvanized steel. Hot water pipes—galv. wrought iron.

HEATING: Recessed built-in gas wall heaters and gas outlets for portable heaters, Andrews Heater Co.
The architect comments: "A house was desired that permitted the use of the study as a guest bedroom, or even as a dining room. The exterior required was that of a Colonial type low-coved cottage, to be built in a suburban neighborhood with houses similar in general style, size and cost. The lot chosen was level, and of ample size to allow for the placing of the house in the center of the lot. The porch was placed at the rear to get the proper exposure." Cost: 30 cents per cu. ft.
LYNNFIELD, MASS.  DAVID J. ABRAHAMS, ARCHITECT

CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete.
ROOF: Covered with asphalt shingles, Flintkote Co.
INSULATION: Outside walls and attic floor—Flintkote Co.
WINDOWS: Sash—double hung, wood. Glass—single strength, quality B.
STAIR: Risers and stringers—white pine. Treads—oak.
WOODWORK: White pine throughout.
HARDWARE: By Lockwood Hardware Mfg. Co.
ELECTRICAL INSTALLATION: Wiring system—BX.
BATHROOM EQUIPMENT: All fixtures Briggs Beautyware, Briggs Mfg. Co.
PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—iron size brass.
Perhaps the most encouraging single factor of the current trend in design is the rediscovery of modest materials, and their effective use in providing a suitable background for contemporary living. Considered from this point of view the house illustrated is of unusual interest. With the exception of the plate glass areas, both materials and construction are the same used in inexpensive conventional dwellings, and the effect of size and spaciousness has been produced with the utmost economy. The elongated plan is well suited to the location and the arrangement of the living quarters is simple and workable. Cost: 39 cents per cu. ft.
CONSTRUCTION OUTLINE

FOUNDATION: Reenforced concrete.
ROOF: Covered with 5-ply asphalt and felt, topped with gravel.
SHEET METAL WORK: Galvanized iron throughout.
INSULATION: Ceilings—rockwool, Johns-Manville Corp.
WINDOWS: Sash—wood casement. Large sheets hung on Whitco extended butt hinges.

LIVING ROOM SECTION
SEASONAL ANGLES OF THE SUN

SECTION THRU LIVING RM WINDOWS

FLOOR COVERINGS: Kitchen and bathrooms—linoleum, Armstrong Cork Co.
HARDWARE: By Palace Hardware Co.
PAINTING: Material by W. P. Fuller Co. and Samuel Cabot, Inc.
ELECTRICAL INSTALLATION: Wiring system and switches—General Electric Co.

Fixtures—Karl von Hacht.
LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliance, Inc.
BATHROOM EQUIPMENT: All fixtures by Crane Co. Cabinets—Hallensheid & McDonald.

APRIL 1940
The square plan offers not only greater economies over less compact types, but also provides excellent light and ventilation since it is possible for every room to be placed in a corner. Above is a typical example, with three bedrooms of good size, adequate services and provision for a future bath. An attempt to mitigate the severity of the form of the house is seen in the placing of the porch and garage, and in the use of a slight overhang above the first floor. Cost: about 36 cents per cu. ft.
The architect comments: "This residence was designed to meet the requirements of a college professor and his wife whose academic work is play production and whose hobbies are photography and music. The combined living-dining room houses the record-player and collection of recordings in a sound insulated cabinet. The room is adequate for large gatherings. The whole lower floor is devoted to hobby and study: there is a dark room, a study, and equipment for bookbinding and for making the accessories of play production." Cost: about 28 cents per cu. ft.

**CONSTRUCTION OUTLINE**

**FOUNDATION:** Concrete footings, brick walls.


**ROOF:** Built-up roofing, Philip Carey Co.

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

**SHEET METAL WORK:** Flashing—16 oz. copper; remainder—Armco iron, American Rolling Mill Co.

**INSULATION:** Attic floor—4 in. rockwool, Johns-Manville Corp.

**WINDOWS:** Sash and screens—Detroit Steel Products Co. Glass—single strength, quality B. Glass blocks—Insulux, Owens-Illinois Glass Co.

**FLOOR COVERINGS:** Kitchen and bathroom—linoleum, Congoleum-Nairn, Inc.


**HARDWARE:** By Russell & Erwin Mfg. Co.

**PAINTING:** Materials by Minwax Co., Southport Paint Co. and Sherwin-Williams Co.

**ELECTRICAL INSTALLATION:** Romex wiring, General Cable Corp.

**KITCHEN EQUIPMENT:** Range—gas, Sears, Roebuck Co. Refrigerator—Frigidaire Corp.

**BATHROOM EQUIPMENT:** All fixtures—Briggs Beautyware, Briggs Mfg. Co.

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

**HEATING:** Warm air, gas heated; floor furnace for bedrooms and Janitrol unit, Surface Combustion Co. for living room. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—Crane Co.
There is a long tradition behind the use of New England Colonial in California and the Southwest, and the style has inevitably been modified in the course of time. Shown here is a good example, restrained in its general treatment and a pleasing combination of the two main elements of the house and garage. The plan is simple, with waste space virtually eliminated. This house and the two which follow are located in Garden Oaks, a residential development in which the customary design standards for subdivisions have been notably improved upon. Cost: 31 cents per cu. ft.
A conventional plan in most respects, save for the "morning room," which serves as extra sitting space, dining room and service entry. Additional room of this sort in an otherwise minimum house has obvious advantages. The exterior shows good character, both for the climate and price class. As in the house on page 294, low garden walls of brick serve to extend the lines of the structure and to tie it in more closely with its surroundings. Cost: about 80 cents per cu. ft.
A design for a completely level site, its horizontality accented by the effective use of low brick walls. The house is well planned for operation without a servant and combines practical compactness with a regard for the need of good ventilation. A vestibule was omitted as unnecessary, the shelter furnishing all needed protection for the front door. Cost: about 43 cents per cu. ft.
THE HOUSE DIVIDED

There is a distinct trend in house design today, clearly visible in any representative collection of new work. It shows, reasonably enough, a combination of old forms and new forms. It offers the possibility of an indigenous, workable and completely persuasive architecture for America. These houses are the extreme components of this trend, utterly contradictory in their basic approach: symmetry versus the free plan, and design from a preconceived exterior against design for a special living problem in a particular location. One opens to the out of doors; the other shuts itself in. Traditionalists may well object to a house so designed that it looks a century and a half old the day the owner moves in; many modernists will take exception to an exterior so brutally uncompromising. The question here, however, is not one of good or bad but rather of contrast: here is the composite symbol of an architecture in transition—the house divided.
The settings differ, but they are not important. There have been Colonial houses at the seaside, modern houses in the country. The materials are alike: stone, wood and glass. It is the approach that changes the solution,
not the materials. Even the structures are not fundamentally different: both are based on the familiar stud frame. Tradition versus No Tradition? Emotion versus Logic? There is some of both in each.
Does the outside belong outside or in?—and in what proportions? The fireplace is a sentimental survival of the
days of inefficient heating—so what? asks the modern house. Compare these rooms wall by wall, piece by piece: they both work. The essential difference lies in the fact that quite a bit has happened since 1790.
Does a view of the sea improve the quality of the roast? Or do cooks prefer flowers? Is this the warmth of home versus the operating room?—or the calm of quiet backgrounds versus the clutter of relics of a dead
past? Beauty, they say, lies in the eye of the beholder; something has happened to twentieth century eyes: the impact of a new environment. Some like it, others don’t; there can be no unanimity in a time of change.
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WITH THE STRENGTH OF STEEL AND CONCRETE
THE BEAUTY OF CRUSHED STONE
EXPOSED IN WHITE CEMENT

For greater latitude in structural and decorative design... for new economies in building construction... turn to Architectural Concrete Slabs.

The same basic material provides the exterior wall of the Squibb Institute of Medical Research and the colorful ceiling in the U.S. Department of Justice Building! These two pictures provide visual evidence of the remarkable versatility of a new product for modern building—Architectural Concrete Slabs.

Structural and Decorative Properties Combined in One Product. Architectural Concrete Slabs are factory-made concrete units, up to 100 square feet or more in area, 20 feet or more in length—but only two inches thick. High structural strength comes from reinforcement with heavy galvanized steel fabric and curing under strict plant control. Permanent beauty is the result of exposing colored aggregates—crushed quartz, marble, granite, ceramics or vitreous enamels—in a matrix of Atlas White portland cement. In selecting and arranging these stones, infinite variations in colors, patterns and surface textures are at your command.

Properties Bring New Building Economies. The large sizes and varied shapes of thin Architectural Concrete Slabs, with or without integral returns, may eliminate up to 80% of joints. You reduce danger of leakage as well as costs. A single slab may include the coping and window head, or, as a spandrel, include the window head below and the window sill above. Another saving is the frequent use of slabs as forms for the structural concrete, reducing form and scaffolding costs.

These are only a few of the important advantages of thin Architectural Concrete Slabs for modernization and new work. Write for more complete information—or see SWEET'S CATALOG, Section 4. Universal Atlas Cement Co. (United States Steel Corp. Subsidiary), Dept. A2, Chrysler Bldg., N. Y. C.

ARCHITECTURAL CONCRETE SLABS
MADE WITH ATLAS WHITE CEMENT
2000 FEET OF GUTTERS AND DOWNSPOUTS PAINTED IMMEDIATELY

... 37 SMALL HOMES READY FOR SALE—BECAUSE THE
ARCHITECT SPECIFIED ARMCO GALVANIZED PAINTGRIP


Architects prefer it

Another favored ARMCO metal is ARMCO Ingot Iron. Material specifications in other medium and low cost house issues of The Architectural Forum reveal that it was specified more than any other trademarked sheet metal. The architects knew that extra-durable ARMCO Ingot Iron may be depended on to give a full measure of satisfactory service.

• THESE 37 small homes in Baton Rouge were built to sell at a low price, not to rent. This meant there would be no time for gutters and downspouts to “weather” before painting. It meant also that every detail, from the buying price to the up-keep cost, had to be right.

To be sure the gutters and downspouts were right, the architect chose ARMCO Galvanized PAINTGRIP Sheets. The paint-holding bonded film makes a surface that can be painted at once. And tests have shown that good paint lasts at least 150% longer than on ordinary galvanized metal because it is kept from contact with zinc oxides that dry out paint.

ARMCO PAINTGRIP Sheets will give you the same desirable results! Specify them on your next job. For more information, write to The American Rolling Mill Company, 1301 Curtis St., Middletown, Ohio.
When "extras" start fighting estimates and clients' dreams start getting out of hand, there's a way of smoothing things out and still keeping the budget in balance. Half Price Heating is the answer.

The simple, inexpensive and money-saving combination of Window Conditioning and a good Ceiling Insulation saves as much as 50% of the annual fuel bill.

But best of all, Half Price Heating can often be accomplished without increasing costs at all. In most cases your heating engineer will be able to specify a smaller, less costly heating unit as original equipment. The money saved here goes a long way towards the cost of Window Conditioning and Ceiling Insulation. The net result: a healthier, more efficient and economical home—a home, for instance, that will save enough in fuel to pay from 18 to 24 F.H.A. payments over the life of a 20-year mortgage.

Libbey-Owens-Ford does not make or sell Attic or Ceiling Insulation; our sole interest is economic. We believe that this 2-point insulation, when written in your specifications, assures a comfortable, healthier and more economical home. Libbey-Owens-Ford Glass Company, Toledo, Ohio.
SPECIFICATION:

"...and all hardware shall be hand forged on the job."

Ridiculous, you say... a hangover from horse and buggy days! We agree. Another hangover from horse and buggy days is 'induction in a millwork specification.

Windows being a functional part of a house are certainly not to be classed with trim and moldings. Surely any basic essential that affects the air-conditioning system, insulation system, heating system, lighting system and structural system—that affects design and view—is worthy of extra consideration.

Good windows today are made by specialists. For 36 years Andersen has specialized in the design and construction of stock window units and frames. Both our manufacturing and our sales efforts have been aimed at supplying window units as an essential, lifetime, functional part of a house in which lasting quality is of paramount importance. Andersen Complete Window Units are distributed the same as other functional systems in a house. Stocks are available from nearby distributors through all lumber and millwork dealers.

Complete specifications and details in Sweets Catalog.

MONTH IN BUILDING

(Continued from page 4)

cent; all furnished vacancies, 43 per cent. While total vacancies—measuring 296 feet or well over a quarter of a mile—were 46 per cent short of the 1931 length, only small improvement was noted over the 1938 total.

TOMORROW'S HOUSES will not be of "wood, plaster, brick and stone, but of glass, steel and plastics—fireproof and weatherproof, with rubber windows."

Thus ran one of a hundred interesting predictions last month by the New England Council's New Products Committee. No group of sooth-saying crack-pots, the committee is composed of 29 leaders in New England's manufacturing, banking, transportation industries and educational institutions, is chaired by President Karl T. Compton of the Massachusetts Institute of Technology, is therefore worthy of attention.

In discharging its two-fold purpose, 1) "to awaken a larger consciousness of what is necessary if New England industries are to live and grow in this fast-changing world" and 2) "to expedite the application of those methods by which new products are developed and brought into use," the Committee last month summarized a survey of top-flight research directors in the U.S., Canada, England, France and Germany. Conclusions were based upon the combined answers of these researchers to one significant question: "What will be the outstanding contribution from your field of research during the next three years?"

