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THE

ARCHITECTURAL

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F O R U M

INCLUDING "BUILDING MONEY"

JULY, 1935

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RESPECTABILITY VERSUS ARCHITECTURE 1

Must the architect be bound by tradition or express it?

FEDERAL RESERVE BOARD COMPETITION 6

Nine invited firms compete. Mr. Cret's winning submission

EMERGING HOUSES, 1935 13

Is Prefabrication ready for the market? Four significant answers illustrating the progress made in cutting construction costs through standardized plans and factory units

General Electric Experimental House, Cleveland, Ohio, Hays & Simpson

Pierce Foundation Houses, Mount Vernon, N. Y., Neal M. Dunning

Berger Manufacturing Co. Houses, Bethesda, Md., Kastner & Stonorov

Motohomes, White Plains, N. Y., Robert W. McLaughlin, Jr.

A. I. A.'S SIXTY-SEVENTH 36

How far did the convening architects move towards an integrated building industry?

HISTORIC AMERICAN BUILDINGS SURVEY 39

Three distinguished early "Up-State" New York residences with photographs and measured drawings revealing characteristic details of design and construction

REVIVING MAIN STREET 51

What modernization under the new \$50,000 limitation can do for Main Street's merchants, a portfolio of "before and after" photographs of business properties

BUILDING MONEY 63

How the No. 1 West Coast subdividers capitalized on the Federal Savings and Loan plan to make Westwood Hills the busiest U. S. development (64)...What happened when an Iowa B. & L. experimented with a sliding scale of interest rates (68)...April residential construction leads the greatest building volume in five years (69)...Man of the Month: Stephen Francis Voorhees (70)...What qualifications are necessary to an RFC Mortgage Company loan (70)...How a Hartford lumberman profitably employed architects to replace stock plans (72)...Why local Public Works projects are nearer (74)...What an architect did that Tobacco Man Vincent Riggio collects on (75)...How houses can be sold at \$5.50 a week and no down payment (78)

DEPARTMENTS (in front advertising section)

THE MONTH IN BUILDING 3

Introducing a new feature of front page building news

LETTERS 7

Philip Lieber points to flaws in the FHA...Pantries and Prize Houses...George Francis Train

FORUM OF EVENTS 11

New World Fair Architecture...Competitions and Awards...More Government Murals...Bridges...Dean Hudnut goes to Harvard

PRODUCTS AND PRACTICE 15

Forest Products Laboratory applies the "stressed covering" principle to put all-wood construction in the prefabrication race

Editor, HOWARD MYERS, Managing Editor, RUTH GOODHUE, Associates, JOHN CUSHMAN FISTERE, LEONARD COX, ALAN JACKSON, ERNEST BORN, MAX FORRESTER, GEORGE NELSON, PAUL GROTZ.

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Number 1

THE MONTH IN BUILDING

VOLUME. Those who have been pinning their hopes for building volume on residential work were not disappointed with the May figures. The total for the month was \$25,418,766, a gain over April of 9.3 per cent and a gain over May, 1934, of 114 per cent. Because contracts under PWA lifted last year's totals to abnormal levels, total building construction was slightly off. For the month of May, contracts awarded in the 37 States covered by Dodge amounted to \$126,718,600 as compared with \$134,363,700 for the same period last year. The comparison between private undertakings was much better, however: \$79,575,300 for May of this year, and \$62,566,300 for May, 1934.

That residence work would hold up throughout the year seemed certain from the contemplated home building reported to Dodge of \$99,721,900 as against only half that for last year. The insistence of the PWA Housing Division that most of the contracts for its \$225,000,000 program will be awarded before the year is out will surely boost that total.

CODE END. Preserving the spirit, but only a few of the specific commandments of the Construction Code, was a noble experiment with which scores of building men were busying themselves last month. What to preserve and what to throw away had no one answer. Labor wanted high wages; architects and general contractors rooted for the bid depository as the only way of minimizing cut-throat competition; manufacturers for the most part fancied the "price stabilization" clauses; speculative builders of all kinds were happy to see the codes dissolved; and as for real estate brokers and managers, they had never taken the codes seriously in the first place.

Nearly everyone agreed that for the \$8,000,000 spent in administration of the 23-chaptered volume, they had received little for their money. Sentiment was heavy on the side of complete decentralization. Let any city that wants to have a code, have it—and let them make their own rules for enforcement. Some such plan seemed scheduled for New York, and for many of the other larger cities, especially where Builders Exchanges or Building Congresses were strongly organized.

The one thing that nearly everyone felt worth continuing was the integration of the industry, which had started before there was a code, and which had made lengthy strides in the process of code formation. Under the coordinating hand of

the Construction League of the U. S., it is possible that the gains made in this direction will be retained. Representing as it does the principal architectural, contracting and manufacturers organizations the League was more than any other group responsible for the framing of the codes. That it would continue to exert an integrating influence appeared likely when during the very week of the Supreme Court decision, the A.I.A. and the Producers' Council authorized the League executives to continue speaking for them in all code matters.

No group was happier to read the weighty words of the Chief Justice than the subdividers and speculative home builders. Their business had been built on their ability to take speedy advantage of local conditions. They had managed to get along without the aid of organized labor, and they resented heartily the attempts of the National Recovery Administration deputies to force them into an all-inclusive construction code. "We," they said, "employ the construction industry. Why should we be placed under the same restrictions." And no sooner had the codes been lifted than plans for group building, held in abeyance, were promptly filed for immediate construction.

In only one type of work will the old Code provisions be kept in 100 per cent effect—on Government buildings.

INTEREST RATES. When mortgage money is seeking borrowers, many a good risk has successfully pleaded his right to an interest charge under the prevailing rate. But for the first time, in one place at least in the U. S. last month it became possible for a borrower to earn without pleading a lower rate. That was in Mason City, Iowa, where a building and loan association revealed that it had worked up a series of qualifications on which to rate the character of the borrower and his property. The poor risk, if he was accepted at all, paid 2 per cent more for his money than the A risk. And while the low rate was only 6 per cent, the theory of sliding scale was received with wide interest among mortgage men. (See page 68.)

What had been prophesied as a move toward cheaper mortgage money by the RFC turned out to be nothing of the sort last month when the Jesse Jones cure-all agency announced that loans from the RFC Mortgage Company, a new branch for new financing and refinancing, would be made at 5 per cent. And it became fur-

ther apparent that loans at that rate or at any other from that source would be few and far between.

WAGES. Lower wages would start an immediate building boom, is a theory often expressed, but rarely so earnestly as it was in the June 15 issue of the *Saturday Evening Post* by the onetime board chairman of the Thompson-Starrett Company, Louis J. Horowitz.

Said he: "The urge to make the most out of our efforts is a human attribute. We all do it. . . . It becomes destructive only when excessive and unreasonable demands are accompanied by duress.

"Time and again, I have championed the cause of labor's rights. I now declare without qualification that a reduction in wage rates to workers in the building industry is imperatively required and is dictated by duty to country, by duty to society, by duty to their fellow workers . . . by an enlightened selfishness and proper regard for the best and permanent interests of the workers themselves and their families."

To support his contention Builder Horowitz quoted comparative labor figures for the U. S. and Great Britain:

	Wage Rates per 8-Hour Day 1916 to 1918	Wage Rates per 8-Hour Day 1935	Approximate Wage Rates in England Adjusted to an 8-Hour Day
Bricklayers.....	\$6.50	\$12.00	\$2.88
Carpenters.....	5.50	11.20	2.88
Electrical Workers	5.00	11.20*
Gas Fitters.....	6.00	12.00
Hoisting Engineers	6.50	12.00†
Laborers (average)	3.00	7.10	2.16
Marble Fitters...	6.00	12.00
Painters.....	5.00	9.00*
Plasterers.....	6.50	12.00	2.88
Plumbers.....	6.00	12.00	2.88
Steam Fitters....	6.00	11.20
Stonecutters....	6.00	12.00

*Denotes seven-hour day.

†Accepted under protest; claim \$13.20.

Pointing to Great Britain's national recovery through recovery of the building industry, he said: "In a word, the prevailing high scale of wages is almost prohibitive of new building and even of necessary repairs."

FINANCIAL SURVEY. The mind that pulsates more rapidly at the sight of a column of figures was certain to race in contemplation of the digits significantly put together in the Financial Survey of Urban Housing just completed by the Bureau of Foreign and Domestic Com-

(Continued on page 5)



Strong and safe yet low in cost

Here's the answer to the old dilemma of price versus dependability. Revere has perfected a new thru-wall flashing that is much stronger, safer and more efficient than plain sheet metal . . . yet it is considerably less expensive than the customary patented flashing.

The price is low because the Revere Flashing is simple in design, and can be manufactured in large quantities at comparatively low cost. Also, the availability of sales outlets through the country-wide organization of Revere Distributors allows still lower prices than would ordinarily prevail.

This new flashing is made of Revere Copper (soft temper) or non-staining Revere Leadtex (lead-coated sheet copper) for use with light-colored stone, terra cotta, etc.

The design is simple but effective. Parallel ribs are rolled at 3-inch intervals along the full width of the flashing. Em-

bossings are rolled between each rib. The parallel ribs permit a water-tight interlocking joint with two-inch overlap to form continuous flashing without the use of solder. The ribs also allow water to drain off quickly.

These ribs and embossings make an unusually tight bond between mortar and flashing, prevent all lateral movement of the wall, and allow for expansion and contraction. Because the ribs are rolled, they are of equal thickness with the rest of the flashing. Extending the full width of the flashing, they help provide a stiffened counter-flashing face.

The famous Cheney Flashing is also available at Revere Distributors, and is reduced in price. These two flashings will answer architectural requirements for every type of construction. Specification details will be sent on request. Address our Executive Offices.

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THE MONTH IN BUILDING

(Continued from page 3)

merce. Random facts culled from the summaries, (which are to be published and interpreted for use in the August issue of *THE ARCHITECTURAL FORUM*) are that in the 61 cities tabled:

Average annual home rental varies from \$146 in Paducah, Ky., to \$328 in Portland, Me.

Paducah was again low in the average value of owner-occupied homes with \$2,100; and Binghamton, N. Y., was high with an average of \$8,000.

The ratio of rent to income was generally found to be between 20 and 25 per cent. It was highest in Kenosha, Wis., where the typical Badger pays 28.1 cents out of every dollar in his pay envelope for rent, and lowest in Wichita Falls, where only 14.7 cents of each earned dollar goes to the landlord.

Cleveland's home owners live in houses valued at 4.5 times their average annual income, but in Des Moines the value of owner-occupied homes is only 2.2 times the annual income.

By last month the tabulators had not finished national averages, which rendered the presented facts interesting but not as significant as they might be.

MODERNIZATION. Ten thousand remodeled store fronts in two years is the sales record of the Pittsburgh Plate Glass Co., which began to bestir itself in an aggressive selling campaign in 1932. Last month that same company put on more steam to boost its volume under the amended National Housing Act which permits loan loss guarantees up to \$50,000 on income and non-residential properties. (See page 51.) Libbey-Owens-Ford was in the midst of a national store remodeling competition. By these and other tokens, it became apparent to the building industry that the FHA's "Modernize Main Street" campaign could bring some mighty results.

Remodeling loans filed under the Title I of the NHA were showing up better than before, with the weekly total well over \$3,000,000, and approaching \$4,000,000.

Under Title II, loans for new construction are now averaging about 35 per cent of the total insured, an increase of about 6 per cent since last month.

MORTGAGE BANK. An institution which has been six years in the planning stage got as far as being introduced to Congress in a bill offered by Senator Fletcher. It was the Federal Mortgage Discount Bank, child of the National Association of Real Estate Boards, calling for the establishment of an agency, partially

supported by private investment, part supported by Federal funds, to discount urban mortgages. (*THE ARCH. FORUM*, Feb. 1935, p. 178.) It had little hope of passing at this session, and no hope of passing if the Eccles Banking Bill, which by a different method seeks to do the same thing, is adopted.

HOUSING. When crusading women prod a Senator, expediency and gallantry compel him to obey. So it was that Senator Robert F. Wagner yielded to Constituent Mary F. Simkhovich and her friends, and introduced a bill that would create a permanent U. S. housing agency. In all probability, that will be the last of the Wagner Housing Bill—certainly the last of it at this session.

WORK RELIEF. Building men who put a question mark after the Public Works-Relief activities on their list of possible sources of business, crossed out the question mark last month, and drew a line through it altogether. Except for the Housing Division of PWA, large building projects will get little attention from the Public Works Allotment Board. As Secretary Ickes expressed it, "anything that takes a lot of steel, stone, brick and cement" will have a hard time qualifying.

Instead the money will go to projects that require nearly all labor and as little materials and equipment as possible. How such a program could possibly help the durable goods industries, which the Administration seemed at one time so anxious to help, remained a puzzle to which there was only one answer. It won't help at all.

Obviously annoyed by Colleague Hopkins' efforts to pre-empt all the funds the President had to spend, Secretary Ickes had his statisticians work up a table of figures to show that non-Federal projects, toward which the U. S. would contribute only 45 per cent of the money as a grant, cost the Government only \$959 a year per man, well under the \$1,100-\$1,200 limit set by the President. But despite the statistics, funds for such projects will probably run much less than the \$950,000,000 allotted to them.

Exempt from the low material cost rule which the President has imposed on all work projects, housing was expected to get its full \$249,000,000 share. Using that familiar Washington vagary—"all ready to go"—Housing Director Clas was positive that the contracts for all the buildings could be let within a year.

HOUSES AT AUCTION. To take a temperature reading of the real estate market, as well as to attempt to rid the guaranteed mortgage companies under its wing of a handful of their acquired properties, the New York State Insurance Department held an auction late month before last on Brooklyn's Montague Street, which is still

about the only street in New York City where a guaranteed mortgage man is looked upon with complete respect, and then by a fellow guaranteed mortgage man.

Heralded by Auctioneer Joseph P. Day as "the most psychological event in real estate in several years," and hailed as a success, despite the fact that only 8 of the 62 properties offered were sold, the sale lacked spark, due to the general frowziness of the offerings. Picked at random from among the holdings of the six companies represented, the listings told the sad and happy story that a big job of modernizing was yet to be done. Occupied at present with the task of proving its right to take over the reins from the Insurance Department, the new State Mortgage Commission, which is empowered to borrow and spend money directly for repairs and taxes on these properties (a \$50,000,000 job) predicted that any such spending was at least four months off.

The one redeeming feature about the auction was the reappearance of middlemen, from whom most of the bidding came with plans to modernize and resell, and this was sufficiently reassuring to make New York real estate feel increasingly cheerful about a returning market.

FHA RATE REVISION. One of the many complaints against the Federal Housing Administration's loan plan was the high charge for refinancing old mortgages, which amounted to something over 7 per cent. Last month Acting Administrator McDonald flattened all insured loans to the same rate—5 per cent interest plus $\frac{1}{2}$ of 1 per cent insurance (on the face value of the mortgage) and $\frac{1}{2}$ of 1 per cent service charge. The new rates are retroactive, so that borrowers who have paid on the old basis will be credited with the excess already paid in.

Two other major changes were announced:

1. A private investor can buy insured mortgages from now on, provided he enters into a trust agreement with an approved institution. The purpose, of course, is primarily to permit trust companies to invest the funds of their clients in insured mortgages.

2. A mortgagor can pay off his debt at any time before maturity date upon payment of a penalty of 1 per cent of the face value of the mortgage. In the past, no such prepayment was possible.

In addition to these, the Acting Administrator cut the required capital for approved mortgagees to \$100,000, thus opening the door for the hundreds of small mortgage companies which had been excluded by the old \$250,000 limitation. And to satisfy the mortgagees who have protested against the ruling which cut off their interest during the period of foreclosure, the rules have been changed so that the holder of a defaulted mortgage will receive interest from the day of default.



THE ROYAL FAMILY

YOU won't find him in Who's Who. His opinions on world affairs do not appear in the newspapers. He doesn't belong to swank clubs. In short, he's just an average citizen.

But in the moderate-cost, completely modern home his architect has provided he lives like a king. His family enjoys comforts and conveniences that not many years ago were denied even to the man of wealth. A retinue of servants are always ready to entertain, save steps, perform household tasks at the snap of a switch. Insulation, conditioned air and other features promote comfort and health. And a floor

structure built with Kalman Steel Joists offers security against the ever-present threat of fire.

Any home can be made fire-safe at an additional cost of only a few cents a square foot by the use of Kalman Steel Joists, combined with concrete floor slab and plaster. These joists give the home-owner other advantages, too. No shrinkage where walls and floor meet. Minimum transmission of sound and vibration. No possibility of damage by termites.

Any home is safer, a better place to live in, a sounder investment, when built with Kalman Steel Joists.

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LETTERS

Western Freaks

Forum:

To the little band of architects who, since 1900, have occasionally offered to BRICKBUILDER and FORUM Competitions designs that called for honest use of unashamed building material only to have them thrown out by Beaux-Arted jurymen, your April number brings mixed feelings.

If we could only rescue from the nation's attics the organic, indigenous, sensitive architectural designs in competition which never reached the light of publication these past thirty-five years, today's young enthusiasts, and their older retreating entourage, now scrambling over the pipe rails to board the good ship "Louie XIX 5/8" might find in these quaint contributions much thoughtful architecture. Although Crane Co. catalogue seems now the fertile source of "inspiration" the old tracing-paper-and-6-B system does seem definitely and happily passing out. Your April designers are at least trying to think about a life they have not yet had opportunity to live.

I wonder if the jurors of the Library Competition of 1903 are today wholly proud of their tessellated terra cotta awards? But do not assume that the single "contemporary" offering placed (9th?) arrived by means of jury approval. Mr. Rogers told me years later that out of his personal admiration for Mr. Louis Sullivan and his need for some editorial showmanship, he pleaded with the jury to give him just one Western Freak to liven up the issue. Thus the detested form and function spinach was let in.

In your newsy moving pictures Saarinen is seen looking at style-forms again—they even have a new name. In 1895 Saarinen looked at the picture of Sullivan's Transportation Building which in delighted amazement he had pinned above his work table. In Stockholm, 1906, I had too few Express Checks to reach Helsingfors and his beautiful Railway Station, and his other living works which not six architects in U.S.A. ever heard of until 1927. And now even the modern stylists, still tangled up with surface patterning, surrealist esquissings, fashion indicationing, can also look with condescension on the Chicago Tribune Tower, the last stand of the finally discredited system—but they yet don't know why!

WILLIAM GRAY PURCELL

Portland, Ore.

In BRICKBUILDER's (since 1917, The Architectural Forum) 1903 Library Competition modest Mr. Purcell's design is listed eighth, not ninth. First prize Frederick C. Hiron, New York, 2nd Calvin Kiessling, Boston, 3rd W. D. Crowell, W. S. Wells, H. W. Hathaway, Boston. Mentions Claude Fayette Bragdon, Rochester; Eugene Talbot Parker, Washington;

Israel Pierre Lord, Somerville, Mass.; James B. Arnold, Rochester; William Gray Purcell, Oak Park; Harry J. Schenck, Dayton; George G. Hill, Boston; H. Philip Wadsworth, Boston. Incidentally Mr. Hiron continued his winning streak by receiving first prize in the Davidson County Court Competition last month just 32 years later.—Ed.

Misunderstood Train

Forum:

I should like to offer criticism of the following passages in the article "An Outline of the Development of Real Estate in the United States," published in the May issue of your magazine.

1. "... George Francis Train, whose speculations in Western Railroads and railroad lands evaporated into malodorous scandals. Train died broke and probably insane, in New York in 1903 . . ."

Train, although one of the organizers of the Credit Mobilier of America, left that organization long before it became a Congressional scandal. To read the Congressional Record of 1873 will prove this. The original charter of the Credit Mobilier of America was called the Pennsylvania Fiscal Agency, and was owned by Duff Green. Train bought this charter for \$500 and sold it to the Credit Mobilier for \$100,000. The Credit Foncier of America was organized about the same time, under Nebraska law. I have not learned when it terminated. "Citizen" Train, as he called himself, did not die poor. His daughter had arranged for him to have as much money as he needed. Eccentric he certainly was, but was never proven insane although his sanity was questioned in 1873. The Train villa at Newport was sold shortly after his wife's death in the late Seventies.

2. "... Train never had much success in his enterprises . . . In Omaha, he owned 500 acres . . ."

That Train's enterprises were not successful is not entirely true. The records which I have consulted show that Train enjoyed considerable success in his ventures. Later events in his life, however, make him appear to have been less successful. For instance, he turned over a large part of his earnings to his wife. His daughter who inherited part of her mother's estate saw to it that he was comfortable in his old age. This dependency in his later years was not due to the lack of success in his earlier years. In Omaha, he owned 5,000 lots, 1,000 lots in Council Bluffs, Iowa, and 7,000 lots in Columbus, Nebraska. His enterprises in railways started in 1853 when in Australia, he organized the Hobson Bay Railroad. In 1858, he secured British capital for the building of the Atlantic and Great Western Railroad, now a part of the Erie System. He went to England, in 1860, and introduced street-railways into London, Liverpool and Birkenhead.

3. "... He was several times jailed in Ireland for making Fenian speeches . . ."

Train was arrested and imprisoned in Ireland in 1868 for making Fenian speeches

in America, copies of which were found in his possession.

4. "... his trip around the world is supposed to have suggested to Jules Verne his famous novel 'Around the World in Eighty Days' . . ."

D. Appleton & Co., the publishers of his autobiography, "My Life in Many States and in Foreign Lands," in 1902, had a research worker hunt for the truth of this statement. In a review of this book, the Sunday magazine section of the New York World, October 12, 1902, proves that this statement is correct.

On Train's death in 1904, his brain was examined by two doctors and their reports were that his brain was perfectly developed.

I have been collecting material on George Francis Train with the view of writing his biography. During the period I have met a number of people, now along in years, who knew him when they were only children.

George Francis Train was a very much misunderstood and underrated man . . .

JAMES E. MYERS

New York City.

To Reader Myers many thanks for further data on an American character.—Ed.

Disappointed

Forum:

. . . I hasten to send you a copy of the latest Housing Study Bulletin, in which I expressed quite frankly my disappointment in what the number turned out to be, including a criticism of our study at Columbia University.

HENRY WRIGHT

New York City

"Certain well-meaning efforts to cooperate with the FHA in its purpose are worth examination. Among these—one which held some promise in its original form—was the preparation last February of a special number of THE ARCHITECTURAL FORUM to demonstrate the possibilities for improvement in design and subdivision layout of small houses. The cooperation of the Columbia School of Architecture was sought and the results, including their studies, have just appeared in the May issue of THE FORUM. The original plan was to demonstrate in a comprehensive way the actual considerable advantages to be realized by the building of a group of houses over the individual building of a single house. The factors involved are reasonably possible of achievement, but require considerable intelligence and something more than well-wishing or a demonstration of how the usual wasteful proposition may be slightly improved through minor plan regulation. Much was accomplished in the later work of the 1918 war-housing developments which unfortunately has been entirely overlooked; it embraces the use of one or two simple base plans adaptable to placement

(Continued on page 9)

Before and...



after



LIGHTING
*plays a major
part in
modernization*



No matter how beautiful the interior of a store may be... no matter how attractive the merchandise... without proper lighting beauty is obscured and display value greatly hampered. Neither does efficient lighting consist merely of great volume of light and attractive enclosing globes. Rather it consists of a scientifically planned system and the careful selection of the right globes for the right purpose. It will be a pleasure for Macbeth illuminating technologists and craftsmen to cooperate with architects in the "Modernization of Main Street." Write for new color catalog illustrating many types of modern globes and containing technical data. MACBETH-EVANS GLASS COMPANY • Charleroi, Pennsylvania.

MACBETH



Illuminating Globes

LETTERS

(Continued from page 7)

in various positions, the standardization of mechanical parts (developed further at Radburn, where the entire kitchen, bath-room and stair section of the plan was constant), and finally the delicate technic of utilizing the simplest exterior design, dependent upon mass relationship rather than trivial gew-gaws to give the houses individual charm as integral parts of harmonious groupings. If we could really thus hold down the cost factors, while improving the product, and in addition apply certain rational economies in relation to street frontage and requirements of public utilities and their upkeep (which also have been fully demonstrated though little appreciated), there might be a chance of bringing the small house within the means of a considerably increased proportion of the income scale. What is required is both education and experiment of a very determined and fearless type. Because of the very land subdivision rules and zoning laws adopted for regulation in the past, efficient methods could be fostered only by an agency with national backing. Not wishing to appear to condemn such good as there is in customary zoning practice, it should be explained that in relation to community patterns, present zoning merely succeeds in inflating to a still more wasteful extent the backward and wasteful process of lining up houses in rows which consume a maximum of public frontage with a minimum of individual privacy."

"THE FORUM study got off to a bad start in a letter which accompanied its questionnaire to planners, declaring that the study was to be made in the interest of 'those who want "homes" and not housing.' This and the other questionnaires which have been featured in the magazine seem to yield little of import and rather demonstrate the disagreement and chaos of present ideas in respect to subdivisions. The Columbia University study, while valuable as a student project and not altogether void of suggestions for economies in terms of the rather high-cost community necessary to the assumed location, fails to go far in demonstrating the matters of greatest importance in the original purpose. These should have been a guide to the usual small developer of this type of house in the simplest terms of this relatively simple problem which he might have been expected to have the ability and patience to understand. The considerable number of attractive small plans are unfortunately not in most cases adaptable to simplified groupings and standardization of mechanical parts. The study does, however, reveal the practical difficulties of carrying out good intentions against the background of unregulated chaos and unappreciative attitudes on the part of those whose 'interest' lies in reawakening hopes for the unattainable ideal."

Erratum

Forum:

We are pleased to see a photograph of the chance of the East Liberty Presbyterian Church reproduced in "Panorama" in the June issue of THE FORUM. It should be called to your attention, however, that the architects were Cram & Ferguson.

RALPH ADAMS CRAM.

Boston, Mass.

To Cram & Ferguson apologies for an incorrect attribution.—ED.

Mr. Average Borrower

Forum:

... Speaking of the FHA—I am afraid that I cannot speak with impunity and send my thoughts through the United States mails. I shall merely say that the Federal Housing Administration has gummed up the home financing business in a great many localities. Resulting from propaganda demanding 5 per cent money, the Federal Housing Administration condones effective interest costs to borrowers from a minimum of 6½ per cent per annum to a maximum of 8 per cent, plus financing fees and what not. Dragged along by public clamor, many building and loan associations have had to offer to make FHA type mortgage loans in the knowledge that their regular building and loan plan is the better average borrower but unable to convince Mr. Average Borrower who, as you say, is attracted by the halo of "Government money." In this locality, to relieve ourselves from the interminable red tape, delays, and other objections of the FHA plan, we finally announced that we would make mortgage loans to prospective home builders at a net rate of 5½ per cent per annum interest on monthly reducing loan balances, at a total cost of \$25 for all preliminary work of putting the loan on our books. No service fees and no other costs. Of course, the inspection of the progress of the work and the supervision of construction costs the home owner a very small fee—1 per cent of the cost of improvements. This being in the nature of an architectural fee cannot be confused with cost of financing. It is my sincere belief that home financing would be much better off without the muddled waters stirred up by the Federal Housing Administration because there is no such thing as 5 per cent money and in many parts of the country the development of the Federal Housing activities is in the hands of men totally inexperienced in either the building or the mortgage loan business.

In order to test the services of the Louisiana Federal Housing Administration, I placed a loan on a new residence of my own on the 7th day of January, had the loan insured over long distance telephone and by telegram by Mr. J. Howard Ardrey himself, and my mortgage note still rests

in a pigeonhole in the New Orleans office, nearly four and a half months later, without being endorsed for insurance or returned to me.

And it is expected that there will be a boom in residence construction by such wonderful service as this.

The banks in this locality made a big display of promises in regard to the Federal Housing Administration, made four or five loans, then folded up and stated they would not make any more FHA loans until a National Mortgage Association is organized to take the loans off their hands without recourse. In other words, the banks are willing to take mortgage loans for the profit of the deal provided they do not have to remain responsible for their own judgment. It is the consensus of opinion of the building and loan folks of this country that the commercial banks have no business in the mortgage loan field. There is plenty of money available in the Federal Home Loan Bank System to finance required new home construction in this country. The Home Owners Loan Corporation, having already closed about two and one-half billions of dollars of mortgage loans, with the chances of closing another two billion before its activities cease, has been the chief instrument in creating a flood of money or credit among home financing institutions which should be more than sufficient to take care of needed new work in the immediate future. The intent and purpose of the National Housing Act was to encourage institutions heretofore unwilling to make mortgage loans to make them. Building and loan associations have not had to be encouraged to make mortgage loans. They have always made mortgage loans when they had the funds on hand and the moment the investing public ceased its exorbitant demands for withdrawals these associations got back into the lending business.

PHILIP LIEBER

Shreveport, La.

Spiral Binding

Forum:

As an ARCHITECTURAL FORUM subscriber I am enjoying the use of your spiral binding scheme. This type of binding has many obvious advantages over the usual binding and is especially well adapted to use in the collections of personal architectural data.

I have a collection of plates and ideas I would like to have bound in this fashion. The sheets are cut to an 8 x 10 in. size, and they pile up to a thickness of about an inch.

Would it be possible to have this data punched and bound with a spring?

J. RUSSELL BAILEY

Southampton, N. Y.

THE ARCHITECTURAL FORUM can arrange to have prices quoted and plates so bound.—ED.

Republic

HELPS MAIN STREET TO "SNAP OUT OF IT"....

Merchants on Main Street are reaching out after new business. Old drab store fronts, theatre and hotel entrances, automobile display rooms and commercial buildings of every type are being replaced or remodeled in the struggle to attract the buying public's money.

ENDURO, Republic's Perfected Stainless Steel, is playing a prominent role in the designing of modern building exteriors and interiors. Its silvery beauty is permanent. Weather has no effect upon it. It is easily fabricated to special architectural shapes—narrow trim for windows, display cases, tables or partitions—wide-formed parts for spandrels, Mullions, window panels and similar uses. It is stronger than ordinary steel. It is easy to keep clean.

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A new automobile sales and service building with showroom entrance doorway, window trim and turret of ENDURO.



New display frames, cashier's box and marquee made of shining ENDURO attract theatre-goers at a famous seaside resort.



This old-style building was modernized with colored blocks, vitreous-enameling on Toncan Iron Enameling Stock and edged with ENDURO.

FORUM OF EVENTS

AWARDS, COMPETITIONS

OVER a coast to coast broadcast arranged by the Columbia Broadcasting System Richard J. Neutra of Los Angeles was awarded this year's gold medal in the Better Homes in America architectural competition. Perspectives and photographs of the winning house (designed for Mr. William Beard of Altadena, Calif.) were published in THE ARCHITECTURAL FORUM for April. Modern, like all of Neutra's work, the Beard house is constructed largely of prefabricated units and is designed to be tornado and earthquake proof. The exterior is sprayed with aluminum paint to reflect heat. Members of the jury were Joseph Hudnut, Dean of the School of Architecture, Columbia University, chairman; and Architects Roger H. Bullard, George Howe, Harrie T. Lindeberg, Kenneth K. Stowell. The broadcast originated from "America's Little House," Roger H. Bullard and Clifford C. Wendehack, architects, the model home erected by Better Homes in America in cooperation with Columbia Broadcasting System on Park



International Commercial Photos

MOST BEAUTIFUL \$1,000,000 BRIDGE

Avenue and 39th Street, New York City (ARCH. FORUM, Feb., 1935, p. 173).

AWarded prizes in the seventh annual bridge competition of the American Institute of Steel Construction as the most beautiful steel bridges built last year were the Bourne Bridge across Cape Cod Canal at Bourne, Mass., and the Douglas County Bridge No. 667, a grade separation bridge between Road 44 and the Dodge Arterial Highway, near Omaha, Neb. This summer the bridges will be decorated with a stainless steel plaque by the American Institute. The Bourne Bridge, winner in Class A (costing \$1,000,000 and over), was designed by Fay, Spofford and Thorndike, Engineers, of Boston. Fabricated by American Bridge Co., it is a Federal Works project and the property of the U. S. Government. The three main spans are of the continuous type, with an arch over the Canal (see cut).

The Douglas County Bridge, winner in Class C (less than \$250,000), was designed by Guy Dorsey, Assistant County Surveyor of Douglas County, Neb., and was fabricated by Omaha Steel Works.

There were no first prizes in Class B (\$250,000-\$1,000,000). Honorable mentions were given in Class B to the grade crossing elimination bridge carrying the Michigan Central and Grand Trunk Railroad over Woodward Ave., Detroit; and in Class C to the Eel River Bridge at Smith Point, Humboldt County, California.

The jury consisted of Dean Frederick Skene, School of Technology, College of the City of New York; Dean E. R. Bossange, College of Fine Arts, New York University; F. E. Schmitt, Editor *Engineering News-Record*; Prof. George E. Beggs, Department of Civil Engineering, Princeton University; Paul P. Cret, architect, Philadelphia.

THE jury for the Federal Reserve Board Competition awarded the commission to Paul Philippe Cret. Second place went to John Russell Pope, New York City, and third to James Gamble Rogers, New York City. Nine architectural firms were invited to submit designs for this new \$2,000,000 building in Washington, D. C. The jury consisted of John Mead Howells, chairman; John W. Cross, William Emerson, Frederic A. Delano, architects; and A. C. Miller of the Federal Reserve Board. Dean Everett V. Meeks of the Yale School of Fine Arts was Professional Adviser.

THE A.I.A. competition for the new \$2,000,000 Davidson County Court House (Nashville, Tenn.) was won by Frederic C. Hiron of New York City and Emmons Woolwine, Nashville. Second place went to Paul Philippe Cret and Henry Hibbs, Nashville.

THE Graduate School of City Planning of Harvard University and the Harvard Traffic Bureau announce a \$1,200 Fellowship, given by the Automobile Manufacturing Association, for an approved program of intensive work upon joint problems of city planning and traffic control engineering under the direction of the School during the coming school year. The Fellowship will be awarded to Bachelor degree men (since January, 1, 1933) of any recognized university or college on the basis of scholastic achievements and a 1,500 word paper on "The Respective Fields and Interrelations of City Planning and Traffic Control Engineering in the Solution of the Vehicular Traffic Problem." Competition closes August 1. Information from Chairman, School of City Planning, Robinson Hall Annex, Cambridge, Mass.

THE Beaux-Arts Institute of Design Traveling Scholarship in sculpture, valued at \$1,200, was awarded to John Amore, 23, of the Bronx, N. Y. Mr. Amore, an Italian born U. S. citizen, is the twelfth and last recipient of the scholarship. Owing to lack of funds both the scholarship and the department of sculpture itself will be discontinued. The low tuition at the institute accounts for only a very minor part of the organization's income. In previous years, scholarships have been paid out of the proceeds of the Beaux-Arts Ball, one of the fashionable events of the New York season. Lately, however, the balls have not been signal financial successes.

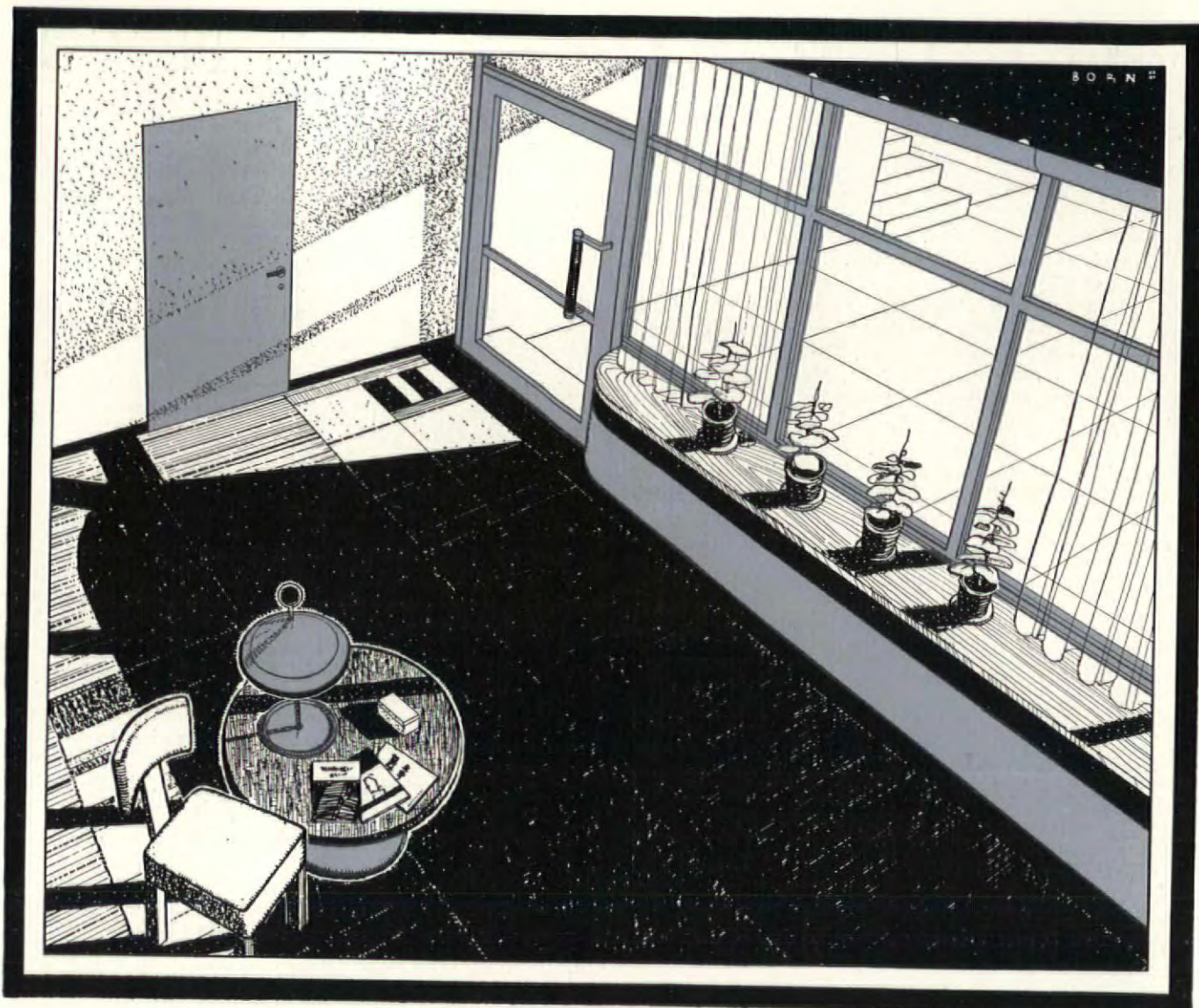


MOST BEAUTIFUL \$250,000 BRIDGE

THE McKim Fellowship of the School of Architecture, Columbia University, was awarded to Mrs. Florence Delport Bezy, 23, wife of Pierre Bezy, a Columbia instructor in architecture. Mrs. Bezy is the first woman to win the fellowship.

HOUSE Beautiful is conducting its eighth annual small house competition. Prizes will be given in three classes: new houses of eight rooms and under; new houses of 9-12 rooms; remod-

(Continued on page 13)



THE WINDOW . . .

For structures of monumental importance, for those of domestic simplicity, Alcoa Aluminum serves ideally in the construction of that important element of design . . . the window ★ Reasonable first cost, intrinsic beauty, negligible maintenance . . . are all attributes of this appealing metal. Architects' designs can be developed in extruded mouldings, bar, tubing, plate, castings ★ Leading manufacturers offer standard assemblies of all types . . . double-hung, casement, factory sash. The "Alumilite Process" now heightens the resistance of Aluminum to the elements ★ Aluminum Company of America, 1866 Gulf Building, Pittsburgh, Pa.



FORUM OF EVENTS

(Continued from page 11)

eled houses of not more than 12 rooms. The competition calls for photographs of the entered houses. Information from *House Beautiful*, 572 Madison Avenue, New York City. The competition closes October 15 and the prize winning houses together with a number of other submitted houses selected by the editors will be published in the January, 1936, issue of the magazine. For each house published (with the exception of prize winners) the magazine will pay an additional honorarium of \$50.

¶ Marietta, Ohio, is planning for 1937-38 a great celebration of the 150th anniversary of the passage of the Ordinance of 1787 and the settlement of the Northwest Territory. President Roosevelt has endorsed the program and gone on record as hoping "to see the most helpful cooperation both on the part of the Federal Government and of your historic States (the Northwest: Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota) in the commemoration of an event so full of meaning both to our past development and to the principles of freedom and progress for which we must ever stand." As tentatively planned, the celebration will include a pageant in New York City celebrating the enactment of the ordinance by Congress sitting in that city and a wagon trip from Ipswich, Mass., bound "For the Ohio Country" which would duplicate the original pioneering trip.

An architectural competition for a memorial to the Ordinance—a combined civic auditorium and city building for Marietta, will also be held. Preliminary competition, open to all A.I.A. members, opens July 1; the selected architects will enter a final competition closing September 1. First prize, 5 per cent on building, second prize, \$1,000; third prize, \$750, fourth, \$500. Total estimated cost: \$250,000. Howard Dwight Smith, A.I.A., of the Architectural School of Ohio University at Columbus is Professional Adviser and competition specifications may be obtained from him. Says E. M. Hawes, member of the temporary committee: "This contest is one of far greater interest than the commission involved, for the building will attract national attention."

¶ Paul M. Heffernan, 26, of Ames, Iowa, won the 28th annual Paris prize of the Society of Beaux-Arts Architects. He will go to Paris for the two and a half year course in architecture. One of four finalists from 349 competing students, Mr. Heffernan spent three week-ends locked in a cubicle in the Beaux-Arts Institute in New York City working on his problems. This system supplanted the old system of permitting entrants to work out their problems in their colleges and with the help of instructors. After graduation in 1929 from Iowa State College Mr. Heffernan attended the Foundation for Architecture and Landscape Architecture at Lake Forest, Ill., where he won a scholarship given by Condé Nast. In 1930 he returned to Iowa State where he obtained a Master of Science degree in architectural engineering. He receives a Master of Arts degree from Harvard University Graduate School this summer.

HUDNUT TO HARVARD

OFTEN reputed the best job in architectural schools is that of Dean of Harvard's Faculty of Architecture.

For some time rumor has been rife with the names of new deans to succeed Dean George Harold Edgell. Only fact known was that Dean Edgell had resigned to become Curator of Paintings in Boston's Museum of Fine Arts. Last week came the announcement of the appointment of Columbia's

Dean Joseph Hudnut to the Harvard post. Thus Dean Hudnut's widely discussed educational theories were given a chance to spread to an even larger field than Columbia afforded.

Pending the selection of a new dean to succeed Professor Hudnut, the Board of Trustees appointed a committee of professors to carry on Dean Hudnut's policies. This committee has for Chairman Leopold Arnaud, Assistant Professor of Architecture. The other members are Cecil C. Briggs, Assistant Professor of Architecture and Jan Ruhtenberg, Associate in Architecture.

PURDUE RESEARCH

IT is hardly news to read that most materials available to U. S. consumers are first tested for wear and tear by their manufacturers. It is, however, news to read that an entire community of small houses is to be so tested. This novel and important test is the latest task that the Purdue University Research Foundation has set for itself.

In Lafayette, Ind., David E. Ross, president of the Purdue Board of Trustees and president of Ross Gear and Tool Co. acquired 143 acres on which from ten to twenty homes will be erected. The homes will be built partly with FERA labor and with some Government financing. They will then be rented on a no profit basis to members of the faculty who will live in them and keep laboratory notes about their condition, the workability of their planning, etc. In addition, Purdue intends establishing an "all-weather laboratory," large enough to contain a full-sized house. Here artificially controlled temperature and humidity will duplicate any climatic conditions a house is likely to be subjected to in any part of the world.

The scheme was announced at a meeting last month at Purdue at which Owen D. Young was one of the principal speakers. The importance of such laboratory tests to architects, builders, and the public was pointed out to be of unusually great importance. Two committees, including many appliance and building material men, subdividers and architects, were appointed to assist in carrying out the program. The homes will be built for the \$2,000-\$2,400 income class. The tract on which they will rise is both hilly and level, thereby avoiding the danger of too individual a solution in the community planning. Socially and scientifically, Purdue's research promises to be one of the most important contributions to the study of small homes that has been offered anywhere in the U. S.

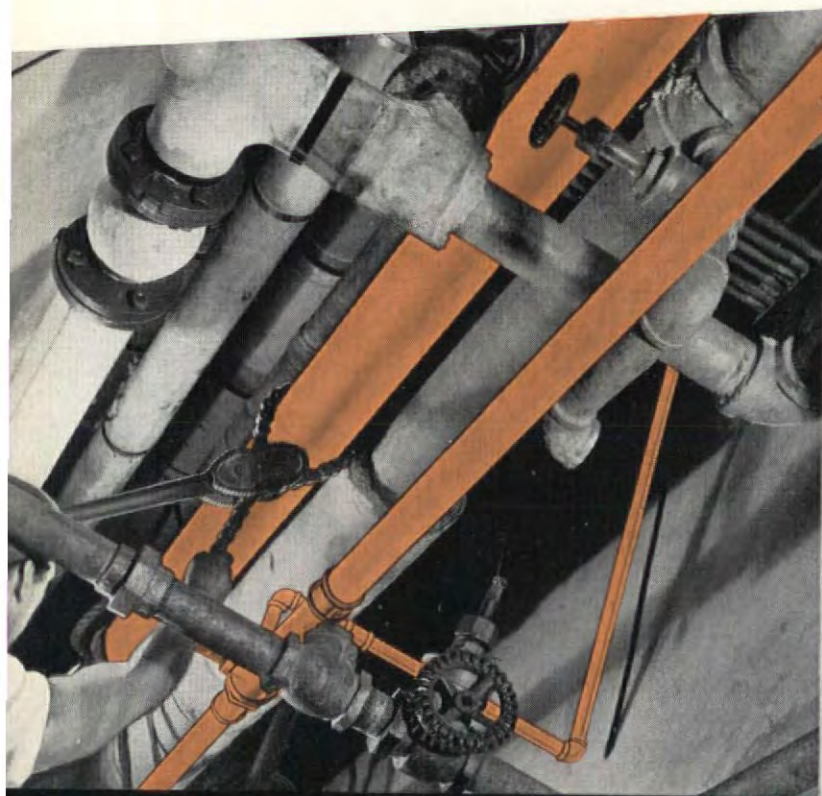
GEDDES, HOWE

THE arts allied to architecture are many. Since Michelangelo and before the muralist and sculptor have been close collaborators. So, lately, have the electrical engineer, the manufacturer of appliances. Recently a new and at first apparently independent profession has loomed large on the artistic and industrial horizon of the U.S. The industrial designer is supposed to be an authority on consumer research, to have an eye for beauty, utility, economy. From Walter Dorwin Teague, George Sakier, Gustav Jensen came a profusion of newly designed cameras, glassware, sinks. These sold and were popular. But the industrial designers, several of whom started as designers of scenery, were not content with this. You read that Teague had designed a train interior, that Henry Ford called him in consultation when he wanted a San Diego Fair

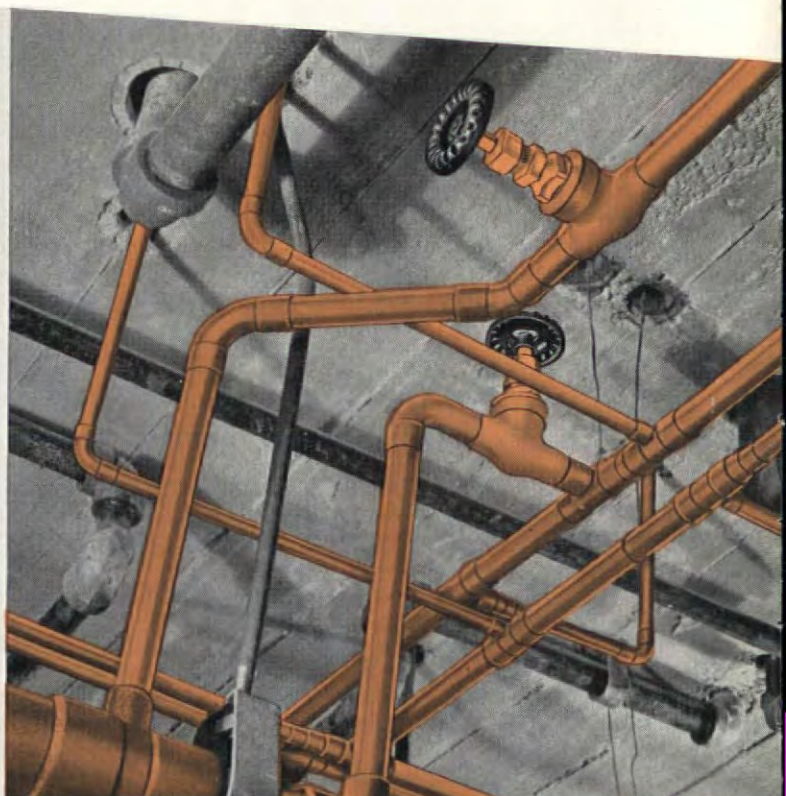
(Continued on page 28)

Modernize with BOTH-

Plumrite Brass Pipe BRIDGEPORT Copper Water Tube



Replacing old rusted hot-water lines with Bridgeport Plumrite Brass Pipe. Old lines later removed.



Hot and cold water lines of Bridgeport Copper Water Tube, with soldered fittings.

BRIDGEPORT Plumrite Brass Pipe has earned its popularity because it combines quality and dependability. Bridgeport Copper Water Tube is also having greater and greater demand as a piping material. Both are rust-proof, insuring clean, free-flowing water the entire life of the building.

What type of job calls for brass pipe? What type calls for copper water tube?

The *finest material that can be used* is Bridgeport standard pipe size Brass Pipe—throughout any building. Especially advisable in larger struc-

tures where rugged strength to stand the stress of generations of use is required.

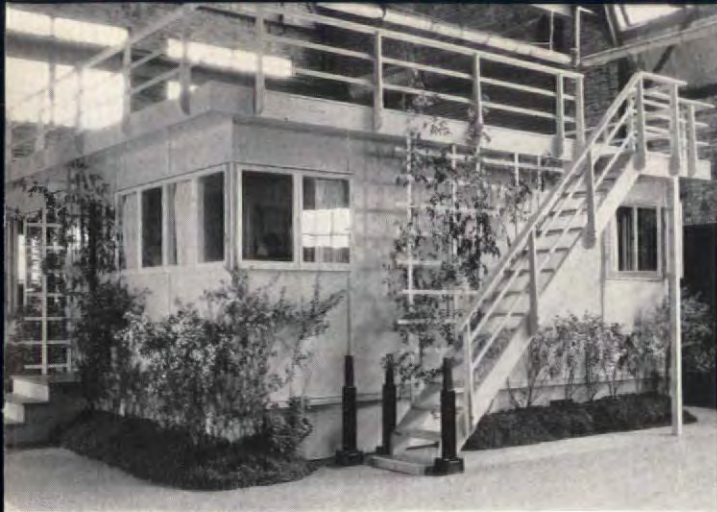
Copper water tube is recommended where building budgets are limited. It gives a *rust-proof* job at prices competing with rustable pipe. For underground service, fuel oil piping, steam and hot water lines, etc., copper tube is excellent.

Write for free booklets, "Water Pipe Sizes" and "Bridgeport Copper Water Tube." They contain interesting information.

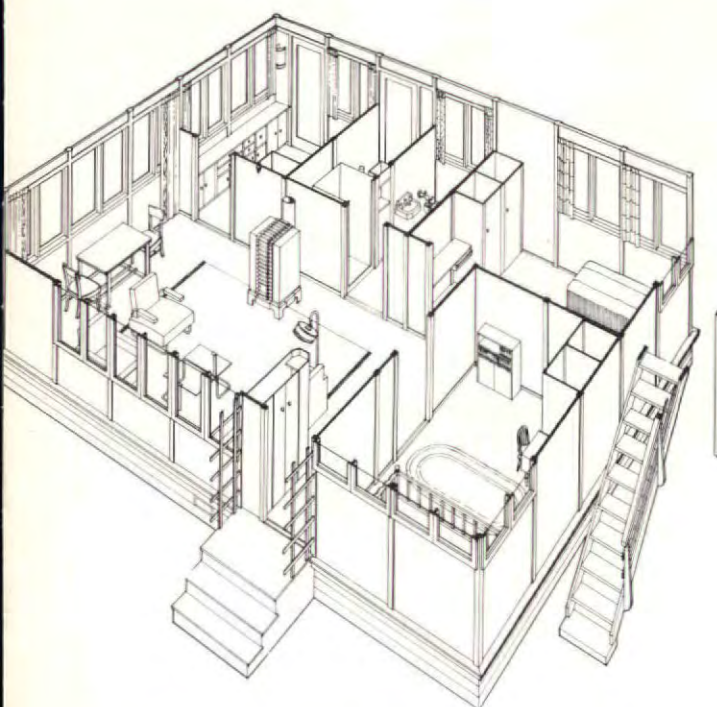


BRIDGEPORT

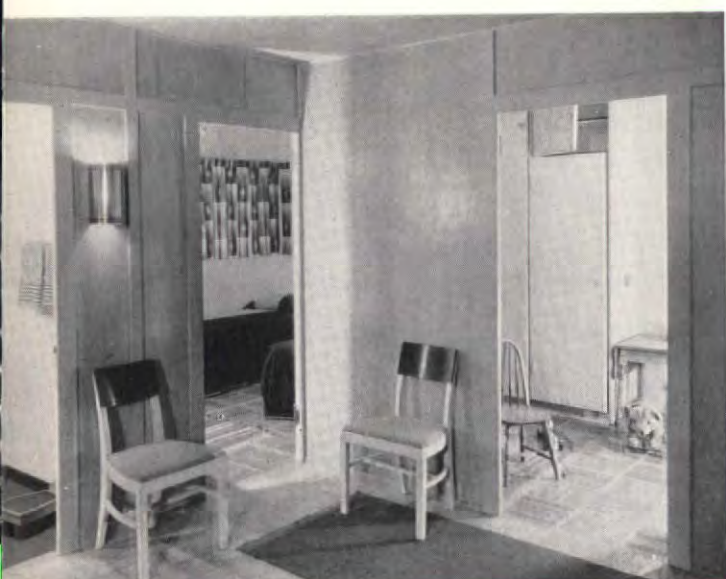
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EXTERIOR VIEW



INTERIOR ARRANGEMENT



TYPICAL INTERIOR

PRODUCTS AND PRACTICE

The lumber industry takes steps to join the procession of those seeking new markets through prefabricated houses.

