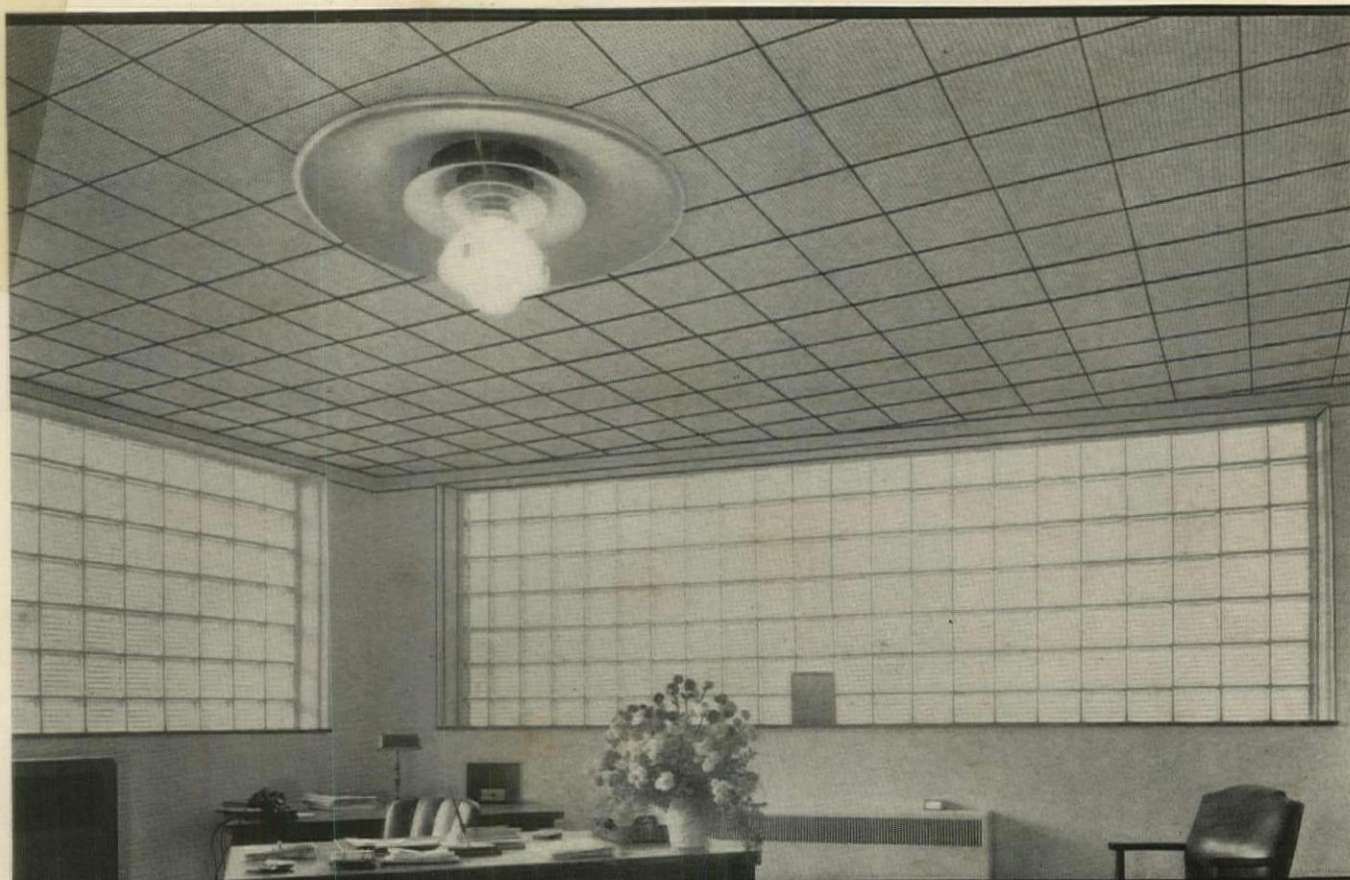


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THE ARCHITECTURAL FORUM

JANUARY 1940



HERE'S A FAVORITE WAY TO PLAN OFFICE BUILDINGS SO THEY'LL BE
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*The word Acousti-Celotex is a brand name identifying a perforated acoustical fibre tile marketed by The Celotex Corporation.

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JANUARY 1940

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VOLUME 72—NUMBER ONE

THE MONTH IN BUILDING

BUILDING TRENDS. Behind the outlook for 1940 building activity (see page 57) are the statistical trends of 1939. Latest available data (see tabulation, right, and complete presentation, page 61) spotlight these trends: building permit volume continues steady, presages a recovery in contract volume which slumped during October; wholesale and retail costs advance slightly; rents continue the climb begun in June; foreclosures hit a new post-Depression low; industrial production stands 27 per cent higher than a year ago; cost of living takes a small but significant drop; building stock prices work upward.

LOW COST GREASE. Biggest home building news since the Federal Housing Administration slashed interest rates last August, is FHA's New Year's resolution to grease and get rolling the low cost housing machinery of private enterprise. Thus, at year-end FHA changed a few rules and regulations under its Title I insurance program (usually associated with modernization and repair loans), produced in effect a new financing plan for houses costing less than \$2,500.

More attractive to borrowers and lenders alike, FHA's low cost housing grease has four principal ingredients:

► Foremost innovation in the program is the Federal National Mortgage Association's agreement henceforth to purchase Title I new construction loans from original mortgagees. Created two years ago by FHA and the Reconstruction Finance Corp., FNMA has served ever since as a mortgage discount agency for FHA-insured Title II loans on higher cost houses and, by promoting liquidity in the mortgage market, has stimulated this type of construction. However, since the security of Title I loans had not been subject to FHA's inspection and construction standards, FNMA has had no guarantee that the loans were not largely lemons, has had no desire to enter the market for this kind of fruit.

The three other changes made by FHAdministrator Stewart McDonald in the Title I new construction program (see below) were necessary to convince RFC Administrator Jesse Jones that FNMA could prudently purchase these low cost housing loans.

► In addition to the long-standing discount loans, the new rules and regulations authorize the insurance of interest-bearing loans which will probably run their predecessors into the ground as far as popularity and use are concerned. Under the old plan, maximum charge for interest and fees of all kinds against the borrower was equivalent to \$3.50 discount per \$100 original face amount of a one-year loan. And, while this amounted to a gross interest cost of about 6 per cent on a 15-year loan, the interest cost went up as the term went down. (A gross cost of 7 or 8 per cent was not unusual.) Much

more attractive to the borrower, the maximum gross cost of the newly authorized interest-bearing loans is set at $5\frac{1}{2}$ per cent ($4\frac{1}{2}$ per cent interest, plus $\frac{1}{2}$ of 1 per cent service charge, plus $\frac{1}{2}$ of 1 per cent insurance premium).

Besides appealing to borrowers, this new type of Title I loan will reduce the book-keeping headaches and costs of lenders. Discount loan procedure is so complicated that FNMA will wall-flower these loans in favor of their interest-bearing sisters.

► Supervision and regulation are introduced into Title I new construction for



FHAdministrator Stewart McDonald

the first time under the new plan. Heretofore, lenders made these loans willy-nilly without the FHA neighborhood and design restrictions, construction inspection and borrower credit analysis that go with all Title II lending. Now, FHA has modified the minimum design and construction standards for one-story detached houses, has required that all Title I houses, as well as all low cost units built under Title II, toe these marks. FHA will enforce these requirements 1) by requiring that all loan applications be submitted to it for approval prior to construction. 2) by inspecting properties during con-

struction—at least three times according to present plans—and 3) by permitting lenders to disburse only 80 per cent of Title I loan proceeds prior to FHA's final approval of construction.

These new departures will satisfy FNMA's desire for better Title I securities, and the unchanged policies will still make Title I attractive to mortgagees and mortgagors. Thus, the borrowers need not submit themselves to credit analysis although the neighborhoods they build in must be approved; and the financial institutions may still forego much of the red-tape routine that Title II lending involves. Properties will not have to be appraised; mortgages will not have to be rated; and, in the event of foreclosure, the mortgagee need not convey the property to the FHA, but may sell it and claim any loss from FHA.

► The new Title I program outlaws second mortgages. Although not widely publicized, it was formerly possible to cover part of the cost of land with a second mortgage. Now, the land must be owned free and clear—a provision which will further safeguard the lender but which may prove a stumbling block to many a would-be home builder.

In all other respects the new Title I plan for new construction is governed by existing FHA specifications as revised last fall (ARCH. FORUM, Nov. 1939, p. 4).

Their salient provisions:

- Maximum principal amount of loan: \$2,500.
- Maximum amortization period: fifteen years plus five calendar months.
- Minimum down payment: 5 per cent—in cash or land.
- Permissible use of loan proceeds: construction and materials, architectural service, builder's profit, lighting, heating and plumbing systems, landscaping, walks and drives, and similar improvements to make the structure complete.
- Unlawful use of proceeds: furnishings, stoves, refrigerators, washing machines and similar appliances.

Upshot of the revised Title I program is that FHA is now equipped to insure loans on houses of any cost up to \$20,000, is particularly well equipped for \$2,500-and-under units. If a borrower is

PERMITS

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

	Monthly Data			First ten months	
	Oct. 1939 (millions)	Comparison with Sept. '39	Oct. '38	1939 (millions)	Comparison with 1938
Residential	\$92.0	+ 4.7%	+18.0%	\$945.4	+31.0%
Non-residential	49.3	—17.6	—10.7	506.8	+13.0
Additions, repairs ...	29.0	+ 2.1	+ .5	292.9	+ 9.1
TOTAL	170.3	— 3.3	+ 5.1	1,745.1	+21.4

THE MONTH IN BUILDING

a good credit risk, has a 10 per cent down payment and plans to build his \$2,500 house in an acceptable neighborhood, he is probably eligible for a 25-year Title II loan which will require monthly payments of about \$15. If he can not quite meet the requirements regarding credit, he is probably an acceptable customer for one of the new Title I loans which will cost but little more on a monthly basis.

Since about six out of ten of FHA's rejections under Title II are due to the borrower's credit rating rather than the character of the property, the new financing plan with RFC behind it should enjoy wide application. Expectation is that the builders of \$2,500 houses will apply to FHA for mortgage insurance commitments under both titles at once, thus be prepared to meet the needs of any buyer.

Thanks to the heady administration of Stewart McDonald, FHA becomes increasingly popular and useful. This year, its efforts should produce a bumper crop of low cost houses.

LABOR TRUSTS. Big and unanswered question in Trust-buster Thurman Arnold's monopoly investigations is: Can the anti-trust laws be applied to building labor unions? A clue as to the courts' possible attitude toward this question is found in a recent Supreme Court decision on the Chicago milk case. The lower courts threw out several indictments on the grounds that the Agricultural Marketing Agreement Act exempts the production and marketing of milk from the purview of the Sherman anti-trust Act. But the Supreme Court reversed the decision, ruled that despite the Act, agricultural marketing associations could not enter into conspiracies in restraint of trade. This ruling may well have a parallel with regard to building trades unions, which loudly claim exemption from anti-trust proceedings.

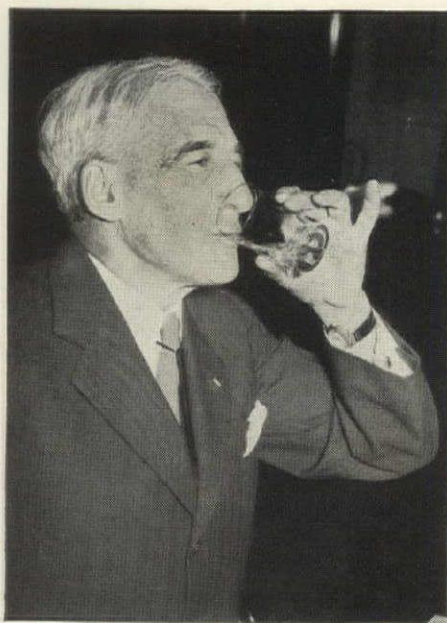
Meanwhile Labor puts increasing pressure on the White House to brake the Justice Department's Building probe. But, apparently with Presidential approval, the anti-trust machine rolls on, gathers momentum.

NEW HOUSER. When Alfred Rhein-stein stepped out of the New York public housing limelight in a huff last October, he left vacant the important post of local housing authority chairman. And, he left New York's Mayor, fiery Fiorello H. LaGuardia, the ticklish job of filling it. High in public favor, Rhein-stein's forced exodus created much resentment, and the Mayor had to watch his step in picking a successor. That he watched well is indicated by his choice: famed humanist-industrialist Gerard Swope.

When the Mayor learned that Swope was retiring as President of the far-flung

General Electric, he offered him a place on the authority, assured him that he would be elected head man by the other members. Fortnight ago the Mayor announced that GE's past president had accepted. Fifteen minutes later, Swope was the elected chairman.

That Gerard Swope knows next to nothing about public housing, he is the first to admit. Nonetheless, he is well qualified to head the local authority. Public housing in New York City is big business, and Gerard Swope is undisputably



Public houser Gerard Swope

a big businessman and, as his career amply proves, is sympathetic to the underprivileged. Back in 1895 he started working in the General Electric shops as a helper at \$1 a day, gradually worked his way up until in 1922 he had reached the driver's seat. Having held that place ever since, he stepped down at year-end only because he had reached the retirement age of 65. Salary as GE president: \$96,000 a year. Salary as New York City Housing Authority Chairman: nothing.

At the same time that Mayor LaGuardia picked Swope, he also filled several other vacant housing posts:

► Secretary Allan B. Harrison of the local authority was made director of Public Housing, a job which Rhein-stein held and quit along with his chairmanship.

► Dr. Gano Dunn, president of Cooper Union school, and Hugh S. Robertson, executive manager of Rockefeller Center, were both appointed consultants to the Authority, and will serve without salaries.

► Chairman William H. Davis of the State Board of Mediation was made a member of the Authority along with Swope. He fills a vacancy created two years ago by the resignation of the late B. Charney Vladeck.

BASE BROADENING. Like those of most every other State in the Union, citizens of New Jersey have yelped about the squashing tax burden placed on their real estate, have cried to the State to redistribute the load. Their fond hope is the oft-voiced claim of Realty that, by broadening its tax base, a State lightens the property owners' share of Government expense.

Thanks to a bucket of cold water in the hands of the State Chamber of Commerce, however, it appears that these fond New Jersey hopes are dripping wet. Thus, month ago the Chamber analyzed the tax experiences of nine States which had already gone to the aid of Realty by broadening their tax bases, published its discouraging findings:

► California enacted a sales tax in 1933. Five years later the State's tax revenues from real estate were \$1 million higher than in the peak year of 1932, and total tax revenues were \$148 million higher.

► Colorado in the same year brought out a 2 per cent sales tax, subsequently added a chain store tax, a gift tax, an income tax, a service tax and a tax on the ownership of automobiles. Result: in 1938 real estate was paying \$5.2 million more in taxes than it did in 1934.

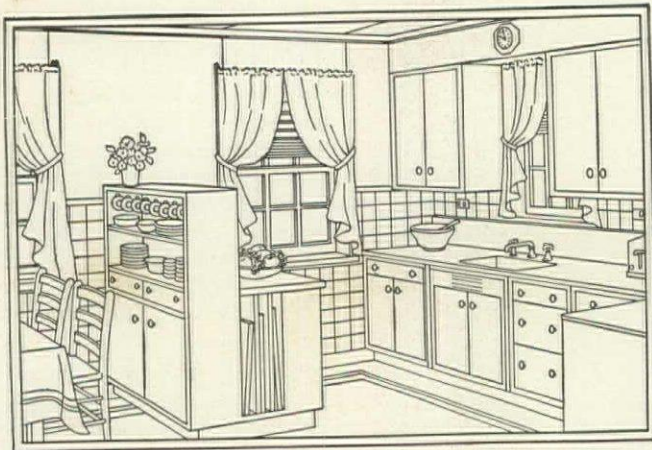
► Illinois undertook much the same experiments between 1932 and 1938. In this State, real estate, per se, did benefit—by about \$5 million—but total taxes soared \$110 million.

► Six other States followed the same general pattern with the same general results. In some of them the real estate tax burden was temporarily lightened. In all of them Government expenditures and total taxes went to new highs, and what the property owners put in one pocket they had to take out of the other.

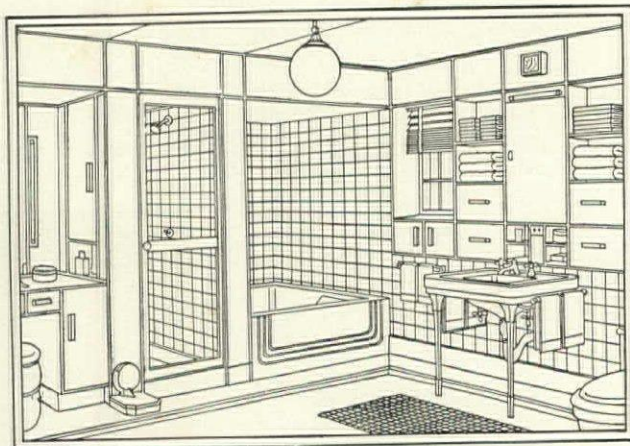
INTEREST UP. The 1930's will go down in history as the decade of declining interest rates, but the 1940's may well be noted for the opposite reason. At least, that is the hope and expectation of this country's mortgage lenders. According to a 64-city survey by the Mortgage Bankers Association, 47 per cent of its members look for a rise in rates this year, while an equal proportion are in doubt as to future trends. Only 6 per cent believe that the bottom has not been reached.

A large majority of MBA members covered by the survey report that interest rates were steady during the latter part of 1939. Less than one-fifth of them could point to local upward trends since last September 1. Interest rate increases are concentrated in the South and Middle West, are least in evidence in the Far West and Mountain States. Logically, a rise in mortgage rates this year is most expected in the two areas where the trend is already upward.

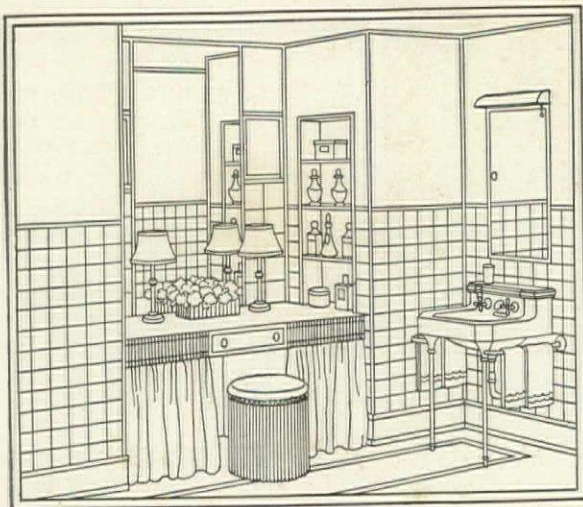
Some suggestions for using Masonite Presdwood Temprtile



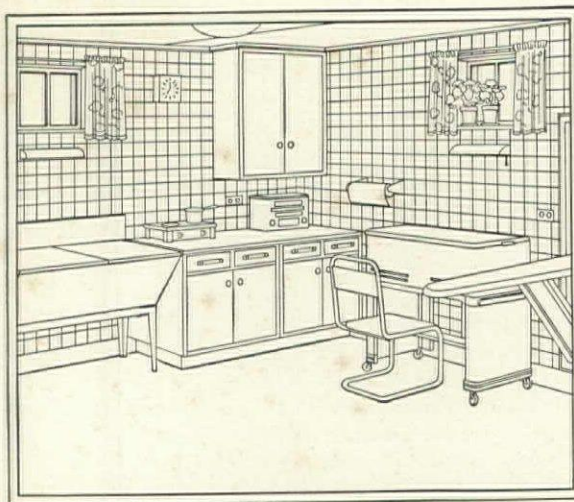
Kitchen walls can be given tile effects at low cost by applying Masonite Presdwood Temprtile over structural insulation, and enameling. For kitchens with eight-foot ceilings the 4x12-foot sections of Presdwood Temprtile are applied horizontally, with upper wall of Tempered Presdwood applied the same way.



Ideal for bathrooms, Masonite Presdwood Temprtile is all-wood, grainless and moisture-resisting. It will not warp, chip, split or crack when properly applied. This is a major advantage—especially in places where hot showers and steaming tubs of water tend to fill the air with moisture.



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The new-home and remodeling ideas outlined on this page are being carried to millions of home-owners in the above advertisement, appearing in national magazines in February. We believe you'll be interested in examining Masonite Presdwood Temprtile for yourself, and will gladly send you a free sample on request. For your convenience, just clip and mail the coupon.



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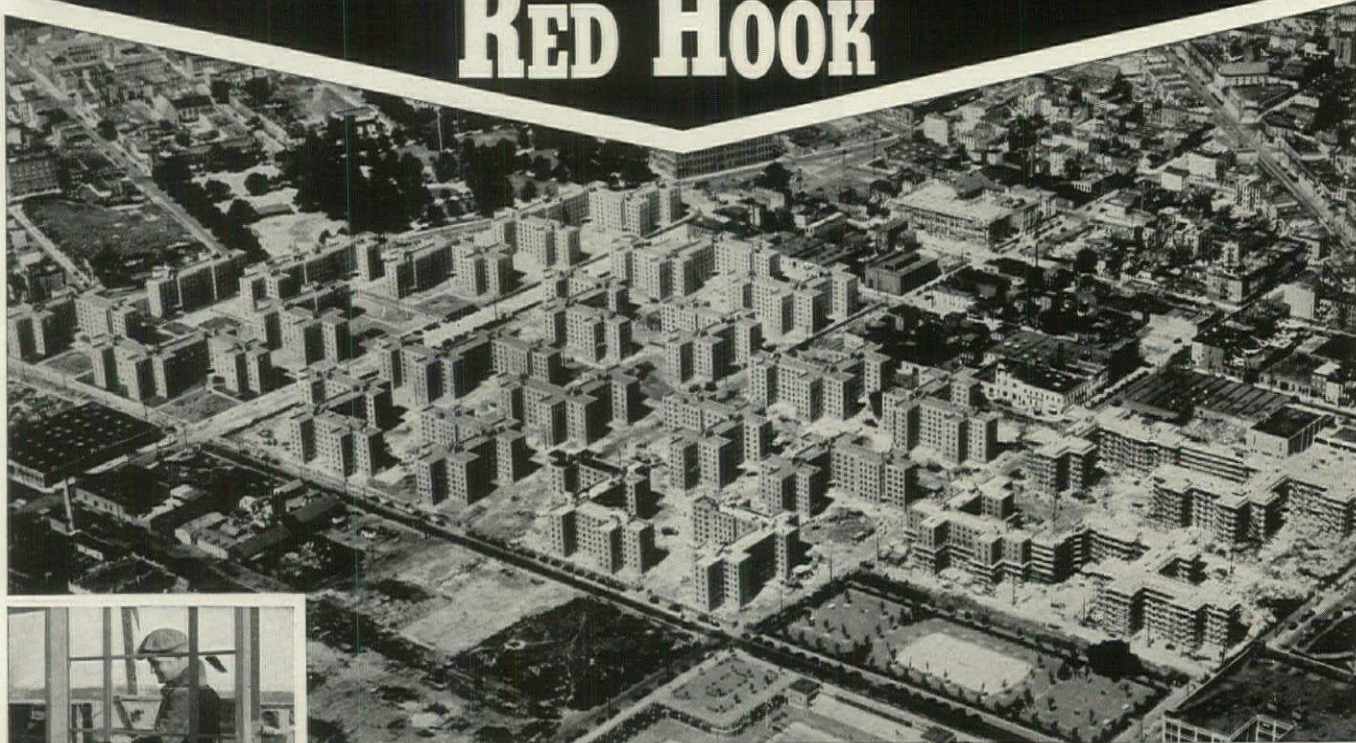
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Techwood Houses, Atlanta, Ga. . . .	4,253
Neighborhood Gardens, St. Louis, Mo. . .	1,224
*Green Lake Homesteads, Green Lake, Mich.	2,279
Old Harbor Village, Boston, Mass. . . .	8,188
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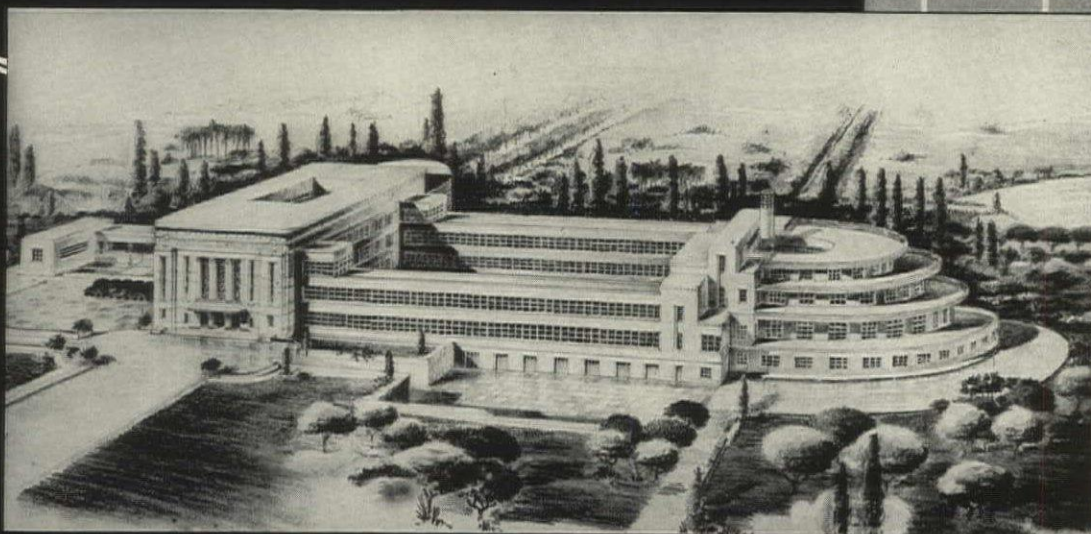
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SATURDAY EVENING POST



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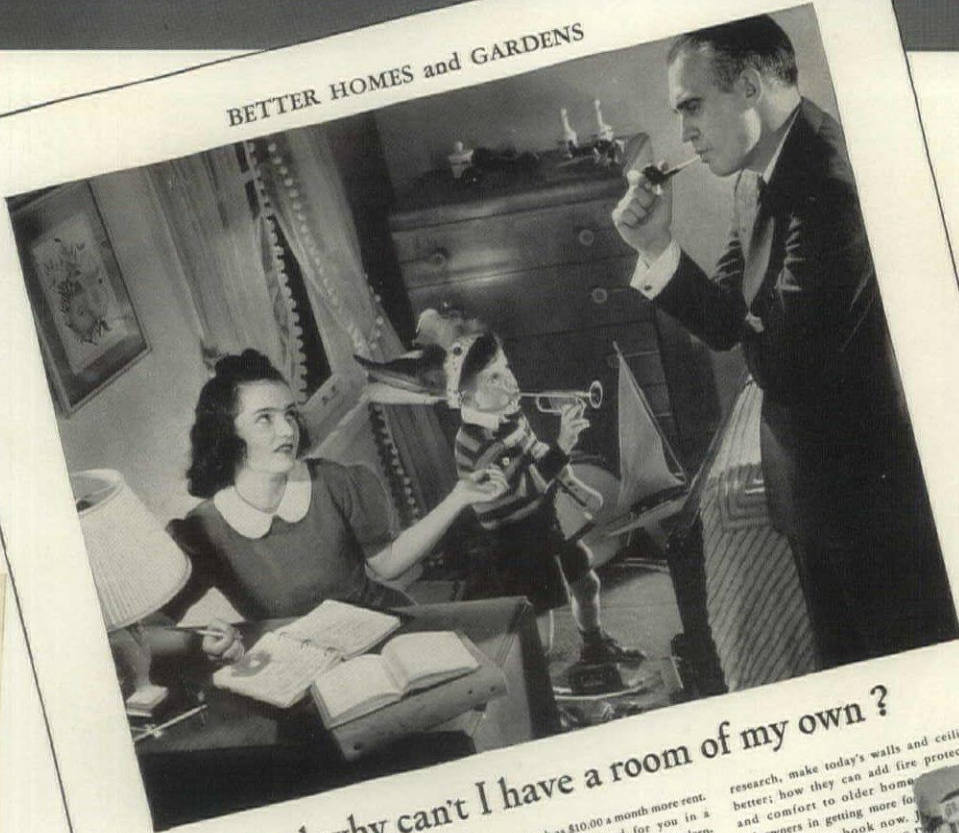
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CRITTALL A-R-P PRODUCTS

GASPROOF WINDOWS. There is a range of standard sizes suitable for most normal requirements. The units may be coupled to form larger windows, and are supplied with 1" steel beads to take laminated glass to resist blast.

GASPROOF DOORS of 1" pressed steel plate. The standard size provides a clear opening of 6'3" x 2'6".

DECONTAMINATION CENTRES

Let Experts and Specialists help you

EVACUATION CAMPS FOR MOTHERS AND CHILDREN

The suggested general layout for these camps was illustrated in our issue of October 25, 1939. In these pages we illustrate a range of these buildings types in relation to the site.

L'ÉCLAIRAGE EN DEFENSE PASSIVE

FRÉDÉRIC VOUS CONSEILLE DE VOUS APPROPRIER LES MAINTENANT POUR ÉVITER LES DÉPENSES D'ALERTE



COMPAGNIE DES LAMPES MAZDA

100, RUE DE LISBONNE - PARIS

Secure Longest Service from Sandbags

The life of a sandbag is estimated on three items: its quality, its construction, and its maintenance. With these three items, sandbags can be made to last for years.

CERRUX SHATTER-RESISTING VARNISH S.3615

A.R.P. SHELTERS must be DAMP-PROOF!



PERSONAL ACCIDENT INSURANCE FOR AIR RAID RISKS

The Insurance Department of the Architects' Beneficial Society will be pleased to supply particulars of insurance against death or loss of limbs or sight due to Air Raids in the United Kingdom.

GASPROOF WINDOW





GASSCHUTZ-TÜREN FENSTER-BLENDE

SANDBAG ARCHITECTURE



PROTECTION FOR A HOSPITAL STAFF



STOP those Sandbags Rotting

HOW TO PRESERVE SANDBAGS

WINTER DANGERS TO DEFENCES DISINFECTION AND SPRAYING

PRESOTIM TOXIC PRESERVING OIL

The Government emphasize the importance of preventing decay of the fabric and subsequent burning of sandbags. This can best be effected by treating the sandbags, their associated timbering and adjoining woodwork with PRESOTIM TOXIC PRESERVING OIL in camouflage Greens, Browns, etc. The eliminates infestation by insects and guards against

WAR IN ARCHITECTURAL JOURNALS. England, France and Germany have turned from building to barricade, from satisfaction to safety, from enclosing space to excluding gas. The Mother of the Arts veils her face.

(Forum of Events continued on page 12)

A SERMON IN STUCCO

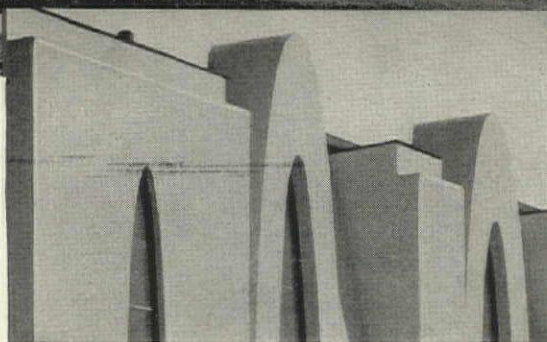
At St. Austin's



● Stucco helps to beautify St. Austin's Church and Parish House in Minneapolis. Atlas White was used in the stucco finish coat. Two under coats were portland cement stucco over expanded metal lath attached to frame construction. Architects—Bard and Vanderbilt, Minneapolis. Contractor—Herman Jeub.

A CHURCH can be modern in appearance and still retain its churchly beauty and dignity. That is the sermon preached by the picture of St. Austin's Church and Parish House in Minneapolis.

The simplicity of design, the sharp, clean-cut curved and straight lines that help to give the modern touch, are easily attained with the aid of stucco. In this structure, as in many others today, the stucco finish is made with Atlas White portland cement.



For the next job on your board, whether a new structure or an old one to be modernized, consider Atlas White stucco. Its initial cost is always moderate. It is permanent and lastingly attractive. It discourages maintenance costs. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary) Chrysler Building, New York City.

A FACTORY-PREPARED STUCCO IS PREFERABLE

AF-S-3

STUCCO
MADE WITH

Atlas White

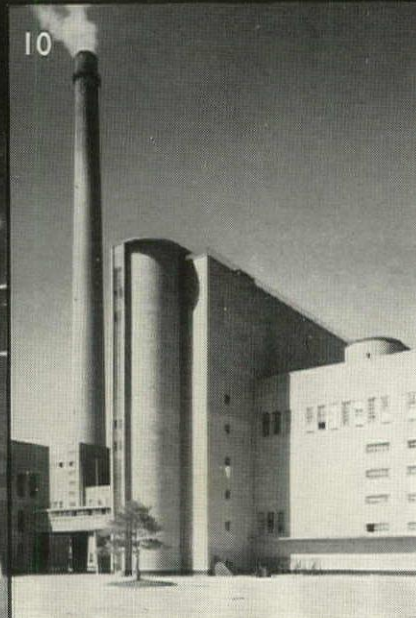
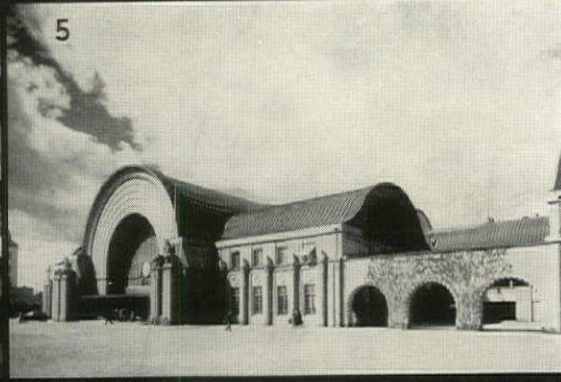
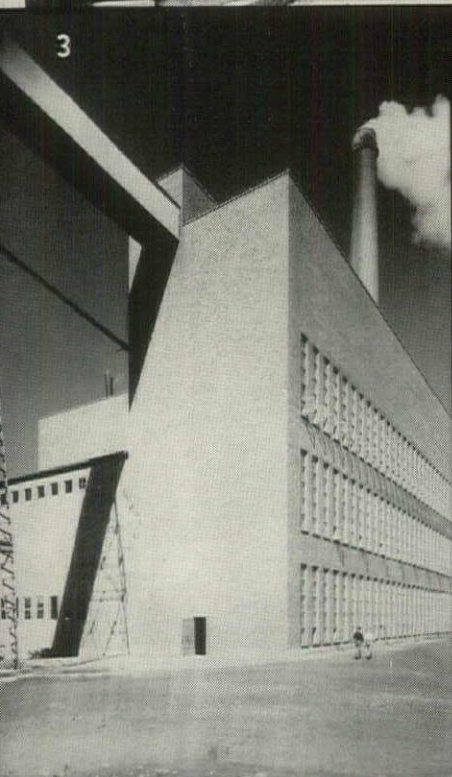
PORTLAND
CEMENT

FORUM OF EVENTS

(Continued from page 10)

BOMBS OVER FINLAND

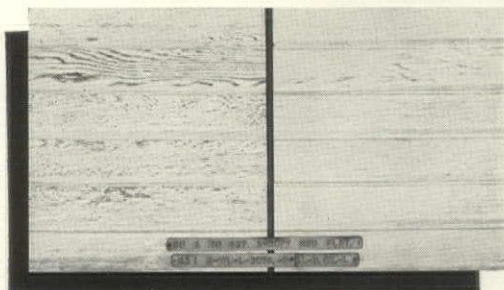
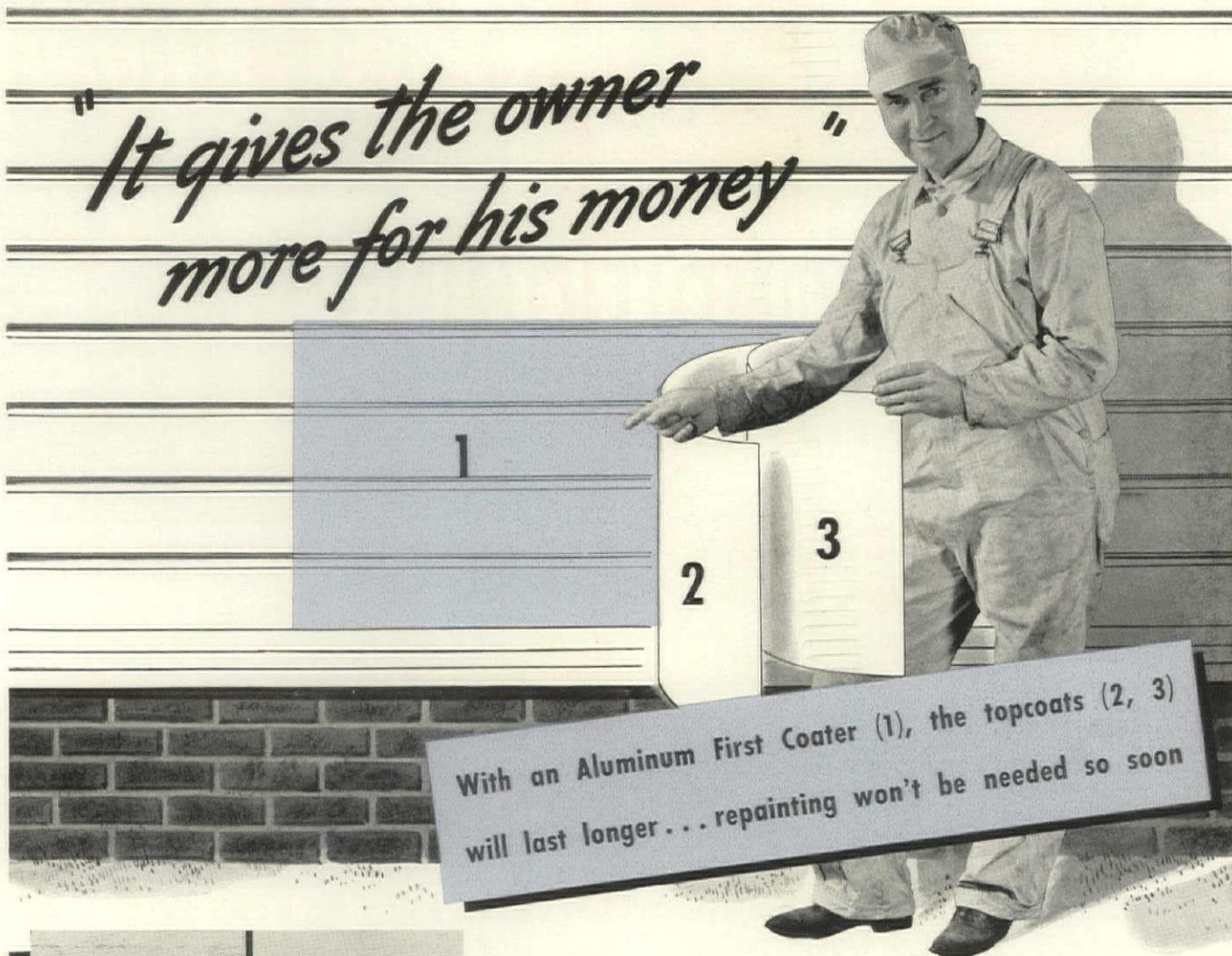
—dropped by the Reds or touched off by a retreating army may destroy some of the finest modern buildings in the world. To his many other admirable qualities must be added the Finn's genius for design whether he be its author or merely an appreciative layman. Familiar to Americans are the achievements of Alvar Aalto. Less well known are these fine structures of some of his contemporaries. 1. School for merchant marine officers, Viipuri. 2. New church, Rajamäki. 3. Industrial group—woodworking—Kaukopää. 4. Interior of J. S. Siren's Parliament Building. 5. Saarinen's Viipuri railroad station, 1913. 6. Apartment buildings, 1939. Helsinki. 7. Tuberculosis sanitarium, 1939, Tampere. 8. Railroad station, 1939, Tampere. 9. Lobby of the Blomstedts' hotel, 1936, Rovaniemi. 10. Industrial building, 1939, Oulu.