Covering every industrial product from vitamin tablets to Diesel locomotives, the Committee made many an eye-opening prognostication. A few random excerpts:

"... enormous increase in quick freezing of food stuffs... rayon will be made from milk... paper will replace wood, leather and cloth to a surprising degree... huge field to be opened in interior illumination through the use of fluorescent tubes... tires guaranteed for a minimum of 100,000 miles... three-dimensional movies...". Of particular interest to the building industry, however, are the conclusions of Compton's Committee regarding house construction:

- Trend is toward wider public acceptance of the value of insulation in walls and attic floors and greater use of large ventilating fans in attics.
- Lath and plaster construction will gradually be eliminated in favor of prefabricated plywood wall panels.
- Use of porcelain enameled metals for architectural materials will increase.
- Glass tiling will be inserted in roofs to light attics.
- Panel type heating is coming—floor and ceiling coils to replace today's radiators.
MAXIMUM decorative effects have been consistently and economically accomplished in the last decade by this architectural office, averaging from four to six schools per year. Moreover, maintenance costs — always an important factor in schools, municipal buildings and institutions — have been cut by reason of the durability of Pratt & Lambert Paint and Varnish. Whatever your finishing problems may be, the P&L Architectural Service Department nearest you will co-operate closely with you in securing the desired result. Use this helpful, practical service!

PRATT & LAMBERT-INC., Paint & Varnish Makers
NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONT.
MONTH IN BUILDING
(Continued from page 66)

- Economy of coal as a fuel should again assert itself as electrical ignition is introduced into automatic coal stoking equipment.
- Vacuum concrete, which dries in an hour and does not crack, will enjoy increasing application.
- Powdered fuel ash—now a waste product of coal combustion—will be used with cement to make concrete.
- Homes built today without air conditioning will be obsolete by 1950. Initial cost of air conditioning equipment will be lowered through standardization and packaging.
- Like the bottle, the future window pane will be made of plastic, paper or rubber.
- Consequentially, the glass industry will direct its attention toward building blocks, fabrics, insulation and other new uses.
- Glass blocks will be freely used for interior partitions.
- Furniture will be sold as "packaged rooms" which will include all the necessary furnishings, furniture, floor coverings, draperies, lamps and other accessories.
- More furniture will be designed as dual-purpose pieces so that one- and two-room apartments may be used by two- to four-person families.

Since manufacturing is New England’s prime source of wealth and income, the Council’s New Products Committee called upon all industrialists and investors to heed well these signs of the times, pointed out that “research has already earmarked certain companies for oblivion. Others, today virtually unknown, will be the future ‘blue chips.’” For the benefit of all U. S. industry, the Committee might well have dusted off the old prediction that, “As goes Maine, so goes the nation.”

MET’S BIG THREE. The Metropolitan Life Insurance Co. has had its financial fingers in the construction of three of the world’s largest projects—Parkchester, the biggest housing development; Empire State Building, the tallest office structure; Rockefeller Center, the largest commercial building project. Tight-lipped like most financial institutions, the Met speaks only in generalities concerning its investments in these record-breakers. Months ago, however, behind closed doors in the U. S. Senate Building’s Old Caucus Room, the Met got down to brass tacks as the Temporary National Economic Committee fired a barrage of questions at Father Frederick H. and Son Frederick W. Ecker, president and vice president of the $5 billion insurance company.

Parkchester. After explaining that the Met, whose real estate loan portfolio is notoriously bare of FHA-insured mortgages, prefers to invest directly in the construction of housing projects, Son Ecker briefly described the $30 million, 22,473-family Parkchester in New York City (Arch. Forum, Dec. 1939, p. 418) whose first apartments were opened for tenancy last month. The testimony which followed gave a clue to the Met’s attitude toward additional direct investments in rental housing:

TNEC’s Special Counsel Gerhard A. Gesell—What are your plans for the future with respect to these housing developments?
Frederick W. Ecker—... That will depend on our experience, and I don’t mean by experience that we have got to wait a long time. We want to get to this point where we are sure from a practical demonstration that it is the success that we believe it will be, and if that is so, I anticipate that we will expand further in that field.

Gesell—And in expanding will you go beyond the State of New York?
Ecker—I would anticipate so, yes.
Gesell—I take it from your hesitancy concerning your future plans that you consider this stage still in the experimental stage.
Ecker—I wouldn’t say so, and yet on things of this sort you can’t be absolutely sure until you see just what does happen.

(Continued on page 70)
To the architect, the Westinghouse Magnalux allows full play in decorative schemes, because it is effectively simple and unobstrusive in design, blending well with all types of interior decorative schemes. Even more important is the fact that it provides increased lighting efficiency for all types of general office lighting.

The standard Magnalux Luminaire is fitted with a patented Hi Flec glass basin which, because of the selected increase of glass thickness in the lamp filament zone, combines the charm of uniform low surface brightness with a high factor of reflection from ceiling and side walls. The Magnalux gives high intensity lighting with low surface brightness—a soft quality of light particularly suited to those areas wherein high comfort seeing is important and glare must be avoided.

Magnalux is available in a wide variety of hanger types and basin styles and in a complete range of sizes, enabling the architect to specify this unit for any indirect lighting application. Whether you are interested in designing new offices or in modernizing existing quarters, be sure to investigate the possibilities of Westinghouse Magnalux Luminaires. Westinghouse Electric & Manufacturing Company, Lighting Division, Edgewater Park, Cleveland, Ohio.
There are, of course, in all new undertakings many a slip between cup and lip.

Empire State Building. From the ground up, the Met has been financially interested in the Empire State Building. In early negotiations it agreed to lend $24 million on a 30-story loft building, subsequently agreed to lend $57.5 million when the plans were changed in favor of a 102-story office building to cost about $89 million atop a $17 million site. It was also agreed that the 20-year mortgage bear interest at 6 per cent during construction, 5 1/2 per cent to 1940 and 5 per cent thereafter. Amortization was to take place at a rate of about 2 per cent per year.

But the Empire State Building did not live up to snuff—thanks to Depression and, perhaps, to keen competition offered by the continually expanding Rockefeller Center fifteen blocks to the North (see below). Said Met's Father Ecker last month before TNEC: "Under the business conditions that have obtained, it has not been a success. They have not been able to rent it. The income has been quite insufficient to pay the interest on the mortgage." Extent of this insufficiency is measured by the fact that the building at the close of 1937 owed the Met exactly $4,302,000 in back interest.

Rather than foreclose, the Met decided to let Ex-governor Alfred E. Smith continue operation of the building, to make it easier for him by readjusting the mortgage. Thus, the interest rate was knocked down to 2 per cent for the year prior to September 1, 1938. From that date to March 1, 1943 the rate will be 2 1/2 per cent and will then jump up to 4 per cent for the duration of the loan. The TNEC hearings also revealed that at the time of the mortgage adjustment, the operators of the building paid off $800,000 on account of principal, and the Met canceled all back interest that was due.

Pointing to the scheduled jump in the interest rate, James V. Hayes, Special Assistant to the Attorney General and the Justice Department's TNEC representative, asked if Mr. Ecker were "in a position to forecast the possibilities of the building in 1943 to pay 4 per cent." Ecker's answer: "No, except the gradual improvement in conditions, and our best judgment is in 1943 it will be on a paying basis." Concluded Senator Joseph C. O'Mahoney, the Committee's ringleader: "It occurs to the Chairman to remark that, if the TNEC is to succeed in the objectives it undertook, perhaps the Empire State and a lot of other properties will be making money in 1943."

Rockefeller Center. While the fourteen buildings which comprise Rockefeller Center (Continued on page 72)
In the beautiful restoration of Colonial Williamsburg, Virginia, there's a lesson in paint for every architect.

In this work—probably the most famous decorative job in recent years—pure white lead paint was used exclusively on the House of Burgesses, the Governor's Palace, Raleigh Tavern, Bruton Parish Church and other principal public buildings—both inside and out.

Inside—because the rich beauty of the colonial colors, obtained by tinting pure white lead, so faithfully recapture Williamsburg's original loveliness and can be economically maintained since this paint is easily and safely cleaned by washing.

Outside—because white lead, which is made from the durable metal lead, gives paint an elasticity and a toughness that enable it to protect and last for years without cracking and scaling.

As Williamsburg so strikingly illustrates, pure white lead paint is the ideal medium for decorative interior paint styling. Furthermore, when it comes to exterior painting, Williamsburg stands as a testimonial to the soundness of the rule: The higher the white lead content, the better the paint. You can't get a more durable outside paint than pure white lead paint, that is, one containing one hundred per cent white lead. This is the kind good painters mix from lead-in-oil. In many localities it is also sold now in prepared, ready-to-use form—in white and colors.

**LEAD INDUSTRIES ASSOCIATION**

420 Lexington Avenue, New York, N.Y.
MONTH IN BUILDING

(Continued from page 70)

apparently have experienced financial difficulties similar to the Empire State’s, the Met has lost no sleep over its investment in this uptown Manhattan commercial “city.” In 1930 it bought about 845 million of 5 per cent bonds secured by Rockefeller Center buildings and Mr. Rockefeller’s lease of the land from Columbia University. To date the interest has been paid promptly, some $8 million of the principal has been paid off and, according to Father Ecker, the Rockefellers “are anxious, if we would take the money, to pay . . . off [the balance] tomorrow.” Interesting in the light of these facts was Counsel Gesell’s documented observation that “. . . Rockefeller Center has operated at a very substantial deficit as of December 31, 1938 running into some 839 million. That money has been made up by contributions, I understand, from Mr. Rockefeller.”

Making mention of neither operating deficits nor profits, Director Merle Crowell of Rockefeller Center’s public relations department month ago let the Newark (N. J.) Real Estate Board in on some of the Center’s hitherto guarded secrets:

- Rockefeller Center in January was 87 per cent rented and, despite the frequent addition of new buildings, this occupancy ratio has been continually increasing. In January 1935 its five buildings (excluding two theaters) were 76.6 rented. A year later, after the addition of two more buildings, the figure was 77.2. Next year the same group boasted an 84.3 per cent occupancy ratio. In January 1938, after the opening of the Time and Life Building, occupancy totaled 86.5 per cent. Only in 1939 after the opening of the Associated Press Building did the ratio fall—and then only by 5.5 per cent to an even 83 per cent. The January 1940 ratio of 87 covers the new Holland House and the U. S. Rubber Co. Building which are now nearing completion.

- The average rental per sq. ft. runs somewhere between $2.75 and $3.

- The number of tenants totals 1,146, but, if tenants’ subsidiary companies were counted individually, the total would be almost double.

- The average tenant occupies about 9,000 sq. ft. of floor space, but the extremes are 200 and 300,000 sq. ft.

- Assuming that all factors remain constant, the Center will produce an annual rental of about $113.3 million when fully tenanted.

- Total net rentable area of the Center is 51 million sq. ft.

- Total cost of Rockefeller Center to date has been about $100 million, including construction costs, acquisition cost of land not rented from Columbia University.


Small Homes
are a better investment
when nationally-known
WALL-TEX is made a part
of the wall structure

Safeguards Against PLASTER CRACKS

Architects, contractors, builders and invest-
ment men have learned to think of Wall-
Tex as a structural material that becomes 
an integral part of walls and ceilings.
That’s because it has a tough, enduring 
wall-canvas base—strength that plaster 
needs to protect against cracks. Enduring 
and protective Wall-Tex decoration in-
creases the value of property and makes 
it easier to sell at a better price. Millions 
of people know Wall-Tex for its protection 
against plaster cracks and for its non-
absorbent, honestly washable surface.

Types of Wall-Tex: Stiffened Canvas and 
Lining Cloth—ideal for painting, stippling 
or tinting. Decorative Wall-Tex—a broad 
selection of distinctive patterns and single-
color pastels. For all rooms and many uses.

A money-saving decoration. Mail the con-
venient coupon.

Send for useful
FILE FOLDER

Columbus Coated 
Fabrics Corporation, 
Dept. F-4, Columbus, O.

Send your Building and Architectural Data File and 
switches of Wall-Tex to...

The Donley 
BROTHERS COMPANY
13945 Miles Avenue Cleveland, Ohio

(Continued on page 74)
WHAT DO THEY SAY ABOUT YOU...

"IT'S BEEN A COLD WINTER BUT OUR FUEL BILL HAS BEEN MIGHTY SMALL"

"YES! AND I'VE NEVER BEEN SO COMFORTABLE IN MY LIFE"

MANY a home that suited its owners perfectly when they moved in turns out to be a headache when the operating costs pile up. Then the owners, who may have stretched their resources to make the down payment and keep up the installments, are likely to say, "Why didn't someone tell us that it would cost so much to operate this house?"

One of the operating expenses that often run far higher than anticipated is the heating bill. Keeping a house warm enough to be comfortable and healthy with high cost fuels in very cold weather upsets many a carefully planned budget.

So the owners fret about the cost, or endanger their health by keeping their home too cool for comfort. Criticism about heating costs can be avoided. Show your owners how it is healthy to be comfortable and smart to keep warm at low cost by using either hand-fired or automatically stoked bituminous coal or coke. The choice of a heating plant and fuel for a new home should be made only with a complete understanding of these important factors: 1—The cost of installation of the heating plant. 2—The yearly operating costs based upon sufficient heat for comfort. 3—The degree of convenience for which your clients are willing to pay.

To help you serve your clientele, we have prepared two interesting booklets: "Unmasking the Great American Delusion That 'You have to Be Cold to Be Healthy'," and Modern Basement Plans illustrating the fundamental principles of planning basements for modern coal heating. Free copies of these booklets are yours for the asking.