WOOD as a construction material lingers in the preindustrial era, a raw material among processed competitors. When, therefore, the *Forest Products Laboratory set out to replace rule-of-thumb wood construction methods and wasteful hand labor on the site with scientific engineering data and precision machine work in a shop, the project promised a thoroughgoing break with tradition.

The result was just that; for the full scale model house built at the Forest Products Laboratory is indicative of the completely new role that wood will play when it submits to industrialization. This little house gives promise of a new era of wood construction which will do much to achieve the low-cost dwellings so urgently needed.

The structural system embodied in the demonstration house is an application of the "stressed covering" principle. Shortly after the World War the then current practice of covering the framework of airplane wings and fuselage with fabric was largely abandoned for a more efficient system in which the covering became an integral member which aided in resisting stresses, both bending and torsional. More effective performance and the elimination of much dead weight have made this system universal aircraft practice today.

Tests made at the Forest Products Laboratory on various methods of sheathing wood structures produced interesting data. It was discovered that the resistance of a frame wall to a static load applied in the plane of the wall when sheathed with well-nailed $\frac{1}{4}$ -in. plywood is about the same as with diagonal 1-in. sheathing. With $\frac{1}{4}$ -in. plywood glued to the studs, rigidity is produced far in excess of any ordinary requirement.

A second sheet of plywood glued to the opposite face of the studs produces a stressed-covering condition in which the faces of the panel act as the flanges of a box girder. This stressed covering idea was so promising structurally that tests

* Maintained at Madison, Wis., in cooperation with the University of Wisconsin. This information based on notes supplied by George W. Thayer and Hamilton Beatty.

(Continued on page 36)

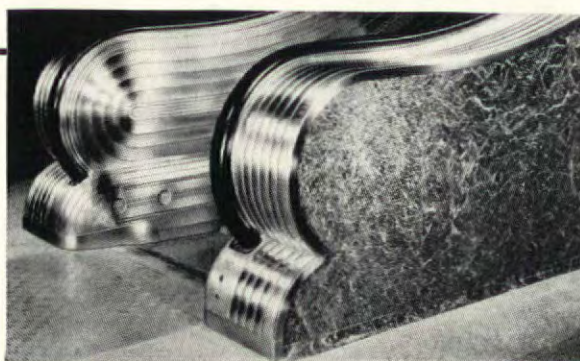
Architects: Reinhard and Hofmeister, Corbett, Harrison and McMurray, Hood and Foulhoux
Consulting Engineer: Clyde R. Place *Builders:* John Lowry, Incorporated



Offer more than one ground floor in your plans

HERE'S an idea that's taking hold — the converting of second floors or basements into ground floor space by installing Escalators. It is a plan that is particularly appealing for office and mercantile buildings, since it provides twice the space for shops and the good rentals that accrue to owners from long-time leases. It is one that can be worked in existing buildings as readily as in new structures. The cost of amortization, interest, power, and maintenance is so moderate on this type of Escalator installation, it will be found that in many cases the increased rentals make it a splendid investment.

We ask you to note this type of Escalator installation in the two photographs on this page. Here is shown the Otis Escalator installation in the International Building, Rockefeller Center, New York City. These Escalators furnish first-floor



convenience to both the second floor and the concourse. Note modern design and finish. And the mechanical features are just as modern as the beautiful balustrading. In fact, these Escalators move so silently, you can hardly hear them.

A new transportation idea — and transportation that is as modern as the idea.

OTIS ELEVATOR COMPANY

F. O. Washam

... knows how to **RUN**
SCHOOL CAFETERIAS..



... knows how to
Equip them too!

A typical installation of Monel Metal Cafeteria Equipment in the Senn High School, Chicago. A similar installation is in the Steinmetz High School in Chicago. The above installation was made by Daparquet Range Company, while the Stearnes Company made the installation in the Steinmetz High School.

F. O. WASHAM (photograph in oval) is an expert on restaurant management. And an authority on restaurant equipment. Long experience as manager of industrial restaurants and chains of cafeterias. In 1934, appointed Director of the Bureau of High School Lunch Rooms of the City of Chicago.

Mr. Washam's bureau operates 52 high school lunch rooms. In 1933-34, a deficit of several thousand dollars—this year a slight profit in spite of rising food and labor costs. And, most important of all, a 23 per cent increase in the popularity of the lunch rooms with students.

Mr. Washam has set aside \$2,500 per month to build up equipment to

modern standards. Illustrated above is his idea of an up-to-date school cafeteria. With serving counters of gleaming Monel Metal.

Monel Metal's smooth silvery surfaces make food look more inviting. A minimum of effort keeps them clean and sanitary. And they withstand all kinds of hard knocks—are rust-proof, chip-proof, crack-proof, accident-proof.

Write for further information on Monel Metal restaurant equipment—

and on Monel Metal sinks and cabinets for domestic science departments. Let us mail you a free copy of an informative booklet entitled "The Selection of Food Service Equipment." It is profusely illustrated with actual photographs of Monel Metal installations in many types of institutions—a useful book to have in your files.

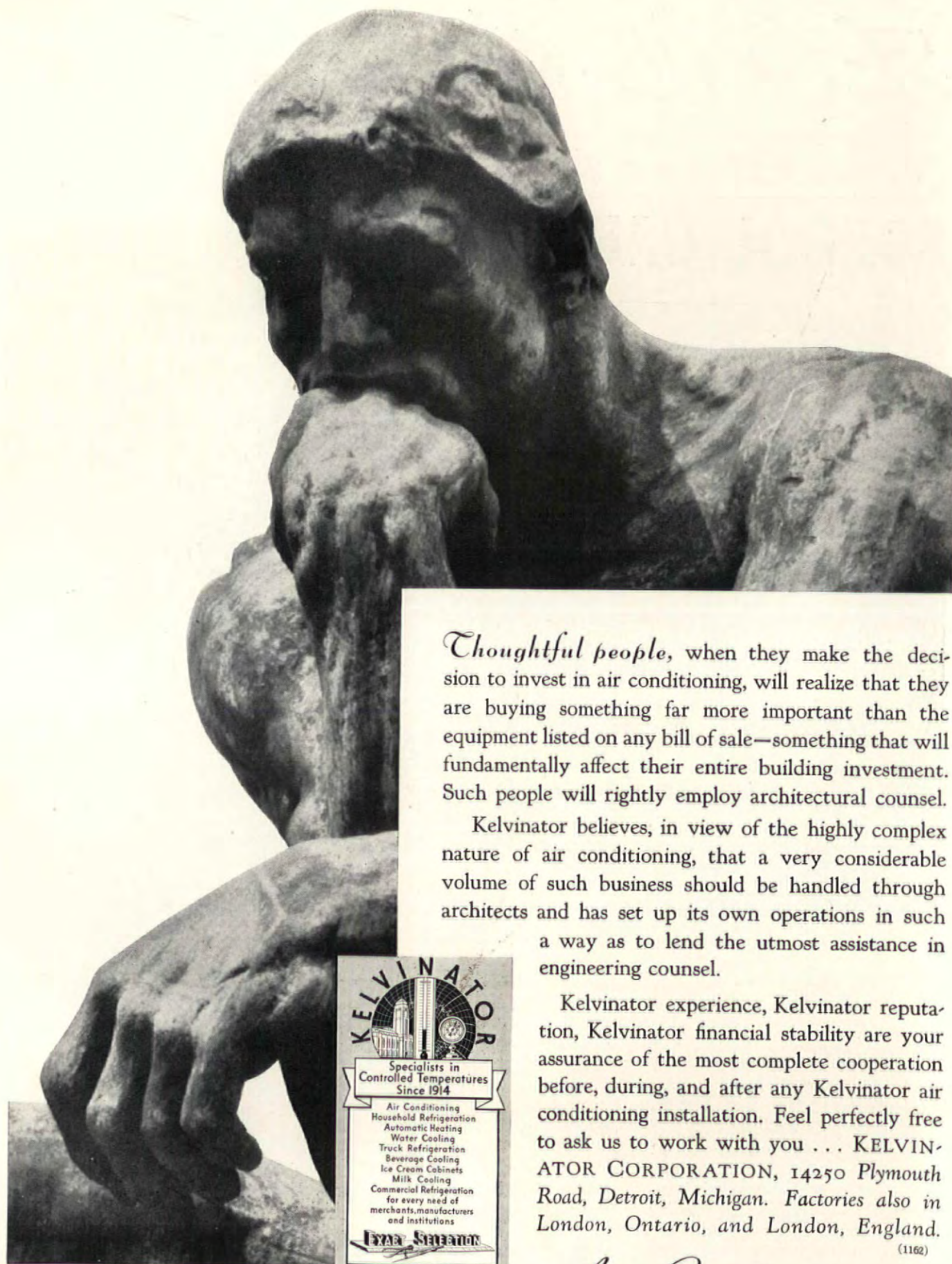
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MONEL METAL



Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.





Thoughtful people, when they make the decision to invest in air conditioning, will realize that they are buying something far more important than the equipment listed on any bill of sale—something that will fundamentally affect their entire building investment. Such people will rightly employ architectural counsel.

Kelvinator believes, in view of the highly complex nature of air conditioning, that a very considerable volume of such business should be handled through architects and has set up its own operations in such a way as to lend the utmost assistance in engineering counsel.

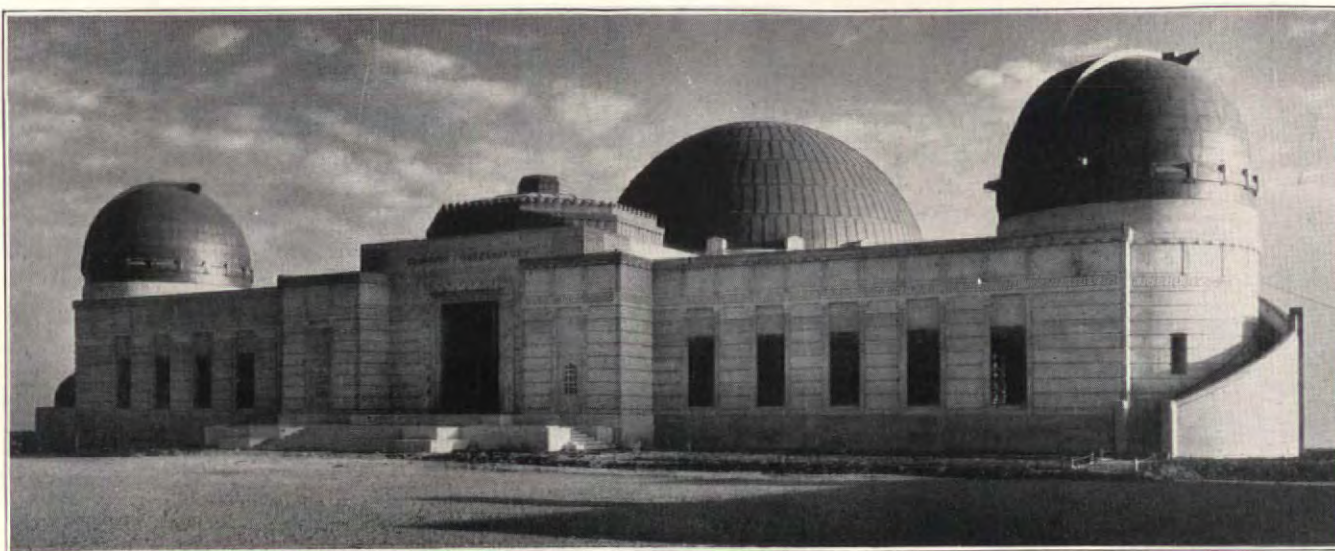
Kelvinator experience, Kelvinator reputation, Kelvinator financial stability are your assurance of the most complete cooperation before, during, and after any Kelvinator air conditioning installation. Feel perfectly free to ask us to work with you . . . KELVINATOR CORPORATION, 14250 Plymouth Road, Detroit, Michigan. Factories also in London, Ontario, and London, England.

(1162)



KELVINATOR

Air Conditioning



Griffith Observatory and Hall of Science, Hollywood Mountain, Los Angeles, California. Built for the ages of monolithic concrete. Austin & Ashley, Architects, William Simpson Construction Co., Builders, Los Angeles.

Generations Yet Unborn will admire and enjoy this monument of **MONOLITHIC CONCRETE**

"FOREVER AND EVER" men may search the eternal stars from the Griffith Observatory and Hall of Science. All that men have learned about building since they labored on the pyramids, was available to those who planned it. They demanded a structure that would rest in distinctive beauty on the everlasting slopes of Hollywood Mountain,

defying time and fire and storm and decay and even earthquakes. Monolithic concrete was chosen as the ideal means of attaining all these objectives.

Exceptional care was exercised in the selection and grading of aggregates. The proper cement-and-water ratio was rigidly adhered to. All concrete was adequately manipulated. Rustication, vertical ornaments and other architectural features made it possible to deposit concrete in masses of reasonable size. Scientific design was matched by conscientious supervision of construction.

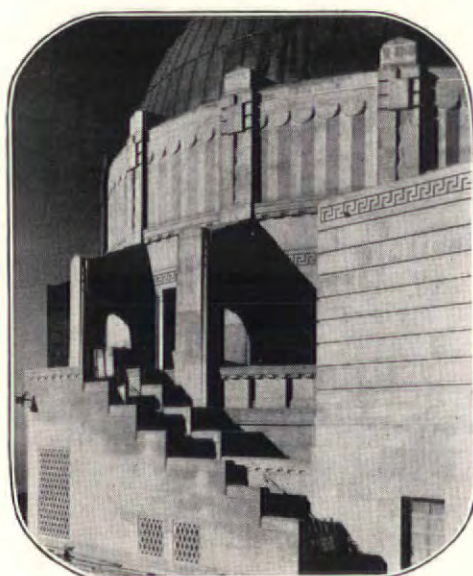
The architectural and form details of Griffith Observatory are described in one of a series of monographs. A second monograph gives typical specifications covering all phases of monolithic concrete building construction. Others will contain standard details of windows, doorways, parapets; every part of a building will be included.

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Detail of Griffith Observatory. Domes over the Planetarium and the Foucault Pendulum are of concrete and copper.

Washington's Triangle

And in all of these new Federal buildings Armstrong's Cork Insulation products insure greater comfort and economy.

SIX new government buildings in the nation's capital stand forth as one of the most interesting architectural groups in that city of imposing structures. All are situated on the 70-acre triangle formed by the intersection of Pennsylvania Avenue and Constitution Avenue in downtown Washington.

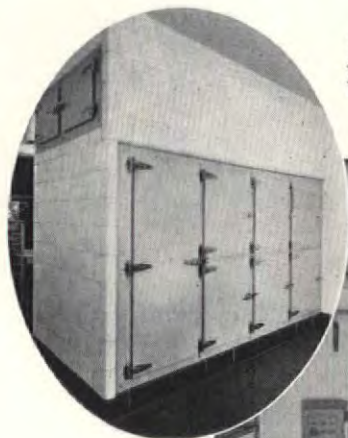
Of classic design, the various buildings give a distinct impression of unity, although they are the work of different architects. For these structures, as in almost all important buildings that are designed these days, the architects have chosen cork products for a variety of uses. From sub-basement to roof, Armstrong's Insulation products add to comfort and insure greater economy. A few of the uses of these materials are described on this and the following page.

Cork Guards Air Conditioning Equipment

In the Post Office Department, National Archives, and Department of Internal Revenue buildings—equipped to make their own weather—Armstrong's Cork Covering and Cork Lagging insulate the air conditioning equipment and cold lines. Years of experience with cork have proved to architects and engineers that this insulation offers vital advantages which insure long, efficient service. Thanks to its natural structure, cork successfully withstands the efficiency-destroying effects of air and moisture infiltration.

Corkboard Protects Refrigerators

Three of the Triangle buildings have the dependable protection of Armstrong's Corkboard for refrigerated rooms. These are located in the cafeterias serving employees of the Post Office Department, Interstate Commerce Commission, and Labor Department, and the Department of Commerce; and all are insulated with 4 inches of corkboard. Acceptance of corkboard as standard insulation for low



RIGHT—Tile-lined vegetable refrigerator having stainless steel bunkers. Insulation—4" Armstrong's Corkboard.



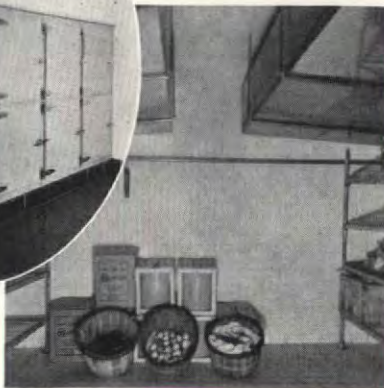
temperature rooms is the result of a thirty-years' record of outstanding performance in numerous industries.

Vibracork Quiets Machinery

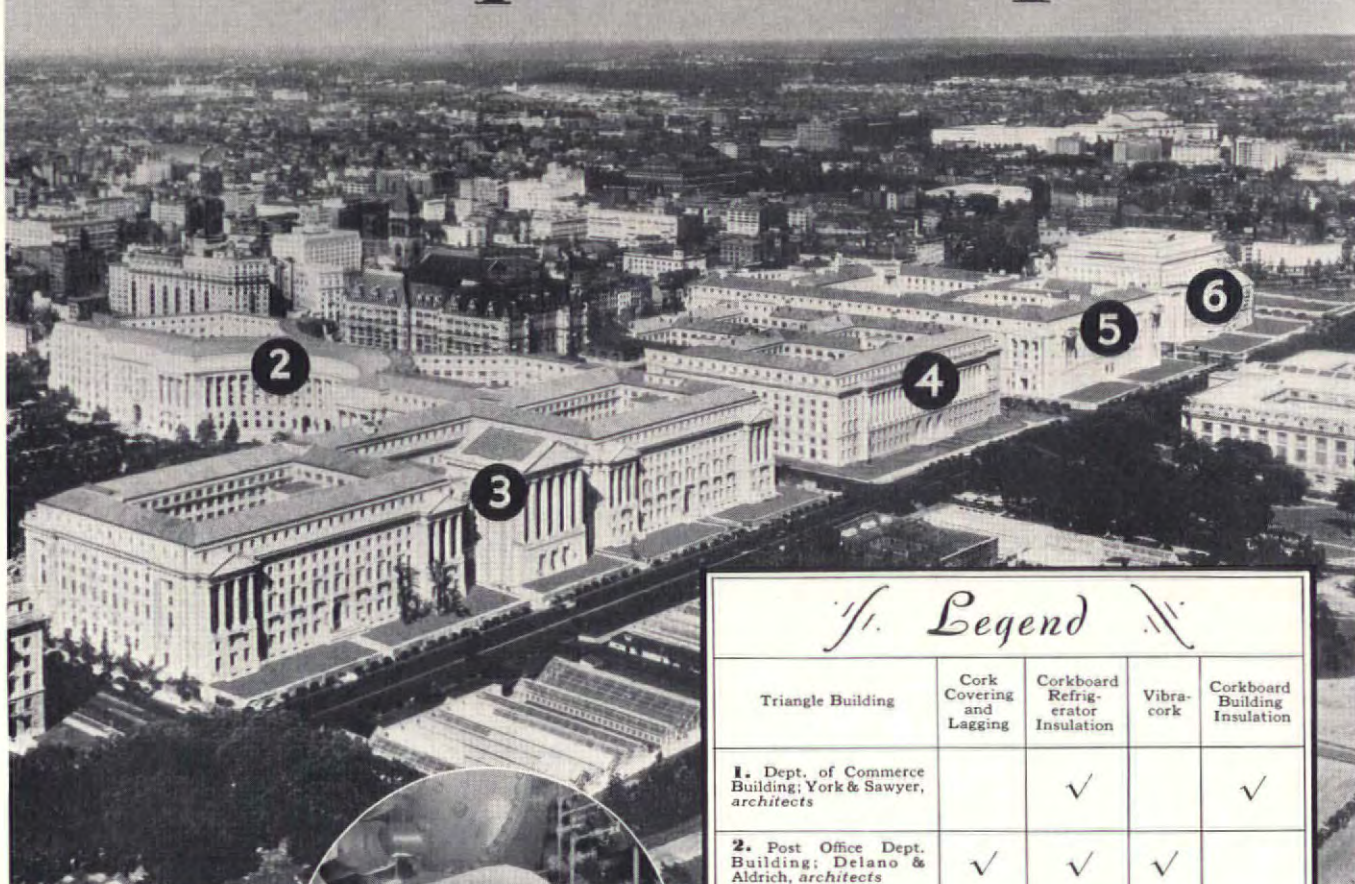
Air conditioning presents other problems to the architect in addition to insulation. One of these is isolation of the equipment. To reduce noise and check the transmission of vibration of machinery Armstrong's Vibracork has been specified in three of these Federal buildings. This specially-manufactured cork cushion dampens vibration, yet does not take a "set" even under continued compression.

Corkboard Insulates Walls and Roofs

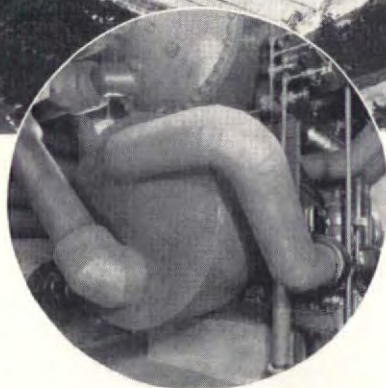
Not the least of the ways in which cork serves in the construction of the Triangle group, as in modern buildings the country over, is as wall and roof insulation. In the Department of Justice building, for example, 180,000



Group Develops...



Armstrong's Cork Covering and Cork Lagging on York Air Conditioning Equipment in Post Office Department building. Vibracork isolates brine storage tank from the foundation.



square feet of 1½" corkboard have been used to insulate the top floor and the roof areas at all set-backs.

This thickness also has been used under the floors and over the ceilings of porticos. Corkboard insulates large top floor areas of the Department of Commerce building and was used extensively to aid in maintaining constant temperature in the Archives building.

Other Building Materials

In addition to the products mentioned in the legend, Armstrong's Temlok Roof Insulation was installed on the Post Office Department building. Armstrong's Linotile floors large areas in offices of the Labor Department, and Armstrong's Expansion Joint was used in several buildings to prevent electrical outlets being crushed by wood floor expansion.

Legend

Triangle Building	Cork Covering and Lagging	Corkboard Refrigerator Insulation	Vibracork	Corkboard Building Insulation
1. Dept. of Commerce Building; York & Sawyer, architects		✓		✓
2. Post Office Dept. Building; Delano & Aldrich, architects	✓	✓	✓	
3. Dept. of Labor and Interstate Commerce Commission Bldg.; Arthur Brown, Jr., architect		✓		✓
4. Dept. of Internal Revenue Building; Supervising Architects' office	✓		✓	
5. Dept. of Justice Building; Zantzinger, Borie & Medary, architects				✓
6. National Archives Building; John Russell Pope, architect	✓		✓	✓

Installation of all Armstrong products was made by the Washington office of John R. Livezey.

Armstrong's Service for Architects

Armstrong maintains an Architects' Service Bureau whose assistance is available to architects without obligation. It is staffed with engineers of wide experience in insulation work and in the control of vibration. For complete descriptions of Armstrong products, see the current issue of Sweet's. Armstrong Cork Products Company, Building Materials Division, 900 Concord Street, Lancaster, Penna.



Armstrong Cork Products Company

BUILDING MATERIALS DIVISION

LANCASTER, PENNSYLVANIA

Getting an ARCHITECT'S EYE-VIEW of 1934 building operations

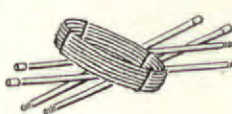
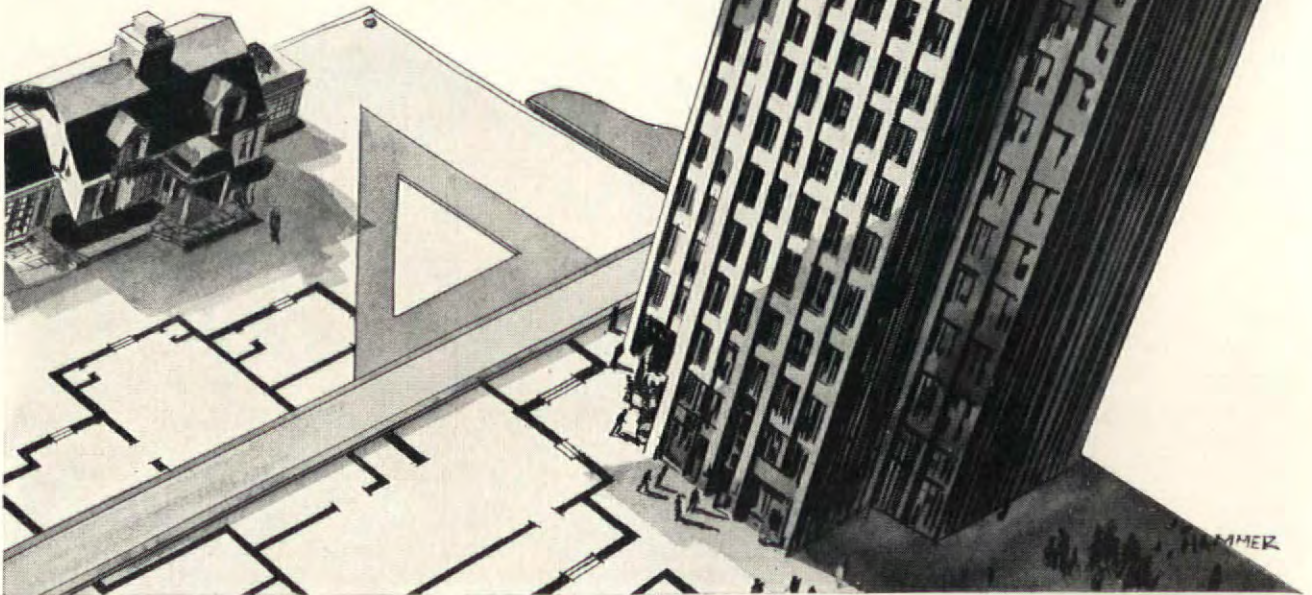
THERE'S no predicting what kind of job will occupy the Architect's drawing board this year. It may be the remodeling of a cottage. Or it may be plans for a skyscraper. Or a large housing project.

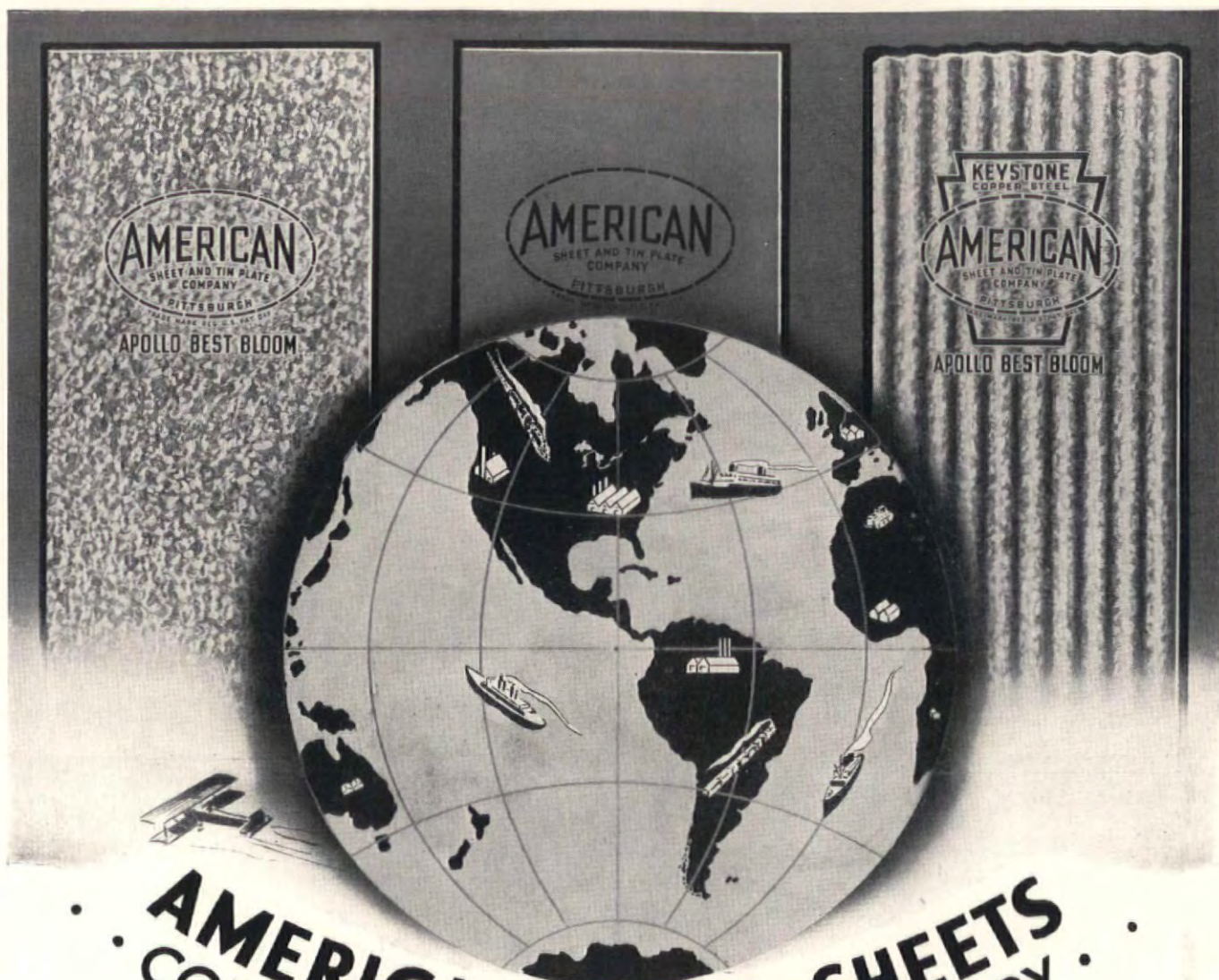
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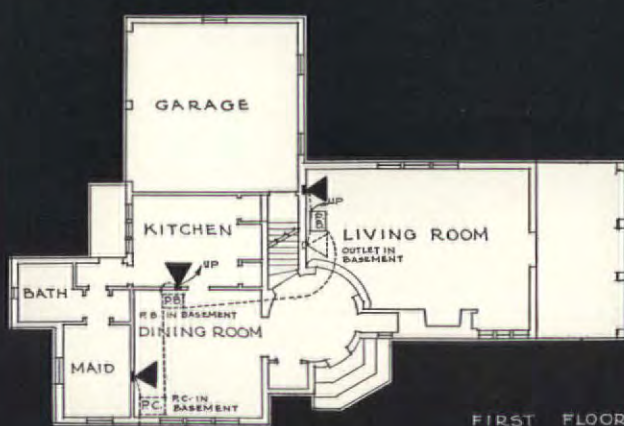
Outlets plotted at strategic points in the blueprints — conduit included in walls and floors during construction — make possible the neatest installation of telephones to save time and steps for family and servants, provide privacy for personal conversations. Every day, every night, they increase the household's respect for your careful planning.

Outlets may anticipate future requirements, need not all be used at once. But

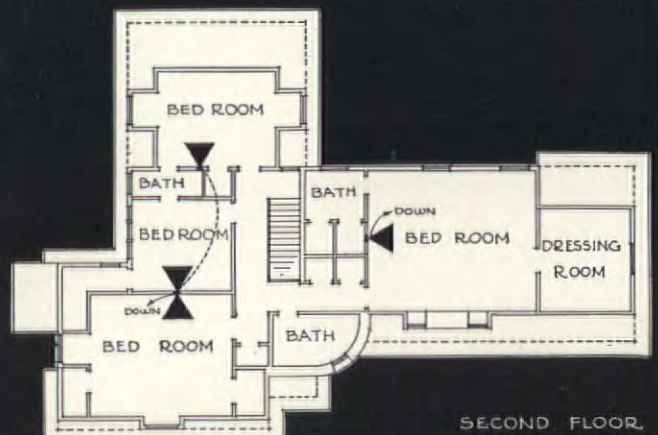
they're there, ready. Instruments can easily be moved — without exposing wiring — and with assurance of conduit-protection against certain service interruptions.

The local telephone company is always glad to work with you in developing efficient, economical conduit layouts for new or remodeling projects. No charge, of course. Just call the Business Office and ask for "Architects' and Builders' Service."

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H. E. Mather, Architect, Ridgewood, N. J.



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Investigate Russ and G-E Bar Planning Service

• Bars in the Tap Rooms and Taverns of *Modern Main Street* are shining examples of the architectural and engineering progress made since the days of pre-prohibition. General Electric and Russ, leading manufacturers of electrically refrigerated bars and beer dispensing apparatus, are also leading contributors to the modern art of better beer dispensing. The Russ and G-E system provides the **ONLY** method of faithfully preserving all the original brewed-in flavor of barrel beer.

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materials to your specifications. A complete bar planning service is offered to architects and builders that covers every type of bar where liquors and draught beer are served. The service includes detailed information and specifications on the laying-out of bar interiors—how to plan cocktail service and beer service stations—where to locate beer stations—and how to space all working units for most efficient operation. Phone the nearest G-E refrigerator distributor for details or write direct for full information. The Russ Mfg. Company, Dept. 735, 5700 Walworth Avenue, Cleveland, Ohio.

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RESPECTABILITY VS. ARCHITECTURE

"Architecture, like all other manifestations of the mind, cannot fail to adopt the entirely new form corresponding to that which scientific rigor and the economic imperatives of society in the making are bound to impose upon it." Elie Faure.

MUST U. S. architecture remain confined only to those concepts of design which have won official approval from another society in another age?

Shall suburban houses continue to be the English "gentleman's country estate," the Touraine chateau, the villa of the Veneto, seen through the wrong end of an opera glass? Must university buildings be pale reflections of Oxford or old Williamsburg? Are banks limited to slightly puzzled Roman garb? And finally shall the government building be the sole symbol of static thought in an era of political change?

Profession and public alike make no resistance to a new esthetic idiom for other types of buildings. No one points to the incongruity of good modern architecture for factories, stores, filling stations, or even for hospitals. If the reasons are obvious, they are none the less pertinent. Tory architecture can find no precedent for the power house. Where associations with the past are impossible, unfettered architectural thinking is not only accepted, but frequently demanded.

Thus the clinging traditional architecture appears to be in direct ratio to the desire for respectability. And apparently respectability must be borrowed.

Wholesale borrowing made the American scene. Nearly all types of domestic architecture current today are traditional only in name. They have the borrowed form, but not the valid tradition. The traditional social organization which most closely approximates the contemporary U. S. is the Roman Empire. But the Roman is almost the only style not employed in domestic design. Universities scarcely resemble their original concept. Banking long ago surpassed its early limitations. And democratic government is still a new idea.

Aware that U. S. civilization today has only the most tenuous connection with tradition, and proud of it, a curious ambivalence makes us attempt to prove its validity in what we imagine to be the terminology of those older civilizations. Ironically, those older civilizations have already discarded that terminology in favor of a new one which was given much of its present vocabulary in the U. S.

Even in Italy where the Fascist state is an avowed re-creation of the Roman state with all that that implies in the way of official architecture, the head of the state has ruled that all architecture shall be "modern." Elsewhere the same thing is true in varying degrees. Even Great Britain, from whom we derive the largest part of our social and political ideology, is on the way to create a new architecture valid for this generation as it is different from other generations. And this discarding of the past is not confined to new cities or new quarters of old cities. It is to be found current more and more wherever space is to be manipulated for human use. Because a projected bakery is next to a 15th Century palace is not to a Venetian architect any reason for covering its front with delicate cusped arcades. On the contrary. It is a valid reason for showing that he can design a bakery that shall express in 20th Century terms the implications of 20th Century society. Just so the older place expresses completely the society of the earlier day.

He is too well aware that further change may put him in the rather ridiculous position of the architect who was called upon to build a new building between two older ones. Of these one was of medieval Gothic inspiration, the other of a florid French Renaissance. The problem of harmony, respectability, was solved by designing the new building in the style of Francis I, as a transition between the two. Shortly after, however, one building was torn down and the other altered, leaving respectability where it usually ends, at the tail of the parade.

The accompanying photographs were taken at random in various parts of Europe. A study of these discloses at least two illuminating facts. 1. When a building of contemporary design is set down in mediocre surroundings, its neighbors look dowdier than ever. Can this have anything to do with opposition to contemporary design? 2. If on the other hand the neighboring buildings are of really distinguished design, there is not the mutually destructive clash that might be feared. On the contrary there is a contrast of new and old that gives a strong sense of continuity and demonstrates a real tradition of esthetic expression.

Against the brilliant background of the Breuninger stores, Old Stuttgart houses look contented, not ashamed of their descendants. The contrast only serves to demonstrate that beautiful architecture is not a monopoly of any particular style.



Stockholm has decided that a Town Hall is not enough. With the Romantic movement deader than a doornail, the young men put up buildings for use as well as looks. The surroundings take care of themselves.

Curiously enough the modern bridge looks better against the medieval background than its heavy, ill-lighted predecessor. Honesty and simplicity can be recognized in any style.





1.



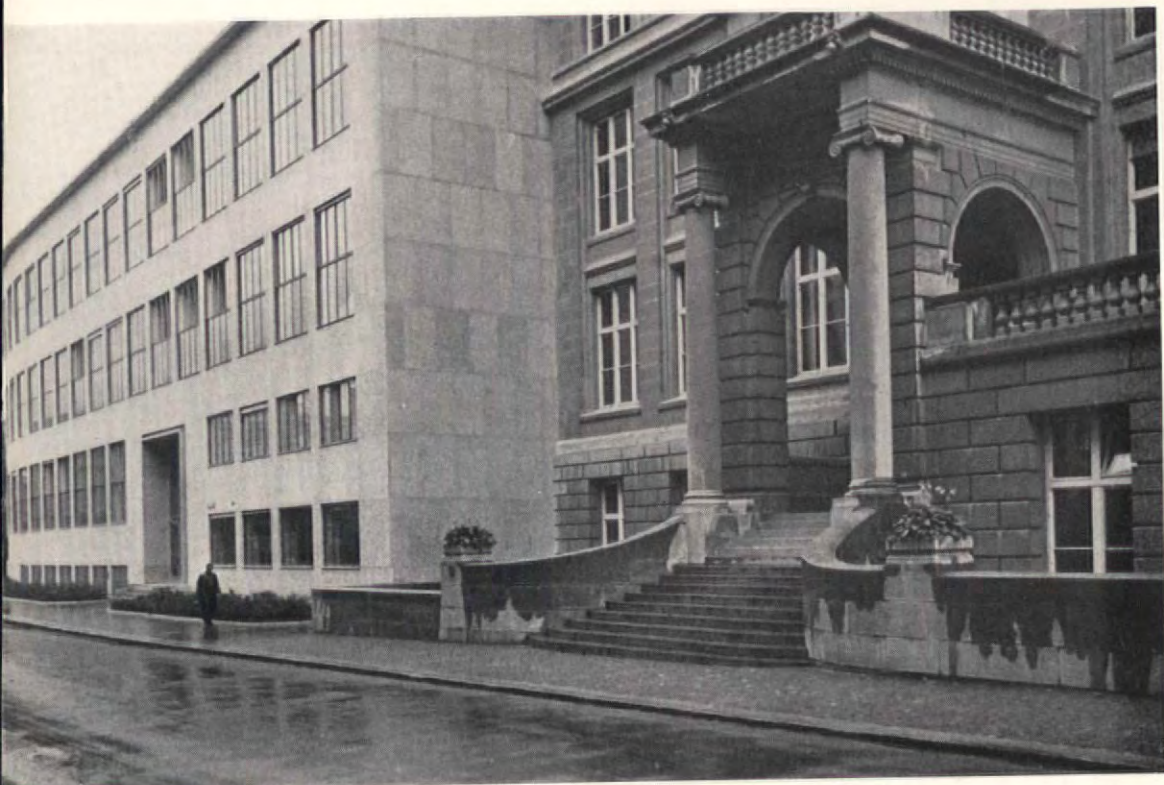
2.

1. Zurich's modern Hotel St. Peter looks better against the old clock tower than its drab neighbor. Where is the clash between the old and the new? Harmony apparently has little to do with reviving familiar details.

2. It is hard to tell which of these two apartment houses in Como is worse. But the new one at least looks as if it might be lived in. And if its architect can't do a façade, others can.

IVAR TENGBOM'S new hotel and office building in Stockholm has windows where it needs them, marble veneer elsewhere. The surroundings, with which he neglected to "harmonize" his own building, begin to look more picturesque than usable.





When he built the addition to Zurich's Technical High School, Professor Salvisberg felt no need to carry on the inadequate windows or the superfluous portico in the interests of Symmetry, Harmony, or any of the other catchwords.

The new Naples Post Office wraps around a 16th century loggia, but Architect Vaccaro did not allow a charming relic to suggest spurious decoration for his monumental building. More important: the idea never occurred to him.



COMPETITION FOR A BUILDING FOR THE FEDERAL RESERVE BOARD

WASHINGTON, D. C.

JUNE 1935

THE WINNING DESIGN

PAUL PHILIPPE CRET

DESIGNS PLACED SECOND AND THIRD

OFFICE OF JOHN RUSSELL POPE

JAMES GAMBLE ROGERS

AND THE FOLLOWING SUBMISSIONS

ARTHUR BROWN, JR.

COOLIDGE, SHEPLEY, BULFINCH & ABBOTT

DELANO & ALDRICH

HOLABIRD & ROOT

EGERTON SWARTWOUT

YORK & SAWYER

JURY:

WILLIAM EMERSON

JOHN W. CROSS

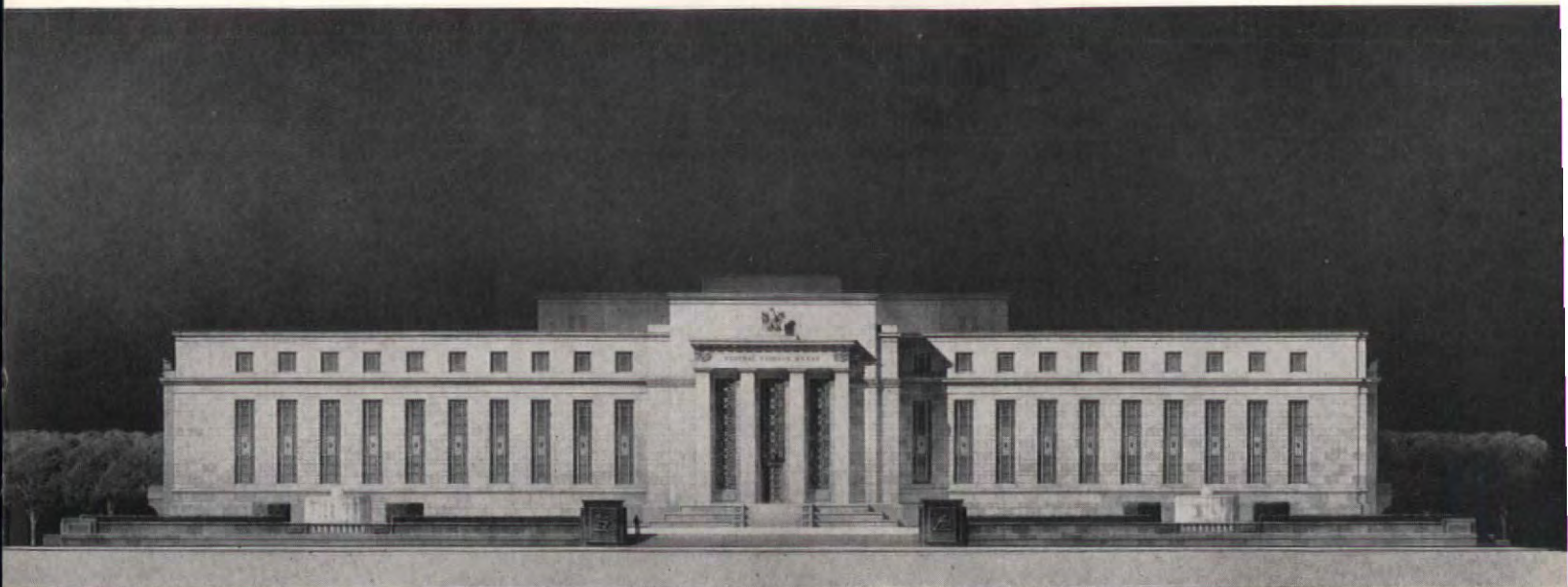
JOHN MEAD HOWELLS

FREDERIC A. DELANO

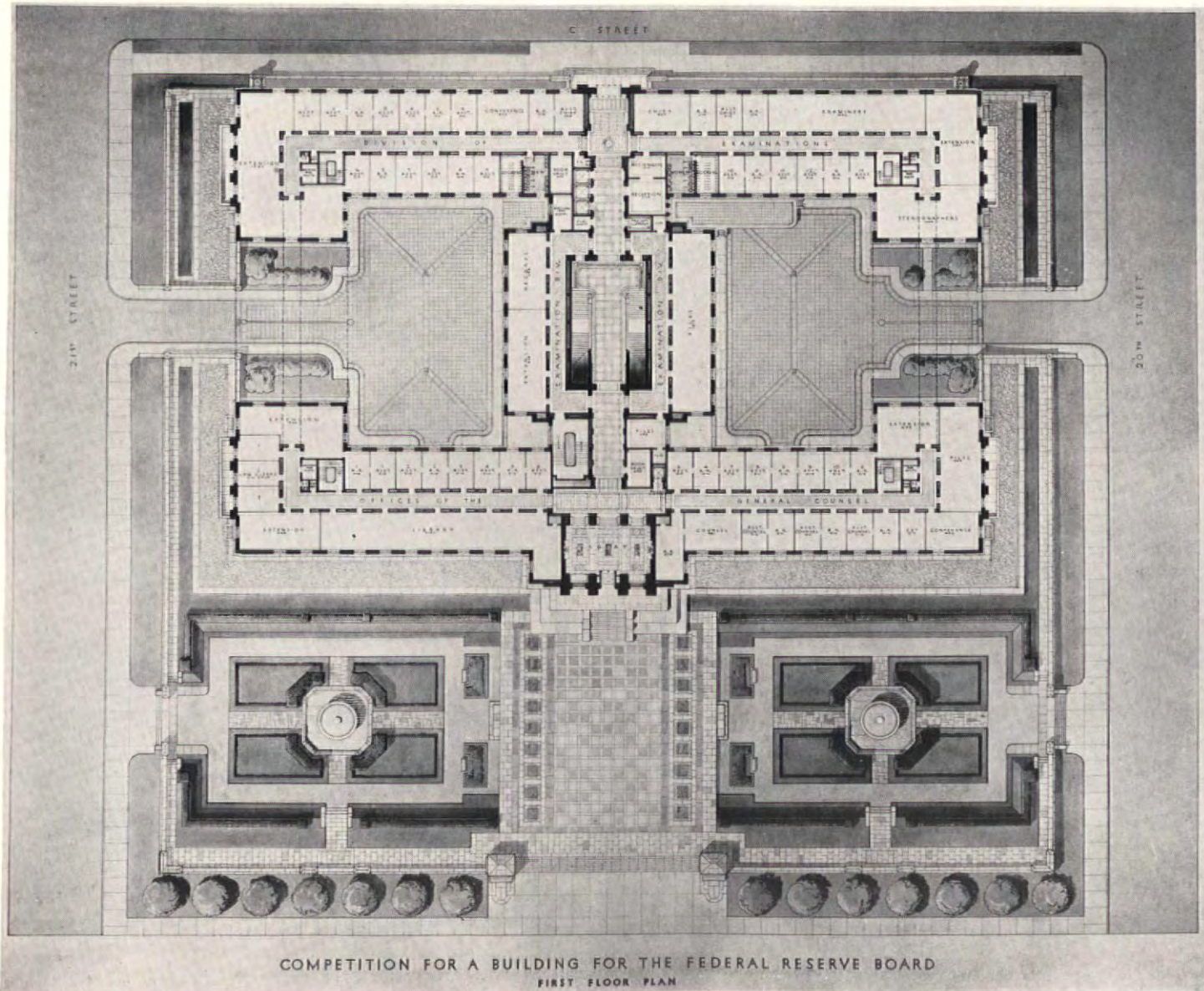
A. C. MILLER

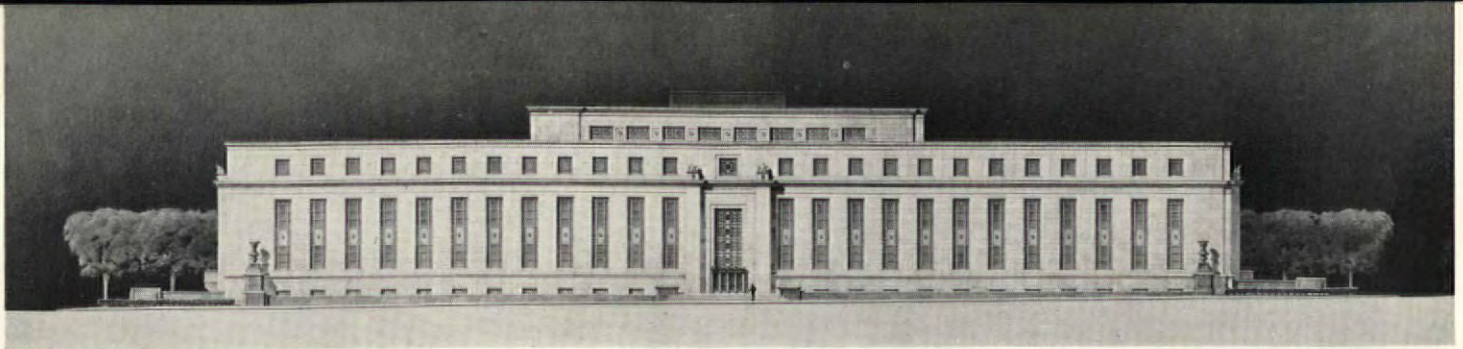
EVERETT V. MEEKS

Professional Adviser

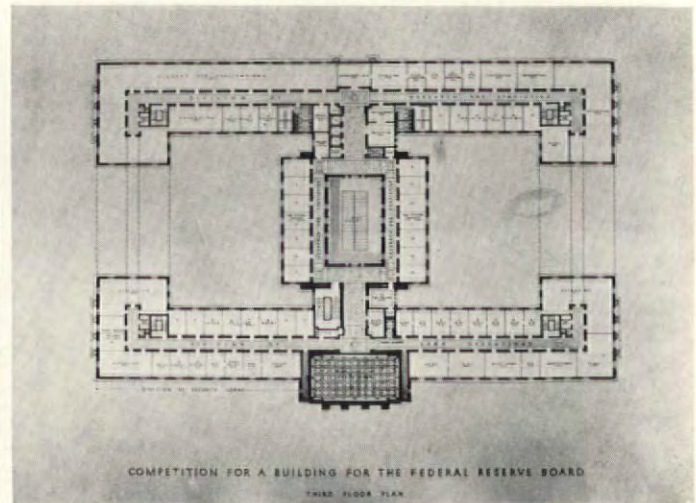
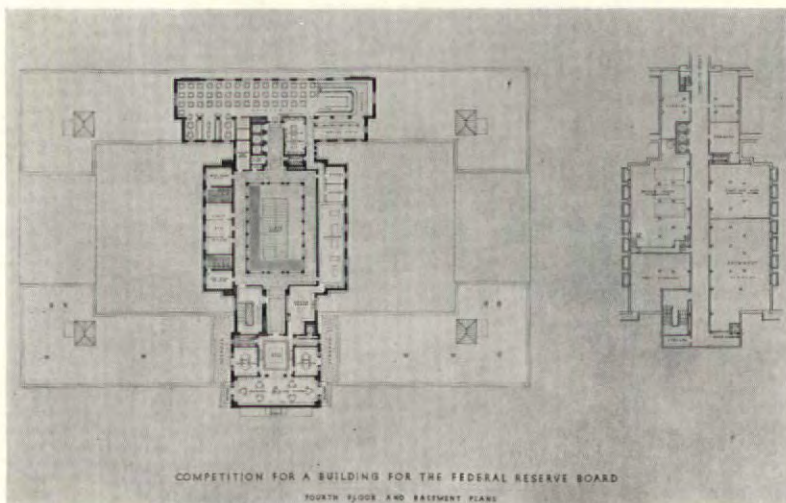
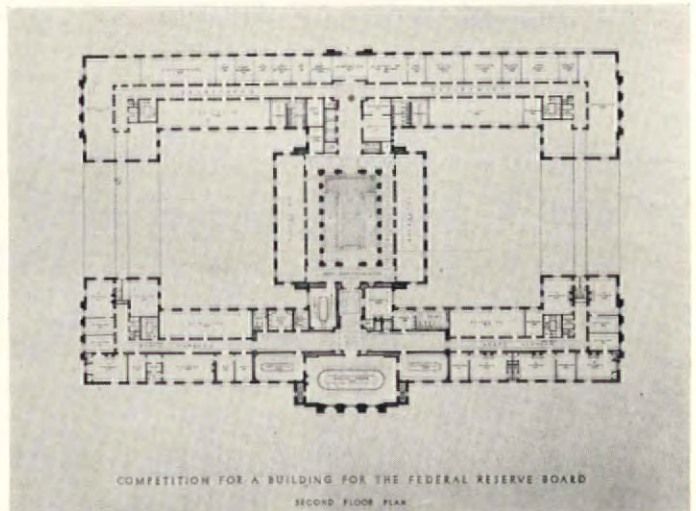
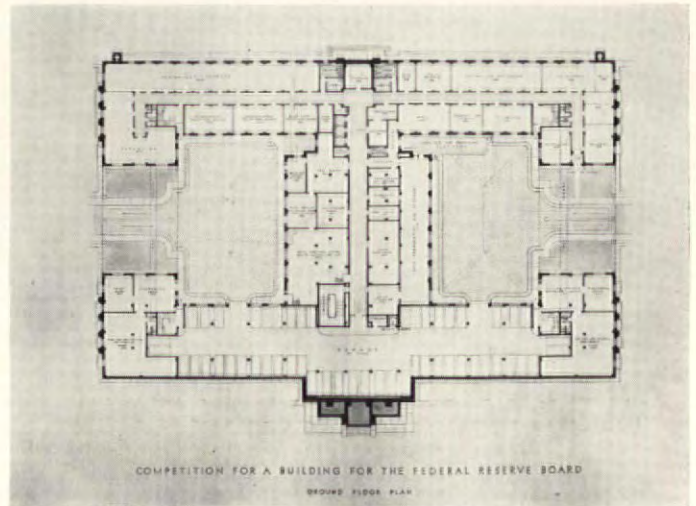
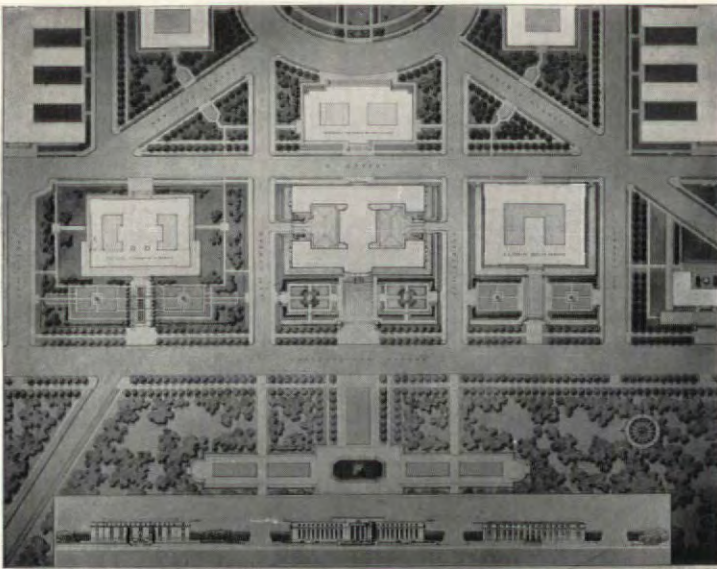
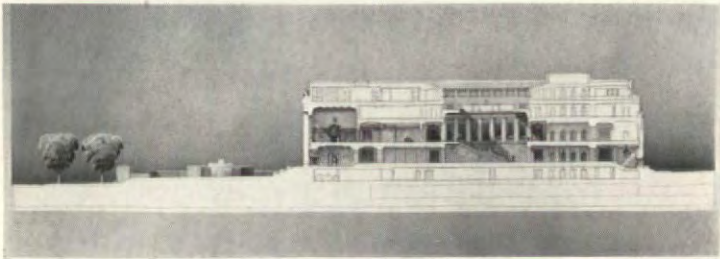