Photos—Courtesy Finnish Travel Information Bureau

(Forum of Events continued on page 40)

*"It gives the owner
more for his money"*



What a difference! Test panels of Douglas fir siding after 6 years outdoors facing sun, rain, and snow at U. S. Forest Products Laboratory, Madison, Wisconsin. Left, painted with ordinary type first coat and two white topcoats. Right, with Aluminum first coater and same two white topcoats.

Extra years of paint life mean dollars saved on upkeep. That's the dividend owners get when Aluminum House Paint is specified for the first coater on new homes.

It lengthens the life of not only the original paint but also each repainting. Needn't be repeated unless, through neglect, the old paint has worn so thin that wood is exposed.

The reasons: Aluminum House Paint allows less moisture to penetrate into the wood; cuts down swelling and shrinking. It keeps more oil in the topcoats, making them more elastic and durable. The paint film weathers evenly, won't check or crack as soon.

For literature and instructions on the use of Aluminum House Paint, write PAINT SERVICE BUREAU, ALUMINUM COMPANY OF AMERICA, 1947 Gulf Building, Pittsburgh, Pa.

There are many types of Aluminum Paint. For new houses, specify "Aluminum HOUSE Paint", made specifically for use on exterior wood by:

Carter Paint Co., Gilman Paint & Varnish Co., Keystone Varnish Co., The Lowe Bros. Co., John W. Masury & Son, Mautz Paint & Varnish Co., Mobile Paint Mfg. Co., The Paraffine Companies, Inc., Thompson & Company



ALBRON

*Pigments
for*

ALUMINUM HOUSE PAINT

F I R S T C O A T E R F O R W O O D

Careyduct

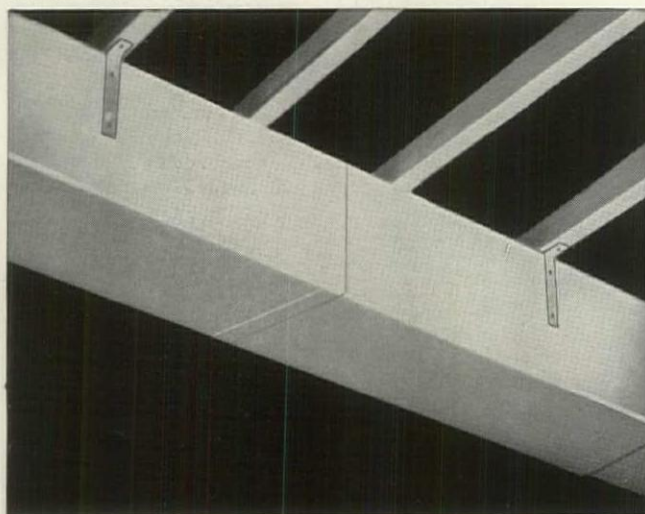
THE ALL-ASBESTOS INSULATED DUCT

FOR AIR-CONDITIONING SYSTEMS

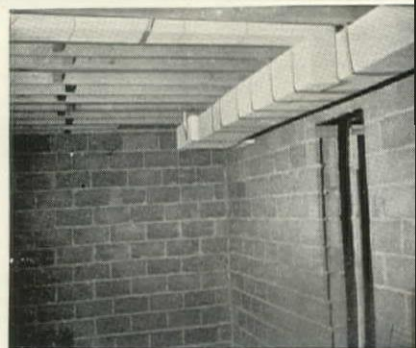
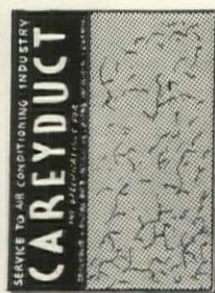
CAREYDUCT now modernizes the conveying conduit in the air-conditioning system to the same degree that the units, grilles, diffusers, controls, etc., have been modernized. Its uniform, prefabricated and standardized units and its favorable, installed cost, are advantages you should investigate. Many architects are specifying CAREYDUCT in place of, as well as an auxiliary to insulated, sheet metal duct.

CAREYDUCT is made in standard, double layer sections, three feet long. The section consists of an inner layer or core which is approximately $\frac{3}{16}$ " thick of solid, firm, asbestos structure. This gives the mechanical strength or "backbone" to the duct. Over this core, and making a close, sliding fit, is an outer shell or insulating jacket made of multiple layers of fine corrugated asbestos firmly bonded to form a substantial structure and give high insulating value. The total wall thickness of core and jacket combined can be made from one-half inch up, to meet requirements. A full line of standard fitting accessories simplifies installation of CAREYDUCT.

One Method of Erection—Supporting horizontal straight runs—strap hangers exposed length $\frac{1}{4}$ depth of duct attached with metal screws of sufficient length to equal total thickness of core and jacket plus $\frac{1}{4}$ " to $\frac{3}{8}$ ".



Write Today
for
New Manual
and
Data Book



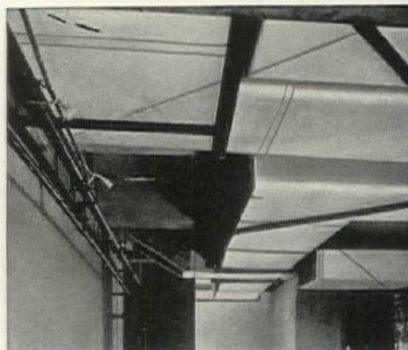
FOR RESIDENCES

Careyduct in a Detroit Residence.



FOR INDUSTRIAL BUILDINGS

Careyduct in a large Mid-west Power Plant.



FOR COMMERCIAL BUILDINGS

Careyduct in a New York City Bank.



Careyduct in a Cincinnati Office Building.

THE PHILIP CAREY COMPANY • Lockland, Cincinnati, Ohio
Dependable Products Since 1873
BRANCHES IN PRINCIPAL CITIES

PRIZE-WINNING DESIGNS IN THE INSULUX GLASS BLOCK COMPETITION No. 3

CONDUCTED FOR OWENS-ILLINOIS GLASS COMPANY BY THE ARCHITECTURAL FORUM

MEETING in Detroit December 5 and 6, the Jury for the Insulux Glass Block Competition No. 3 found itself depleted through the serious illness of Albert Kahn and Robert H. Macdonald. Moreover, Eliel Saarinen felt it advisable to withdraw for the reason that a number of his Cranbrook students had submitted drawings. Alvin E. Harley and Arthur K. Hyde were added to the Jury, which then proceeded to its task of studying the nearly 300 entries submitted.

REPORT OF THE JURY—The problem, though offering perhaps more than the usual complexities, was resolved into several major considerations: 1) Enticing the public with an attractive milk bar and providing observation facilities; 2) Resolving the needs of incoming farmers, outgoing delivery trucks, staff cars, and public parking into simple and workable relationships; 3) The simple and direct disposition of the receiving, processing, storing and shipping operations; 4) An intelligent use of glass block.

The Jury's search was for the simplest correlation of these various needs—a solution that would be convincing almost at a glance. Such simplicity and the easy readability of drawings were none too plentiful in the offerings. There was a disposition, in spite of what had been said about glass block in the Program and in the introduction to the series of competitions, to use the material quantitatively rather than qualitatively, and with such efforts the Jury was not impressed.

Unusual difficulties were met in selecting the eight prize winning designs, for the Jury failed to discover the full measure of its ideal. The drawings that were premiated were recognized as meeting the various requirements with something less than complete satisfaction.

After the eight had been selected the Jury was impressed by what seemed to be at least a family resemblance in the partis of the winners, as compared with the number and wide variety of schemes attempted. In their selections the Jury has perhaps indicated, though without premeditation,

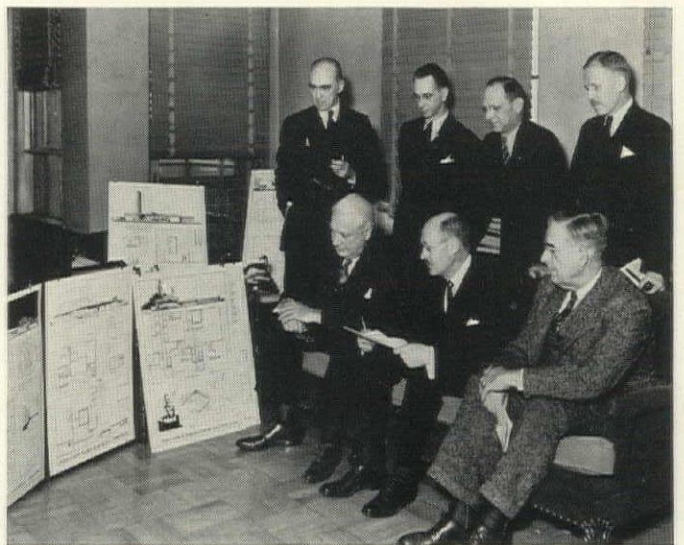
the general form that usually emerges as the simplest and most logical solution.

Comment by the Jurors upon the individual designs is printed in connection with the respective illustrations. This comment, rather than dwelling upon the obvious merits of the designs, has dealt very frankly with their shortcomings.

THE PROBLEM—Design a dairy with milk bar on a Wisconsin motor highway, the site an inside plot bounded on northeast by a secondary road. Passers-by are to be enticed by the bar and, through observation of the processes, be impressed by the model plant.

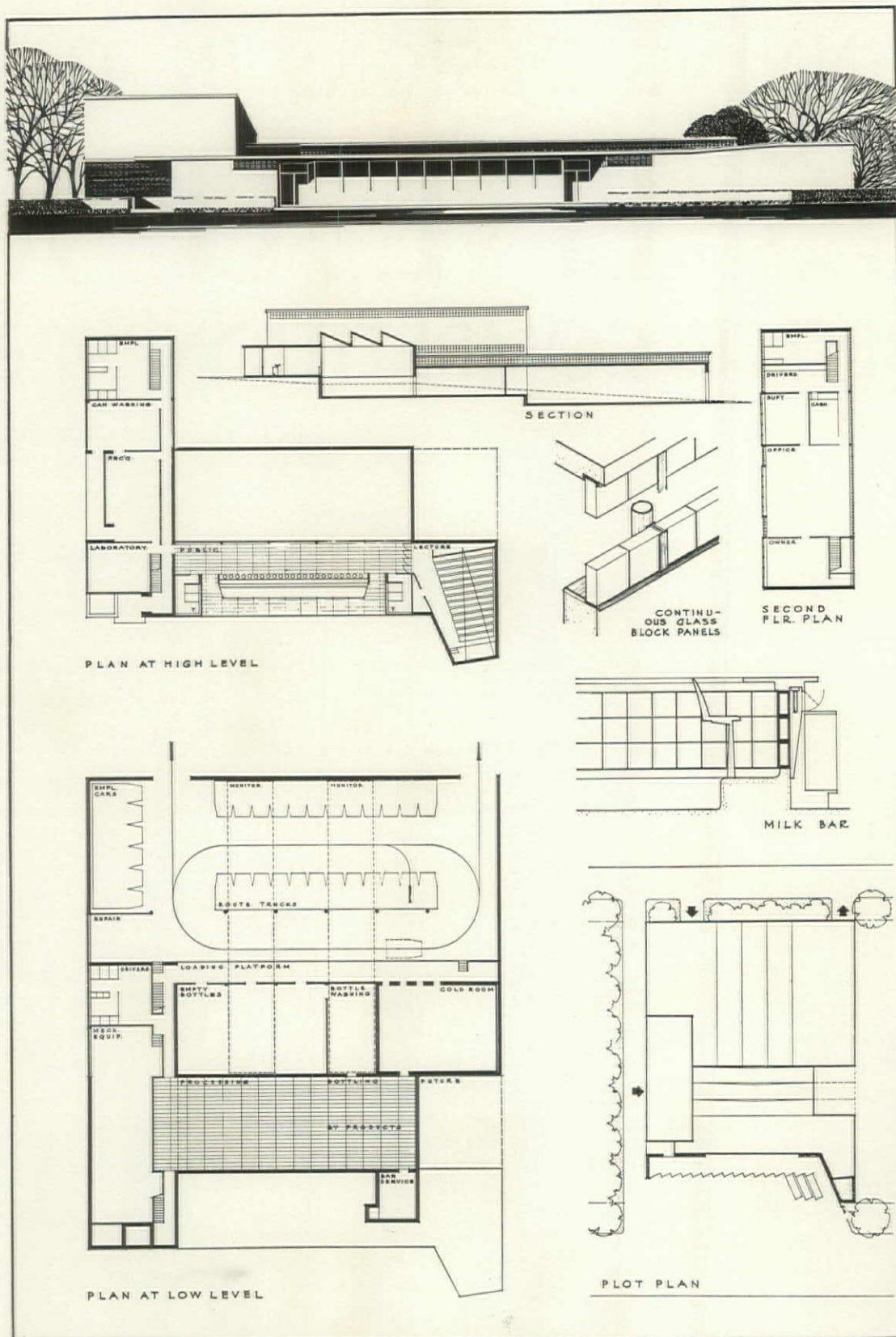
THE JURY

ALFRED A. HAHN, Toledo
ALVIN E. HARLEY, Detroit
J. BYERS HAYS, Cleveland
ARTHUR K. HYDE, Detroit
CHARLES T. INGHAM, Pittsburgh
WALTER R. MCCORNACK, Cambridge



Manning Bros.

THE JURY meeting at the Naval Armory, Detroit. Seated, l. to r., Harley, Chairman Ingham, McCornack; standing, the professional adviser, Hays, Hahn, Hyde.



FIRST PRIZE—\$1,000

ERNEST A. GRUNSFELD, JR.; **WALLACE F. YERKES;** and **WILLIAM F. KOENIG,**
Chicago

JURY COMMENT—"A simple, direct plan resulting in straightforward structure. The provisions and intent of the program have been grasped and conscientiously followed. There is a good relationship between public space and processing, and a garage that functions well in connection with the loading platform. The drawing is one of the most easily read of those submitted, with clean-cut, simple delineation. The use of glass block is guided by intelligent purpose."

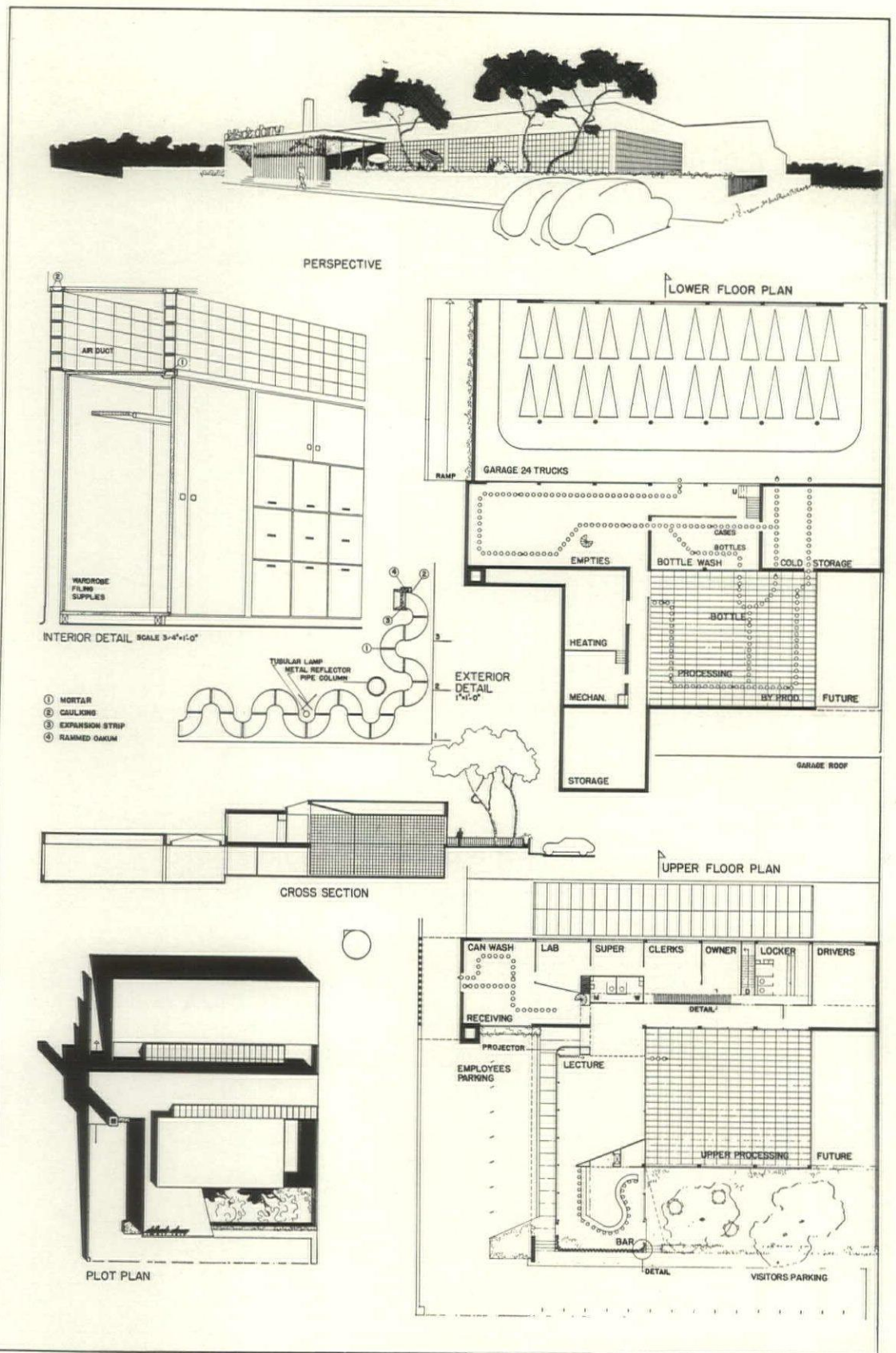
ERNEST A. GRUNSFELD, Jr.: M.I.T. '18, Ecole des Beaux Arts '21, Academy in Rome '22; winner of student A.I.A. medal, Rotch Prize, S.A.D.G. gold medal. In practice since '24. Architect of Adler Planetarium (Chicago Chapter A.I.A. gold medal). Winner of first prize first Small House Competition; and of WGN Radio Studio Competition.

WALLACE F. YERKES: Armour Institute of Technology '22. In practice since '26; associated with Mr. Grunsfeld since '32.

WILLIAM F. KOENIG: Art Institute of Chicago and Chicago Architectural Club. Associated with Mr. Grunsfeld as chief of drafting since '35.



Koenig Grunsfeld Yerkes

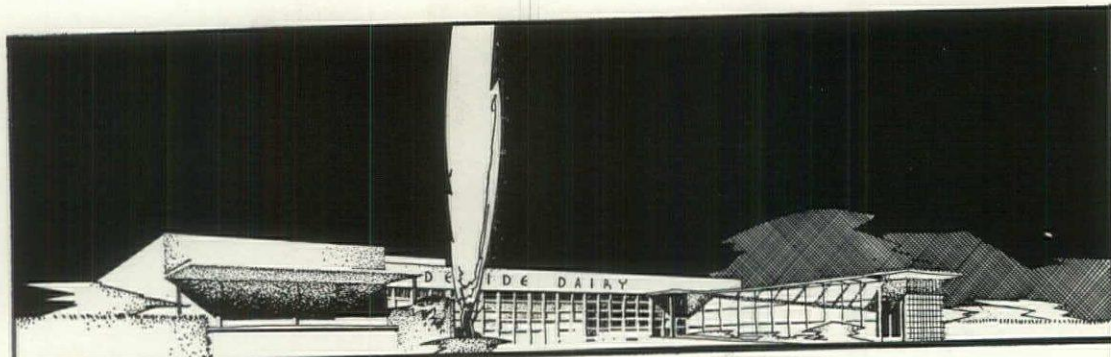


HARRIS A. KEMP: B.S. in Arch. '34, M.S. in Arch. '35, from Univ. of Ill. Worked on Dallas Fair buildings. M. of Arch. from M.I.T. '38. Won Plym Fellowship in Architecture. Traveled in Europe '38-9. With D. C. Connally won a first prize in Portland Cement House Competition; won first prize in Insulux Competition No. 1. Employed in office of State Architect of Wisconsin.

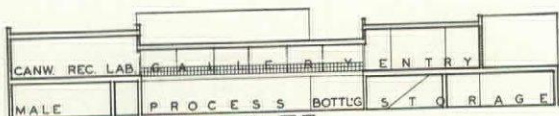


JURY COMMENT—"In spite of what was felt to be an excessive use of glass block across the front, obscuring the interior of the milk bar, the scheme is effective and attractive. Opening the milk bar to a view of the garden front is an inviting possibility. Processing operations have been simply and effectively organized. One may question the informality of the lecture room, and the fact that when a lecture is in process, other visitors' inspection of the processing is hampered."

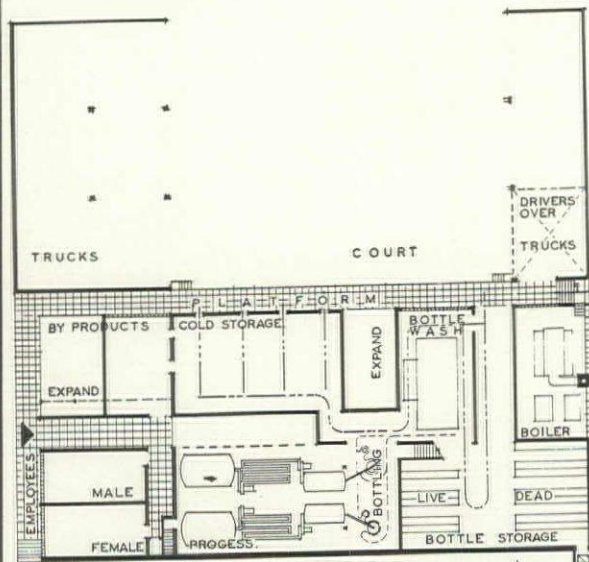
SECOND PRIZE—\$750
HARRIS A. KEMP,
 Madison, Wis.



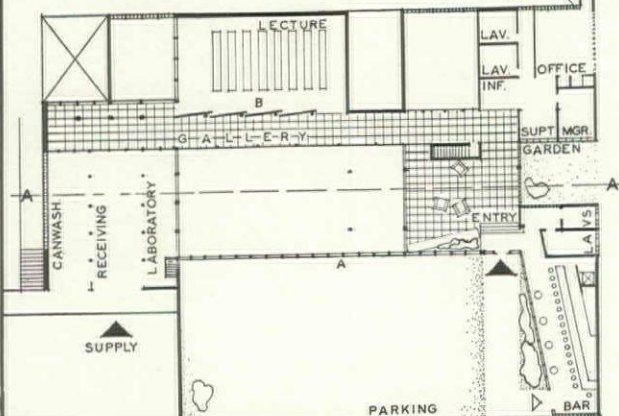
PERSPECTIVE



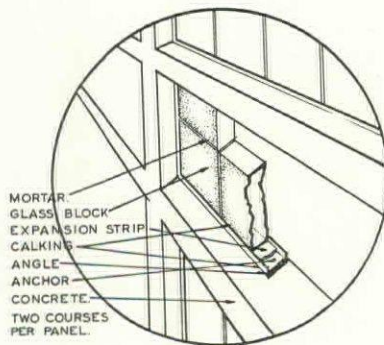
SECTION A-A



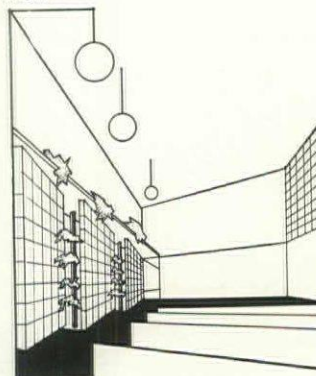
FIRST



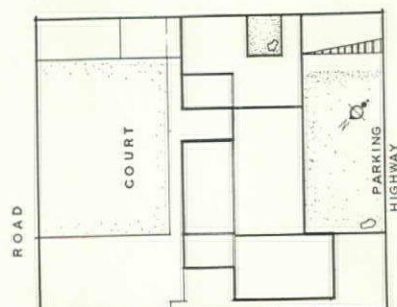
SECOND



DETAIL A EXTERIOR



DETAIL B INTERIOR



PLOT

M. WAYNE STOFFLE: Cornell B. of Arch. '37. Now at M.I.T. working for Master's degree and holder of a graduate scholarship. Worked in offices of Malcolm Moore, Oklahoma City and Glen H. Huntington, Boulder, Colo. This is the first competition he has entered.

ROBERT A. DESHON: B.S. in Arch. from Univ. of Cincinnati '39. Held Rollman Scholarship at U.C. '38-9. Mention in Ryerson Traveling Fellowship '39. Working for Master's degree at M.I.T. and holder of a graduate scholarship. Worked in offices of Finley C. Brooke, Edward J. Schulte, and Daniel M. Ross in Cincinnati. First competition entered.



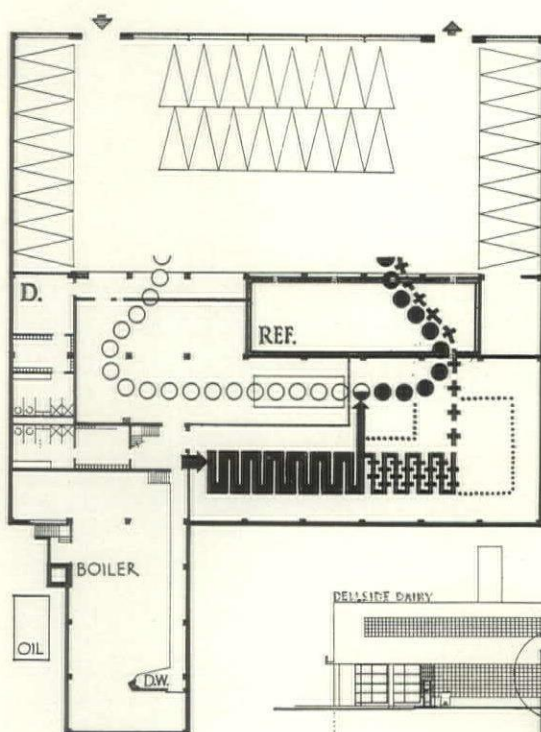
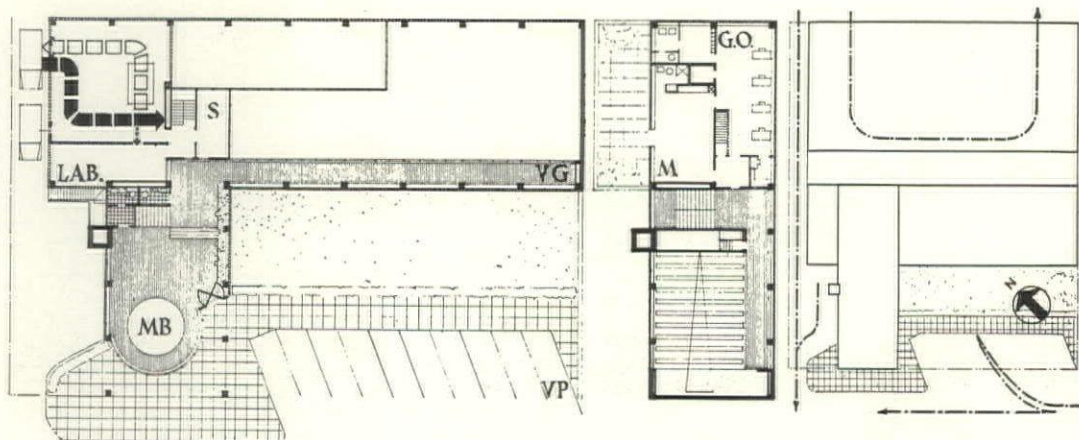
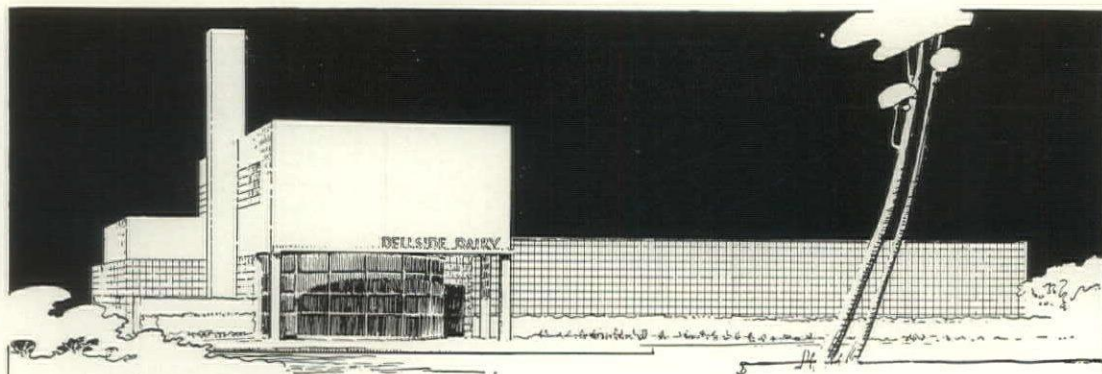
Deshon

Stoffle

THIRD PRIZE—\$250

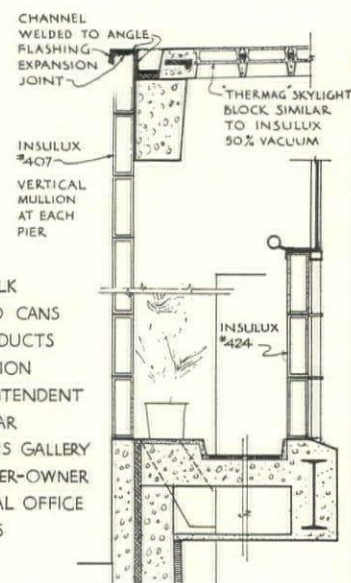
M. WAYNE STOFFLE and
ROBERT A. DESHON,
Cambridge, Mass.

JURY COMMENT—"The invitation offered by the milk bar is given a prominent and conspicuous location, though the Jury questions the use of a blank wall facing the motorist who approaches from the southeast. Offices are well located, and the complex transportation problem has been adequately solved."



KEY:

- RAW MILK
- WASHED CANS
- ++ BY-PRODUCTS
- EXPANSION
- S SUPERINTENDENT
- MB MILK BAR
- VG VISITORS GALLERY
- M MANAGER-OWNER
- G.O. GENERAL OFFICE
- D. DRIVERS



EVERETT GOLDEN: registered architect in independent practice. B.S. in Arch. from Armour Institute '30. Held Chicago Art Institute Traveling Scholarship. Has worked in office of Hamilton, Fellows & Nedved, Chicago. Instructor in architectural drawing, Chicago High Schools.

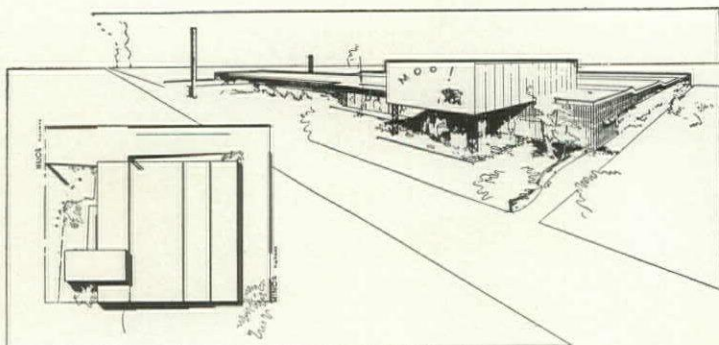


JURY COMMENT—"This design pleased the Jury better in plan than in front elevation, on which latter there was felt to be a too extensive use of glass blocks. Possibly some restrained form of advertising display would improve the long front wall. The visitors' gallery offers convenient public inspection of the processing, although a continuous circulation would have obviated possible crowding in the gallery. The garage solution is excellent, the space unhampered by columns. Whether the lecture room should be upstairs or down was debated freely among the Jury members. There is at least no serious objection, considering its occasional use, to locating it on an upper level. This and some other plans were unduly confused by an over-emphasis in the indication of processing sequences."