IT'S HEALTHY TO BE COMFORTABLE • TREAT YOURSELF TO PLENTY OF HEAT THIS WINTER

BURN BITUMINOUS COAL OR COKE

the Universal Low Cost Fuels

NATIONAL COAL ASSOCIATION
Headquarters: 804 Southern Bldg., Washington, D. C.
Please send me a free copy of the Unmasking Story and the Modern Basement Plan Book.

Name
Address
City State

APRIL 1940
NOBODY H.4D STEPPED THERE!

Shellac Manufacturers Association.

Those floors were finished with shellac. The pavements consist of shellac for the reference of architects, as free copy of the standard specifications. Bring down the blue-prints...specify shellac. Write to the floors say when shellac is on and furniture. "And you can't hurt me!" the shellac says to feet bowling alleys and dance floors. "You can't hurt me!" the shellac says to feet, treading, shuffling, scraping, in a floor-punishing procession. When the last visitor had gone, when they came to cart away the furniture, the floors still gleamed in brilliant beauty, almost as fresh-looking and attractive as at the day of the opening.

Those floors were finished with shellac! Shellac is built to take punishment. It's the toughest, most scar-resisting finish ever created. Bring down a hammer blow on a shellacked floor, and it may dent, but the shellac won't crack! That's why shellac is used on those torture-chambers-for-floors—bowling alleys and dance floors. "You can't hurt me!" the shellac says to feet and furniture. "And you can't hurt me!" the floors say when shellac is on top to take the blows and the scrapes. Shellac preserves the wood while it protects the surface.

On your next building, write enduring beauty for the floors into your blue-prints...specify shellac. Write to SHELLAC Information Bureau 70 Pine Street, New York City, for a free copy of the standard specifications for the reference of architects, as approved by the American Bleached Shellac Manufacturers Association.

MONTH IN BUILDING
(Continued from page 72)

Banker's Poll. During the past decade the local banker has played an increasing part in the house building business. In conjunction with his residential lending activities, he frequently dictates design (one ill-founded reason why Modern architecture has not spread more rapidly), helps write specifications, supervises construction and, in the case of his acquired properties, manages an entire rehabilitation project. A big cog in the building machinery, the banker's opinions carry weight.

In recent issues, Banking—mouthpiece through which the American Bankers Assn. talks to itself and others—has analyzed these opinions as they pertain to real estate and housing. Basis for the articles is a questionnaire to which Banking received 2,068 responses well distributed among all 48 States.

Question No. 1 asked "What are the prospects regarding real estate prices and rentals in your area—is the trend up or down?" Answers indicate that the course is definitely upward in all, and the bankers designated the trend as "up," while another 20 per cent said "slightly up." A steady trend was noted by 20 per cent; a downward trend, by the remaining 13 per cent.

Most comments volunteered by bankers on this question touched on the activities of Government in Building. Examples: "sales jeopardized through HOLC bargain prices"..."too much FHA activity"..."sales are throttled by HOLC"..."new structures get long-term loans and cheap interest rates, making old structures a drug on the market"..."there is too much FHA financing." Question No. 2: "Do you believe that the housing problem in your area can be solved adequately on a sound profitable basis by private capital?" Since Banking defined neither "housing problem" nor "private capital," replies to the query are more interesting than informative. About 83 per cent of the 2,068 banker-respondents answered the question affirmatively: 10 per cent said "no"; the balance would not express an opinion.

(Continued on page 76)

Home Comfort
This compact, all-steel Pureaire Kitchen transforms an ordinary room or small apartment into a real home... Contains range, oven, monel sink and drainboards, refrigerator and unit, with generous storage... Cooks without allowing odors or vapors to escape into the room... A fully guaranteed, highly perfected piece of equipment, now in its twelfth year of production... Satisfies owners everywhere... Costs no more than a conventionally equipped kitchen and much easier to install... Plan it into your next small apartment, hotel or remodeling operation... Write for full information.

THE PARSONS COMPANY
Detroit

*Answers to Banking's other questions show that the nation's financiers 1) consider air conditioning adaptable at present only to high priced houses and commercial buildings, 2) look for increased construction costs throughout the country and 3) will spend millions of dollars for improvements on bank-controlled real estate during 1940. (At mid-month Banking had not yet totaled the expenditures.)
One reason why the dark stones from the Alberene quarries are popular with architects and builders is because they harmonize or contrast with most of the materials commonly used on exteriors. For the Timken Vocational School, Canton, Ohio, Chas. E. Firestone, Architect, designed an unusual spandrel panel carrying through the vertical lines separating the lights of the windows, with an aluminum inset below the sill. The photo above shows how closely Alberene Tremolite matches the color value of the glass.

Having great toughness and density, Alberene Tremolite can be cut into sections as thin as \( \frac{3}{8} \)" for facings, bulkheads, spandrels and panels. The stone polishes naturally to a rich, deep satiny finish, not reflective or mirror-like. It is a good stone to remember when you want a durable, dark stone which can be installed at moderate cost. A request on your business letterhead will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 417 Fourth Avenue, New York. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.
MONTH IN BUILDING
(Continued from page 74)

The lopsided affirmative reply seems to indicate that the banking business 1) does not yet know the extent of the housing problem, 2) over-estimates the low cost housing capabilities of private enterprise or 3) has some economic concern that a bank's comment implied that an FHA-insured mortgage is not a private capital mortgage. For instance: "Private capital unwilling to compete against FHA" ... "FHA selling banks down the river."

Challenging is Banking's bland conclusion to its findings on the housing front: "Private capital has been quite successful in solving the housing problem on a sound profitable basis."

REGISTERED HOMES. Ever since the Federal Home Building Service Plan was born to the Federal Home Loan Bank Board in 1936, it has been an ailing child. It was fondly hoped that the Plan, which is built around a portfolio of architect-designed small houses, would greatly foster residential construction. But in four years, it has not learned to stand on its own feet, much less to walk. Its intended playmates—local savings and loan associations, contractors and material dealers—have stayed in their own back yards, have had but little to do with the Plan.

Called in to doctor up the weakling in infant, the American Institute of Architects and its manufacturing affiliate, the Producers Council, last month had put the Federal Home Building Service Plan on its feet, announced that they would have it walking in jigg-time. Hereafter, A. I. A. will encourage local architectural participation in the program in an effort to get more architects in the low cost house business, to improve the design of these houses. Meanwhile the Council will marshal the support of building product manufacturers and, through them, the support of local material dealers, contractors and builders. Baking them both up will be FHILBB's field organization which will turn the heat on local mortgage lenders. Thus, if any home building program has the making of success, it is the rejuvenated Home Building Service Plan.

Only justification for such a program is that it assist prospective home owners as well as the building factors who participate. This the FHILBB Plan should do. By going to any one member of the local building profession, the prospect is as-
REPLACING YOUR REFRIGERATORS?

POLL YOUR TENANTS... YOU'LL FIND THEY VOTE FOR

Gas Refrigeration!

because it freezes silently
... with no moving parts!

Tenant: "Having used several kinds of automatic refrigeration in apartment houses, I feel that my present Servel Electrolux gas refrigerator is the perfect refrigerator, due to its silence, sturdy beauty, fast freezing and absolute dependability." Mrs. A. C. Ford, 742 S. W. Vista Ave., Portland, Ore.

Builder: "As a builder of apartment houses, and having had experience with various kinds of automatic refrigeration, I have become convinced that Servel Electrolux gas refrigerators are best. Tenants like their silent dependability." Mr. S. E. Henderson, 742 S. W. Vista Ave., Portland, Ore.

DIFFERENT FROM ALL OTHERS

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

SPECIFY THE REFRIGERATOR THEY HEAR ABOUT - BUT NEVER HEAR

APRIL 1940
NEW OIL BURNING WATER HEATERS

THAI ARE MISERS ON FUEL CONSUMPTION. LOCHINVAR NOW OFFERS A COMPLETE WINTER AIR CONDITIONING UNIT GIVING AUTOMATIC HUMIDIFICATION. IT GIVES 72,000 BTU'S IN AUTOMATIC OIL BURNING WATER HEATERS. THIS FURNACE HAS THE SAME QUALITY CONSTRUCTION THAT IS FOUND IN THE LARGER MODELS THAT LOCHINVAR BUILDS. THE LOCHINVAR MODEL 80 WILL GIVE YOU THE GREATEST DOLLAR FOR DOLLAR SAVINGS. WE KNOW THAT THIS LOCHINVAR MODEL 80 MEETS THESE REQUIREMENTS.

THE LOCHINVAR MODEL 80

FITS OUR HOME AND PURSE

THIS NEW LOCHINVAR WATER HEATER IS A PRICE YOU CAN AFFORD!

- If you are planning on building a small home, you'll want a heating system that is designed to fit it in size, capacity, economy of operation and price. At the same time, it must produce the same heating satisfaction and comfort that the furnace for the larger home would, at cost 3 to 4 times as much. The Lochinvar Model 80 meets these requirements.

- Increased home building volume which these consumer benefits may produce would naturally aid all branches of the industry. In addition many local builders, contractors and dealers, who individually cannot afford extensive advertising campaigns, may pool their promotional funds, use the canned publicity which FHLBB has prepared and tested. They stand to benefit further by the reputation which qualified builders and lending institutions will advise the prospect as to how much he should spend, how much he should borrow, etc.

- Assurance of qualified builders and building materials—Only those builders, contractors and dealers whose work and materials are beyond question will be permitted to participate in the program.

- Construction supervision—Competent periodic inspection will be made by those not employed by the builder or contractor—either the architect or a representative of the mortgagee.

- House registration—Every house completed under the Plan will be registered on FHLBB's Washington records, and a "Certificate of Registration" will be issued to the owner.

- Increased home building volume which these consumer benefits may produce would naturally aid all branches of the industry.

MONTH IN BUILDING

(Continued from page 76)

sured of well-rounded service on his entire building problem—from design to finance. In general, this service will entitle:

Guidance in design selection—FHLBB has already prepared a portfolio of 400 original house designs contributed by the nation's leading residential architects. And, the number in each locality will be swelled continually by contributions from home-town architects for home-town use. Distinctly different from any national or local stock-design service, the Plan provides that the problems of a prospect receive individual attention. Thus, whoever first interviews the prospect must refer him to a participating architect who may assist in site selection and choice of a house design which fits the site, the neighborhood and the family's needs. The architect will also prepare detailed working drawings, specifications and cost estimates.

Sound financial counsel—The local lending institution will advise the prospect as to how much he should spend, how much he should borrow, etc.

Assurance of qualified builders and building materials—Only those builders, contractors and dealers whose work and materials are beyond question will be permitted to participate in the program.

Construction supervision—Competent periodic inspection will be made by those not employed by the builder or contractor—either the architect or a representative of the mortgagee.

House registration—Every house completed under the Plan will be registered on FHLBB's Washington records, and a "Certificate of Registration" will be issued to the owner.

Increased home building volume which these consumer benefits may produce would naturally aid all branches of the industry. In addition many local builders, contractors and dealers, who individually cannot afford extensive advertising campaigns, may pool their promotional funds, use the canned publicity which FHLBB has prepared and tested. They stand to benefit further by the reputation which qualified builders and lending institutions will advise the prospect as to how much he should spend, how much he should borrow, etc.

At present the program is being concentrated in the few communities which showed the greatest interest in FHLBB: pioneer Plan; Minneapolis and St. Paul, Minn.; Hinsdale, Ill.; Totteenville, Staten Island, N. Y.; Charlotte, N. C.; New Orleans, La.; Grand Rapids and Kalamazoo, Mich.; Madison, Wis.; and Fargo, N. D. Other cities will participate later.

(Continued on page 80)
Specifications which call for WELDBORD ensure the lasting beauty and stability of the job, and guarantee remarkable economy in the development of the entire project. Whether the installation be minimum-priced "Blue Label" or nominally-priced "DeLuxe", the job eliminates messy, fragile plastering. Bright-finishing provides permanent decoration with either quality but, where paper or paint is to be applied, "Blue Label" is the perfect base without hazard of grain-raising or checking. WELDBORD conforms with F.H.A. requirements for interior paneling.

**BLUE LABEL WELDBORD**
the Utility Panel, manufactured with cross-grain faces for extra stiffness and secure tongue-and-groove joints.

\* 7½¢ per sq. ft.

All WELDBORD panels are 48" x 96" x 3/8". Blue Label grade is hardwood throughout; De Luxe grade may be obtained over Masonite (at buyer's option) and mill-finished, at a somewhat higher cost.

\*Prices are approximate list, F. O. B. nearest warehouse.

\*The "Plywood Handbook of Residential Construction" contains complete data on dry-wall technique—FREE to Architects and Builders—send for your copy.

**De LUXE WELDBORD**
the Decorative panel, with long-grain book-matched faces of Oak, Walnut or Mahogany.

\* 17½¢ per sq. ft.

UNITED STATES PLYWOOD CORPORATION

EXECUTIVE OFFICES: 616 WEST 46th STREET, NEW YORK, N. Y.

MILLS at Seattle, Wash. • Birchwood and Algoma, Wisc. • Orangeburg, S. C.