PAUL PHILIPPE CRET, PHILADELPHIA



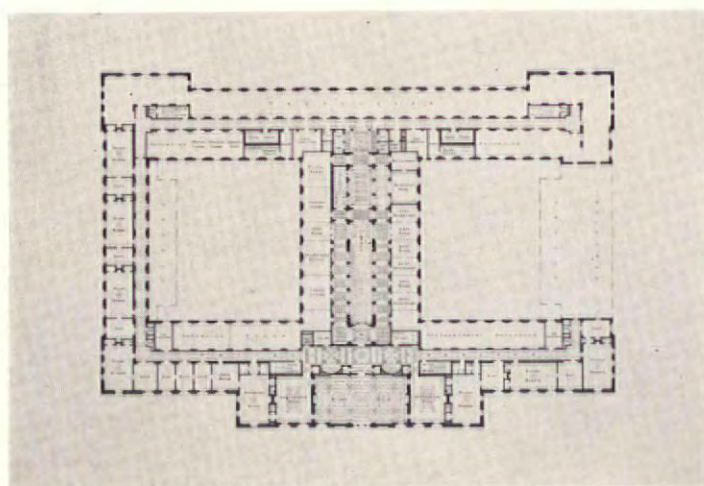
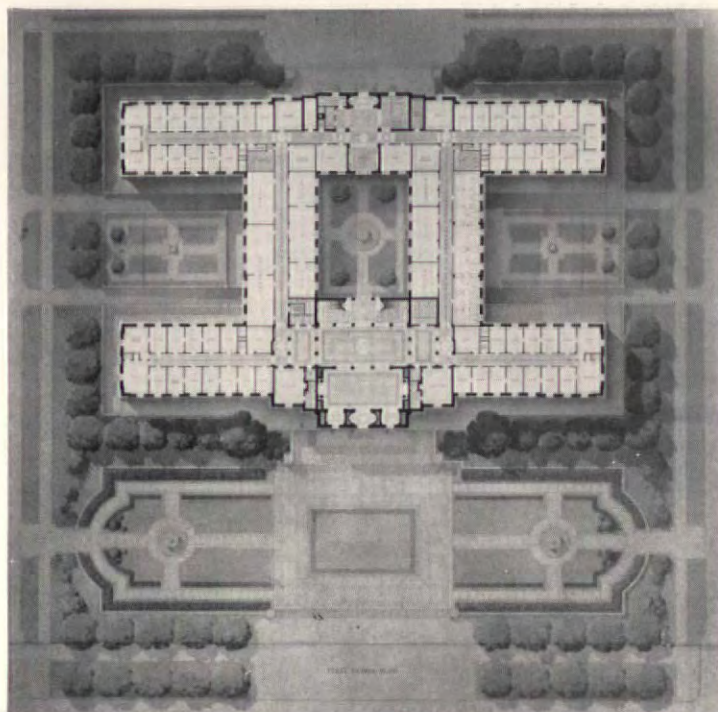


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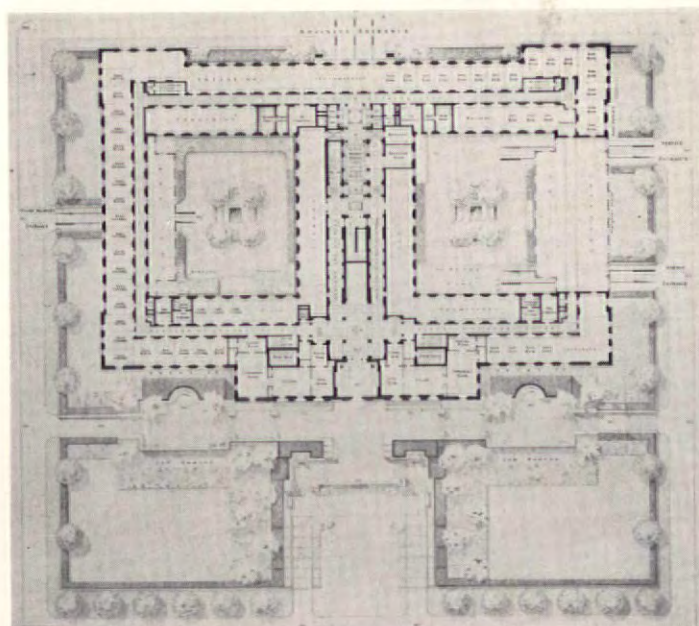




OFFICE OF JOHN RUSSELL POPE
NEW YORK

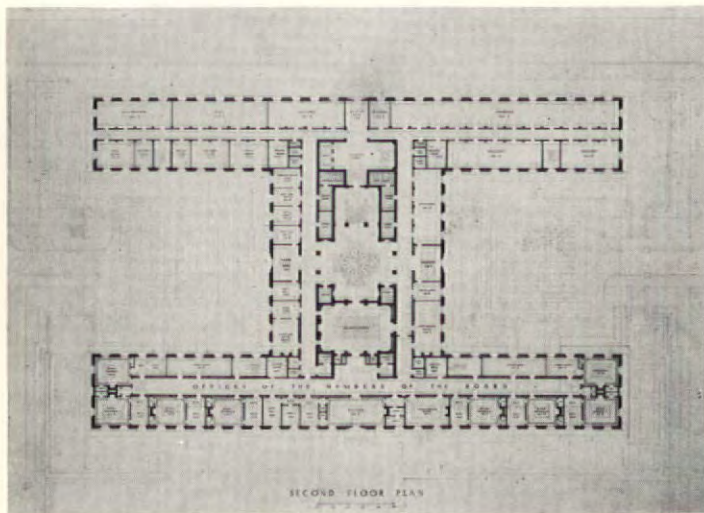
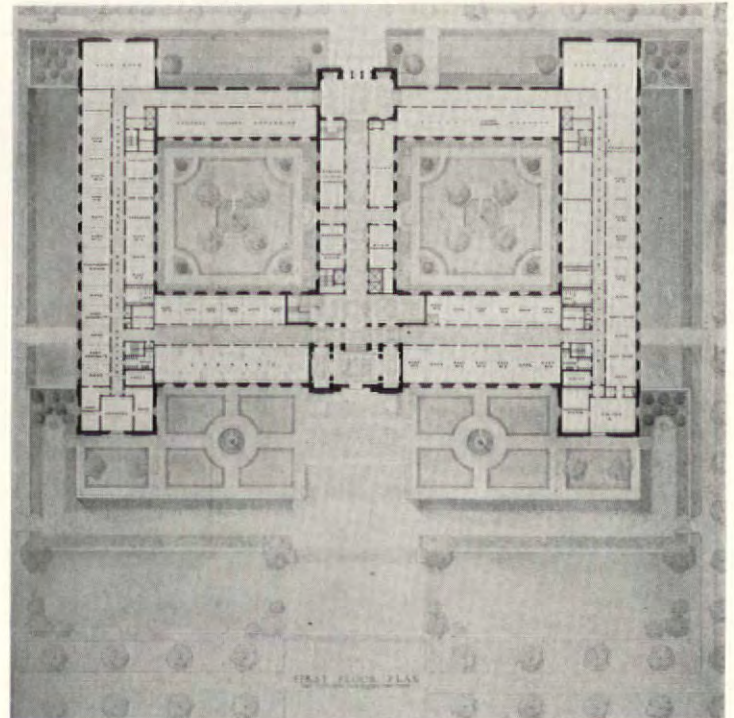
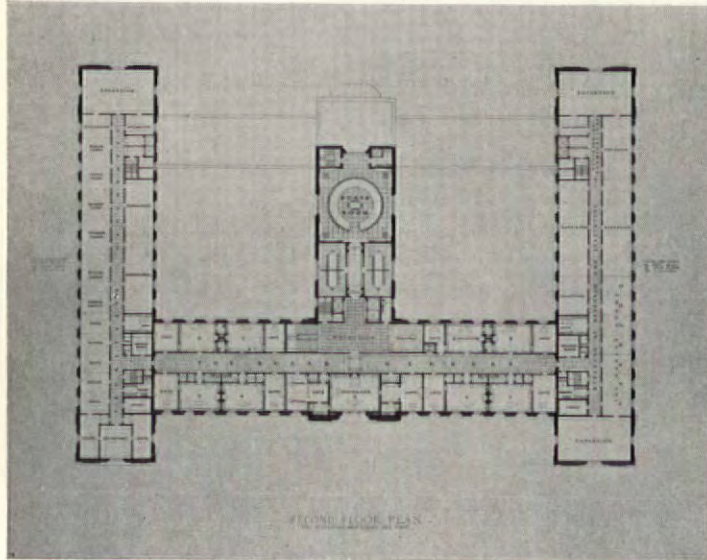


JAMES GAMBLE ROGERS
NEW YORK

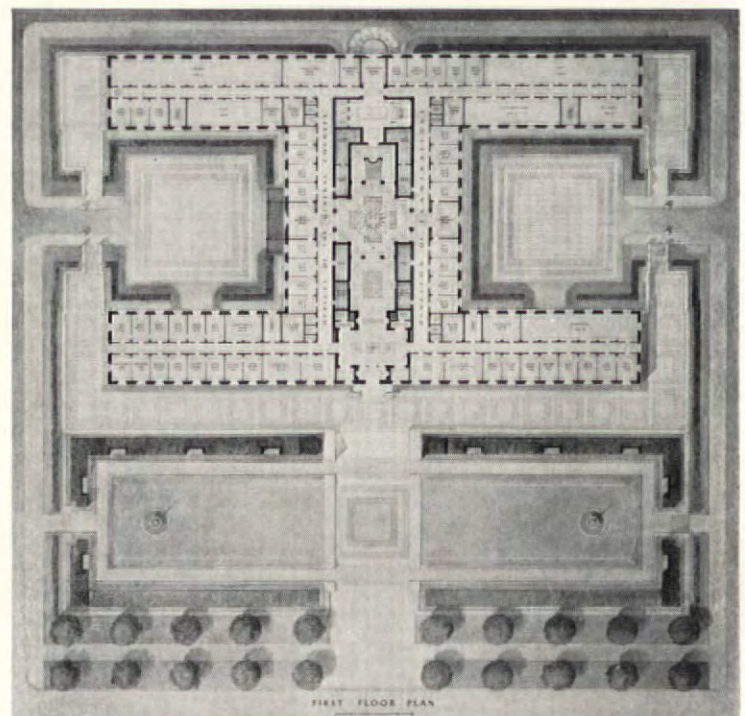




DELANO AND ALDRICH
NEW YORK

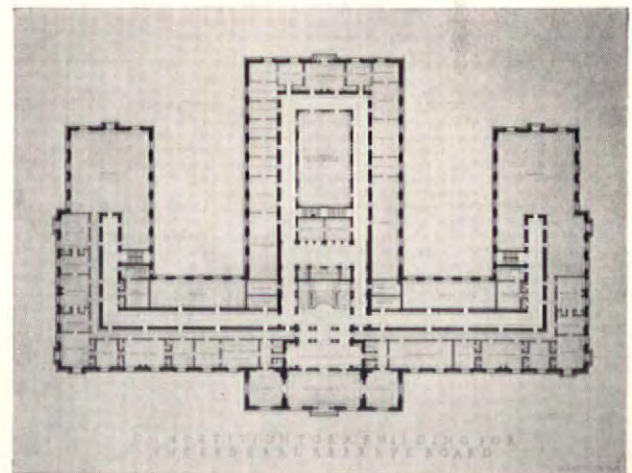
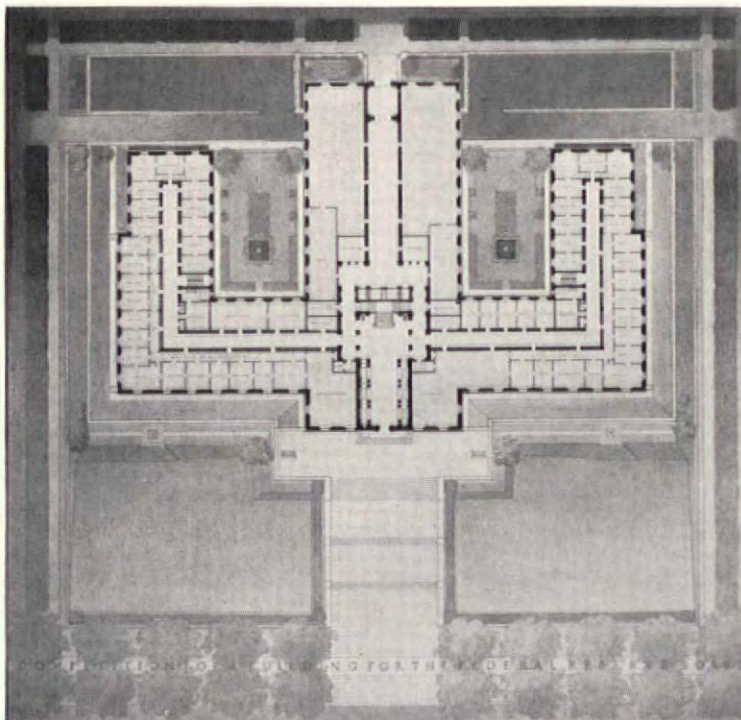
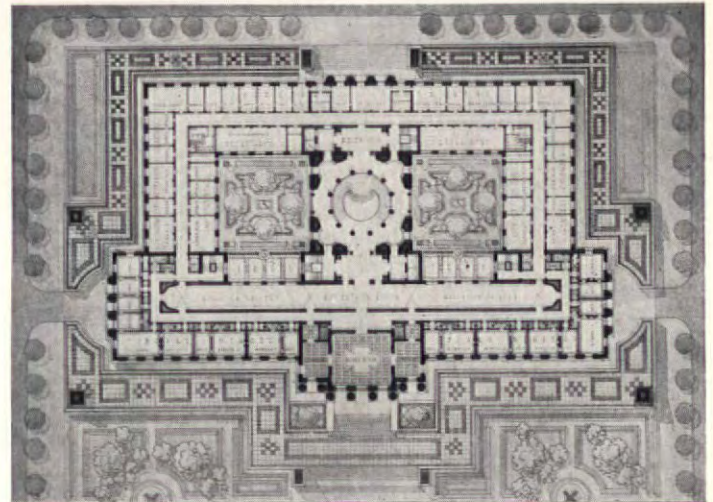
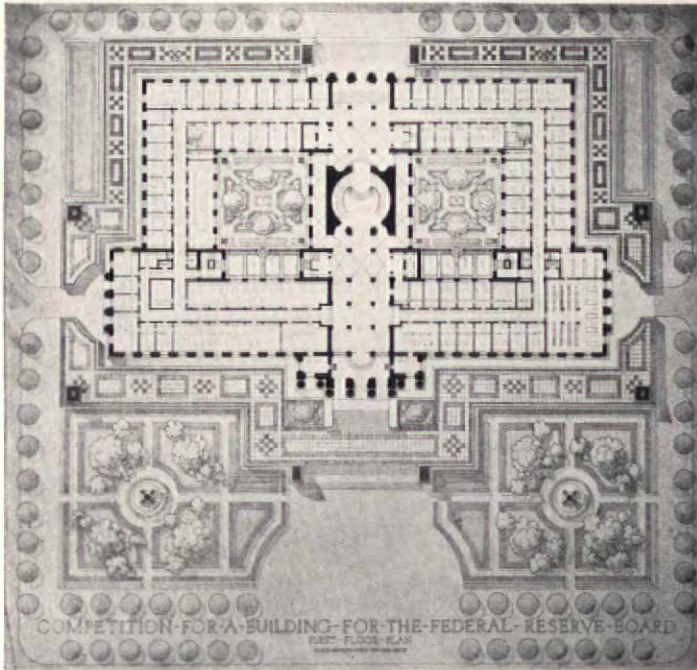


COOLIDGE, SHEPLEY, BULFINCH AND
ABBOTT
BOSTON





ARTHUR BROWN, JR.
SAN FRANCISCO

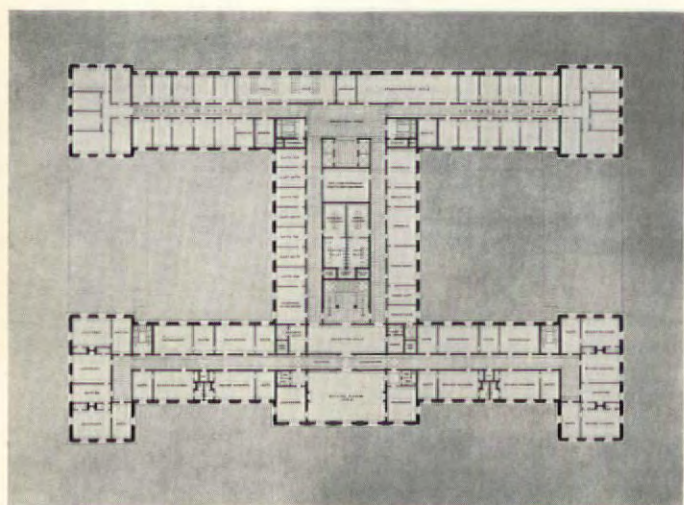
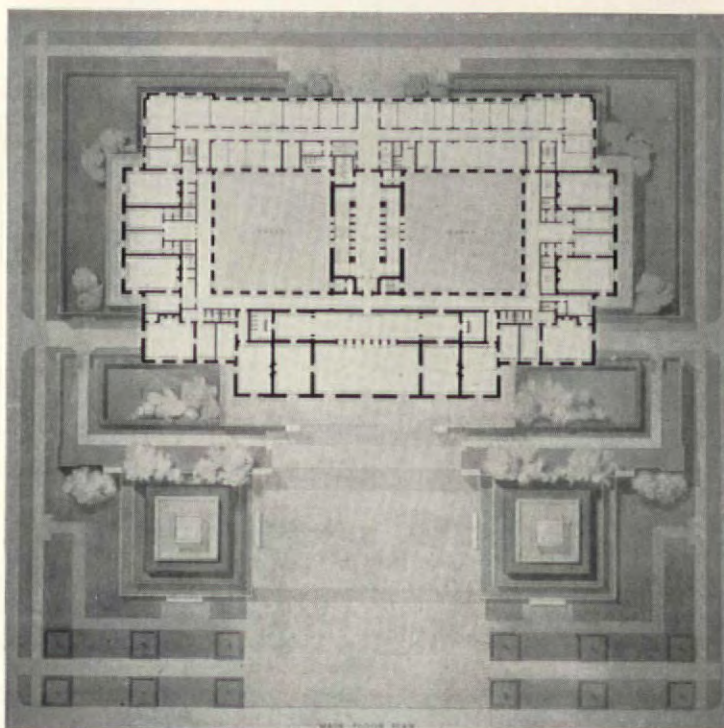
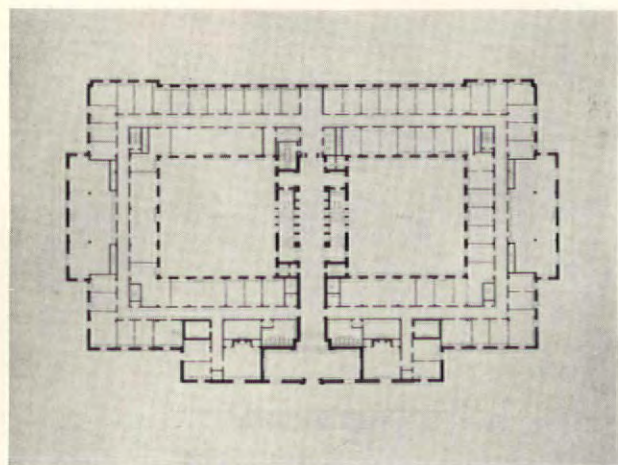


EGERTON SWARTWOUT
NEW YORK

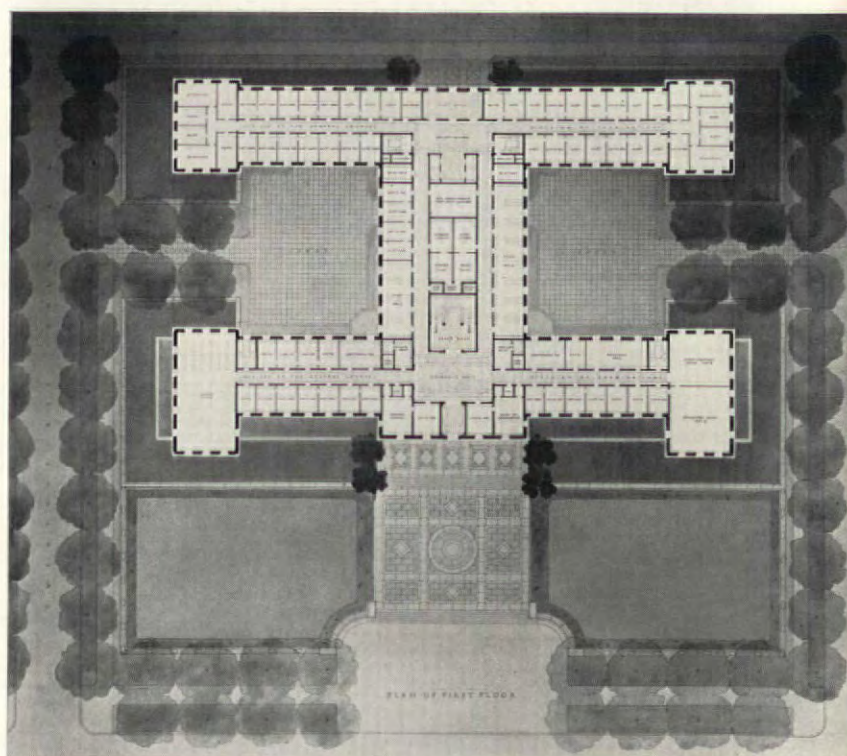




HOLABIRD AND ROOT
CHICAGO



YORK AND SAWYER
NEW YORK



EMERGING HOUSES, 1935

Four grim years have passed since the Building Industry turned from glorifying its skyscrapers to a belated study of the small house. With little or no actual building to offer distraction from this purpose, it is becoming clear that some worth while results have come.

In the following section THE ARCHITECTURAL FORUM presents four schemes which in part or in whole have been made possible by experiments carried on during this period. Each employs some degree of prefabrication. Examination of these existing houses is certain to produce a healthy difference of opinion in appraising how closely each comes to a solution.

1 **EXPERIMENTAL HOUSE** **Cleveland** GENERAL ELECTRIC CO. and T. W. FRECH, SPONSORS HAYS & SIMPSON, ARCHITECTS

Exhibiting unit planning with complete flexibility and standardization of mass produced parts to achieve low cost.

2 **TWO- AND FOUR-FAMILY HOUSES** **Mt. Vernon, N. Y.** PIERCE FOUNDATION, SPONSOR NEAL M. DUNNING, ARCHITECT

Exhibiting traditional design, materials and construction plus a unit bathroom to prove immediate profit possibilities for private capital.

3 **DEMONSTRATION HOUSES** **Washington, D. C.** BERGER MANUFACTURING CO., SPONSOR OSCAR G. STONOROV, ARCHITECT ALFRED KASTNER, STRUCTURAL ENGINEER

Exhibiting steel frame construction plus a compact plumbing, heating and conditioning unit to demonstrate the public appeal of the part steel house at a competitive price.

4 **MOTOHOMES** **White Plains, N. Y.** HOUSES INC., SPONSOR ROBERT W. McLAUGHLIN, JR., ARCHITECT

Exhibiting for the first time completely prefabricated houses, in a group and in a natural setting, to indicate they have individuality and compose attractively.

EXPERIMENTAL HOUSE

GENERAL ELECTRIC CO. AND T. W. FRECH, SPONSORS

HAYS AND SIMPSON, ARCHITECTS



T. W. Frech was one of the early exponents of standardization. It is told that he was annoyed that the daily selection of his clothes should involve not only action but decision. The choice of a suit or tie or socks to complete an ensemble was to him a distraction from more important matters. Forthwith all his suits, all his ties, all his socks were standardized. Thus with no choice he was relieved of making any. Following his retirement from the Vice Presidency of General Electric, Mr. Frech turned his mind to houses. The Experimental House in Nela Park, Cleveland, represents his collaboration with Architects Hays and Simpson.

The design of this house is really a series of designs, based upon one key unit—in this case living room, dining room, kitchen and garage—about which any number of bedrooms and baths can be grouped to complete the desired home. This Standardized-Room-Unit method achieves the goal of mass production. The construction of a group of these houses develops many mass production savings while providing enough variation in room arrangement, mass and assembly to avoid monotony of repetition.

Using the basic idea of the Standardized-Room-Unit the actual construction has been kept logical and economical, yet flexible as to materials and details of construction. A flat roof with mineral wool insulation was used instead of the more usual pitched roof and expensive dormers. The garage has been placed at the front, providing easy access to the street, excellent communication with the main unit of the house, a minimum cost for driveway and a full utilization of the lot for lawn and garden. No attempt has been made to provide a novel wall or floor construction, any standard method of building being applicable.

The living room of the Nela Park house expresses its importance in the family life by its high ceiling, large vertical windows, and its generous floor space; the dining room is part of the living room in that it forms the base of a letter "L," yet shows its reduced importance with a lower ceiling and smaller floor area.

The kitchen, carefully considered for every location of individual equipment, finds its place logically between the dining room and the utility room. The latter serves as a means of access to the front entrance hall, or of egress to the garage, basement or outside door.

The half-basement, containing laundry trays, heating equipment and toilet, is placed only under the dining room, kitchen and utility room, although provision is made for the possibility of excavating under the living room and using this space as recreation quarters.

This comprises the base unit, No. 1—the axis about which the remaining units are grouped in various combination.

Unit No. 2 provides two bedrooms and two baths on the first floor, access being through the dining room to a central hall.

Unit No. 3 provides three bedrooms, two baths, a dressing room and mothproof storage closet for first floor location. The alternate modification of this unit proposes the dressing room and mothproof closet areas as one room, which can be used for a health room, nursery or sewing room.

Unit No. 4 includes one bedroom, one bath and ample storage space all on the second floor, reached by a stair which is now incorporated in the front entrance hall. These rooms are placed above the dining room, kitchen and utility room, so that there is no conflict with the higher ceiling of the living room.

Unit No. 5 is made by the addition of another bedroom to Unit No. 4, the same being placed over a portion of the garage. It is quickly apparent that the finished house may be provided with from one to five bedrooms and one to three baths, the cost, of course, varying according to the number included. The Nela Park house is a combination of base Unit No. 1 and Unit No. 3.

Owing to the special circumstances under which this particular house was built it is impossible to give cost figures that mean anything. After its completion, however, the architects undertook an exhaustive study of the costs of an almost precisely similar house. During the course of this study they were struck with the difficulty of getting an accurate idea of the final cost of a house by any of the conventional methods in use.

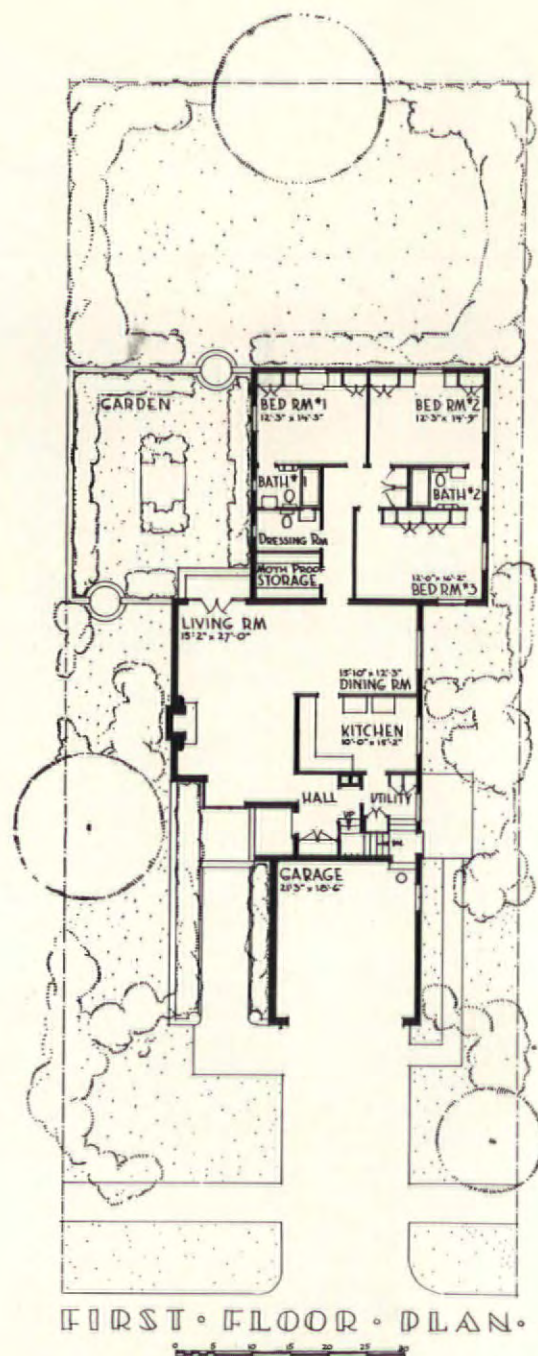
As a result Hays & Simpson, with their engineer, C. Merrill Barber, have worked out a method of accurately predetermining costs. This will be presented in an early issue of THE ARCHITECTURAL FORUM. Omitting the details, they have estimated the costs of their unit designs by this



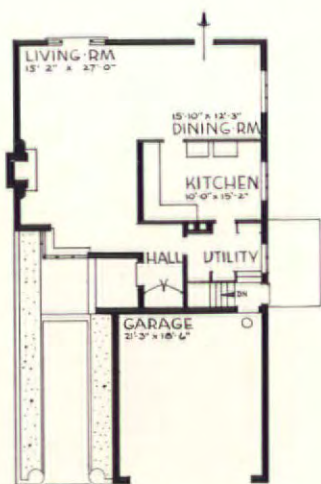
Carl F. Waite

method. Thus Unit No. 1 contains 20,433 cu. ft. and costs \$6,094.24. This is at the rate of 35 cents per cu. ft. for the main portion and 10 cents for the garage. By similar methods of computation Unit No. 2 costs \$3,053.38 at 44 cents; Unit No. 3 \$4,671.85 at 40 cents; Unit No. 4, \$2,042 at 40 cents; and Unit No. 5, \$2,825 at 35 cents. The differences in cubic foot prices are due to the fact that instead of the usual procedure the units are figured separately and the figure obtained divided by the number of cubic feet. Figured the same way the full basement costs \$1,540 at 26 cents and the half basement only \$923.66 at the same rate.

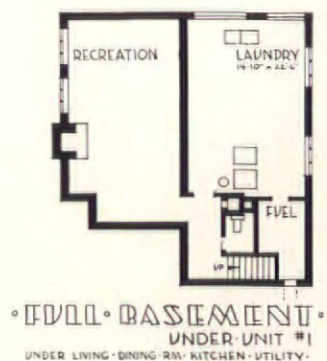
The illustrations show the flexibility inherent in this method. A sizable community might be built using nothing but these five units without producing that monotony which is so often the result of using a standardized design. At the same time it is possible to predict the exact cost of each unit and of the entire development.



Above is the plan of the Nela Park house. This is made up of plan units No. 1 and No. 3, with a half-basement unit below. On the opposite page are the other units which may be arranged in the various combinations shown. There is one other possible combination not shown, that of No. 1 and No. 4. These eight variations skillfully employed would permit many attractive groupings with an effect of spontaneity and a minimum of expense.



• FIRST FLOOR PLAN •

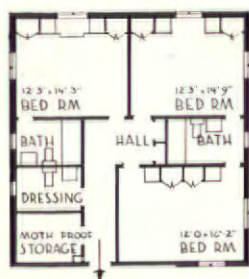


UNITS
1+2

1+3



1+5



• FIRST FLOOR PLAN •
SLEEPING QUARTERS



1+2+4



• SECOND FLOOR PLAN •
OVER DINING RM - KITCHEN - UTILITY



• SECOND FLOOR PLAN •
OVER DINING RM - KITCHEN - UTILITY - GARAGE

1+2+5

1+3+4

• SECOND FLOOR PLAN •
OVER UNIT #1

1+3+5

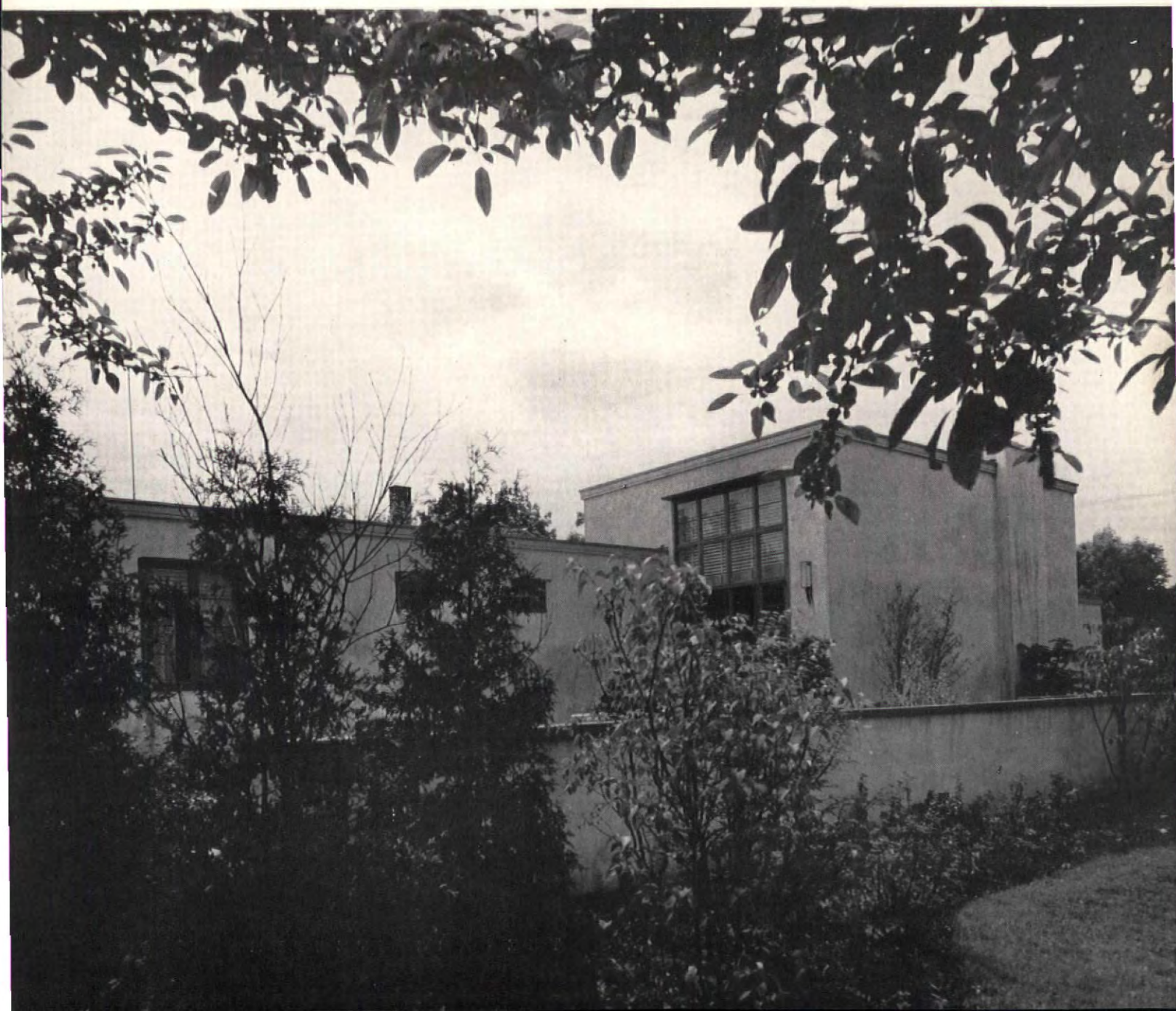


Carl F. Waite Photo

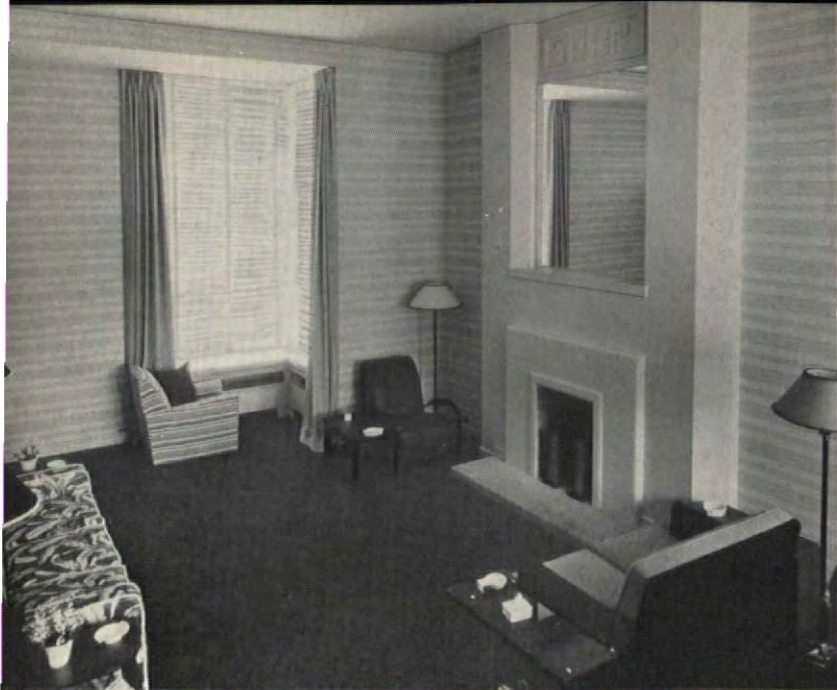
EXPERIMENTAL HOUSE, NELA PARK
CLEVELAND



EXPERIMENTAL HOUSE, NELA PARK
CLEVELAND



EXPERIMENTAL HOUSE, NELA PARK CLEVELAND



LIVING ROOM

Carl F. Waite Photos



BEDROOM

The interiors of the Nela Park house were decorated and furnished by Margaret Dargan of *The Ladies Home Journal*, with the exception of the wardrobes and bureaus in the bedroom which were designed by the architects and are standard for the various different room units contemplated. These may be used with or without the central dressing table and are so constructed that several different arrangements are possible.



DINING ROOM

Parade Studios



TWO AND FOUR-FAMILY HOUSES

MOUNT VERNON, N. Y.

PIERCE FOUNDATION, SPONSOR

NEAL M. DUNNING, ARCHITECT

THE John B. Pierce Foundation is a non-profit making research foundation created by the will of the late John B. Pierce, one of the founders of the American Radiator Company, for "research to increase knowledge to the end that the general hygiene and comfort of human beings and their habitations may be advanced." For the past few years the Foundation, under the leadership of Technician Robert L. Davidson, has exhaustively probed the subject of prefabrication. But the result never got any closer to the ground than the roof of the Starrett-Lehigh Building in New York where sits, exposed to the elements though not to the public, a solitary prefab.

It will surprise many, therefore, to find that the experimental houses just completed by the Foundation in Mount Vernon, N. Y., are built in the good old-fashioned way. The only prefabricated unit of any sort is the panel bathroom developed some time ago by George Sakier. Designed by Architect Neal M. Dunning these pleasant little houses have the brick walls, wood joists, wood lath, two-coat plaster, etc., which are the familiar stock in trade of the suburban developer. Except for the bathrooms already noted and the heating apparatus in one house (of which more later) these structures might have been erected by any one. That is, of course, the purpose of the experiment. The Pierce Foundation desired to show that whatever economies might come from further technical advances in building methods, it is not necessary for the industry to mark time until these advances are realized.

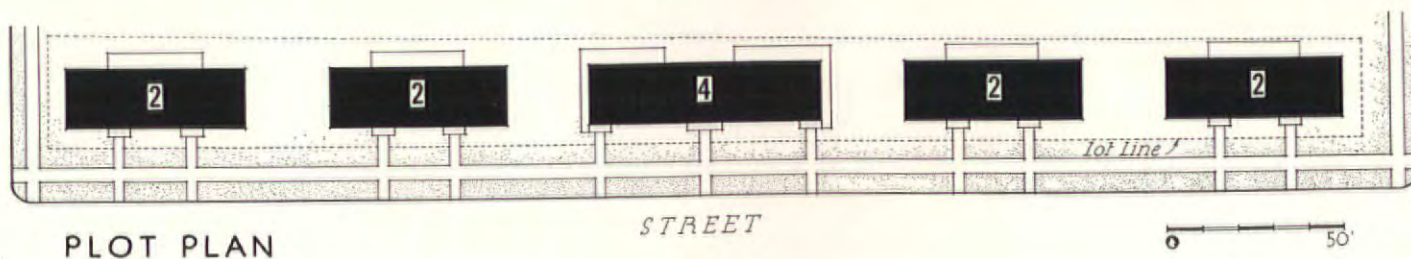
To make the experiment as realistic as possible, the Foundation refused to take advantage of certain readily

available discounts and bought all materials and equipment through subcontractors and dealers paying the same prices that would be quoted to any operative builder. Labor wages were at the local union scale*. All work was done on a straight contract secured by the usual methods of competitive bidding. Heating and plumbing were the only separate contracts in the buildings proper. In only one case were these contracts let to the lowest bidder. For the rest the architect followed the usual practice of rejecting figures which seemed too low or which were submitted by contractors of doubtful financial standing. In spite of all this and in spite of a rigid supervision to ensure the best possible execution of the work the Pierce Foundation has produced accommodations that rent for \$10 per room per month. And at that figure all the space was rented before completion.

The development consists of four two-family houses and one four-family house. Each unit of the two-family houses consists of living room with dining alcove, kitchen, two bedrooms and bath. The apartments in the four-family house contain living room, kitchen, bedroom and bath. Thus each unit of the two-family houses rents for \$40 a month and each three-room flat for \$30. Since, however, each tenant has his own heating plant and pays for fuel, water and light separately, the effective rent is somewhat higher. The table on p. 25 shows that this is somewhere between \$14 and \$15 per room per month.

These five buildings stand upon a narrow strip of land lying between Franklin Avenue and the right of way of the

* Westchester Co. Carpenters, \$1.20 per hour; Bricklayers, \$1.30, Helpers, 75 cents per hour; Plasterers, \$1.30, Helpers, 75 cents.





New York, Westchester and Boston Railroad. This strip extends from East Fifth Street to Jackson Avenue, a distance of 372.31 ft. between building lines. At the Fifth Street end, the lot is 26.77 ft. deep, at the other end 31.58 ft. The purchase price was \$3,534, which works out at about 32½ cents a sq. ft. or \$14,000 an acre. The houses occupy 4,454 sq. ft. or just over 41 per cent of the area. This corresponds to a density of between 47 and 48 families per acre. As the houses are 17 ft. deep, outside measurement, the rear yards are 5 ft. deep while the front yards run from 4.7 to 9.5 ft. in depth. There are side courts 20 ft. wide between the two-family houses, and 30 ft. wide between the two-family houses and the four-family house.

In detail the construction of the houses is as follows: There being no cellar the first floor is a four-inch reinforced concrete slab laid on eight inches of well-tamped cinder fill. Sleepers were imbedded in the fill and the whole slab given two coats of hot coal tar pitch. Under flooring is of a water-proofed insulation board and finished floor is of conventional oak. The exterior walls are eight inches thick of second-hand common brick covered on the outside with a white cement wash of a special formula devised by the Pierce Foundation. On the inside are two coats of water-proofing over the brick, one inch of furring, a one-half inch insulating board, another inch of furring, and two coats of plaster, with steel float finish, on wood lath. Second floor joists are wood. Ceilings are plastered three coats on expanded metal lath and the second floor is of oak laid on the usual sub-flooring with heavy building paper. The second floor ceiling is insulated with a four inch mineral wool blanket.

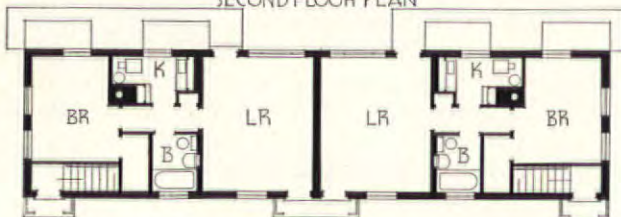
All windows are metal. The majority are double hung, but there are a considerable number of casements. The double hung windows have an operating device which automatically lowers the top sash about eight inches when the lower sash is raised beyond a certain point. The casements have a spring operator and are fitted with a chain for adjustment without removing the screen. All doors and trim were manufactured in a local mill as were the kitchen cabinets in the two-family houses. All sheet metal work is of heavy copper.

The prefabricated bathroom units constitute the major departure from standard practice. These have been illustrated and described before in considerable detail (ARCH. FORUM, June, 1935, p. 440). It should be noted, however, that the waterclosets used here are of the expensive one-piece type and the lavatories are vitreous china rather than enameled iron.

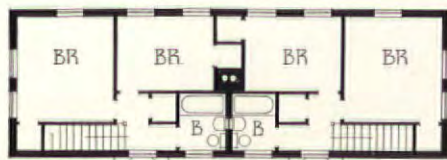
The kitchen of each house or flat contains combination sink and laundry tray, gas cooking stove and gas refrigerator, and rather more than the usual amount of cupboard space. In addition each kitchen contains a separate heating and hot water plant. The hot water system consists of a small gas heater with a twenty-gallon storage tank. Inasmuch as the whole development is of an experimental nature the heating plants used are of three different sorts. Two of these are ordinary hot water gravity types, the difference between them being that some employ coal burning boilers while others use gas-fired heaters. In one house an entirely different system affords complete air conditioning including summer cooling. The principle upon which this operates has not been disclosed in detail, but it is somewhat analogous to that of an automobile heater with a cool air supply added. The Foundation hopes that this



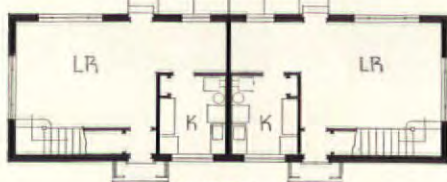
SECOND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR



FIRST FLOOR

system will provide complete year round air conditioning for no more than the cost of a conventional heating installation. It should be noted here that the difference between the cost of operating the coal burning boilers and the gas-fired boilers is small due to the fact that where gas is used for heating there is a special rate that effects a considerable saving. For example, the cost of gas for heating a single unit of a two-family house is estimated at \$116 per annum plus an amount for domestic use of \$64 — a total of \$180. The same amount of gas for domestic use at the regular domestic rate would cost \$136. The extra expense therefore for gas heating amounts actually to only \$44 per year. On a similar basis the cost of using gas heat in the three-room flats is estimated as from \$5 to \$8 per year depending upon the exact location of the flat. This would seem to make the gas heating of the flats actually cheaper than coal, and the gas heating of the houses about the same price. It will be interesting to see actual figures after a year's operation.

As the table on p. 25 shows, the rents are sufficient to pay all expenses of operation and maintenance, and leave a balance which will retire the investment in 24 years and pay a return of 6 per cent on the outstanding balances. It is a little difficult to compare this with more conventional financial arrangements on account of the absence of any mortgage. Assuming a 60 per cent mortgage, the gross rents will pay 6 per cent on the invested capital, and retire the mortgage in eighteen years with interest at 6 per cent or in fifteen years with interest at 4 per cent. If the mortgage is written for a limited period only, say five years, this same gross income will just about pay a 6 per cent interest rate and a 4 per cent annual amortization.

As a model for similar housing developments, the Pierce Foundation project suffers because of the peculiar character and location of the property. Its chief virtue lies in the intelligent development of the specific site. The shallowness of the lots is partially offset by the handsomely landscaped school across the way to provide view and plenty of space in front, and by the permanent air space afforded by the railroad right of way in the rear.

CAPITAL INVESTMENT

Land.....		\$3,534.00
Landscaping.....	\$1,000.00	
Concrete Sidewalks.....	800.00	
		<hr/> 1,800.00
		\$5,334.00
Houses.....		<hr/> 42,229.38
Total Investment.....		<hr/> \$47,563.38





BREAKDOWN OF BUILDING COSTS

General Expenses, Permits, etc.	\$750.00
Excavating and Grading	620.00
Foundations	1,280.00
Brick Walls and Chimneys	7,120.00
Miscellaneous Steel and Iron	400.00
Rough Carpentry (Framing)	2,640.00
Rough Carpentry (Floors and Roofs)	752.00
Insulation	1,359.20
Roofing and Sheet Metal	1,250.00
Sash, Glazing and Window Screens	2,000.00
Electric Wiring and Fixtures	1,100.00
Lathing and Plastering	3,100.00
Finish Carpentry	3,860.00
Wood and Linoleum Floors	1,100.00
Painting	1,068.18
Screens and Weather Strips	680.00

\$29,079.38

Plumbing (separate contract)	\$5,261.00
Heating (separate contract)	4,489.00
Refrigerators and Stoves	1,200.00

10,950.00

Architect's Fee (5½%)

\$40,029.38

2,200.00

\$42,229.38



INCOME

Eight 4-room Houses @ \$40.00	\$3,840.00
Four 3-room Apartments @ \$30.00...	1,440.00

\$5,280.00

EXPENSES

Taxes.....	\$1,028.56
Maintenance and Supplies.....	400.00
Insurance.....	110.00

1,538.56

Balance for interest and amortization..... \$3,741.44

RENTALS

Four rooms @ \$10 per room per month..... \$480.00

Gas for heating..... *\$116.00

Gas for cooking and refrigeration.... *64.00

Water..... *15.00

Electricity (lighting only)..... *36.00

231.00

Total effective rent..... \$711.00

Rent per room per month..... \$14.81+

Three rooms @ \$10 per room per month..... \$360.00

Gas for heating..... *\$71.50

Gas for cooking and refrigeration... *58.00

Water..... *15.00

Electricity (lighting only)..... *24.00

168.50

Total effective rent..... \$528.50

Rent per room per month..... \$14.68+

*Estimated.