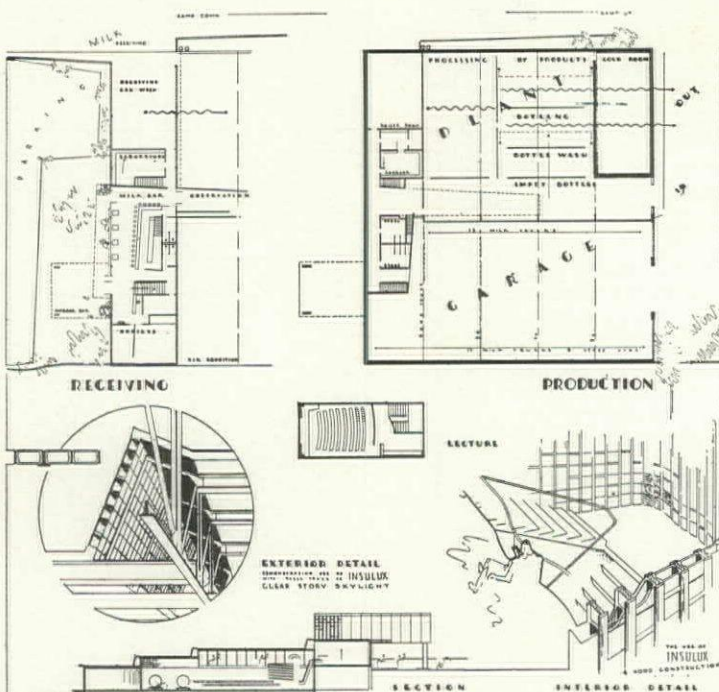
FOURTH PRIZE—\$100

EVERETT GOLDEN,

Chicago



RALPH RAPSON: Two years at Alma College, Alma, Mich. Graduated from Univ. of Mich. '38. Now holding a scholarship at Cranbrook Academy of Art, studying architecture and civic planning under Eiel Saarinen. Prize winner in Ladies' Home Journal Small House Competition; architect member of team winning second prize in '39 Rome Collaborative Competition; co-winner with Eero Saarinen and Frederic James of competition for National Theater and Fine Arts Building for William and Mary College, Williamsburg, Va.; winner of fifth prize in Insulux Competition No. 1.



FIFTH PRIZE—\$100

RALPH RAPSON,

Cranbrook Academy of Art, Bloomfield Hills, Mich.

JURY COMMENT—"A desirable simplicity of plan has been here achieved, though the indication of the upper front level is not easily read. The author, like many other entrants, has preferred for his perspective a viewpoint that explains the building, rather than a viewpoint of the passing motorist. There seems some discrepancy in the drawings as to the front wall of the lecture room, the plan showing it as glass blocks, the perspective as an opaque wall. The latter would avoid uncomfortable lighting in the face of an audience."

FRANCIS R. MEISCH: B. of Arch. from Univ. of Minnesota, '39, awarded Horton Art Scholarship '37-'38; A.I.A. School Medal for general excellence in architecture '39; graduate scholarship at M.I.T. '39-'40. Has been free lancing in design and rendering and employed under Dr. L. C. Straub, engineer, Univ. of Minn. and in the office of Elwin H. Berg, architect, Eveleth, Minn.



KEITH I. HIBNER: B.S. in Architectural Engineering, '39, and B. in Arch. '39 from Univ. of Oklahoma. Has been doing free lance work and as Government architect for relief projects in summer of '39. Awarded Graduate Scholarship at M.I.T. '39-'40.

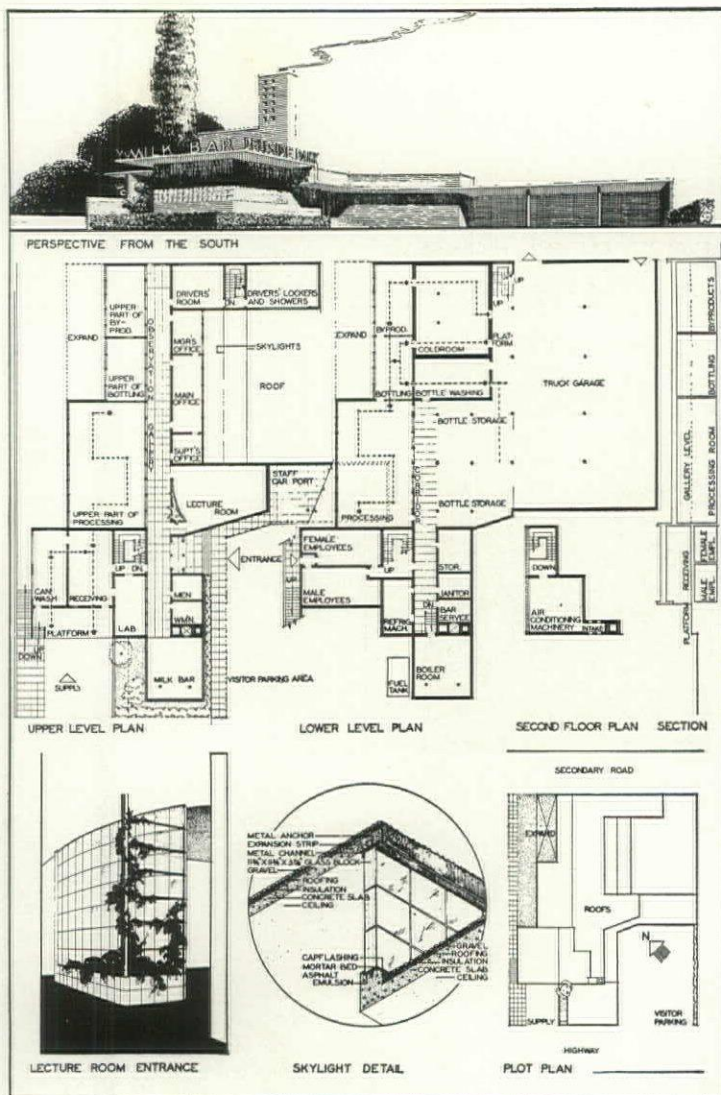
SIXTH PRIZE—\$100

FRANCIS R. MEISCH

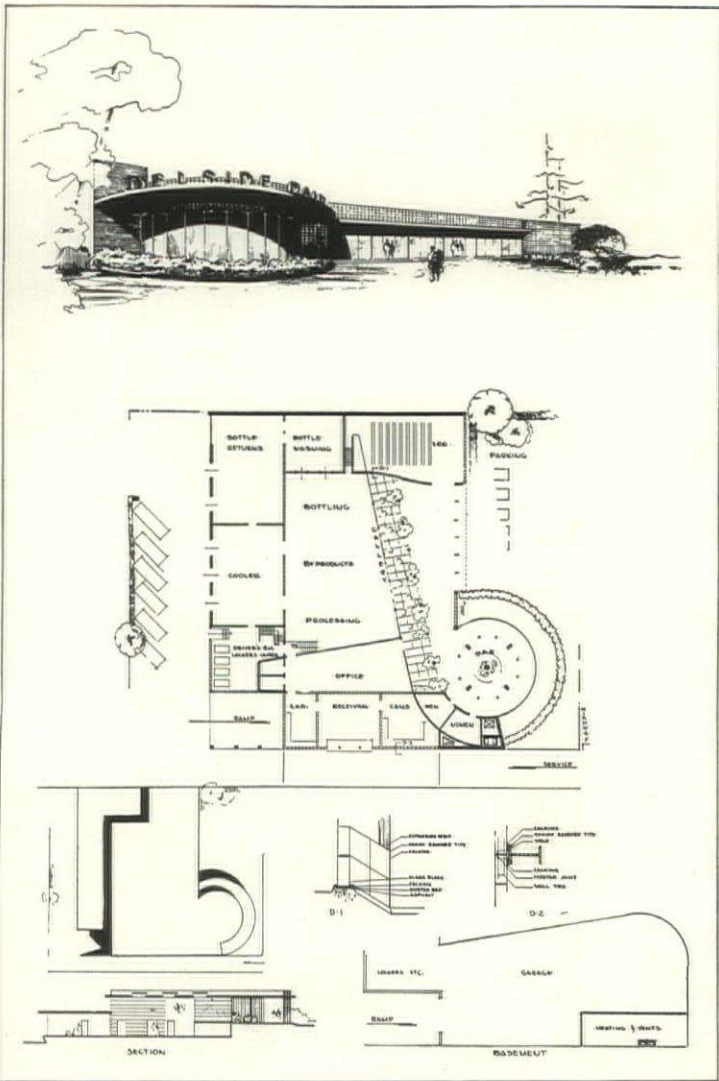
and **KEITH I. HIBNER,**

Cambridge, Mass.

JURY COMMENT—"A well-organized scheme slightly marred perhaps by the indirect entrance to the milk bar and by the use of glass blocks instead of clear glass to emphasize the inviting character of the bar interior. The visitors' gallery is none too wide, and the plans are badly crowded on the sheet. The author has been successful in avoiding in the exterior the too common flavor of the factory or the city."



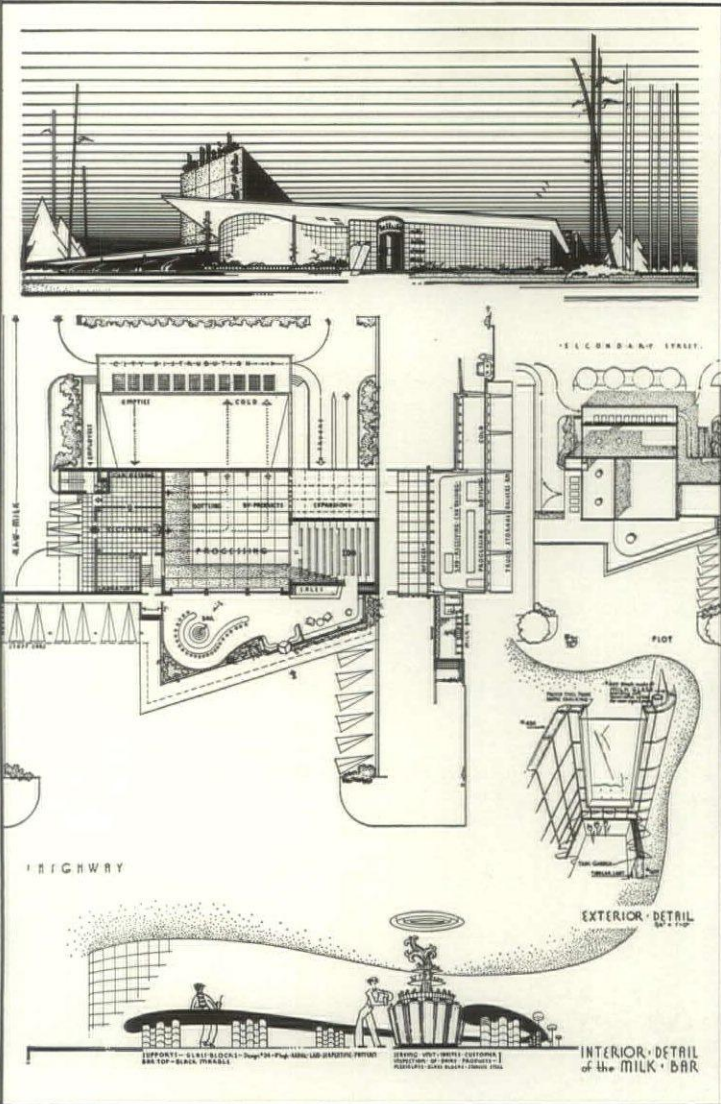
DANIEL NACHT: A senior in School of Architecture, Univ. of Ill., having studied for three years under the Beaux-Arts Institute of Design. Won third prize in Illuminating Engineering Society Competition '39.



SEVENTH PRIZE—\$100

JOHN E. SWEET, JOHN W. DAVIS and EMERSON C. SCHOLER, Urbana, Ill.

JURY COMMENT—"A good relationship has been secured between the public space, bar, lecture room and processing, although at some sacrifice to the reception of raw milk. This is one of several designs in which a direct view was secured from the lecture room into the processing areas. Here again the Jury would have preferred to see at least some clear glass revealing the bar interior."



EIGHTH PRIZE—\$100

DANIEL NACHT, Champaign, Ill.

JURY COMMENT—"A design that unquestionably puts its best foot forward for the attraction of the public—a factor in the problem on which the Jury laid much stress. The relationship of bar, public gallery and lecture room is pleasing and workable. Office space has been very casually treated, and the basement plan not adequately developed."



JOHN E. SWEET: Registered architect in Illinois. B.S. in Arch. from Univ. of Ill. '27, also M.S. in Arch. Employed in office of Denison B. Hull, Chicago, prior to appointment to Design Staff, Department of Arch., Univ. of Ill. '30. At present, Associate in Architecture, Univ. of Ill.



JOHN W. DAVIS: B.S. in Arch. from Univ. of Ill. '33. Allerton Traveling Scholarship '32. Three years in office of Smith, Kratz & Strong, Urbana. Three years Instructor in Architectural Design, Univ. of Ill. First prize, Notre Dame Chapel Competition '39.



EMERSON C. SCHOLER: Studied civil engineering at Purdue '35-6. One year, Mechanical Engineer for Grapho Products Inc., Indianapolis. Worked in office of Walter Scholer, La Fayette, Ind. At present student in architecture at Univ. of Ill.

INSULUX GLASS BLOCK

COMPETITION No. 4

Closing March 18

In addition to its \$2,500 in Prizes
there will be awarded \$5,000 in Grand Prizes
on the basis of points scored in the Series

THE SUBJECT—

A Newspaper Plant in which appropriate and possibly
new uses are to be developed for Insulux Glass Block

THE JURY—

FREDERICK L. ACKERMAN, New York	GEORGE HOWE, Philadelphia	WILLIAM F. LAMB, New York
WALLACE K. HARRISON, New York	ELY JACQUES KAHN, New York	HENRY R. SHEPLEY, Boston
EDWARD D. STONE, New York		RALPH WALKER, New York

HAVE YOU REGISTERED?

Every intending competitor is required to register his
intention of entering one or more of the series. Regis-
tration does not obligate him to submit an entry. Having
registered for any one of the four competitions, a com-

petitor is eligible for the series. Registration with the
Professional Adviser, Henry H. Saylor, A.I.A., 9 Rocke-
feller Plaza, New York, N. Y., brings you the technical
data, program and title strips.

THE COMPETITION IS OPEN TO—

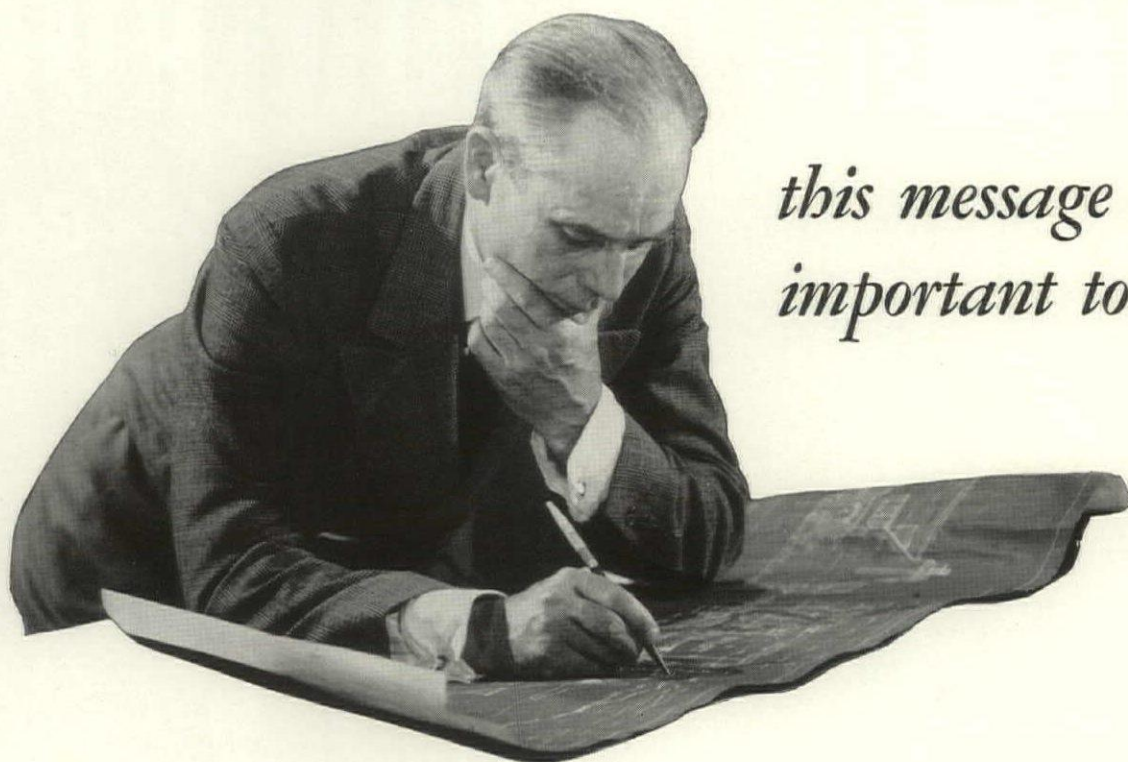
Architects, Architectural Designers and Architectural Draftsmen in the Western Hemisphere. Indicate your classification.

Owens-Illinois Glass Company believes that it has a responsibility in
connection with the development of Insulux Glass Block and the proper
techniques of its use. That responsibility must see to it that intelligence and
ingenuity are stimulated in the employment of this versatile material. Any
building material reaches the zenith of successful use only in the hands of
those who have striven hard to understand both its capabilities and its limi-
tations. This series of competitions, each with its cash prizes totalling \$2,500,
capped by final awards in the amount of \$5,000, is intended to help develop
the *proper* use of glass block.

OWENS-ILLINOIS GLASS COMPANY



If you are planning a building requiring *Public Seating*



*this message is
important to you*

BY the very nature of his work, an architect's knowledge must be extraordinarily wide. Yet there are technical problems in connection with public seating with which few architects are familiar.

Theatres and auditoriums present problems of sight lines, floor slopes, floor materials adapted for attaching chairs, ventilator connections, aisle lighting, riser dimensions, maximum seating capacity, unit and row spacing, etc., varying with the type of chair used.

School classroom seating involves problems of posture and teaching efficiency, room capacity and arrangement with reference to sight conservation, activity programs, supplementary equipment, and of types best suited to different grades and purposes.

Church interiors and pewing present many technical

problems of ecclesiastic symbolism, design harmony, as well as of materials and construction, comfort and economy.

Satisfactory results and economy are possible only through the best solution of each problem. Our engineers and architectural designers are working on public seating problems every day. That they have the widest and most successful specialized experience available is evidenced by thousands of installations.

Many leading architects consult our seating experts when planning public buildings, often with very important advantages to both architect and owner. This American Seating consulting service is available to you without charge or obligation. We sincerely believe you will find it helpful. Your inquiries are invited.



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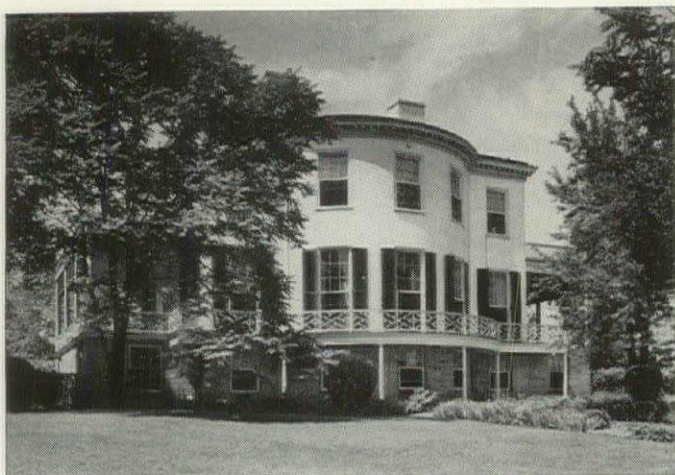
OUT OF THE HUE AND CRY of sales talks there has been much confusion concerning the real advantages of various types of Pneumatic Control. The engineering departments of Minneapolis-Honeywell have made important improvements in existing types of Pneumatic Control systems...all of which have been incorporated in the M-H Gradutrol System. We are justly proud of Gradutrol and its accomplishments and so we say *compare them all, point by point*. We believe that when the advantages of the Gradutrol System are known that there will be no question as to choice. Minneapolis-Honeywell Regulator Company, 2740 Fourth Avenue S., Minneapolis, Minnesota.



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BOOKS



LEMON HILL, PHILADELPHIA

PORTRAIT OF A COLONIAL CITY, by Harold Donaldson Eberlein and Cortlandt Van Dyke Hubbard. J. B. Lippincott Company. 580 pp., 254 illustrations. 8 x 11. \$15.00.

This picture of one of America's great Colonial cities is a monumental work of nearly six hundred pages. It begins when Philadelphia's first families lived in dugouts on the bluff overlooking the Delaware, and ends in 1837, when some of the descendants of these families occupied the most handsome and luxurious mansions of the Colonial period. There is an obvious inherent defect in a method which attempts to recreate the picture of a bygone era in terms of its finest houses and most prominent families, and for this reason the title of this book may seem somewhat pretentious. The limitation, however, is acknowledged by the authors in their foreword, where they state, "This portrait of a Colonial city is, first of all, a story of historic houses still standing in Philadelphia or in the region round about. It is, furthermore, an account of individuals of families identified with those houses."

For greater clarity in developing the theme, the book has been divided into three parts which cover the three main historical periods: before 1730, 1730 to 1783, and finally to 1837. Each part has its own introduction, setting forth the physical and social background of the city during the given period, and illustrated with photographs or old prints of the important public and commercial buildings. By far the greater part of the book is devoted to the houses—some 75 in number—and to the histories of their occupants. This material is of great architectural interest, as the collection includes many houses of superlative quality, most of them in the brick and stone so commonly used in Pennsylvania. Lemon Hill, illustrated above, was a stone house built around 1770, whose curved south front is strikingly suggestive of the English Regency work of some years later. The numerous illustrations are excellent, and for the most part were made from photographs by Mr. Hubbard. Despite this quantity of architectural material, however, the main interest of the book is historical, with a wealth of facts and anecdotes about the city, its houses, and the people once prominent in it. The somewhat restricted nature of the subject matter, therefore, limits the usefulness of the book to the architect; it is nevertheless a valuable contribution on a special phase of the Colonial period, and is well organized for reference use. Only a single limited edition will be printed.

HOUSING LAWS OF THE NETHERLANDS, published by the New York City Housing Authority. 138 pp. 8½ x 11.

Among the best examples of public housing to be found in the world are the large scale projects built in the Netherlands, and the interest attached to this work is based not only on the often distinguished design, but on technical innovations, site planning and relation to the community as well. This new book contains the text of the Housing Law of 1931, with amendments and supplements appended. Latest of the WPA series on housing agencies and legislation in foreign countries, it forms a useful reference for those concerned with housing policy outside the U. S. The translation is complete, and deals with regulations on building, condemnation, sanitation, tenant qualifications, legal status of housing associations and the powers of other housing bodies. Like the previous studies in this series, the book is mimeographed and bound between paper covers, and will later appear in a volume containing all the housing statutes published in the official legislative journals of the Netherlands.

SOVIET HOUSING LAW, by John N. Hazard. Yale University Press. 178 pp. 6½ x 9. \$2.50.

There is little here of practical use to the housing student, as Soviet property relationships differ basically from those of other countries; it is this very difference, however, that gives the book its interest. The law, according to Mr. Hazard, is based on two fundamental considerations: protection of public property and solicitude for the occupant. Most striking are the examples of the latter. Evictions, for instance, can be made only between April and October, and the owner is usually under obligation to find new quarters for the tenant. There are no evictions for inability to pay. A "right to space" has apparently come to be regarded as unwritten law, with the result that the lease is considered as a permanent right to occupancy, terminable only by the tenant save in unusual circumstances. The law on rents also shows uncommon features. Rents bear no relation to market demand, and are determined by the quality of the dwelling, the tenant's income and the number of his dependents. A severe shortage of urban dwellings is reflected in the laws limiting the amount of space a tenant may occupy, regardless of his willingness to pay for more.

The discussion covers the entire body of housing law, dealing with statutory duties of occupants, leases, temporary occupancy, termination of the right to occupancy, etc., and cites a large number of cases to illustrate legal procedure.

SOME HISTORIC HOUSES, Edited by Dr. John C. Fitzpatrick. The Macmillan Company. 160 pp., illustrated. 6½ x 9½. \$4.00.

This book was published under the auspices of the National Society of Colonial Dames of America, and describes about two dozen old structures, purchased or cared for by the Society. Most of the houses are in the East or South, but there is one in Ohio, formerly the Ohio Land Company's office, and one in Oregon, built in the 1840's. All of the structures are of architectural as well as historical interest, and there are a few, such as the Webb house in Wethersfield and Dumbarton House in Washington that are masterpieces of Colonial design. In a majority of cases the houses have been painstakingly restored, and have been furnished with rugs, furniture, pictures and accessories of the period.



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LETTERS

Going Up!

Forum:

... I want to say that some of the points on Henry Wright's paper on Skyscrapers (ARCH. FORUM, Dec. 1939, p. 463) are very well taken, especially the congestion due to bulk rather than to height of building. I know from experience, and I have discussed with my English friends, how much worse is the street congestion in London than in New York. Skyscrapers cannot be blamed for that.

I remember that at the time of the passing of the first New York Zoning Law careful studies had been made showing that high buildings were unprofitable (this was to counteract the opposition to the new law which was going to set some limit to the height of buildings). Since that time higher and higher buildings have been built and during normal times have proven profitable. The Zoning Law has taken care of the bulk restriction and has insured better light and air in the spaces produced, although there is room for improvement. Also, it should be noted that some skyscrapers erected on too small pieces of ground should never have been built.

Street congestion is due to improper planning (such as allowing all theaters to be concentrated in one district, allowing some business or industries to use the streets instead of their own premises for loading and unloading, lack of restrictions on the size of trucks and trailers, lack of two level crossings of streets) not to the skyscrapers which on the contrary, if properly planned and properly located in relation to others, can facilitate the interchange between men so necessary in our highly developed civilization. . . .

J. ANDRE FOUILHOUX

New York, N. Y.

Joberclocky

Forum:

Mr. DeHuff's suggestion and letter in THE FORUM for December is a good one, but attended with substantial difficulty.

For about a year we considered as part of our possible program just such an approach as he suggests. Two major obstacles stand in the way:

1. The relatively small number of new job techniques which actually reach the stage of application and on which disinterested costs can be reported.

2. The lack of any sort of objective framework against which to compare a specific proposal. Our overall cost methods in the building industry are perhaps precise enough for monthly quotation as general averages to indicate trends. They are

not sensitive enough for close comparison to state the degree of economy to be expected from the majority of new ideas.

The amount of time required to do a proper job of this sort would in my judgment be tremendous and probably beyond the time allowances of a magazine staff, but FORUM will know better than I about that.

My own guess is that FORUM's present method of giving the broad facts is the only satisfactory one for architectural journalism. Those who are really interested have ample opportunity to try to get behind these facts—very often, it must be admitted, with disappointment when the facts are got behind.

But unless FORUM is prepared to spend a large amount of time and to be vastly more objective than I believe it can be, it would I think be safer for it to cut its path as it now does rather than to give us some apparently objective determinations which might lack the necessary precision.

JOHN E. BURCHARD, *Director*

*Albert Farwell Bemis Foundation
Cambridge, Mass.*

THE FORUM will continue to report both facts and generalities, with reservations as needed.—Ed.

Competition Customs

Forum:

When an American competition is thrown open to Canadian entries, salaams, huzzahs, and general rejoicing is the order of the day. Such was the reception of the Insulux Glass Block Competition conducted by THE FORUM. With a song in their hearts, sundry architects and designers leapt into the fray, little knowing what fickle Fortune had in store for them. Take for example my own case.

In the past I have only been conscious of the international boundary as a sort of back fence, dividing two friendly neighbors. Recent events cast considerable doubt on this point of view, and it dawns upon me that from your side, I can only be regarded as a lowly foreigner.

When I completed my drawing for the third competition in the series, I sallied forth to the office of the American Railway Express. I was received courteously but with a certain austerity. It seems that drawings sent to the previous competitions had been demobilized at the Border, and sent to a sort of customs concentration camp, offers to ransom them by paying duty at point of sending are to no avail and presumably the wretched things

complete their existence helplessly a-drift in a sea of red tape.

Horrified by this web of intrigue, I backed away clutching my parcel, and proceeded to the Post Office. Understanding but helpless officials directed me to the American Consulate, who in turn, could only refer me back to the Express Co. At this point everybody caught the spirit of the thing, and in rapid succession I was shuttled to:

(a) The U. S. Immigration.

(b) A Customs Broker.

(c) A return engagement at the Post Office.

(d) The Psychiatric Ward of a hospital.

From this burst of activity the following facts emerged.

To send a drawing Express is to court disaster. Drawings are not accepted unless evaluated, and there are no officials locally or at the Border empowered to do so. What's more—there is no section in the Custom's regulations specifically dealing with Competition drawings. By law, they are either—architectural plans, or, despite modest denials—works of art; and in either case liable to heavy assessments. Whether they are allowed to proceed to their destination depends on luck and the examiner's digestion.

If the drawing is sent by mail, it is not stopped at the Border, but sooner or later it is subject to the same regulations.

Just what can be done to remedy the situation is hard to say. In the good old days it might have been possible to ship drawings with a batch of bathtub booze at the dark of the moon. Perhaps it might be possible for THE FORUM to organize a carrier-pigeon service.

In the meantime, caught in the straits twixt Scylla and Charybdis, many entries are running aground; and whatever their merits or otherwise, are prevented from participating in the judgment.

H. N. SEMMENS

Winnipeg, Manitoba, Canada

FORUM deplores with Canadian competitors the legal magnification of an imaginary line. In Insulux Competition No. 1 the sponsor paid duties on Canadian and South American entries, the difficulties of foreign competitors having been unforeseen in writing the first program. In Competitions Nos. 2 and 3, outside entries have reached us by mail, marked "For exhibition purposes; of no commercial value," although some customs appraisers feel called upon to challenge the latter phrase. Safest way through the gates seems to be consignment to a friend or agent inside U. S. A., who will pay duty if it should be levied.—Ed.

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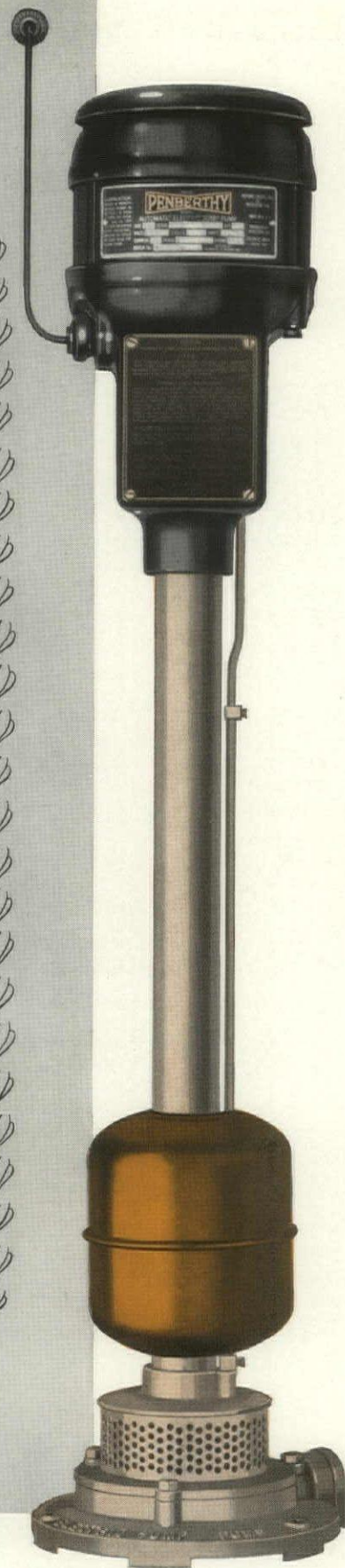
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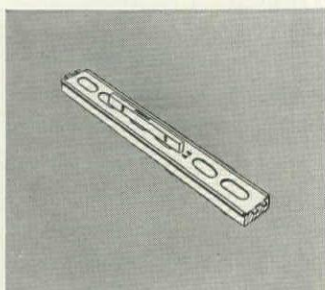
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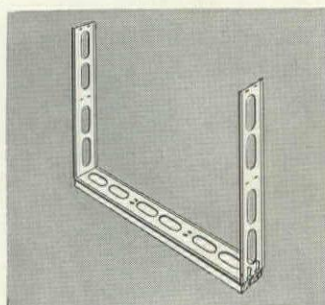
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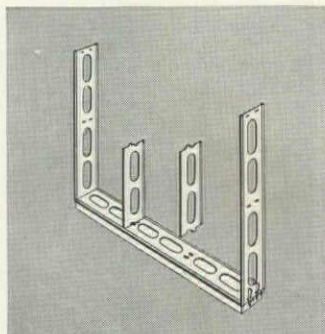
of erecting interior *Glass Block* panels



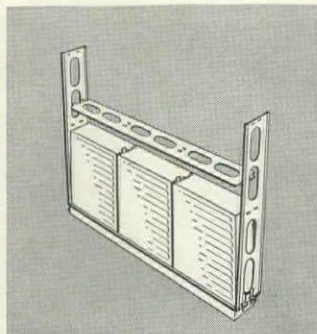
1 Lay base "PW" member on leveled floor runner.



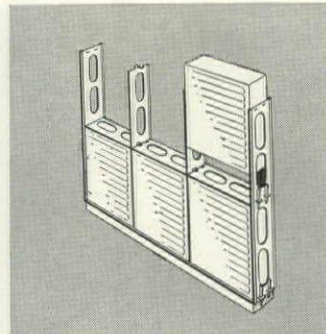
2 Place "PH" side members.



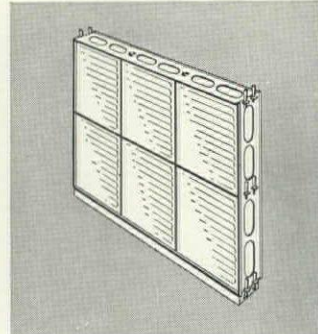
3 Place intermediate "V" members.



4 Place glass blocks. Lay "W" member and slide to engage hooks on "V" members. Insert wedge keys.



5 Repeat steps 3 and 4 for each course.



6 Lay "PW" top member and insert key to complete panel.

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- 2** Metal blends with the glass to emphasize the panel unit, rather than the block unit.
- 3** Every course of block is held in uniform alignment.
- 4** Metal-Glass construction provides a finished panel—no further work is required.
- 5** Prefabricated members assemble and interlock easily in only one way—the right way.
- 6** Straight-line construction by the dry method permits continuous erection.
- 7** Flexibility of metal permits slight movement of glass block—adequate for expansion and contraction.
- 8** Loads on continuous horizontal members are distributed through vertical members, affording uniform load distribution. (Panels are not load-bearing.)
- 9** Raceways for wiring and outlets are provided.
- 10** Supplementary members are provided for doors, windows and cased openings.
- 11** Architectural bronze or aluminum alloy can be used alone or in combination.
- 12** Without damage to either the glass blocks or metal, and at very little expense, a panel can be dismantled and re-erected.
- 13** Salvage of glass blocks and metal can be 100%.

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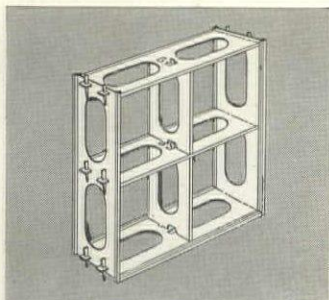
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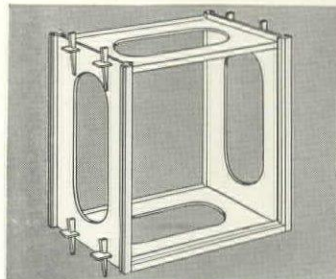
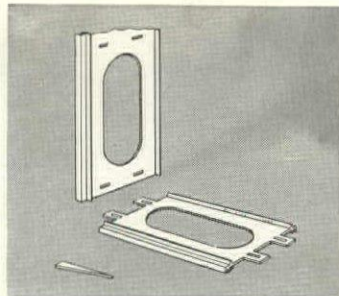
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Architectural Bronze or Aluminum Alloy extruded shapes are entirely prefabricated into members for 8" x 8" and 12" x 12" blocks.