BRANCH OFFICES AND WAREHOUSES: Baltimore • Boston • Brooklyn • Chicago • Cincinnati • Cleveland • Detroit • Los Angeles • Newark • New York • Philadelphia • Rochester • San Francisco • Seattle

APRIL 1940
MONTH IN BUILDING
(Continued from page 78)

Operating in favor of its general acceptance, the Plan requires no revolutionary head springs from the building industry. On the contrary, FHILBB, the A.I.A. and Producers Council recognize the fact that Building is at present a localized industry, have therefore offered a plan for local application. Unchanged is the customary routine in which houses are built and sold. Only innovation: introduction of technical control to the small house construction field—a field where, according to last month’s joint A.I.A.-Council statement, “home ownership has suffered severely...because of faulty planning, shoddy construction, insecure equities and unfavorable financing.”

EARNINGS. In view of last year’s increased building operations, it is axiomatic that 1939 earnings of manufacturers of building materials and equipment should be considerably better than those of 1938. Of the 31 companies which by mid-month had reported their 1939 earnings, all but one showed an improved trend; twenty made twice as much money as in 1938. In contrast to the 1938 reports which were discolored with nine net losses, not one of the reporting companies last year wrote its annual report in red ink. Herewith the roll call of net earnings:

Year Ended Dec. 31 1939 1938
---
Acme Steel# 81,915,391 8,968,186
American Rolling Mill 4,011,908 1,267,890*
Belden Mfg. 378,301 101,711*
Bridgeport Brass 459,938 251,000*
Carrier Corp.* 89,099 1,133,021*
Detroit Steel 525,653 188,756
Detroit Steel Products 616,362 173,388
Electrodyne 1,638,468 2,040,926
Flinttote 1,492,997 811,816
Fomica Insulation 1,833,675 870,833
Hornschulze & Co. 271,021 33,340
Inland Steel** 10,947,311 4,166,438
Johs-Manville Corp. 3,638,719 296,302
Jones & Laughlin Steel# 3,189,944 5,870,938*
Leigh Portland Cement 2,537,251 704,000
Libbey-Owens-Ford Glass 9,002,724 2,959,000
McCord Radiator 69,036 310,777*
Minneapolis-Honeywell Regulator 9,138,282 1,069,929
National Gypsum 1,453,237 941,632
National Steel 12,581,635 6,661,635
Owens-Illinois Glass 8,434,915 5,285,805
Paradise Cos.* 473,653 304,890
Pittsburgh Plate Glass 591,766 86,710
VHOLt The RYBOLT HEATER CO.
617 MILLER ST. • ASHLAND, OHIO

80 THE ARCHITECTURAL FORUM

Rybolt Cast Coal-Fired Winter Air Conditioner Series 157

The Gasmaster
Rybolt Steel Gas-Fired
Winter Air Conditioner
Carrara bathrooms and kitchens are beautiful, practical, and modern. This bath, designed by Architects Walter T. Karcher-Livingston Smith, is a good illustration of why you can point to a room with pride if you design it with Carrara. Note the handsome, sturdy Carrara Glass shelves.

When you call on Carrara Structural Glass to help you express your ideas of bathroom beauty, the result is almost invariably a room of which you can well be proud. For Carrara walls are smooth, polished, and accurately reflective. They have the mirror-like beauty which only a mechanically ground and polished structural glass can possess. They give the architect a wide choice of exquisite colors from which to build his color harmonies. And they stay beautiful... always.

No need to fear that Carrara walls will check, craze, stain, absorb odors or fade in color. Moisture and chemicals won't hurt them. A damp cloth keeps them spotlessly clean. And although they command a premium price, there's scarcely a client who won't admit they're worth it!

Specify Carrara Glass for bathroom and kitchen walls...and for attractive, practical window sills all over the house. We urge you to write us for complete information about Carrara, the Modern Structural Glass.

Address Pittsburgh Plate Glass Co., 2084 Grant Bldg., Pittsburgh, Pa.

At the New York World's Fair, visit the Glass Center Building and the Pittsburgh House of Glass
THE LIGNOPHOL FACTS YOU WILL WANT WHEN SPECIFYING A FINISH FOR WOOD FLOORS AND TRIM

THIS SAMPLE BLOCK SHOWS THE BEAUTIFUL FINISH OF THE WOOD AFTER APPLYING LIGNOPHOL

LIGNOPHOL
IS A ONE APPLICATION WOOD FINISH
For TRIM and FLOORS in residences, schools, gymnasiums, factories.

LIGNOPHOL
PRESERVES
LIGNOPHOL protects your floors and trim easily—economically—and for years.

LIGNOPHOL
BRINGS OUT THE NATURAL BEAUTY OF THE WOOD
Shades—natural, light, medium and dark brown.
See reproduction of various woods in Natural Colors in Sweets' Catalog, Page 17/47.

NOTHING TO WEAR OFF
Shellac and varnish are easily scratched and wear off. LIGNOPHOL leaves nothing on the surface to be scratched or worn off. It will protect your floors against warping, dry rot, cracking, splintering, pitting, scuffing and burn marks from rubber shoes. All excellent reasons why you should investigate LIGNOPHOL for every wood floor or trim job on your list.

FOR YOUR CONCRETE FLOORS USE LAPIDOLITH LIQUID
A chemical liquid that will dustproof and wearproof your floors. No retreatment. The finish is permanent.
Dept. F. 4.

L. SONNEBORN SONS, INC.
88 LEXINGTON AVENUE
NEW YORK CITY

82 THE ARCHITECTURAL FORUM
NEW INSULUX DECORATIVE DESIGNS

Dramatize the Beauty of Glass

ABOVE: In the Coffee Shop of the Commodore Perry Hotel, Toledo, exterior panels of Insulux "Circon" block bring diffused daylight... form a decorative feature of the room... exclude an objectionable view... and, having high insulation value, lower costs of heating and air conditioning.

INSULUX Glass Block are basically a functional material, designed to transmit daylight, insulate effectively and help maintain better control of interior conditions.

Yet there are many places—in homes, theaters, hotels, shops, restaurants, etc.—where Insulux Glass Block are used mainly as a design element to add decorative beauty to interior and exterior. For such uses, Insulux offers you special decorative designs that take full advantage of the fluidity and translucence of glass... dramatize the natural beauty of the material.

It is impossible to catch in a photograph the full effect of these exclusive Insulux designs. May we suggest that you ask your Insulux distributor to show you samples of the decorative block pictured at the left. Owens-Illinois Glass Company, Insulux Division, Toledo, Ohio.

DESIGN No. 20—The "Circon," so called because the design suggests concentric circles when the panel is completed. An excellent pattern for residential use. Available in 8 x 8-inch sizes.

DESIGN No. 24—A design by Walter Dorwin Teague. The waved ribs form a continuous pattern that gives the panel unusual beauty. Available in 8 x 8 and 12 x 12-inch sizes.

THERE ARE PLACES IN EVERY BUILDING THAT NEED INSULUX

APRIL 1940
Cabot's DOUBLE-WHITE looks well for years because its pure white pigments are not affected by gases in the air which soon discolor most white paints.

The DOUBLE-WHITE house stays clean and bright because, as the paint slowly and stubbornly wears down, it literally sheds the dirt.

Widely used by leading architects, Cabot's DOUBLE-WHITE is made by our patented Collopaking process in which the pigments are literally torn apart—divided into particles or sub-microscopic size—and collooidally compounded with the oil. Thus, in addition to its extra whiteness, DOUBLE-WHITE gives you the advantages of greater hiding power and longer life.


Cabot's DOUBLE-WHITE
and Gloss Collopaikes
(COLLOIDAL PAINTS)

---

Chicago ALUMILITE
Slashes Winter Heat Loss...Repels Sun

Chicago Alumilite® Venetian Blinds, justly famous for their beauty, are equally sensational in their remarkable insulating qualities. They actually keep sunny rooms as cool in summer as those on the shady sides. In winter they can be adjusted to reduce heat loss through windows by as much as 75%, thus effecting an important saving in fuel.

Immune To All Climates
Chicago Alumilite is 98% pure aluminum and is absolutely immune to all climatic conditions. Slats cannot warp, chip, peel or deteriorate in any way. Dirt cannot become ingrained in the hard surface and scrubbing is never necessary. Of course they never require refinishing.

Reflect Room Colors
From a decorative standpoint these blinds are amazing. They reflect surrounding room colors in beautiful hues and harmonize with any color scheme.

Give Indirect Lighting
The precisely calculated design of Chicago Alumilite slats controls light so that a scientifically correct indirect lighting effect is achieved. This quality is greatly appreciated in schools and office buildings.

The complete, illustrated story of Chicago Alumilite Venetian Blinds will interest you. Mail the coupon for the facts, together with information on our complete line which also includes wood, rigid or flexible color-metal and Plastone blinds.

*Trademark process owned by Aluminum Company of America.
New Low-Cost Factory-Finished Flooring
RESISTS SCRATCHES . . . HAS BEVELED ENDS AND EDGES!

Now, you can give home owners a factory-finished hardwood floor that will stay beautiful for years to come! And no wonder! Bruce STREAMLINE Flooring is finished a scientific new way that penetrates the pores of the wood... gives floors a tough, lustrous, lasting finish that wears with the wood. That's why it doesn't scratch, chip or peel like ordinary flooring finished the old style surface way. What's more, this amazing new flooring usually costs less than ordinary flooring finished on the job. Home owners everywhere like the gracefully beveled ends and edges, and the generous width of the strips (3¼") . This new idea creates a shadow "patterned" effect that gives floors an appealing new beauty like that of expensive plank floors.

Then, too, a Bruce STREAMLINE Floor is ready for use the very instant the last nail is driven in... because there's no sanding, finishing or polishing to do. Available in Oak, Maple, Beech in several shades and grades. Installed exactly like ordinary strip flooring. Send the coupon for full details and "Scratch Test" Panel.

E. L. BRUCE CO.
1568 THOMAS STREET
MEMPHIS, TENN.

HARDWOOD FLOORINGS — FLOOR FINISHES — TERMINIX

APRIL 1940

85
Of Special Interest

To All ARCHITECTS and CONTRACTORS

Stock sheets finished in porcelain enamel are now available to the building industry at a new low price. The advantages of a porcelain enamel finish for industrial constructions are well known. Besides a complete range of colors available for your selection, it is important to remember that porcelain enamel requires no maintenance. Its color cannot fade and its gleaming or matt finish will remain constant forever.

Through the internationally famous laboratories of the Mellon Institute of Industrial Research and the expansive research laboratory of the O. Hommel company the new, inexpensive Hommelaya Process of Vitreous Enameling was perfected. Embodying all the beauty and durability of ordinary porcelain enamel, the Hommelaya Process is able to offer a distinct savings over ordinary porcelain enamel by the elimination of needless processing of the steel.

We ask you to consider the Hommelaya Process on that job you are planning now. Not only is it ideal for industrial building construction but lends itself perfectly on such domestic items as copings, shingles, shutters, baseboards, closet and bath fixtures, window frames, sidings, and all construction work where the element of corrosion is a problem.

For further information write the O. Hommel company, 209 Fourth Avenue, Pittsburgh, Penna. Your inquiry will receive a prompt reply.

The O. HOMMEL COMPANY
209 FOURTH AVE.,
PITTSBURGH, PENNA.

"World's Most Complete Ceramic Supplier"
Meet Certain-teed son. He's a horse that all of us ARCHITECTS can ride in the Lucky Forties

“Why is the horse named Certain-teed, Daddy?”
“He represents one of the biggest and best names in building—the Certain-teed Products Corporation. And he’s certainly one horse the whole building industry can ride with profit.”

“How does Certain-teed profit you, daddy?”
“Well, son, most of my living comes from people who want to live in homes. That goes for the entire industry, too. That’s why we can all ride this horse, Certain-teed. He sells my customers and prospects on the basic idea of building or remodeling.”

“How, daddy?”
“Through Certain-teed national advertising that shows 35,000,000 Americans how much better off they and their country will be when they invest in building. Home owners are the real backbone of America, I think.”

“Don’t all big companies do that, daddy?”
“Not like Certain-teed. There’s one outfit that has the courage and the vision to sell the industry above their products—that’s why I’m backing this horse to help me in 1940.”

“Will Certain-teed help you enough to get me a new bicycle, daddy?”
“I’m sure he will, son. I’m betting we’ll climb on Certain-teed’s back and gallop right into the best profit year we’ve ever known.”

Certain-teed’s Basic Policy
Certain-teed believes that only as the Building Industry prospers, so will the nation. Therefore, we consider it our duty to promote the building industry as a whole, by stimulating the universal desire to own and live in a good home. For that reason Certain-teed advertising sells your services and your industry first; and Certain-teed products last. In the interest of the 6,000,000 craftsmen who depend on the Building Industry for a livelihood Certain-teed pledges to remain faithful to this basic policy.

CERTAIN-TEED PRODUCTS CORPORATION
100 EAST 42ND STREET, NEW YORK
ASPHALT ROOFING, SHINGLES AND SIDING • STRUCTURAL INSULATION WALL BOARDS • GYPSUM BOARD, LATH AND PLASTER PRODUCTS FOR INDUSTRIAL USE AND ARCHITECTS
Students, it's elementary that the prime requirements of cold storage doors are ruggedness, ease of operation, and efficient insulation. But today another factor is important. What is it?

Beauty.
Right! Now tell us the reason why.
Because modern plants are built for appearance as well as utility, and cold storage doors must harmonize.

That's the answer! Now, what cold storage doors, long-famous for ruggedness and good insulation, have new effortless operation and new streamlined beauty?

Jamison-built cold storage doors.
Correct! And how has this been accomplished, students?
Jamison engineers and Paul Cret stylists have designed a new easy-operating "Model W Wedgetight" Fastener and a new flow-lined "Adjustoflex" Hinge.