Prefabricated panel bathroom. Under lavatory is drop down hamper which is easily removed for access to pipes. At top right, gas-fired boiler for heating system. Below coal burning boiler. At bottom, is gas fired air conditioning apparatus.



DEMONSTRATION HOUSES

BERGER MANUFACTURING CO., SPONSOR

OSCAR G. STONOROV, ARCHITECT

ALFRED KASTNER, STRUCTURAL ENGINEER

THE latest link in the chain of steel frame houses is that just erected by the Berger Manufacturing Company of Canton, Ohio, a subsidiary of Republic Steel Corporation. This house is an important advance in home construction in that it utilizes throughout standardized units now made on mass production basis. Every material used in the house has been specified because in the opinion of its architect and engineer it perfectly meets the need which it fills. At the same time the mass production of materials substantially reduces the total cost of the house and improves its quality.

The keynote of this system is the fabricated steel frame or skeleton — each unit of which has been designed to be easily handled by one man. This means that there is no need of erection machinery on the job. This house is not what is popularly known as a "steel house" for only its frame is of steel. The exterior may be finished with any building material now in use, permitting wide variety in appearance. Steel is used only where steel should be used from an economic and safety viewpoint. The houses have been investigated by Federal Housing architects and engineers, and the type of construction accepted as eligible for FHA loans in any locality.

Two of these houses have just been erected in Bethesda, a suburb of Washington, for sale upon completion. The steel frame for each of the six-room houses was erected in one day by five men. The houses were completed and ready for occupancy within four weeks. This compares with about three months ordinarily needed to build a house of this size.

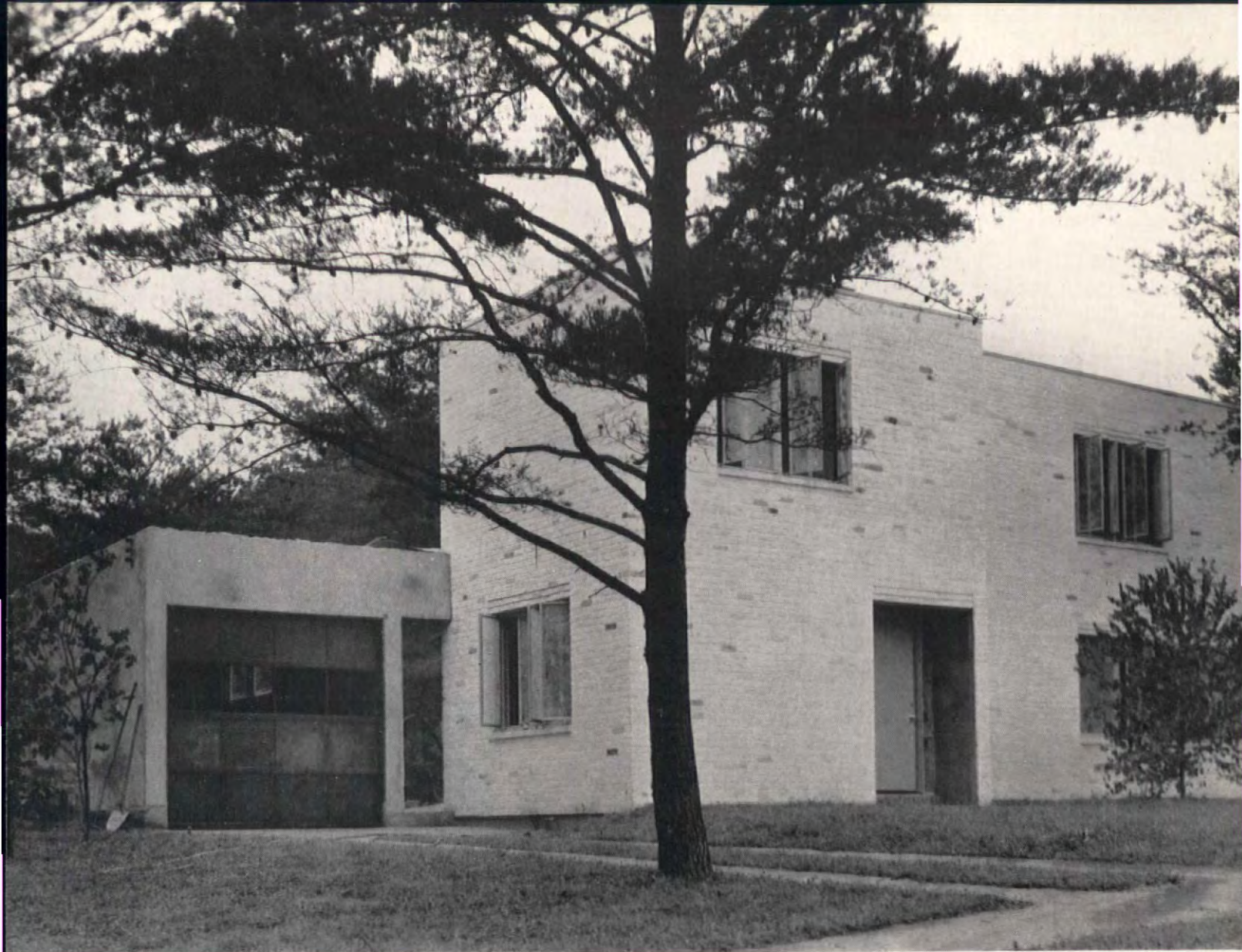
Architect Oscar G. Stonorov with Alfred Kastner and the engineers of Berger Co. spent more than a year in developing, designing and perfecting the features incorporated in these houses. Preliminary investigations revealed that steel could be efficiently and economically used in the skeleton of the house allowing the contractor or owner the widest latitude in the choice of materials for the exterior and interior finish. Brick, stucco, stone, clapboard, shingles — in fact any standard building material may be used for the exterior finish. Building material can be easily nailed to the steel if construction requires. The skeleton of the house is an assembly of frames fabricated from the highest

quality of strip steel. Doors and windows are shop-welded into these. All frames are rectangular in shape, 3 ft. wide and of desired ceiling height, and those for blank or solid outside wall surfaces are interchangeable with those containing doors or windows. The rectangles are simply bolted to the foundation and to each other forming rigid and continuous steel framing for the house. They can be used in building according to any floor plan. Floor and roof framing of metal joists is bolted to the rectangular steel wall units. This gives a flexibility of architectural treatment and high home utility which enables the house to meet the individual taste and needs of the owner.

Any standard type of heating equipment and any fuel may be used. In Bethesda gas was used for fuel as well as for the refrigerator and other services. The heating unit selected occupies about the same space as an ordinary kitchen stove and contains not only the furnace but a fan for air distribution and an instantaneous hot water heater as well as the air conditioning facilities. Air conditioning is provided by a filter arrangement, a humidifier and a humidistat, and thermostatic control guarantees heat economies. Air ducts for the heating and air conditioning system are built into the steel frames. They discharge fresh conditioned or heated air through attractive, inconspicuous grilled openings in every room and similar grilles exhaust used air. A unique and highly economical feature is that the return air passes through the floor system and through the steel frames in the well-insulated walls. Chilly floors and walls are eliminated. No air from bathroom or kitchen is recirculated through the system.

An outstanding economy is a built-in, self-contained, box-like plumbing stack or chase. The chase is factory-assembled and eliminates running pipes through the walls. It contains all hot and cold water pipes for the sinks, laundry tray, bathtub and toilet facilities, and the vents and flues for the heating unit and water heater. The installation consists in simply attaching the fixtures. There are no exposed pipes running from the fixtures into the walls or floors, which greatly decreases the work required to keep kitchen and bathroom clean and sanitary.

As already pointed out, exterior walls may be of any standard building material. This permits the architect or



Dana A. Barnes Photos

THE HOUSE AS DEVELOPED FROM THE STANDARD PLAN "200"



owner to display his own individual taste in the appearance of the house. In Bethesda the exterior walls are of common brick, painted white, with the exception of the walls of the covered porch and front entry which are faced with stucco. The brick is "laid up" exactly as with any other type of construction but is more securely anchored to the steel-frame than is ordinarily possible.

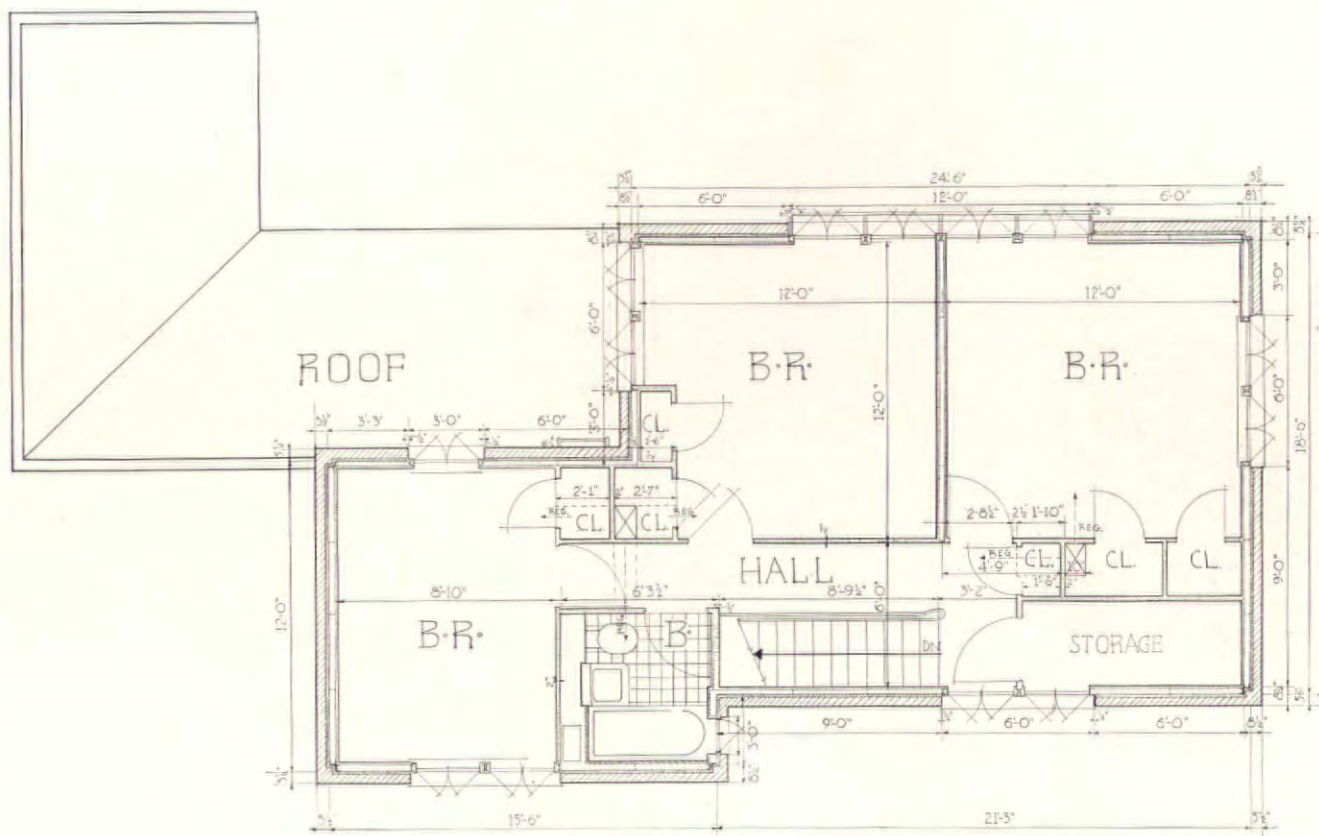
Proper and adequate home insulation against both heat and cold is now recognized as a necessity to health and comfort. The sub-flooring and roof are $1\frac{1}{2}$ in. of a mixture of cork and concrete with the strength of concrete combined with the insulating value and resiliency of cork. This is supported on steel joists.

The floor material itself, whether wood or asphalt tile, is laid directly on top of this sub-floor, and may be nailed down or laid in mastic. The 3 in. space in the steel frame itself gives air circulation for insulating purposes. Attached to the outside of the frames is 1 in. of pure cork covered with standard waterproofing. The inside of the walls can be of any standard wall board, lath and plastering wood paneled or papered. Any style or shape of roof and any first quality roof material may be used with adequate insulation. Flat roofs with standard ten-year guarantee roofing were selected for the first Bethesda houses.

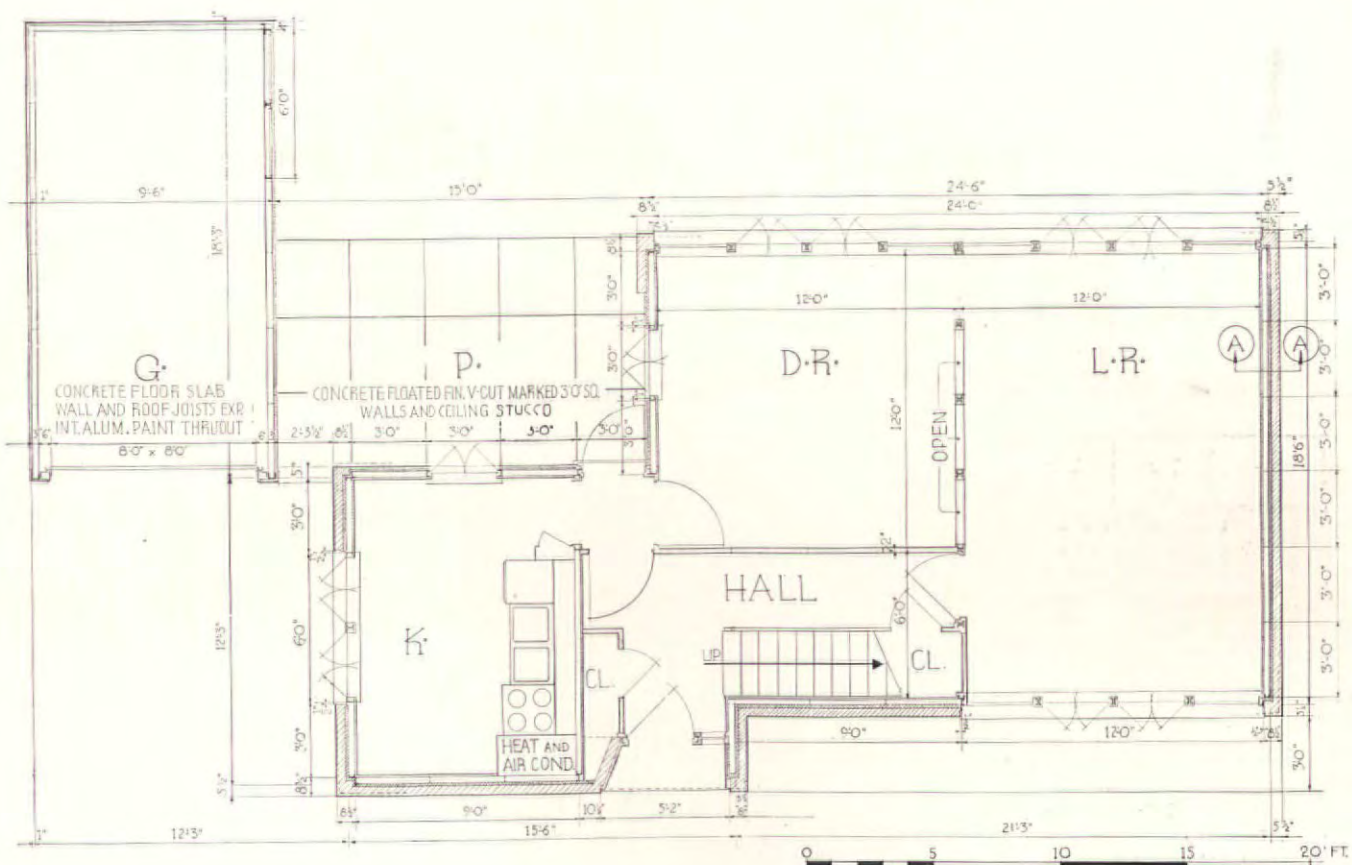
When all this was done the two houses were offered for sale at \$6,950, complete, including lot, all connections for utilities and a certain amount of landscaping. Both were sold. One at the stated price and the other for \$700 additional which admitted certain changes the owner required and which the flexibility of the system easily permitted.



Above are two views of the preliminary models for the houses actually erected at Bethesda. It should be noted that these designs lend themselves well to grouping. On the opposite page are working plans. These may be modified somewhat to produce the various "styles" shown on the next two pages. Any design that the architect prefers may be produced from the same units provided it is laid out with a module of three feet.

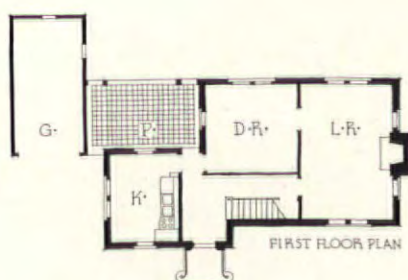
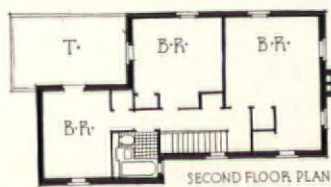


SECOND FLOOR PLAN

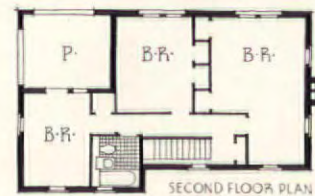


FIRST FLOOR PLAN

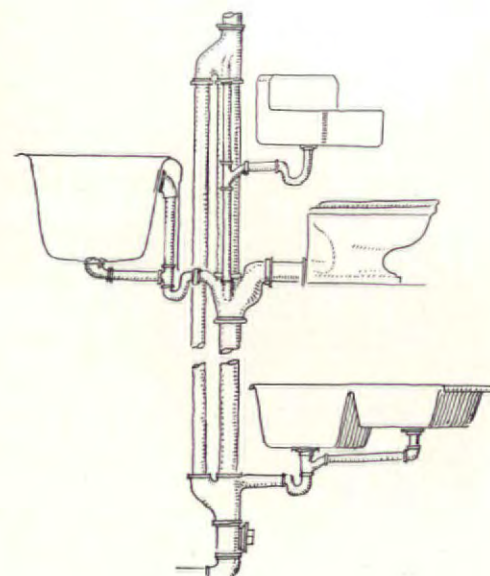
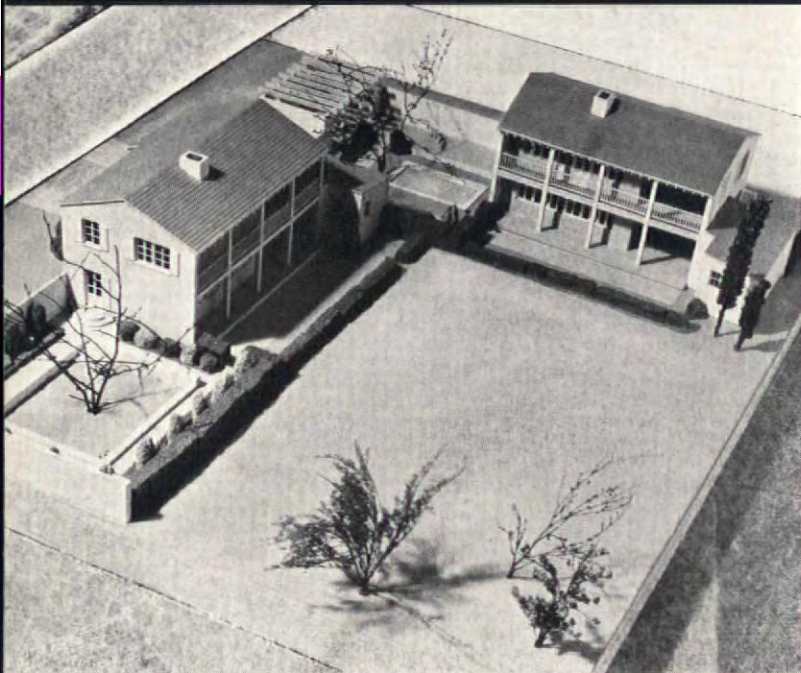
COLONIAL VARIATION



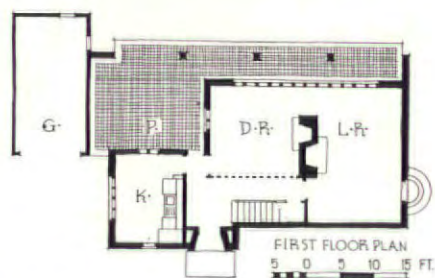
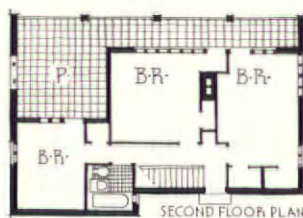
GEORGIAN AND FRENCH VARIATIONS



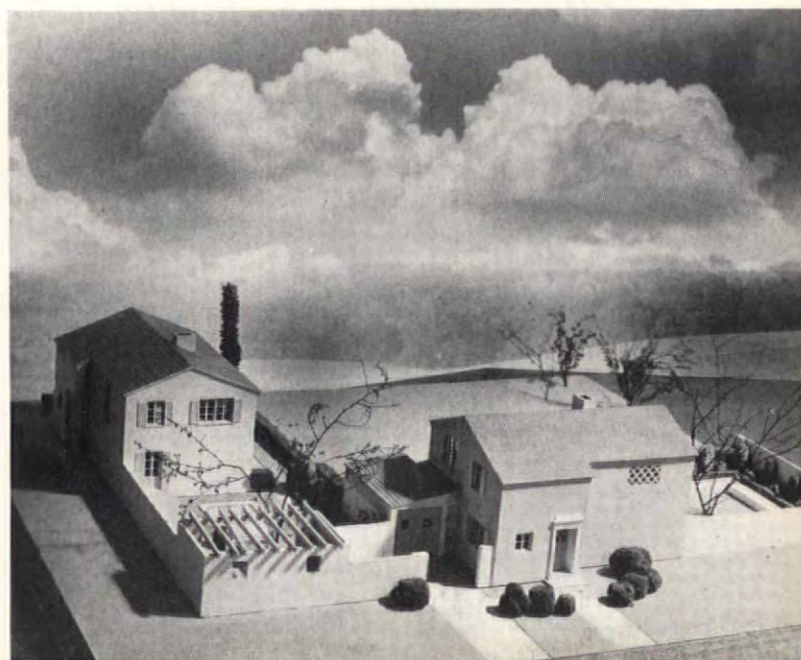
WESTERN COLONIAL VARIATION

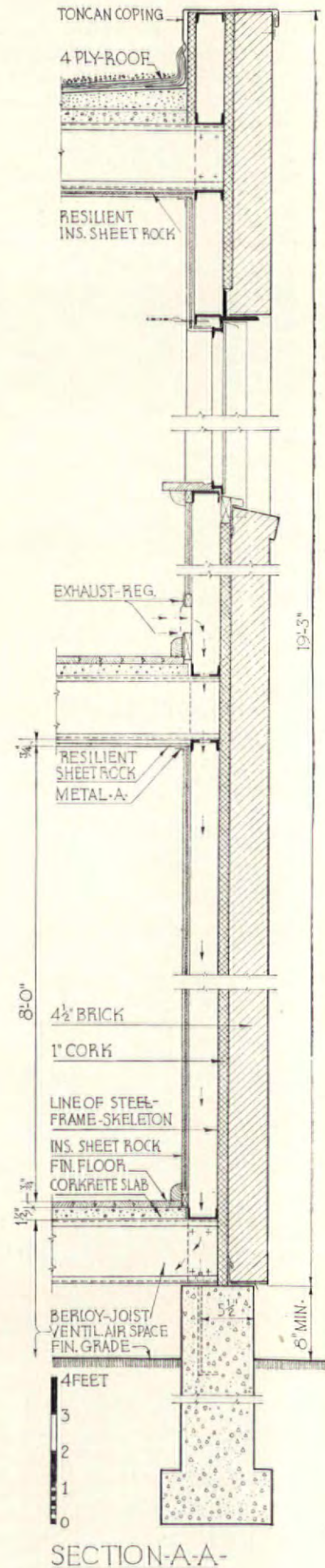
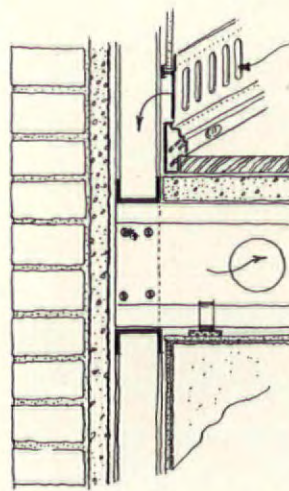
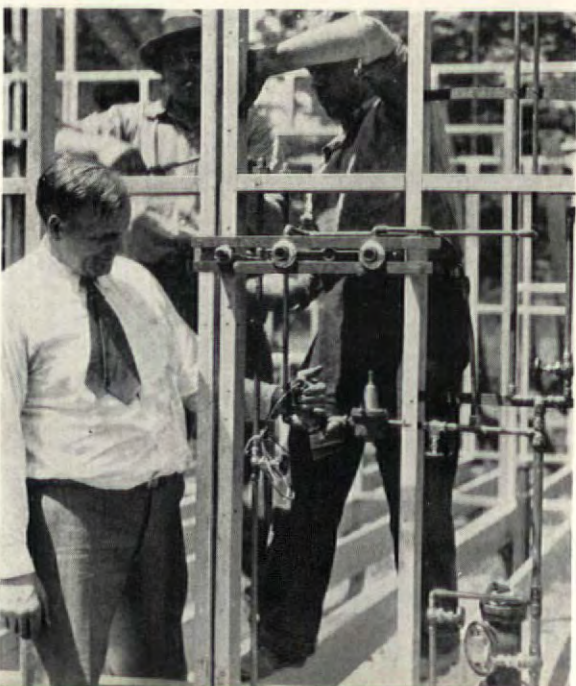
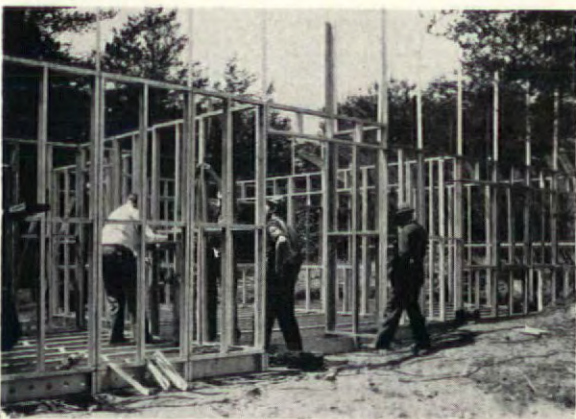


On this and the opposite page are shown three design variations of a basic plan. These are but a few of those possible with this steel unit system. Above is a detail of the soil and vent stack which runs in the central chase. Notice the special fittings which require no installation work other than simple connection with the fixtures.



JULY • 1935





The photographs at the left show various stages in the erection of the houses. The top one shows how brick veneer is applied. At bottom, the method of securing piping. The small detail above shows the metal base at a larger scale. Note the openings through which the air conditioning system operates.



MOTOHOMES

WHITE PLAINS, N. Y.

HOUSES, INC., SPONSOR

ROBERT W. McLAUGHLIN, JR., ARCHITECT

IF leather-lunged opposition is the measure of the potency of an idea, the proponents of the prefabricated house should find sufficient courage to redouble their efforts. Not from all but from many sides have come scornful statements attempting to predemolish the prefabricated house as an impractical, unlovely, uneconomic and generally undesirable form of habitation. Among the popular indictments is the claim that the public will refuse to have houses that all look alike (this despite those hardy perennials, the Philadelphia and Baltimore row houses and the regimented, synthetically constructed colonies of the Queens, N. Y., variety).

To meet his critics and at the same time to provide a true-to-life demonstration and test, Houses, Inc.'s. President Foster Gunnison purchased a 300 x 100 ft. naturally wooded Westchester site at White Plains (ARCH. FORUM, May 1935, p. 508), upon which he erected three different Motohomes. Here for the first time is displayed the prefabricated house, not as a single naked building but in an architecturally controlled landscaped setting, where its possibilities may be judged by the individual homeseeker and by the operative builder and realtors. It is the latter class of buyers that most people believe will initiate the prefabricated house "era" in this country.

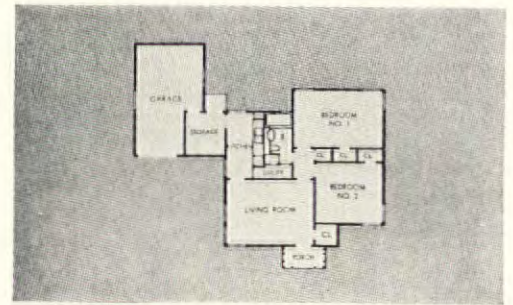
The White Plains houses were formally opened on Sunday, May 12, for an invited audience and under the benign gaze of Owen D. Young who draped his long legs over the balcony parapet and applauded with his heels without

damage to the "Pyrestos" wall as Mrs. Gerard Swope graciously presided at a meeting addressed by various notables including a representative of the American Federation of Labor.

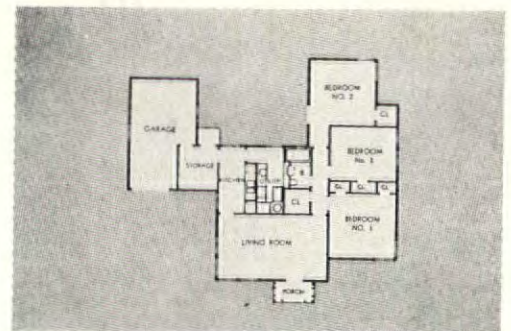
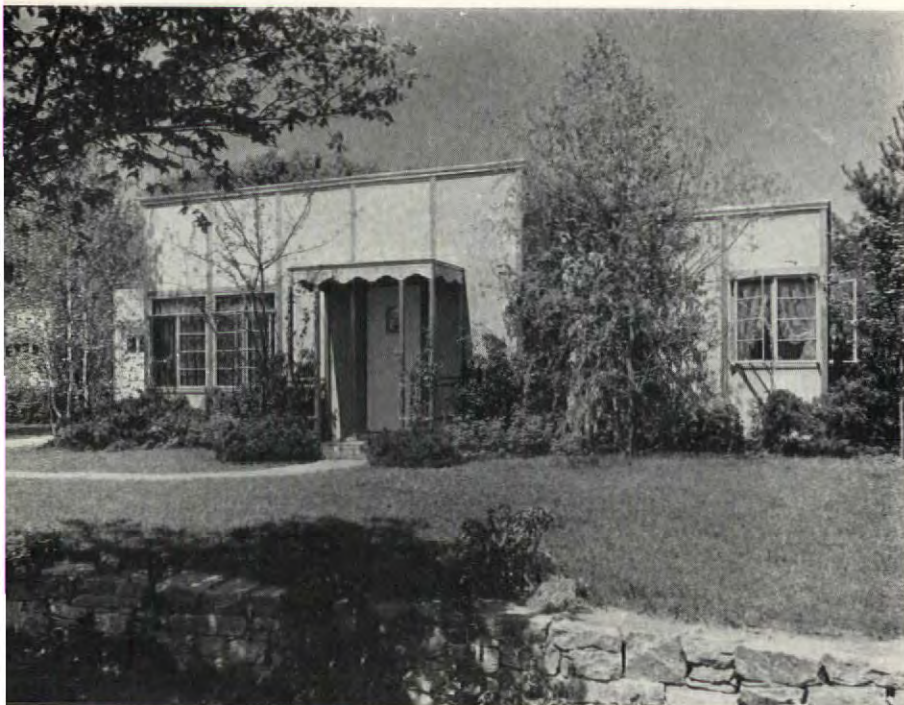
Since then some 4,000 people a week have each paid twenty-five cents to inspect these houses and, while these funds have gone to various charities, Promoter Gunnison has shrewdly set New York's richest suburban area agog with talk about the little houses that come complete with food in the kitchen.

The White Plains houses, as well as other Motohomes which are being exhibited in New York and other nearby places, are sold only for cash. Installment purchase plans are still being perfected and will not be announced until this fall. To date 4,950 people have been seriously enough interested to agree to sign a purchase contract, if and when contracts are being accepted. Also to date forty Motohomes have been built or are now in the process of erection. Some of these are for private owners, others for stores, such as the large one Frederick Loeser has opened in Garden City and the three sponsored by R. H. White (furniture) of Boston.

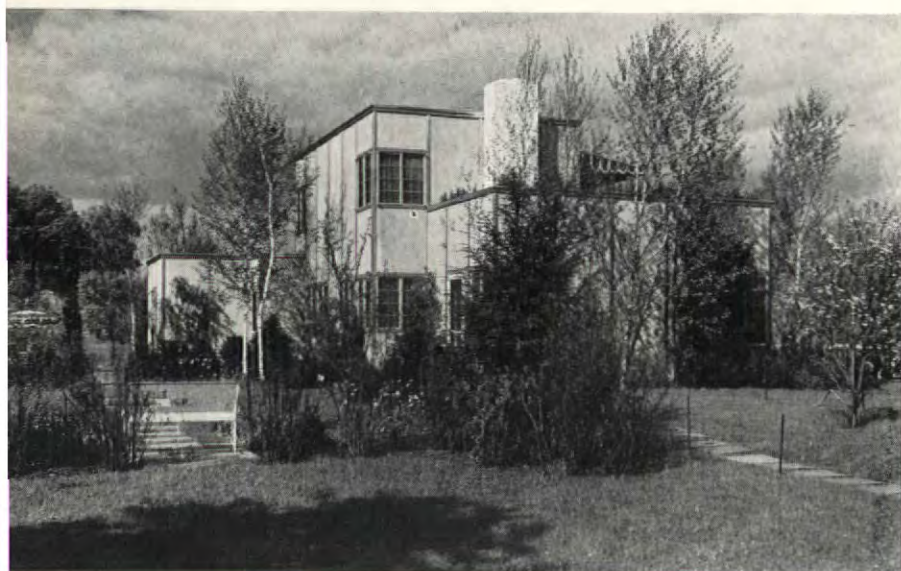
Prices quoted now are of little significance. The company is not yet really in production and until it or some other prefabricator makes and sells enough of these houses to offer them at mass production prices, the building industry will continue feverishly to debate the completely prefabricated house without getting any realistic answer.



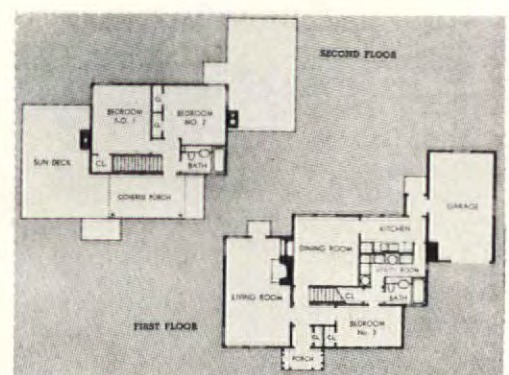
Two bedrooms, living room, kitchen, bath, current all cash price without land \$4,950. With garage and storage room attached, as shown, \$6,200.



Three bedrooms, larger living room, kitchen, bath, laundry, with garage and storage room attached, current all cash price without land \$7,700.



Gottcho Photos



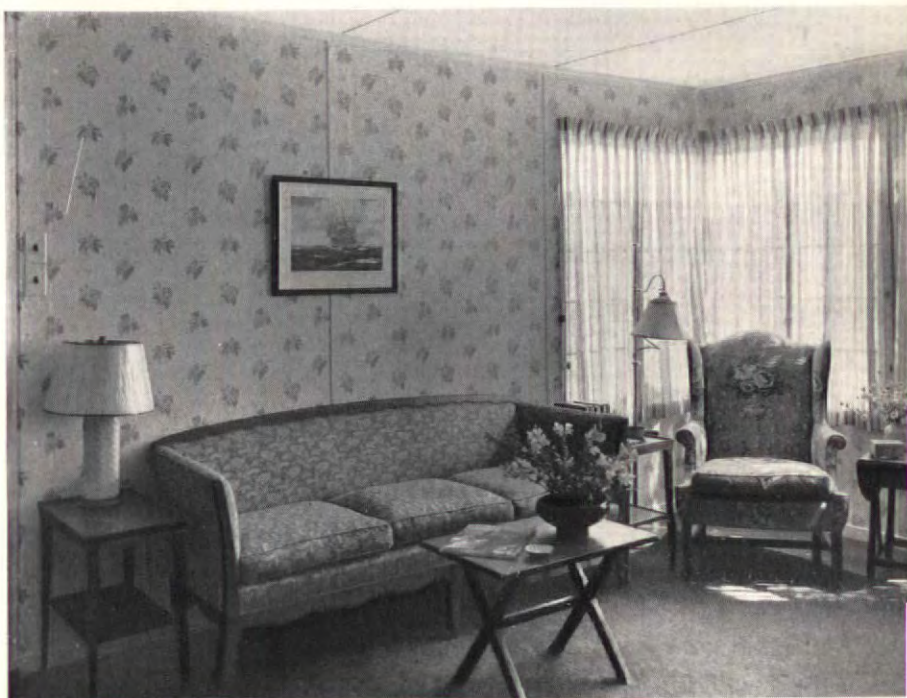
Three bedrooms, two baths, living room, dining room, laundry, kitchen, garage and storage room attached, current all cash price without land \$9,800.



Gottsch

Above, all metal kitchen with built in overhead lighting and continuous line work surface. Bathroom with overhead lighted medicine cabinet and mirror. Special shower-tub combination.

Right, living room and dining room showing treatment of corner windows.



Go

KEN HEDRICH CAPTURES THE A. I. A. CONVENTION

WITH HIS CANDID CAMERA



Retiring President E. J. Russell presiding while to his right Charles T. Ingham looks skeptical and Edwin Bergstrom at his left even more so. The subject is unification.



J. Andre Foulhoux plans his retort. William Stanley Parker (immediately under the lighting fixture) at an attentive moment.



Mrs. C. Herrick Hammond and escort seek refuge in the Schroeder lobby.



William T. Warren pipes up as Franklin O. Adams finds distraction elsewhere.



G. Corner Fenhagen, William G. Nolting, Lancelot Sukert and companions inaugurate the A. I. Amen corner.



Leigh Hunt extends felicitations to new President Stephen F. Voorhees. Retiring Secretary Frank C. Baldwin approaches.



The Detroit delegation engages in mild debauch.



Henry Wright refuses to cover more than two-thirds of the available area while he chats with Howard Moise.



Hubert G. Ripley, left, revives an anecdote. Frederick W. Garber and H. Daland Chandler await the denouement.



Ladies of the convention escape from architectural oratory.



Harvey Stevenson, right, cross examines Kenneth Stowell on competitions, while Ely Kahn (boutonniere) meditates on the Beaux-Arts.



Mrs. Irving K. Pond seems indifferent to the animated discussion between her husband and Robert D. Kohn.



Ex-governor Kohler discusses Housing before the joint luncheon of the A.I.A. and Producers' Council. At his right J. C. Bebb and Charles D. Maginnis pay close attention.



The speakers' table at the annual banquet. (Left) Gerrit DeGelleke casts a modest shadow on Stephen F. Voorhees whose talk intrigues Glenn Frank and Robert D. Kohn. E. J. Russell appears pleasantly relieved and Louis La Beaume tells A. C. Eschweiler, Jr., president of the chapter, what a grand job Milwaukee did.

THE SIXTY-SEVENTH

brings 303 A. I. A. Conventioneers to Milwaukee to reject unification and to pick for their President an architect who can make a profit even on a \$100 job

"FATAL ills curbed by 'Brain Bath'." Thus on its front page of June 10 did the *New York Times* dramatize the opening meeting of the American Medical Association at Atlantic City. No such newsworthy event marked either the opening or the subsequent meetings of the American Institute of Architects held in Milwaukee two weeks earlier. The widely predicted controversy of the century, on the question of architectural unification (assimilation by the Institute of the newly organized and more numerous populated State Architectural Societies), got nowhere.

If proponents of unification there were, they lost ardor as Chicago's veteran I. K. Pond and Herrick Hammond riddled the proposed complicated program. Similarly the much heralded election contest for the Institute's presidency turned into a calm and well mannered balloting, unpreceded by spirited debate, in which Boston's Charles D. Maginnis (Party Symbol — the Five Orders) deferred to New York's Stephen Francis Voorhees (Party Symbol — the New Order).

Most significant feature of the meeting was the interest in the discussion of the architect's relation to the small house problem. Close attention was given to a description of the Baltimore Plan in which a Public Architectural Clinic provides a clearing house for homebuilders (be they individuals or developers) to choose from plans previously executed by local architects and then to arrange with the originators for duplicate use of these plans at a nominal price. Newly elected President Voorhees proudly announced that his firm managed to handle innumerable remodeling jobs between Telephone Company buildings, that this type of work had carried them through the depression and that "even \$100 alterations could be handled at a profit!" "Small jobs," said Voorhees, "residences or what not, offer architects invaluable contact with that portion of the public which most needs education on the worth of architectural service."

By enthusiastic resolution the Convention endorsed the National Artists Workshops. The plan would provide centers where artists and craftsmen could design and produce, useful art objects and execute art commissions. The \$4,800,000,000 Public Works Relief appropriation could easily furnish the funds most of which would go for direct compensation to workers.

Most dramatic event of the convention was the address

of Milwaukee's famed Socialist Mayor Daniel W. Hoan who substituted for the inevitable "Keys of the City" welcoming speech a considered appraisal of American low cost housing. Said the Mayor: "The fact that this problem is not solved in this country is no credit to the architect. So, gentlemen, while in Milwaukee I trust that somebody, somewhere, will take the initiative, or that some

department or some body of men will get before the American people the economic causes, the economic reasons why this poor housing blight must be wiped out and if you do that and give our people the real underlying causes and the real underlying remedies, the real necessities, you will have to waste very little time — the rest of us will find a way out."

The session most Washingtonian in flavor produced a galaxy of Government men (Messrs. Simon, Treasury; Pettit, PWA; Colean, FHA; Blouke, HOLC), who stressed the architectural opportunities each agency was attempting to provide as well as some of the difficulties of providing them. Newly elected Vice President Francis P. Sullivan closed this session with the report of the Committee on Public Works which ably presented a

plea for continued cooperation between private architects and the Government. While frankly recognizing criticism of the Government he made clear that fault-finding would stop if architects understood the restrictions under which Government department heads operate. Thus successfully defended, the Administration avoided several blistering resolutions which threatened.

Most enjoyable occasion was a day spent at neighboring Kohler, where the socially minded and industrially successful Kohler family headed by the ex-Governor exhibited with just pride their complete community of factories, well designed and landscaped homes and public buildings (mostly by Milwaukee Architect Richard Philipp).

Running concurrently with the A.I.A. Convention were the meetings of the affiliated Producers Council. Its purpose: to bring about better collaboration between architect and manufacturer.

Little remains of the convention except the conviction that Milwaukee is a pleasant place of pleasant people, that the popularity of its beer is deserved and that Architects in convention accomplish as little and have just as good a time doing it as do all other groups in convention assembled.

Officers, Fellows and Honorary Members A. I. A.
President, Stephen Francis Voorhees, New York
1st Vice-President, Louis La Beaume, St. Louis
2nd Vice-President, Francis P. Sullivan, Washington, D. C.

Treasurer, Edwin Bergstrom, Los Angeles
Secretary, Charles T. Ingham, Pittsburgh

Newly Elected Regional Directors
Great Lakes Division, Walter R. McCornack, Cleveland
Western Mountain Division, William H. Crowell, Portland, Ore.
Middle Atlantic Division, William G. Nolting, Baltimore

Newly Elected Honorary Members
Carl Milles, Cranbrook, Mich.
Harold R. Shurtleff, Boston

Newly Elected Fellows
Robert Seely De Golyer, Chicago
William Jones Smith, Chicago
Alfred Fellheimer, New York
Frederick Augustus Gold, New York
Philip L. Goodwin, New York
Henry Stuart Waterbury, New York
Walter R. McCornack, Cleveland
Floyd A. Naramore, Seattle
Harlan Thomas, Seattle
Rudolph Weaver, Gainesville, Fla.

HISTORIC AMERICAN BUILDINGS

Historic American Buildings Survey

JAN BREESE HOUSE

East Greenbush,
Rensselaer County, New York

HOUSE AT RUSSIA

Herkimer County, New York

"BEVERWYCK"

William Paterson Van Rensselaer House
Rensselaer, New York

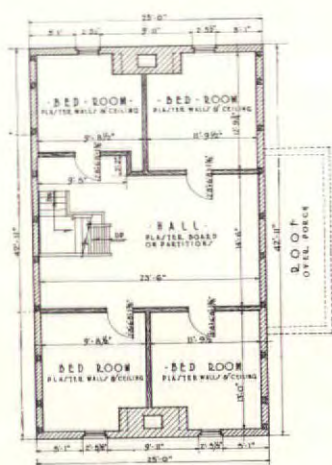
These three houses in upstate New York show a trend in early U. S. architecture that has its repercussions today. The early architecture of the Dutch is replaced by the New England which derived from the English. This in turn is replaced by the Italian style of Palladio. These changes accurately reflect the contemporary changes in social ideology during the same period. The "Helderberg Rebellion" was the inevitable result.

JAN BREESE HOUSE

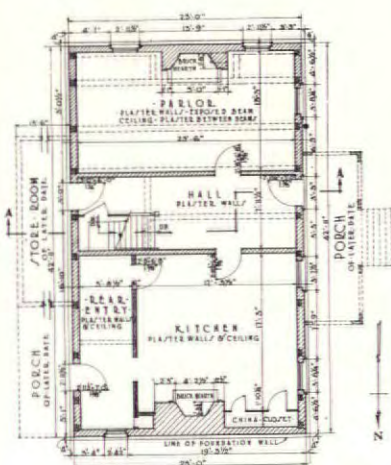
EAST GREENBUSH
RENSSELAER COUNTY, N. Y.

ACCORDING to the present owner, the Jan Breese house was built in 1723 by Jan Bries. In spite of his Dutch sounding name he is said to have come from England. In view both of the name and of the rather Dutch flavor of the house this is probably a mistake. In any case the house was occupied for nearly a century by his descendants who spelled their name in various ways—Bries, Breese, Brece. For the last sixteen years or so the old house has come back to the family of the original owner Miss Cathline Brece Finkle. Whether or not the brick in this house actually came from Holland is not a matter of record. Certainly they look like Dutch brick. The slope of the gable, the swallow-tail patterned brickwork, and the fleur-de-lys anchors all mark the first quarter of the eighteenth century in this part of the world. Wrought iron hold-backs, still in existence in their original place, show that the windows once had solid batten shutters. Obviously the sash are not the originals. The front porch is also an addition, made probably a hundred years after the house was first built. It is hardly necessary to point out that the dormer and ell in the rear were not the original builder's idea.

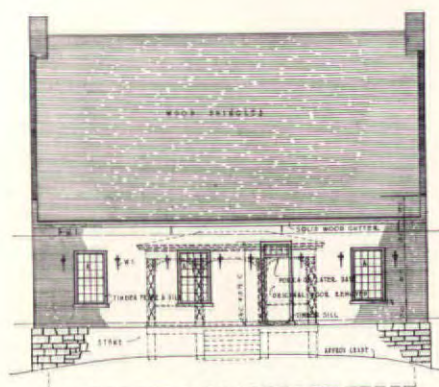




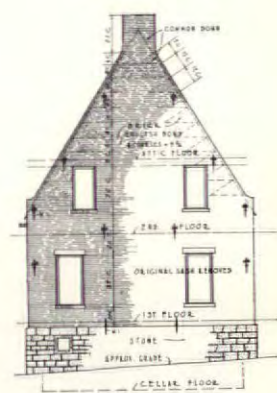
SECOND-FLOOR PLAN
SCALE 1/4" = 1'-0"



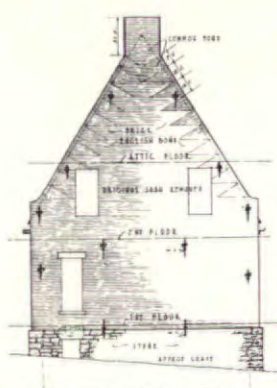
FIRST FLOOR PLAN
SCALE 1/4" = 1'-0"



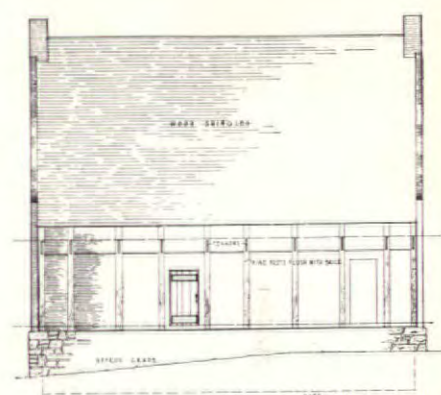
WEST ELEVATION
SCALE 1/4" = 1'-0"



SOUTH ELEVATION
SCALE 1/4" = 1'-0"



NORTH ELEVATION
SCALE 1/4" = 1'-0"



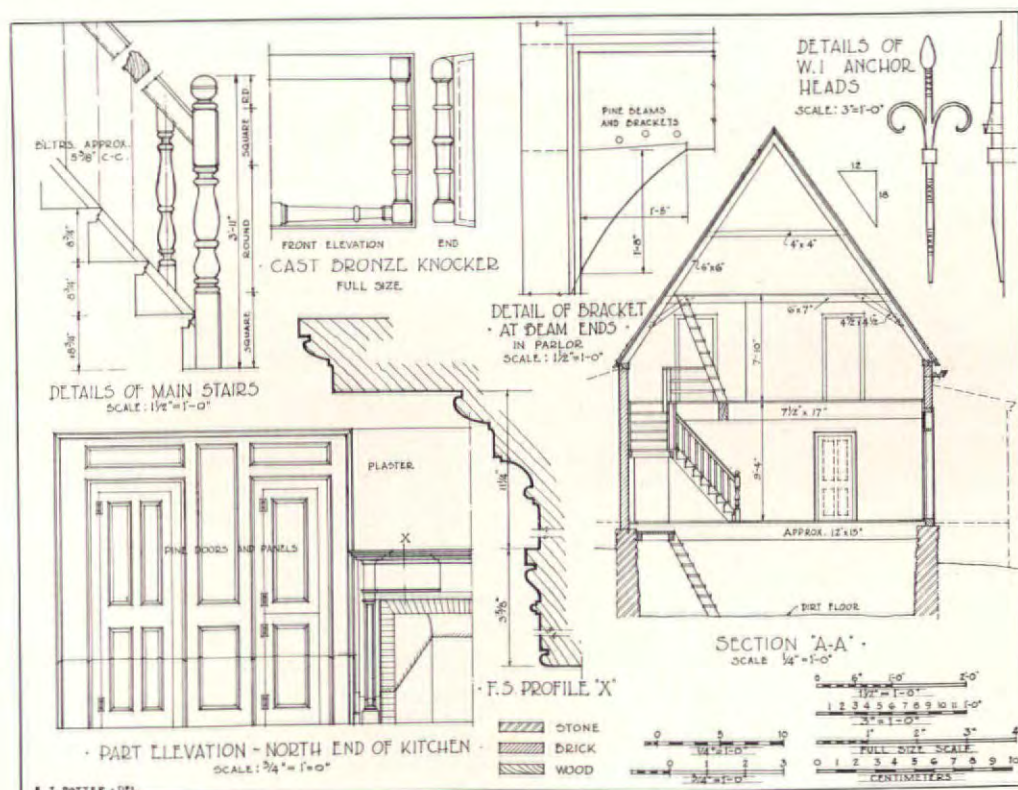
EAST ELEVATION
SCALE 1/4" = 1'-0"

WOOD
BRICK

NOTE: ALL FLOORS ON PILE/AND
JACKED /JOISTS/ AND OF
FINE SHIP LUGS 18" x 10" x 18"
IN WIDTH

0 1 2 3 4 5 6 7 8 9 10
SCALE IN FEET
0 1 2 3 4 5 6 7 8 9 10
SCALE IN CENTIMETERS

THE drawings of the plans disclose the interesting fact that the houses of this period were built in a manner now being revived by many modern technicians. Thus, you will notice that there is a frame of posts set along the walls which supports the beams of the second floor as well as the plate for the rafters. Between these the wall material itself, in this case brick, is cut in. Only difference from contemporary applications of the systems is that no module of length is strictly maintained.