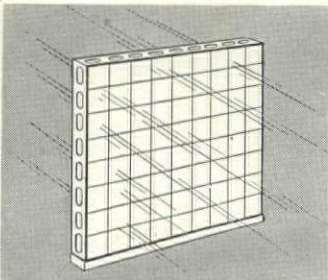
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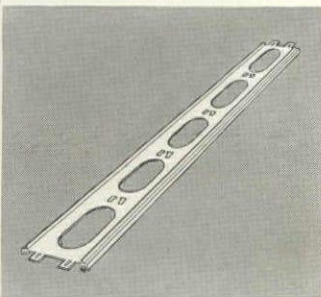


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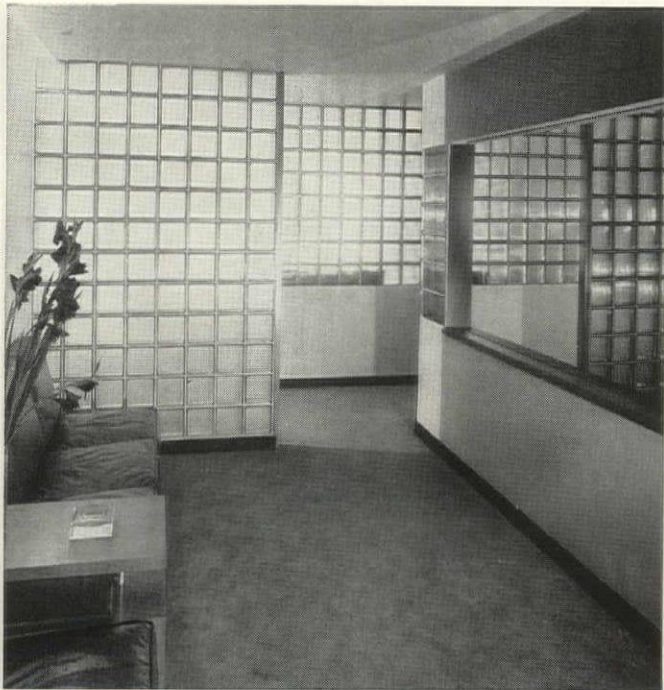
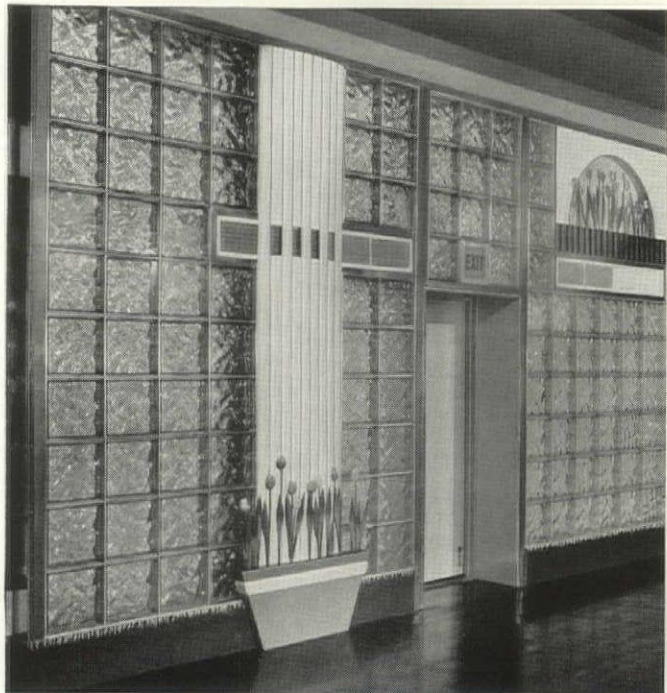
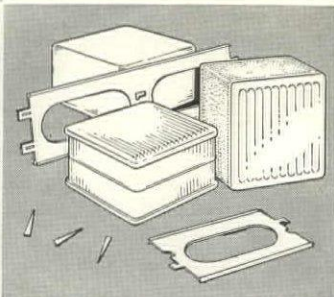
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Metal members do not make a load-bearing panel, but give structural strength with flexibility adequate for expansion and contraction. The assembly provides uniform load distribution.



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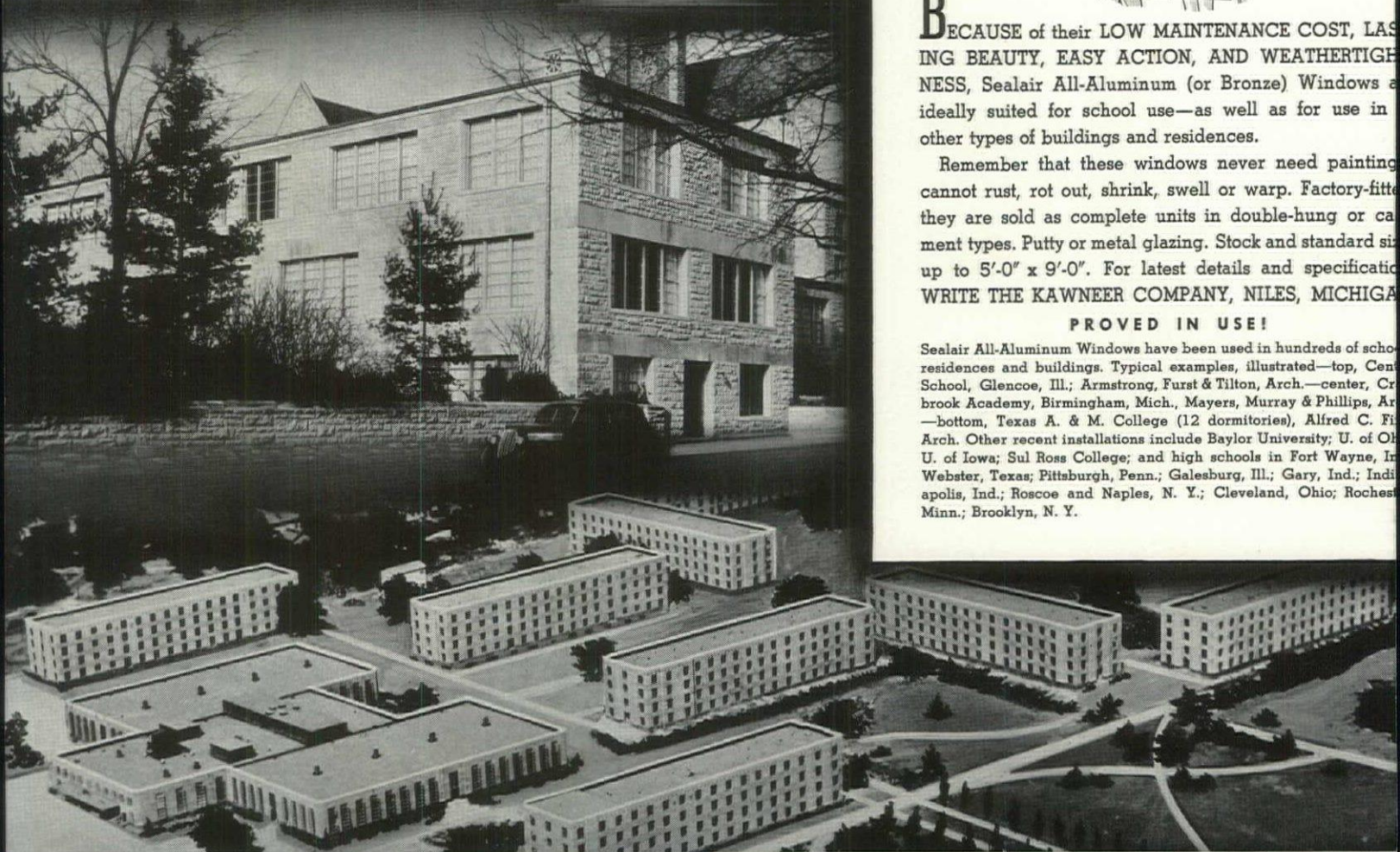


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Do you know your USHA?

If, without peeking on page 12, you score more than 50 per cent on this Forum-designed questionnaire, you know more about Public Housing than most. This quiz is a prologue to the lead story in this issue—a critical examination of the USHA program thus far.

1. The United States Housing Authority is authorized by Congress to finance the building of low rent housing with a fund of: ☐ \$300 million; ☐ \$500 million; ☐ \$800 million.
2. The function of the United States Housing Authority is to: ☐ build new, low cost Federal housing; ☐ insure loans on new low cost housing; ☐ loan money to local housing authorities and make rent subsidies.
3. To help rehouse one family for one year costs the USHA: ☐ \$120; ☐ \$863; ☐ \$1,400.
4. On the basis of experience to date, the net USHA cost per annum to help rehouse all U. S. families which today are living in sub-standard dwellings would be: ☐ \$100 million; ☐ \$875 million; ☐ \$1.2 billion.
5. Nathan Straus has been Administrator of the Federal Housing Administration for: ☐ 17 months; ☐ 3 years; ☐ 1 year.
6. When all projects are completed, the current USHA program will house: ☐ 160,000 families; ☐ 1,422,800 families; ☐ 923,000 families.
7. The USHA program is serving the general income group of: ☐ \$0-\$1,000; ☐ \$250-\$1,500; ☐ \$400-\$1,100; ☐ \$500-\$2,500.
8. When USHA lends 90 per cent of a project's cost to a municipal housing authority, the city must: ☐ float bonds for 5 per cent and get the rest from the State; ☐ foot the balance by additional taxes on all local properties valued at more than \$15,000; ☐ foot the balance in cash, land or public services.
9. The first step for a city to take if it wants a USHA project is to: ☐ make a survey of local slums and have a USHA appraiser look over available sites; ☐ get the City Council to authorize a local housing authority to deal with the USHA; ☐ apply to the USHA for permission to form a local housing authority.
10. USHA loans to municipal housing authorities are amortized in: ☐ 25 years; ☐ 40 years; ☐ 60 years.
11. The USHA will not undertake a project unless the city: ☐ guarantees to undertake maintenance costs; ☐ eliminates a slum dwelling for every new dwelling unit built; ☐ provides a park and playground within a 3,000 ft. radius.
12. In cities of less than 500,000 population the cost of dwelling facilities per family dwelling unit of USHA projects is not allowed to exceed: ☐ \$2,800; ☐ \$4,000; ☐ \$6,300. In larger cities: ☐ \$5,000; ☐ \$7,800; ☐ \$10,000.
13. Families with two or less children are not accepted for tenancy in USHA projects if their annual income exceeds the annual rent per dwelling unit by: ☐ 3 times; ☐ 4 times; ☐ 5 times. Larger families: ☐ 6 times; ☐ 7 times; ☐ 8 times.
14. Rent paid by these families averages less than economic rent by: ☐ 15 per cent; ☐ 50 per cent; ☐ 62 per cent.
15. This rent difference is made up by: ☐ State housing authority funds; ☐ 1.5 per cent increase in local taxes; ☐ Federal and local subsidy.
16. All building labor employed on USHA projects is: ☐ contracted for at a 10 per cent wage reduction; ☐ WPA labor; ☐ local labor at prevailing rates.
17. The present USHA program calls for: ☐ 365 projects in 160 cities; ☐ 98 projects in 96 cities; ☐ 731 projects in 702 cities.
18. If the 1940 Session of Congress votes the \$800 million extension of funds which the USHA has petitioned, the Authority plans to enlarge its program to include: ☐ a large technical research staff; ☐ a rural housing program; ☐ a slum-remodeling program.

PUBLIC HOUSING and the USHA

THE ARCHITECTURAL FORUM is *for* Public Housing. It definitely accepts the view that the U. S. housing need cannot be met fully and currently by private enterprise. Its Editors, in the following article, work their way through the arguments of Public Housing's proponents and opponents. Their conclusions are offered without pretense of finality but rather as an attempt to clarify current thinking and to provoke additional thinking and discussion. To all FORUM readers, an invitation to report their views and experiences.—THE EDITORS

This month after Roosevelt II gavel the 76th Congress to order, Public Housing will go on trial. Standing before judgment will be the U. S. Housing Authority and its slum clearance and low rent housing program. In the jury box will be the public's Congressional representatives. They will hear many impassioned accusations belied by equally emotional defenses. But, sole admissible evidence will be the record and analysis of the \$800 million USHA program to date.

Irrelevant but true will be arguments that USHA's program is one of Government's least expensive undertakings, that it costs the Federal Treasury less to transplant and maintain a slum family of four in a modern housing project for 30 years (more than a full generation) than it does to fire a single broadside from the Battleship Idaho. Irrelevant will be the argument that the whole slum clearance and low rent housing problem (and it involves some 10 million families) could be solved with an annual Federal expenditure one-third the size of this year's appropriation for the Army and Navy alone.

Such interesting comparisons will undoubtedly be offered to the Congressional jury, for it will have just decided the National Defense case. But, when Public Housing goes on trial it must stand on its own record—the accomplishments of the past two-and-one-quarter years.

Relevant and true will be evidence that with the aid of USHA loans and technical advice 85 communities coast to coast now have under construction 125 large scale low rent housing projects, that eight of them are at least partially tenanted, and that all but a mere \$26 million of USHA's capital is either earmarked or under loan contract for the construction of additional projects which by the spring of 1941 will boost the total number of completed projects to 365, containing 160,000 dwelling units. Relevant will be analysis of the \$400-\$1,100 income group these projects are serving, of the average unit rents—\$10 in the South, \$15 in the North—being charged, of the 33⅓ per cent Federal and 16⅔ per cent local subsidies which are bringing rents down to this low level, of the average cost of these apartment units which runs from \$2,891 for dwelling facilities to \$5,000 for total development and of the cost to the Treasury of the entire program—\$28 million per year for 60 years. These and many more aspects

of Public Housing will be the evidence upon which the public's representatives must base their verdict either (1) to extend the USHA program without change or (2) to alter and then extend it or (3) to call the whole thing off.

Actually, this forthcoming trial of Public Housing is an appeal from an earlier decision. Year ago, USHA neared the end of its financial rope, petitioned Congress to drop another \$800 million in its corporate till. The Senate agreed, but in its closing rough-and-tumble session the economy-minded House spiked the USHA expansion bill. One obvious reason for this sharp slap in Public Housing's face was Congressional confusion about the exact meaning of USHA.

A gigantic question mark to the public at large, USHA is known only to itself and to those directly concerned with it. Consequently, it is the unfortunate goat of much belittlement, exaggeration and misinformation. Most publicity in favor of USHA's program must necessarily come from the agency itself, and is therefore either biased or discounted as propaganda. On the other hand, many of the accusations against it are inspired by uninformed or prejudiced antagonists. Thanks to this background of confusion, around the program itself has sprouted a circle of satellite questions concerning its various controversial aspects. Fortunately, on the basis of USHA's concrete accomplishments (defined on the following page), many of these questions may now be studied and answered. Others, geared more to theory than fact, may likewise be studied, but answered less surely.

Does the USHA Program Compete with Private Enterprise?

In the first place, private enterprise *is* building every USHA project. Local architects design them, local contractors selected by competitive bidding build them with the aid of local union labor earning prevailing wages. Furthermore, USHA is tapping a market which unsubsidized home builders cannot supply, is therefore giving private enterprise an \$800 million job it would not otherwise receive. Proof is the fact that private enterprise building has never come within hailing distance of the \$3 Southern and \$4.25 Northern average estimated shelter rents per room to be charged by USHA. Rents for new private housing average well above \$15, only seldom dip to a level as low as \$11 or \$12 (see examples, right). Thus, to reverse the question, unassisted private enterprise building has not and, under present conditions, cannot compete with the USHA.

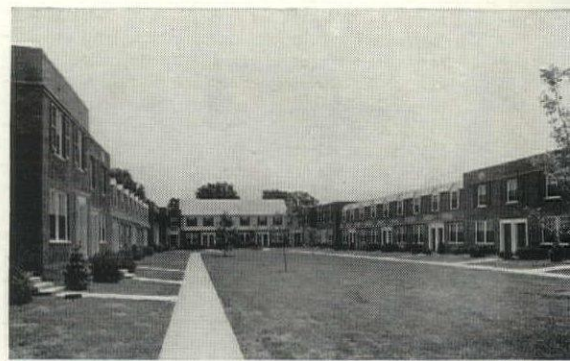
There is another side to the argument. It cannot be denied that USHA is "competing" with private landlords who own slum dwellings and, by neglecting maintenance and repair, reap a tidy return on their dilapidated properties. Neither can it be denied that, despite the complaints of these landlords (of whom some are large financial institutions), this type of Government competition is healthy though painful.

Answer: NO

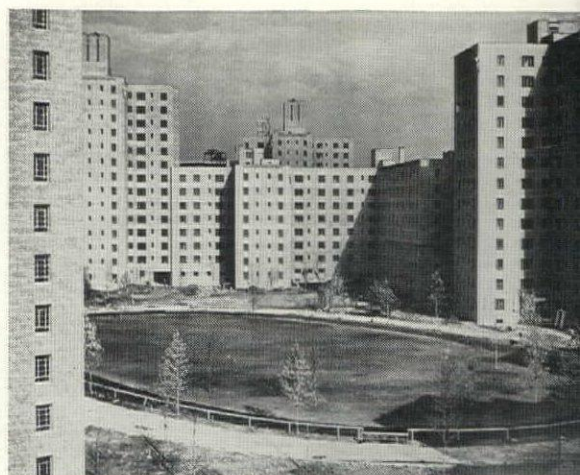
Is the Cost of the USHA Program Too High?

Prerequisite to a discussion of this question is an accurate determination of the actual cost. Acrobatic mathematics were responsible to a great extent for defeat of the USHA amendments in the House of Representatives last summer. Some USHA opponents took the \$1,600 million of present and proposed USHA loans, multiplied the \$73 million of annual contributions by 60 years (the amortization period), then added the two together and announced that \$5,980 million was the approximate ultimate cost of the proposed program.

Actually, USHA's 60-year loans for development of projects do not figure in the program's cost. They are repayable dollar for dollar with interest, and their repayment is practically guaranteed by the Federal Government. Annual Federal



PRIVATE ENTERPRISE set a record for low rents in new buildings when it erected this 655-family project in Arlington County, Va. Developer Gustave Ring spent a total of \$3 million, about 80 per cent of which is represented by an FHA-insured mortgage held by the New York Life Insurance Co. Arlington Village cost about \$4,570 per dwelling unit (including everything), rents for \$11 per room per month. (See ARCH. FORUM, Aug. 1939, p. 135.) Capitalizing on construction economies permitted by mild California climate, Wyvernwood, another FHA-insured project, has since bettered Ring's rents by \$2.25.



PARKCHESTER, the world's biggest housing project, is being built in The Bronx, New York City, by the Metropolitan Life Insurance Co. without any form of subsidy. Its 12,273 dwelling units will cost a total of \$50 million, or about \$4,100 each (including everything). They will rent for about \$12 per room per month (excluding utilities), will cater to the \$1,800-\$4,500 income group. (See ARCH. FORUM, Dec. 1939, p. 412.)

DEFINITION—Prerequisite to any judgment is a fact-by-fact statement of the case. Herewith, then, a detailed analysis of USHA'S functions and accomplishments.

THE ACT. In reply to the first count of Roosevelt II's now famous state-of-affairs description—"I see one-third of a nation ill-housed, ill-clad, ill-nourished"—Congress on September 1, 1937 passed the U. S. Housing Act, created USHA to administer it. Congress' purpose, as outlined in the Act's sub-title, was fivefold: 1) "elimination of unsafe and unsanitary housing conditions," 2) "eradication of slums" 3) "provision of decent, safe and sanitary dwellings for families of low incomes," 4) "reduction of unemployment," and 5) "stimulation of business activity."

To accomplish these purposes the Act (as amended in 1938) authorizes USHA to loan a maximum of \$800 million on a 60-year basis covering 90 per cent of the cost of housing projects undertaken by municipal housing authorities. It defines low cost housing by placing a \$4,000 maximum on the average cost of dwelling facilities per unit and a \$1,000 maximum on the cost per room, excluding the cost of land, demolition and other non-dwelling facilities. (Exception: in cities of more than 500,000 population the maxima are \$5,000 and \$1,250, respectively.) It assures slum clearance by requiring that for every dwelling unit built, a substantially equal number of slum dwellings immediately or eventually be demolished, effectively closed or repaired and improved. It requires that the new housing be available only to families in the lowest income group for whom private enterprise cannot build adequate housing facilities—families whose net income does not exceed five times a USHA project's rent, including all utilities. (If a family has three or more dependents, its income may be six times rent.) To make really low rents possible—and this is the Act's main spring—USHA is empowered to make annual cash contributions to defray partially the operating cost of each project, provided that the total annual subsidy does not exceed \$28 million and that each participating municipality also makes an annual contribution equivalent in value to 20 per cent of the Federal subsidy.

THE USHA. "A body corporate of perpetual duration," USHA was once the child of the Interior Department, but, by virtue of the President's Reorganization Plan No. 1, is now under the wing of the Federal Works Agency. It is comprised of 2,174 housing experts and clerks—1,397 of them in Washington D. C., the balance, 777, in the field operating PWA projects, giving technical advice to local authorities, or attached to the two regional USHA offices thus far created—the forerunners of five more. At its head is Administrator Nathan Straus, appointed for a five-year term by the President in December 1937 and removable only by the President "for neglect of duty or malfeasance but for no other cause." His annual salary is \$10,000. USHA's administrative expenses have averaged about \$3.2 million per year.

To obtain funds USHA sells tax-free Government-guaranteed obligations (\$114 million of which are presently outstanding) to the public at a low interest rate (now about 1½ per cent). The proceeds are then loaned for project construction to local housing authorities at an interest cost not less than the going Federal rate plus ½ of 1 per cent (now 3¼ per cent). Its annual contributions to local authorities (\$28 million per year) are appropriated from the Federal Treasury each year by Congress.

Contrary to general belief, USHA does not directly buy land nor build housing projects, and it does not assist private builders. It is the principal source of finance and technical advice for the Nation's many local public housing authorities which themselves initiate and handle actual construction, operation and maintenance of housing projects.

THE LOCAL AUTHORITIES. Being decentralized, the USHA program depends for effectiveness upon local housing authorities. No project is undertaken without the approval of the city; in fact, it cannot be commenced without the city's active cooperation—financial and otherwise.

Simplest way to grasp the principles of the USHA program is to examine a hypothetical case history in a hypothetical but typical community. In the first place, the city council authorizes the creation of a housing authority under State enabling legislation (all but 10 States have such laws). To administer this new activity the mayor appoints a board of about five citizens, who serve without compensation. With a survey of the local housing situation, they document the generally known fact that part of the community's population is living in sub-standard slum dwellings. They discover that the average annual income of these slumites is about \$650, that they can therefore afford to pay no more than \$12 per month for living accommodations—about \$3 rent per room on the basis of four rooms to the average dwelling. These findings are then discussed with USHA officials who agree to earmark or tentatively set aside \$900,000 of their \$800 million total to cover a loan for 90 per cent of the development cost of a million dollar project for this community.

Then the ball is thrown back to the locality, which must survey the availability and cost of suitable sites. Options on the purchase of properties may be secured. The city council agrees to eliminate one sub-standard dwelling for each new unit built and to supply the remaining 10 per cent of development costs (\$100,000) either in cash through the sale of local housing authority bonds or in land, public services or tax exempt property improvements of equal value.

In conjunction with local architects, who may be commissioned as the result of open competition, the community's housing authority with its knowledge of local land and construction costs estimates that about 285 dwelling units can be provided in this town with \$1 million. Then, while the architects are preparing preliminary designs of buildings best suited to local requirements, the authority turns to the question of finances, and, most particularly, rents.

Annual debt service on both the 90 per cent USHA loan and the 10 per cent local loan will approximate \$35,800.* Annual operating and maintenance expenses for a project of this type are estimated at some \$38,000; and annual taxes, if collected at the usual rate, would come, to say, \$23,000. Thus, total charges against the project will amount to \$96,800 per year.

If these expenses were to be met by rent collections alone, it is readily calculated that the 285 dwelling units would have to rent for an average of about \$28 per month, or \$7 per room per month. And, according to the USHA's five-to-one income-to-rent ratio,

*USHA loans now bear interest at 3¼ per cent, run for 60 years; local loans carry a slightly higher rate, run for 12-15 years.

these rent figures would shove the new project way up to the \$1,700 annual income level.

After checking the figures and convincing itself that the project's proposed design and construction are as economical as possible, USHA determines what portion of the project's expenses it must subsidize each year—the only remaining way to lower rents. In this case history, Federal subsidy is assumed to cover exactly the debt service of both loans—\$35,800 per year.* But, there is an important string attached to USHA's subsidy or annual contribution contract: the community must also agree to subsidize its project each year by an amount equal to at least 20 per cent of the Federal subsidy. Since the local subsidy may take the form of cash, tax remissions or tax exemption, it is probable that the community in question would exempt its project from the \$23,000 of taxes that it would otherwise have to pay. This, together with the annual Federal contribution, would reduce the project's annual expenses to \$38,000 (the original operation and maintenance figure) and the necessary rentals from \$28 to less than \$12 per dwelling unit, or to about \$3 per room per month.

With these financial details perfected and approved, USHA draws up a development loan contract and annual contribution contract, sends them to the White House. Up to this time all services of the local authority and its staff have been billed to the municipality or have been donated. However, as soon as the President signs the community's loan and contribution contracts, USHA funds become immediately available for all services directly related to the project's development. With the continued technical advice and, of course, veto privilege of USHA experts, the local authority purchases land, polishes preliminary designs into detailed working drawings, lets construction contracts to the lowest bidding private builders. By the time the project is complete, tenant selection is already under way following the eligibility rules laid down by the USHA. Finally, personnel, hired and supervised by the local authority, will operate and maintain the project.

INVENTORY. Today, a total of 140 local housing authorities are in various stages of the general procedure outlined above. And, the mere fact that there are this many authorities in the U. S. is a bright feather in USHA's cap. Back in 1937 when the agency came to life, the Nation could muster only 46 authorities in seventeen States, and nineteen States did not even permit their existence. Eight additional States had laws which required substantial amendment before they could participate effectively in the program. Thanks to USHA's early efforts, 38 States now have enabling legislation and 270 communities now have housing authorities to study and solve their local housing problems.

*Under all annual contribution contracts made to date, USHA subsidies will be large enough to cover at least the annual principal and interest installments on its original loan, and frequently they will be larger.

	PRESENT	PENDING	TOTAL
BORROWING-LENDING POWER.....	\$800,000,000	\$800,000,000	\$1,600,000,000
ANNUAL FEDERAL CONTRIBUTIONS.....	\$ 28,000,000	\$ 45,000,000	\$ 73,000,000
NUMBER OF DWELLING UNITS.....	160,000	340,000	500,000
PERSONS TO BE REHOUSED.....	640,000	1,475,000	2,115,000
CITIES PARTICIPATING.....	160	450	610
NUMBER OF URBAN PROJECTS.....	365	650	1,015
DWELLINGS TO BE ELIMINATED.....	160,000	320,000	480,000
MAN-HOURS OF SITE LABOR.....	230,000,000	352,000,000	582,000,000
COST OF MATERIALS, ETC.....	\$280,000,000	\$437,000,000	\$ 717,000,000

With ground thus broken, the USHA program has progressed rapidly. Eight projects are now at least partially completed and tenanted. That they are fulfilling their intended purposes is clearly seen in the marginal summaries on page 12.

In addition to these partially finished examples of USHA progress, there are 117 projects under construction. Less advanced are another 184 for which loan contracts have been written. Last on the list are 56 contemplated projects for which USHA funds have been earmarked.

SIGNIFICANCE. All told, USHA's \$800 million program by the spring of 1941 will have completed 365 individual projects in 160 communities. And, according to studied estimates they will provide modern, healthy, safe living accommodations for 160,000 one-time slum families—adequate housing for a city the size of San Francisco or Milwaukee and a greater number of dwelling units than produced by the Nation's urban home builders in 1932, 1933 and 1934 combined. Unlike the operations of the Nation's home builders, however, USHA is producing housing for families whose annual incomes run between \$400 and \$1,100.†

The USHA program is significant to more than slum dwellers. Fulfilling a secondary purpose, it is providing 230 million man-hours of employment at prevailing wages to building trade unions—some \$225 million worth. It means additional money in the pockets of building material manufacturers and private contractors—\$368 million of it.

PENDING LEGISLATION. Mindful of the enormity of the Nation's slum problem, USHA, with all but \$26 million of its capital earmarked or under loan contract, is seeking Congressional authorization to extend its activities. Thus, before Congress is a bill which would double USHA's \$800 million borrowing and lending power, boost the annual volume of Federal housing subsidies from \$28 million to \$73 million. Reason that the subsidies must be more than doubled is that, due to a clerical error in the preparation of the original legislation, authorized annual subsidies (\$28 million) are insufficient to bring down the rents on all the projects that could be built with USHA's presently authorized loans. Thus, the current lending power is actually limited to some \$690 million. The desired increase in Federal subsidies would take care of this discrepancy.

In addition to these two salient features of the pending legislation, three other changes would be made in the present program: 1) Of the \$800 million increase in USHA funds, \$200 million would be devoted to a new rural housing program which is still in the embryonic stages of development. While farm housing conditions, particularly in the South, are admittedly sub-standard, this amendment has the earmarks of a political sop to influence the votes of Congressional farmers.* 2) The 10 per cent local participation in the development cost of projects would no longer be counted in calculating the USHA's annual contributions. This provision was added to appease those who believe that localities should foot a bigger portion of their housing bills, would seriously curtail the program. 3) In figuring the limitations on the dwelling unit cost of a project, the population of the whole metropolitan area may be considered instead of the population of the city alone. This amendment would permit smaller cities with flowing outskirts and cities adjacent to metropolises (where construction costs are traditionally higher) to operate under USHA's \$5,000 per dwelling unit and \$1,250 per room cost maxima.

Tabulated on the facing page is the statistical meaning of the present program, the pending program and their combination.

† In New York City, upper limit is \$1,399.

*The existing framework of the Act would have to be altered further to permit a successful rural housing program.

subsidies authorized to date will give the local authorities sufficient cash to repay their annual installments (principal and interest) on the USHA loans. And, the USHAct specifies that this cash gift be applied first and foremost to the repayments of this debt. Thus, USHA will actually pay off its own loans. Unless and until sufficiently low rents can be maintained without full Federal subsidy, this change-of-pocket financial procedure will obtain. (USHA has announced that one project in the next group to be approved will receive an annual Federal subsidy slightly less than the amount required for Federal debt service.)

With these 60-year loans out of the picture, it is apparent that the only cost of the program to the Federal Government is the cash subsidy it deals out each year—\$28 million under the present program, \$73 million if the pending expansion is authorized. To multiply this cost by 60 years (the term of annual contribution contracts) makes as little sense as multiplying the annual Federal appropriations for the Army or Navy or education or highways by as many years. Multiplication produces the total Federal subsidy to be granted during the 60-year period, but it violates accepted financial procedure.

Cost of the program to the participating localities is not as easily defined as the Federal cost. To meet their subsidy requirements, communities usually donate public services and lift taxes in lieu of paying cash. Moreover, the face value of these donations is not their actual value. It is an extraordinary slum that pays full tax levies; most are noted for far-below-average tax collections and far-above-average public service costs (police protection, sanitation, etc.).

So much for what the costs are: now for an analysis of their justification. Although the \$73 million annual Federal cost of the proposed public housing program is dwarfed by Congressional appropriations for other purposes, it is still a frightening figure. However, when its meaning is analyzed, some of the fright is removed. Thus, \$73 million is the *gross* Federal cost of moving 500,000 low income families from unhealthy, unsafe slum conditions and of maintaining them one year in clean, modern dwellings where they will undoubtedly live better lives, become better citizens, become less of a financial burden to both municipal and Federal Governments. To put it another way, the Federal Government is spending only \$120 a year *net* on each family assisted. And, while it is doubtful that total annual Federal subsidies will ever be reduced, subsequent economies in project construction may permit subsidies to be distributed over a wider base, may reduce this per capita figure.

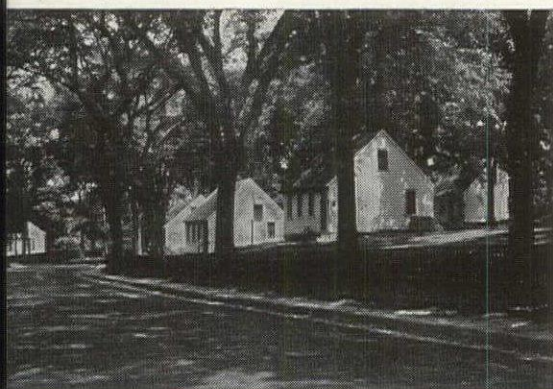
In view of its benefits to the Nation in general and to slum dwellers in particular, the USHA program does not appear to be costing too much. **Answer: NO**

Can USHA Solve the Whole Housing Problem?

If, as indicated above, it will cost the Government \$73 million per year to rehouse 500,000 families and if, as research indicates, there are 10 million families in need of better housing, it can be estimated offhand that solving the Nation's entire slum clearance and low rent housing problem would involve an astronomical Federal expenditure of about \$1.5 billion annually over a 60-year period. While the size of this foot-long figure does not mean that the U. S. should withhold its initial blow at the low rent housing giant, it heavily underlines the fact that USHA cannot conceivably solve the whole problem itself. USHA is not, therefore, the last word in housing; that word must ultimately be private enterprise. Meanwhile, if properly administered, USHA can point the way. **Answer: NO**

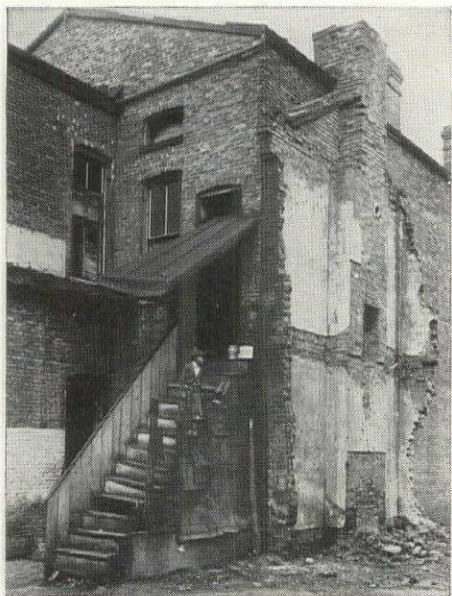
Are Housing Subsidies too High?

That subsidies are necessary to low rent housing has been proved by experience. Unassisted private enterprise has with effort shaved room rents to \$11 (see



Romano

1830 PATERNALISM. One of the earliest forms of subsidized low rent housing in the U. S. was company housing—notably in New England. Above is Coventry Town, at Harris, R. I. Built over 100 years ago by local mill owners faced with the problem of transporting workers to the town, the houses were originally rented for \$5 a month apiece. Still standing, and in considerably better shape than a big chunk of U. S. company housing, these dwellings today bring in \$15-\$20 each, every month.



SLUMS COST MONEY. In Cleveland the per capita cost of fire protection has been figured as \$18.27 in the slum area, \$2.74 for the rest of the city.

In Jacksonville 32 per cent of all major crimes were committed in a slum section covering less than 2 per cent of the city's area.

In a slum district of Tampa the disease rate was 23.8 as against 4.8 for the rest of the city.

illustrations, page 3); subsidized to the extent of tax exemption, private enterprise has further lowered them to \$6; but only USHA with the aid of annual cash subsidies plus tax exemption has knocked rents down to a low of \$1.86 *.

Four means produce low rents: 1) low land and construction costs, 2) low interest rates, 3) low operating and maintenance costs and 4) direct subsidy. But, within Building's present framework it is physically impossible to accomplish rent-wise with even a combination of the first three means what can be accomplished with subsidy. Thus, for really low rent housing, subsidy is now essential. Under the USHA program subsidy is of two kinds: annual cash contributions from the Federal Government and local subsidies (equal to at least 20 per cent of the Federal) in the form of cash, tax exemption or free public service. Analysis of USHA contracts with local authorities which now have projects under construction shows that Federal subsidies average $33\frac{1}{3}$ per cent of a project's economic rent, that local subsidies average about $16\frac{2}{3}$ per cent. In other words, tenants pay only about half of the rent necessary to operate and maintain the projects at a break-even level and to pay debt service. Indirectly, therefore, public housing subsidies to all intents and purposes are gifts to low-income families to cover half their regular rent bills. They are a form of relief.

Unless construction and land costs are materially lowered (see below), or unless the present public housing system is discarded in favor of a new approach to the problem, subsidies for the present are at a minimum. To lower them without altering the framework of the program would mean raising rents, and higher rents would defeat the program's purpose. **Answer: ?**

Is USHA Clearing Slums?

Of the 125 projects now beyond the planning stage, more than half are being erected in slum areas on sites formerly occupied by substandard dwellings. The others are going up on formerly vacant land, and, where the housing shortage is particularly acute, USHA permits the rather indefinite postponement of "equivalent elimination" until two years after the shortage is relieved. Eventually, however, unless municipalities willfully violate Federal law, the number of slum dwellings eliminated either through demolition, modernization or effective closing must be substantially equal to the number of new housing units provided.