Class passes 100%! And don't forget, students, there's no increase in price! For collateral reading get a copy of the new Jamison Bulletin 122. It's free. Write to the Jamison Cold Storage Door Co., Hagerstown, Md. Branches in principal cities.

Jamison, Stevenson & Victor Doors

JAMISON

See our Catalog in Swets Catalog File

SPLIT DOORS

Wall-sized panels — exclusive with this method of fabrication — are only one of the important and interesting features of Precision-Built construction.

TOMORROW'S HOMES tells the whole story — shop fabrication, field erection, estimating—shows the architect ways to profitable new business; shows how to save time in planning, drafting, estimating and supervising the job. The finished house is ready for occupancy, 30 days after your plan is approved.

The Precision-Built method employs the Bemis 4" module— the most frequent increment occurring in the wood frame house. The use of this module means standardization, integration, simplification and time-saving—yet it does not in any way restrict the flexibility of your design.

Precision-Built Homes are built of standard materials and with quality construction throughout. They are doubly insulated; they stay "new" longer; they are eligible for F.H.A. Insured Mortgage Loan.

TOMORROW'S HOMES is privileged to architects (in the U.S.) without charge. It is profusely illustrated with photographs, working details, rafter tables, area, lineal foot and cubic yard tables. It shows you how to build even low-cost houses at a profit.

We invite you to write for your copy, using your firm's letterhead. Only one copy to a firm.
The electrical wiring you specify governs the usefulness of every building you design—whether it be a home, an industrial plant or a farm. Of course, the wiring should be adequate for the electrical needs of the building. But equally important, quality materials should be specified to provide lasting dependable service.

Clients Will Benefit

The line of General Electric wiring materials, built to one high quality standard, contains materials suitable for any type of installation in any building. By specifying adequate wiring layouts and G-E materials you will enable your clients to use electricity conveniently and efficiently now and in the future.

Three Wiring Manuals

For assistance in planning adequate wiring General Electric has prepared three manuals—a factory wiring manual, a home wiring manual and a farm wiring manual. Appropriate G-E wiring materials are shown in each manual. G-E wiring materials are also shown in Sweet’s 1940 Architects Catalog. To obtain any of the manuals see the nearest General Electric Merchandise Distributor or check and mail the coupon at right.

General Electric Company
Section CDW-0354
Appliance and Merchandise Department
Bridgeport, Conn.

Sirs: Please send me the manuals I have checked below:

☐ Adequate Wiring for Industry
☐ Farm Wiring Handbook
☐ G-E Home Wiring Manual

Name:
Address:
City: State:

APRIL 1940
Privileged bar at Seagram- Distillers Corp. headquarters, Chrysler Bldg., New York. Guests are also treated to an exquisite new brand of comfort—an oasis at S. R. O. TAL FOAM whipped latex cushioning. Designed and executed by Ross-Frankel, Inc., Mario Loddis, Associate.

A SINGLE UNIT DOES THE ENTIRE CUSHIONING JOB
- Applied direct to any solid base
- Simpler construction, more comfort, longer life, for

FURNITURE • BUILT-IN SETTEES
THEATRE SEATS • TRANSPORT SEATS

U.S. ROYAL FOAM
Cushioning of Whipped Latex

One-piece, sag-proof units replace all inside parts of upholstered furniture. Millions of connecting air cells provide buoyancy that changes sitting to effortless floating, and "breathe" constantly for cool self-ventilation. Inquire today about the application to your problems. (If one of them happens to be better sleep, be sure to ask about the U. S. Royal Foam Mattress, too!) Address

UNITED STATES RUBBER COMPANY
MISHAWAKA, INDIANA

The Magnatab Shingle is constructed with an extra-thick coating made with The Vital Element—Trinidad Native Lake Asphalt. The thicker butt not only gives extra protection, but also lends itself to interesting roof design.

"Color-styled" too—Like other Barber asphalt roofings, the new Magnatab Shingle has been "color-styled" by Howard Ketcham. A wide selection of interesting colors is available for your choice.

Remember—Barber is the only roofing manufacturer that offers roofings with the added protection of The Vital Element—Trinidad Native Lake Asphalt. Barber's research laboratories are always ready to answer your questions regarding the uses or limitations of asphalt. There is no cost or obligation for this service. For full particulars, address Barber Asphalt Corporation, Barber, New Jersey.

Barber announces the MAGNATAB

A new, heavier shingle with a thicker butt which meets all F. N. A. specifications.

Nationally advertised Barber Genasco Products, made with The Vital Element, include: Shingles, Siding, Roll Roofs, Roofing and Waterproofing Asphalts, Fabrics, Waterproofing Materials, Protective Products (Plastics and Liquids), Standard Beam, Waterproofing (Standard Cloth and Cement).

Barber Genasco QUALITY ROOFINGS
SHINGLES • ROLL ROOFINGS
SIDINGS • BUILT-UP ROOFINGS

Barber Genasco ROOFINGS
SHINGLES • ROLL ROOFINGS
SIDINGS • BUILT-UP ROOFINGS

THE ARCHITECTURAL FORUM
"WHAT NEXT?"

Says MR. JONES

"Here I've been fuming around for more than two years, spending hard-earned money trying to cover up the blotched spots on my ceilings—then along comes a confident fellow who calmly says, 'There is nothing to it—and I can fix it all with BONDEX-PRIMER.'

"The day he was ready to put on the finish coat I moseyed in expecting to see him get the wind taken out of his sails. I was that sure he couldn't cover up the dark spots—but there they were, taking the smoothest, sweetest finish you ever hoped to see. The painter gave me a knowing glance and chuckled, 'That's just one thing BONDEX-PRIMER will do.'

"But I still had an ace up my sleeve. 'Wait 'til you get to those masonry blocks and try to paint over those asphalt expansion joints.' But the fellow just grinned and said, 'BONDEX-PRIMER will take care of that too.' And doggone it, it did!

"What finally laid me in the aisle was when he showed me some creosote-stained, outside stucco walls he had painted. Believe it or not—there was complete hide—BONDEX-PRIMER had done the 'impossible' again!

"Now if you're having painting troubles of any kind, or finding it tough going when it comes to making paint adhere to any metal or non-porous surfaces, sit down and write THE REARDON COMPANY, St. Louis, Mo., about BONDEX-PRIMER. It's got more uses than you ever dreamed of—cost is a surprise too!"
DOOR DATA
You'll find useful
THE YEAR 'ROUND

Write Today
FOR
THIS NEW CATALOG
on rolling doors of all types

STEEL ROLLING DOORS
Composed of steel interlocking slot curtain that raises vertically and compactly coils on a barrel above the lintel. Spring counterbalanced for easy operation. Convenient — saves space — durable — economical to install. Fireproof (but also built in automatic labelled types for fire protection). Built in any size — manual or motor operation.

METAL ROLLING GRILLES
Provides protection against burglary and trespassing with the advantages of air, light and vision. Operates similar to Steel Rolling Doors. Grille composed of heavy steel rounds and ornamental links. Locks in steel jamb guides. Remarkably strong when closed—out of sight when open. For any size door or window. Manual or motor operation. A recent development of many uses.

ROl-TOP DOORS
A sectional, overhead type door built in wood or steel. Suited for any use . . . ideal for residence garages. Raises smoothly to overhead position on ball bearing rollers in heavy steel tracks. Provides for sash lights. Spring counter-balanced. Operates easily the year 'round—out of the way—rugged—economical—simple to install. All sizes. Also motor operated.

KINNEAR MANUFACTURING COMPANY
1640-60 Fields Ave., Columbus, Ohio

Save up to $40 per Closet in Cubage
K-Venience Clothing Carrier
—In Sizes to Fit All Closets

FIGURING AVERAGE HOUSE COSTS AT FROM 25 TO 45 CENTS PER CUBIC FOOT, A FEW DOLLARS SPENT FOR K-VENIENCE CLOTHES CLOSET FIXTURES, WILL GIVE YOU ECONOMY PLANNED CLOSETS WHICH ARE EQUAL IN UTILITY TO THOSE TWICE THEIR SIZE. FOR EXAMPLE, A CLOSET 2' X 5'—EQUIPPED WITH K-VENIENCES, CAN GIVE YOU THE SAME CLOTHING CAPACITY YOU WOULD OR-DINARILY GET IN A CLOSET 4' X 5'. THIS SAVES BETWEEN 80 AND 90 CUBIC FEET OR FROM $20 TO $40 IN CUBAGE. K-VENIENCES ALSO KEEP ALL APPAREL ORDERLY, EASILY ACCESSIBLE, AND PROVIDE EYE--catching sales appeal to answer Mrs. America's demand for more closet space.

FREE CATALOG with plans, ideas and helpful data showing how K-Veniences Double Closet Capacity. Write today.
THE DOOR BEYOND A DOUBT!

Complete satisfaction is the report of more than a million users. From the smallest homes to multiple installations, you can depend on The "OVERHEAD DOOR" with the MIRACLE WEDGE.

In stock or special design, Standard Model or Master Model with "Power-Tubes"—it is adaptable to any opening, blends with every type of construction. Expert installation is a vital part of our service; we take full responsibility.

OVERHEAD DOOR CORPORATION
Hartford City, Indiana, U. S. A.
The heart of a kitchen is the sink
THAT’S WHY I INSTALL KOHLERS

"TAKE THE NEW WILSHIRE. Two big basins and two depressed drainboards come in mighty handy. Kohler Duostrainers . . . rinse hose . . . 3-inch ledge for 'around the sink' articles . . . acid-resisting, crystal-white enameled cast iron . . . roomy cabinets and drawers . . . who wouldn't be proud and happy to have a sink like this?"

"THEN THERE'S THE CAMBERLEY."
In small kitchens I install the new 54-inch size. All sorts of Kohler work-savers. If the kitchen's a bit larger, in goes the 60-inch. My clients say it saves time and trouble.”

Among other one-piece Kohler ledge sinks that offer your clients many attractions are the Cymbria, with one basin and one drainboard; Wellwin, with two basins only; and Sea Cliff, with one deep laundry tray and one sink basin. Write for complete details. Kohler Co. Founded 1873. Kohler, Wisconsin.

KOHLER OF KOHLER
PLANNED PLUMBING AND HEATING

If you've never seen Mural-tone applied, you don't know what “swing” means. Mural-tone is a lively partner for painters who are on their toes. A favorite for over four years, it's been swung by painting contractors from coast to coast.

Mural-tone takes more thinner . . . goes further . . . one coat covers and hides on most surfaces . . . cuts costs at least 25% . . . and low-cost decoration is an important "note" in small-home construction.

You'll make a mistake to flirt with "unknowns" when painters everywhere have demonstrated the superiority of Mural-tone . . . made by the oldest exclusive water paint manufacturer in the country. Send for facts. The Murao Company, Inc. (Founded 1894), 574 Richmond Terrace, Staten Island, N. Y. Branches: Atlanta, Boston, Chicago, San Francisco, Los Angeles.

"NOT A FIRE—JUST FRENCH FRIES FOR DINNER. AND THE WORKING overtime/"

Prospects become buyers of Victor In-Bilt Ventilator equipped houses. A small investment that makes a lingering impression on the "just lookers.”

In the kitchen the automatically operated Victor Master quickly disposes of damaging and unpleasant cooking odors. Used throughout the house it circulates fresh air in bathroom, bedroom, game room, den, and laundry. Super-powered motor. Weather-proof shutters. Telescopic wall sleeve facilitates rapid installation. Write today for free Victor In-Bilt Ventilator catalog.

VICTOR ELECTRIC PRODUCTS, INC.
250 Madison Avenue, Dept. IV-12, Cincinnati, Ohio

THE VICTOR MASTER

NOT A FIRE... JUST FRENCH FRIES FOR DINNER AND THE VICTOR IN-BILT WORKING OVERTIME!

VICTOR In-Bilt VENTILATORS

Victor two-piece construction assures easy installation.

Prospect on Sunday—Customer on Monday

Prospects become buyers of Victor In-Bilt Ventilator equipped houses. A small investment that makes a lingering impression on the "just lookers."
Specific Suggestions on TILE Design

A department has been set up under the direction of G. M. Gilroy, R. A., to collaborate with designers and draftsmen. Mr. Gilroy will prepare ideas for the design of rooms in which TILE is to be used, or make suggestions regarding schemes you have prepared. Realizing the hundreds of materials, and the mass of information the architect has to keep track of, we believe the profession will welcome, and use, the services of our Design Department with its comprehensive and up-to-the-minute knowledge of TILE sizes, colors, grading and uses.

Technical Data on Methods of Installing TILE

The Association's Fellowship, maintained at Rutgers College for the past six years under the direction of Professor John R. Kauffman, has developed several important improvements in TILE installation. Types of data available in printed form include among others... "K-300, Basic Specification for Tile Work," and Specifications for Industrial Installations. Please address requests for Bulletins to Tile Industry Research Bureau, 19 West 44th Street, New York, N. Y.

"FACTS ABOUT TILE"... for use with clients

A 24-page book, shows new designs, rooms in full color; contains factual data on the advantages of Tile; gives reason-why analysis of the cost of tile as compared with substitute materials, etc. Our ads in American Home and House & Garden have produced thousands of requests. We will be glad to send you as many copies of the book as you would like for clients and prospects.
AWARDS

To the following, election to Fellowship in the American Society of Landscape Architects: John W. Gregg, head of Landscape Design, University of California; Allyn Eyerson Jennings, general superintendent, Department of Parks, New York City; Norman T. Newton, assistant professor of Landscape Architecture, Harvard; Michael Rapuano, member New York City Park Commission and Municipal Art Commission.