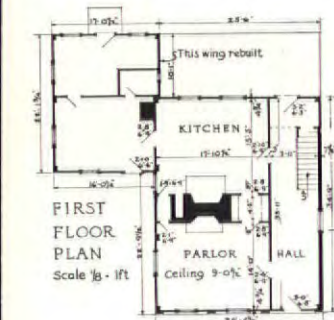
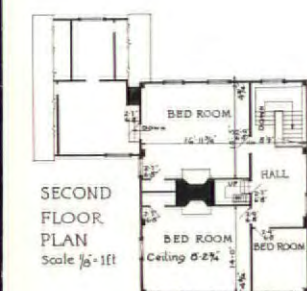
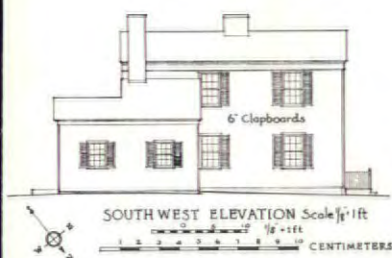
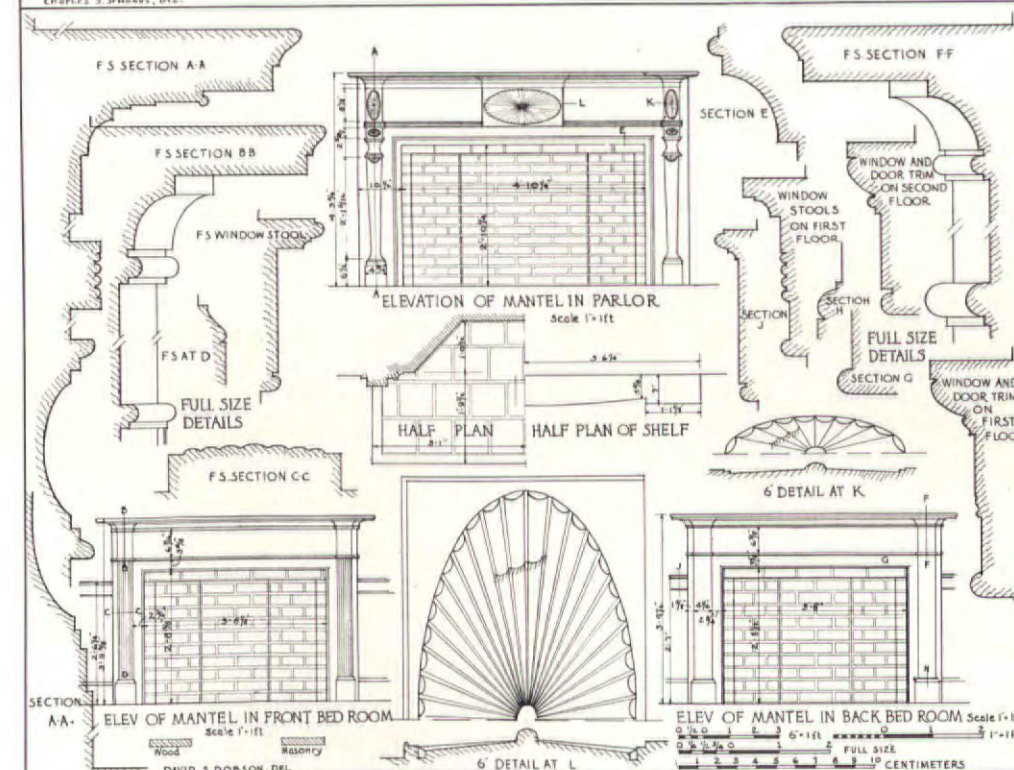
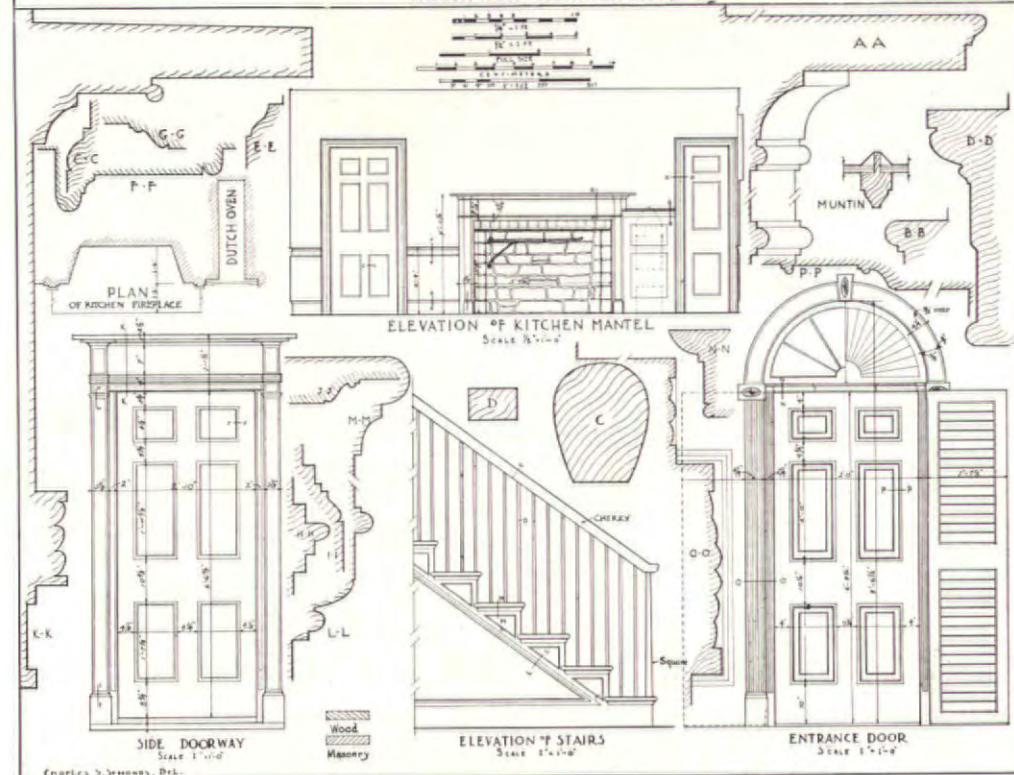
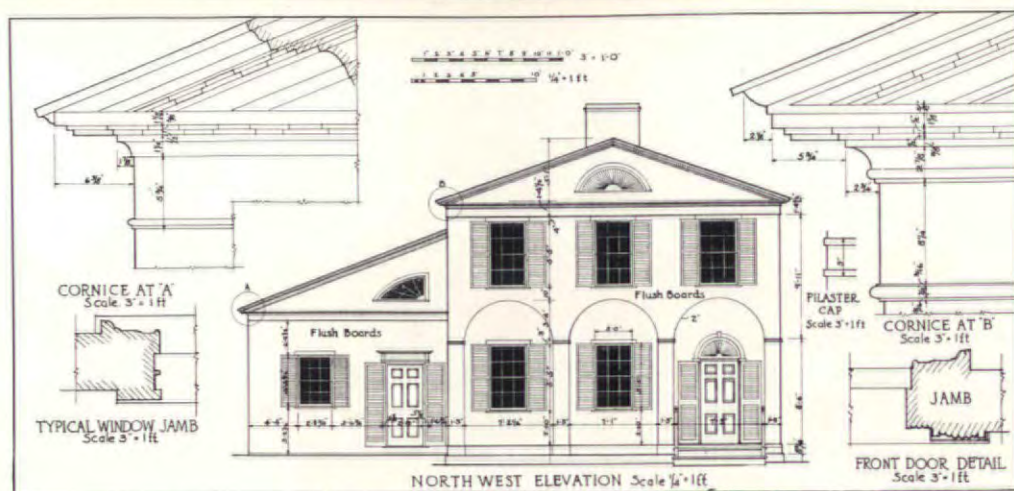
E. J. POTTER - DEL.

HOUSE AT RUSSIA

HERKIMER COUNTY, N. Y.



THE architect who knows the history of the so-called "Colonial" will not need to be told that the early settlers of the village of Russia came from Connecticut, Massachusetts and Vermont. One look at this house makes that obvious. For this is one of those standard designs that are to be found in the carpenter's hand books of Asher Benjamin and others. Hundreds like it may be found all through New England, and even as far west as Ohio. They are of course a sort of hybrid between the earlier New England of the true Colonial period and the classic revival influence. It is interesting to note that the plan of the main house is based on the earlier type while the classic influence has turned it around with the narrow end toward the road. The result is a tremendous waste of space on the first floor. It is probable that the wing in the rear is somewhat later than the original house. The name of the man for whom this house was built is not known. The HABS surveyors found a signature in the house which read, "Nicholas Fosdick, October, 1812." As the house is supposed to have been built about 1803 it may have been built for this Mr. Fosdick. Whoever the first owner was, however, it seems that he was a man of some substance. While not elaborate the design and details of both exterior and interior reveal a preoccupation with something more than mere shelter. Perhaps he was one of those men who made an excellent living from the sale of potash which was produced by the burning of the wood from the forest clearing that went on almost continuously during this period. There was always a ready market for this product in Albany which was reached by the State Road from Johnstown to Sackett's Harbor, a road built by the state with funds raised by means of a lottery. The house here illustrated stood on this road. Whoever the original owner, and for whatever reason he chose to build here, the house speaks for itself as a fine example of the smaller house of the early nineteenth century.



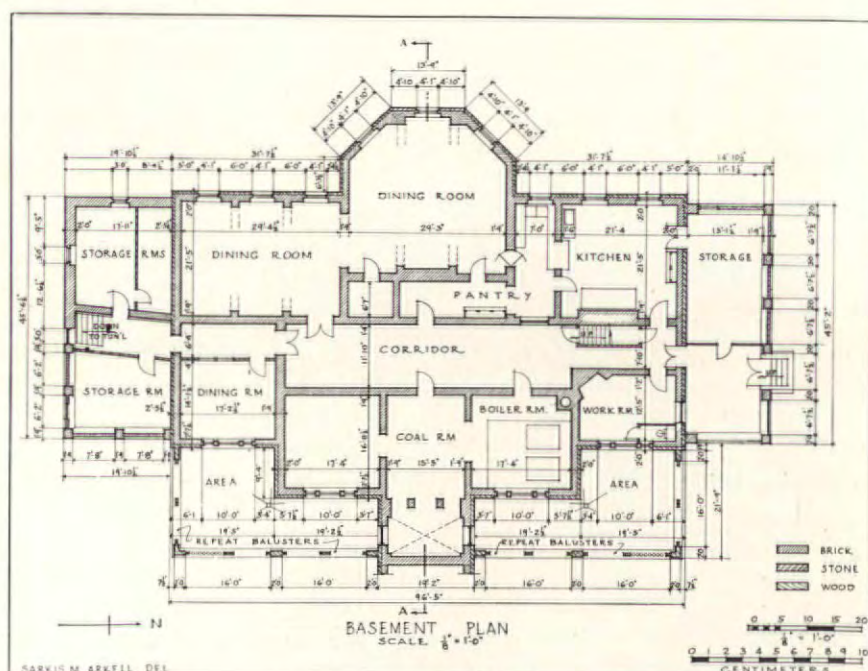
"BEVERWYCK"

WM. PATERSON VAN RENSSELAER HOUSE

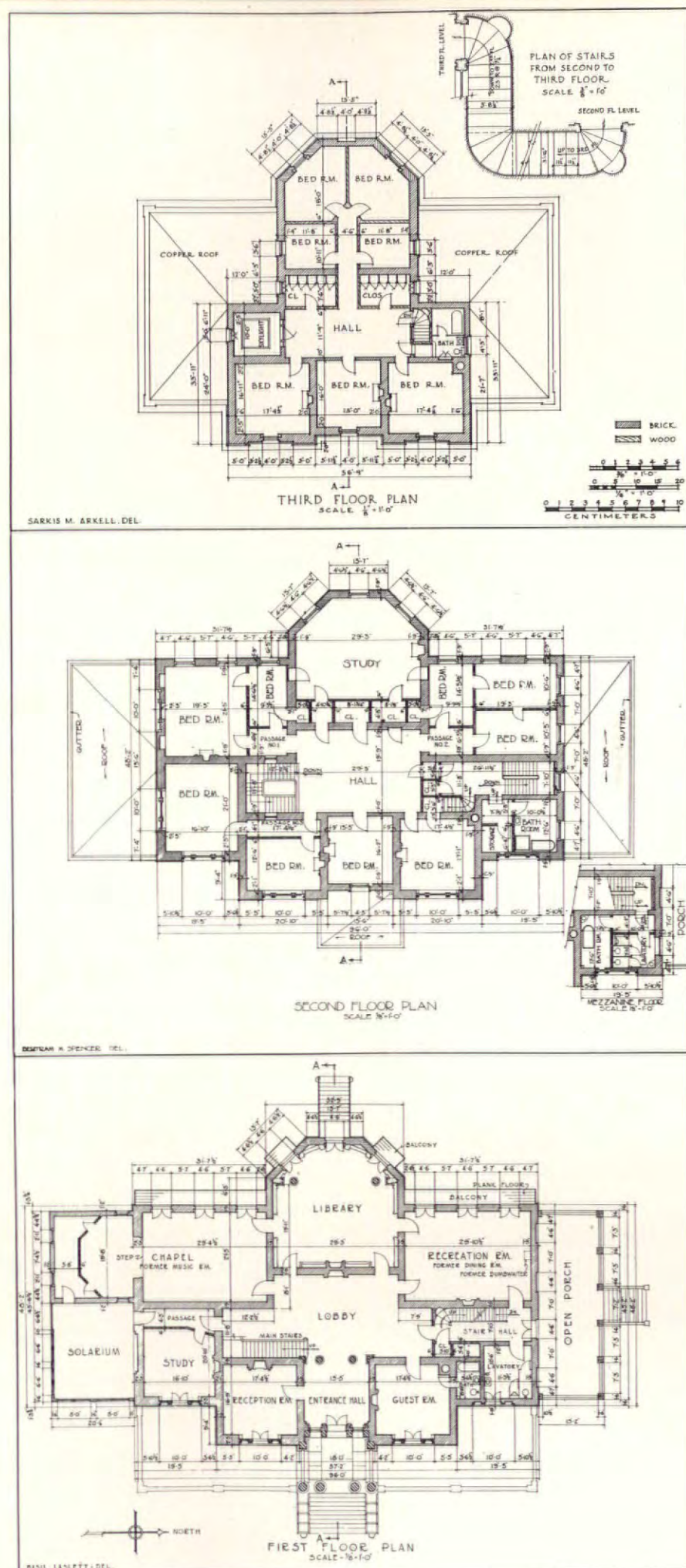
RENSSELAER, N. Y.

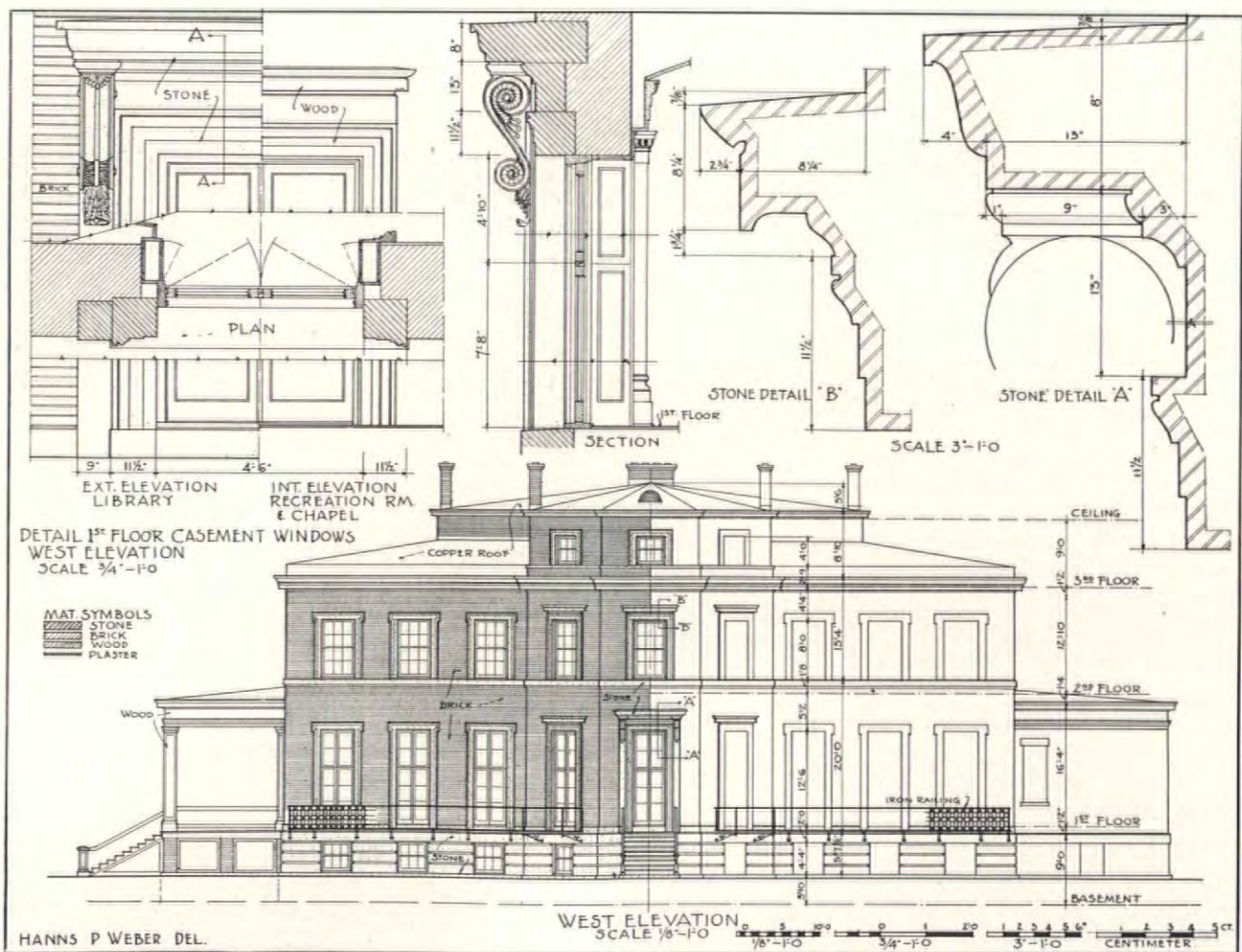
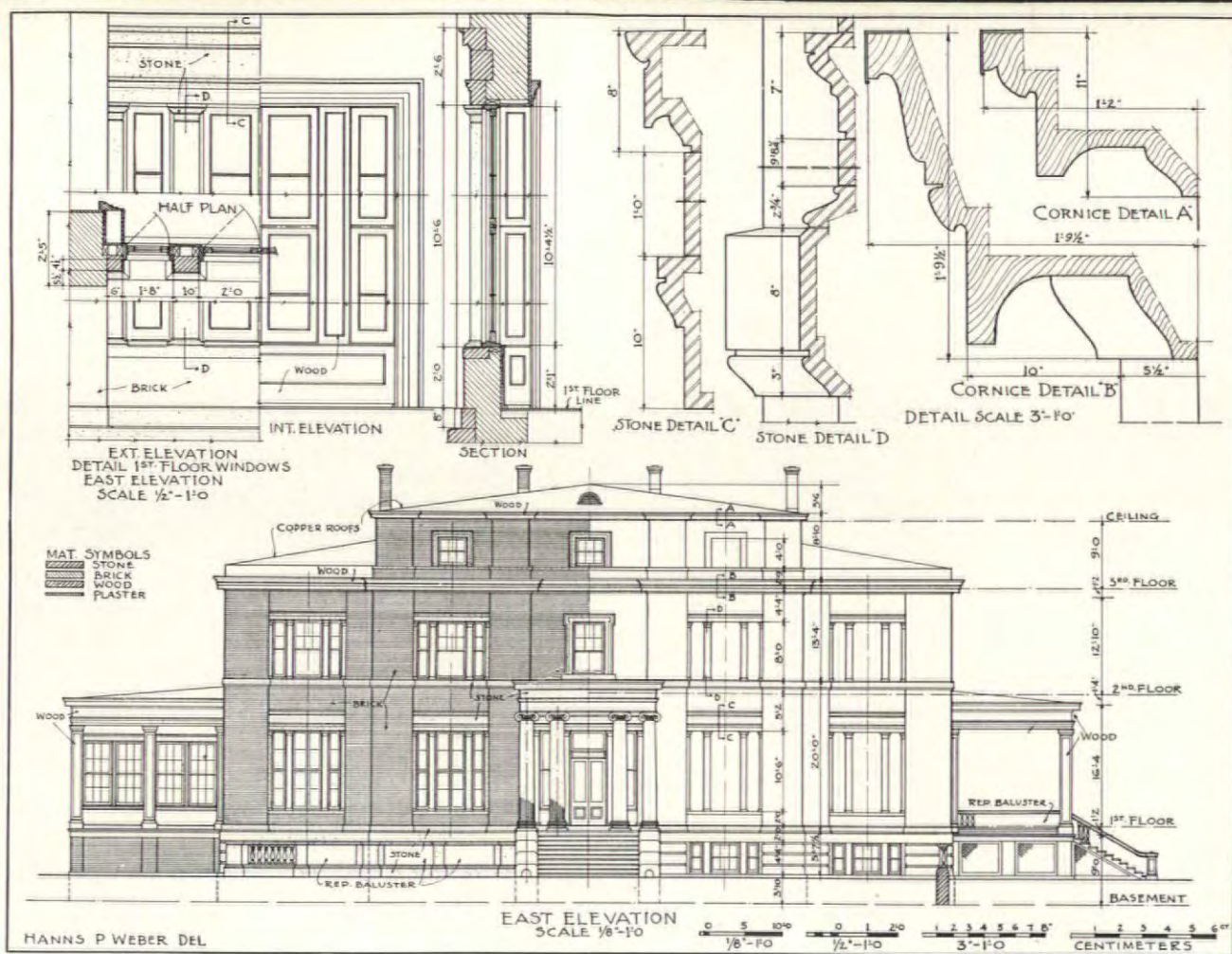


THE original patroonship of Rensselaerwyck lay on both sides of the Hudson River and included the whole of what is now the city of Albany, then Fort Orange. Long after the Dutch government of New Amsterdam had given way to the English governors of New York the patroons enjoyed the fruits of its thousands of acres. Even after the British had evacuated New York and the thirteen colonies had adopted a constitution and become the United States of America, the Van Rensselaers were landlords of all this district. Finally Stephen Van Rensselaer who had built the new manor (The wallpaper from the ball room is now in the Metropolitan Museum in New York) and who is often called "the last of the patroons," died and divided the land between two sons. To Stephen, the elder, went the lands to the west of the Hudson together with the manor. To William Paterson, the younger son, went all the lands on the east bank. Upon this land there was no manor suitable so William Paterson Van Rensselaer decided to build himself one. Having traveled extensively in Europe at a period when the world had extended a more or less unthinking admiration to Italian works of art of all sorts, he employed an Italian architect and a number of Italian craftsmen. The result was the manor of "Bever-



wyck." Obviously, from its plan, built as a place for a full life and lavish entertainment, it was occupied by its owner for only a very few years after its completion in 1839 or 1840. Then the land rent troubles began which culminated in the "Helderberg Rebellion" and the expropriation of almost the entire property. Wm. Van Rensselaer moved to Long Island and the house stood vacant until about 1850 when Paul Forbes saw it on a visit to Albany, liked it and bought it. His family occupied it until about 1887 when it was left vacant again. Finally in 1912 it was purchased by the Order of St. Francis which now maintains there a monastery and training school. Although not strictly speaking American architecture it seems worthy of attention as one of the few gentleman's country residences in the grand manner that can be found north of the Mason-Dixon line. It is almost as elaborately planned as Jefferson's well known Monticello. The design is extremely uneven. Some of the exterior details, notably the cornices, are very fine. Others such as the Ionic columns of the front porch are commonplace and stupid. Most interesting of all are the iron balconies. Just how this handsome Chinese Chippendale railing came to be a part of this classic building is not easy to understand.

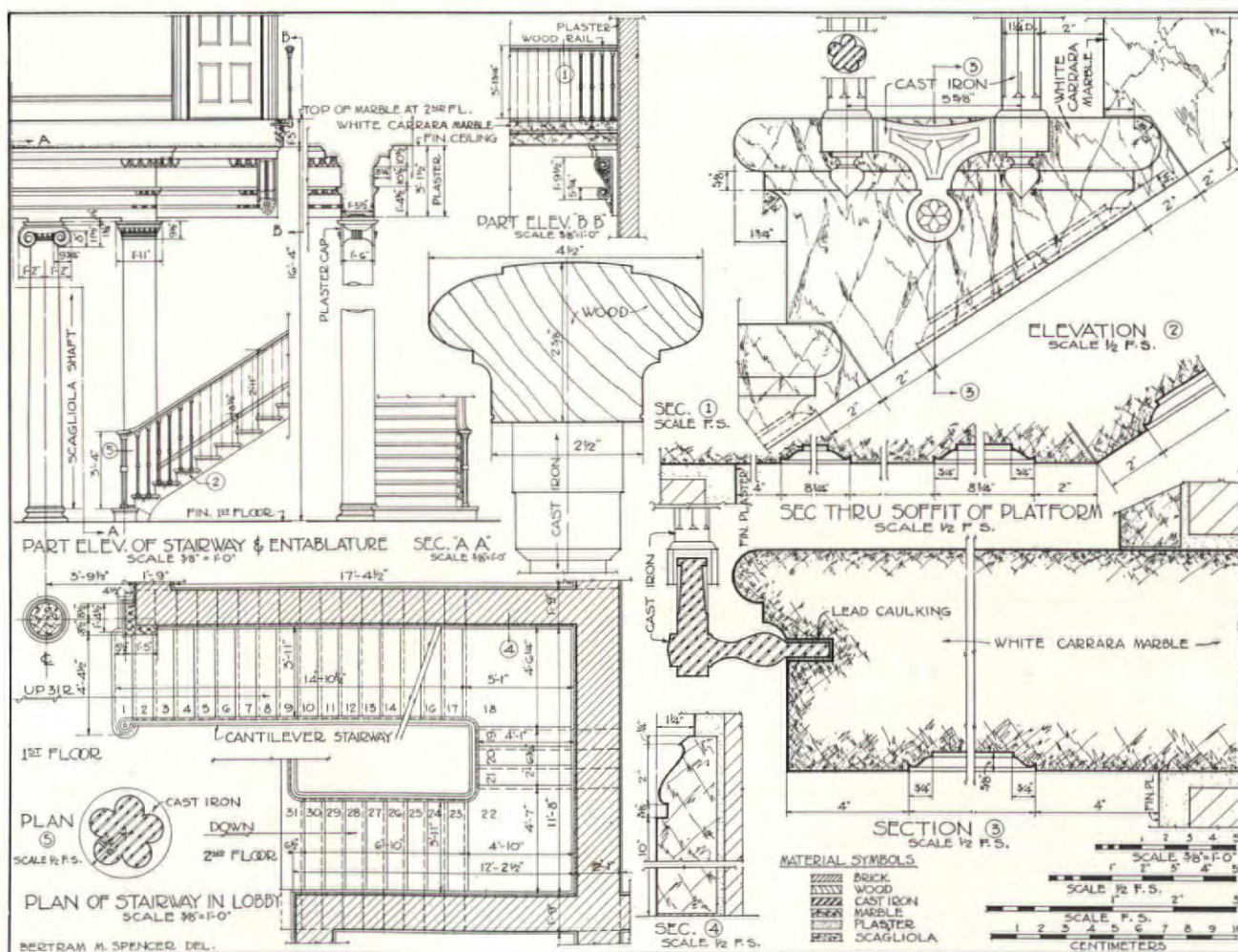


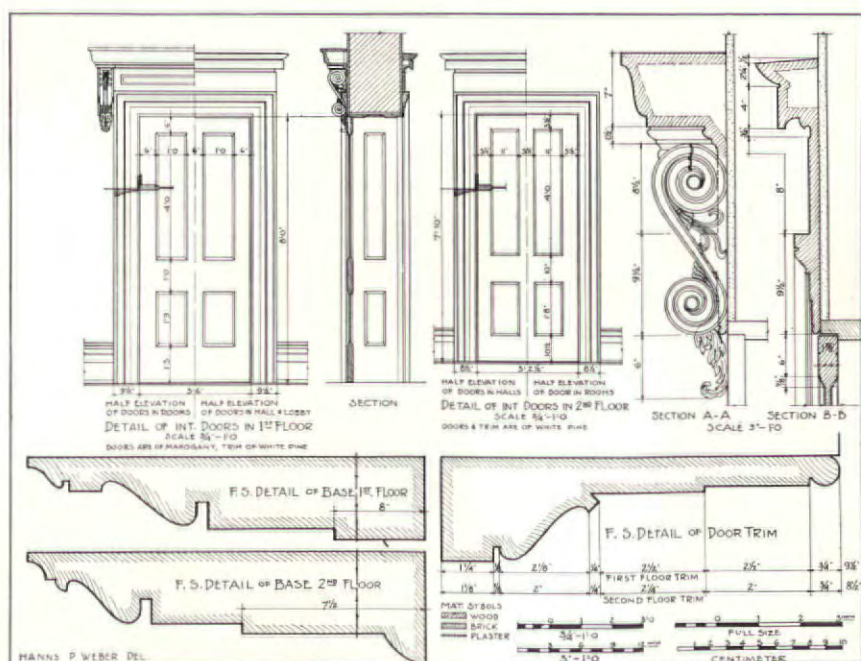
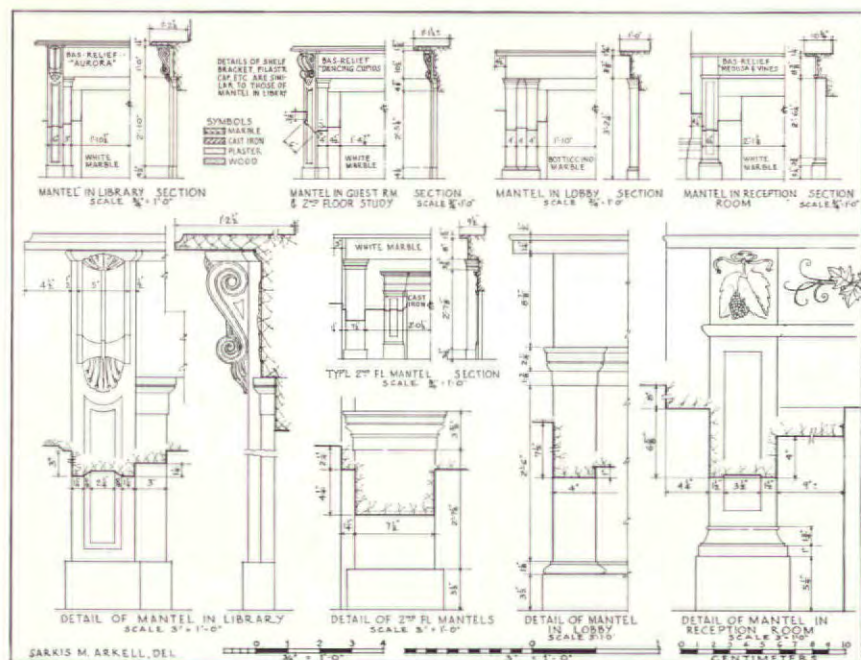
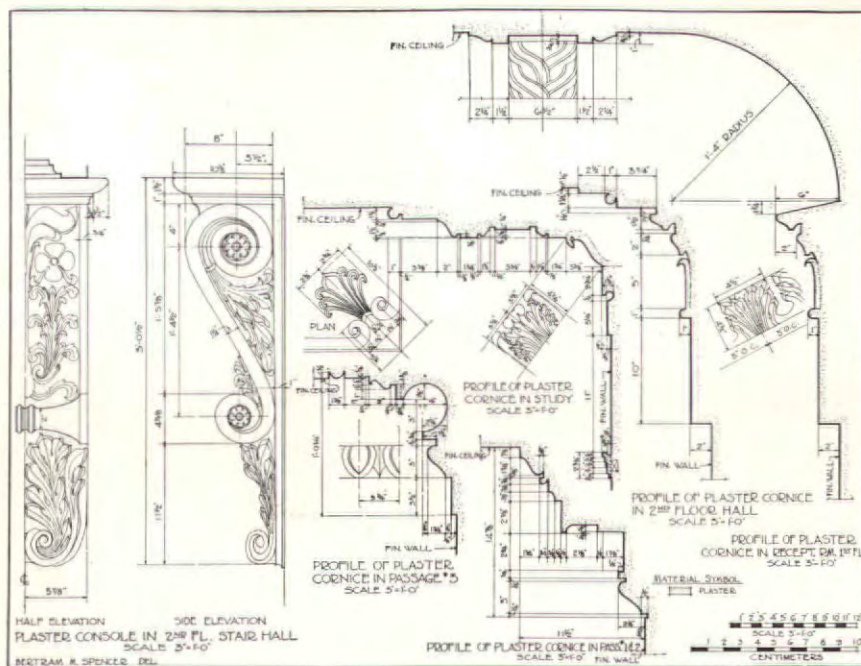






THE grand staircase is extremely interesting. Its construction as a self-supporting stone stair was not common in the U. S. at that period, most such stairs being of wood. The cast iron balustrade is also unusual as is the ingenious method by which it is affixed to the marble so that two balusters require the cutting of only one hole. True to the Italian tradition of the period the Ionic columns here are of imitation marble. Incidentally they are much handsomer than those on the exterior. The caps and cornices as well as the console are of course of plaster in strict classic detail. There is nothing much else of note in the interior except that two of the rooms have frescoed ceilings of the period, which it was unfortunately impossible to photograph adequately. The chief decoration of the remaining rooms is the mantels. These have little to recommend them except expense although some of the moldings are good. The plaster cornices, on the other hand, are well worth close study as good work of the time.





MODERNIZE MAIN STREET

becomes more than a slogan following the extension of FHA loan insurance to \$50,000 on commercial building remodeling.*

THE Federal Housing Administration was less than a month old when its administrators realized they could expect almost no volume of remodeling business under Title I of the National Housing Act from other than residential sources. Up to June 8, of the \$79,950,270 in repair loans guaranteed by the FHA, only \$8,500,000 was for non-residential buildings.

The two obvious handicaps to commercial building restoration were:

1. The fact that, although its remodeling provisions were intended just as much for commercial buildings as for residences, the name of the administering body was the Federal Housing Administration.

2. The \$2,000 limit imposed by the NHA was useless, for all but repair work, to the building owner who sought to restore the earning value of an outmoded apartment house or office building, useless to the hospital, the school, the factory, in the reconditioning of which \$2,000 was only a drop in the bucket. Because major building alterations of any type were thus excluded, Title I, although the instigator of much bread and butter business for architects, still fell far short of the manna category.

To meet the demand for a higher loan limit, Congress passed May 28, and the President signed two weeks later, an amendment to the NHA authorizing the Federal Housing Administration to guarantee lending institutions against loss on non-residential loans (but including apartment houses) up to \$50,000.

MODERNIZE MAIN STREET

Along the nation's business streets are 2,000,000 stores, shops, garages, offices—half a million food stores, quarter of a million garages and filling stations, one hundred and

fifty thousand restaurants. The U. S. Bureau reports that Main Street is thus made up:

TYPE OF STORE	NUMBER
Food	482,000
Automotive (garages and filling stations)	257,000
Restaurants	134,000
Apparel	114,000
Variety	104,000
Household	59,000
Drug	58,000
Lumber and building	55,000
General	53,000
Second-hand	15,000
Miscellaneous (Jewelry, book, candy, etc.)	210,000
Total	1,541,000

Plus these, there are 25,000 office buildings, some towering, some only two stories, to complete the picture of Main Street.

Somewhere between 75 and 90 per cent of all these stores and office buildings are in need of surface or structural improvements. All of them are eligible for loans under the amended act. If an average of \$500 were spent on each of the buildings requiring improvements, the market generated would amount to something between \$7,500,000,000 and \$9,000,000,000.

The ink on the President's signature to the amended act

*The first of a series of articles and plate sections on commercial building remodeling.

had been dry only a few hours when the Federal Housing Administration made known the details of a national "Modernize Main Street" campaign, to be aggressively promoted through each of its 3,000 local committees. Despite the patriotic connotation of the title, the campaign is to be 95 per cent education, 5 per cent promotion. Theme of the campaign is not civic betterment, but the profit to property owners resulting from intelligent renovation.

¶ In Buffalo, Baltimore and Los Angeles, architects have incorporated to realize the fullest possible benefit to be obtained from the amended act. In New Haven, Connecticut, A.I.A. members have established a working agreement

with a realtor for speculative store remodeling contracts. Two large manufacturers have collaborated in a talking film urging the use of architects for store remodeling, enumerating for property owners a score of case histories where modernization has increased rentals, increased retail business. Air conditioning manufacturers have revised their credit facilities to cooperate with the "Modernize Main Street" movement.

In these and a dozen other ways, the building industry is organizing itself to capitalize on the activities of the FHA. Following are questions and answers covering the most important points of the new campaign.

QUESTIONS AND ANSWERS

Q. Does the \$50,000 loan limit include the remodeling of residences?

A. No, the limit for single-family dwellings is still \$2,000.

Q. What types of buildings are included?

A. Multi-family houses, hotels, office buildings, stores, hospitals, orphanages, schools, and manufacturing or industrial buildings.

Q. Are any types of non-residential buildings specifically omitted?

A. Yes, churches and clubs.

Q. What rate of interest is to be charged for loans up to \$50,000?

A. \$5 per \$100 per year is the maximum charge that may be made by a lending institution. This is the same as for loans up to \$2,000.

Q. How soon must the loan be repaid?

A. In monthly installments in from one to five years.

Q. Must the borrower post any collateral in obtaining a loan?

A. So far as the FHA is concerned no collateral is required. Neither are co-makers necessary. It may be, however, that because of the size of the loan lending institutions will insist on a mortgage or other collateral.

Q. In slum clearance work is the top limit for remodeling a group of buildings \$50,000 for the entire operation or \$50,000 for each of the buildings?

A. \$50,000 is the limit on each building; thus, if five old tenement houses were to be remodeled into one unified apartment house, the loan limit would be \$250,000.

Q. In remodeling a multi-family house is the loan limit \$2,000 or \$50,000?

A. If the remodeled residence is to house from one to four families, the loan limit is \$2,000. If the remodeled building will house more than four families the loan limit is \$50,000.

Q. In remodeling a group of stores in one office building is \$2,000 or \$50,000 the limit for each store?

A. The limit for the building is \$50,000; thus if there were five stores each requiring alterations costing \$10,000 it would be possible to group them all as one operation, eligible for a \$50,000 loan.

Q. To whom does the building owner apply for a loan?

A. To any bank, insurance company, or mortgage company which is qualified with the FHA or to the local office of the Federal Housing Administration.

Q. If a remodeling loan is secured by a mortgage or other collateral, to whom is the security assigned in the event of default on the loan?

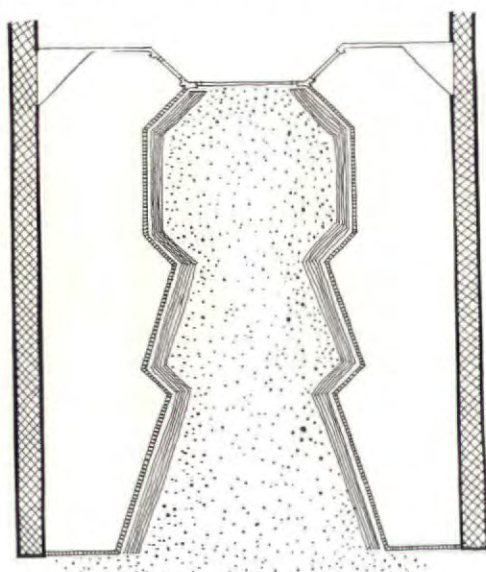
A. Any security taken by a lending institution must be assigned to the Federal Housing Administrator in the event of a loan default.

Q. What types of equipment for commercial buildings are eligible for loan insurance.

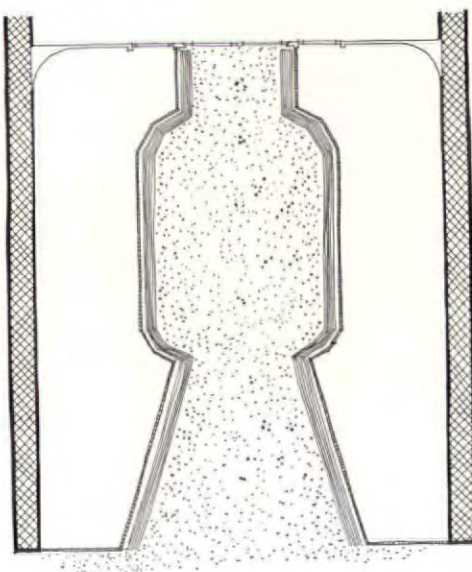
A. The regulations specifically state that all types of equipment "peculiarly adapted to the business conducted therein or necessary to the operation thereof" are eligible. This includes air conditioning, refrigerators, elevators, show cases, signs, etc.

BASIC PLANS AND PROFILES OF STORE FRONT CONSTRUCTION

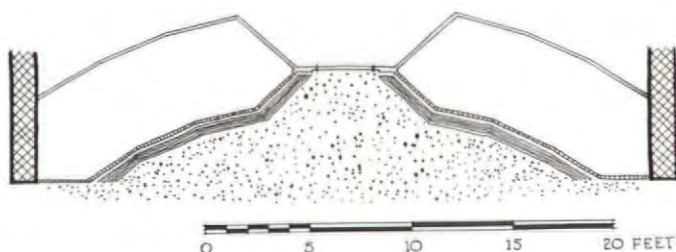
MORRIS LAPIDUS, ARCHITECT FOR ROSS-FRANKEL, INC.



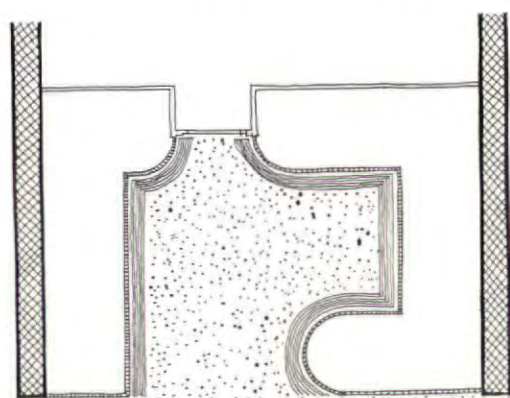
Women's shoes: Simplified saw-tooth plan for different display groupings, with long lights to attract pedestrians



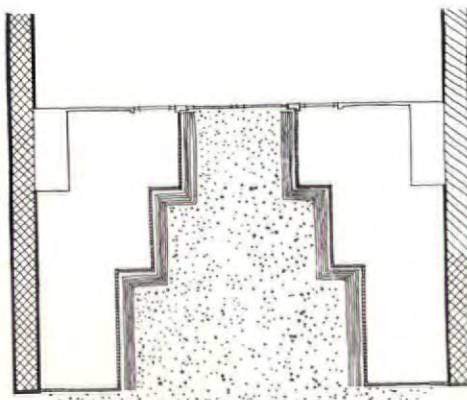
Women's apparel: Long lights at proper angle to be seen from both directions with rear rotunda for organized display



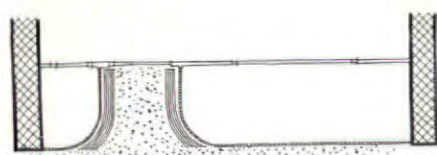
Men's shoes: Acknowledges man's distaste for window shopping by slightly bowed front offering maximum display and natural guide into the store.



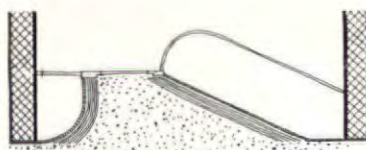
Men's apparel: Divided for suitings on left, haberdashery on right, with long lights on both sides.



Books: Permits grouping of books into recognized classifications, with minimum street window areas, and plan designed to encourage entry into the store itself.

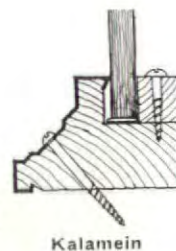


Bakery: Recognizes that bakery products are sold from windows, and thus provides maximum display space on the street.

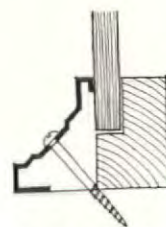


Jewelry: Small display space because unit of merchandise is small and stock is frequently limited. Shallow windows permit easy access to wanted items. Divisions for jewelry proper and usual accessories.

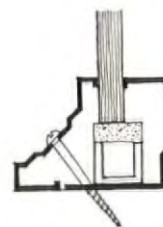
At right:
Types of
store front
sash with
cheapest at
top.



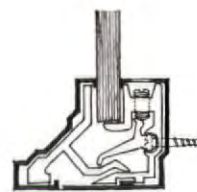
Kalamein



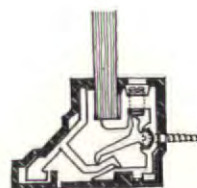
Drawn front
Face screw



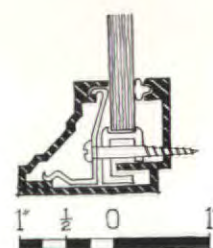
Drawn front and
back.
Face screw



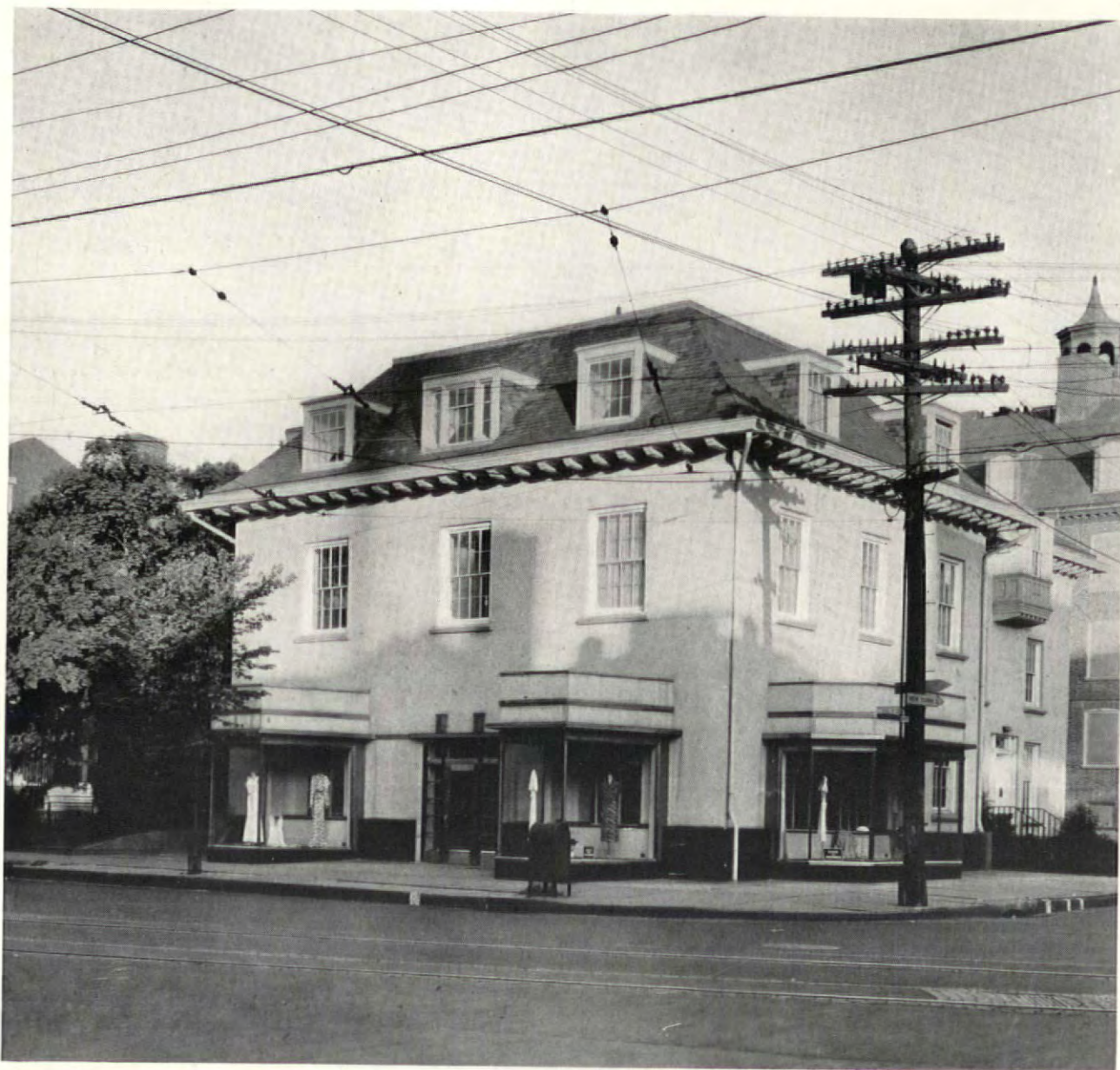
Drawn sash
Patent lock



Extruded sash
Patent lock



Extruded sash
Patent front
snap-on



DRESS SHOP, NEW HAVEN, CONN.

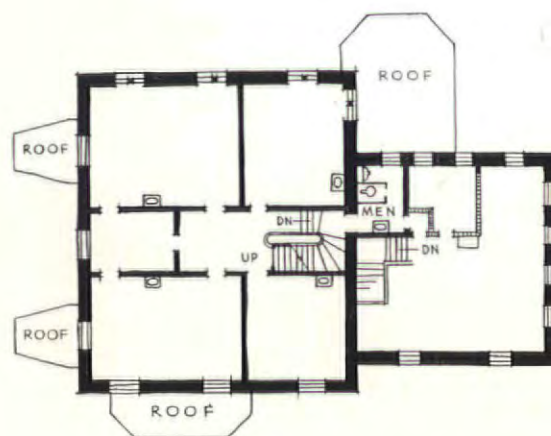


DRESS SHOP

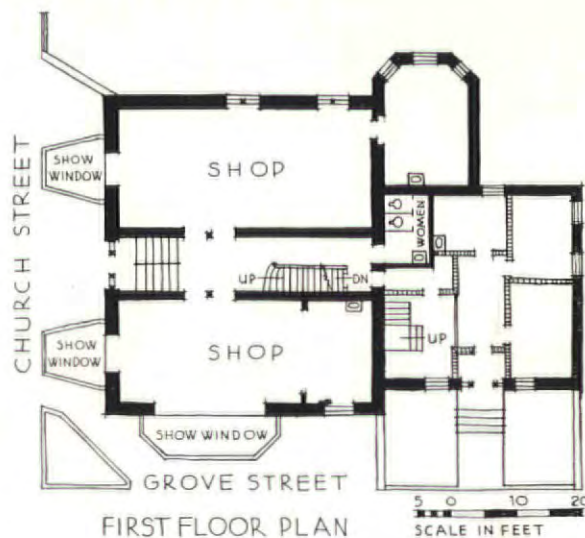
NEW HAVEN, CONN.

DOUGLAS ORR, ARCHITECT

Teaming up with real estate brokers on speculative jobs frequently leads to nothing but practice sketches. Not so in the remodeling of a Yale-owned house into a store and office building by Douglas Orr in collaboration with realtor William M. Hotchkiss. To the entire New Haven A.I.A. Chapter Mr. Hotchkiss extended an invitation to work out on speculation sketches for several old buildings which he was trying to rent or sell. One of the few who accepted was Chapter President Orr, and the result is here shown. At a cost \$75,000 less than it would have been to tear down the old residence and put up a taxpayer, the house was converted into an exclusive dress shop on the ground floor with professional offices on the second, with practically no changes in the plan. Tearing down the old entrance, stuccoing the exterior, installing bay store windows of chromium and bronze with a vitrolite base completed the exterior work. The interiors were redecorated and new toilets installed. Total cost of the work was slightly over \$25,000. With a \$1,200 vacancy, the building's yearly income is about \$6,400, which pays all operating charges, shows a net of 4 per cent on the investment and will retire the cost in about fifteen years.



SECOND FLOOR PLAN



FIRST FLOOR PLAN



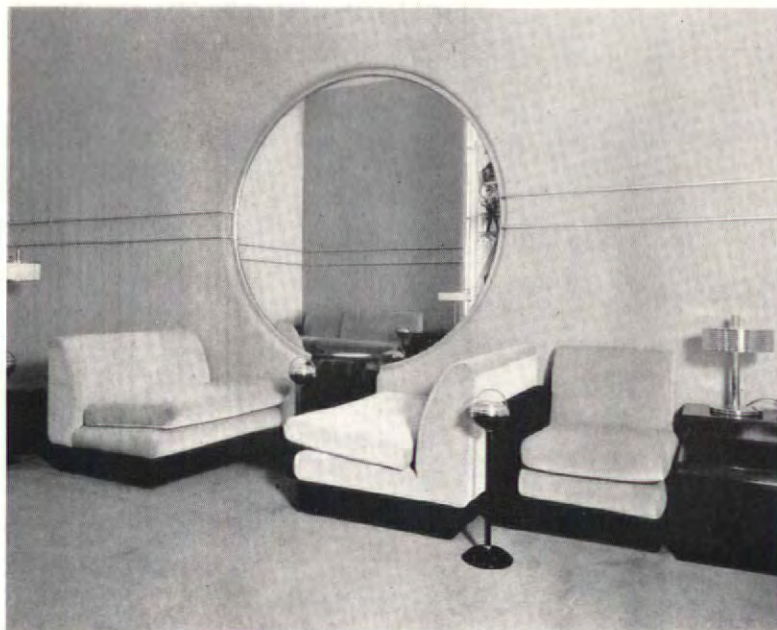
ADELPHI THEATER, CHICAGO

MARK D. KALISCHER, ARCHITECT



The dividing line between theater architecture that screams its business to the neighborhood and the architecture that invitingly announces its presence is one that few designers have been able to find. In remodeling the exterior of old Adelphi in Chicago, Mark D. Kalischer came right up to it and stopped. The new design is based on the theory that the marquis and the display cases were integral parts of the design. Stainless steel and black glass are here the media of expression—stainless steel for the marquis, the doors, and the cases, black glass for the walls. The ceiling of the marquis is a series of stainless steel troughs with bulks spaced on 6 in. centers, curving down to meet the sign of $\frac{3}{4}$ in. glass letters flashed to the black glass background. The entire front of the marquis is a band of white light before which stainless steel letters are illuminated with two rows of 10 mm. red neon tubing. Above and below are vertical tubes of red neon, and at the corners are stainless steel drums with alternate tubes of red and blue. The two ends are white glass with silhouette letters illuminated from behind. The complete remodeling cost \$32,000.