While this procedure will toe the mark set by the USHA Act, it will not clear slums. Elimination of one or two substandard dwellings from a group of several dozen does little to better the slum neighborhood. "Equivalent elimination" to be effective, must be concentrated—not piecemeal—and therefore the general concept of slum clearance needs redefinition. Furthermore, since private enterprise shies away from the bottom of its market, and since USHA can supply only a small part of its market, slums are being created much faster than they could possibly be cleared under the present public housing program. So, besides redefinition, the term slum clearance and its relation to the low rent housing problem needs revaluation—at least until the dwelling shortage is relieved. **Answer: NO**

Is Public Housing Paying Too Much for Land?

An age-old controversy exists between the advantages of building public housing projects on high cost slum sites in the heart of a city and the advantages of building on comparatively low cost out-lying land. Hipped on the latter method, some amateur housers go so far as to suggest that all projects be built in the country and that subsidies, if necessary, be given the transportation companies to cover the commutation of tenants between their homes and their places of

* Average rent per room per month in USHA's Austin, Texas project, Santa Rita—See page 18.

work. Experts are generally agreed, however, that Public Housing should be concentrated within the city and for several poignant reasons: 1) It will revive depreciated neighborhoods, 2) It will discourage costly decentralization, 3) It will permit tenants to live in their accustomed surroundings, near their places of work and 4) It will not overload or require additional transportation, streets, utilities, educational facilities, etc.—the added cost of which may easily off-set the sole advantage of rural land.

But, to build housing in highly developed city centers is to pay stiff land prices, which dictate a high percentage of site coverage, a high density (families per acre) and high rents—or an equally undesirable result: less housing for the money. Moreover, when Public Housing pays high land prices it is intensifying its No. 1 headache by shoring up the already sky-high level of downtown realty prices. By building some of its projects in the hearts of cities, the USHA program is realizing the advantages outlined above, but at a sizable cost. By building the others in less developed areas, it is not only paying less for individual land parcels, but is also lowering its over-all, long-term land cost. Thus, having no preconceived and announced policy as to site location, USHA is in a position to bargain, and, by occasionally buying an outlying site (i.e., by patronizing the competitors of downtown land owners), it is tending to deflate the whole city real estate price balloon.

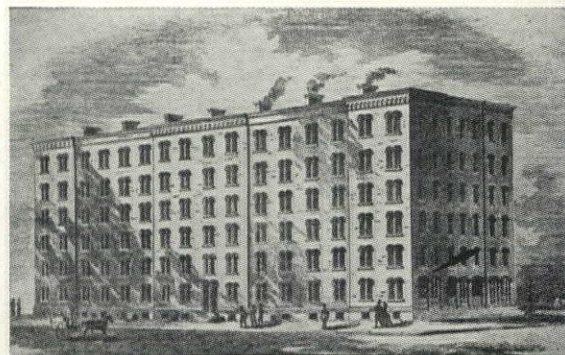
Not before the undeniably high level of land values is brought down to a reasonable plane, will either public or private housing be able to build enough low cost city dwellings to check the spread of and to rebuild blighted areas. Until that unfortunately far distant day arrives, Housing will have to pay dearly for land. USHA has specified, however, that no project be built on land costing more than \$1.50 per sq. ft. unless the city helps foot part of the excess. In the light of present-day conditions, USHA is not paying too much for land. **Answer: NO**

Are USHA Project Costs Too High?

The USHA Act specifies that the average dwelling facility cost of a project (*see cost definitions, right*) may not exceed \$4,000 per unit in communities of less than 500,000 population, \$5,000 in larger communities. It also requires that the average net construction cost of USHA units be lower than "the average construction cost of dwelling units currently produced by private enterprise." To date the USHA program has met these specifications with room to spare. Thus, to compare its costs with those of private enterprise, USHA puts the average net construction cost per dwelling unit of the 125 projects under construction beside the average valuation of all residential building permits filed during the first six months of 1939, produces a score of \$2,891 versus \$3,675 in favor of USHA. A further comparison may be made between USHA's average over-all cost of \$4,600 with the average value of new houses and lots—\$5,530—whose mortgages were insured by FHA during the twelve months of 1938 *. Unfortunately, no private enterprise cost figures are comparable with USHA's average development cost of \$5,000 per unit which includes the expense of slum demolition and land purchased for future development. This figure, not to be found in most USHA publicity, is the *total* cost per family dwelling unit of public housing and therefore deserves emphasis.

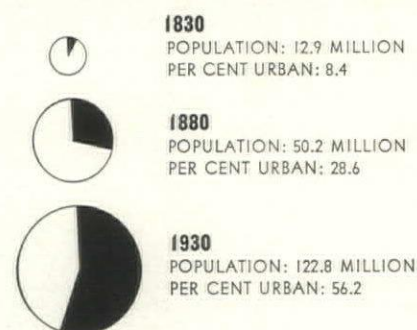
While these comparisons indicate that USHA is meeting requirements, they do not paint a wholly accurate picture. USHA is a low cost housing machine with the sole purpose of providing low cost, low rent housing. On the other hand, private enterprise supplies high as well as low cost housing. To compare their

* Over-all cost per unit of the Metropolitan Life Insurance Company's direct (uninsured) investment housing project is approximately \$4,100. (See marginalia, page 3.)



1855 PHILANTHROPY. Workingmen's Home, or the first so-called "model tenement" built in New York, was charitably erected in 1855, at a cost of \$60,000, by the Association for Improving the Condition of the Poor. Rents ranged from \$5.50 to \$8.50 per apartment per month, and the sponsors claim that it was the first multiple-dwelling having a water closet for each family.

U. S. URBAN POPULATION GROWTH



CONGESTION. There are more than 3,000 counties in the U. S. In 155 live 74 per cent of all industrial wage earners and 81 per cent of all salaried employees.

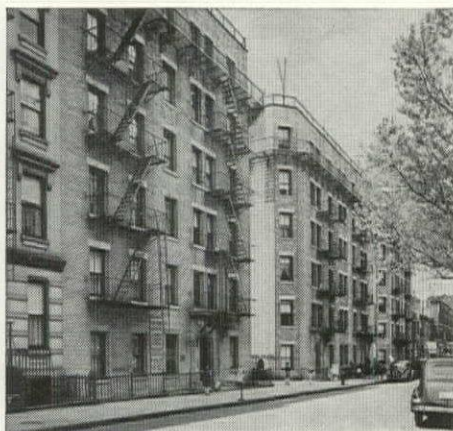
USHA UNIT COST DEFINITIONS.

NET CONSTRUCTION COST: the cost of building the dwelling, including structural, plumbing, heating and electrical costs.

DWELLING FACILITIES COST: net construction cost plus cost of dwelling equipment (kitchen equipment, fixtures, etc.) plus architectural and engineering fees, local administrative expenses and carrying charges (charges during construction and contingency expenses).

OVER-ALL COST: dwelling facilities cost plus the cost of non-dwelling facilities (piling and site preparation in excess of normal foundation and excavation requirements, landscaping, streets, walks, utilities outside of the building walls, grading, non-dwelling buildings and fees relating thereto, etc.), plus the cost of land and the cost of land acquisition.

DEVELOPMENT COST: over-all cost plus the price of slum dwellings plus the cost of their demolition plus the cost of land purchased for future development plus the cost of its acquisition.



A. F. Szolo

1896 PHILANTHROPY AND 5%. The investment possibilities of low rent housing were realized by City and Suburban Homes Inc. in 1896 when they erected their first limited dividend housing project on Long Island, N. Y. The Clark dwellings (above) for 373 families were built at a cost of \$610,000, rented for \$4.25 per room per month. City and Suburban has since grown to be America's largest limited dividend housing corporation, has never missed a dividend, boasts that its limited income is a self-imposed restriction. Hence, no benefits have been gained via tax exemption under the New York State laws for limited dividend housing projects, but City and Suburban has passed along to its tenants the benefits inherent in limited dividends. Thus, during the post-war rent boom tenants in the Clark dwellings suffered rent boosts 8 per cent less than the rent index increase for the vicinity.

CONTRAST. The following table shows the net construction cost per room of earlier PWA and later USHA housing projects in identical cities:

CITY	PWA	USHA
Buffalo	\$1,103	\$773
Charleston	1,059	656
Detroit	1,058	916
Jacksonville	803	615
Louisville	1,008	680
New York	1,149	674
Toledo	1,260	718

RENTS AND INCOMES

Annual Income Groups to be reached	No. of dwelling units in first 288 USHA-aided projects	Estimated dwelling unit rent per month
under \$450	3,716	\$6-\$8
\$450-\$550	12,011	\$8-\$10
\$550-\$650	11,409	\$10-\$12
\$650-\$750	24,613	\$12-\$14
\$750-\$850	27,082	\$14-\$16
\$850-\$950	18,996	\$16-\$18
\$950-\$1050	9,073	\$18-\$20
\$1050-\$1150	5,194	\$20-\$22

average costs is like putting the average cost of Fords beside the average cost of all other automobiles, including Rolls-Royces. More equitable perhaps would be the comparison of USHA's average net construction cost with the average cost of all new private housing valued at less than, say, \$4,000, into which bracket fall 60 per cent of all residential building permit valuations. The score would then be USHA, \$2,891; private enterprise, \$2,600. Another more equitable comparison: USHA's average over-all cost of \$4,600 and the comparable figure for the first 112 large scale rental housing projects built by private enterprise under FHA's mortgage insurance program—\$5,005.

But, even these comparisons are unfair—this time to USHA. Its housing is built by expensive union labor to last at least 60 years. Private enterprise uses much frame construction, frequently employs non-union labor, does not adhere to rigid design and construction standards and does not necessarily aim at 60-year durability. (Maximum amortization period of an FHA-insured home mortgage is 25 years.) All of which points to the glaring fact that, while USHA's present cost comparisons are meaningless, there is no accurate basis for closely comparing public and private housing costs.

Looking at these two costs from a distance, however, it appears that something is amiss. The upper income groups are building \$4,600 houses for the slum dwellers but are buying \$5,005 houses (the last-mentioned FHA average) for themselves. This nominal difference is surprising but currently unavoidable. As already discussed, land costs cannot be lowered without recasting the whole real estate keel. Construction costs, however, can be lowered via several channels; 1) increased research and experimentation toward more economical building materials and techniques—see below; 2) adoption of a double standard for housing, giving rehoused slum dwellers fewer and less expensive design and equipment luxuries than go into the average dwelling; 3) improved, more economical labor conditions on housing projects—possibly a guaranteed annual wage for USHA labor; 4) modification of out-moded building codes which require unreasonable factors of safety and many costly construction specifications; 5) fulfillment of the no-restraint-of-trade hopes of Trust-buster Thurman Arnold. When these possibilities become facts, the so-called "low cost" housing of both public and private builders may merit the term. **Answer: YES**

Are USHA Rents Sufficiently Low?

With building costs and subsidies at their present levels, USHA is not and cannot rehouse the very lowest incomers, but it will continue to rehouse slum dwellers in the lowest income third—its stated purpose. Exclusive of utility costs, rents per dwelling unit in projects now under construction will range from a low \$6.59 (in Austin, Texas) to a high of \$17 (in New York City), will average about \$10 per month in the South, \$15 in the North. According to the income-to-rent ratios set by the Act, these rents mean that USHA projects will accommodate families whose annual incomes range from \$400 to \$1,100. Probability is that the average USHA family will earn a little less than \$950 per year.

Present USHA policy is to rehouse as many families in the middle of the lowest income third as is possible with the available subsidies. With 50 per cent subsidies, USHA caters to a vertical section of the market, keeping as far from the top and as close to the bottom as is economically feasible. To tackle the problem horizontally and rehouse first the very lowest incomers, then the next higher group, etc., the public would have to dole out 100 per cent rent subsidies, then 90 per cent subsidies, etc., until the uppermost horizontal band was rehoused. While the latter method, by rehousing first the most chronic, most costly slum cases, would perhaps give the public the most for its housing subsidy, it would either cost twice as much or produce half as much housing. USHA subscribes to

the theory that, after it relieves the doubling up of families, the chronic slum cases may move up into the next higher class of dwellings which the rehoused will have vacated. For the present, at least, USHA's vertical method of tenant selection is as good as any, and its rents are low enough. **Answer: YES**

Is USHA Undertaking Adequate Research and Experimentation?

Before this question can be decided, it must be determined whether or not the USHA program is the logical place for research and experimentation. Most arguments weigh down the affirmative side of the scales: 1) Being of necessity a disorganized and decentralized industry, private enterprise building as presently set up is not equipped to undertake costly experiments. 2) Neither can private housing afford to gamble on the success of such experiments. 3) USHA and its local housing authorities are peopled with housing and building experts capable of undertaking valuable research. 4) Since low rents guarantee 100 per cent occupancy of its projects, USHA can afford to take a chance here and there with an eye to lowering costs through the use of new building materials and techniques. 5) Its large scale operations put USHA in a favorable position to negotiate cost-reducing labor agreements. If USHA does not dare experiment with an entire project, it can guinea-pig a phase or two of several projects, then consolidate its successes.

USHA has not entirely neglected this essential aspect of housing progress. Evidence of interesting experimentation toward cost reduction may be seen in the walls of the Santa Rita project in Austin, Texas (see page 18). Furthermore, USHA's technical and management divisions have prepared and used much valuable information based on an analysis of existing housing projects (particularly USHA's PWA stepchildren), but the availability of their findings receives far too little publicity. Dissemination of Government-corralled data on past, present and future housing techniques is as vital as research itself—both to local housing authorities and to private enterprise if the latter is expected eventually to carry the lion's share of the low rent housing burden.

In addition to the use of original research, USHA could learn and teach by actively experimenting with the ready-made research of others, much of which is already beyond the paper stage. Thus, there are in operation today in various parts of the U. S. several distinctly different public and private low rent housing plans. Some of them have recommending features. For example:

In Fort Wayne, Ind., low rent housing's ugliest bugaboo—the high cost of land—is circumvented by borrowing unprofitable privately owned lots in return for \$1 and complete tax exemption. On them the local housing authority erects WPA-prefabricated minimum frame houses (three rooms) at a materials and equipment cost of \$900 each, covered by FHA-insured 20-year mortgages written by local insurance companies. To date, more than 50 such units have been completed, and all of them rent for \$10 or less per month. But like all housing plans Fort Wayne's has its objections: 1) the lack of land control, 2) the light, somewhat temporary character of the houses' construction, 3) the lack of permanent influence on neighborhoods. (ARCH. FORUM, Oct. 1938, p. 299.)

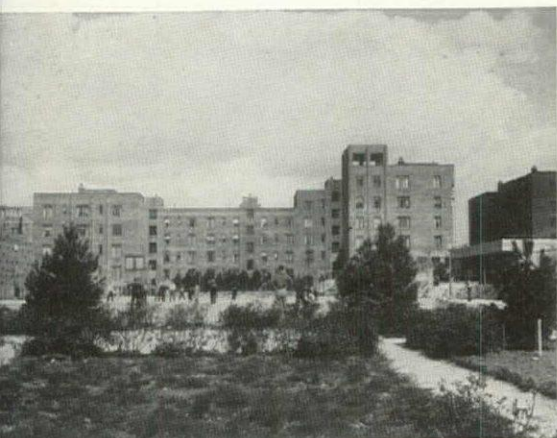
On Cleveland's periphery are three examples of the McCornack Plan, developed by Architect Walter R. McCornack, A.I.A. vice-president and head of M.I.T.'s architectural school. Believing that high cost slum land and new low rent housing do not jibe, McCornack builds his housing in the country where low incomers may help support themselves by part-time farming. He erects the shells of prefabricated plywood houses, sells them to families who would be eligible for USHA projects, lets the men in the families complete the construction. Since the houses are valued at less than the statutory maximum of \$2,500, they may be financed



1917 GOVERNMENT—War. In 1917 the U. S. Government commissioned Architect and City Planner Electus Litchfield with \$8 million and orders to build a town for 2,000 shipyard workers and their families at Yorkship, near Camden, N. J. With the signing of the Armistice in 1918 the Government's emergency housing problem was ended, and the unfinished village was sold at auction to private interests. The sales price was less than half the initial cost, thus enabled the private owners profitably to rent 1,680 houses at \$5 per room per month. Such was the Federal Government's tortuous debut in the field of subsidized rents.



1931 COOPERATIVE—Limited Dividend. Families who live in Amalgamated Dwellings, Inc. in New York (above) pay an estimated 30 per cent less for their shelter than families in comparable dwelling units not incorporated in the same frugal way. Built for 237 families at a cost of \$1,453,814 in 1931, Amalgamated Dwellings was established as a cooperative venture as well as a limited dividend project under the State laws. The rent savings stem from tax exemption (about \$2 per room per month), cooperative rebates averaging \$1 per room per month, and the absence of profit. Average monthly room rent: \$12. Architects: Springsteen & Goldhammer. (Ref.: ARCH. FORUM, April, 1933, p. 268.)



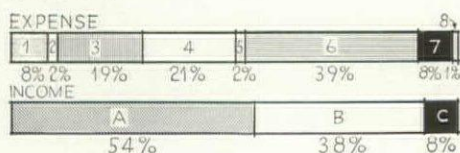
Leon Lieberman

1935 GOVERNMENT—Limited Dividend.

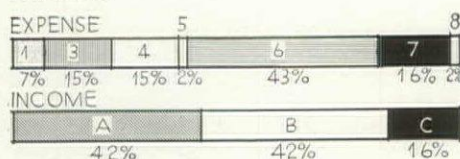
Architect Clarence Stein's Hillside Housing in The Bronx, New York, is a limited dividend housing project enabled in 1935 by a PWA loan for 83 per cent of the project's \$5,489,614 cost. Architect Stein estimates that the 1,405 families, who average payments of \$11 per room per month for their super-shelter, effect a theoretical saving of more than 25 per cent. Reasons: tax exemption and savings derived from large scale construction. (Ref.: ARCH. FORUM, Feb. 1934, p. 124.)

BALANCE SHEET of typical northern and southern USHA projects.

NORTH

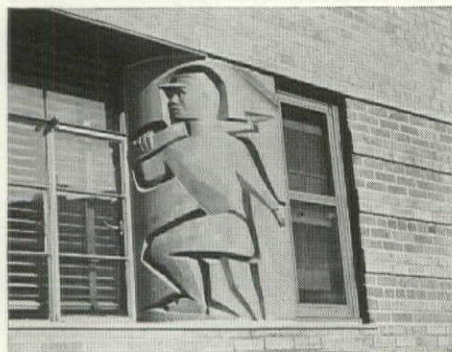


SOUTH



EXPENSES: 1—Management; 2—Operating services; 3—Dwelling utilities; 4—Repairs, maintenance & replacements; 5—Insurance; 6—Interest & depreciation; 7—Taxes (if levied at usual rate); 8—Other.

INCOME: A—Rents; B—Federal subsidy (cash); C—Local subsidy (tax exemption).



USHA, Sekaer

ART. Where the local housing authorities request it, USHA-aided projects are permitted to devote 1/2 per cent of the project's total cost to frills. The above example is at Willert Park, Buffalo, N. Y. (See page 22.)

under FHA's Title I program with small monthly installments covering mortgage principal and interest. In 15 years the loans are retired, and the properties are owned outright by the former slum dwellers. Objections: 1) rural housing does not solve urban slum problems and 2) creates a transportation problem.

In Philadelphia, it is the Binns' Plan. A realtor of national repute, Arthur W. Binns buys whole blocks of dilapidated slum row houses, rehabilitates them to the tune of some \$1,300 each, then rents them for \$3 to \$5 per room per month to low income families. Chief objection to the Binns Plan: private capital shies away from slum rehabilitation investment, makes national application of the Plan difficult. FHA insurance of long-term rehabilitation loans would help. (ARCH. FORUM, Sept. 1939, p. 149.)

In Princeton, N. J., Millionaire Gerard B. Lambert built a \$30,000 ten-family housing project, rented it for \$6.25 per room per month, then swapped it with the city for \$30,000 of 4 per cent tax-free bonds which are being redeemed annually over a 28-year period from part of the operating income of the tax-free project. This procedure eliminated all speculative elements from the venture, gave Lambert a guaranteed investment return, gave Princeton a much-needed housing project. Objection: while far below average, rents under this plan would not serve the lowest income third. (ARCH. FORUM, Dec. 1938, p. 486.)

In every city there are advocates of still another plan which is in continual operation. They believe that private industry by building houses for the middle income group (and it is getting closer and closer to the bottom of this group) will in time relieve the acute housing shortage, then permit low incomers to move up into the vacated dwellings. They argue that the poorer classes use cast off overcoats, buy second-hand automobiles, if any, and that there is no logical reason to supply them with glistening new housing at a tremendous cost to the public. Objection: Even if the sprawling building industry does get around to this job, it will still have to solve the problem of slum clearance.

These and other plans developed by local interests merit more than a superficial dismissal by Government housers. Parts of them might well serve as economic corollaries to their present USHA program. And, unless they are definitely proved useless, these plans will be thrown repeatedly in Public Housing's face.

In sum, USHA is the logical agency 1) for conducting and collecting housing research, 2) for proving this research via experimentation, 3) for disseminating its findings. To date USHA has fallen short on all three counts. **Answer: NO**

Are the Standards of USHA Projects Too High?

Frequent is the argument that costs could be lowered by eliminating all amenities from slum clearance and low rent housing projects. This school of thought would lop many a square foot off USHA's minimum room areas, would do away with landscaping and architectural ornamentation, would devote no interior space to recreation and community activities and would reserve much smaller areas for outdoor recreational facilities. In brief, they want USHA housing to be very little more than four walls—which themselves must be of "spartan simplicity."

Shortsighted, this school of thought is actually demanding that USHA projects be up-to-date editions of today's 50-year-old slum buildings, which would be headed for slums the day they are built. No public housing program of new construction that does not produce attractive, safe, healthful, modern living quarters is worth its salt. So, despite the fact that they result in better housing accommodations than most middle incomers can afford to rent, USHA's standards are not too high. **Answer: NO**

Is USHA's Amortization Period Too Long?

The 60-year amortization of loans made by USHA to local housing authorities is a small but important cog in the public housing machinery, but there is no logical reason from a construction point of view why the period should be set at exactly 60 years instead of, say, 40 or 80 or 100. If reasonably maintained, a project built to weather 40 years would probably be serviceable at the end of a century. A much shorter period might reduce initial costs and subsidies, just as the present term ups costs by requiring that projects be built well enough to last at least six decades. Then again, a longer period would reduce annual debt service and require smaller subsidies, but would boost construction costs. (Theory behind the determination of the existing period: a happy medium between construction costs and subsidies.)

A well-founded argument for shortening the 60-year amortization period and for building less durable housing is that today's projects may be as outmoded in 2000 A.D. as are the buildings erected back in 1880. To deny this possibility is to admit that progress in the housing field has ceased. On the contrary, probability is that in much less than 60 years the U.S. will have developed better, wholly different building and public housing patterns.

Finally, there is one good reason for doing away with the amortization period altogether, via substitution of Federal capital grants for the 60-year loans—by eliminating Federal debt service, the project's annual operating costs and rents would be correspondingly lowered. Certainly, there is no good reason for amortizing the cost of land.

Answer: ?

Is USHA Being Successfully Administered?

Government legislation, no matter how well written, is only as effective as its administration. And, in a Government program as "hot" as housing, heady administration is particularly necessary. THE FORUM had hoped to report a clean-cut consensus on the administration of USHA. Reasons it cannot: 1) there is nothing like unanimity among those qualified to have an opinion; 2) much criticism directed at the administration should be directed at the Act itself; 3) it is almost impossible to get outspoken opinion of any Government program from those who hope to gain employment through it. However, it is unnecessary to travel far to hear that USHA has not been too frank in its dealings with Congress on such matters as high over-all costs and non-repayable Federal subsidies; that USHA red tape would tie every Christmas package in the Nation; that "decentralization" is a phrase rather than a fact; that far too little latitude is permitted those in charge of local projects (the recent reduction of architects' fees is cited as a move to force Washington standardization on local architects rather than a basic economy); and finally, that the job of educating the Public on the whole question of Housing still is nowhere. Undoubtedly USHA can rebut these criticisms, but the defense sounds less plausible than the complaints.

The redeeming fact appears to be a very recent realization within USHA that a less arbitrary and much more open-minded attitude is in order. If that turns out to be a policy and not just a placating gesture then "clearing weather" may be predicted; otherwise the forecast must read—"continued cloudy" . . .

Answer: ?

Are Slum Clearance and Low Rent Housing the Proper Functions of Government?

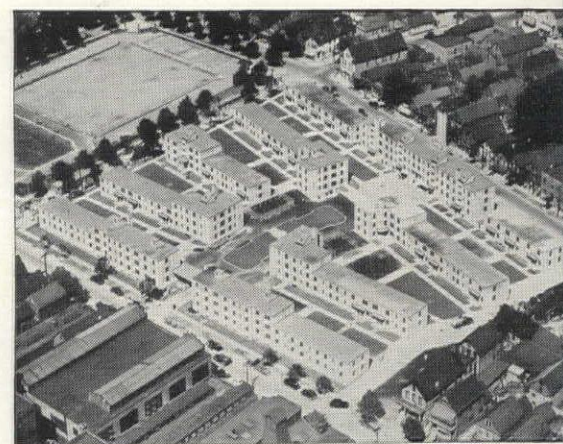
Much controversy about this subject arises from the misconception that USHA tenants, while living in tax exempt projects subsidized by the taxpayers, do not themselves pay taxes. This theory is exploded by analysis of the taxes paid by



Fairchild Aerial Surveys

1937 GOVERNMENT—PWA. To the tune of \$126,438,549 the now defunct PWA Housing Division rehoused 21,443 families. The bill for the 49 projects was cared for by 45 per cent capital grants and 55 per cent loans, thus enabling rents to average \$5.03 per room per month or an estimated tenant saving of 40 per cent. In Charleston, South Carolina (above) 212 families were transferred to decent housing for which they pay \$4.98 per room per month (excluding light and refrigeration). (Ref.: ARCH. FORUM, May 1938, p. 412.)

NEEDED. If the number of dwellings that are unfit for human habitation should be destroyed, and their number added to estimated U. S. dwelling shortage, the total additional dwellings needed between now and 1950, to meet minimum physical standards, would be 16,297,000—or more than 1,500,000 per year. Public and private building last year produced about 485,000 urban and rural dwelling units.



1940 GOVERNMENT—USHA. In USHA's Willert Park project at Buffalo, N. Y. 173 former slum families are being rehoused at a charge of \$3.75 per room per month. In line with USHA procedure, 10 per cent of the project's \$914,930 cost was footed by the local housing authority, 90 per cent was covered by a USHA loan. Because rent collections equal only half the economic rent USHA and the local authority pay the difference with annual contributions. (See page 22.)

TENANTED. The following USHA projects have been completed, in part, and opened for tenancy:

LAKEVIEW, BUFFALO, N. Y. Families to be rehoused: 668. Development cost: \$3,773,968. Average rent per room per month (excluding electricity, gas, water and heat): \$3.50. Building types: 2-story row houses, 3-story apartments.

WILLERT PARK, BUFFALO, N. Y. Families: 173. Development cost: \$914,930. Average rent: \$3.75. Building types: 2-story flats, 3-story apartments and combinations.

RED HOOK, NEW YORK, N. Y. Families: 2,545. Development cost: \$13,096,843. Average rent: \$5.00. Building type: 6-story apartments.

QUEENSBRIDGE, NEW YORK, N. Y. Families: 3,149. Development cost: \$15,393,000. Average rent: \$5.00. Building type: 6-story apartments.

ROBERT MILLS MANOR, CHARLESTON, S. C. Families: 140. Development cost: \$719,000. Average rent: \$3.75. Building types: 2-story row houses, 2-story flats.

BRENTWOOD PARK, JACKSONVILLE, FLA. Families: 230. Development cost: \$988,838. Average rent: \$3.75. Building types: 1- and 2-story row houses.

ROSEWOOD, AUSTIN, TEXAS. Families: 60. Development cost: \$225,710. Average rent: \$2.13. Building type: 1-story row houses.

SANTA RITA, AUSTIN, TEXAS. Families: 40. Development cost: \$142,043. Average rent: \$1.86. Building type: 1-story row houses.

ANSWERS TO QUESTIONS ON PAGE 1.

1. \$800 million.
2. Loan money to local housing authorities and make rent subsidies.
3. \$120.
4. \$1.2 billion (about 10 million families at \$120 per year).
5. Nathan Straus is not Administrator of the Federal Housing Administration—an agency with the sole function of insuring loans on privately financed building. Mr. Straus has been Administrator of the United States Housing Authority for 2 years.
6. 160,000.
7. \$400-\$1,100.
8. Foot the balance in cash, land or public services.
9. Get the City Council to authorize a local housing authority to deal with the USHA.
10. 60 years.
11. Eliminates a slum dwelling for every new dwelling unit built.
12. \$4,000; \$5,000.
13. 5 times; 6 times.
14. 50 per cent.
15. Federal and local subsidy. The city housing authority pays about 17 per cent of the economic rent; the USHA pays about 33 per cent.
16. Local labor at prevailing rates.
17. 365 projects in 160 cities.
18. A rural housing program.

a family of four eligible for USHA housing in, say, Illinois. The owner of a small slum house, this family pays about \$190 per year in Federal, State and local taxes—of which property taxes account for \$72. When the family moves into a USHA project, it still pays \$118 in taxes every year.

Unfortunately, since USHA cannot possibly rehouse every slum dweller, some of them (and many will be in direr straits than those rehoused) must help subsidize their more fortunate neighbors who are privileged to move into a new project. Federal income taxes, however, are calculated on a sliding scale, and upper incomers thus bear the brunt of housing subsidies.

But, to answer this double-barreled question categorically: 1) Since police power is necessary to the forced demolition, modernization or closing of dwellings, slum clearance at present is legally impossible unless in the hands of a Government agency. 2) Since it has been adequately demonstrated that sufficiently low rents cannot be obtained without tremendous subsidies, lower rent housing at present is physically impossible without the participation of Government. Thus, if the U. S. is to make inroads on its vast slum and low rent housing problem, Government must help.

Answer: YES

In recapitulation, the foregoing question-and-answer analysis indicates that the USHA program:

Is not competing with private enterprise building

Is not costing the Government too much in the light of existing conditions

Cannot solve the entire U. S. low rent housing problem, now or ever

Grants no greater rent subsidies than currently necessary

Fails to clear slums in the true sense of the word

Is paying high land prices—but not on the basis of present-day valuations

Fails to produce dwelling units whose costs are in line with their purpose

Operates for the present at a sufficiently low rent level

Builds to the lowest feasible standards

Amortizes its loans over a questionable period of years

Fails to conduct adequate research and experimentation

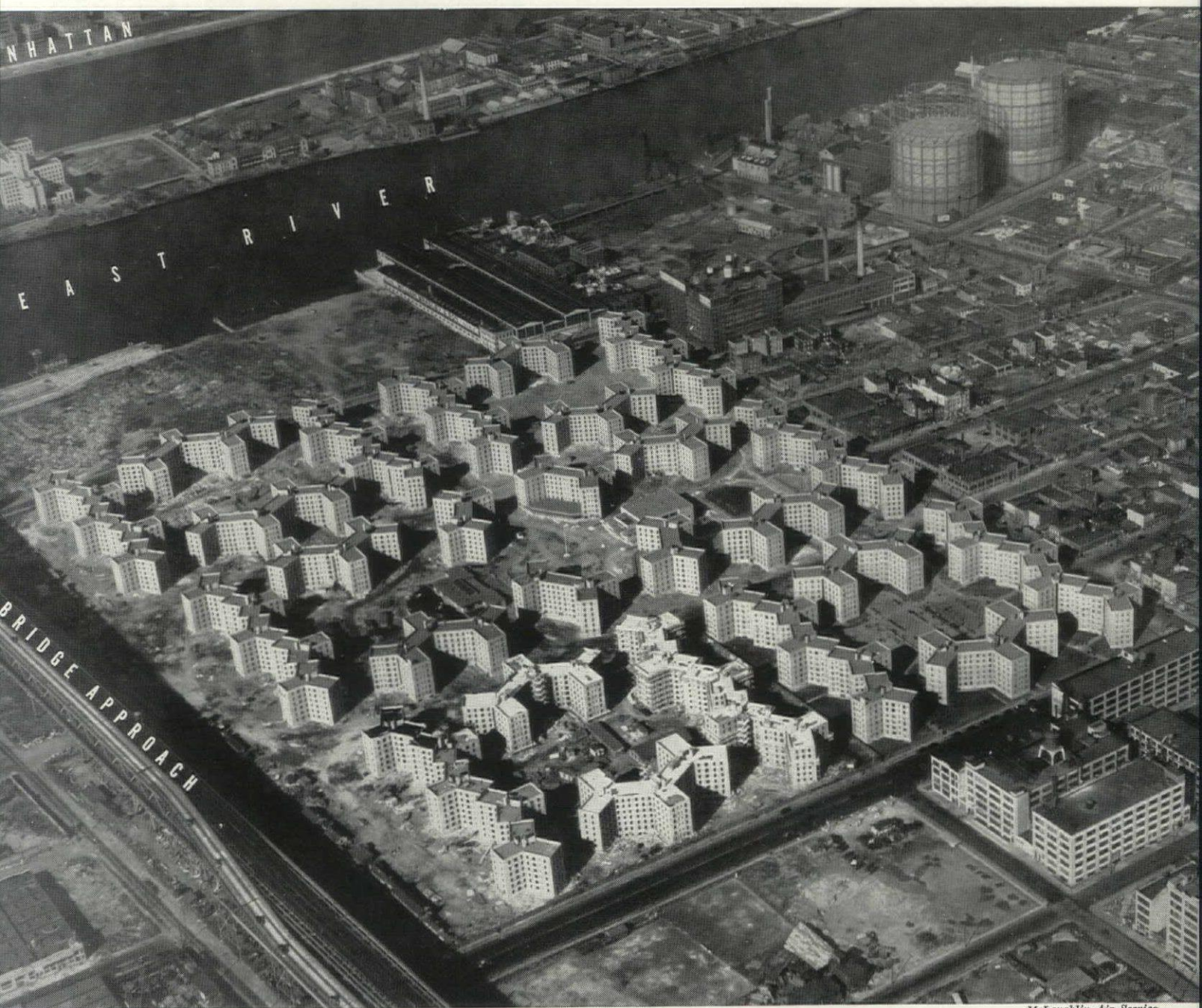
May itself remedy its administrative shortcomings

Is the proper function of Government

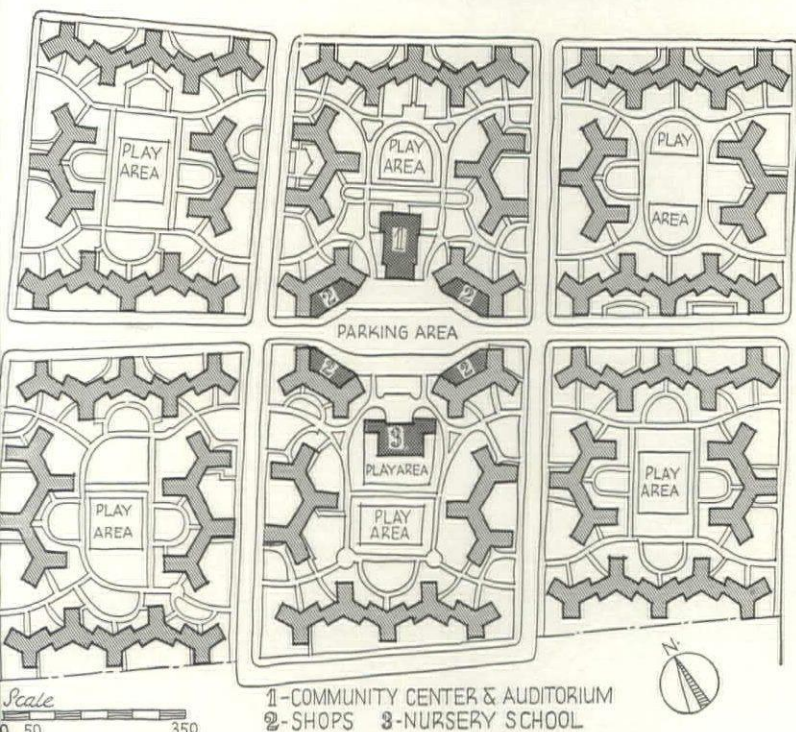
Besides refuting many a false argument, these answers to the most controversial questions surrounding the USHA program may serve as a timely guide to public housers and a signpost for those who would extend, alter or kill the program. They point to but two related conclusions: that Public Housing is a tremendously expensive undertaking justifiable only by the need, and that, while a public housing program of the USHA variety may be the best that the U. S. has yet produced, it still leaves much to be desired. Some essential improvements can be made now; others of still greater importance may result from studies which should be undertaken promptly.