To DALE LLOYD, first prize in a competition sponsored by the Cincinnati Landscape Association among the students in landscape architecture at the University of Cincinnati for the redevelopment of Avon Fields as a municipal recreation area.

To Miss HARLE HAMES, executive secretary, American Planning and Civic Association, Washington, Corresponding Membership in the A.S.L.A. “in gratitude for her long and valiant defense and advancement of public parks....” Also to Miss Katherine McNumara, “...our practitioners have looked to her for wide and organized information.”

Posthumously to RAYMOND M. HOOD, who died August 14, 1934, the Medal of Honor of the New York Chapter, A.I.A. “for distinguished work and high professional standing.” The medal was accepted by Raymond M. Hood, Jr., a student of architecture at Princeton, at the Chapter’s annual dinner, February 27.

To GRANT W. VOORHEES, Iowa State College, first prize of $200 for the best design of a pedestrian bridge of steel awarded by the American Institute of Steel Construction; second prize, $100, to Vincent W. SeeBach, New York University; third prize, $50, to Mae G. Greene, New York University. Eighty-four students from thirteen colleges participated.

To HELEN HUBBARD, Charles Dyer Norton Professor of Regional Planning at Harvard and Chairman of the Department of Regional Planning, the title of Professor Emeritus as of September 1, 1941. Prof. Hubbard has been a member of the faculty since 1906, a member of the firm of Pray, Hubbard & White, 1906-18, and a partner in Olmsted Brothers since 1920. He founded Landscape Architecture Magazine in 1910 and is its editor; was a founder and editor of the City Planning Quarterly, 1925-34; and has been consulting editor of The Planners’ Journal since 1935.

To GANO DUNN, president of Cooper Union, the Hoover Medal, “awarded by engineers to a fellow engineer for distinguished public service.”

To PHILIP TORCHIO, the Edison Medal, “for distinguished contributions to the art of central station engineering and for achievement in the production, distribution, and utilization of electrical energy.”

To Dr. RUPEN EKSBETIAN, Philadelphia, the Worcester Reed Warner Medal of the American Society of Mechanical Engineers “for influential engineering papers of permanent value published in the Transactions of the A.S.M.E.”

To JOHN I. YELLOTT, assistant professor at Stevens Institute of Technology, Hoboken, N. J., the Pi Tau Sigma Medal of the American Society of Mechanical Engineers with the citation, “Outstanding young mechanical engineer of 1929.”

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THE ARCHITECTURAL FORUM

(Continued on page 100)
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APRIL 1940
To Vincent G. Kling, East Orange, N. J., the Boring Gold Medal by Columbia University School of Architecture as a result of a competition open to all fourth year students, Runner-up, Arnold W. Eckhoff, Palisades Park, N. J.

Competitions

Syracuse University College of Fine Arts will hold a competition July 13, which will serve as a basis of a grant of one $275 scholarship and four at $185. Prospective contestants may obtain full details of the conditions by addressing the School of Fine Arts, Syracuse University, Syracuse, N. Y.

New York Chapter, A.I.A. will award this year for the first time since 1933 their Apartment House Medal. Buildings under construction between January 1, 1933 and October 1, 1938 in the five boroughs of New York City are eligible. Membership in the Chapter is not a requirement for entering the competition. Contestants must submit photostatic copies or typical floor plan and photographs of their buildings before April 15, to the secretary of the Chapter, 115 East 40th St. Jury of awards: Dean Leopold Arnauud, chairman, Carl Feiss, Frederick G. Frost, Julius Gregory, Arthur Holden, Charles C. Platt, Harry Milton Prince, Prentis Sanger.

Lebrun Traveling Scholarship Competition is announced by the New York Chapter, A.I.A. It carries a stipend of $1,400. Contestants must be nominated by members of the Institute, with recommendations and documentary evidence of ability, by April 15. The Competition is open to architects or architectural draftsmen between the ages of 25 and 30 who are citizens of the U. S. and who have been engaged for at least three years in architectural practice or as architectural draftsmen. Details available from New York Chapter, A.I.A., 115 East 40th St., New York.

Princeton University. A competition in design, to be held from April 18 to 29, will serve as a basis for a grant of the Princeton Prize. Holder is exempt from tuition fees, and will receive $500. Application blanks and regulations may be had by addressing Secretary, School of Architecture, Princeton University, Princeton, N. J.

Massachusetts Institute of Technology. A competition to be held from May 4 to 13, will be the means of selecting the holder of a scholarship, value $600, as a special student in the fourth or fifth year of the course in architecture. Applications should be received on or before April 8, addressed to Dean Walter R. McCormack, 77 Massachusetts Ave., Cambridge, Mass.

Educational

Columbia University, New York City, announces the establishment of a course in large scale physical planning for city, State and nation, which began February 7, under the direction of Wayne D. Heydecker.

Harvard University Graduate School of Design and Smith College Graduate School of Architecture and Landscape Architecture will hold a summer school in these subjects from July 1 to August 10. Walter F. Bogner is chairman of the faculty. Further details from Harvard University, Cambridge, Mass.

Mills College, Oakland, Calif, announces its fifteenth residential summer session (Continued on page 104)
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FORUM OF EVENTS
(Continued from page 100)

for men and women, in which the courses in art, starting June 23, will be under the direction of L. Moholy-Nagy with the assistance of Charles Niedringhaus.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, New York. Graduate fellowships in electrical engineering have been established through the setting up of a $25,000 trust fund by the Westinghouse Electric & Manufacturing Co. A Fellowship Committee of the Institute will select each year the recipients. The awards provide a minimum allowance of $500 each. In recognition of the late Dr. Fortescue's contributions to the industry, the Fellowships will be known as the Charles LeGeyt Fortescue Fellowships.

CHICAGO ARCHITECTURAL CLUB ATLETER. In its new quarters, 7148 Merchandise Mart, the Club is continuing its atelier work under the Ecole system, governed by patrons. The Club's scholarship program has been interrupted for the past eight years. Arthur Adams is patron of the Atelier and of Design; Roaul Jossett, patron of Sculpture; Massier—Earl J. Leiser.

FEDERATION TECHNICAL SCHOOL, 116 East 16th St., New York. Complete review course in preparation for the late spring examination for registered architects; a night lecture introductory course in the Hardy Cross method of rigid frame structures; a similar course in the design of welded steel structures. These in addition to the school's established courses. A complete descriptive catalogue is available.

NEW YORK UNIVERSITY School of Architecture and Allied Arts, New York City, announces elementary and advanced courses in estimating, which began January 30, under the direction of A. Benton Green, architect.

NEW YORK UNIVERSITY, New York. A new color work shop will open February 19, to meet the needs of artists, art teachers, interior decorators, fashion stylists and others. Fifteen Monday evening sessions with Burton J. Jones, director of the work shop.

SAN FRANCISCO ART ASSOCIATION announces its first Abraham Rosenberg Traveling Scholarship, which seeks to assist a student or artist who has already accomplished independent creative work of professional standing. Applicants shall have been registered in the California School of Fine Arts for at least two semesters. Further information from the Association at 800 Chestnut St., San Francisco. Closing date for receiving applications, June 15.

SCHOOL OF DESIGN, Chicago. Spring semester began February 12, under the direction of Laslo Moholy-Nagy. Courses lead to a designer's diploma after four years and an architect's degree after six years. Curriculum is patterned largely after that of the Bauhaus. George Fred Keck heads the Department of Architecture.

SYRACUSE UNIVERSITY, Syracuse, N. Y., announces its summer session courses by the Department of Architecture starting July 1 and lasting six weeks. A bulletin of information may be obtained by addressing Director of Summer Sessions, Syracuse University.

(Continued on page 108)
E. B. FIELD, President of the E. B. Field Corporation, Oakland, California, says: "When we planned Sheffield Village in Oakland we determined not only to build comfortable homes at modest prices, but to make every unit of our 315-house project modern, up-to-the-minute in every detail. We used Briggs Plumbing Fixtures as being the most modern—in color, design, and convenience features." Sheffield Village is one of hundreds of modern housing developments throughout the country in which Briggs Beautyware Plumbing Fixtures have been installed. Among them are the Ford Foundation, Detroit; "Buckingham", Washington, D. C., (the largest planned community in the United States—fourteen hundred units); Interlaken Gardens, Westchester County, New York; Lucas Hunt Development, St. Louis; Dempsey-Vanderbilt Hotel, Miami Beach; and Kimbrough Towers, Memphis, Tennessee.
HEAT NEW HOUSING DEVELOPMENT

Denver's beautiful new Country Club Garden Apartments, a $1,200,000 project, is the first major FHA housing development in the Rocky Mountain states and consists of five buildings containing 187 individual apartments ranging in size from two to five rooms.

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Five heating plants employing forced hot water systems are being installed and 949 YOUNG Streamaire convectors will heat all rooms. The selection of STREAMAIRE convectors for this important group project is a distinct tribute to YOUNG engineering and standards of quality.

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changing and fast fading into
dusk is photographed on the artist's mind. On canvas, he makes it live again, so thou­
sands may for centuries pause and marvel at its beauty, just as he did. The architect
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HIS is the $400,000, 10,000-ton, 327-foot long Central Square Garage in Youngstown, Ohio, going for a 27-foot ride to a new foundation March 12, 1940. The reason—street widening. The mover—Eichley.

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FORUM OF EVENTS

(Continued from page 104)

STEWARDSON SCHOLARSHIP. Owing to present conditions, the Managing Committee of the John Stewardson Memorial Scholarship in Architecture has decided that the Scholarship will not be offered in the year 1940.

UNIVERSITY OF ILLINOIS, Urbana, announces the ninth Kate Neal Kinley Memorial Fellowship for 1940-41, yielding $1,000 for a year's advanced study of the fine arts in America or abroad. Examination of contestants, June 1. Applications receivable not later than May 15. Further details and application blanks from Dean Rerox Newcomb, Architecture Building, University of Illinois.

YALE UNIVERSITY, New Haven, Conn, announces a change in aim and emphasis in connection with the post graduate course in architecture. Through weekly discussion meetings in New Haven, and weekly meetings in New York, under the direction of Wallace K. Harrison, architect, the course is attempting to formulate a new philosophy of architecture in society.

CALENDAR

April 12-13, First Housing Conference of the Department of Architecture, University of Texas, Austin. Architects, planners, and members of allied professions are invited.

April 15—. Exhibition of 60 centuries of Persian art at old Union Club, 5th Ave. & 51st St., New York, under the direction of Arthur Upham Pope.


May 4-12, National House and Garden Exposition in the Coliseum, Chicago.

May 19-24, American Institute of Architects' 72nd Convention, Louisville, Ky.

June 24-28, 43rd Annual Meeting. American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

CORRECTION

Kerner and Pyroneel incinerator units described in FORUM, December 1939, pages 52 and 54, as coal fired incinicators operate without supplementary fuel.

DIED

Samuel E. Barney, civil engineer and Professor Emeritus of Civil Engineering at Yale, 81, died in New Haven. He was born in New Haven, was graduated from Sheffield Scientific School in 1879, and after an apprenticeship in railroading he became a consulting engineer for corporations and municipalities. He joined the faculty at Yale in 1882, and retired in 1924. He was a member of the American Society of Civil Engineers.

EDWARD PEARCE CASEY, architect, 75, in New York. Born in Portland, Me., Mr. Casey varied his education by taking the degrees of Civil Engineer and Bachelor of Philosophy at Columbia in 1886 and 1888, after which he studied
This child is protected against the menace of fire—thanks to the walls and ceilings of his home. Perforated Rocklath and Plaster provide that protection. Perforated Rocklath is fireproof! Tests show that a Perforated Rocklath partition, properly plastered, will hold fire at bay for at least one hour!

Perforated Rocklath is an outstanding example of the application of research to home construction by the United States Gypsum Company. Take a look at Perforated Rocklath—see how we punched it full of holes to make a stronger wall! Perforated Rocklath makes the plastered surface a better surface. It does not warp, buckle or pull away from the plaster. It leaves no lath streaks.

Just as Perforated Rocklath provides more fire protection for today's homes, so do other USG building materials. For instance, we have perfected resilient plastering systems which prevent cracks due to frame movement and which greatly reduce sound transmission.

USG materials are sold by lumber and building material dealers. Mail the coupon or ask your USG Dealer to get you copies of two USG books—25¢ each. They explain home building and remodeling.

This is one of a series of USG advertisements that sell you and Better Building to America. These advertisements are appearing in—SATURDAY EVENING POST BETTER HOMES & GARDENS AMERICAN HOME and other consumer magazines.
Announcing

... the first book on the technique of order in the Machine Age

... the only book on the whole subject of design and all its related aspects ... by one of America's leading industrial designers ...

Walter Dorwin Teague

THIS is the first comprehensive study of design ever written. It is, moreover, a restatement of the laws of design in terms of the tools, materials, and techniques of the Machine Age. In discussing the broad principles which must govern the design and construction of our physical environment, or of any small thing in it, Walter Dorwin Teague sees a new world-order making giant progress. Here, where we have peace, where the mastery of Machine Age tools grows rapidly, we are on the threshold of an era of unimagined well-being for all. For its remarkable synthesis of past and present, for its authoritative view of the future, DESIGN THIS DAY is one of the most original and important critiques ever published.