The powder room, above, has walls of blue veneer, and rust-colored carpet. The dressing tables are rosewood, with black glass tops. Illumination is from light panels sunk into the wall. The lounge, left, is decorated in yellow and orange, with furniture of black and eggshell velours. To balance a motion picture industry mural along one wall, a large rose-colored mirror has been set in the wall opposite. Illumination comes from a trough concealed behind a plaster cornice just below the ceiling. Foyer colors are yellows ranging from a deep ochre to a light chrome, trimmed with green and silver.

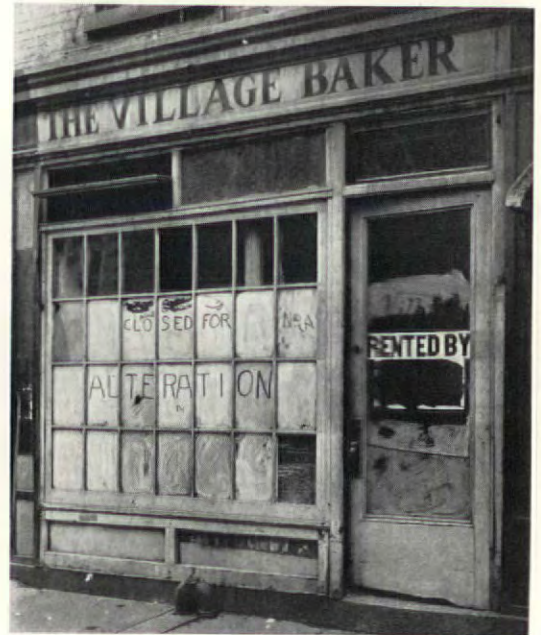


HANSCOM BAKE SHOP

NEW YORK

HORACE GINSBERG, ARCHITECT

New York boasts no better series of remodeling jobs than the Hanscom Bake Shops. Typical of all is the one shown here. Apple green porcelain enamel, combined with stainless steel base, lettering and window frame have been successfully combined in all the fronts to make them easily recognized. Total cost: \$2,000.



Conrad Photos



Glover Photos

DEPARTMENT STORE
DECATUR, ILLINOIS
ASCHAUER & WAGGONER
ARCHITECTS



Illinois and Michigan are witnessing a sizable number of store alterations in which the exterior material is a light-weight masonry 4 in. block faced with porcelain enameled iron of different colors and edged with stainless steel. This store in Decatur, while larger than most such jobs, is typical of the treatment. The expected increase in business upon the completion of this transformation materialized, and the owners are reported to be netting sales that will in a reasonable length of time amortize the \$63,000 cost of the work. Cost of the surfacing material installed: \$4,000.



BRUDER'S CREAMERY



Parade Studio

CREAMERY, CLEVELAND

WILBUR HENRY ADAMS, ARCHITECT

Illuminated signs as the focal point of store front design are the business theme of Luminous Buildings, Inc., whose architect is Wilbur Henry Adams. For \$750 they converted this empty store into a successful creamery, using silhouette letters, with a front of red and white porcelain enameled iron.



FOOD STORE, CHAMPAIGN, ILL.
GEORGE E. RAMEY, ARCHITECT



The aspect of cleanliness so necessary to food stores was here obtained through the use of a solid-colored fused ceramic material that resembles black glass or a highly polished marble, framed in aluminite. Covered in the \$3,344.70 total cost were merging the two old stores into one, refinishing the interior and installing the new front.



SINGER SEWING MACHINE CO.

CLEVELAND, OHIO

WILBUR HENRY ADAMS, DESIGNER



A large number of the 5,500 Singer stores throughout the world will be "luminously" remodeled if the aspirations of Wilbur Henry Adams, designer of this one, are realized. Employing silhouette letters lighted from behind by concealed bulbs, and colorful porcelain enameled iron sheets, Adams kept the cost down to \$1,500. Window frames and trim are stainless steel.



BUILDING MONEY

A monthly section devoted to reporting the news and activities
of building finance, real estate, management and construction

CONTENTS

Federal Savings and Loan Funds Make the Janss Investment Corp.'s Westwood the Busiest Subdivision in the U. S. . . .	64
An Iowa Lender's Plan for Grading Interest Rates on the Ability of the Borrower to Pay	68
Charts: Building Volume Hits a 4-year Peak	69
Code Chairman Voorhees Continues his Industry Integration Program as the New A.I.A. President	70
To Whom the RFC Mortgage Company Will and Will Not Lend	70
Architects Replace Stock Plans in a Connecticut Dealer's Selling Strategy	72
Washington Chart: A Quick View of Federal Building and Mortgage Activities	74
Quintupling Rents by Judicious Overhauling of Five New York Houses	75
Homes at \$5.50 a Week are Planned by a New Hampshire Housing Association	78

JOHN CUSHMAN FISTERE
Editor



Man of the Month STEPHEN F. VOORHEES (see Page 70)

Ken Hedrick

INDIRECT FEDERAL FINANCING

speeds the pace of Westwood Hills, latest and best of the developments of the \$15,000,000 Janss Investment Corporation, of Los Angeles.

CERTAINLY rare and possibly non-existent is the small house architect, developer or builder who was not stymied some time during the last five years for lack of mortgage money. No exception was the 36-year-old, fifteen-million-dollar Janss Investment Corporation, mammoth California developers, which found itself in the Spring of 1934 with its prize Westwood Hills tract at a standstill.

Had there appeared on the Janss horizon along about March, 1934, a fat-pursed plunger ready to put up three-quarters of the money for a mortgage pool, both of the Jansses (President Edwin and Vice-President Harold) would have fallen on his neck. No such angel turned up, but what did appear was the United States Government offering the same thing in the form of participation in a Federal savings and loan association.

Indirect though it may be, the Federal savings and loan plan is probably the best of the myriad forms of cooperation offered by the U. S. to the home building industry (ARCH. FORUM, Feb. 1935, p. 190). Briefly, the plan is this: if a group of more than 10 people raise \$25,000 or more, the Treasury, with the approval of the Federal Home Loan Bank Board, will invest on a non-preferential basis in a new Federal s. & l. association at the ratio of three to one. Thus if an initial ante of \$50,000 were sub-



Westwood Village Studio

President Edwin Janss

scribed locally, the U. S. would buy \$150,000 worth of shares. That offer, made three years ago in an amendment to the Home Loan Act, has had surprisingly few takers, not because it is a poor offer, but because few realized the possibilities.

How successfully the Jansses used the plan in stepping up the pace of activity in Westwood Hills was revealed last month when the company reported that since the Westwood Federal Savings and Loan Association was chartered in August, 1934, about \$250,000 worth of homes have been financed by the association in the Janss development. Naturally, the Federal plan was not designed specifically to help developers finance their own properties—but scratch any building and loan association, and you'll find a developer, a material dealer or a contractor. So it is with Federal associations. But in probably no case has the plan been so profitably put to work as in Westwood Hills. Its record was so good that there were few disputants to the claim that Westwood is easily the most active development in the U. S. Ninety-nine houses were under construction June 1, with sales for the first six months of 1935 averaging 40 a month, the best in Westwood's history. For the 30-day period ending May 15, total building permits amounted to \$199,165, some for Janss-built houses, some for houses built by speculators.

1901-1931. The building news Westwood made last month was not the first the spreading Janss corporation has made since old Dr. Peter Janss bought 1,000 acres just outside Los Angeles in 1901, named it Belevedere Heights, cut it up into 5,000 lots, and sold them on the installment plan. Installment selling of lots, initiated by the late William E. Harmon a few years before, was new then to the Pacific Coast. And in adopting it, Peter Janss thrust himself into the forefront of the host of California land speculators who were at their busiest at the turn of the century.

Peter Janss was a Hamburg-born physician who early in his practice migrated to southern California from Nebraska. His immediate success with Belevedere Heights led him into dropping his medical practice entirely, and branching out into the country farm business. By 1907 he had cleaned up five different properties, and was embarking on a 5,000-acre citrus-farm venture that sold in three years in 2½ to 50-acre parcels. The housing shortage after the World War brought him back into city properties again, and in 18 months of 1919-1920, he sold 5,000 lots in a 900-acre tract adjoining Belevedere Heights. Moving over to the Hollywood district in 1922, Dr. Janss, who by then had turned over much of the work to his two sons, built up Los Feliz Square, which though of dubious



Curtis Billmore

Vice President Harold Janss



G. W. Ross

Sales Manager Harold Wilkins



Westwood Hills From the Air

Spence Airplane Photos

In 50- and 60-acre tracts the Jansses have built up and sold the 3,300 acres which lie at the base of the Sierra ridges. In the left background is U.C.L.A., built on Janss land. In the center is Westwood Village, commercial tract which Senator McGroarty recalled as the site of his "old tomato patch."

architectural merit, added a significant number of thousands to the growing Janss fortune.

By the time he died in 1926, the famed slogan which gleams from billboards, and newspaper advertisements—"Don't Trust to Chance . . . Buy Lands from Janss" was so thoroughly imbedded in the land-buying consciousness of southern Californians that no less than half a million people were living on property sold to them by the Janss Corporation.

Thus, the Los Angeles Times felt justified in saying: "The splendid spirit of Dr. Peter Janss in providing the working man of Los Angeles the opportunity to own and pay for a home, within easy reach of his work, may be attributed today to the absence of congested tenement districts in Los Angeles which are usually found in almost every city of an equal size on the American continent."

Westwood Hills. From the time it was originally granted in 1843 as Rancho San Jose de Buenos Aires until Dr. Janss bought

the property in 1922, the 3,300 acres in Westwood Hills were given over almost entirely to barley. In 1887, a few years after the completion of the Santa Fe Railroad, the town of Sunset was laid out in one section of it, but few lots were sold, and it was quitclaimed back to John Wolfskill, famous brother of the even more famous Forty-Niner, William Wolfskill. It remained in the Wolfskill family until 1919 when Merchant Prince Arthur Letts (Bullock's) bought it, and sold it three years later to Dr. Janss.

Subdivision and improvements were modestly begun in 1922 with curbs, sidewalks, oiled roadways, storm drains, gas and water pipes and electric line poles. Later, the class of improvements was stepped up to include paved streets and underground conduits for power and telephone lines. In the first units, the per acre improvement cost was about \$1,250; but today the average cost is about \$4,500 per acre.

Never more than 100 acres is put on the market at one time, and although the

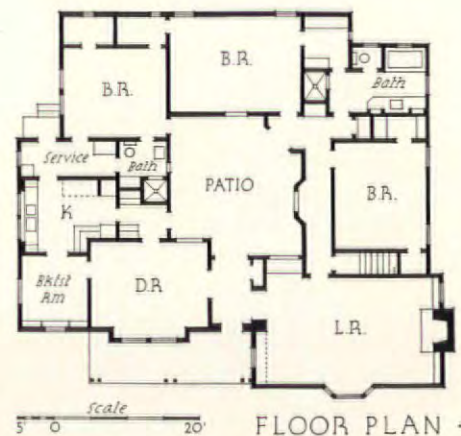
majority of the property has been completely improved, the sales force concentrates on 50- to 60-acre tracts before tackling another section. In the lush period from 1926 to 1929, it was not uncommon for the land to be snapped up, mostly by speculative builders, in three or four hours after a tract was advertised for sale, sometimes before the improvements had been installed.

Los Angeles zoning laws place a minimum limit of 5,500 sq. ft. on the lot size, but in no case has a lot less than 6,000 sq. ft. been sold by Janss in Westwood. The early practice of using 50 x 135 ft. as a standard has been abandoned for a wider but shallower lot of 60 x 110 ft.

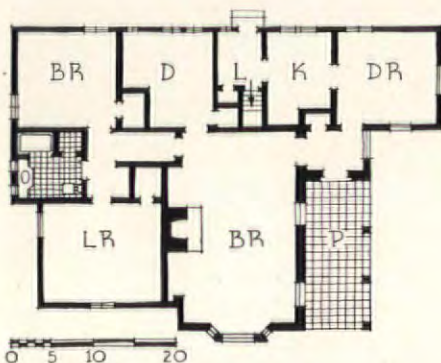
Prior to 1929, all building in the property was done by outside builders attracted to the district first by the liberal financing offered by Janss, and second by the aggressive selling which the company put behind houses built by its speculative customers. With the transplanting of the University of California at Los Angeles (U. C. L. A.) to a 385-acre site in Westwood Hills (at a price that made every



Gene W. Ross



A patio-ed Colonial House, designed by Milton J. Black, which though more expensive to build than its compact prototype, finds wide acceptance in Westwood.



Puzzlingly termed "The Cape Cod," the Metropolitan Builders offer this house designed by Architect Arthur W. Howes for \$3,950 on a \$1,000 Janss lot.



Two Houses Built by Operators in Westwood

land owner in Los Angeles marvel at the State acceptance of it) the great rush for homes led to the formation of the Westwood Mortgage and Investment Company, a Janss building and finance subsidiary.

After two years of offering complete architectural and building service (during which more than 100 residential, college, and business structures were constructed), Westwood Mortgage and Investment, although continuing to finance and build, began sub-letting to architects and contractors who now bid for the jobs.

In Westwood Hills, there are approximately 8,000 lots, of which 52.7 per cent are built upon. With mortgage money again plentifully available, the district is building up rapidly. Twenty-five new speculative builders have within the past year purchased property which they are developing with houses for the market, which added to the nineteen operators who have been more or less consistently in the area since the early days, makes a total of 44 operative builders now at work on the property.

Contribution. If size and volume were all there was to tell about Janss, it would

scarcely be worth the telling. Possibly the same humanitarian qualities which led him to become a doctor in the first place were responsible for the semi-altruistic attitude which Dr. Janss always held towards home development. Although Californians think of the two sons as less interested in that side of their business than they are in the not-to-be-scorned profit motive, the company has continued to exercise a healthy influence on Pacific Coast development practice.

When FHA announced its restrictions for subdivisions, Officers Edwin and Harold found that their property automatically qualified under all sections. Janss policies which have contributed to the establishment and maintenance of community standards are:

1. *Self-maintained improvement department.* The engineering department lays out the detail of all grades, fills, cuts, etc., and the improvement department with its own machinery and hundreds of men does the work at a cost that runs far under what it would cost if let under contract. Also eliminated are labor strikes, "contractor's hold-ups" and shortages of material while work is in progress.

2. *Cash land buying.* In all but one instance, the corporation has bought outright the land to be subdivided, which in addition to assuring purchasers of the continued interest of the company in the property, cuts the carrying charges.

3. *Strictly enforced flexible restrictions.* Minimum price restrictions for houses range from \$2,000 to \$25,000 in different sections of the property. They are enforced by the grantor by virtue of the reversionary right reserved, which has the effect of tying the subdivider to his development, but it has the advantage of flexibility. Obviously, changes and modifications become necessary, and they would be all but impossible with so-called tract restrictions enforceable by individual property owners. Since the violent changes in building costs in recent years, the company has been able to handle the minimum cost restrictions by advising builders to conform with the value of neighboring buildings, and in the few cases where they have been called upon by other owners to insist upon better appearing buildings, they have been able to obtain satisfaction by friendly negotiations.

4. *Architectural Supervising Committee.* Like many other progressive developments,

Westwood Hills has its design committee, empowered to approve or reject any plans or specifications not in keeping with the general area. In Westwood Village, for instance, which is the 90-acre business community abutting the U. C. L. A. property, the Supervising Committee has the power to "require all buildings or structures . . . to be of that distinctive type of architecture, which for two decades or more has been developing in California from Latin types developed under similar climatic conditions along the Mediterranean Sea and commonly known as 'Mediterranean Architecture.'" The same authority extends to business signs.

5. *Architectural Service.* Any house built by Janss or financed by a Janss subsidiary must be designed by a "certified architect of good standing."

6. *Public Education.* A permanent building crafts and home exposition occupying

1,300 sq. ft. in the company's office, gives to architects and manufacturers a place to preach good design and construction. A recent innovation is a projection room where architects may, by displaying plans and designs of all types, crystallize the desires and needs of, and present informal lectures to untutored and bewildered clients.

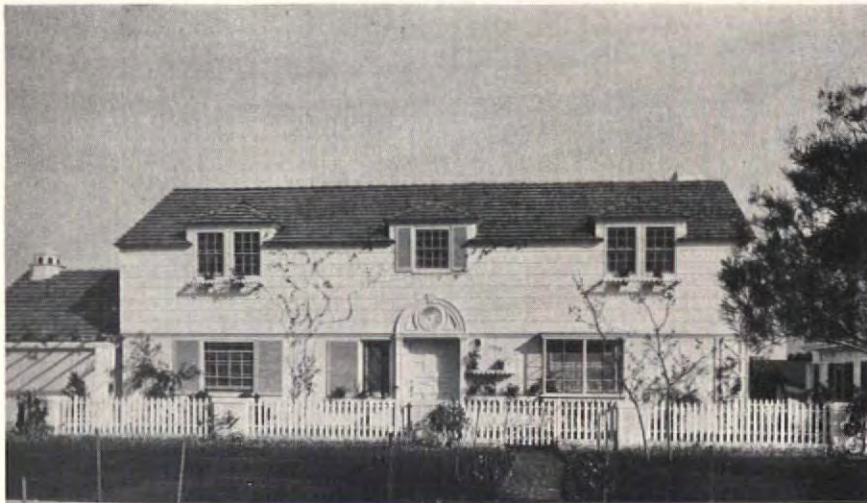
Though California rivals may pooh-pooh the Janss' claims to having raised the development standards of the Coast, all will readily acknowledge that there are few better merchandisers anywhere. Constant advertising in good times and bad, model houses, architectural competitions, a full-time publicity staff, which incidentally is available to Westwood Village merchants and business men, are elements in the selling strategy of the company.

Together with A. Harold Wilkins, vice president and general sales manager, the two Janss sons control the company. Son

Edwin, like his father, was educated as a physician, but dropped his practice as the possibilities of the real estate business unfolded before him. Son Harold has been developing all his business life. Both retain, possibly to a lesser degree, the same spirit of community betterment that motivated their father in his early activities.

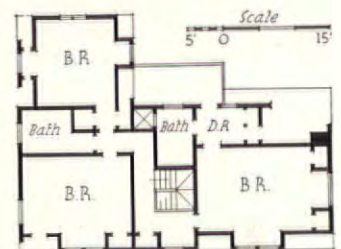
Once the advertising manager, Vice President Wilkins is the active sales developer, whose policy of aggressive selling in good times and bad has kept the company in the forefront despite the vigorous competition which only the Pacific Coast developers can offer.

Never once in its 35 years has the corporation been close to falling into the hands of its creditors. Capitalized at \$15,000,000, all the common stock is owned by brothers Edwin and Harold. Apart from a small issue of preferred stock outstanding, the corporation has no debts.

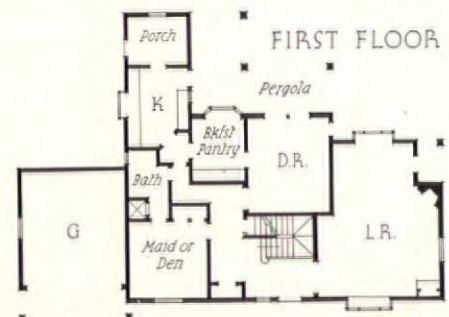


Gene W. Ross

In contrast to most developers, Janss finds no sales resistance to houses, even in the higher brackets, with garages fronting the street, which also permits, as in this house by Draver Wilson, the devotion of the rear plot to outdoor living.



SECOND FLOOR



FIRST FLOOR



FLOOR PLAN



Whittington

As he has in half a dozen other houses in Westwood, Architect Allen G. Siple gave the architectural distinction of the community a decided boost with this house, which the company used as a model for its current sales campaign. Irregular, but not confusing in plan, it overcame the model house jinx—and sold soon after completion.

Two Janss-built Houses

LOWER INTEREST RATES

to the deserving feature an Iowa loan association's novel plan.

Two families want to build homes. One of the families has been prudent, has paid cash for its radio, has paid its account at the grocery store regularly, has bought a lot in a restricted section of the city. The other has a "C" rating with the Credit Bureau, is buying an automobile on installments, and plans to build next door to a filling station. One of these families is obviously the better risk than the other; yet mortgage money is offered, and is generally obtainable by both, at the same rate of interest.

Not so at the Mutual Federal Savings and Loan Association of Mason City, Iowa, which has adopted a semi-scientific method of determining just what rate of interest should be charged a borrower on either old or new houses. The system, a simple and efficient one involving the rating of the borrower by deficiency points registered in ten specific tests (see cut), was devised by the association's secretary, J. W. Irons, who prior to joining it ten years ago was engaged in the insurance business.

"When a new building is inspected for insurance purposes, it is customary to start with a basic rate and add to it for any hazards involved, and to give credits for any fire protection in the construction," explained Mr. Irons last month. "This appealed to us as a form of applying an adequate interest rate on mortgages covering certain types of construction. We therefore went back over our books and found what were the leading factors in determining whether or not a loan was good or bad."

These Secretary Irons listed, together with several other variables, such as the ratio of the loan to property value and the length of the loan, and under them arranged the various degrees of risk, on a simple deficiency point basis. So long as the deficiency points total six or less, the borrower is entitled to the minimum interest rate (6 per cent). Each increase of three or less deficiency points over and above the first six causes an increase of one-half of 1 per cent in the rate.

The ten tests on the interest rate sheet require little additional explanation. Under "Design and Construction" (No. 2), a "fireproof" dwelling is defined as one in which the walls, roof, and floors are of fireproof materials. A "modern" home is one equipped with central heat, electricity, gas, bathroom, and interior finish of hardwood.

The term "restricted," under "Location of Property" (No. 3), means a subdivision in which the type and cost of permissible design and construction are restricted when the plat is filed or by zoning ordi-

nances. "Not restricted but protected" means an area without restrictions as to cost or type of home but with ample fire protection. "Not restricted and not protected" designates an outlying district lacking fire protection.

The relation of the borrower's income to the monthly payments on his loan is considered vital in determining his ability to pay and so explains Test No. 4. The ratio of the loan to assessed valuation (No. 6) is used not only to fix the original risk but also as a measuring rod by which to reduce interest rates as payments on the loan decrease the risk. Thus, if a borrower obtains a 75 per cent loan he gets 6 deficiency points. When he reduces this to 60 per cent, he is entitled to a cut of one-half point in interest rate and when he reduces it to 50 per cent, to a whole point. It is suggested that this practice will encourage the borrower to keep up his payments so as to reduce his interest. Month before last's *Federal Home Loan*

Bank Review, official FHLB Board publication, saw in this a means of eliminating second mortgage financing.

The association adopted Test No. 7, under which deficiency points increase as the term of loan lengthens, to permit the granting of 16- or 20-year loans with relative safety to borrowers who cannot make the higher monthly payments under the 12-year plan.

The borrower's past record in paying his bills in the community (Test No. 8) takes care of the personal risk factor. The theory that a loan protected by life insurance merits a lower interest rate explains Test No. 9. The association reports that the offering of a lower interest rate overcomes the objection of many people to assigning life insurance and that this item has been of much assistance in securing such assignments.

The last item—"Amount of Income Pledged on Installment Purchases," such as for automobile, radio, and furniture

INTEREST RATE SHEET OF



Name _____		Property Address _____		Date _____		Interest Rate _____	
Amount of Loan _____		Rate of Interest	6%	6½%	7%	7½%	8%
Deficiency Points		6	9	12	15	18	
No. 1—							
Owner Occupancy	0						
Tenant Occupancy	2						
Duplex, two families	4						
Apartments, three or more	6						
No. 2—Design and Construction							
Fire proof and modern	0						
Brick and modern	1						
Frame and modern	2						
Frame but not modern	6						
Residence combined with business	8						
No. 3—Location of Property							
Restricted	0						
Not restricted but protected	2						
Not restricted and not protected	8						
No. 4—Certain Income							
5 to 1 of monthly payment	0						
4 to 1 of monthly payment	2						
3 to 1 of monthly payment	4						
2 to 1 of monthly payment	6						
No. 5—							
A home not more than 5 years old	0						
A home 6 to 10 years old	2						
A home 11 to 15 years old	4						
A home over 15 years old	6						
No. 6—Ratio to Value							
Loan less than 50%	0						
50% to 60%	2						
60% to 70%	4						
70% to 80%	6						
No. 7—							
Loan to pay out in 12 years	0						
Loan to pay out in 16 years	2						
Loan to pay out in 20 years	4						
No. 8—Record of Credit							
Credit Bureau A-1	0						
Credit Bureau B	2						
Credit Bureau C	4						
No. 9—Life Insurance							
Amount assigned for loan	0						
Amount carried to loan but not assigned	2						
No Life Insurance	4						
No. 10—Amount of Income Pledged on Installment Other than loan							
None pledged	0						
25% pledged	2						
35% pledged	4						
TOTAL DEFICIENCY POINTS							
FINAL RATE—%							

Mutual Federal's Interest Rate Fixer

is said to be essential to round out the picture of the borrower's capacity to pay obtained under Test No. 4, on the relation of mortgage payments to income.

The association established the deficiency points in such manner as to give it an average income of 1 per cent above the minimum rate on all its loans. That is, it knew from experience that the majority of loans on its books would represent an average risk, and that there would be a number of loans representing a lesser risk at one end and a number representing a greater risk at the other. It therefore fixed the number of deficiency points to be given for each of the conditions



Roberts

Secretary Irons

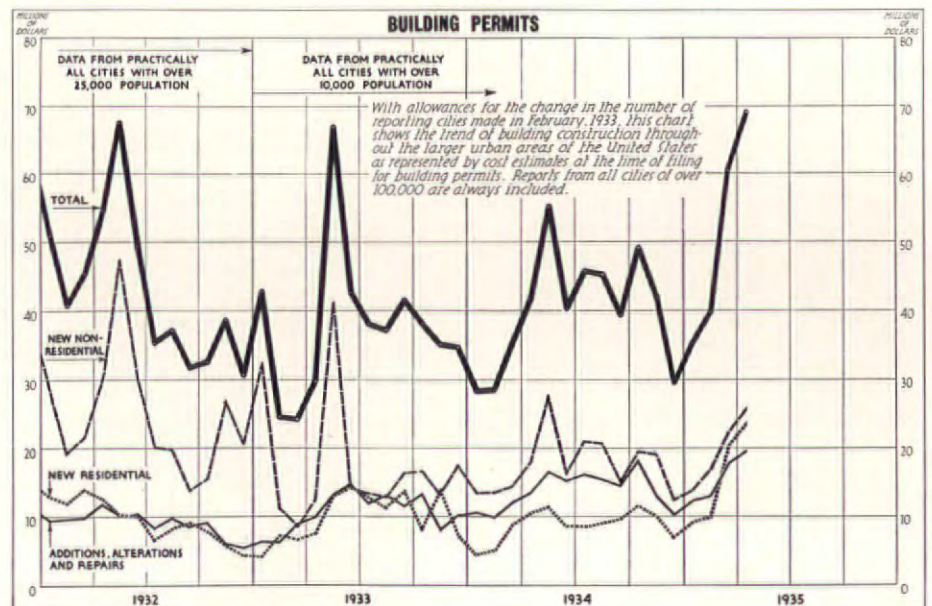
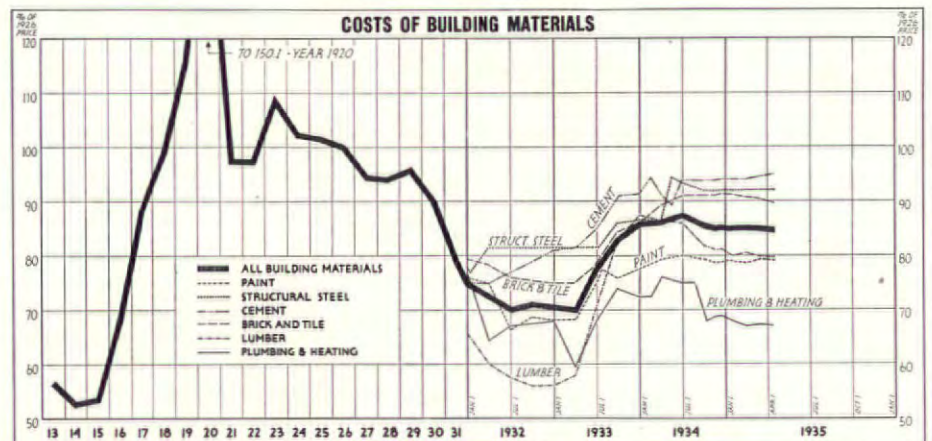
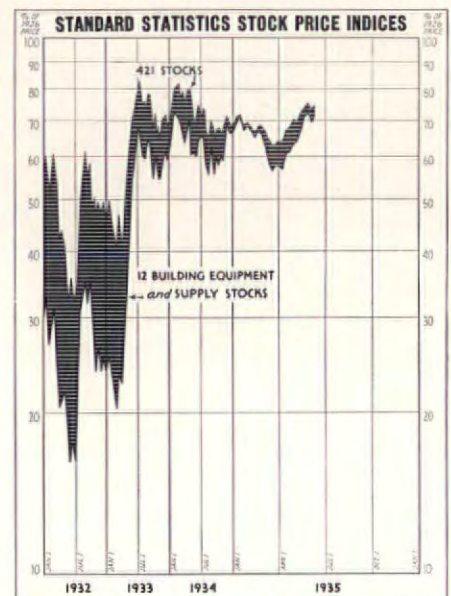
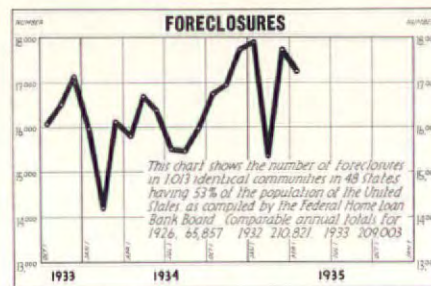
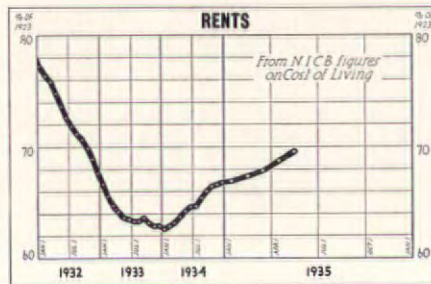
under the ten tests so that most of its loans would qualify for the middle interest rate and the number qualifying for the two lowest rates would about balance those qualifying for the two highest rates.

Mutual Federal's interest rate sheet is filled out in front of the borrower, with whom the method has proved a unique achievement in public relations. For though flexible interest rates are not rare, few banks have given their borrowers more than a traditionally enigmatic smile in explanation of the differences in their rates. Put into operation on January 1, 1935, the system was applied to all of the association's outstanding loans, as well as to its new ones, and without a single complaint. Reporting a healthy increase in business in May "in the face of one of our largest banks offering 5 per cent money," Secretary Irons stated that he was "thoroughly convinced that the old-fashioned way of making an arbitrary interest rate is soon to become obsolete."

Member of four lodges and Mason City's Lions Club, Building & Loan Man Irons has lived in Mason City for 32 years, during fifteen of which he operated an insurance agency. He is a director of the Federal Home Loan Bank of Des Moines.

THE GREATEST BUILDING VOLUME

in four years, led by residential building and alterations, was April's record. Rents, stocks up; costs steady; foreclosures erratic.



VOORHEES TURNS FROM CODES

to further Building's integration as the new head of the American Institute of Architects.

WITH its 23 chapters (and seven more still in the making), its intricate system of regional code authorities, no code was so long in framing, so difficult in administration as the Construction Code. Except among the big metropolitan contractors, whose allegiance to it was partially based on a desire to force the bad element either into line or out of business, there was little real obedience to it. As in the past, the familiar "kick-back" dodge was practiced all over the U. S., and except on Government work, bidding practices were almost as bad as they were before.

Its eradication by the Supreme Court decision, though mourned by some as wiping away what little progress had been made, was regarded by most building men as a relief from useless lip service and considerable expense.*

Of these and the other flaws in the code and its administration, no one was more aware than the man who was more responsible than anyone else for the existence of the code, and, who, because of the united respect of all the elements of the industry, was named chairman of the national code authority. It was coincidental that in the very week he ceased to be the chairman of the code authority Stephen Francis Voorhees ("Man of the Month") was elected to another non-paying job, one which held almost the same possibilities for service; and one whose problems were no less acute.

As the new President of the American Institute of Architects, Frank Voorhees brings to the job a different attitude from any the A.I.A. has ever known. Trained as an engineer, he has never drawn a line in his life. He was labeled as a "business architect" by those who sought to defeat him at the Milwaukee convention. And yet in the opinion of many, Frank Voorhees is no less an architect because he understands the intricate relation of architecture to the social and economic disorder of the times. Founder of the New York Building Congress, and an organizer with Robert D. Kohn of the Construction League of the U. S., Voorhees has always sought to swing the architectural profession away from its aloofness into an attitude of what he termed "reality."

Frank Voorhees was born February 15, 1878, on a farm just outside Rocky Hill, New Jersey. The trunk of his ancestral tree was the renowned Steven Coerte Van Voorhees who came from Hees, Holland, to settle in Flatbush (then Flatlands) in April, 1660.

*Of the \$93,000,000 spent in code administration from the start to the finish, \$8,000,000 was the Construction Code's share.

After a thorough secondary school education at the State Model School in Trenton, N. J., Voorhees was graduated with a C.E. from Princeton in 1900. Among his classmates were Artist Gifford Beal, Architect Aymar Embury II, Arthur Poe, of Princeton's first family, Merchant Prince Philip LeBoutillier (Best & Co., New York), and ex-Senator David A. Reed of Pennsylvania.

After two years with William P. Field of Newark, he joined the firm of Eidlitz & McKenzie as superintendent of construction. With the death of Eidlitz, the firm of McKenzie, Voorhees & Gmelin was formed in 1909, and thus remained until 1926, when as a result of his work on the New York Telephone Building on West Street, Ralph Walker was taken into the firm as Voorhees, Gmelin & Walker.

It would be slightly misleading to set down the long list of buildings which the firm has completed—misleading because such a list would imply that Voorhees' hand was present in their design and plan creation. His contribution to the jobs has always been the coordination of all the elements which go to make up the building—the same coordination which has marked his extra curricular activities.

Outside the office, Voorhees finds his relaxation in amateur photography, a faculty which is recognized by his election as vice-president of the Amateur Cinema League. Three years ago, he took up horseback riding, a diversion which he was happy to substitute for golf, in which he had become too intensely interested.

He is married, has no children, and lives in an old house that overlooks Manhattan from the height of the Palisades across the Hudson River.

The quiet dignity of Voorhees is well balanced by a quiet sense of humor, nothing like the boisterous explosions of his partner, Walker. He is accurate, without being precise, genial without being forward. It suggests something about his deportment to know that everyone in his office remembers the time he impulsively mussed up the hair of his secretary the day after she had bobbed it. That was ten years ago. Had Walker done it, no one would have remembered it more than a week.

If one were to single out the one Voorhees quality that causes him to be elected to things and that is responsible for the fact that at one time the office had about 275 draftsmen turning out more than \$100,000,000 worth of work, it would undoubtedly be his ability as an organizer. He is at his best, his associates say, when he is running a building committee meeting, trying to merge the views of the owner, the real estate adviser, the insurance company man, the contractor, the engineer, and his designing partner.

THE NEWEST U. S. MORTGAGEE

indicates to whom it will and will not lend; 4,143 applications, but no loans so far.

IN the 32 district loan agencies of the RFC last month lay scores of applications for loans from the newest of Jesse Jones' credit extenders, the RFC Mortgage Company. Of loans passed there were none.

Up to the first of June, 4,143 applications asking for \$189,500,000 had been received, \$171,500,000 for refinancing, and \$18,000,000 for new construction. Of these only 1,142 involving \$51,108,000, are being given serious consideration, and only \$5,000,000 of that figure is for new construction. The terms in all cases are the same—ten year loans at 5 per cent, half to be amortized during the life of the loan, the other half at maturity.

As he has done with all other RFC beneficences, Chairman Jones was operating his Mortgage Company on the principle of a general store. Instead of listing the kinds of loans he had in stock he much preferred to have the trade ask for what it wanted and then see if he had the merchandise on the shelves. Beyond a brief statement that

the RFC Mortgage Company was ready to refinance old mortgages and to make mortgages for new construction "on income producing properties, such as apartment houses having more than four apartments, hotels, business and office buildings, etc." he made few specific rules.

But last month President Earl B. Schwulst had turned down so many applications that there was available to anyone who studied the refusals a fairly comprehensive picture of just who could expect help from the Mortgage Company and who could not.

From Harvard and the University of London, with honors in economics as an earnest of his future performance, Earl Bryan Schwulst went to work for J. P. Morgan. After two years with the Federal Reserve Bank of Dallas, he spent four years establishing the Central Bank of Ecuador for Dr. E. W. Kemmerer, the country's financial adviser. He performed similar services for the Philippines before joining

the RFC in 1932 as adviser to the board of directors.

In the first place, anxious borrowers had confirmed their early suspicions that the Mortgage Company was really more of a threat than a competitor to private lending institutions. "Either you make loans or we will" was President Schwulst's strategy. For although the record showed only no loans made, more than a dozen applicants had come to a satisfactory refinancing agreement with their mortgagees shortly after the RFC had shown interest in the properties.

As to loans for new construction, there was no real indication of how cooperative President Schwulst would be. A few were being studied seriously, but in general none qualified as being "new buildings for which there is an economic need," and few applicants had what the RFC considered "a substantial investment in the property and resources sufficient to indicate that the completed project could be financed on a sound basis."

Among the loans that President Schwulst indicated would be immediately turned down were:

1. Loans where the bulk of the fund is to be used for the liquidation of existing indebtedness.

2. Loans for refinancing single purpose buildings such as mills, tourist camps, filling stations, churches, schools, hospitals.

3. Loans to subdivision owners, or owners of several one-family residences in scattered localities which could not be considered as one unit property.

4. Loans to owner-occupied commercial buildings where the property, because of its peculiar character, was not leasable to other than the owner.

5. Loans in small communities where no ready market, in the event of foreclosure, is available.

Eligible for RFC aid are:

1. Loans to owners who are being pressed for payment where the obvious purpose of the mortgagees is to deprive them of property in which they have substantial equities.

2. Loans to mortgagors who have lost buildings through foreclosure provided the time of redemption has not expired.

3. Loans to owners of row house developments as well as apartment buildings where the buildings may be considered as a one unit property.

4. Loans on leasehold mortgages, provided such loans are completely amortized over the ten-year period.

But even these generalities were no real test of what the RFC Mortgage Company would do if asked. From Chairman Jones as well as from President Schwulst came a strong invitation to any distressed mortgagor of a commercial building unable to obtain satisfaction locally to bring his application to one of the 32 district offices. Equally strong was the invitation to any legitimate investor with a reasonable equity in a proposed building to apply for funds.



Over 2,000,000 square feet of RU-BER-OLD Built-up Roofs protect Ford factories. The Pressed Steel and Spring Upset Buildings at the River Rouge Plant are pictured here. Architect, Albert Kahn, Detroit, Mich.

McLaughlin

ARCHITECTS serving the automotive industry pay tribute to Ruberoid quality. Over four-fifths of America's automobiles, at some point in their manufacture, are made under RU-BER-OLD Built-up Roofs.

The architect's confidence in Ruberoid's long life and economy is backed by the enviable service record of RU-BER-OLD Roofs on all types of buildings the world over.

Ruberoid serves the home owner and the farmer, as well as the manufacturer, with a wide line of Asphalt and Asbestos Roofings, Shingles, and Building Products that meet every architectural demand and please any taste and pocketbook.

The completeness of the Ruberoid line, its high quality standards, and the integrity of The Ruberoid Co.'s personnel, have attracted the higher type of dealer to serve you. This enables The Ruberoid Co. to match their quality products with quality distribution unparalleled in the roofing industry.

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ARCHITECTS ROUT STOCK PLANS

**in the sales strategy of a Hartford lumber company.
A competition brings to light a small house answer.**

SECOND only to unification of the building industry was the subject of small houses at last month's annual convention of the American Institute of Architects at Milwaukee (see page 38). Their long-held suspicions of a housing shortage partly substantiated by the recent five-year record rise in the curve for residential building, the delegates seriously pondered profits to be had from small house work. Most serious point in their discussions: Did the rest of the industry want architects in the small house picture? Were architects' fees on small houses not too high for bankers, realtors and material dealers, on the selling side, and were they not possibly too low to be worthwhile for the architects themselves?

To this discussion paradox there seemed a sure answer last month in the story of a group of Hartford, Conn., architects, who since 1930 have been successfully cooperating with a Hartford building material firm on small house business, and to whom attention was drawn by an architectural competition which was notable in itself.

In most U. S. cities, some one man or organization, through an aggressive and intelligent approach to the problem of supplying the people with homes, has become the recognized hub of the local home building game. Many times it is the subdivider with the keenest eye for the future. In an upstate New York city it is a bank which intelligent lending leadership has won a following. In Hartford, the Capitol City Lumber Company stands well up in line for the nomination.

Easily the largest building material concern in Hartford, Capitol City is headed by a hard-driving young giant (6 ft., 3 in., in his stocking feet) named Adolph Korper, who with a corps of salesmen altogether as adept as any Hartford subdivider's, and with unique ideas about advertising, has made himself a more than ordinary force in Hartford home building. Capitol City's sales were always equally as amazing to others in the industry as to competing lumbermen. Alert real estate men and lending institutions took notice, and architects not foolish enough to think small houses beneath them took notice, too; but in boom years it did the architects very little good—for Capitol City, like many another U. S. lumber company, was selling stock plans.

In 1930 Capitol City pondered junking its plan books. Chief reasons were the scarcity of construction money and the desire on the part of lending institutions to see complete plans and specifications before

lending. Still, this was not all. Many of the houses in the plan books were unsuited to Hartford. Customers often found better plans in the "ready-made" house catalogues. Others bought or borrowed plan books, then used them to shop around with.

But were the architects prepared to handle this small business? In came Architect M. H. Lincoln, first Hartford architect to show an interest in the scheme, with a positive assertion that they were. Other architects were sounded out and found interested, to the extent of agreeing to leave plans and perspective drawings of small houses with the company in a permanent display. Capitol City assured them they were under no obligation to "buy at the Capitol City Lumber Company," gave them two very definite incentives to cooperate: first by securing financing from local lending institutions on the basis of sales from plans and specifications, and second, by putting its well-proved sales machinery to work for them.

First Hartford lending institution to lend under the plan was the Hartford-Home Building and Loan Association, which in 1930 agreed to make as many commitment loans as Capitol City could secure, based on architects' plans, specifications and supervision. In 1931 still another was sold on the plan. Two additional institutions were won over in 1934. Capitol National Bank & Trust's president, Ernest J. Eddy, expressed the bankers' viewpoint thus: "If the home is all complete and we are able to see it in its finished state, that is one thing, but we are not willing to consider applications for the erection of new homes unless said applications are accompanied by satisfactory plans and specifications." Emphasizing his prescience, Hartford-Home's secretary, A. C. Miller, last month reported: "We could give you a number of instances where an architect has given a

man a much better home for his money."

To those in need of financing, Banker Eddy's logic was easy to understand; to win them over to Building & Loan Man Miller's viewpoint Capitol City salesmen were instructed to relate the company's unfortunate experiences with plan books, to stress the value of an architect's supervision, "not as a cop walking a beat, but as a sage counselor who will anticipate changes of mind by laying out furnishings mentally, placing light plugs and fixtures, etc., and thus help avoid excessive extras." It soon became possible to show customers actual instances where far more house per dollar was to be had with an architect on the job (see cuts, below).

From its collection of plans, now totaling approximately 75, and representing seven different offices, Capitol City has sold 40 houses during the last five years, ranging from \$4,000 to \$20,000 in price. With his head start, Architect Lincoln is able to report \$67,000 in gross business for the year 1933 and part of 1934 as a result of his cooperation with the company.

Says he:

"For eight years I have done nothing but houses—\$3,000 to \$100,000. With the smaller work, the greatest chore, and usually the most expensive, is in selling the architect's service. That it can be sold, profitably to the owner as well as the architect, has been proven.

"After the owner has selected an architect, usually based on the sketches he likes best, the salesman arranges an appointment between architect and owner. At this meeting if an agreement is reached, work progresses in the usual way, with a signed contract at the usual fees. In some cases I have put supervision on a consultation basis, at so much per call. The client is accustomed to paying his doctor so much a visit, and it is logical for him to pay his architect in the same way. . . .

"The Capitol City has actually sold the contractors the idea of trying to get the owners to employ an architect on small houses, in spite of the probability that, if an architect is employed, the contractor will have to figure in competition a job he might have had at his own price without an architect. As a result, I have done four jobs



George Meyers Photos

A random example from Capitol City's history: the house at the left, sold from stock plan in 1931, cost \$7,637 to build; while the one at the right, sold from a design by Architect Lincoln in 1934, cost \$7,001, including architect's fee.

this year where contractors brought the owners to me. . . .

"As I see the present set-up, we have in the Capitol City Lumber Company a closely knit organization, built for the purpose of selling properly designed, well built houses on contract. It is impossible for any architect, or a small group such as we are, to build such a selling organization, let alone maintain it or publicize it as they have done for us. The scheme has brought those architects interested in closer contact, which has been beneficial to us all in more ways than one. It has helped, for instance, to maintain more uniform fees among those who formerly had to get work for what they could get."

Capitol City has wisely asked all architects cooperating with it to keep their fees uniform, and it has not been difficult for them to agree on a 6 per cent fee, 3 per cent of which is for designing and 3 for supervision. These fees have apparently proved satisfactory all around—to banker, dealer, contractor, architect and home buyer alike.

Summing up his impressions of Capitol City's procedure, stocky, likable Architect Joseph T. Reynolds of the firm of Mylchreest & Reynolds declared last month



Capitol City's towering president congratulates the competition winners. Left to right: Prize-winner Lienhard, Jurist Slocum, Professional Adviser W. F. Brooks, President Korper, Architects Lincoln and Reynolds, and Competition Manager R. S. Rood.

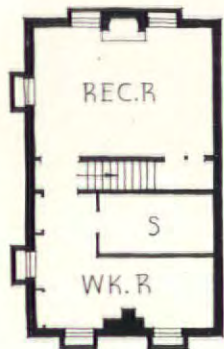
that "During the past few years they have done more for the architectural profession in Hartford than the profession has done for itself." Said Kenneth Sellers Heine, architect for eight Capitol City customers: "The system has been a lifesaver. . . . I highly recommend it to lumber companies and architects in other communities."

Compelled to live up his collection of plans for FHA selling, Capitol City's popular and dynamic president month before last conceived an architect's competition, which made more news last month in New

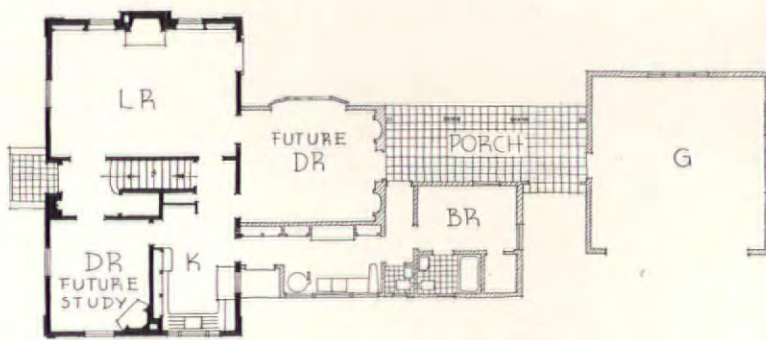
England real estate and building circles than ever an architect's competition had. With the official backing of the Connecticut chapter of the American Institute of Architects, the contest called for designs for a house which it would be possible to purchase at the rate of \$60 a month, and to which the purchasers, Mr. and Mrs. Newhouse and their three-year-old son, might subsequently add additional units.

Judged by Dean Everett V. Meeks of the Yale School of Fine Arts, A.I.A. Chapter President Douglas Orr of New Haven, and Louis W. Slocum, Hartford general contractor, the competition drew entries from fifteen Hartford architects, of whom Robert H. Lienhard, 1931 graduate of the Yale School of Architecture, was first prize winner. His house, as well as those of the second and third prize winners, Mylchreest & Reynolds and M. H. Lincoln, respectively, was Colonial in design.

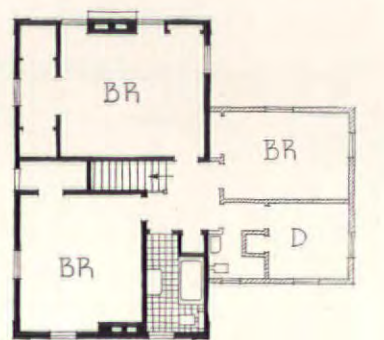
Hung for a week in Hartford's famed Morgan Memorial, the plans found permanent residence in Capitol City's collection, whence two were sold and scheduled to be built last month.



CELLAR PLAN



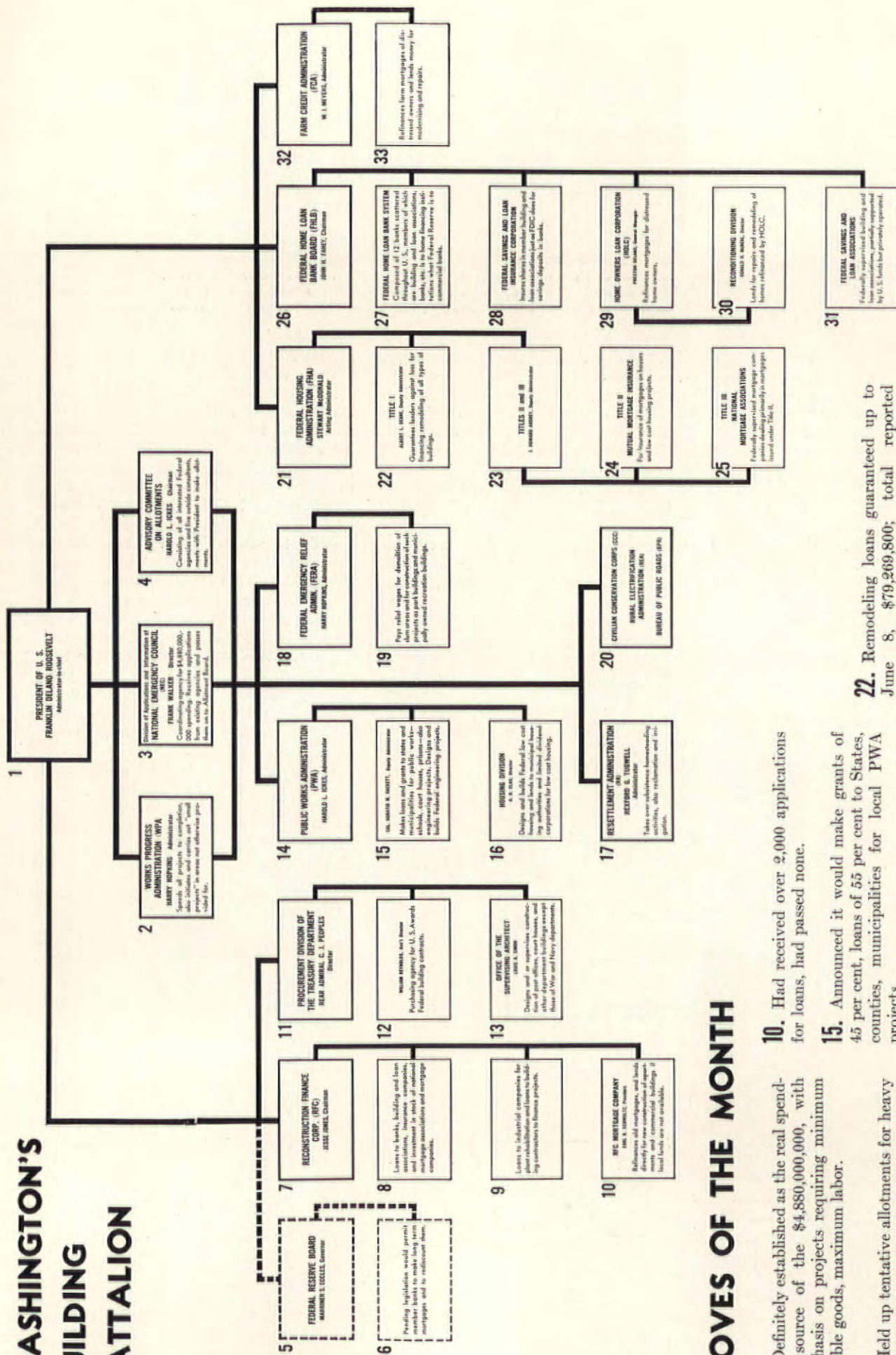
FIRST FLOOR PLAN



SECOND FLOOR PLAN

Prize-winner Lienhard's Extendable Entry

WASHINGTON'S BUILDING BATTALION



MOVES OF THE MONTH

2. Definitely established as the real spending source of the \$4,880,000,000, with emphasis on projects requiring minimum durable goods, maximum labor.
4. Held up tentative allotments for heavy works projects, indicated few new projects will be approved.
5. New bill suggesting creation of Federal Reserve Bank under the Federal Reserve Board introduced to replace discounting features of Eccles Banking Bill.
10. Had received over 2,000 applications for loans, had passed none.
15. Announced it would make grants of 45 per cent, loans of 55 per cent to States, counties, municipalities for local PWA projects.
16. Limited to over-all expenditure of \$250,000,000 under Works-Relief plan, will probably get even less.
17. Shifted emphasis from rural resettlement to semi-rural, semi-industrial projects.
22. Remodeling loans guaranteed up to June 8, \$79,269,800; total reported pledged by property owners, \$428,541,779. Launched Modernize Main Street program under amended act. (See page 53.)
24. Total mortgage insurance applications June 8, \$67,104,533; total commitments \$27,963,156.
27. Treasury empowered to buy shares in all members of System, as well as in Federal savings and loan associations.
29. Applications for refinancing closed June 27.