USHA has sidestepped a few assignments, has made more than a few mistakes, but, in the main, has made a good beginning. Perhaps the first \$800 million are the hardest; chances are bright that USHA will do better with the next.

USHA HOUSING ... four representative examples



McLaughlin Air Service



QUEENSBIDGE, NEW YORK, N. Y.

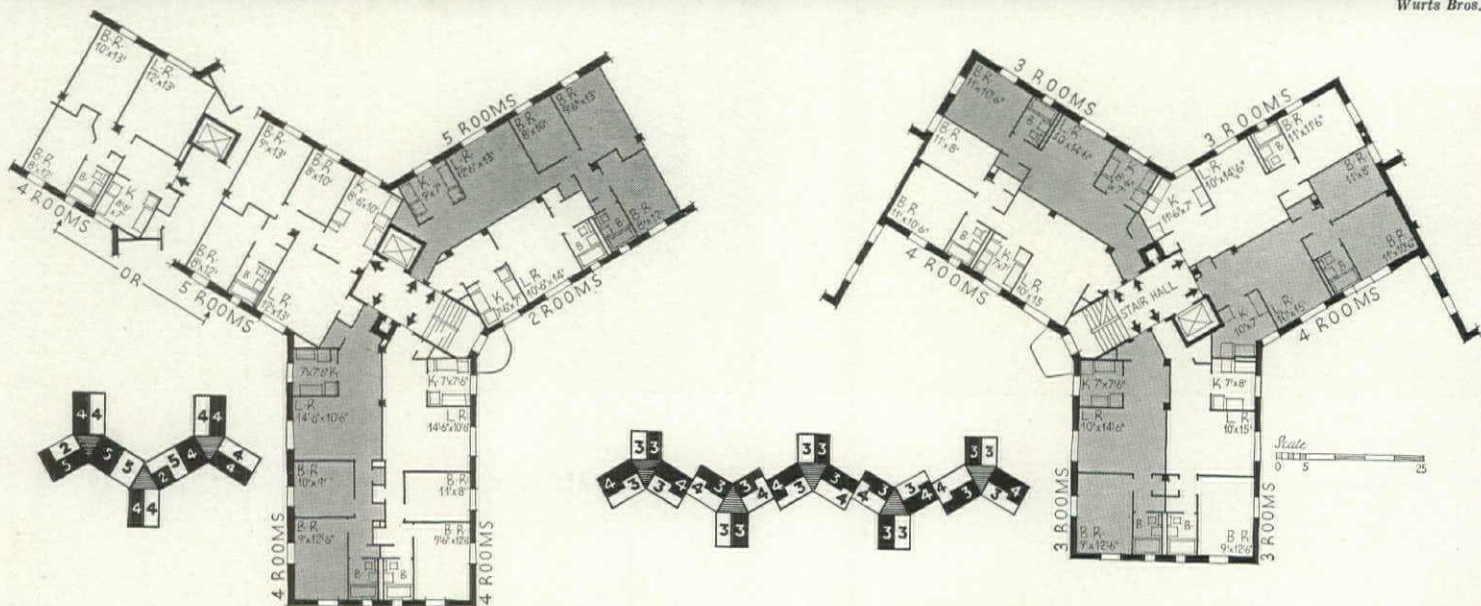
Largest public housing project in the U. S. (3,149 families), Queensbridge is one of the few USHA developments on land expensive enough to call for elevator buildings. Fundamental requirement was, therefore, the provision of a maximum number of rooms around each elevator shaft, a problem not uncommon in private work, but seldom so well solved as here. Basis of the scheme is the substitution of a Y-shaped building unit for the usual cross—an arrangement which avoids the latter's light-robbing right-angle corners and buried rooms, without sacrificing its efficiency.

In combining these multi-angular units into a com-

QUEENSBRIDGE, N. Y.



Wurts Bros.



munity the size of a small city, an obviously difficult job, the architects have achieved an orderly pattern by grouping various combinations of the unit around several minor courts and a central shopping center, with the available open space effectively organized.

Efforts to group a maximum number of rooms around a central hall usually tend to result in railroad-type apartments lacking opposite exposures. In the unit plans (above) this has been largely avoided by the use of unusual L-type apartments and corner exposures. Less commendable is the fashion in which the unit on the right has been connected to its neighbors, creating four of the right-angle corners which the plan itself strives to avoid.

ARCHITECTS: William F. R. Ballard, Chief. Associates: Henry S. Churchill, Frederick G. Frost, Burnett C. Turner.

SITE: 8 per cent slum.

BUILDING TYPE: 6-story apartments.

SIZE: 3,149 dwelling units.

12,949½ rooms.

COSTS: Total development: \$15,393,000

Construction cost

per dwelling unit: 2,745.64

Construction cost

per room: 667.67

RENTS: Average per room per month (including utilities): 5.51

SPECIAL FEATURES: a community building, a children's center, and 24 stores.



All photos, Wurts Bros.

CONSTRUCTION AND EQUIPMENT

EXTERIOR WALLS: 12-inch solid brick for lower stories, brick and hollow tile back-up for upper stories. Faced with metal furring, lath and plaster.

INTERIOR PARTITIONS: Stairhalls enclosed with 4-inch glazed hollow clay tile plastered on the room side. Partitions—2-inch solid plaster reenforced with wire lath and channels.

FLOORS AND ROOFS: Reenforced concrete with undersides finished smooth and left unplastered. Floors finished with asphalt tile in apartments, and colored cement or asphalt tile in stairhalls. Roofs insulated with fiber board covered with composition roofing.

WINDOWS: Metal casements with metal jambs, sills and trim.

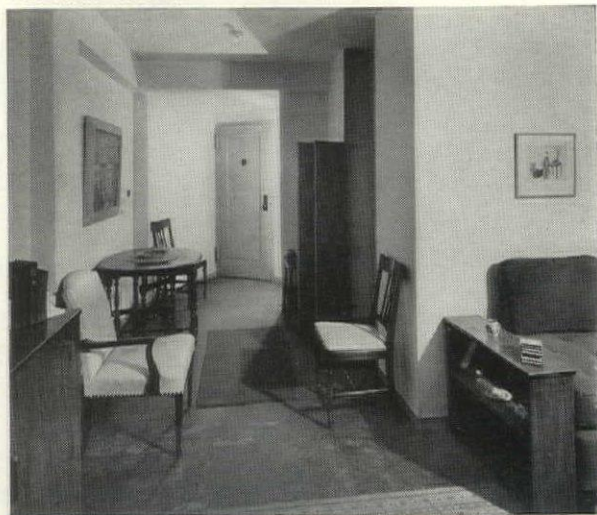
BATHROOM EQUIPMENT: Lavatory, tub, water closet, medicine cabinet, clothes drying rack.

KITCHEN EQUIPMENT: Wood cabinets, electric refrigerator, gas range and combination sink and tub.

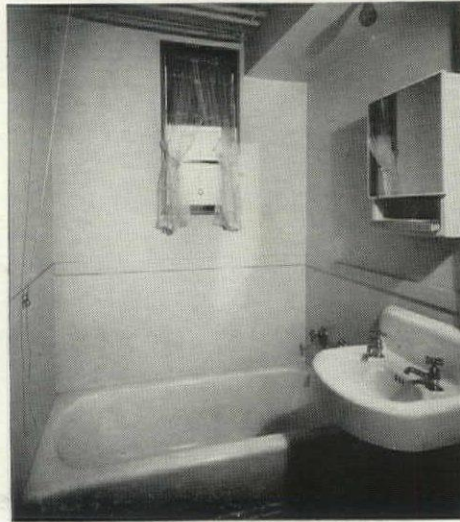
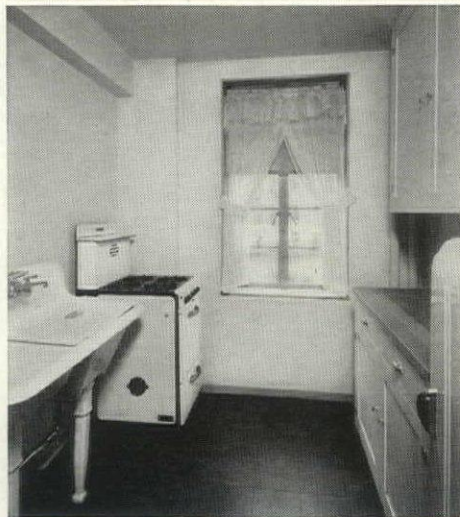
HEATING: Steam, group heating, with individual oil-fired boiler plants, two-pipe vacuum return line heating system, with exposed risers and direct cast iron radiation.

ELEVATORS: One automatic push-button elevator in each unit which stops only at the 1st, 3rd and 5th floors.

LIVING ROOM



KITCHEN



BATH

BRENTWOOD PARK, JACKSONVILLE, FLA.



An indication of the range of the Government's current program is afforded by the contrast between this Florida development and Queensbridge Houses. Its 230 dwellings are grouped in one- and two-story rows in the now-familiar pattern of U-shaped courts served by dead-end driveways. The ingenious 2-story unit provides two 3-bedroom duplex apartments on either side of a single-bedroom flat with the extra second-floor space divided among the 2-story dwellings. Plans are simple and unusually open, tending to compensate for the smallness of the rooms. Exteriors, especially in the case of the 1-story units, are not unattractive despite the obvious emphasis on construction economy.

ARCHITECTS: Mellen C. Greeley, Chief. Associates: Ivan H. Smith, W. Kenyon Drake, O. E. Segerberg, S. Ralph Fetner, LeRoy Sheftall, J. H. Bryson.

SITE: Vacant.

BUILDING TYPES: 1- and 2-story row houses.

SIZE: 230 dwelling units.

998 rooms.

COSTS: Total development: \$988,838

Net construction cost

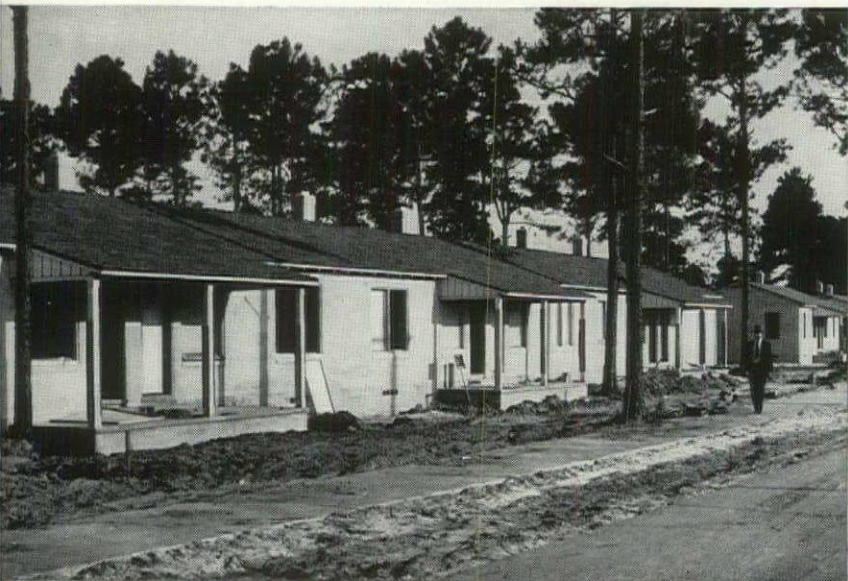
per dwelling unit: 2,667

Net construction cost

per room: 615

RENTS: Average per room per month (including utilities): 3.08

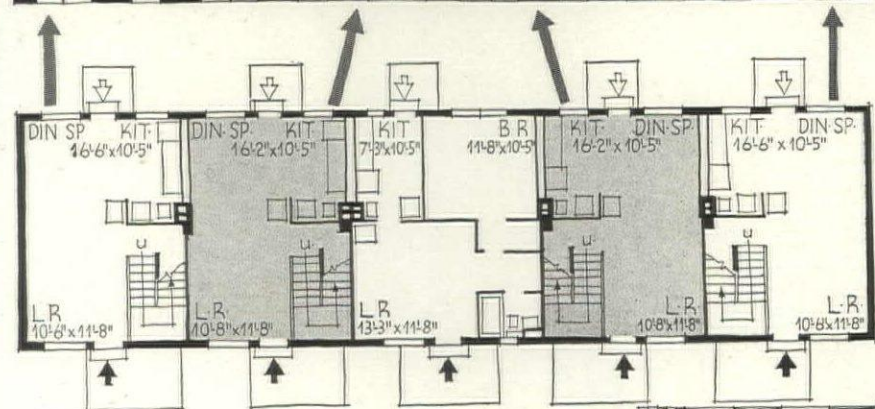
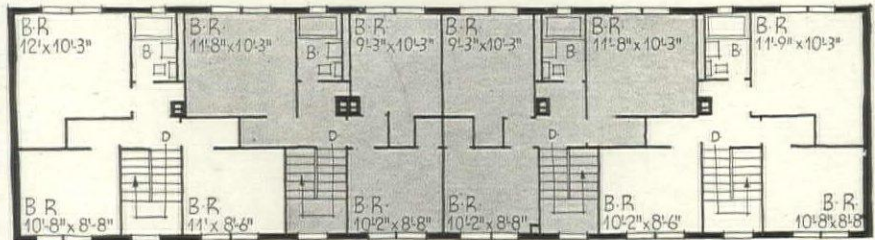
SPECIAL FEATURES: 8 play areas for small children and existing community building.



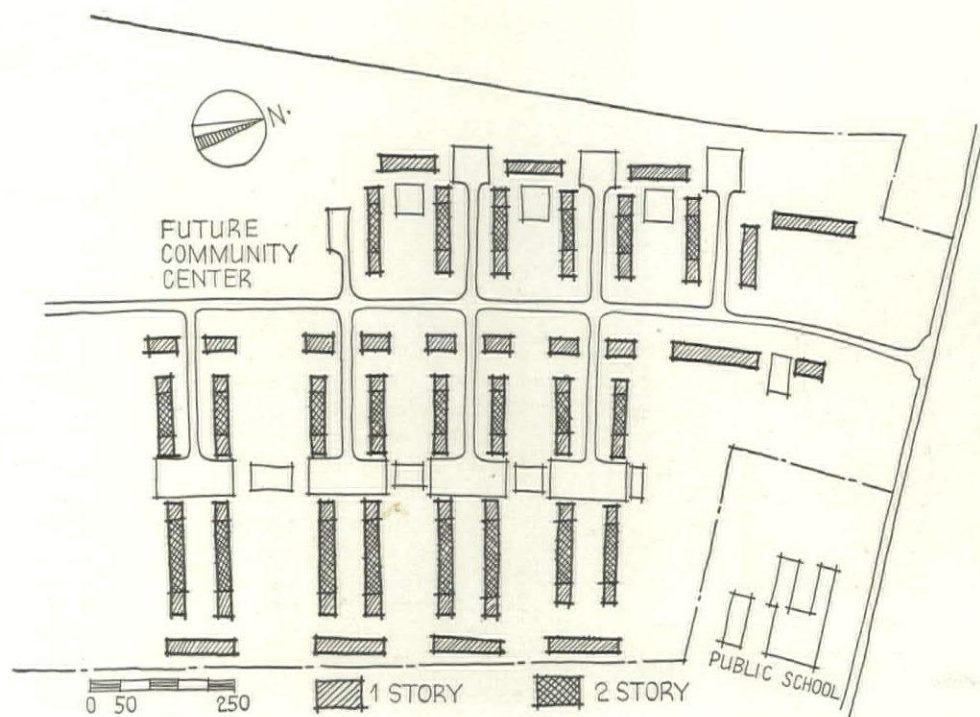
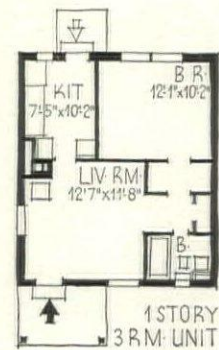
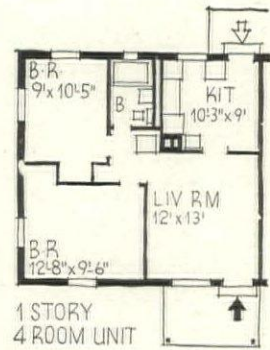
U. S. H. A., Sakaer



SECOND FLOOR

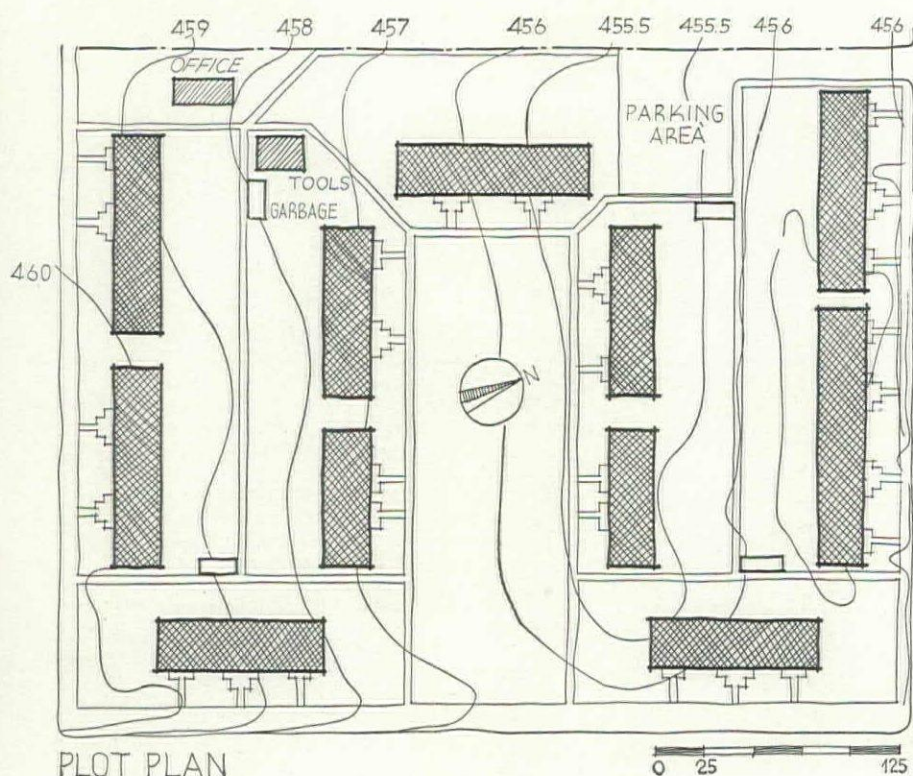
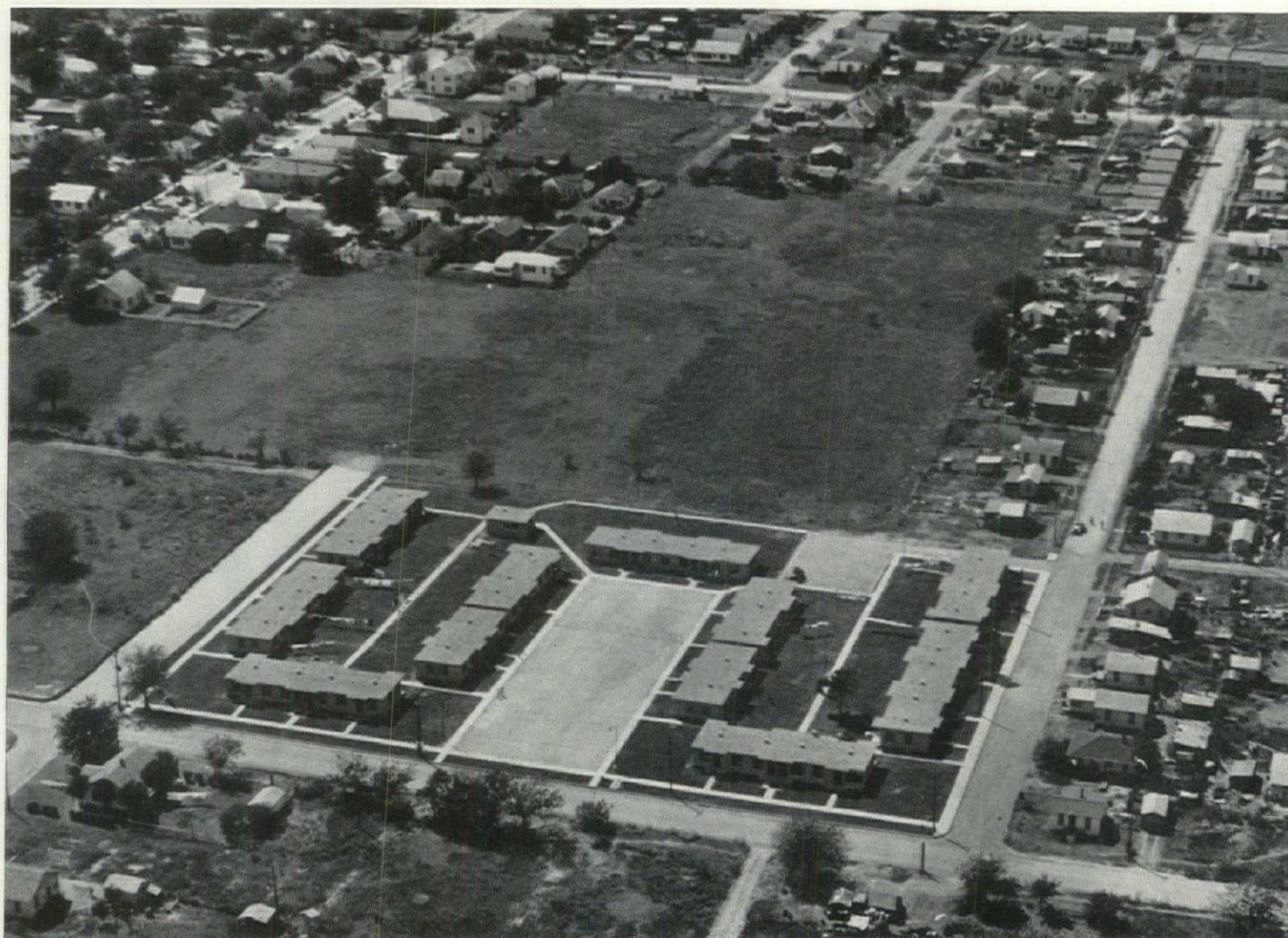


FIRST FLOOR

**CONSTRUCTION AND EQUIPMENT**

EXTERIOR WALLS: Concrete block.
INTERIOR PARTITIONS: 2 in. solid plaster.
FLOOR CONSTRUCTION: Reinforced concrete slab; mastic tile flooring, linoleum in kitchens.
ROOF CONSTRUCTION: Trussed rafters.
KITCHEN EQUIPMENT: Electric range and refrigerator. Combination sink and laundry tray. Shelving and base cabinet.
HEATING: Oil space heaters.
HOT WATER SUPPLY: Individual oil-fired units.

SANTA RITA, AUSTIN, TEXAS



Based on another ingenious system of interlocking plans, the basic unit in this project provides a variable number of bedrooms without change in the fundamental living room-kitchen-bathroom arrangement. Thus the unit illustrated (opp. page) has at its left end two L-shaped, single-bedroom apartments. At the right is a similar plan combined with one having three bedrooms, without departing from the simple bar shape. Variations on this general theme are arranged in a serpentine pattern enclosing three courts. Walls and partitions throughout are structural tile.

ARCHITECTS: H. F. Kuehne, Supervising Architect. Associates: B. E. Gieseke and A. W. Harris.
SITE: Vacant.

BUILDING TYPES: 1-story row houses.

SIZE: 40 dwelling units.

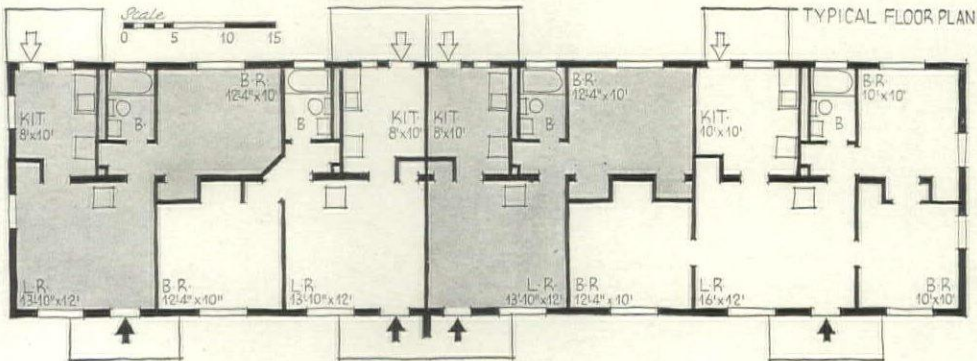
142 rooms.

COSTS: Total development: \$142,043
 Net construction cost per dwelling unit: 2,145
 Net construction cost per room: 604

RENTS: Average per room per month (including utilities): 3.09

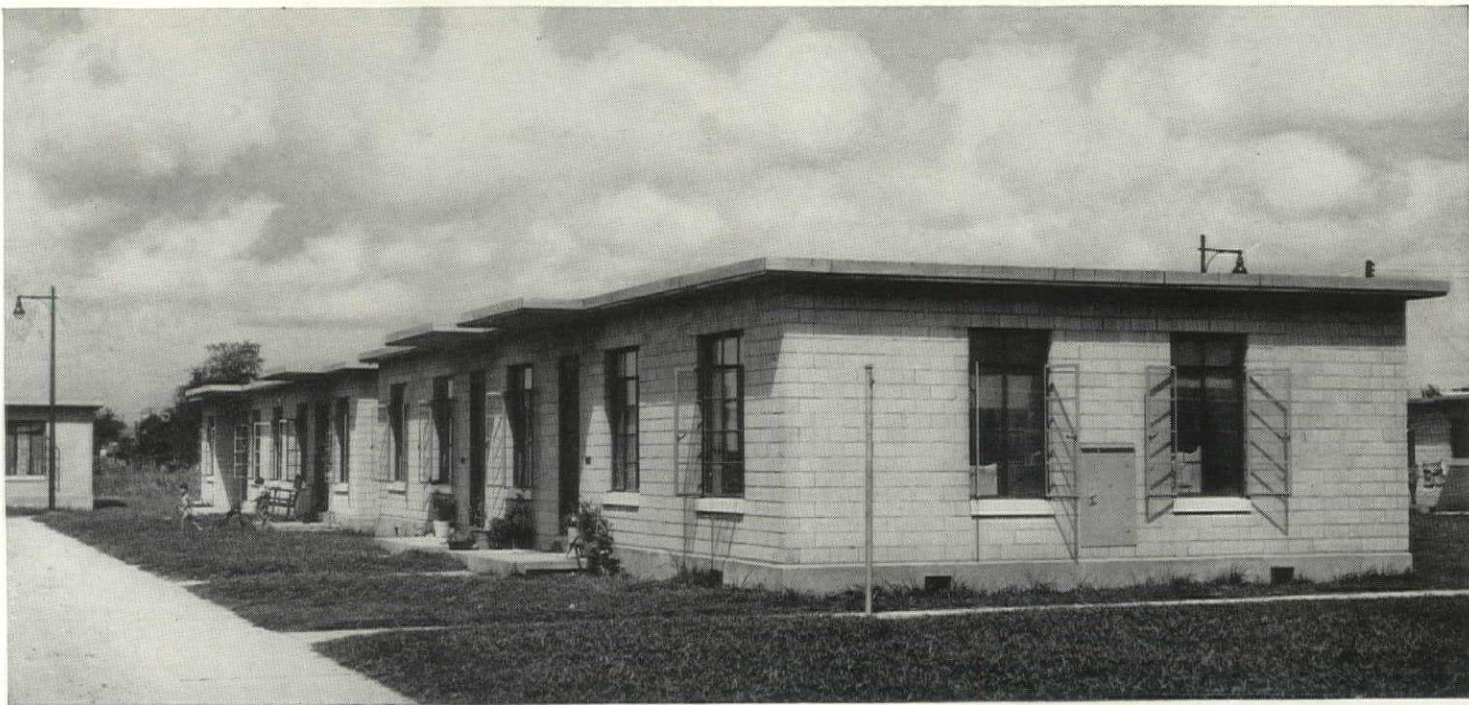
SPECIAL FEATURE: Play area, 76 x 224 ft. divided by fence for small and large children.

SANTA RITA, AUSTIN, TEXAS

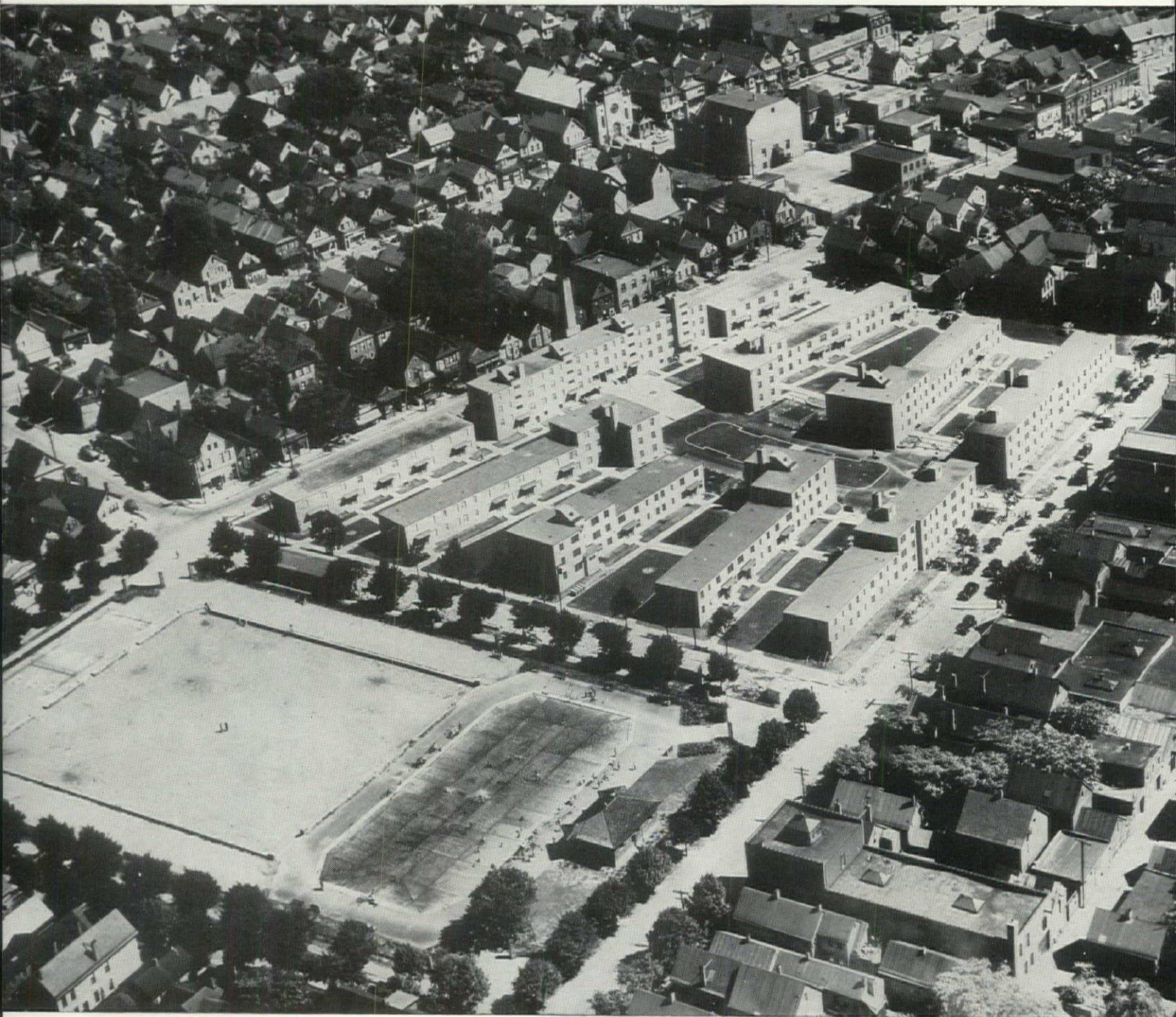


CONSTRUCTION AND EQUIPMENT

EXTERIOR WALL: 8 in. smooth faced tile; mat face on outside.
INTERIOR PARTITIONS: Smooth faced tile, 4 x 8 in.
FLOOR CONSTRUCTION: Reinforced concrete slab; trowelled concrete finish.
ROOF CONSTRUCTION: Concrete slab with one inch of insulation on top. Tar and gravel built-up roofing.
INTERIOR FINISH: Tile treated with tung oil. One coat of caseln paint on ceilings.
KITCHEN EQUIPMENT: Gas range; wood open shelving.
HEATING: Unit gas heaters in living rooms.
HOT WATER SUPPLY: Hot water gas heater in kitchen.



WILLERT PARK, BUFFALO, N. Y.



Midway in type between the extremes of New York City's Queensbridge and Jacksonville's Brentwood Park, this Buffalo development represents a type of public housing probably more applicable to most cities of medium size. Closely knit, it consists of a well-planned combination of two- and three-story buildings in which the individual dwelling units are each wholly on one floor and public stair halls are absent, except in the three-story units. This combination provides a welcome variety and suggests that the answer to USHA's unsolved problem of architectural treatment may lie more in variety of basic types than in specific features of design.

ARCHITECT: Frederick C. Backus.

SITE: Slum.

BUILDING TYPES: 2-story flats, 3-story apartments and combinations.

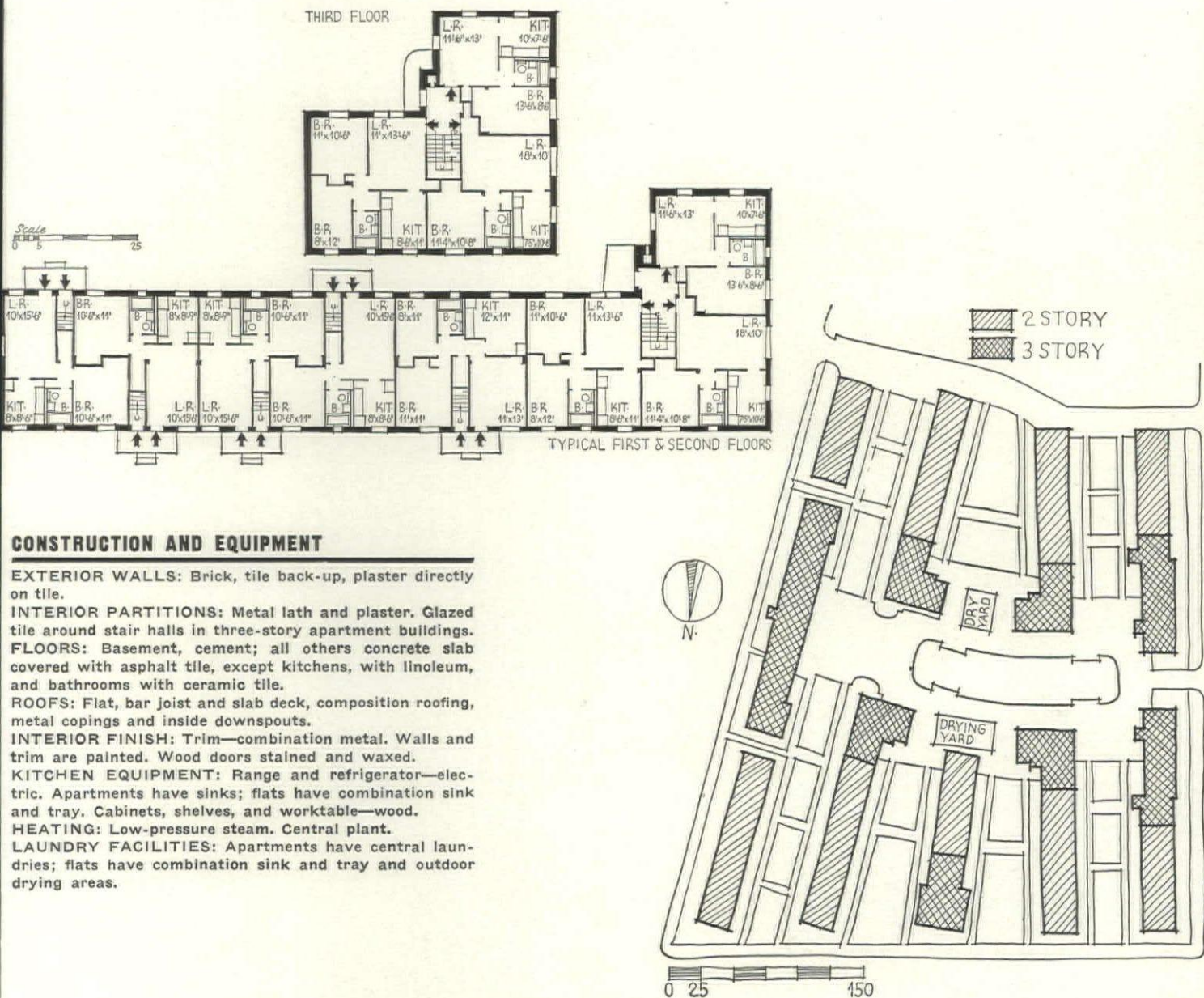
SIZE: 173 dwelling units.
609 rooms.