Contents
1. Rightness Resurgent
2. Mastery in the Machine Age
3. Sources of Form
4. Fitness to Function
5. Fitness to Materials
6. Fitness to Techniques
7. Unity
8. Simplicity
9. Rhythmic Relationships
10. Rhythm of Proportion
11. Rhythm of Line and Form
12. Dominance, Accone, and Scale
13. Balance and Symmetry
14. Style
15. Beyond the Rules
16. Prospect
17. Program

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20 YEAR BONDED BUILT-UP ROOF

This Outstanding Job, covering 671,000 Sq. Ft., Indicates the Nationwide Confidence of Architects and Industry in Carey's Roofing Experience and Service

The new plant of Pratt & Whitney, Division, Niles-Bement-Pond Co., at West Hartford, Connecticut, is probably the most modern and best equipped establishment of its kind in existence.

Every improvement that technical skill could devise, to increase tool and machine manufacturing efficiency and reduce overhead, was incorporated. This called for a roof to match other advanced features. Naturally, The Philip Carey Company, with over 50 years of practical roofing experience, was commissioned for this important work.

The roof is a 4-ply Built-Up Roof over cork on a steel deck, bonded for 20 years of trouble-free service. Over 3,100 tons of roofing materials went into the job.

For your roofing assignments, large or small, which require long life and low maintenance, specify Carey Built-Up Roofs. See Catalog in Sweet's, or write Dept. 20 for details.

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LOCKLAND, CINCINNATI, OHIO
RITTENHOUSE
The Quality Chime Line!

BUILT UP TO A STANDARD
NOT DOWN TO A PRICE!

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FOR CUSTOMERS' SATISFACTION
...and here's why!

1) Better TONE QUALITY—The
use of special chime alloys,
plus correct acoustical design and
superb craftsmanship result in the
matchless tone quality of Ritten-
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compare it with others.

2) Better STYLING—A variety of
graceful, chaste designs to
harmonize with any home decor­
tive theme. Many nationally
famous interior decorators are
using Rittenhouse Chimes—proof
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proof” mechanisms developed by
Rittenhouse engineers. Strong,
rugged construction. Every chime
is carefully tested before leaving
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full value for the price. For only a
few cents more than the lowest,
you can specify Rittenhouse qual­
ity and prestige that can’t be
obtained elsewhere at any price.

RITTENHOUSE
DOOR CHIMES

FORUM OF EVENTS

(Continued from page 108)

architecture at the Ecole in Paris for three years. Among
his best known works is the Congressional Library, Wash­
ington, with which he was occupied from 1892 to 1897. He
had been a vice president of the Beaux-Arts Society and
of the Architectural League, New York. He was a Fellow
of the American Institute of Architects.

KIRTLAND KELSEY CUTTER, architect, 79, in Long Beach,
Calif. A native of Cleveland, he was educated at Brooks Mili­
tary Academy, at the Art Students’ League, New York, and
studied in Europe for several years.

He established a practice in Spokane, Wash., in 1888,
moved to Long Beach, Calif., in 1943, Mr. Cutter was a
Fellow of the American Institute of Architects.

JOHN CALVIN STEVENS, architect, 84, in Portland, Me. One
of the most remarkable lines of succession in the architectural
profession was broken when the eldest of three generations of
Stevens passed on. Not only Portland but most of the State
of Maine bears witness to Mr. Stevens’ architectural efforts.
In his long practice he found time to be a member of the
Portland City Council, a member of the Boston Society of
Architects, The Architectural League of New York, the
American Federation of Art, president of the Portland Society
of Art, and a Fellow of the American Institute of Architects.

MISCELLANEOUS

ARCHITECTS’ EMERGENCY COMMITTEE, New York, has had
made of fine Lenox china an architect’s tea set, in which
the various pieces are decorated with Schell Lewis’s drawings
of historic buildings. The drawings are shown in sepia on
an ivory base, and the decoration is in purple lustre. The
set is copyrighted, and a limited number has been made
for sale for the benefit of the Committee’s relief fund. Com­
plete set consists of fifteen pieces, and sells for $85. Illus­
trations and further details may be had from the Archi­
tects’ Emergency Committee, 115 East 40th St., New York.

PERSONAL

The Architectural Section, Public Works Department, U. S.
Naval Air Station, Pensacola, Fla., desires to bring its
A.I.A. catalogue file on building materials, appliances, and
equipment up to date.

The Gates Rubber Co., Denver, Colo., has organized a
Home Building Advisory Department to assist its employes.
The company will appreciate receiving manufacturers’ liter­
ature to establish a file and library relative to small homes.

William F. Kussin, architect, announces the removal
of his offices from 7 River St., Concord, to 50 Beacon
St., Boston, Mass.

Thomas Larrick, architect and engineer, Lawrence, Kan. is
now teaching architecture at Ohio University, Athens, and
would appreciate having his correspondence addressed to
him at 400 Elmwood Place, Athens, Ohio.

Frederick G. Seelmann, architect, has terminated his part­
nership with the firm of Treanor & Fatio, architects, and
has established his own office for the practice of architec­
ture in the Paramount Theatre Building, Palm Beach, Fla.
Mr. Seelmann requests that manufacturers’ catalogues and
samples be sent him.
Constant Research—Rigid Factory Control—
KEEP PITTSBURGH YEARS AHEAD!

Because conditions and building materials are constantly changing, paint formulas must also change. That is why trained paint engineers... hand-picked technicians... scientists... are working continually on new developments, new finishes... keeping Pittsburgh years ahead of the parade.

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See Sweet's Catalog
For complete information and addresses of all Pittsburgh Branches, see Sweet's Catalog—or write direct to Pittsburgh Plate Glass Co., Paint Division, Pittsburgh, Pa.

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Automatic scales and measures are used to insure the exact quantities of every ingredient used in various Pittsburgh Paints. These quantities are set up in printed formulas, must be followed to the smallest fractions.

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Smooth as Glass
Wallhide • Florhide • Waterspar • Sun-proof

APRIL 1940
Too often in technical articles, pompous writing masquerades as Authority. The editorial assumption that self-interest *compels* people to read their professional magazines is another tradition *The Forum* has broken. Clear, documented text, graphically illustrated, seems the right way to *The Forum* . . . and judging by the mail, to its readers.

*THE ARCHITECTURAL FORUM*
BOOKS

(Continued from page 30)


The first textbook on plastics as applied to handicrafts and the industrial arts. Its value lies in the description of the various kinds of plastics, their properties and history. Also useful is the chapter explaining the proper methods of working with the material. Unfortunately the greater part of the book is devoted to drawings and photographs of napkin rings, letter holders, lamps, cigarette boxes, etc., almost all of which are in the worst tradition of handicraft design and ten-cent-store "modernistic."

SIR JOHN VANBRUGH, ARCHITECT AND DRAMATIST, by Laurence Whistler. The Macmillan Company, 327 pp., illustrated. 6\(\frac{1}{2}\) x 9\(\frac{1}{2}\). $5.00.

Vanbrugh was born in 1664, in one of the most brilliant periods of English history: Wren, Steele, Addison and Congreve were among his contemporaries, and Jonathan Swift wrote satires at the expense of his architecture. Where he learned his trade is a matter of conjecture, for he began as a soldier, spent part of his early career in the Bastille, and returned to London to become its most popular dramatist. When at the age of 35 he was commissioned to design Castle Howard he was still known to the public at large as a playwright. It is true that in this golden period of the amateur, such swift development was not entirely unknown, for every gentleman was expected to know something of architecture. Wren himself had begun as a mathematician, and Perrault became architect for the Louvre while still a physician. Whatever his training, Vanbrugh displayed a vigorous and unusual talent in his earliest work, and he lived to become one of the great architects of the Renaissance. For some curious reason, in the two hundred years since his death there has been no complete biography, and Laurence Whistler's book is important if for only this reason. It is an excellent piece of work as well, richly documented and entertainingly written. There are fourteen plates, showing photographs and drawings of Vanbrugh's most important buildings.

INTERIOR ELECTRIC WIRING AND ESTIMATING, by A. Uhl, A. Nelson, and C. Dunlap. American Technical Society, Chicago, 312 pp., illustrated. 6 x 8\(\frac{1}{4}\). $2.50.

A complete manual on wiring for the mechanic and architect. All common systems and equipment are described and illustrated, and information is given on approved methods of installation. There is a section on cost estimating.

HOW TO DESIGN AND INSTALL PLUMBING, by A. J. Mathias, Jr. American Technical Society, Chicago, 388 pp., illustrated. 6 x 8\(\frac{1}{4}\). $3.00.

Another volume in the excellent series of textbooks on the building trades. The author is a licensed plumber as well as a writer and teacher, and discusses all phases of current practice in the field. Illustrations are copious and good.

As a service to interested readers, THE ARCHITECTURAL FORUM will undertake to order copies of books not conveniently obtainable locally, which have been reviewed in this department. Checks and money orders to be made payable to THE ARCHITECTURAL FORUM.
Specify Sloane-Blabon Linoleum
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This Game Room in Texas, by W. & J. Sloane, features Sloane-Blabon Plain Linoleum, with appropriate insets in contrasting colors.

Classroom in Severille High School, Severille, Long Island, Quiet, long-wearing Sloane-Blabon Linoleum was the logical selection.

An interest-attracting exhibit floor at San Francisco, with Sloane-Blabon Plain Linoleum in contrasting fields of Gray and Blue.

Office at Museum of Modern Art, New York. A Sloane-Blabon Linoleum was specified for its durability and economy of maintenance.

From New York to San Francisco—from Texas to Wisconsin there is a Sloane-Blabon distributor nearby to supply that fine quality Linoleum for which Sloane-Blabon has long been famous.

The Sloane-Blabon line is a complete one with a range of well styled designs and colors in Battleship, Plain, Jaspé, Inlaid and Marbletone that give you complete freedom in working out your interior schemes. Furthermore, being mill-sealed, a feature with Sloane-Blabon, our Linoleum meets specifications as delivered, thus reducing finishing time and cost. Since Linoleum must be waxed for proper maintenance, why not specify the Linoleum that reaches the job in that condition—Sloane-Blabon.

Whether the job is commercial, residential, or institutional, you will save money for the owner, by specifying "Sloane-Blabon Linoleum."

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A National Institution with Distributors Everywhere

We will be glad to send you a copy of the new Sloane-Blabon pattern catalogue in which you will find many helpful suggestions for fine floors. Architects are also invited to use our Architect's Service Department for help on any special floor covering problems or for any jobs that require something in an individual inset or custom made floorings.
For beautiful streamlined foundations
LUX-RIGHT STEEL AREAWALLS

for basement window wells
These durable steel window well walls put an end to ragged, crumbling foundation lines. For any type of residence, apartment, school or industrial building.

Architects and builders throughout the country have been quick to note the economy of Lux-Right Steel Areawalls—they never crack or crumble. Made in ONE piece of heavy-gauge, corrugated, rust-resistant, copper-alloy steel, they’re hot-dipped galvanized in pure zinc. After formation, easy to install. FREE folder AF30 gives full details. Write or wire.

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5. End Wabasha Bridge
Saint Paul, Minn.

Control for Double Acting Doors
Smother, quieter, safer, more positive control of the double acting doors in the kitchen—pantry—dining room area is supplied by this new LCN Overhead Concealed Closer, No. 422. Full rack-and-pinion action both ways. Centers door without flapping. No danger of sudden slaps. No cutting of floors. Simple to install and adjust. For details send for folder 339. Norton Laser Company, 466 W. Superior St., Chicago, Illinois. (Makers of LCN concealed and surface door closers in 86 types and sizes.)
EVERY BUILDING HAS ITS LIFE LINE

Every building has its life line, the place where the structure first begins to age.

By taking care to select enduring material for that critical area, you can add years of usefulness to the whole building.

Wolmanized Lumber* is made to give endurance at life line danger points. It stops termite and decay damage wherever penetrating or condensing moisture threatens damage.

In comparison with the cost of the repairs it prevents, the outlay for this protection is almost ridiculously low. In frame buildings you use Wolmanized Lumber for sills, joists, and subfloor, and that method safeguards the whole structure of an ordinary dwelling at less than 2% addition to total cost. In other types of construction, Wolmanized Lumber used for sleepers, subfloors, nailing strips, roof decking, and similar exposed points gives comparable protection, comparable economy.

Wolmanized Lumber makes a more enduring building, and a more satisfied client. Specify it by name, to be sure of getting material which is always treated under one standard specification, and sold under one brand, from coast to coast. We will be glad to send you complete information about using it. AMERICAN LUMBER & TREATING COMPANY, 1425 Old Colony Building, Chicago.

* Registered Trade-Mark

WOLMANIZED LUMBER
LUMBER FOR ENDURING, ECONOMICAL CONSTRUCTION
LETTERS

(Continued from page 58)

of builder, that to get an FHA guarantee, one needs to be in with just the right people. How this latter feeling has come about I cannot explain, but I know about the year-delay business from experience.

When businessmen wish to build or remodel, they want action—delays cost them money. Delays, to a huge octopus-like Bureau, are its bread-and-butter.

No, my dear Forum, there will be no rush for these insured mortgages.

RICHARD BANKS THOMAS
New York City

So far, it appears that 2,927, 048 individuals have been “in with just the right people,” for that many borrowers (as of Dec. 31, 1939) had obtained FHA-insurance on all types of residential property loans. However, The FORUM is keen to expose the weaknesses of Bureaucracy, invites Reader Thomas and any others, to submit evidences of some specific, unwarranted delays on the part of FHA.—Ed.