UNIT ELEVATORS, HOPPER WINDOWS

are the prime planning and renting devices used in quintupling the income of a New York slum

To merge a handful of old residential buildings into a bright new apartment house at double the rent per room is a piece of magic which scores of architects and building men have mastered. But when the rents are quintupled, bringing a gross income of about one-sixth the capital investment, even a normally non-curious mind must wonder why.

New York's Sutton Place neighborhood, overlooking the prison colony on Welfare Island in the East River, is a hodge-podge of smart dwellings, gas tanks, and slums. Now in the sixth year of conversion from inaccessibility to exclusiveness, it is a happy hunting ground for modernization marksmen. On one corner, Edgar Ellinger picked up nine houses, spent \$100,000 to recondition them, and is now earning about 10 per cent on his money. (ARCH. FORUM, July, 1934, p. 70). Fronting the river is famed Sutton Row, where the enterprising Mrs. Tuckerman Draper recast the faces and the interiors of a whole street of houses at a 200 per cent profit to her clients.

It took little imagination, therefore, for Vincent Riggio, American Tobacco Vice President, to picture what could be done with five old tenement houses on the Southwest corner of 52nd Street and First Avenue when the Emigrant Industrial Savings Bank listed them for sale at \$200,000. And what little imagination it did take was readily supplied by Architect-Engineers Francisco & Jacobus, veteran Manhattan planners, whose Corona cigar factory in Trenton, N. J., inspired Mr. Riggio to hire them. Their problem was, as every rehabilitation problem is, to keep their imagination within bounds, to relate every improvement over and above basic necessities to the added income each might bring.

Thus the conversion of a \$4 per month per room building into a \$35 per month per room building at a minimum cost boiled down to two kinds of maneuvers, (1) making the basic changes at the least cost; (2) adding as many renting incentives as possible within a limited budget.

Under (1):

A. Existing exterior and parti walls were preserved (See plans.) Installation of two automatic elevators to serve the three buildings facing First Avenue eliminated the necessity of revising the entire plan of circulation. Living room and bedroom locations were retained with as few changes as the necessary enlargement in size would permit. The interior spaces which curse all old buildings were ingeniously converted into utility rooms and closets.

B. Instead of installing a new heating

plant, the buildings were connected to the New York Steam Company's lines, which economically serve that area.

C. Porcelain enameled steel plumbing fixtures resulted in significant savings.

D. Resurfacing the buildings was attractively but inexpensively effected by the usual stucco covering.

Under Classification (2):

A. The old frame windows were replaced by a new type of draft-proof steel casement window (see illustration), a feature which Agents Douglas Elliman & Co. regard as the strongest single renting factor in the house. Though hopper vents in casement windows are not new, their use here added one of the notes of distinction required to justify the rents.

B. Because the buildings were five stories high, they could have been rented as walk-ups, but automatic unit elevators (costing \$11,550.00), enabled the owner to boost the rents fully 25 per cent.

C. Intensive development of the garden court, on which a few hundred dollars might have been spent, but on which \$1,000 was spent. This, plus the "gate

ADVERTISEMENT

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APARTMENT CUTS FUEL COSTS WITH MODERN HEAT

Webster Moderator System Saves 35 P. C. of Original Cost in First Six Months

TENANTS WELL SATISFIED

Heaviest Degree Day Load Failed to Effect Well-Balanced Heating

6-MONTHS SAVINGS \$1,000

Baltimore, Md.—A heating modernization program completed October in the Marlborough Apartments, here, has given the tenants remarkably improved heating service while allowing the management to recover 35 per cent of the modernization cost in the first six months of operation.

When modernization of the heating system in this 10-story apartment building was under consideration, the building management secured accurate information on the possibility of recovering the original investment within a reasonable period of time through reduced fuel bills.

After surveying the old installation, Warren Webster & Company estimated that the Webster Moderator System would liquidate the investment in approximately three years.

Installation of the Moderator System was authorized and the project was completed by November 1, 1934. Heating the building for the previous years required an average of 1,069 tons of coal annually, according to the building superintendent's performance summary. A correction for degree day difference in fuel savings since that time has been as follows: November, 13 tons; December, 56.69 tons; January, 53 tons; February, 53.17 tons; March, 8.16 tons; April, 10.26 tons.

This reduction in the fuel bill total of 194.14 tons of coal for the brief period, has a cash value of \$1,216.31. At this rate of saving, modernization will pay for itself within three complete heating seasons.

There was no "starving" of the heating system to achieve these results. The distribution of steam noticeably improved, the winter period shortened. The new system has been satisfactory to both management and tenants.

To tenant an apartment house properly, the management must maintain comfort, day in and day out, without interruption and a minimum of overheating. A heating system that fails to measure on every count creates temporary dissatisfaction, injures the reputation of the building and reduces year-round rental. It is a command.

The management of the Marlborough Apartments found that the Moderator System performed satisfactorily during the severest weather. In January, the coldest month under a 982 degree day load, system met every demand placed upon it.

If you are interested in (1) improved heating service and (2) reduced heating cost in your building, address: WARREN WEBSTER & CO., Camden, N. J. Pioneers of the Vacuum System of Steam Heating. Branches in 60 principal U. S. Cities—Entire

BUILDING • MONEY

IMPROVED
Webster
Systems of
Steam Heating





The cost of the alterations was \$135,975 or about 25 cents per cu.ft. for the 535,500 cubage (see opposite page for breakdown), plus a fee of approximately \$15,000 for the contractors, Schweers & Smith, who were awarded the job without competition on an upset price basis.

Since the entire transaction was cash, the carrying charges, including taxes, are probably somewhere between \$15,000 and \$20,000, leaving a net return to Owner Riggio of between \$35,000 and \$40,000.



A Stucco Covering Merges Five Old Tenements



From Shop to Gate Lodge

lodge" entrance, which replaced an old shop, was regarded by the renting agents as the second strongest rental factor.

Other features of the reconditioning, neither (1) nor (2) were the conversion of the first floor space facing First Avenue into six stores, the decided preference for dining alcoves wherever possible, installation of copper plumbing, radio outlets connected to a central aerial; and finally the naming of the new house "Eastgate," to trade on the name of the singularly successful "Southgate" one block to the east, operated by the same management.

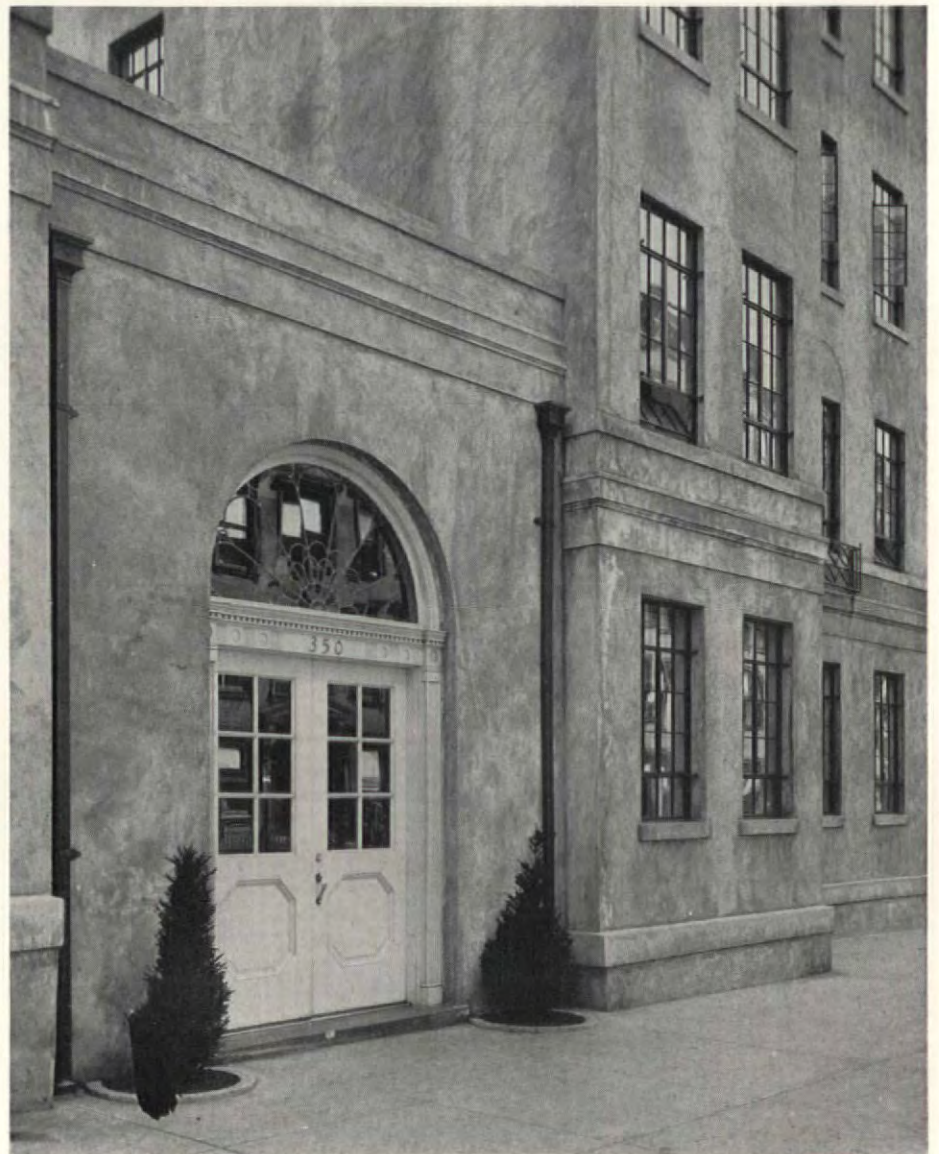
With a rent schedule of

1-room apartments \$60 to \$75

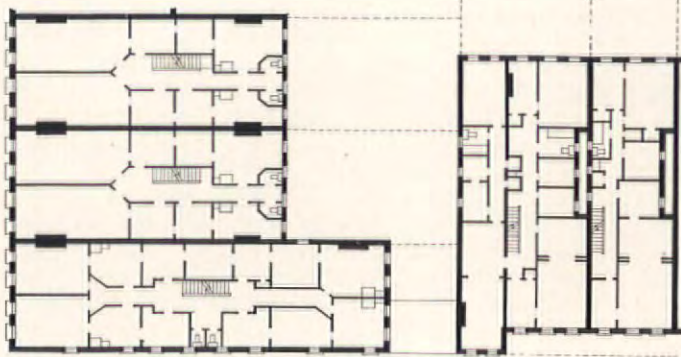
2-room apartments \$75 to \$90

3-room apartments \$100 to \$115

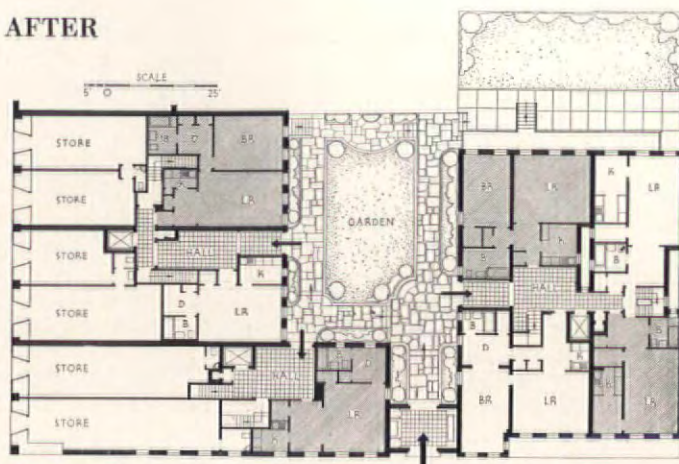
the gross annual return is about \$55,000.



BEFORE



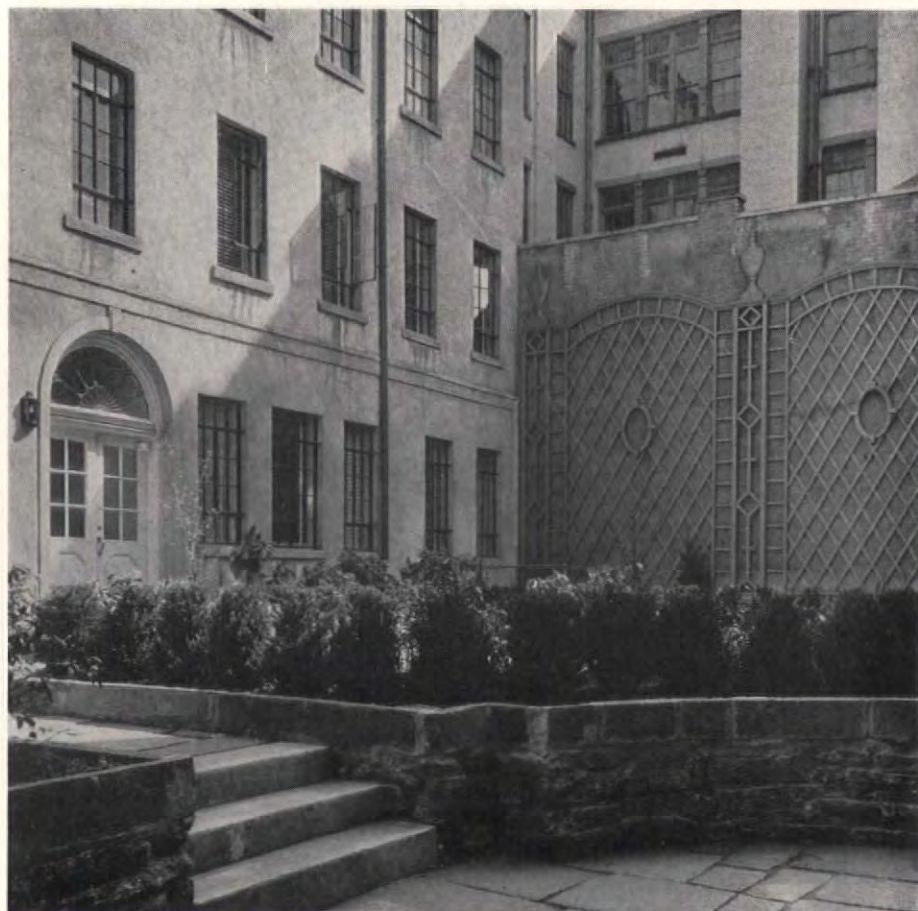
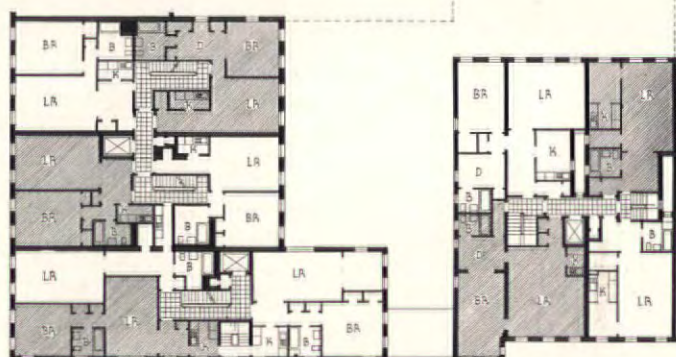
AFTER



COST BREAKDOWN

General Conditions.....	\$5,500.00
Shoring and Demolition, Fumigating and Masonry.....	18,898.00
Carpentry, Millwork and Stairs, Insulation Material and Weatherstrips.....	10,630.00
Incinerator Material, Structural Steel and Ornamental Iron.....	3,350.00
Steel Casements, Glass and Glazing.....	6,075.00
Roofing, Sheet Metal and Ventilating and Store Fronts.....	3,015.00
Kalamein Doors, Windows and Bucks.....	3,350.00
Lath, Plaster and Stucco.....	21,000.00
Tile Work.....	1,500.00
Finish Wood Floors.....	5,200.00
Lino-Tile, Linoleum and Compo Floors.....	2,675.00
Painting and Decorating.....	5,775.00
Plumbing.....	15,540.00
Heating (New York Steam).....	4,515.00
Wiring and Inter-Communicating Phone System.....	5,307.00
Elevators.....	13,050.00
Gas Ranges and Refrigerators.....	4,410.00
Lighting Fixtures.....	1,260.00
Finish Hardware.....	1,050.00
Toilet Accessories, Hampers and Dryers and Radiator Covers.....	1,875.00
Total.....	\$133,975.00

The typical railroad flat, above, has myriad conversion possibilities, but few more satisfactory than the schemes at right. Below, a singularly successful conversion of a backyard into a garden court.



HOMES AT \$5.50 A WEEK

are next in a New Hampshire homes association's program.

COULD houses be built and sold, including lot, with no down payment and purchase payments of \$7.50 per week, not only would the low income bracket problem vanish, but there would follow a wave of building breaking fast and far enough to wet the sands of any builder's desire. On such a basis did the Chase Family Homes Association of Manchester, N. H., launch a program eleven years ago. Last month it planned to beat that record with homes at \$5.50 a week.

Not a limited dividend corporation, but of a similar nature, Chase Family Homes was founded and supported by prominent citizens of Manchester, at the instigation of the proprietor of the city's leading furniture store, Lithuanian-born Edward Max Chase, a swart, energetic little man with a considerable side interest in New Hampshire real estate. The association makes two unique requirements of those receiving its beneficence: the prospective buyer must (1) have a family with not less than two children; (2) belong to a church, be recommended by his clergyman.

Chase Family Homes' 1924 building project consisted of 30 six-room, single-family frame houses, all architect-designed. Not only were such 1924 innovations as kitchen cabinets installed, but also such features as floors throughout of quarter-inch battleship linoleum, cemented down with a heavy felt lining, which served to facilitate cleaning and reduce heating expenses for the occupants, as well as to save them the expense of buying floor covering. A toilet and lavatory were provided on the first floor besides the regular bathroom on the second. Good grade materials were used throughout, including copper hot water tanks and brass hot water piping.

Scattered about Manchester, the houses averaged \$3,898 in cost, half of which was provided interest-free by the association, and the other half by local home financing institutions at an average interest rate of 5 per cent. The purchaser made no down payment, but paid for house and lot at the rate of \$7.50 per week, over a period of fifteen and one-half years. This amount provided for payment of taxes, insurance, and water tax, as well as for a life insurance policy for the head of each family—all of which items were taken care of by the association. Chase Family Homes' eleventh annual report recorded the fact that \$67,000



Philanthropist Chase

worth of mortgages, representing the entire mortgage debt, excepting the case of ten mortgages taken over by the Home Owners' Loan Corporation, had been paid off, and that over \$11,000 had accumulated in its treasury, which is available for a new building program.

Thus, shielded by the HOLC from de-

pression's huff and puff, the association was last month planning to build its next houses of brick. Said Philanthropist Chase: "The original houses have had to be repainted twice, and by using brick we can avoid the expense of this. . . . However, on the proposed house it may be necessary to eliminate the piazza and the fireplace [see cut] in order to keep within the intended average cost of \$4,000."

Not the use of brick, however, but the use of a longer period for repayment was to be the chief stratagem. "We intend to sell them at a \$5.50 weekly rate rather than \$7.50. At that rate it will take the purchaser 27 years and six weeks to pay for his home. If, however, he can afford to pay \$7.50 per week, it will take him only fifteen years and six weeks to pay."

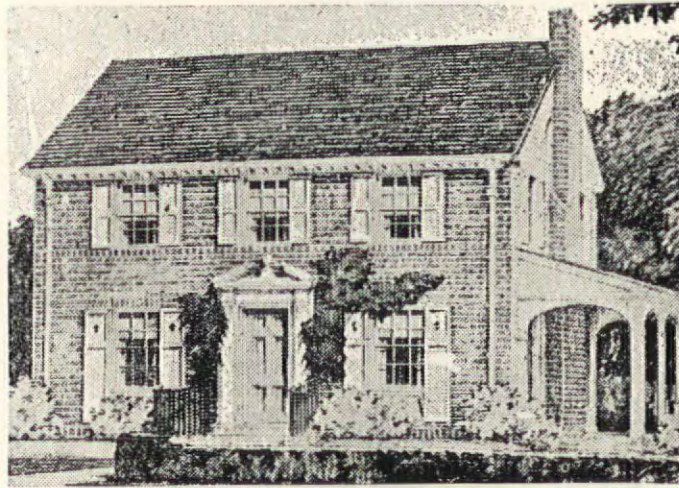
Mr. Chase added that he would be in favor of popularizing the association's plan to the extent of offering to buy 10 per cent of the securities issued by associations similarly organized in other localities. "It is my belief that private capital can be attracted to our undertaking, and is the answer to the problem," he explained. "It is true that the rate of return may not be large, but I believe that the surety of the return would be unquestioned. According to schedules that I have worked out, if brick homes were built at a total cost of \$4,000 each, a rate of return of 3 per cent on the capital invested could be counted upon, with the home owner paying only \$5.50 per week for a period of 29 years, six months and fifteen weeks, with the association paying the fire insurance, taxes and water tax. In the event a yield of 5 per cent on the capital invested were required, payments could be arranged on a \$7.50 weekly basis over a period of 21 years and eleven weeks.

"These schedules readily demonstrate that private capital could be induced to take up mortgages on these homes with no philanthropy needed, except where it entailed the donation of time and services by the trustees to look after the enterprise."



Courtesy, Christian Science Monitor

Present



. . . and Future Chase Family Homes

3,799 Telechron CLOCKS

KEEP TIME FOR GOVERNMENT EMPLOYEES

NOW THOUSANDS of government executives and employees are enjoying the precise, efficient time service that Telechron systems supply. And those who watch the budgets are enjoying low operating and maintenance costs! This group of buildings—one of the most impressive new architectural developments in Washington, is fully Telechron-equipped. The largest system contains 1100 Telechron Clocks, while the smallest system contains 94.

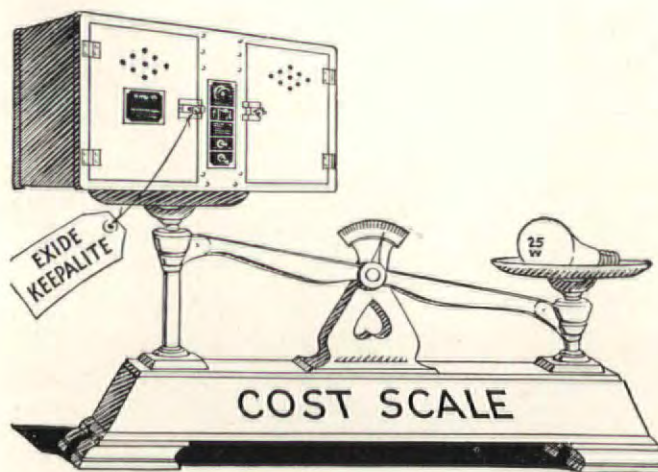
There is no limitation to the number of clocks in a Telechron system. Installations may vary from a single clock to thousands of Telechrons operating in unison—as one complete unit! All types of buildings—new or modernized—are enjoying the benefits of Telechron built-in time service. Initial costs are nominal, operating costs negligible—maintenance costs rare. Let us give you the details now . . . we will be glad to co-operate with you on your projects. Address the Warren Telechron Company, 475 Main Street, Ashland, Massachusetts.

1. INTERSTATE COMMERCE AND LABOR BLDG.
Architects Arthur Brown, Jr.
Engineers Leland & Haley
General Contractors James H. Stewart Co.
Electrical Contractors Harry Alexander Co., Wash., D. C.
AR (Automatic Reserve) System consisting of 1110 Telechron Clocks and central control. Installed Nov., 1934.
2. POST OFFICE DEPARTMENT BLDG.
Architects Delano & Aldrich
Engineers Syska & Hennessy
General Contractors McCloskey & Company
Electrical Contractors Howard P. Foley Co., Wash., D. C.
AR (Automatic Reserve) System consisting of 495 Telechron Clocks and central control. Installed April, 1934.
3. INTERNAL REVENUE DEPARTMENT BLDG.
Architects Treasury Dept.
General Contractors James Baird Company
Electrical Contr's Howard P. Foley Co., Wash., D. C.
ADFR (Automatic Double Frequency Reset) System consisting of 875 clocks and central control. Installed March, 1930.
4. INTERNAL REVENUE EXTENSION No. 1 (Under Construction)
Architects Procurement Division, Treasury Dept.
Engineers John McShain, Inc.
Electrical Contractors Harry Alexander Co., Wash., D. C.
When completed will have 125 Telechron Clocks controlled from main building.
5. DEPARTMENT OF JUSTICE BLDG.
Architects Zantzinger, Borie & Medary
Engineers George A. Fuller Company
General Contractors Howard P. Foley Co., Wash., D. C.
Electrical Contractors AR (Automatic Reserve) System consisting of 1100 Telechron Clocks and central control. Installed Nov., 1934.
6. ARCHIVES BUILDING
Architects John Russell Pope
Engineers Clyde R. Place
General Contractors George A. Fuller Company
Electrical Contractors Howard P. Foley Co., Wash., D. C.
AR (Automatic Reserve) System consisting of 94 clocks and central control.

Telechron

Reg. U. S. Pat. Off. by Warren Telechron Co.

SELF-STARTING SYNCHRONOUS ELECTRIC CLOCKS



EXIDE EMERGENCY LIGHTING OPERATES AT LOWER COST THAN A 25-WATT LAMP

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In any public building, or where crowds gather, a failure of the lights is dangerous. Responsibility for such occurrences cannot rest with the utility companies, for they take every possible precaution to prevent interruption in the normal current supply.

Safe, certain, economical protection is offered by an Exide System, which operates instantly and automatically, supplying abundant emergency light. An architect, especially, can appreciate the added economy and satisfaction that follows installation of an Exide System as an integral part of a building. Write for bulletin on Exide Emergency Lighting.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Refer to Sweet's Catalogue, Section 27—Page 1

**Exide
Keepalite**
EMERGENCY LIGHTING SYSTEMS
\$150 AND UP

FORUM OF EVENTS

(Continued from page 13)

building. You heard that Norman Bel Geddes designed a multi-use assembly room for J. Walter Thompson Co. The industrial designer, as he became increasingly preoccupied with the social implications of his work, drew closer and closer to the older and more established profession of architecture.



Associated Press

HOWE, GEDDES

The profession expectantly waited. That rapprochement was signally exemplified last month when Norman Bel Geddes and George Howe announced the formation of a partnership.

Norman Bel Geddes may or may not be the best of all industrial designers. He is certainly the most spectacular and the best known. His book *Horizons* has had its effect upon contemporary design and is unquestionably partly responsible for the snub nosed streamlined automobiles of today. His 1929 window display for the department store, Franklin Simon, stopped traffic on Fifth Avenue the day it was first shown and store windows throughout the land were changed the next. He has designed radios for Philco, a welded, sheet-steel stove for Standard Gas Equipment Corp. The Glenn Martin airplanes which Pan American built for trans-Pacific passenger service carry Geddes interiors. No theatergoer has forgotten his sets for *The Miracle* and *Lysistrata*.

Architects need no introduction to George Howe. Philadelphians know the modern Philadelphia Saving Fund Society (Howe & Lescaze, architects), his epochal country residence for William Stix Wasserman. Impartial critics rate him as modern without affectation, well grounded in tradition, keen, original. In a day when the profession of architecture is constantly being redefined and when its boundaries are constantly being enlarged, his partnership with Industrial Designer Geddes assumes peculiar significance. The profession was expectantly waiting last month to see what the first fruits of this union would be.

FAIRS, MURALS

In San Diego, Bertram Grosvenor Goodhue's Spanish Renaissance buildings which he designed for the 1915 Panama Pacific Exposition are filled again. Summer, the season of fairs, has brought a fair to California. And proud citizens proudly contend that it will turn out to be a worthy rival of Chicago's Century of Progress. Originally intended as a local affair, it has become national and international. Architecturally, it is still mostly Goodhue although there are several new buildings including a new Ford exhibit, designed by Walter Dorwin Teague and displaying myriad industrial devices. FHA is exhibiting a dramatization of modernization

(Continued on page 30)

MAGNALUX

THE POPULAR CHOICE OF
MODERN SHOPS AND STORES



● Crofut and Knapp Co., quality hat manufacturer, recently installed Magnalux throughout the Dobb's and Knox Hats headquarters, New York City. Shops and stores everywhere are analyzing the quality and quantity of illumination required to set their merchandise and showrooms off to advantage . . . and then selecting Magnalux to provide the illumination.

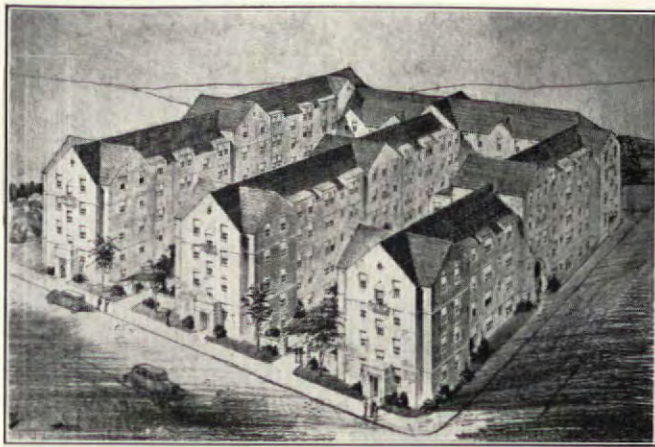
Westinghouse, largest maker of complete lighting equipment, has prepared a Handbook that explains every detail of modern interior lighting. The Handbook is complete from analysis instruction to information on Westinghouse equipment for commercial and industrial application. A copy of the Handbook is free for the asking. Or see the special Westinghouse section on modern lighting installation design in the 1935 Sweet's Architectural Catalog, Section 28.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
Lighting Division, Edgewater Park, Cleveland, Ohio



● Shadowless, glareless Magnalux provides an average of 13 foot-candles of illumination in these headquarters showrooms of the Crofut and Knapp Co. The offices are also lighted entirely by Magnalux.

WHEN YOU THINK OF *Lighting* THINK OF
 **Westinghouse**



Men's Dormitory
University of West Virginia

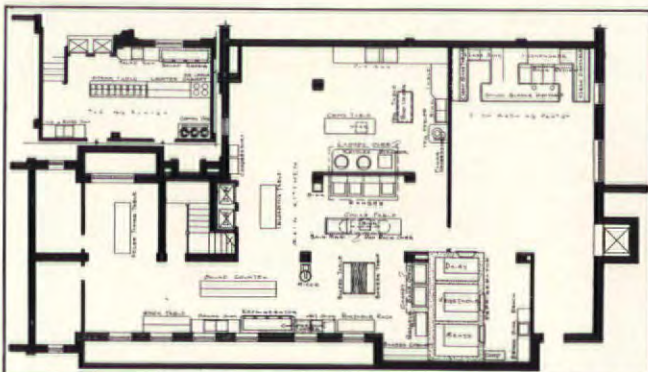
Warne, Tucker, Silling, Architects
Charleston, West Virginia

EIGHTEEN months ago this building was still in the "pencil sketch" stage shown above. It was designed to house 336 men and to serve three meals daily to 500 students. In December 1933, as soon as the plans were drawn for the food service floor, the architects called into consultation the

JOHN VAN RANGE KITCHEN ENGINEERING SERVICE

The building is now nearing completion and every detail of the arrangement and equipment for the preparation and serving of food has been worked out with scientific efficiency. There will be no waste of space and no crowding when the equipment, now in production by John Van Range, is installed. Floor plans of kitchen, dish washing department and serving room are reproduced below.

No matter how large or small the kitchen engineering job, the John Van Range organization welcomes the opportunity to cooperate with architects wherever problems of food service and equipment are involved. The architect assumes no obligation, direct or implied, by availing himself of this cooperation. Please send plans of all food service floors before construction is begun, if possible.



The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

328 EGGLESTON AVE.

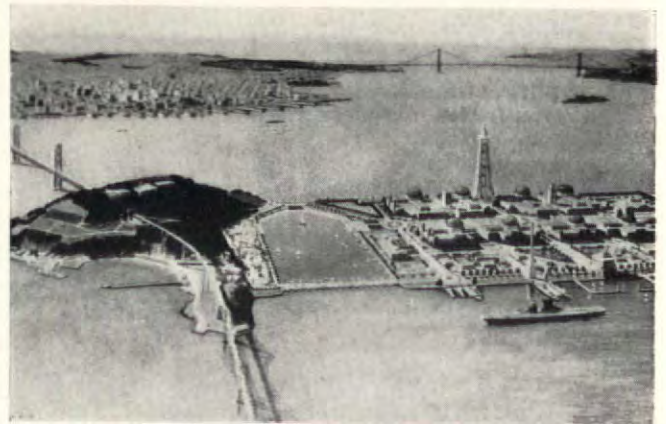
CINCINNATI, OHIO

FORUM OF EVENTS

(Continued from page 28)

by showing (in ten minutes) the metamorphosis of an antiquated, badly designed community into something splendidly modernized and planned. A "New Deal City" shows 56 miniature homes designed to exhibit the best and latest techniques in residential planning and construction. And the Screen Actors Guild exhibits such nostalgic objects as Charlie Chaplin's shoes, Mary Pickford's curls, George Arliss' monocle.

News of other fairs: Paris is grooming itself for its big 1937 international show. In San Francisco, where work on the Golden Gate and San Francisco-Oakland bridges progresses fast, the citizenry put end to a bitter quarrel by overwhelmingly voting to hold the 1938 fair on Yerba Buena Shoals, the island on which the two Bay bridges will meet when they are finally connected. The Leipzig Trade Fair, an institution which is 700 years old, opens August 25. Buyers from 74 countries have promised to attend, and 22 countries, including the U. S., will display their latest artistic and industrial wares.



YERBA BUENA

Here, when the bridges are completed, the 1938 Fair

Summer is also the season of murals. Since the inception and death of the Public Works of Art Project under Edward Bruce, the U. S. has been firmly intent on covering all its public buildings with murals. At present, the Procurement Division of the Treasury Department is leading the way by commissioning artists on the basis of talent and past performance (under PWAP, the financial straits of the artists were the principal consideration). Already commissioned to do one or more panels for the new Post Office and Department of Justice buildings are the following well known U. S. painters: George Biddle, Thomas Benton, John Steuart Curry, Rockwell Kent, Leon Kroll, Reginald Marsh, Henry Varnum Poor, Boardman Robinson, Eugene Savage, Maurice Sterne, Grant Wood. Paul Manship and William Zorach are also expected to be asked to contribute sculpture.

Indicative of the squabbles that will probably crop up throughout the land is the art argument that reached the front pages of New York newspapers when its Municipal Art Commission unexpectedly turned down a series of sketches for a penitentiary (Rikers Island) mural worked out by Ben Shahn and Lou Bloch. The artists chose for their subject the history of prison life from the days of bread and water, lashing and airless dungeons to today's comparatively humane system of treating prisoners as individuals and giving them a quota of exercise and manual or artistic labor in order to break prison's inevitable monotony. The Municipal

(Continued on page 32)

In Metropolitan New York alone

MORE THAN 4,500 APARTMENT BUILDINGS

**are equipped with
ELECTROLUX**

BECAUSE...

TENANTS GAIN 1. Low operating cost
2. Permanent silence 3. Greater beauty
and convenience

OWNERS GAIN 1. No moving parts to wear
2. Long life 3. Gas Company service

IT'S not hard to discover why owners and operators the country over repeatedly choose Electrolux for their properties . . . why more than 4,500 apartment buildings in Metropolitan New York are Electrolux-equipped. Both from a rental and maintenance standpoint, this modern gas refrigerator has more to offer than any other refrigerator yet developed.

Among the advantages of Electrolux which appeal especially to tenants are: exceptionally low running cost . . . utter dependability . . . new sparkling beauty . . . worth-while modern conveniences. And that's not all! Thanks to its simpler operation, Electrolux is permanently silent. It has no moving parts to cause noise . . . or become noisy later.

Absence of moving parts is a feature of Electrolux that appeals strongly to owners and operators, too! For parts that move will wear. In

Electrolux this cause of refrigeration complaints, interrupted service, and shortened life is eliminated. And remember: your own local gas company backs and services every Electrolux it sells. Another important advantage only Electrolux offers!

Before buying any refrigerators for your apartments or homes, it will pay you to investigate Electrolux thoroughly. Get the facts about this modern refrigerator that offers you and your tenants *so much more!* For full information, see your gas company. Or write direct to Servel, Inc., Electrolux Refrigerator Sales Division, Evansville, Indiana.

**NEW *Air-Cooled*
ELECTROLUX
THE SERVEL *Gas* REFRIGERATOR**



**THIS New York realtor's
experience with Electrolux
IS TYPICAL!**

Writes Mr. John H. Spatz, Business Manager, Weisner Realty Co., 156 Second Avenue: "For our low-rental as well as our high-class apartments, we have found Electrolux the most practical. The reason, of course, is the remarkable economy, complete tenant satisfaction, and utter dependability of gas refrigeration. Today, we have *twenty* of our apartment buildings equipped with Electrolux, and since I am so completely sold on Electrolux myself, I have not hesitated in recommending it to all my friends."

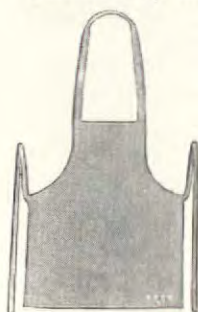
IT'S A WHALE OF A SEAT

"★★★★" *Brunswick* Whale-Bone-Ite Seats
Guaranteed to outlive any building in which installed!



Phantom view showing hinge construction in open back seat—no exposed metal to corrode.

Glass-smooth, diamond-hard Whale-Bone-Ite seats are immune to daily slam-bang abuse! With reasonable care they are guaranteed to outlive the building in which they are installed! They will not crack, warp, stain or rub off—are always sanitary—easy to clean. Metal hinges are also thickly surfaced with Brunswick's exclusive Whale-Bone-Ite—no rust or corrosion. Write today for latest catalog of Brunswick's complete line of toilet seats.



FREE To Architects, Mechanical Engineers and Draftsmen

This "★★★★" Bib Apron, 18" wide x 21" long . . . made of emerald green, fast-color twill . . . can be washed . . . and will not fade.

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Without obligation, please send your free "★★★★" Bib Apron.

I am with

Firm Name Title—Please check

Name Architect ☐

Street Mech. Eng. ☐

City State Draftsman ☐

THE BRUNSWICK-BALKE-COLLENDER CO.

623-33 S. Wabash Avenue, Chicago, Illinois Established 1845
Branches and Distributors in Principal Cities of the United States

FORUM OF EVENTS

(Continued from page 30)

Art Commission promptly held that the murals, particularly the gloomy early parts, would have a bad and depressing psychological effect upon the prisoners whose lot it would be to see the murals every day. The Commissioners backed their opinion with the statement that they had been reenforced in their decision by conversations with several Rikers Island inmates. Artists Shahn and Bloch as promptly answered that they too had discussed the matter with inmates and that the inmates felt they would be considerably cheered if the new murals were set in place. Nothing happened and the Commission stuck to its guns. But the newspapers (and presumably their readers) ran riot with psychological discussions about art. Typical was the *New York Times* which on one day printed an opinion of Edward Alden Jewell, art critic, that the murals were worthy, serious and good, that the artists had "looked beyond . . . the merely pretty and conventional," and that the murals should be given a chance. "After all," said Mr. Jewell, [if the murals turn out to be objectionable] "whitewash is always cheap." The following day, the *Times* in its daily column "Topics of the Times" suggested that "it might not strain logic to describe (the inclusion of the murals) as cruel and unusual punishment which that quaint old document the Constitution forbids."

New to the U. S. will be Newark's application of murals to the walls of the city's new subway stations. Newark's artist, Dominick Mortellito, husband of Sculptor Jane Wasey, intends decorating the various stops with illustrations of life and work along the old abandoned Morris Canal, in the bed of which the subway has been dug. In this, Newark takes a cue from Moscow whose resplendent new subway has just been opened. In Moscow, each subway station is different and marble and elaborate mosaics have been freely used.

PENCIL POINTS-IRON FIREMAN COMPETITION

WINNERS in the Pencil Points Architectural Competition for the design of a house for a family of five have been announced. The competition was sponsored by the Iron Fireman Manufacturing Co. Considerations of the Jury (Dwight James Baum, Edward W. Donn, Walter S. Frazier, Ralph W. Gray, Hal F. Hentz, Edwin H. Hewitt, James M. Hamilton; Russell F. Whitehead, Professional Adviser) were "1) architectural merit . . . 2) the intelligence with which the basement space, set free by the Iron Fireman, is utilized . . . 3) excellence of delineation. . . ." First prize was \$1,000; second, \$500; third, \$250; fourth, \$100. There were twenty-five mentions of \$50.

Winner of the first prize was Amedeo Leone, Detroit, Mich.

Second Prize—John W. Keyes, Philadelphia, Pa.

Third Prize—John Floyd Yewell, New York, N. Y.

Fourth Prize—Helmer N. Anderson and Frank Elmer Wood, Chicago, Ill.

Mentions went to:—

Norman W. Alpaugh, Los Angeles, Calif.

Howard A. Topp and Malcolm P. Cameron, Los Angeles

Anthony F. Darrin and Charles W. Beeston, New York

John Floyd Yewell, New York, N. Y.

Ferdinand Eiseman and Rees Weston, Washington, D. C.

Ides Van der Gracht, Washington, D. C.

Earl F. Cleland, Magnolia, Ohio

Walter H. Smith and Robert Maurice Trimble, Pittsburgh, Pa.

(Continued on page 34)



MODERN STORE FRONTS • COUNTERS • PANELING *and* DOORS!

FORMICA with colored and metal inlays, installed with bright metal trim, strikes a modern note of which designers of merchandising buildings and equipment have been quick to take advantage.

It is widely used for store fronts, show window panels, counter tops and dies, wainscoting, push plates and many other purposes in stores.

There are more than 40 colors, and designs in bright metal or Formica in contrasting colors can be inlaid in the sheet, producing novel effects of great beauty.

The material has a hard, durable, chemically inert surface which is easy to clean and almost everlasting.

We shall be glad to send literature showing colors, uses, and methods of installation.
Ask for it.

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4651 Spring Grove Ave. Cincinnati, Ohio

FORMICA

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*Hutchins-Sealy Bank Building, Galveston
R. R. Rapp, Architect, Texas Gulf Const. Co., Genl. Contrs. Galveston
Calked with Pecora by A. M. Bowles, Houston*

PROTECTED Against Air and Water Seepage BY PECORA



Pecora Calking Compound assures these protective features:

Protection against rapid deterioration by permanently sealing joints and crevices that form natural "pockets" for rain and other water—

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Protection against avoidable fuel losses in winter months—

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For further details see Sweet's Catalogue or write direct to us.



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Established 1862
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ALSO MAKERS OF
SASH PUTTIES
MORTAR STAINS

SUCTION MASTIC
for Structural Glass

FORUM OF EVENTS

(Continued from page 32)

Theodore Kautzky, Bronx, N. Y.
Henry T. Aspinwall, Paul F. Simpson, Great Neck, L. I.
Y. W. Nibecker and Leslie Arthur, Los Angeles, Calif.
Arthur Florian Payne, St. Louis, Mo.
Douglas P. Maier, Cleveland Heights, Ohio.
Clarence W. Jahn, Milwaukee, Wis.
Robert I. Hillier, Brooklyn, N. Y.
Charles M. Foster, Elmhurst, L. I.
Arthur D. Roberts, Bell, Calif.
Howard G. Elwell, Bell, Calif.
Daniel Neilinger, New York, N. Y.
Franklin Scott, Melrose, Mass.
W. R. Hubbard, Temperance, Mich.
Burton Ashford Bugbee, New Rochelle, N. Y.
Dean W. Axline, New York, N. Y.
Charles F. Mink, New York, N. Y.
Leland F. Fuller, Santa Monica, Calif.

DEATHS

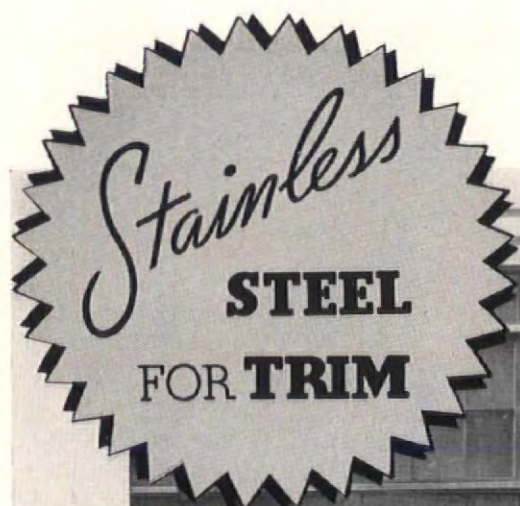
W. DOMINICK BENES, 77, F.A.I.A.; of angina pectoris; in Cleveland. One of Cleveland's outstanding architects. Long a member of Hubbell & Benes, architects, Mr. Benes some years ago retired to a Chagrin Valley, Ohio, estate where he indulged his hobby of flower culture. In Cleveland he was architecturally represented by the Cleveland Museum of Art, The Wade Memorial Chapel in Lakeview Cemetery, the Citizens Building.

CLARENCE FOWLER, 65, president of the New York Chapter, American Society of Landscape Architects; of apoplexy; in New York City. He studied architecture under Prof. H. Langford Warren of Boston, taking special courses in landscape architecture at Harvard. From 1910 to 1912 he was professor of horticulture and forestry at New Hampshire College of Agriculture. Among estates and gardens he planned were those for Winthrop W. Aldrich, at Wheatley Hills, L. I., George B. St. George, at Tuxedo Park; Paul Sturtevant, at Katonah, N. Y., William D. Guthrie, at Locust Valley, L. I., Walter P. Bliss, at Bernardsville, N. J.

FRANCIS SCOTT LEHMANN, 48, architect, chief estimator for Todd & Brown, builder of Rockefeller projects; following a sinus operation; in New York City. Until a year ago he was in charge of purchases and estimates for the Rockefeller restorations in Williamsburg, Va. He was also engaged in budget and estimate work for the International Building, Rockefeller Center, New York City.

ROBERT JAMES EIDLITZ, 71, builder, president of Marc Eidlitz & Son, Inc.; after brief illness; in New York City. One of the best known construction firms in New York City, Marc Eidlitz & Son built the New York Stock Exchange, the Presbyterian Medical Center, the Rockefeller Institute, the New York Clearing House, the Harkness Memorial at Yale. An outstanding numismatist, Mr. Eidlitz was the author of two books on the subject, one of which, in 1928, won him the American Numismatic Society's Huntington medal.

CHARLES FORSTBAUER, 47, architect; of heart disease; in New York City. He was a graduate of Cooper Union, did post graduate work at Columbia. He was associated with Cross & Cross, architects, since 1907 and worked on every building done by the firm. Among these are the City Bank Farmers Trust Co. Building, Stone and Webster Building, the General Electric Building (formerly the Radio Corporation of America Building), all of New York City.



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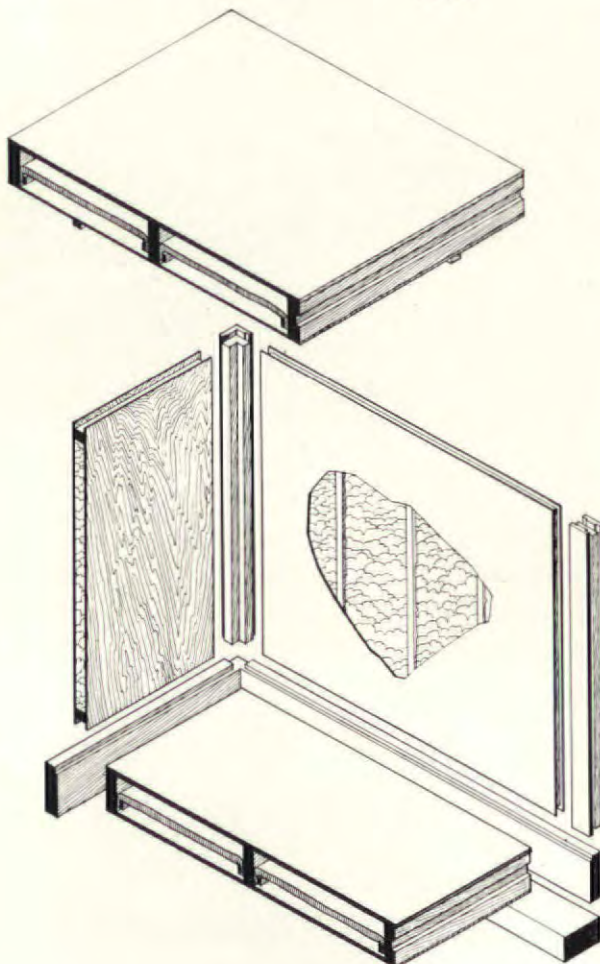
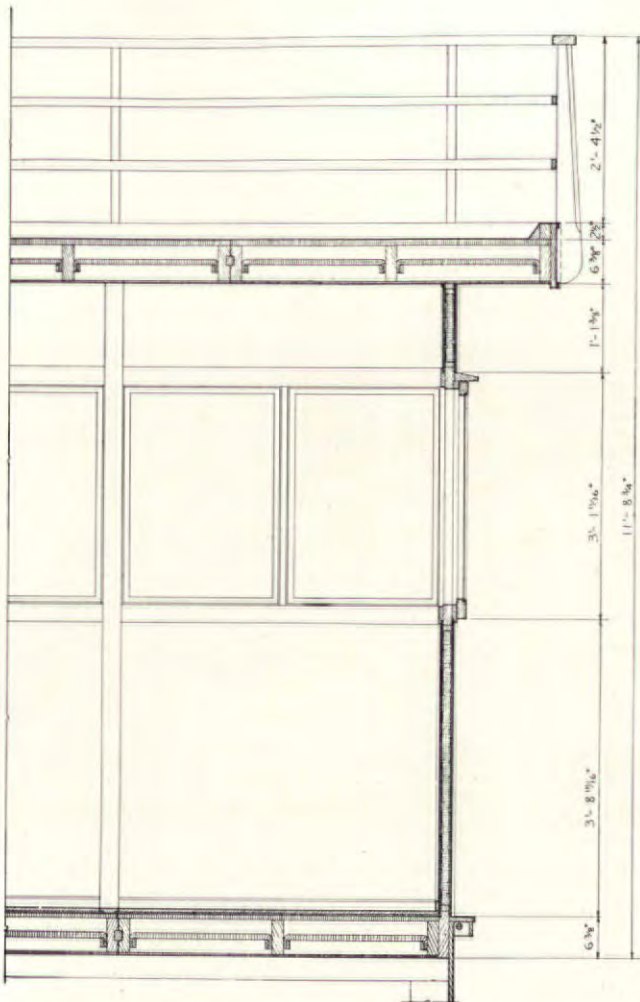
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PRODUCTS AND PRACTICE

(Continued from page 15)



were undertaken to determine the design factors and predictable performance of panels so built.

A series of floor panels with glued upper and lower faces of plywood were built and tested. Results demonstrated clearly the high efficiency of the construction. It was found that in such a panel a joist $5\frac{3}{8}$ in. in depth is the practical equivalent of the 10-in. joist required by conventional carpentry for a span of $13\frac{1}{2}$ ft. Thus a substantial reduction in cost of material and in bulk of floor system is gained. It was also discovered that the stiffness of such panels could be calculated with reasonable accuracy by using $\frac{5}{6}$ of the modulus of elasticity for the species of which the plywood is made, and neglecting the plies of the coverings which run at right angles to the joists. Due account must be taken of the moisture content values.

These tests gave sufficient engineering data to warrant application of the system to a specific method of prefabrication of wall, floor, and roof units of a house. And every indication seemed to point to prefabrication as the only reasonable basis for applying such a structural thesis. Since sufficiently accurate dimensioning and gluing of the panels could not be expected under the conditions encountered on the typical contract job the new principle could be realized in practice only through precision machine work.

Actual design of wall, floor and roof panels was a matter of calculation based on the data which the tests provided and on a module of 4 ft., representing the width of commercially available plywood.

With this panel system the Laboratory designed its demonstration house, having a floor space of 21 x 29 ft. Into that area were built four rooms, including kitchen, living room, two bedrooms, a bath and a utility room. The compact floor plan embodies high efficiency of space utilization with a gratifying measure of convenience and creature comfort. This house was planned with no spans in excess of 13 ft. 6 in.; hence the depth of the structural members in floor and roof panels was kept down to $5\frac{3}{8}$ in., with top coverings of $\frac{5}{8}$ -in. plywood and lower coverings of $\frac{3}{8}$ -in. plywood. Contiguous edges of floor and roof panels were splined to distribute concentrated loads.