COSTS: Total development:	\$914,930
Net construction cost	
per dwelling unit:	3,224
Net construction cost	
per room:	916

RENTS: Average per room per	
month (including utilities):	5.66

SPECIAL FEATURES: 1,300 sq. ft. of basement social space; 6 small outdoor play areas and one large central Mall.

WILLERT PARK, BUFFALO, N. Y.



CONSTRUCTION AND EQUIPMENT

EXTERIOR WALLS: Brick, tile back-up, plaster directly on tile.

INTERIOR PARTITIONS: Metal lath and plaster. Glazed tile around stair halls in three-story apartment buildings.

FLOORS: Basement, cement; all others concrete slab covered with asphalt tile, except kitchens, with linoleum, and bathrooms with ceramic tile.

ROOFS: Flat, bar joist and slab deck, composition roofing, metal copings and inside downspouts.

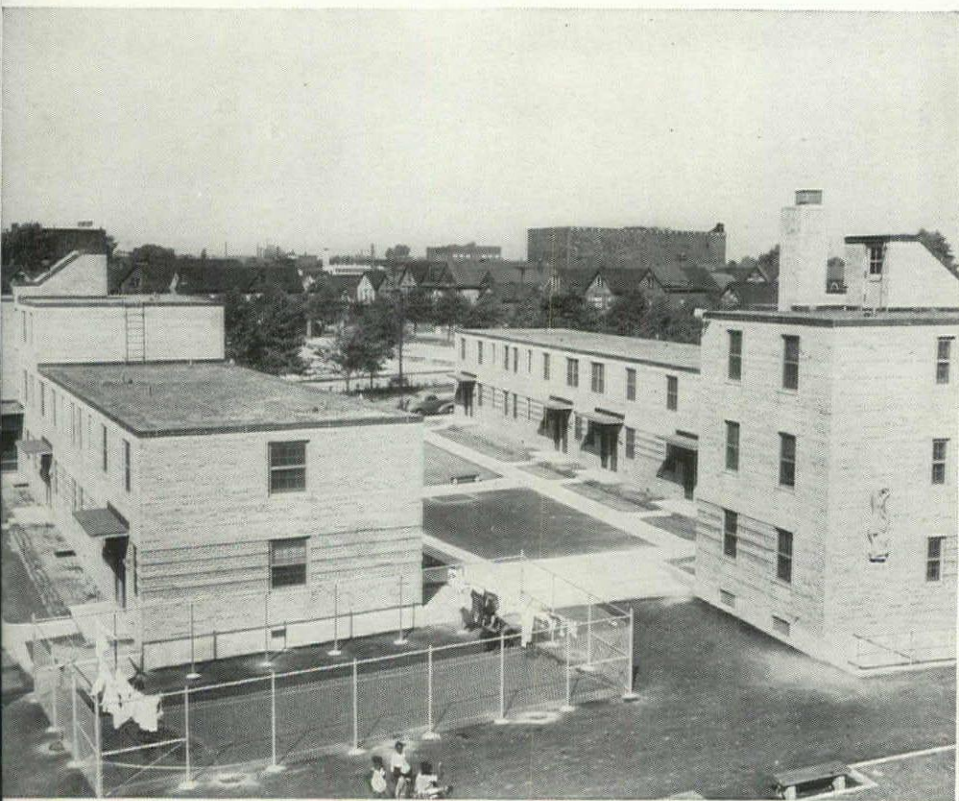
INTERIOR FINISH: Trim—combination metal. Walls and trim are painted. Wood doors stained and waxed.

KITCHEN EQUIPMENT: Range and refrigerator—electric. Apartments have sinks; flats have combination sink and tray. Cabinets, shelves, and worktable—wood.

HEATING: Low-pressure steam. Central plant.

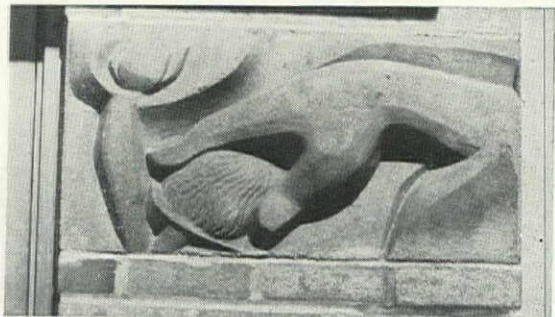
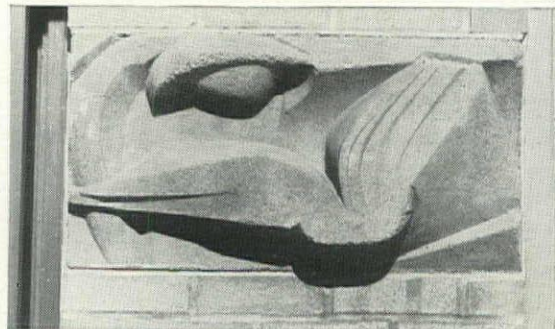
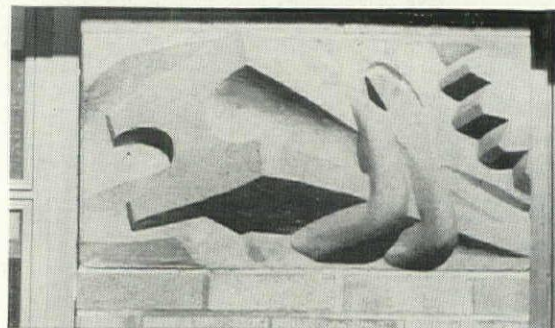
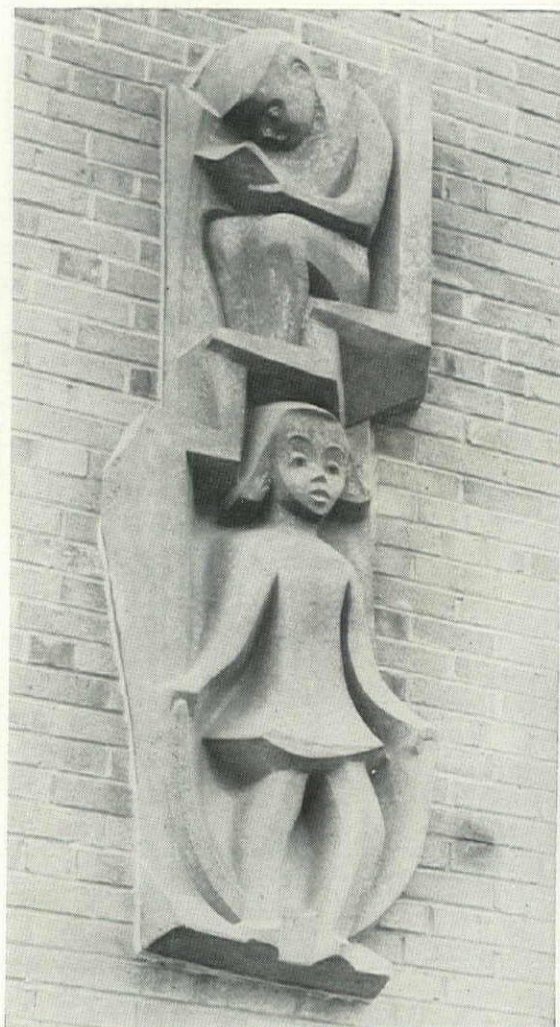
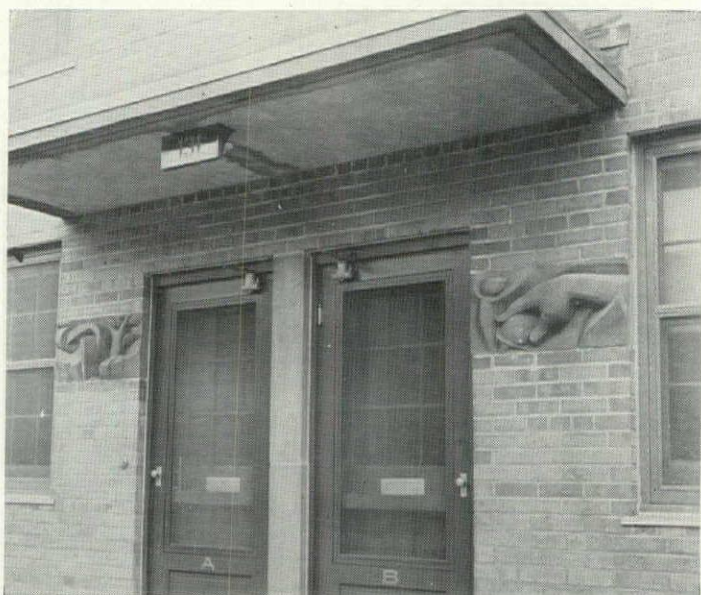
LAUNDRY FACILITIES: Apartments have central laundries; flats have combination sink and tray and outdoor drying areas.





USHart is limited by administrative ruling to a cost not to exceed $\frac{1}{2}$ per cent of the project total. This means, of necessity, minimum-cost materials and technique and maximum skill and imagination, a formula here interpreted in cast stone by artists of the Federal Art Project (WPA) with success. Despite the merit of the individual pieces they seem to accentuate rather than relieve the uncompromising bareness of their architectural surroundings.

ROBERT CRONBACH AND H. AMBELLAN, SCULPTORS





All photos, F. S. Lincoln



BUILDING NO. 11

ROCKEFELLER CENTER, NEW YORK

ARCHITECTS:

REINHARD & HOFMEISTER

WALLACE K. HARRISON

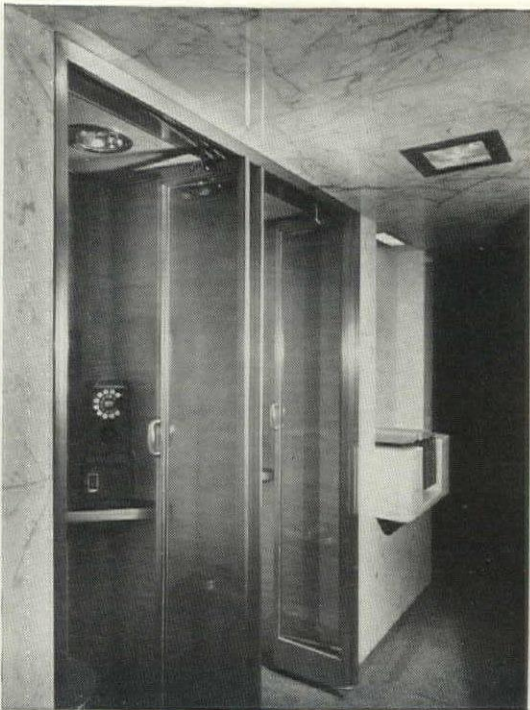
J. ANDRÉ FOUILHOX

BUILDING NO. 11, ROCKEFELLER CENTER

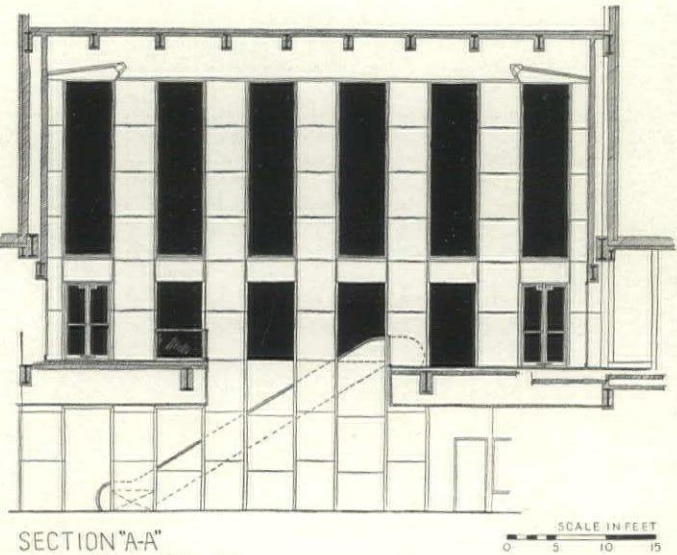
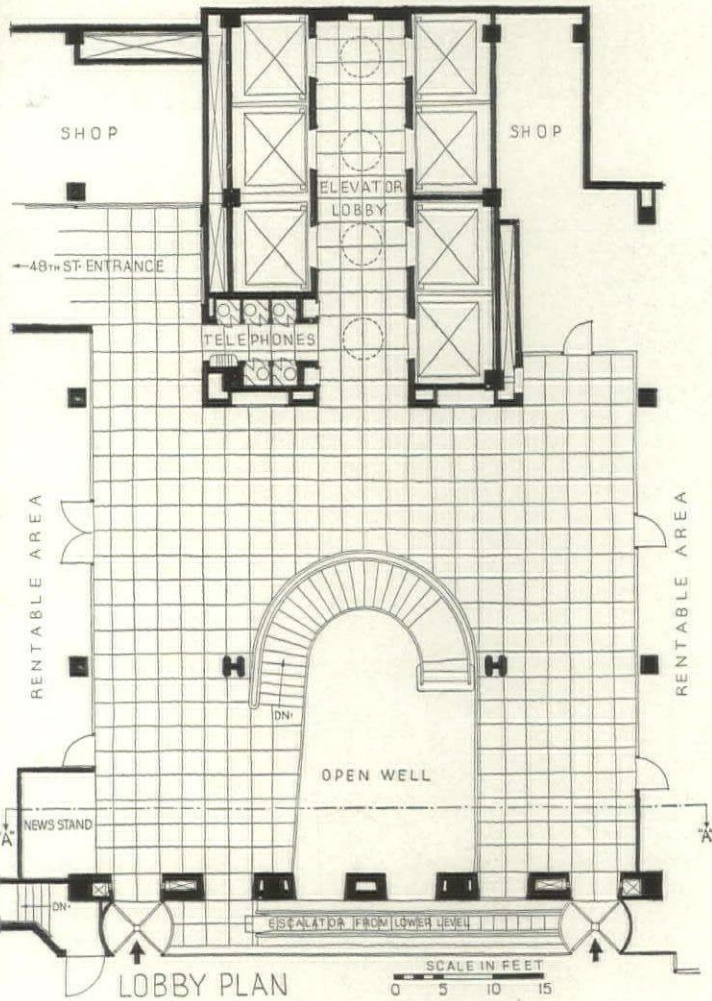




ELEVATORS

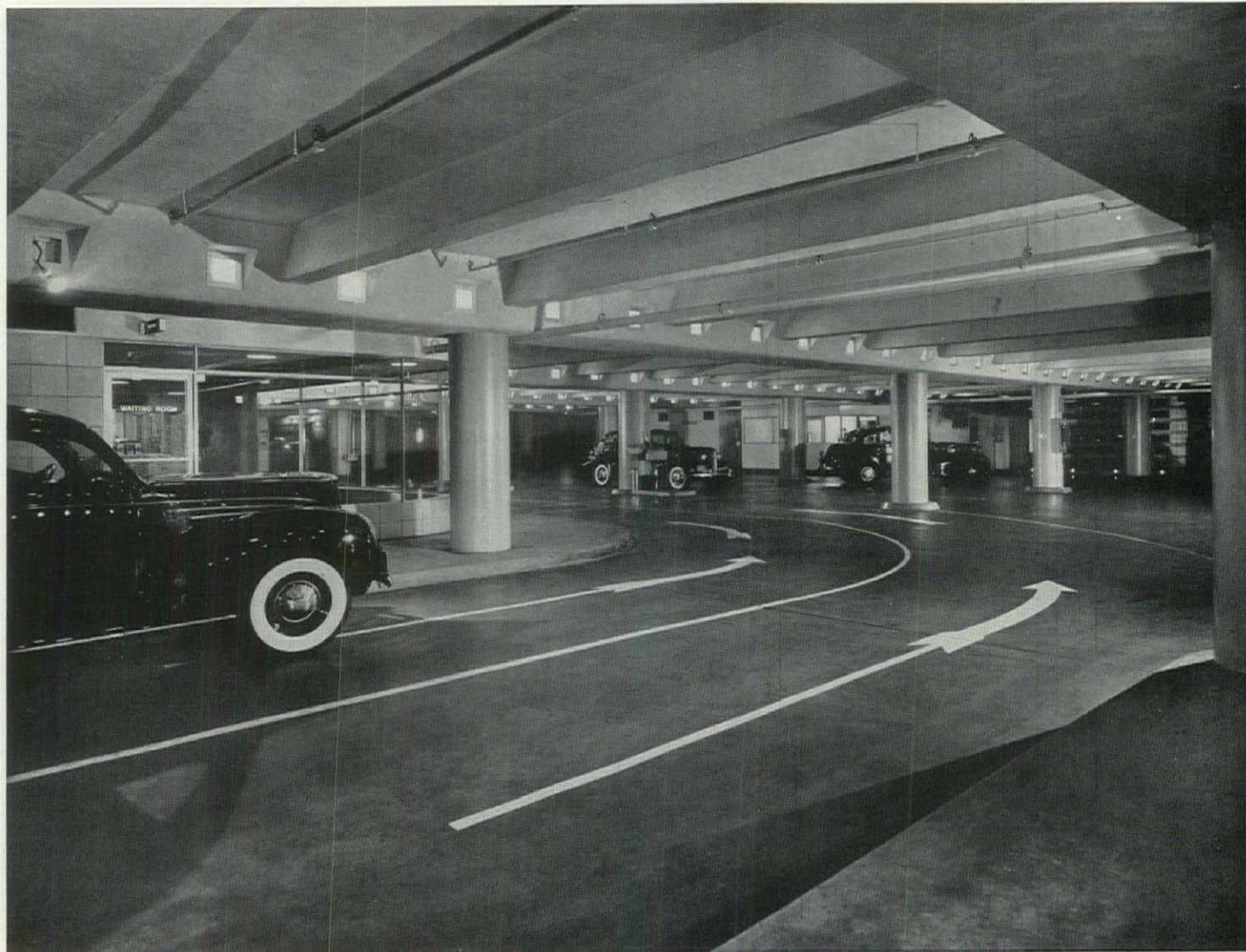


TELEPHONES

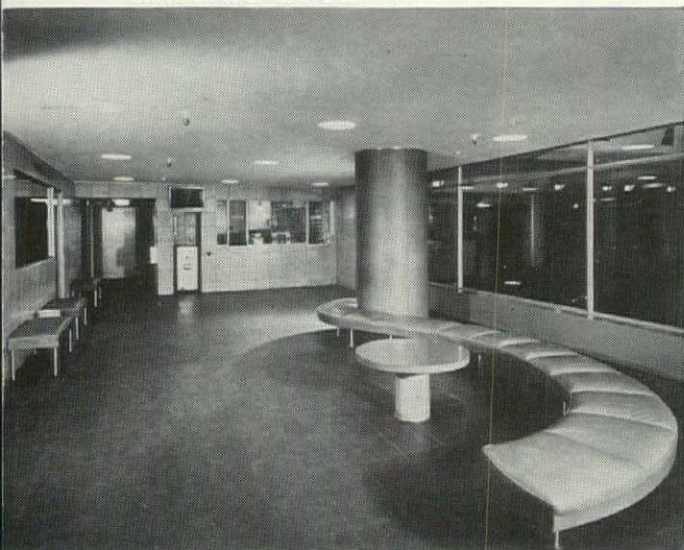


FOR FURTHER DETAILS SEE PAGE 28

BUILDING NO. 11, ROCKEFELLER CENTER



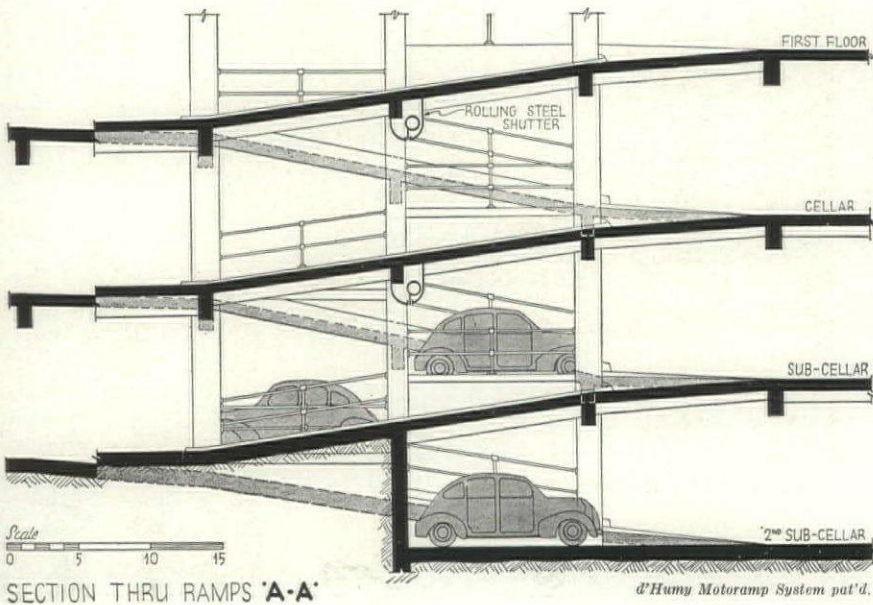
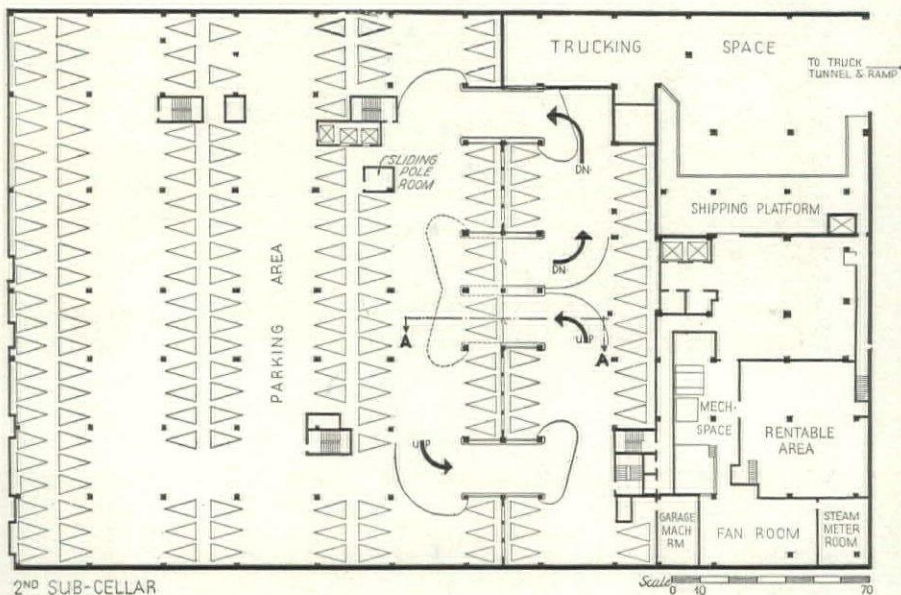
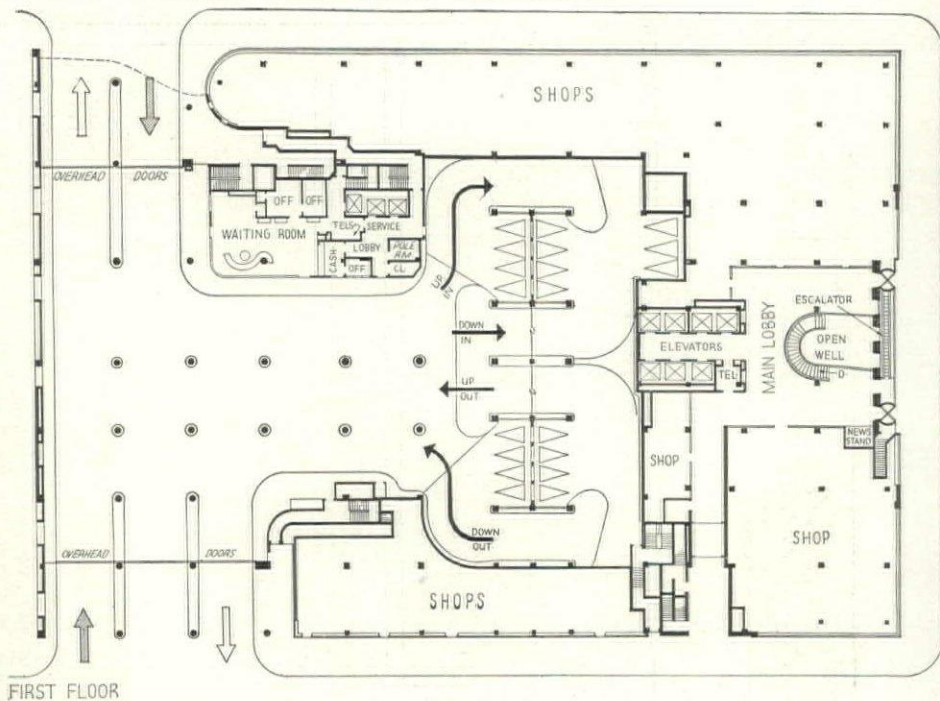
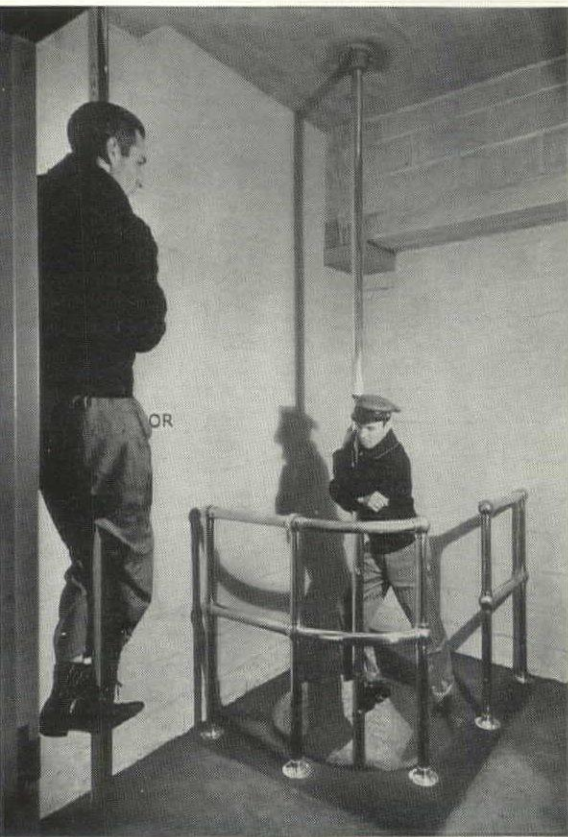
WAITING ROOM



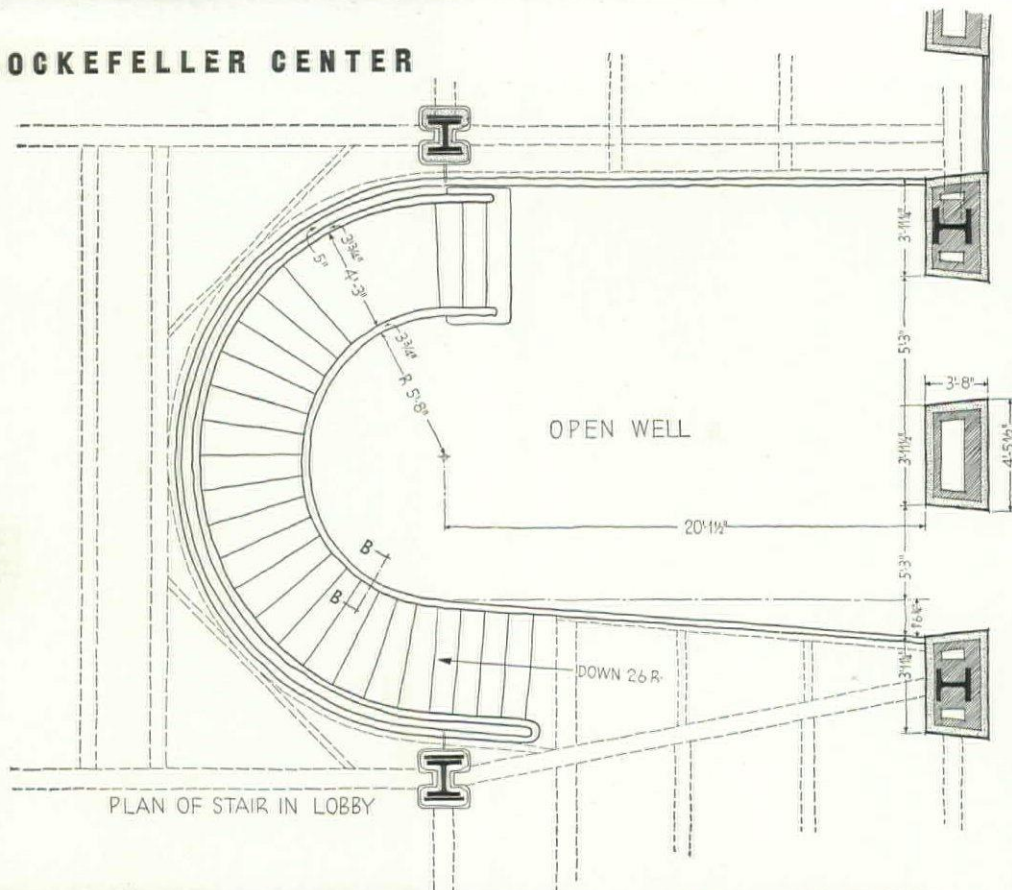
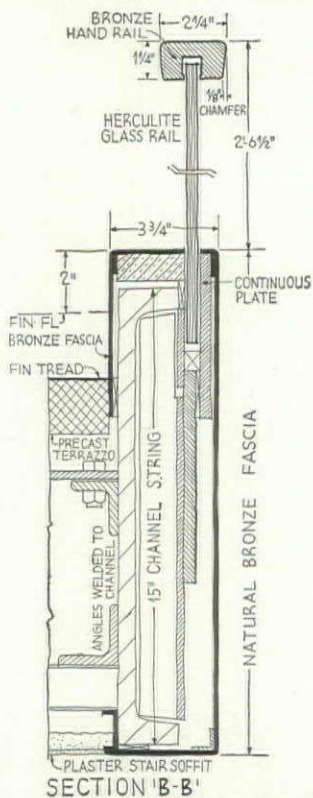
GARAGE CONSULTANTS:
D'HUMY MOTORAMP SYSTEM,
RAMP BUILDINGS CORPORATION



The garage occupies six floors, two above and three below street level. A patented ramp system with the basic feature of staggered floor arrangement shown in the section below was used. Save for the entrances off the one-way streets at either side of the building, there is little evidence of a storage capacity of 800 cars. The entrance level is a thoroughly distinguished piece of utilitarian design. Typical of many carefully studied details are the lights, placed to reduce glare, and the poles shown below, which greatly increase the speed with which attendants can handle the cars.



BUILDING NO. 11, ROCKEFELLER CENTER



CONSTRUCTION OUTLINE

GENERAL CONTRACTOR: Hegeman & Harris Co.

FOUNDATIONS: Monolithic concrete, slab construction. Waterproofing—Hydrolithic.

STRUCTURE: Piers and spandrels—limestone, parged and backed with brick masonry. Interior partitions—cinder block and brick. Structural steel girder and beam construction. Floor construction—4 in. reinforced cinder concrete slab, cinder cement fill and finish. Ceilings—plaster.

ROOF: Colprovia roof covering on cinder fill. Limestone Products Corp.

SHEET METAL WORK: Flashing—16 oz. lead covered copper.

INSULATION: Walls—Cabot's Quilt, Samuel Cabot, Inc. Roofs—2 in. Celotex, Celotex Corp. Sound insulation—springs and acoustical glue between sleepers and floor, mineral wool between sub-floor, slab and sleepers.

WINDOWS: Sash—double hung, metal. Campbell Metal Window Corp. Glass—Libbey-Owens-Ford Glass Co. and Pittsburgh Plate Glass Co.

STAIRS AND ELEVATORS: Stair railing in lobby—Herkulite glass, Pittsburgh Plate Glass Co. Stairs—steel, General Bronze Corp. Ramps—Ramp Building Corp. Elevators and escalator—Westinghouse Electric Elevator Co. **WALL COVERINGS:** Public corridors and rental areas—plaster. Lobbies—marble. Entrance (48th St.)—terra cotta, Federal Sea board Terra Cotta Co.

DOORS: By Dahlstrom Metallic Door Co. General Bronze Corp. and Kinneer Mfg. Co.

HARDWARE: Bronze, P. & F. Corbin.

PAINTING: Material by Muralo Co., L. Sonneborn Sons, Inc. Benjamin Moore Co. and National Lead Co.

ELECTRICAL INSTALLATION: Switches and receptacles—Harvey Hubbell, Inc. Fixtures—Westinghouse Electric & Mfg. Co. and Frink Corp.

PLUMBING: Hot and cold water pipes—brass, Revere Copper & Brass Co.; remainder—cast iron, Central Foundry, covering by Johns-Manville Corp. Toilet fixtures—Crane Co. Valves—Sloan Valve Co.

HEATING AND AIR CONDITIONING: Heating system—Baker-Smith & Co., Inc. Air conditioning system—Buensod-Stacey Air Conditioning, Inc. Radiator enclosures—Campbell Metal Window Co. Grilles—bronze, General Bronze Corp.



All photos, Samuel H. Gottscho

OFFICES AND SHOW ROOMS

THE NATIONAL CASH REGISTER CO.

NEW YORK CITY

REINHARD & HOFMEISTER, ARCHITECTS



[illegible]

Architectural floor plan of the first floor of the National Bureau of Standards Building. The plan includes the following labeled areas:

- DISPLAY WINDOW (multiple locations along the left and bottom perimeter)
- DEMONSTRATION ROOM (top left)
- SUPPLY ROOM (top center)
- DEMONSTRATION ROOM (top right)
- SUPPLY SALES (center top, semi-circular area)
- EQUIPMENT DISPLAY (right side)
- PASSAGE TO LOBBY (right side)
- CL. (Closet, multiple locations)
- DW. (Dressing Room, top center)
- TABLE FOR MACHINES (two locations, left and right of the central table)
- DEMONSTRATION TABLE (large oval table in the center)
- DISPLAY SALESROOM (large central area)
- CL. (Closet, bottom right)

Scale: 0 5 10 15 FEET
N (North arrow pointing towards the top right)

FIRST FLOOR





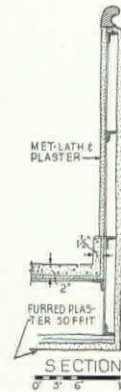
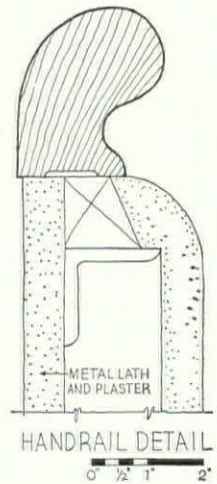
GRAND SALON—SECOND FLOOR

SHOW ROOM—GROUND FLOOR





SECOND FLOOR STAIR LOBBY



CONSTRUCTION OUTLINE

GENERAL CONTRACTOR: Hegeman & Harris Co.

STRUCTURE: Interior partitions—terra cotta and gypsum block, plastered.

WINDOWS: Sash—Campbell Metal Window Co. and General Bronze Corp. Glass— $\frac{1}{4}$ in. polished plate, Pittsburgh Plate Glass Co.

STAIRS AND ELEVATORS: Treads and risers—terrazzo, Bruno DePaoli Co. Elevators—Westinghouse Elevator Co.

FLOOR COVERINGS: Carpets—Persian Rug Co. Linoleum, rubber and mastic tile—Newell, Orr & Walsh.

WALL COVERINGS: Ground floor—Koa-wood; (2nd)—Bubinga; both by David Kramer. Show windows—Salubra paper, Frederick Blank & Co.

FURNITURE: All by Schmeig & Kotzian.