Allen Convenes
Forum:

The 28th annual convention of the Michigan Society of Architects held at Grand Rapids on March 15 and 16 encountered certain difficulties, all of which were surmounted by the acumen, intelligence and discretion of the general chairman of the convention, Mr. Allen.

In the first place the convention head-quarters was the Hotel Pauldine and by a strange prank of fate the hotel at the same time was housing a convention of Beauty Shop Operators. I went to the hotel management in a frank and manly way and objected to this.

“Why do you object to having beauty parlor operators convening here while the architects are in session, Mr. Allen?” inquired the manager, waving a tambourine.

“I don’t want our boys to get mixed up with a lot of pan handlers,” I replied. The manager laughed hollowly and added a 10 per cent service charge.

You can imagine with what horror the delegates greeted the news that the convention actually included business sessions. What will people think of next. This craze for novelty is the canker that is gnawing at the vitals of the ship of state; I attribute it to That Fellow In Washington. (I mean the other one; the one who keeps telling me I can’t deduct that from my income tax.) The business sessions were for the most part devoted to discussing the problems of the unification of the profession, my agents tell me. I was busy making smoker and banquet arrangements and also talking to one of the beauty shop operators, a lady with heliotrope hair, who informed me that her little salon is known as “The Peter Pan Beauty Shop; Bring in Your Pan Before It Peters Out.” She is a constant subscriber to The FORUM; she takes the spiral binding out and makes hair curlers from it. This is a waste of time; if she would just let her customers look at some of the photographs of non-Allen-designed buildings their hair would curl instantly.

The State of Michigan consists of two peninsulas; the upper peninsula is almost entirely surrounded by water. The lower peninsula is almost entirely surrounded by Albert Kahn.

The observation above has nothing to do with the convention; it just came to me in a flash. I keep having these flashes all the time; my doctor thinks I am reaping the bitter harvest of long years of eye strain. In my early days as a draftsman I worked in Smith, Hinchman & Grylls’ office in Detroit and the office was right across the street from the hotel. The hotel had a number of lady guests who were allergic to window shades.

The concluding event of the convention was a banquet at which the principal speaker was Dean Walter R. McCormack of Massachusetts Institute of Architects, who made a speech that contained more sound sense, more vision and more real inspiration than all the 25 other speeches at annual M.S.A. banquets put together. I regard Dean McCormack as a man of whom the profession can justly be proud; my admiration of him is only slightly dimmed by his openly expressed statement that every time The FORUM arrives he looks first to see what Allen said last.

ROGER ALLEN
Grand Rapids, Mich.

AZROCK... bowls 'em over

When covering floors, shoot for a high score with AZROCK Tile as your ball—a strike is certain. All tenpins will tumble down, for AZROCK meets all requirements.

AZROCK has beauty. Many all-the-way-thru colors and several sizes mean individuality for every floor. AZROCK is not expensive in first cost; its durability, the many years of service its use guarantees; the low overhead in the maintenance of an AZROCK Floor—all these add to the economy which AZROCK gives its users.

AZROCK is quiet and comfortable underfoot. It is moisture-proof as well as fire-resistant—cigar and cigarette "burn stains" wipe away in ordinary cleaning. And AZROCK is micro-cut by an exclusive process—lays up so close that no dirt can collect.

In specifying AZROCK Floor Tile, you recommend a product proven in installations throughout the United States and in several foreign countries. Whatever your problem... recreation center, office, store, theater, factory or hospital... there is an AZROCK Floor Tile to serve you.

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(In Business Since 1912)

Gen. Offices: San Antonio, Texas; Mines: Blewett, Texas; AZROCK Plants: Houston, Texas; Distributing Contractors: in principal cities of U.S.A.

AZROCK

(Continued from page 58)
Now...Specify Automatic Hot-Water Heat for Every small home

this Complete
PIERCE Oil-Fired Unit
is Priced to fit

Big-Boiler Efficiency at Small-Boiler Cost

At last you can do what you've always wanted to—specify "automatic hot water heat with year 'round domestic hot water" for the small home. And you can be sure that the heating unit will live up to your highest standards. For this is not just a big boiler stripped of features and scaled down in size. It is a boiler built especially for homes up to 6 rooms, planned and engineered for small-home use.

Back of its high efficiency stands Pierce's 101 years of experience and research in heating methods, plus a design that was created exclusively for oil firing. (Gas-fired units can be obtained if desired.)

The unit is shipped complete—with a high duty, high efficiency oil burner installed in a complete combustion chamber. That means you get all the tightness and trueness of structure that only factory machinery and factory methods can produce—a boiler with seamless asbestos gaskets throughout.

Write today for specification data...plus complete descriptive information. This information should be in the data file of every architect and specifications writer. Just sign and mail the coupon below.

PIERCE Automatic Heating Unit

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Without cost or obligation, please send me specification data and descriptive information on the new Pierce small-home heating unit.

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Company:
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APRIL 1940
YOU TAKE NO CHANCES WITH WARPAGE OR SHRINKING when you specify HASKELITE WOOD FLOORING.
Haskelite laid directly on concrete sub-floor in mastic. Notice the freedom from unsightly joints.

INSTITUTIONS: Haskelite—without expansion joints—provides hard-wearing, easily cleaned floors for schools, hospitals, public buildings, etc.

LIVING ROOM: Haskelite Flooring provides beautiful, non-warping floors at half the cost of other plank floors.

This Guarantee Protects Architect Builder Owner

"Haskelite guarantees that it will re-furnish any piece or pieces of Haskelite Compound Lumber Flooring showing separation due to glue failure caused by liquid or atmospheric moisture, hot or cold.

"Haskelite will re-furnish any piece or pieces of Haskelite Compound Lumber Flooring that shows an expansion in excess of three-tenths (3/10) of an inch per one hundred (100) inches. "This guarantee covers two complete annual cycles of weather conditions following date of completion of installation."

Not once, during the two years Haskelite Floors have been in actual use, has the company been asked to make good on this air-tight guarantee.

This one fact alone means plenty to the architect. It is proof of the most practical kind, that Haskelite Wood Block and Plank Floors STAY FLAT without cupping, buckling or warping. It provides the solution, once and for all, to the moisture problem as it affects ordinary wood flooring. It means the end of specifying wood substitutes where genuine wood floors are desired.

What is Haskelite? Haskelite is compound lumber, formed by permanently bonding together three selected veneers, in a way that eliminates the natural tendency of solid wood to expand and contract with changing humidities.

How About Cost? Instead of the premium you’d expect to pay for this "successor to solid wood flooring," it has in many instances a decided cost advantage. Installed cost of a Haskelite Plank is usually half that of any other type of plank floor. A Haskelite Block Floor can be laid in place at costs that compare favorably with other good block and parquet floors. And maintenance costs stay low for the life of the floor, principally because the floors stay flat.

Is Beauty Sacrificed? Not in the slightest. For a Haskelite Floor is real wood. It retains all the highly desirable beauty, warmth and charm of this material, while eliminating its undesirable qualities. It brings besides such important features as elimination of expansion joints, installation directly over concrete with complete safety, resistance to rats and other vermin—all "musts" in what an architect would call the "ideal" floor.

Send Now for Samples and Technical Data

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MAKE THE "Water Test" YOURSELF

If you want a first hand demonstration of Haskelite’s inertness in the face of humidity changes, do this: Put a block in water—overnight or longer. Let it dry thoroughly. Try to detect expansion when wet—contraction when dry—and there’s no ply separation for the glue is waterproof.
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CONVECTOR ENCLOSURES AGAINST RUST
at no extra cost

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Paint alone is not sufficient protection. Bonderizing seals the metal from moisture, making it resistant to the formation and progress of rust... and it anchors the prime coat of paint to the steel. Thus the main causes of paint failure are eliminated. Should the finish of a Bonderized enclosure front be chipped or scratched, progress of rust around the injury is effectively prevented. Any applied decorative finish lasts longer and keeps its fine appearance. Literature on request.

See your 'phone book for Modine representative's name in "Where to Buy It" section under Heating Apparatus.

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NO BOLTS, NO SCREWS
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modine
THE Convector WITH THE
MANUALLY REMOVABLE ENCLOSURE FRONT
The modern home really centers around an efficient plumbing and heating conducting system. For health and comfort it is the most important thing in it—it is just as essential that the small home be installed with a reliable plumbing and heating system as the large residence running into many thousands of dollars. Because a home is modest in cost is no reason why the plumbing or heating system should be of cheap rustable materials. Without reliable plumbing the most modern bathroom, kitchen and laundry fixtures cannot continue to give efficient service. Heating units cannot maintain their maximum efficiency with a system that gradually restricts flow, clogs and rusts.

**THE SMALL HOME.**

**THE PLUMBING PROBLEM.**

**THE SOLUTION.**

A STREAMLINE COPPER INSTALLATION

A STREAMLINE Copper plumbing or heating system is the solution and the most practical system to install. It combines low cost with long life and efficient service.

A STREAMLINE Piping System cannot rust or leak. It conducts hot water faster and with less heat loss by radiation than ferrous piping. It is your best insurance against future repair bills and costly damage from leaking water. It costs little, if any more than rustable piping. There are many copper systems but only one with all the advantages of STREAMLINE. STREAMLINE insures a lifetime, trouble-free plumbing or heating system that, with the possible exception of an extremely abnormal water condition, will outlast the building in which it is installed.

A STREAMLINE system makes any home more economical and comfortable to live in and easier to rent or sell at a profitable return.

The modern home really centers around an efficient plumbing and heating conducting system. For health and comfort it is the most important thing in it—it is just as essential that the small home be installed with a reliable plumbing and heating system as the large residence running into many thousands of dollars. Because a home is modest in cost is no reason why the plumbing or heating system should be of cheap rustable materials. Without reliable plumbing the most modern bathroom, kitchen and laundry fixtures cannot continue to give efficient service. Heating units cannot maintain their maximum efficiency with a system that gradually restricts flow, clogs and rusts.

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They also Serve who only
Stand and Wait
In the Week Before New Year's, 1940, Istanbul was quiet as Wall Street on a Sunday.

Robert Canuti, the AP's English-educated Turkish correspondent, hadn't had a first-class story for almost three months—not since the Turko-British treaty handed the Kremlin a short and snappy answer.

But while man was dozing, Nature woke. Beneath the surface of ancient Asia Minor, subterranean ledges lost their age-long balance, slipped and skidded sideways.

The first totals of homeless, dead, and injured—usually exaggerated in such disasters—were not exaggerated this time. Pictures that came by "slow camel" added to the terrible tale. It was the biggest earthquake story since Yokohama.

And Robert Canuti, his months of waiting ended, had it on the wires to waiting ended, had it on the wires to Moscow, soon at Brussels, soon at Brussels.

But the complete, the almost miraculous, world-coverage of the great Press Services comes from men who mostly stand and wait. Correspondents like Robert Canuti in the quieter capitals—and the thousands of "stringers," in the world's little towns and villages, so-called because they paste their infrequent dispatches into a string and measure their payment by the inch.

Men like these form the nerve ends of the wire services—indispensable divisions of journalism's army of 300,000 men.

The development of these world-wide Press Services, accurate, unbiased, and unsubsidized, is an American achievement. It is an outstanding example of American organizing genius—and it has all happened within the lifetime of most news-readers now living. More than that, the Press Services are the standard bearers, throughout the world, of the 20th century American tradition of accuracy and fair play in news-reporting. Something new under the sun.

It wasn't until the 1890s that the dream of the modern Associated Press began to take form. A few courageous pioneers—Victor Lawson, Frank B. Noyes, Melville Stone, and Adolph Ochs—worked zealously for it, and in time press associations began pointing eager fingers at the map of the world and putting new correspondents wherever a fat dot showed an important city.

By the time an emperor with a withered arm unleashed the hounds of war in 1914, U. S. Press Services had spun their webs around the globe. AP's now seasoned network was being kept on its mettle by a lusty young competitor, an independent service called United Press, fathered in 1907 by E. W. Scripps.

Due chiefly to the vision of these pioneers, the U. S., in less than half a century, has shed its news provincialism. Today... let a flood sweep down the Yangtze, a strike begin in Melbourne, a regiment revolt in Addis Ababa, and in a matter of minutes or hours the tele-types in the U. S. begin to chatter.

Press Association news is the breath of life. A paper pays for as much of it as it can afford and use. A country weekly can have as little as $18 worth a week, a metropolitan daily as much as $2,500. But whether a paper gets "pony" or multiple wire service, it counts its Press Association service as perhaps its most valuable asset.

Press Association news is just as indispensable to The Weekly Newsmagazine as to a daily newspaper. To be sure, TIME has its own special correspondents, too—its own force of 500 news-scouts—its own check-and-query system.

But the stories from the daring acrobats and the quiet watchers of the Press Associations supply a basic pattern of the world's news... the vital pattern, which in the Newsmagazine, becomes the continuing narrative of our times, followed every week by 700,000 cover-to-cover readers.
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3. What happens when water freezes in tiny pores in concrete and mortar?
4. Is there any paint that helps prevent mortar joints from crumbling?
5. Can a concrete building be painted as soon as the forms are removed?
6. What paint is being used on thousands of concrete swimming pools?
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3. When water freezes in tiny pores of concrete and mortar, it expands and may cause tiny cracks and the beginning of disintegration. Medusa Portland Cement Paint helps prevent water from entering the pores.
5. A concrete wall or building can be painted with Medusa Portland Cement Paint immediately after the forms are removed.
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