A standard wall panel consists of two sheets of $\frac{1}{4}$ -in. plywood, each 4 ft. wide and 8 ft. long, glued to a central framework of light structural members. The thickness of wall panel framing was arbitrarily set at $1\frac{3}{8}$ in. corresponding with the thickness of cheap, stock doors.

Joining the wall panels together was a considerable problem, since both structural and protection considerations had to be faced. The solution was the use of a vertical mullion member grooved on two sides to receive the plywood facings of the wall panels, which project $\frac{1}{4}$ in. beyond the internal framework. These grooves are filled with a mastic before the adjacent wall panels are shoved home. This provides an excellent seal and assures protection to the most vulnerable point in the whole system. Modifications of the vertical mullion were designed for the corners, for the junction of partitions with outside walls, for window sills, and for doors and window heads and jambs.

A vertical section of the house shows the unusual window treatment in which the sash are hung completely outside the plane of the wall. This overcame the difficult weatherproofing problem created by built-up sill members and the thinness of the walls. The aperture between the sash and exterior casing members was sealed with a spring bronze weatherstrip, the most efficient gasket readily procurable.

Necessary wiring and outlets are built into the panels in the process of manufacture. In assembly, an encircling conduit

(Continued on page 38)

Announcing 3 new Sturtevant fans!

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B. F. STURTEVANT COMPANY

Hyde Park, Boston, Mass.

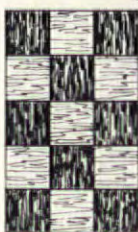
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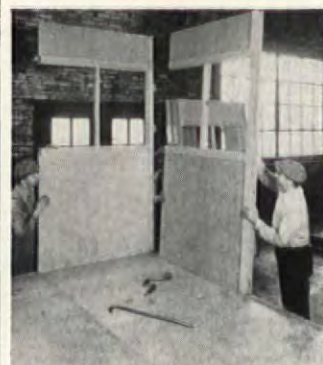
Name _____

Address _____

PRODUCTS AND PRACTICE

(Continued from page 36)

placed beneath the water table of the house connects the panel network. Wiring in interior panels is handled in the same way and connects with a conduit running below the floor. Plumbing is cared for by an economical handling of current equipment and careful planning of a utility room adjoining both bath and kitchen. Heating is provided by a hot air circulator placed in the living room. During fabrication reinforcing blocks were placed at the critical points in panels through which plumbing pipes and chimney pass.



ERECTION METHODS

After careful consideration the flat deck type of roof was selected as the only logical solution. Not only does the deck lend itself to the system of prefabrication but it validates the whole design as a complete departure from its traditional but more costly forebears.

A built-up roofing sheet, unbroken except for chimney and central roof drain, is carried over a cant strip and low curb at the roof edge and sealed by a narrow wood strip nailed to the face board. A substantial wood railing supported by posts lag-screwed to sides and ends of the roof panels, avoiding puncturing the roof membrane, permits safe use of the deck space.

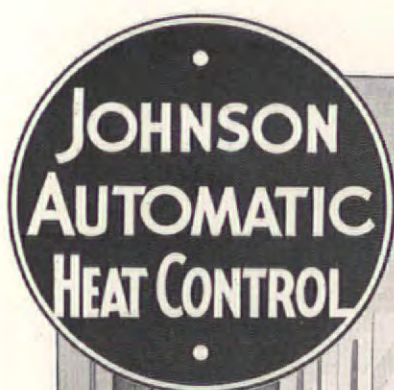
Even the finished flooring is prefabricated. The small pieces which go to make it up are factory produced, and so assembled on 4-foot squares of plywood that there is a $\frac{3}{8}$ -in. projection of plywood on all sides. On the site the squares are laid in place and secured to the floor panels by means of T-shaped parting strips. White oak strips were used with red gum in the bedroom and red oak in the living room floors.

The bathroom floor represents a special development of wood utilization. Hardwood sawdust, chemically treated, is molded under pressure to form a dense, black, impervious plastic. Since only experimental equipment was available, the largest sheet of this plastic possible was a $4\frac{1}{2}$ -in. disc. These discs were machined into hexagons and squares to form the main body of the floor and the border. In production the whole floor with an integral cove base could be molded in a single unit.

Since the success of this structural system must depend on the preservation of the plywood and the glue lines between plywood and structural framework, adequate weather protection is a prime requisite. The exterior finish, therefore, was chosen for its protective and lasting qualities. An aluminum priming coat was followed by a second coat of aluminum and a lead-and-oil undercoat. A lead-and-oil finish coat completed the four-coat process.

The bedroom interiors received one coat of shellac followed by a coat of wax. The living room was given a coat of shellac

(Continued on page 40)



1885



1935

FIFTY YEARS DEVOTED TO THE PROMOTION OF COMFORT, HEALTH AND ECONOMY

For half a century, the Johnson organization has devoted its entire effort to the manufacture, installation, and improvement of the Johnson System of Temperature and Humidity

Control. Through all those years the Johnson Service Company has been the leader in the development of automatic control apparatus for heating, ventilating, and air conditioning.

SPECIAL PROBLEMS are not new to Johnson Service Company engineers and installation men. Whatever the means adopted to accomplish heating, cooling, humidification, and dehumidification, there are Johnson devices, tried and tested, to secure the particular effect desired. A back-ground of fifty years of continual development and progress is assurance to architects, engineers, and contractors who refer automatic control problems to the Johnson Service Company. Their clients, the building owners, benefit by the experience of a nation-wide organization devoted to just this one line of business. The Johnson Service Company never has failed to execute any contract entrusted to it.

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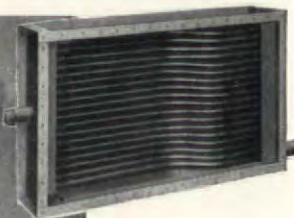
For either Cooling or Heating applications, Aerofin is the choice of important architects, engineers and contractors because it gives complete satisfaction and unvarying performance.

Aerofin begins where ordinary surface leaves off. Its exclusive features in design and construction make it the most advanced surface available today. It is furnished in aluminum, copper or other special metals.

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Aerofin Flexitube Unit for Heating or Cooling with water.

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PRODUCTS AND PRACTICE

(Continued from page 38)

and a warm russet glaze consisting of linseed oil, flat varnish and pigment. Bathroom and kitchen walls and ceiling received a priming coat of aluminum, a coat of enamel undercoat stippled to eliminate any suggestion of grain. Another enamel undercoat and a finish coat of enamel.

Every architectural feature of this experimental demonstration house has its roots in sound engineering. The plan is derived from structural considerations of span in terms of strength and rigidity; from the necessity of heating the entire house from the warm air circulator in the living room; and from the necessity of concentrating the plumbing and wiring services for economy and simplicity. The handling of the joints between panels and around window and door openings is the result of cooperation between engineer and architect; battens and casings are put to work, and structural members perform functions formerly left to decorative parasites. The position of the railing at the periphery of the roof deck is the logical solution of the attachment problem; the tapering and chamfering of the posts is accomplished with economy in manufacture and without loss of strength and rigidity. The cross section of the rails represents a mathematical calculation, while their position is a matter of esthetic consideration.

The closets are an attempt to solve the domestic storage problem with taste and with modern efficiency. The utilitarian coat closet at the front door, in addition to its usual duties, forms an entrance vestibule, screens the sitting area from drafts, and contains a concealed light for indirect illumination of the living room approach.

Prefabrication is "in the air" as a new mode of architectural expression. To those who are close to its development, the prospect is indeed exciting; unprecedented economies in materials, superior workmanship, speed in erection are all on the horizon. Advocates of prefabrication are convinced that standard panels do not mean monotonous duplication of plan and elevation. Wall, floor and roof units, such as those used on the laboratory model, may be used in unnumbered combinations to produce any plan, with wide and interesting variations in mass and proportion.

Here, moreover, is a structural system which forms both inside and outside wall finish; for with proper surface treatment plywood is amply resistant to the elements, while any of a variety of attractive finishes may be employed on interior surfaces. The demonstration house has proved beyond doubt the feasibility of its particular system of prefabrication from the erection point of view. Already twice assembled, its second erection required only 21 hours of work by seven men.

The Forest Products Laboratory looks forward to further research along lines which the present development has defined. More study should be given to the window detail, for with a proper gasket it may solve one of the most perplexing problems which architects face today. The connecting mullion details deserve more careful consideration, and it is entirely possible that the projecting members can be entirely eliminated without any sacrifice of strength or rigidity. Panel-insulating materials must be studied from the point of view of high efficiency and low cost. Many details of this particular system may be refined or radically revised; but prefabrication of one example of an all-wood structure is now a reality. And will receive searching study in the days ahead.

NOTE

THROUGH an error the liquid copper paint described in item No. 607 of Products and Practice for June was made to appear as manufactured by the Nichols Copper Company. Actually it is manufactured by the National Copper Paint Company.

(Continued on page 42)



LEST YOU FORGET

MODERNIZE MAIN STREET Competition

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GLASS COMPANY**

\$11,000 in Cash Prizes

52 PRIZES—\$11,000 TOTAL

4 FIRST PRIZES—(one in each classification)—\$1,000 each—\$4,000

4 SECOND PRIZES—(one in each classification)—\$750 each—\$3,000

4 THIRD PRIZES—(one in each classification)—\$500 each—\$2,000

In addition, there will be 40 Honorable Mentions of \$50 each. These will be awarded for meritorious designs, the

number of awards in each class depending on the number of worthy designs in each class as determined by the Jury.

(Competition closes 5 P. M. August 12, 1935)

● On June 15, the Program for the "Modernize Main Street" Competition was distributed to architects throughout the country. This Competition, sponsored by the Libbey-Owens-Ford Glass Company and conducted by the Architectural Record, with Kenneth K. Stowell, A. I. A., as Professional Advisor, is in reality four simultaneous competitions, each calling for the modernization of a particular type of shop or store—(1) A Food Store; (2) A Drug Store; (3) An

Apparel Shop; (4) An Automotive Sales and Service Station. A photograph of each shop to be modernized, together with all necessary data, is published in the Program. If you have

misplaced your copy of the Program or if, for any reason, you failed to receive one, the entry blank below will bring you the Program, the printed title to be pasted on each design and all necessary data and instructions. The competition closes August 12; the Jury meets August 26, 1935.

USE THIS ENTRY BLANK

KENNETH K. STOWELL, A. I. A., Professional Advisor,
"Modernize Main Street" Competition
The Architectural Record, 119 West 40th Street, New York, N. Y.

Gentlemen: I desire to enter the "Modernize Main Street" Competition sponsored by the Libbey-Owens-Ford Glass Company. Please send me the Program of the Competition, the title-paster and all necessary data and information.

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PRODUCTS AND PRACTICE

(Continued from page 40)

701. METAL WALL COVERING

The American Brass Co. has now placed within reach of the architect a practicable and comparatively inexpensive method of using copper as a wall covering. Unlike previous wall coverings which were difficult for the average paper-hanger to apply, this new covering is an electro copper-coated paper which may be applied to the wall using ordinary paperhangers' pastes. This material comes in both plain metals and in a number of hammered, pebble or embossed designs. To prevent tarnishing, this paper may be furnished with a thin covering of clear lacquer. Patterns may be applied at the will of the designers by lacquering a part of the paper, allowing the remainder to tarnish with time.

702. NEW CAST IRON PIPE

The Walworth Co. announces a new "Hi-Test" cast iron pipe developed for water and gas lines where service conditions preclude satisfactory use of steel or wrought iron. Suitable for water pressures up to 175 lbs. per sq.in., it is regularly furnished in 1¼ in. to 6 in. inclusive, and in 20 ft. lengths, with threaded joints. If required, each length of pipe may be tested to a hydrostatic pressure of 500 lbs. per sq.in. A specially designed expansion joint can be provided to be used in lengths over 80 or 100 ft.

703. ROLLING GRILLES

To take care of the problem of night protection of show windows without completely destroying their value as display, the Cornell Iron Works manufactured a rolling steel grille which affords protection against burglary or breakage of glass, and yet permits clear vision of the interior. These grilles coil on a pipe shaft above the lintel and are counter-balanced by helical springs, as a result of which they work very easily. These grilles can be furnished in galvanized steel, stainless steel, aluminum or bronze.

704. STRIP LIGHTING

Curtis Lighting Inc. announces the "Lumiline Light Strip" especially designed where continuous lines of light are desirable without dark spots. These are especially designed to be used with the "Lumiline" lamps and are further especially designed to provide maximum ease in the replacing of broken lamps.

705. RESIDENCE ELEVATOR

The Shepard Elevator Co. is now manufacturing its Home Lift especially designed for installation in already constructed houses. This lift is so arranged that where, for any reason, it is impossible to provide a housed-in elevator shaft on the first floor, the car may come down into the open room with its own doors securely closed. When empty and the cab doors are closed, a button on the wall may be pressed and the elevator will rise to the second floor, closing flush with the ceiling and leaving nothing showing in the first floor space excepting two small guiding channels.

706. NEW PIPE COUPLING

S. R. Dresser Manufacturing Co. announces a new type of pipe coupling called the Dresser Style 65 Compression Coupling. This is so designed that it is unnecessary to cut a thread on the end of the pipes before coupling. To make a joint, the two pipe ends are simply inserted in the coupling which comes already assembled and then tightening two threaded octagonal nuts. These couplings are supplied in black or galvanized in steel pipe sizes from ¾ in. I.D. to 2 in. I.D. inclusive.

(Continued on page 46)

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PITTCO Store Front Products... glass, metal, and paint... assure the architect that the store fronts he designs will come to life with every bit of the beauty, appeal, and sales-building power he originally planned for them. These quality products of the Pittsburgh Plate Glass Company are so versatile in application, are adaptable to so many distinctive kinds of treatment, that they impose very few restrictions upon the architect's fancy.

And a Pitcco Front, once installed, transforms an old-fashioned or run-down property into an amazingly modern, attractive one. Your client is more than satisfied with his investment. The store tenant finds his increased business, drawn by the new front, a revelation.

The National Housing Act has created many remodeling prospects in your community. And in our extensive advertising to these prospects, we are recommending that they retain a local architect to help them "Modernize Main Street" by designing their new front. When they call you in, tell them about Pitcco Store Fronts... and specify Pitcco Products on the job. In order to have complete information at your finger-tips, clip the coupon for our free book "How Modern Store Fronts Work Profit Magic". In addition to many valuable facts, this book contains detail drawings, interesting photographs of Pitcco-remodeled properties of all kinds, construction costs, etc.

Here is an optometrist's shop in Waterbury, Conn., very interestingly remodeled by the use of Pitcco Store Front Products. The Architects who designed this modern front are Polak & Sullivan, New Haven, Conn. The Contractor, Max Teitelman, New Haven.

Carrara Structural Glass

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AUTOMATIC COAL FIRING



Cut-away illustration of Ring-Drive Iron Fireman which feeds direct from bin to fire. Bin and Bunker feed models, as well as Hopper models, available in all sizes.

The HEATING of TODAY and TOMORROW

THERE is now a definite swing to coal firing. But it is not a swing back to the old kind of coal firing—it is a swing forward to the new type of automatic self-regulating coal firing pioneered and developed by Iron Fireman.

Comparative fuel cost figures shown here explain why Iron Fireman fired coal is the preferred fuel. These figures represent the average costs for these 6 fuels in 40 of America's larger cities. They show that Iron Fireman costs 29.8% less than hand-fired coal; 46% less than crude oil; 65% less than diesel oil; 80% less than gas at industrial rates, and 85% less than gas at domestic rates. These figures are general averages but they square with actual fuel cost savings which Iron Fireman installations have achieved in thousands of cases, and it is easy to obtain actual comparative fuel cost figures for any locality—any Iron Fireman sales office will help you compile them. Get these figures and estimate how much your client's savings will amount to during the life of his building. The total saving is astonishing!

There are other points of superiority in Iron Fireman heating, however, which are fully as important as the remarkable economy. Combustion is so nearly perfect that there is no smoke. Temperature is automatically regulated. Only a minimum of labor is required. The boiler room can be kept just as clean as with any other fuel—the stack and outdoor even cleaner. Installations can be made to feed direct from the coal bunkers. You will want all the new data on Iron Fireman automatic coal firing.

* Comparative Fuel Costs

Type of Fuel	Cost per 100,000 b.t.u.	Iron Fireman Saving
Iron Fireman Coal	0165c	
Hand-Fired Coal	0235c	29.8%
Crude Oil (Industrial)	0307c	46 %
Diesel Oil (Domestic)	0480c	65 %
Industrial Gas	0905c	80 %
Domestic Gas	1178c	85 %

*Figures are average cost in 40 leading American cities for amount of fuel required to furnish one Therm (100,000 British thermal units).

IRON FIREMAN



The machine that made coal an automatic fuel

Don Graf Data Sheets and other descriptive literature covering Iron Fireman models will be furnished on request. Address Iron Fireman at 3046 W. 106th St. Cleveland, Ohio. IRON FIREMAN MANUFACTURING COMPANY, Cleveland, Ohio; Portland, Oregon; Toronto, Canada.

PRODUCTS AND PRACTICE

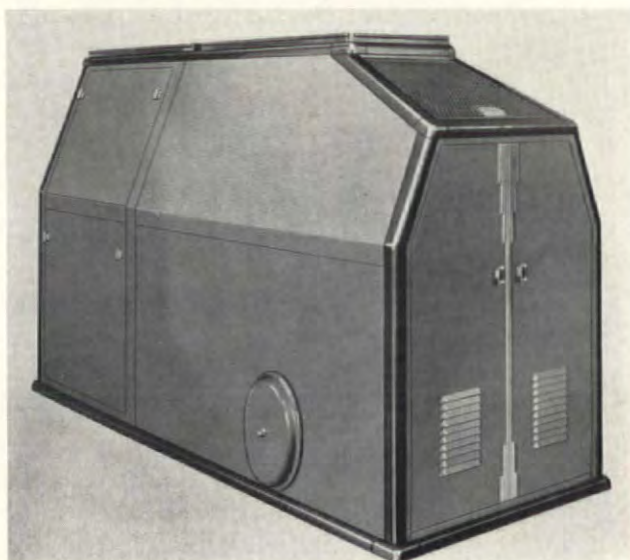
(Continued from page 42)

707. NEW HARDWARE

Lockwood Hardware Mfg. Co. announces a new line of residence lock sets called the "Patrician." This line incorporates several departures from previous design practice, the chief of which is that the knob has a molded plastic body available in ivory, ebony, pastel orchid, green, mahogany and red. These knobs are so fastened to the top and shank that there can be none of the twisting frequently found with the old-fashioned glass knob. These sets are priced to sell in the price range of the ordinary glass knob sets which will permit their use in the most inexpensive of homes.

708. AIR CONDITIONING UNITS

Gar Wood Industries announces a new, smaller Tempered-Aire Unit, known as Model 102, developed especially for houses of six or seven rooms. This Model 102 is constructed with blower cabinet and furnace as one compact unit to



NEW GAR WOOD UNIT

occupy a minimum of space in small basements. The burner is of the pressure atomizing type suitable for No. 3 oil. It is quiet and free from all smoke. All the advantages of the larger models in this line have been retained.

709. NEW INCINERATOR

J. C. Rochester & Co.'s new catalogue shows the sizes and details of the Pyroneel simplified incinerator for use wherever rubbish incineration is desirable. These are made in several styles for either chute-fed or basement-fed incinerators; also a special model called the "estate type" designed for use in the suburbs or in the country.

710. NEW INK

Architects who for so many years have selected drawing inks with the time-honored Higgins' label will be interested to know that Charles M. Higgins & Co., Inc., after more than half a century, has adopted a new label in connection with the manufacture of three new colors and a renaming of the existing line. The new colors are waterproof and are called Blue Green, Light Brown and Lemon Yellow. At the same time, three of the old colors, with no change in hue, have been renamed: Green to Emerald Green, Brown to Dark Brown, Yellow to Chrome Yellow. The new labels have narrow gray bands with a wider central band colored to correspond with the hue of the ink within the bottle.

Standard Anaconda

Extruded Bronze Shapes

"effected a 67% saving in cost over cast metal"



BEFORE

Before and after modernization . . . the facade of 15 Park Row in 1907 and today. Clinton & Russell, architects. Penn Brass & Bronze Works, contractors . . . Awarded first prize by the Downtown League for the best alteration made in New York City's downtown district for the year 1931-32, this modernization has been described in an interesting folder. May we send you a copy?

AFTER



ONE FEATURE of the modernization of 15 Park Row was the economy with which the architect's designs were executed in ornamental Bronze. The contractor estimates that the judicious use of *standard Anaconda Architectural Bronze Extruded Shapes*, in constructing the five columns in the facade of the building, "effected a 67% saving in cost over cast metal." Elsewhere in the Bronze work substantial economies were realized by utilizing standard Anaconda shapes, thus eliminating die costs.

From the standpoints of lower original cost and of metal work that is always up to

date, Anaconda Extruded Bronze in standard shapes offers almost endless possibilities for the faithful execution of even the most original designs. Thousands of extruded shapes may be had in Architectural Bronze and Nickel Silver, while Copper and various Copper alloys are available in a wide range of standard *drawn* shapes. These various metals offer interesting possibilities wherever contrast or close color harmony is desired.

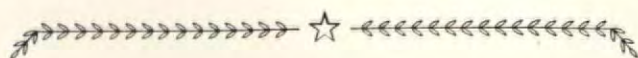
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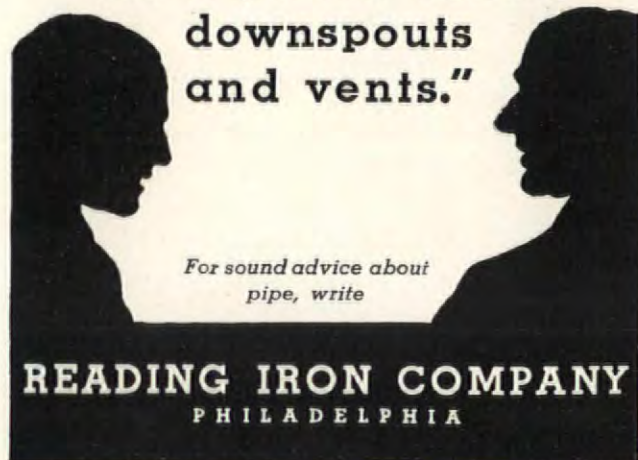
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BOOKS

The Anatomy of Lettering, by Warren Chappell, Loring & Mussey, New York, x—47 pp., 31 plates, 6½ x 8¼, \$2.00.

MR. CHAPPELL is an instructor in graphic arts at the Art Students' League of New York, a letterer of note, and a hand method type cutter. In this little book he has attempted to teach lettering as an art rather than to present model alphabets for copying. A pupil of the great Rudolf Koch (designer of Neuland type face) his letters have a modern flavor and are



at the same time firmly rooted in the great traditions of earlier days. His explanation of the origin and growth of certain forms should make those forms much more alive and interesting to the student. While he naturally advocates that inscriptions should be spaced ocularily he presents a simple method for mechanically spacing that really makes sense. Too many such rules are just rules that must be learned by heart without knowing why they are true. Mr. Chappell's rule on the other hand is based upon an easily grasped principle and cannot be forgot once it is learned.

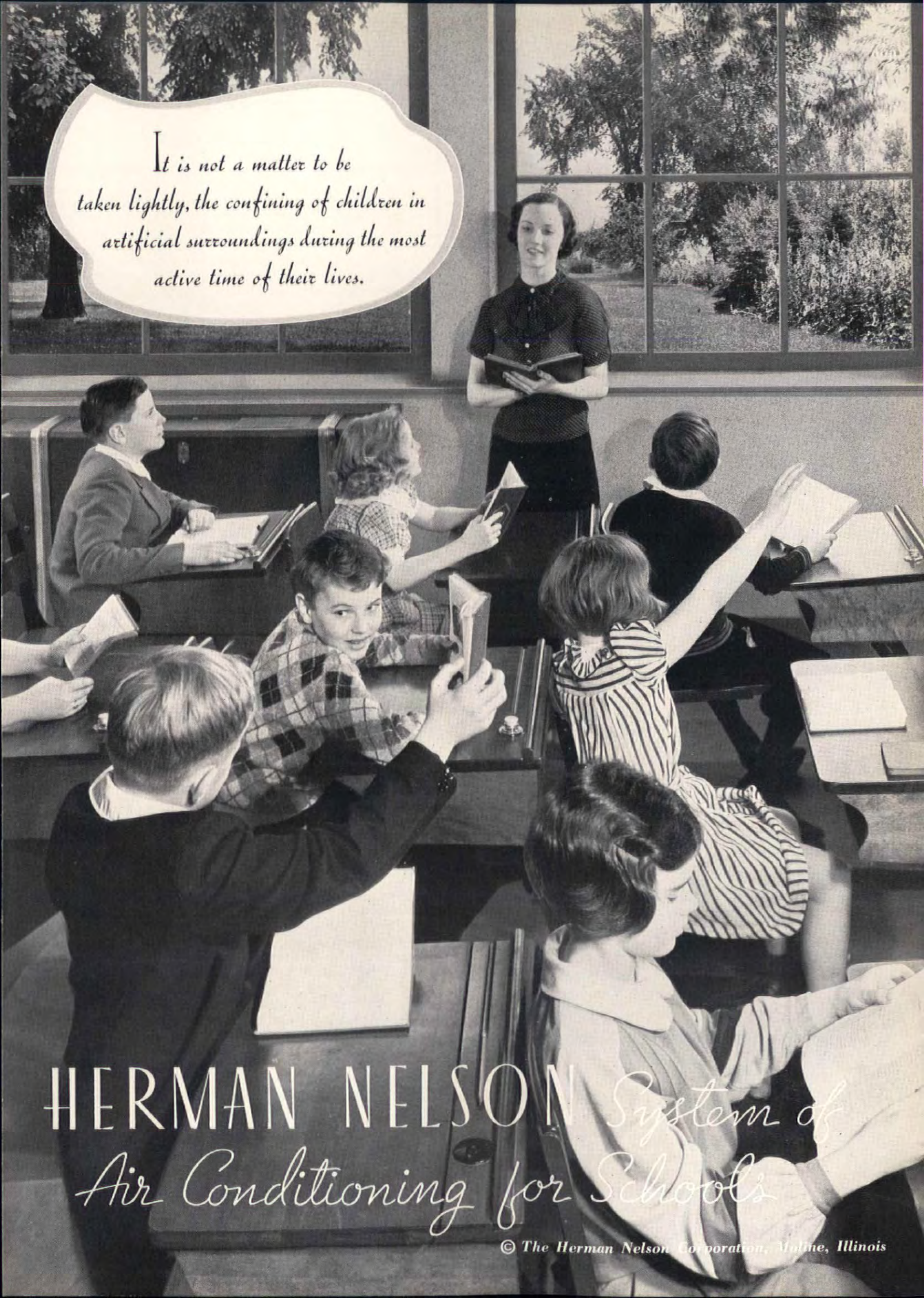


BALI BOY'S DRAWING OF RAMAYANA

Design in Art and Industry, by Ely Jacques Kahn F.A.I.A., Charles Scribner's Sons, New York, 204 pp., 32 illus., 7¾ x 10¾, \$3.50.

In the winter of 1932, at a meeting of the Committee on Education of the A. I. A., a discussion arose as to the possible future of art schools of all sorts. Nobody seemed to have any

(Continued on page 50)



*It is not a matter to be
taken lightly, the confining of children in
artificial surroundings during the most
active time of their lives.*

HERMAN NELSON *System of Air Conditioning for Schools*

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AND HIGHER

HOTEL WILLIAM PENN
PITTSBURGH

GERALD P. O'NEILL, General Manager

BOOKS

(Continued from page 48)

idea of what that future would be. Accordingly with the cooperation of the Carnegie Corporation, Ely Jacques Kahn made a trip around the world to collect data that might help answer the question. The results are to be found in this volume which is also the report of the Committee on Education.

Besides schools in the U. S. the author studied teaching methods and museums in Honolulu, Japan, Korea, Manchukuo, China, the Celebes, the Philippines, Bali, Java, Singapore, and the Straits Settlements, Indo-China, Cambodia, Siam, Burma, India, Ceylon, Egypt, and Italy. Familiarity with recent tendencies in British and European schools rendered visits to these unnecessary.

The result has been to place in the hands of the progressive educator a powerful weapon. Argument with less enlightened persons who feel that present systems and objectives are good enough will be made much easier. If there were no art products of the Orient available except the few, beautifully illustrated, in this book these pictures would convince any but the most obstinate that we have much to learn about teaching design. We have of course known that there was much that we might learn from the East. Hitherto, unfortunately, we have not known Oriental teaching methods.

To attempt to summarize these methods would take too long or be too cursory. Let it suffice to say that they resemble on the one hand the ancient system of the craft guilds of Medieval Europe and on the other the modern methods of schools like Oregon and Columbia. A system of merchandising the output is often found added to the school. This takes into account the merits of the production. The good pieces are sold through one channel, the poorer ones through another. These two channels appear to be so arranged that the poorer pieces will find a ready market with the casual tourist while the better pieces find their way to more sophisticated purchasers.

Interestingly as this book is written it should not be merely read, but rather studied, particularly by those in charge of or teaching in art schools. The non-teaching architect, and even the layman will, however, find pleasure in its reading. It is not recommended for students. They might become dissatisfied with the way they are taught.

Rehousing Urban America, by Henry Wright, F. A. I. A., Columbia University Press, New York, xxii, 173 pp., 188 illus., 8 tables, 8½x11½, \$7.50.

The present widespread interest in housing will be stimulated and expanded by this study. It will also be a good deal de-bunked and informed. Mr. Wright has studied housing far too long, and has been connected with too many actual attempts to solve the problem, to have very many illusions on the subject. Instead, therefore, of reciting once more the sad history of the progressive deterioration of the social system he has written a technical handbook for the would-be houser that is compact of his experience and knowledge.

He begins by showing the relation between blighted areas and slums in terms so concrete that they need no particular background of sociology to understand. From this the natural progression is to a discussion of the proper areas for new housing and those for "blight rehabilitation." The possibilities for this blight rehabilitation are presented before proceeding to the major part of the book, which is devoted to a detailed study of recent developments in housing techniques. Most of this section is occupied with considerations of such developments in the U. S. with a small section on modern German

(Continued on page 52)



*Welded
throughout*

AIR CONDITIONING SYSTEM

in the Boston Department Store
of William Filene's Sons Company

This year-round air conditioning system, covering the entire main store and several annex buildings, was welded with AIRCO gases, apparatus and rods.

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2. The comparative lightness of welded pipe and fittings made possible a highly desirable saving in weight.
3. Welding solved the problem of fittings for the many unusual angles and bends for which no standard fittings were available.
4. The smoothness of welded joints and absence of flanges simplified and reduced the cost of insulating the system.
5. Welding assured the *permanently leak-proof* installation which possible damage to goods and enclosure of much of the piping in the walls, made imperative.

The accompanying pictures give an idea of the extent and complexity of the piping. In all, some 14,000 feet of pipe, ranging in diameters from $\frac{3}{4}$ " to 14", make up the system. The welding, amounting to approximately 35,000 linear inches, was all done with AIRCO oxygen, acetylene, apparatus and welding rods.

Credit for the successful completion of the welding of this installation is due the following:

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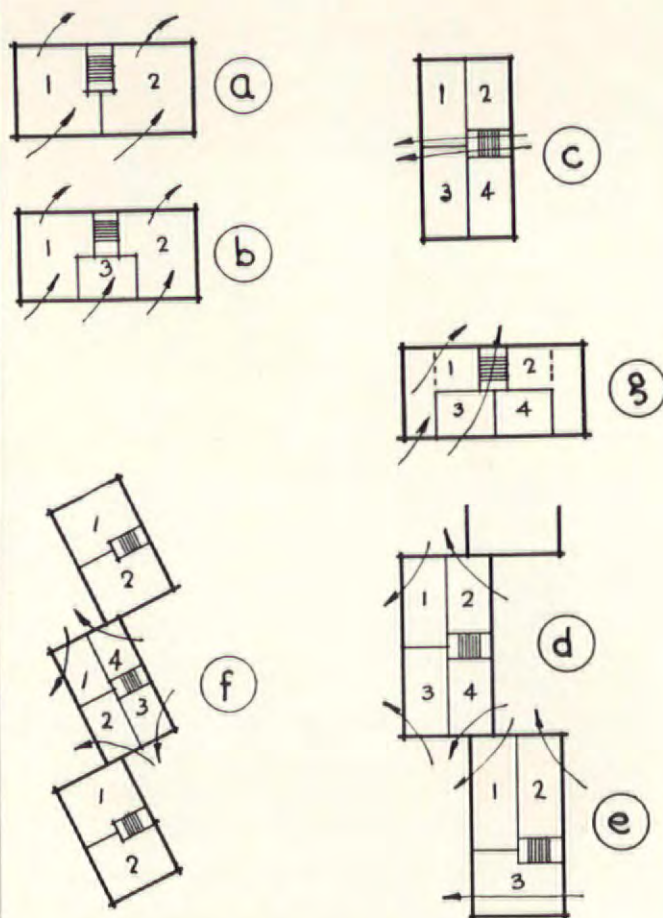
THE ARCHITECTURAL FORUM
350 East 22nd St., Chicago, Ill.

BOOKS

(Continued from page 50)

housing. These studies of technical tendencies are used as the basis of a forecast of what may be accomplished in the near future. All is profusely illustrated with diagrams and examples.

Nothing in the whole book is more interesting than the authors' demonstration of the baneful influence of the narrow lot, which in turn derives from the "American" concept of



PRIMARY HOUSING UNITS

the single family house. He shows that this concept has created the feeling in many people that there is something un-American in the whole idea of group housing. And claims that that feeling is based in error. For the earliest type of community planning in the U.S. with its "common" was essentially the same as the most modern type of group housing that we are asked to accept today.

No architect should undertake a housing scheme until he has first read this book.

Modernizing Buildings for Profit, by Kenneth Kingsley Stowell, M.A., A.I.A., Prentice Hall, Inc., New York, xiv-231 pp., profusely illustrated, 8½ x 12, \$6.50.

The former editor of **THE ARCHITECTURAL FORUM** discusses modernization in every aspect and for every class of building. Check lists are supplied for every room in the house, and for most commercial types as well. The bulk of the illustrations are case histories. That is to say that they show the condition of the building before and after modernization, and discuss methods, materials and costs of the operation.

MANUFACTURERS' PUBLICATIONS

AMONG the manufacturers' publications recently received of interest to the architectural profession were the following:

711. WALLBOARD

A new folder from The Insulite Co., showing suggested details for the use of Insulite both as interior finish and as insulation.

712. STORE FRONTS

A new catalogue, A.I.A. File No. 26-B-1, of Zouri show windows, entrance doors and ventilating grilles.

713. ROOFING

A new catalogue from The American Brass Co., describing their 10-ounce Economy Cottage Roofing.

714. AIR CONDITIONING

A 24-page booklet from the Leeds & Northrup Co., entitled "Efficient Regulation of an Air Conditioning System," containing information for the architect, engineer and contractor on the subject of electrical thermometers.

715. FIRE CONTROL

A catalogue from the Garrison Engineering Corp., showing their line of fire extinguishers and larger fire apparatus.

716. AIR CONDITIONING

A new booklet from the Minneapolis-Honeywell Regulator Co., discussing the theory of air conditioning in non-technical language.

717. KITCHEN EQUIPMENT

A new booklet, illustrated in color, showing the various items made by the Westinghouse Electric & Manufacturing Co.

718. RESIDENCE ELEVATORS

A folder from the Warner Elevator Mfg. Co., illustrating and describing their new electric residence elevator.

719. PIPE AND FITTINGS

From the American Radiator Co., a price list, handbook and manual of American Radiator Co.'s copper pipe and sweated fittings.

720. FLOOR PLATES

A new folder giving sizes and prices of 4-Way floor plates manufactured by the Inland Steel Co.

REQUEST FOR DATA

To obtain any of the publications reviewed on these pages, indicate the number and send coupon to THE ARCHITECTURAL FORUM, 135 East 42nd St., New York

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ROLL CALL OF PRODUCTS SPECIFIED FOR BUILDINGS IN THIS ISSUE

In providing this service as a current check on major specifications, every reasonable effort is made to insure the accuracy of the information but THE ARCHITECTURAL FORUM cannot assume any responsibility for errors of omission or commission.

EXPERIMENTAL HOUSE

Illustrated on page 14 to page 20

ARCHITECTS: J. BYERS HAYS AND RUSSELL SIMPSON

EXTERIOR WALLS: *Haydite Mfrs. Assn.*
PAINT: *Medusa Portland Cement Co.*
ROOF: *Philip Carey Co.*
ROOF DRAINS: *Josam Manufacturing Co.*
METAL WINDOWS: *Vento Steel Sash Co.*
OVERHEAD GARAGE DOORS: *Yoder-Morris Co.*
INSULATION: *Philip Carey Co.*
PLUMBING FIXTURES: *Standard Sanitary Mfg. Co.*
BRASS PIPE: *Chase Brass & Copper Co.*
INCINERATOR: *Kerner Incinerator Co.*
FIREPLACE DAMPER, ETC.: *Donley Bros. Mfg. Co.*
RADIATION (CONCEALED): *Modine Mfg. Co.*
MILL WORK: *Brown-Braves Co.*
MEDICINE CABINETS: *Miami Cabinet Co.*
INTERIOR DOORS: *Paine Lumber Co.*
LINOLEUM: *Cork Products Co.*
VENETIAN BLINDS: *Rolscreen Co.*
CARPETS (PEBBLE-TEX): *Chas. P. Cochrane Co.*

TWO AND FOUR-FAMILY HOUSES

Illustrated on page 21 to page 25

ARCHITECT: NEAL M. DUNNING

WATERPROOFING: *Toch Brothers*
INSULATION BOARD ON WALLS: *U. S. Gypsum Co.*
INSULATION BOARD IN FIRST FLOORS: *Agasote Mill-board Co.*
ROOFING: *U. S. Gypsum Co.*
HEATERS: *American Radiator Co.*
RADIATORS: *American Radiator Co.*
COPPER PIPE AND COPPER SWEAT FITTINGS: *American Radiator Co.*
WATER HEATERS: *American Gas Products Co.*
GAS-BURNING HEATERS, BOILERS: *American Gas Products Co.*
THERMOSTATS AND REGULATORS: *Minneapolis-Honeywell Regulator Co.*
PLUMBING FIXTURES: *Standard Sanitary Manufacturing Co.*
WINDOWS, STORM SASH AND SCREENS: *Campbell Metal Window Corp.*

BATHROOMS (PANEL): *The Accessories Co.*
TOILET SEATS: *C. F. Church Mfg. Co.*
REFRIGERATORS: *Servel Co.*
STOVES: *American Stove Co.*
WEATHERSTRIPPING: *Chamberlin Metal Weather Strip Co.*
HARDWARE: *Sargent Co.*
LIGHTING FIXTURES: *Lightolier Co.*

DEMONSTRATION HOUSES

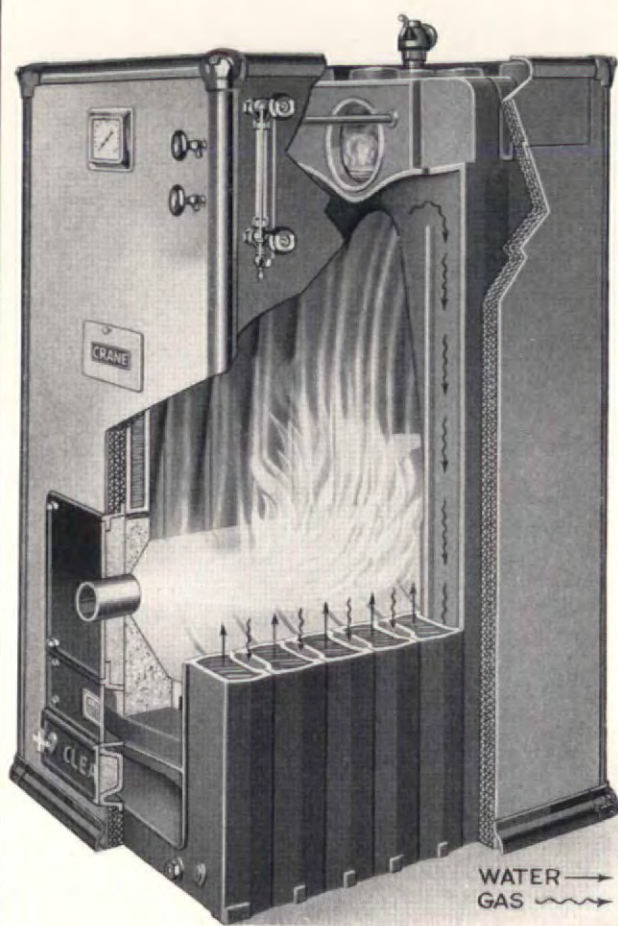
Illustrated on page 26 to page 23

ARCHITECT: OSCAR G. STONOROV

STRUCTURAL ENGINEER: ALFRED KASTNER

STRUCTURAL STEEL: *The Berger Mfg. Co.*
PAINT COATING FOR STRUCTURAL STEEL: *Aluminum Co. of America*
BOLTING: *The Stanley Works*
SUB-FLOORING: *Corkcrete Insulation Co.*
SUB-FLOORING REINFORCEMENTS: *Corkcrete Insulation Co.*
CAULKING: *Corkcrete Insulation Co.*
WALL SURFACES: *Corkcrete Insulation Co., Johns Manville, Inc.*
PLUMBING FIXTURES: *Kohler Co.*
SINK & LAUNDRY TRAY: *Standard Sanitary Mfg. Co.*
PIPING AND FITTINGS: *Streamline Pipe & Fittings Co.*
SOIL PIPE: *J. A. Zurn Mfg. Co.*
AIR CONDITIONING:
 FILTERING, HEATING, HUMIDIFYING AND CIRCULATING: *The Bryant Heater Co.*
WATER HEATER: *Ruud Mfg. Co.*
COOKING STOVE: *Standard Gas Equipment Co.*
ELECTRICAL WORK:
 WIRING: *General Electric Co.*
 LOCAL SWITCHES: *Pass & Seymour, Inc.*
WINDOWS: *Truscon Steel Co.*
ENTRANCE DOORS: *United Metal Co.*
GARAGE DOOR: *Truscon Steel Co.*
HARDWARE: *Yale & Towne Mfg. Co.*
INTERIOR FINISH SURFACE: *U. S. Gypsum Co.*
PLASTIC PAINT: *U. S. Gypsum Co.*
CABINETS: *Berger Mfg. Co.*
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	PAGE
Aerofin Corporation	40
Air Reduction Sales Co.	51
Aluminum Company of America	12
American Brass Co.	47
American Sheet & Tin Plate Co.	23
American Telephone & Telegraph Co.	24
Armstrong Cork Products Co.	Third Cover, 20, 21
Barrett Co.	2
Bridgeport Brass Co.	14
Brunswick-Balke-Collender Co.	32
Crane Co.	55
Electric Storage Battery Co.	28
Electro Metallurgical Co.	35
Electrolux Refrigerator Sales, Inc.	31
Formica Insulation	33
General Electric Co., Russ Co., Department	25
Graybar Electric Company	22
Hoffman Specialty	57
Hotel Wm. Penn	50
International Nickel Co.	17
Iron Fireman Mfg. Co.	46
Johnson Service Co.	39
Kalman Steel Corporation	6
Kelvinator Corporation	18
Kinetic Chemicals, Inc.	58
Koppers Products Company	43
Libbey-Owens-Ford Glass Co.	41
Macbeth-Evans Glass Co.	8
Marsh Wall Tile Co.	56
Masonite Corporation	Second Cover
Nelson, Herman W., Corporation	49
Otis Elevator Co.	16
Pecora Paint Co.	34
Pittsburgh Plate Glass Co.	44, 45
Portland Cement Association	19
Powers Regulator Co., The	Fourth Cover
Reading Iron Co.	48
Republic Steel Corporation	10
Revere Copper & Brass Co., Inc.	4
Ric-Wil Co., The	52
Ruberoid Co., The	71
Samson Cordage Works	50
Sloan Valve Co.	53
Sturtevant, B. F., Co.	37
Titusville Iron Works	53
United States Steel Corporation	23
Uvalde Rock Asphalt Co.	38
Van, John, Range Co.	30
Waldorf Astoria	48
Warren Telechron Co.	27
Warren Webster & Co.	75
Westinghouse Electric & Mfg. Co.	29, 42

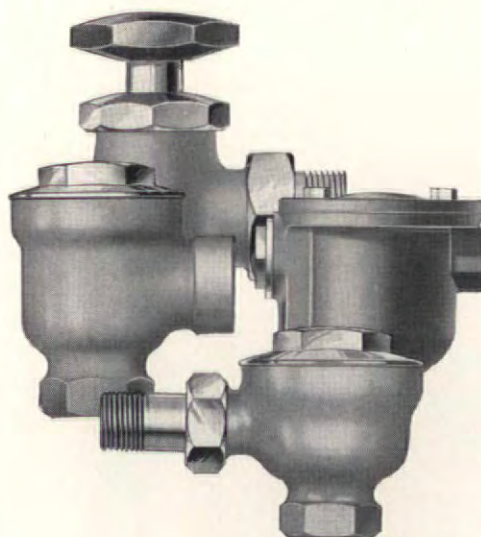


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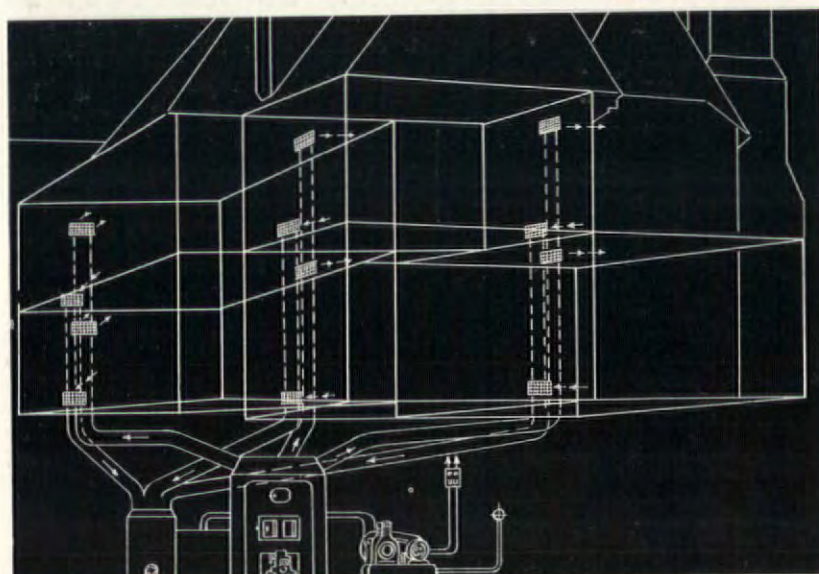
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Air that's too dry sucks what moisture it can from walls, ceilings, and furniture—that's when cracks develop. Curtains, draperies, bed-clothes stay clean longer when dust is automatically eliminated from the air inside a home. And what home owner has not experienced the unpleasantness of sultry midsummer nights made long and sleepless because of the oppressive heat?

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FREON

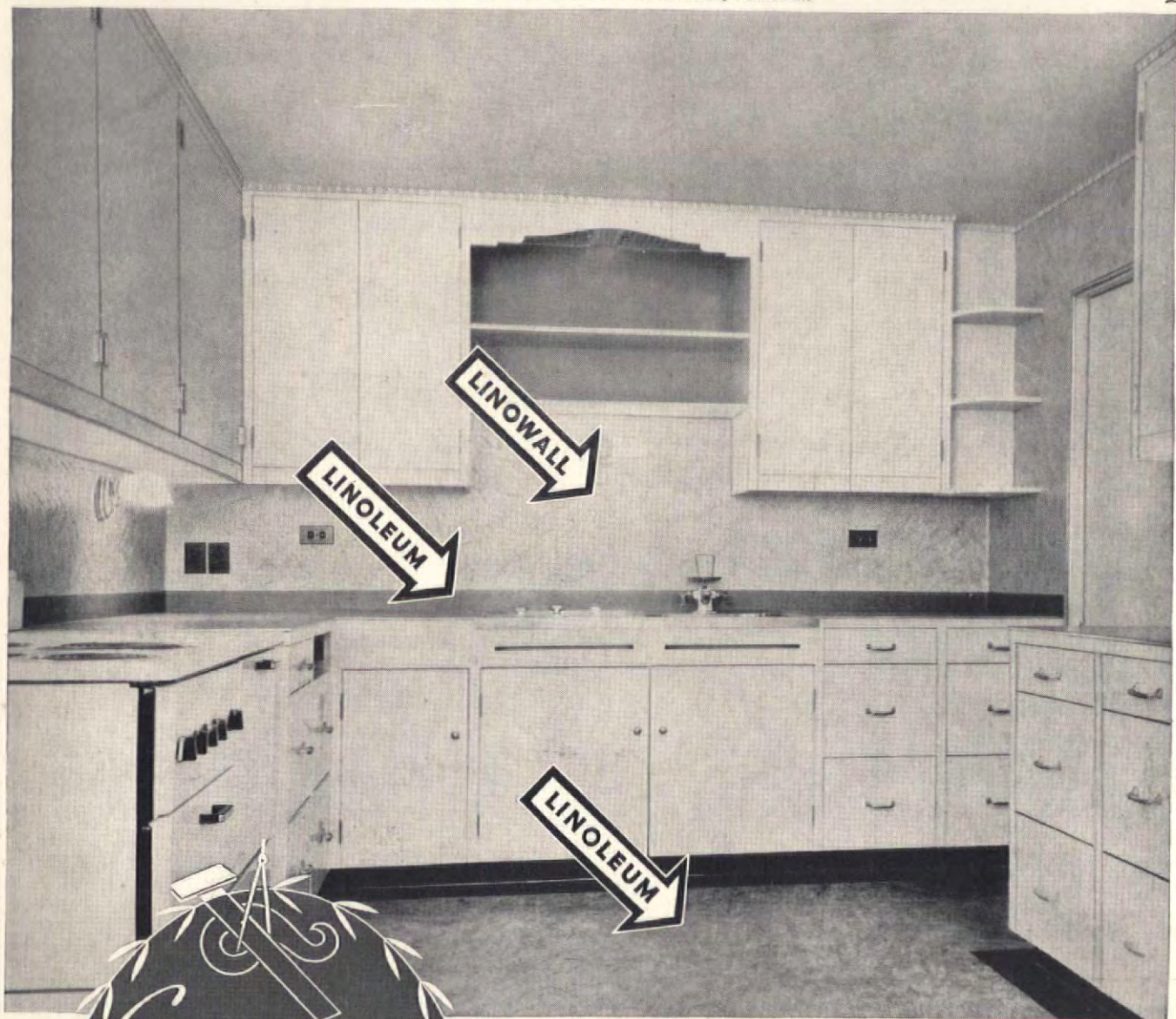
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LET'S GO TO **SCHRAFFT'S**...WHERE IT'S ALWAYS COMFORTABLE

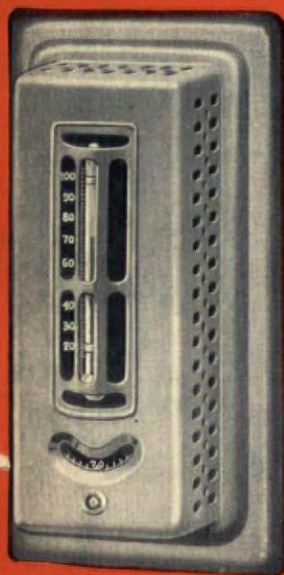


Whether it is 95° F. in the shade or 5° below zero outdoors, the condition of the air is always comfortable in the 10 Schrafft restaurants and candy stores listed below which are completely air conditioned and equipped with Powers Control.



WITH the increased profits derived from an investment in air conditioning an accepted fact, it is no longer a question of "Shall we have air conditioning?" but "What system will give the greatest satisfaction over a period of years?" And, an important consideration involved in this question is the choice of automatic control.

As the performance of an air conditioning system is so dependent upon accurate and reliable regulation, and as its cost is only a fraction of the entire system, the use of the best automatic control equipment is always sound economy.



The Powers Regulator Co., 2720 Greenvue Avenue, Chicago; 231 East 46th Street, New York City, New York; The Canadian Powers Regulator Co., Limited, 106 Lombard Street, Toronto, Ontario.



Powers Pneumatic Temperature and Humidity Control Equipment is used by FRANK G. SHATTUCK CO., in the following SCHRAFFT Restaurants and Stores . . . PHILADELPHIA—1216 Chestnut Street, shown above; NEW YORK CITY—556 Fifth Avenue, 141 West 42nd Street, 625 Madison Avenue, 138 West 43rd Street, 1381 Broadway, 2786 Broadway; BOSTON—16 West Street; NEWARK, N. J.—679 Broad Street and in CHARLESTOWN, MASS.

Air Conditioning for above Restaurants and Stores by: Automatic Refrigeration Co.—Carrier Engineering Corp.—Niagara Blower Co.

Over 40 Years of Specialization in Temperature and Humidity Control — Offices in 43 C

POWERS TEMPERATURE AND HUMIDITY CONTROL . . . Meets all the rapidly growing demands of the Air Conditioning Industry