WOOD AND METAL TRIM: Trim and interior doors—Dahlstrom Metallic Door Co. Exterior doors—General Bronze Corp.

HARDWARE: By P. & F. Corbin.

PAINTING: Material by Shatz Painting Co.

ELECTRICAL INSTALLATION: Fixtures by Cassidy & Co., Mitchel Vance and Silvray Lighting, Inc.

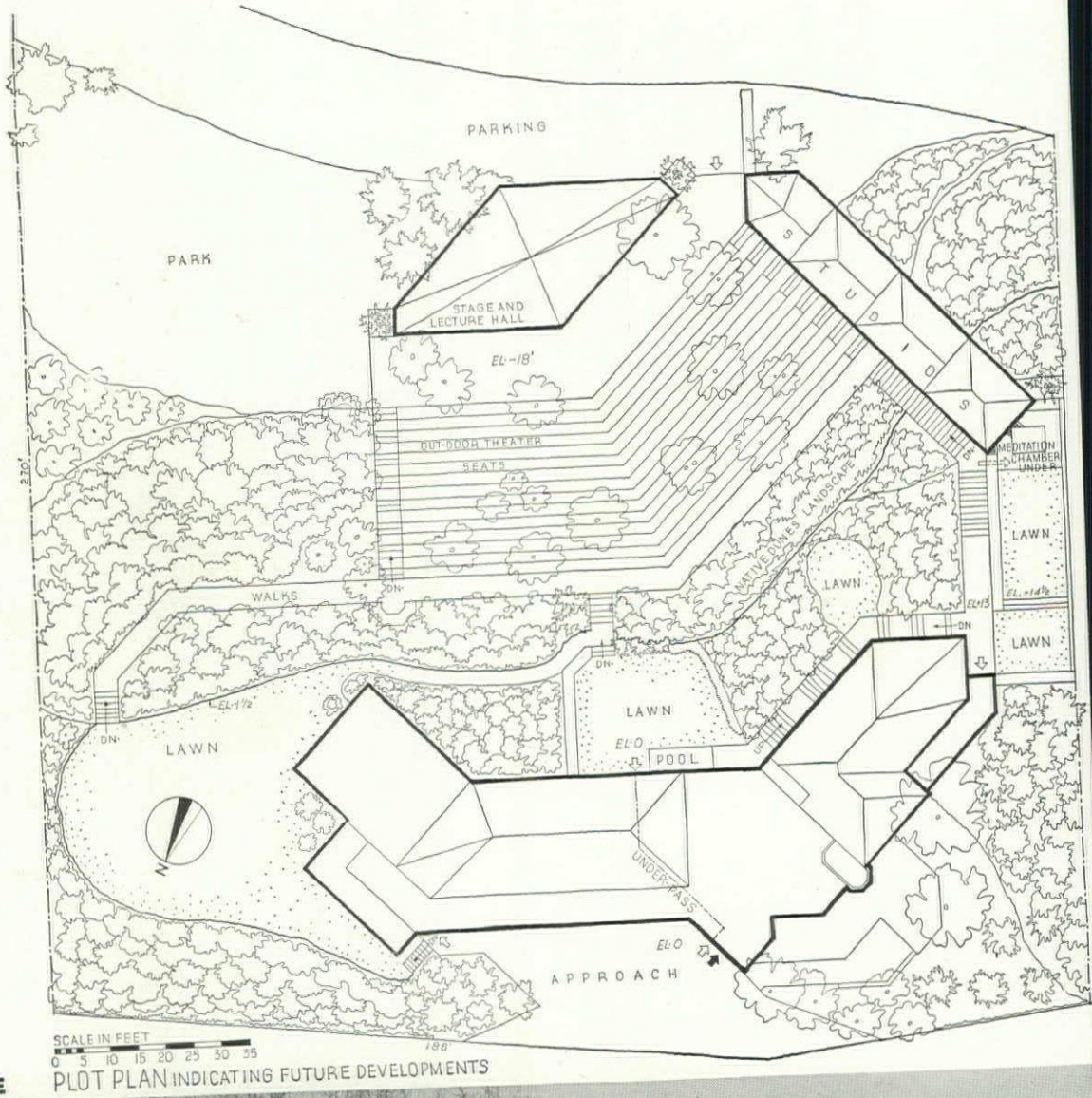
PLUMBING: Fixtures by Standard Mfg. Co. and Crane Co.



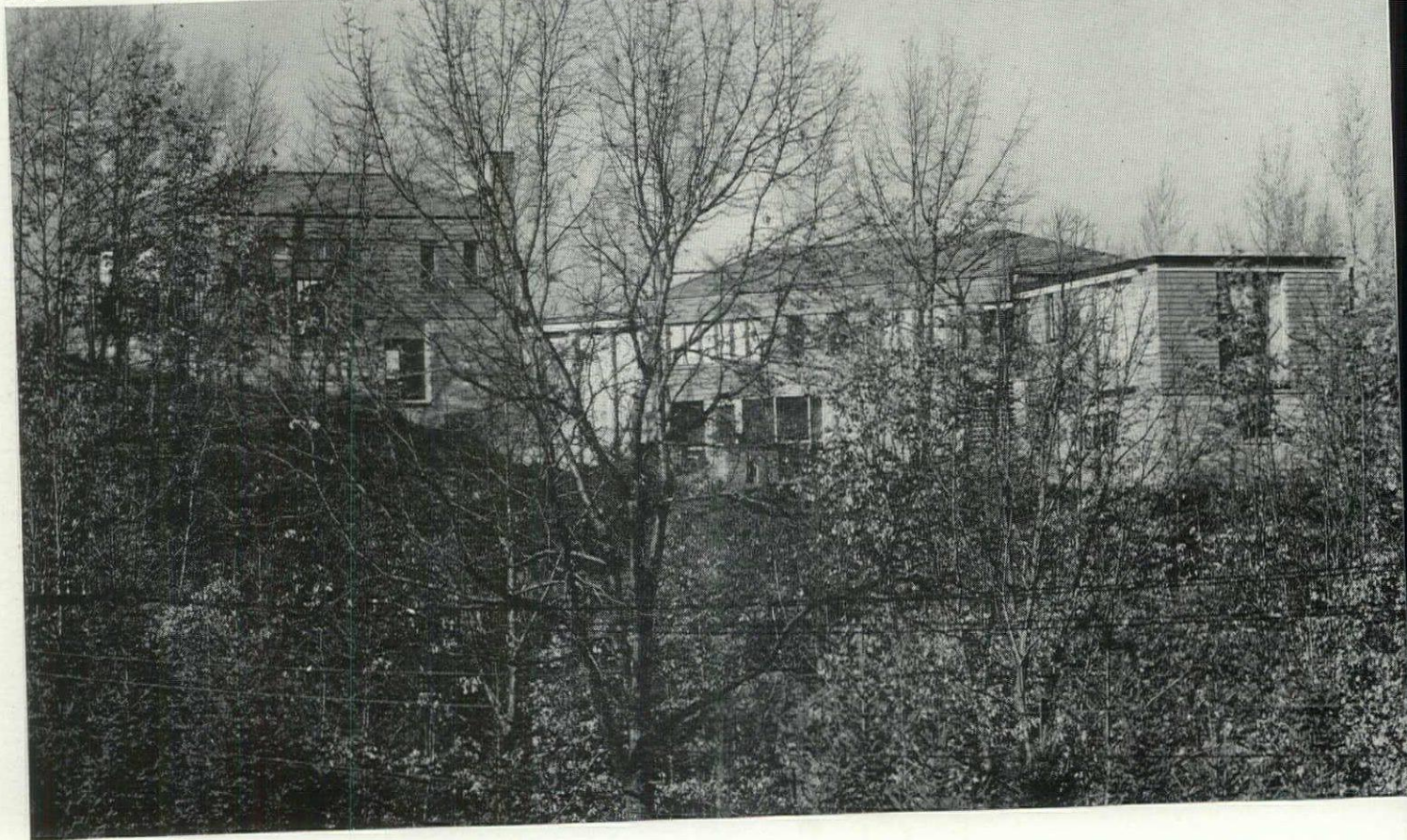
HOUSES



"SHANGRI-LA"
HOUSE FOR
FRANCES GORDON WELSH
LONG BEACH, INDIANA
ARCHITECT:
JOHN LLOYD WRIGHT
ASSOCIATE:
FRANCES GORDON WELSH



VIEW ACROSS RAVINE



LIVING-
DINING



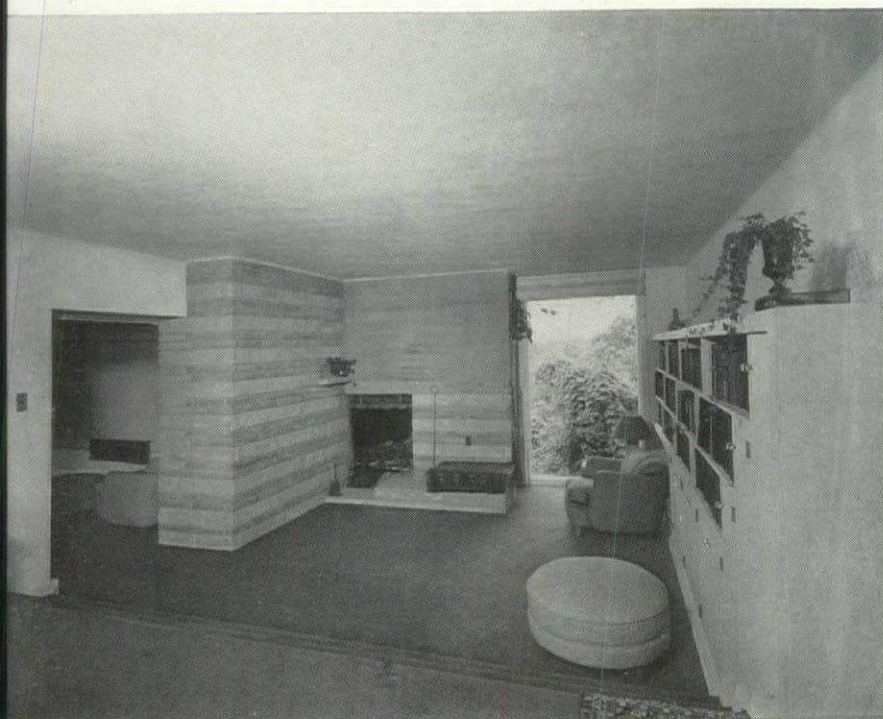
An extraordinary richness of spatial relationships is the outstanding characteristic of this house, where both living floors have been merged in a highly satisfying three-dimensional conception. The two-story living room, for example, is intersected by an open passage connecting the lounge and bedrooms. Equally interesting is the relation between the living room, lawn and underpass. The avoidance of rectangular outlines has produced an unusual plan, but it should be noted that there is nothing outlandish in the appearance of either interiors or exterior. The latter has been executed with the most commonplace of materials, stone and shingle, and the device of bringing the exterior finish inside the house has been employed with very pleasing results. When completed, the project will include a studio block, stage, and an outdoor theater which makes excellent use of the ravine south of the house.



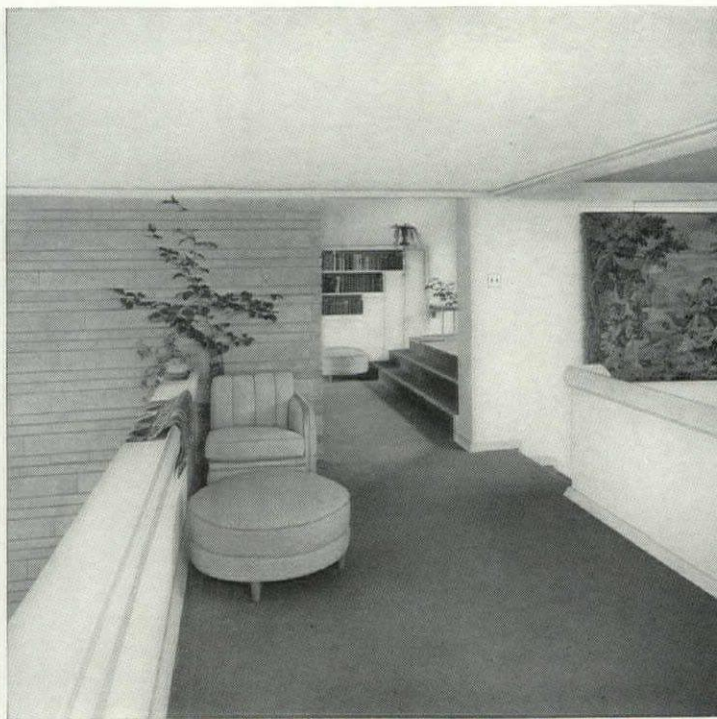
LIVING-DINING



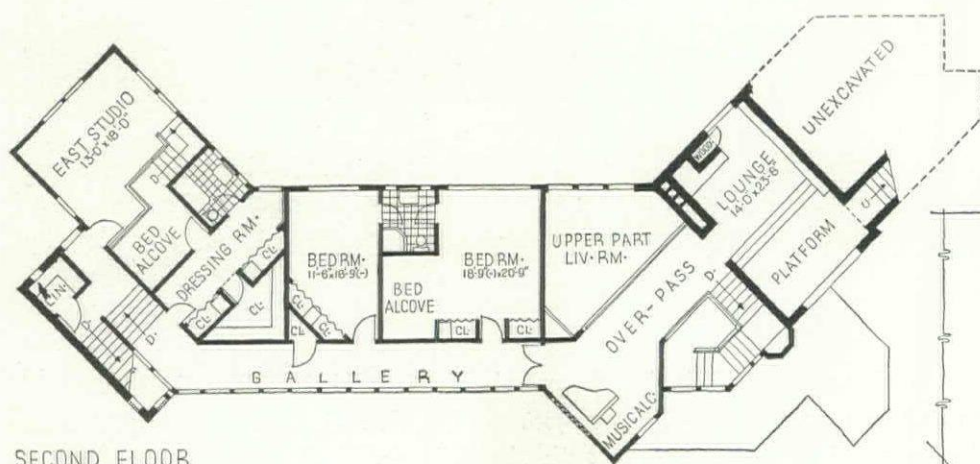
UNDER-PASS



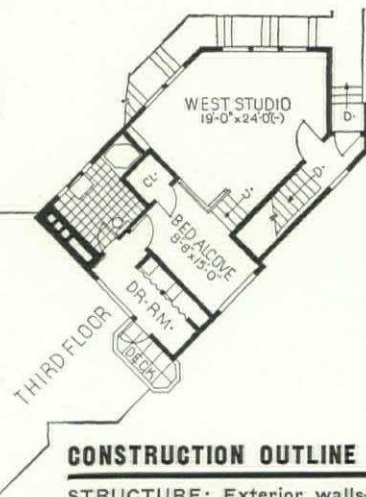
LOUNGE



OVER-PASS



SECOND FLOOR



THIRD FLOOR

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—masonry and frame, faced with Briar Hill sandstone and cedar shingles. Interior—rock lath and plaster. Floor construction—reinforced concrete slabs throughout.

ROOF: Covered with Ru-ber-oid tar and gravel roofing, The Ruberoid Co. and cedar shingles. Decks—covered with Traffic-Top Celotex Co.

INSULATION: Walls and roof—wool batt; Sprayo-Flake Co. Weatherstripping—Chamberlain Metal Weather Strip Co.

WINDOWS: Sash and screens—steel, Hope's Windows, Inc. Glass— $\frac{1}{4}$ in. plate, Pittsburgh Plate Glass Co. Glass blocks—Owens Illinois Glass Co. Blinds—Aeroshade Co.

WALL COVERINGS: Kitchen and bathrooms—Vitrolite, Vitrolite Div., Libbey Owens-Ford Glass Co.

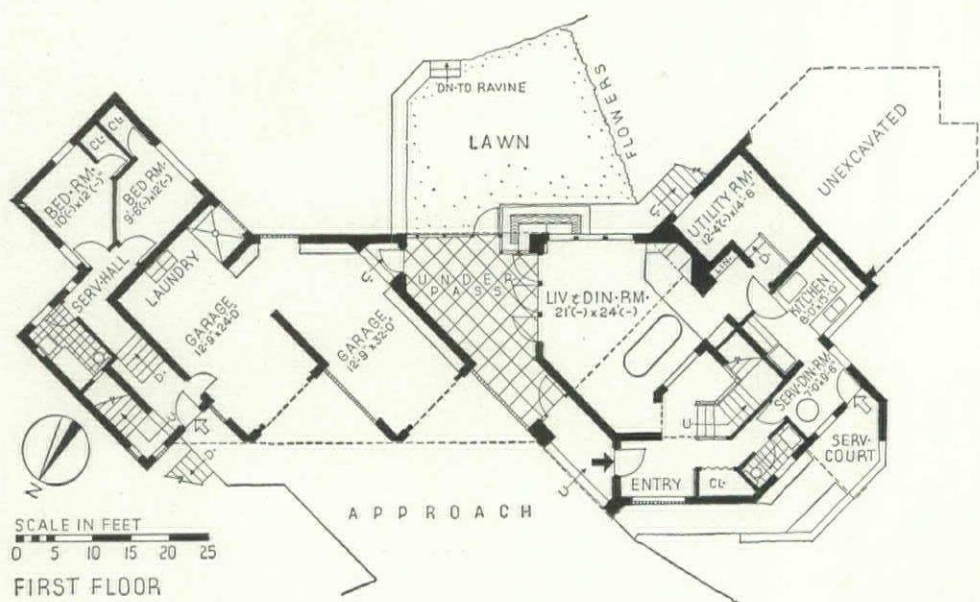
HARDWARE: Yale & Towne Mfg. Co. and Midwest Hardware Co. Garage Doors—Barber-Colman.

KITCHEN EQUIPMENT: Range—Tappan Stove Co. Refrigerator—Electrolux, Service Inc. Sink and cabinets—Dwyer Products Co.

BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co. Cabinets—Miami Cabinet Div., Philip Carey Co.

PLUMBING: Hot and cold water pipes—A. M. Byers Co.

HEATING AND AIR CONDITIONING: Vacuum vapor system with air conditioning of studios and living-dining space, C. A. Dunham Co. Boiler—Weil-McLain Co. Thermostats—Minneapolis-Honeywell Regulator Co. Water heater—Taco Heaters, Inc.

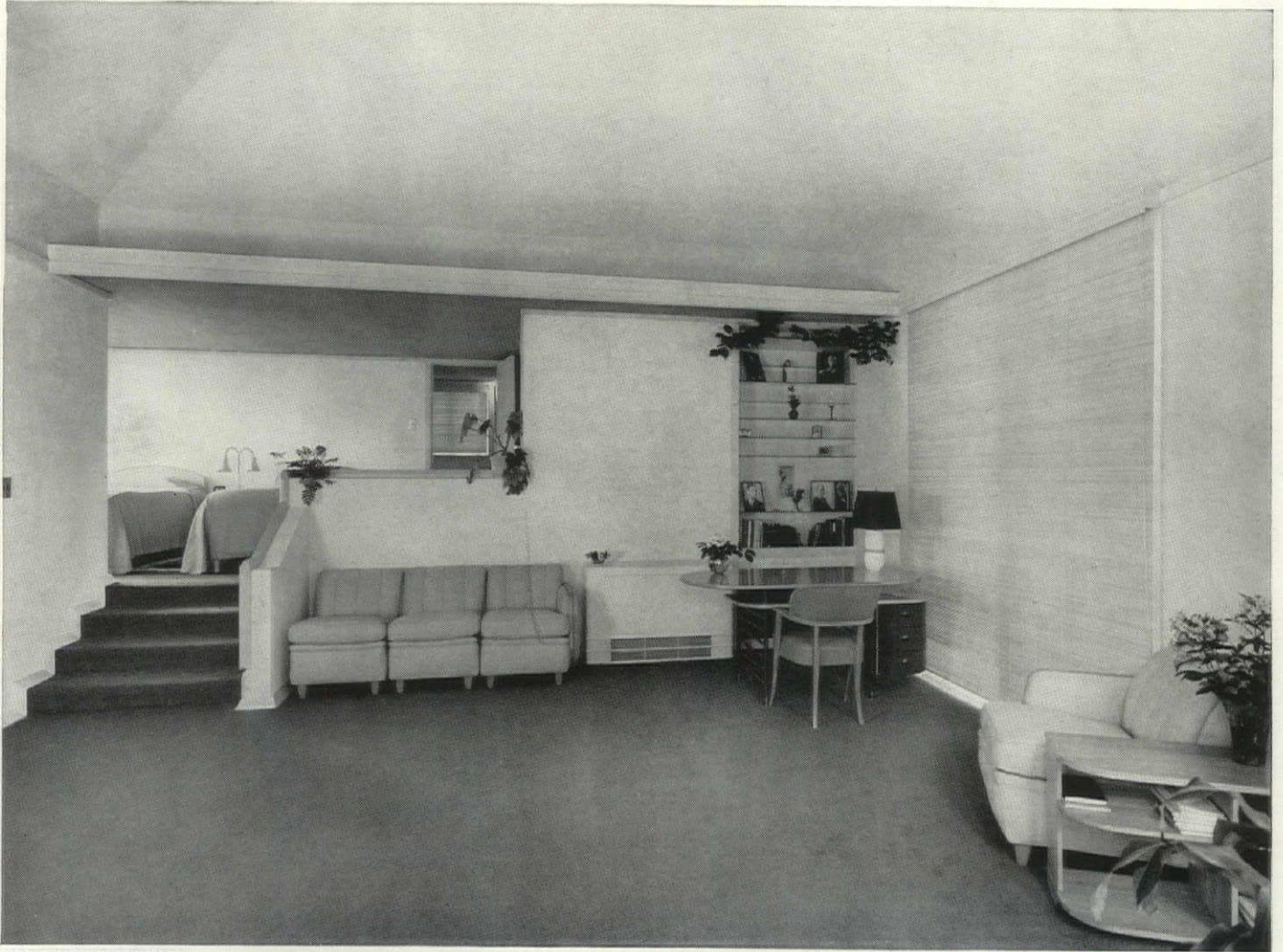


SCALE IN FEET

0 5 10 15 20 25

FIRST FLOOR

"SHANGRI-LA" JOHN LLOYD WRIGHT, ARCHITECT. FRANCES GORDON WELSH, ASSOCIATE



WEST STUDIO

Bodine Photos

EAST STUDIO

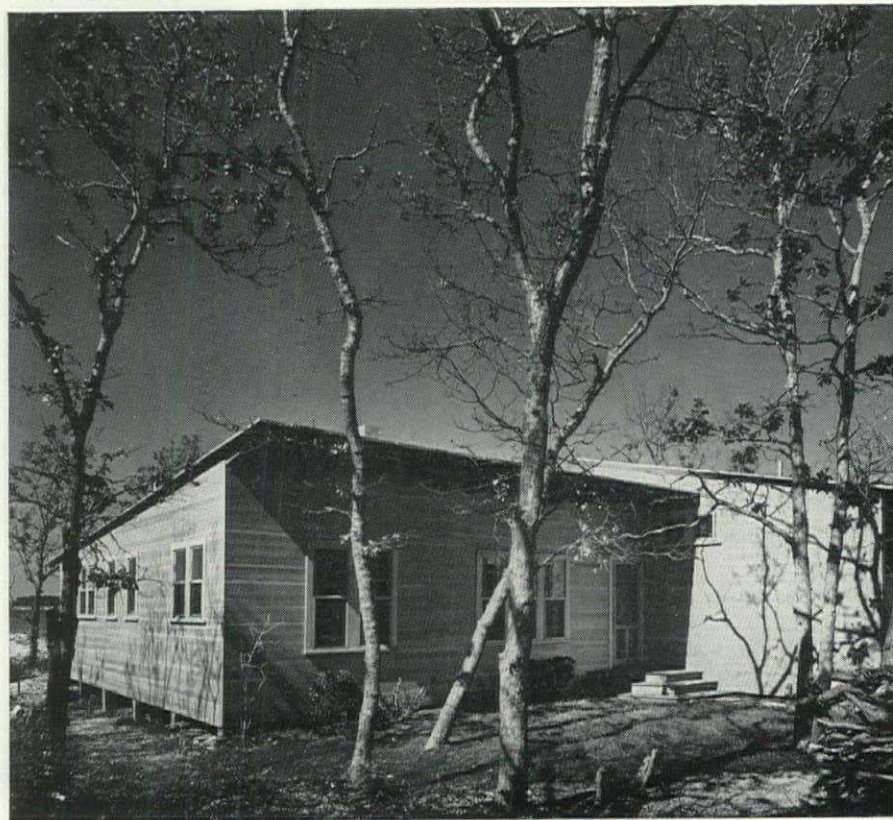


HOUSE FOR MRS. JAMES B. AYER, LONG BEACH, WAREHAM, MASS.

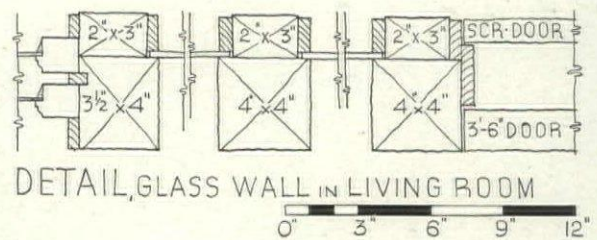
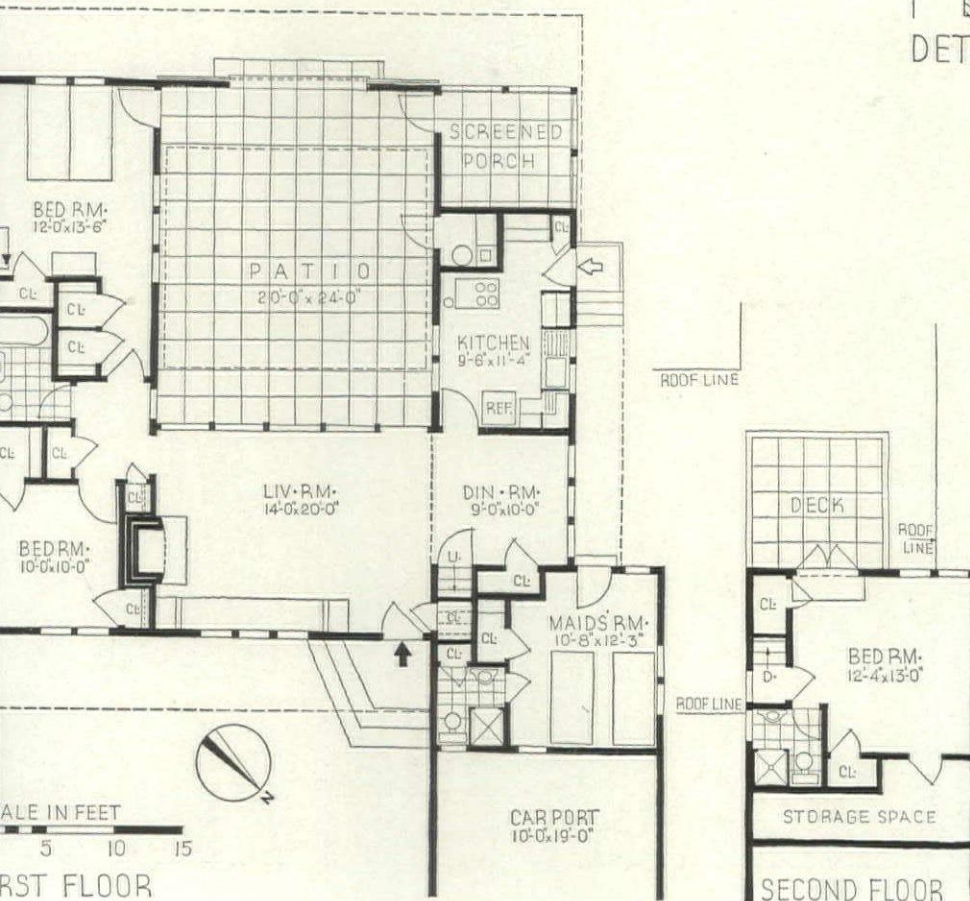


Enra Stoller

NORTH SIDE



Those familiar with the last series of LIFE houses will recognize this cottage as an adaptation of William Wurster's design. Ideally suited for its purpose in both plan and character, the house retains the original patio as a useful adjunct to seaside living. The living and dining rooms are combined, with access to the bedrooms through a separate vestibule. An open garage and maid's room occupy a wing next to the main entrance: it will be noted that the latter connects with the kitchen only through an outside passage. Cost: \$6,726.63. Cubage: 18,760.



CONSTRUCTION OUTLINE

FOUNDATION: Posts—concrete.

STRUCTURE: Exterior walls— $3\frac{1}{4}$ in. fir, 2 x 4 in. studs; inside—living room—same as outside, balance— $\frac{1}{2}$ in. Celotex, Celotex Corp. Floor construction—4 x 8 in. joists and fir finish flooring.

ROOF: Covered with Ru-ber-oid, Ruberoid Co., 2 coats aluminum. Decks—canvas roofing, painted with lead and oil and aluminum.

SHEET METAL WORK: Flashing and lead-ers—lead-ers copper.

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

FLOOR COVERINGS: Main rooms—fir, Kitchen and bathrooms—linoleum.

HARDWARE: By Lockwood Hardware Mfg. Co.

PAINTING: Walls and sash—fir treated with malacca; Celotex painted with Litho-pone. Exterior walls—2 coats linseed oil.

KITCHEN EQUIPMENT: Refrigerator—Frigidaire Div., General Motors Corp. Sink—Standard Sanitary Mfg. Co.

BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co. Shower—Flat Metal Mfg. Co.

PLUMBING: Cold water pipes—galvanized iron, A. M. Byers Co. Hot water pipes—brass.



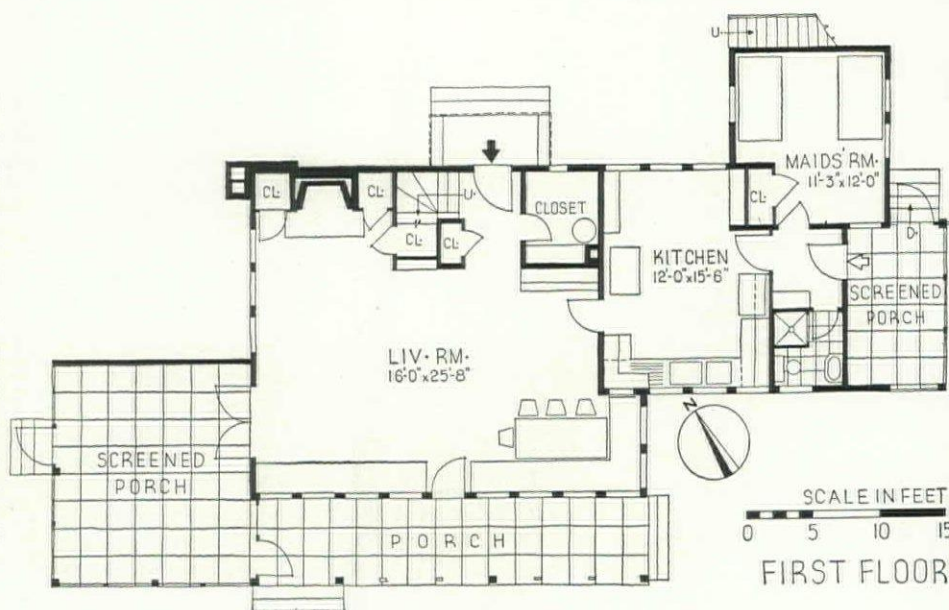
LIVING ROOM

HOUSE FOR HENRY R. SHEPLEY, LONG BEACH, WAREHAM, MASS



Eera Stoll

This summer house was built by the architect for his own use, and adjoins the residence shown on the preceding pages. Many design elements have been repeated in the two houses, the most interesting of which is fir flooring used for both exterior and interior finish. Unpretentious stock double-hung windows have been used throughout, and on the second floor occupy almost the entire wall area. The plan is appropriately informal; its general character is echoed in the treatment of the rooms, where joists have been left exposed. Cost: \$7,656.39. Cubage: 20,894.

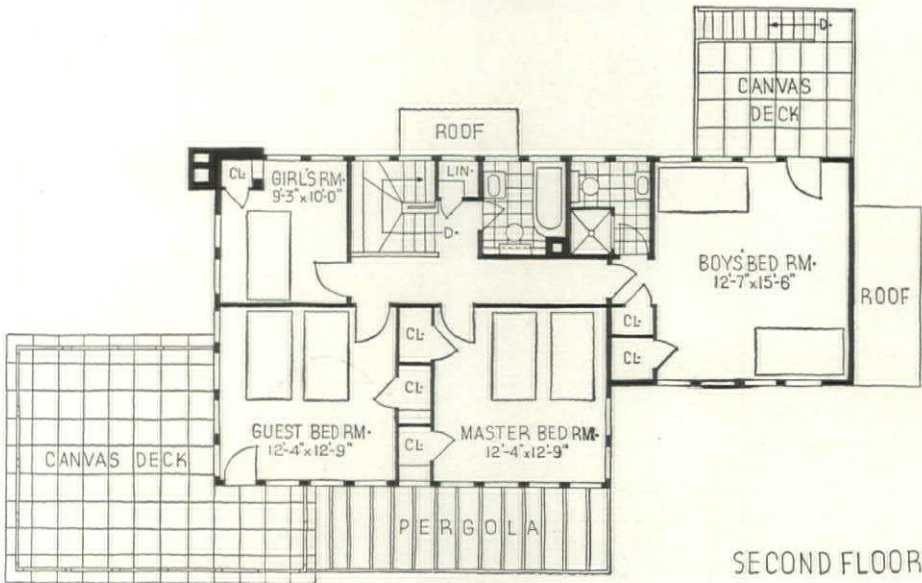


SCALE IN FEET
0 5 10 15
FIRST FLOOR



Ezra Stoller Photos

LIVING ROOM



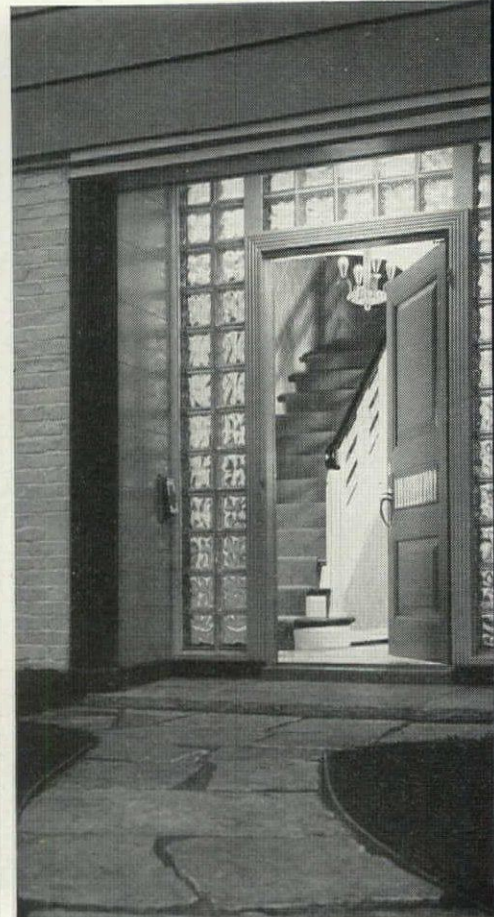
CONSTRUCTION OUTLINE

FOUNDATION: Posts—concrete.
STRUCTURE: Exterior walls—2 x 4 in. studs, 3 1/4 in. fir laid horizontal inside and outside. Floor construction—4 x 8 in. joists, 1/2 in. Celotex, Celotex Corp., fir finish flooring.
ROOF: Covered with 1/2 in. Homasote, Homasote Co. and Ru-ber-oid, Ruberoid Co. Decks—covered with canvas.
SHEET METAL WORK: Leaders and flashing—lead-copper.
WINDOWS: Sash—double hung, wood. Glass—single strength.
HARDWARE: By Lockwood Hardware Mfg. Co.
PAINTING: Walls and sash—John W. Masury & Sons. Roof—2 coats aluminum, Samuel Cabot, Inc.
KITCHEN EQUIPMENT: Range—Universal, Landers, Frary & Clark. Refrigerator—Apex, Apex Rotarex Corp. Sink—Standard Sanitary Mfg. Co.
BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co. Shower—Fiat Metal Mfg. Co.
PLUMBING: Cold water pipes—galvanized iron, A. M. Byers Co. Hot water pipes—brass.

HOUSE FOR V. H. MOON, HIGHLAND PARK, ILL.



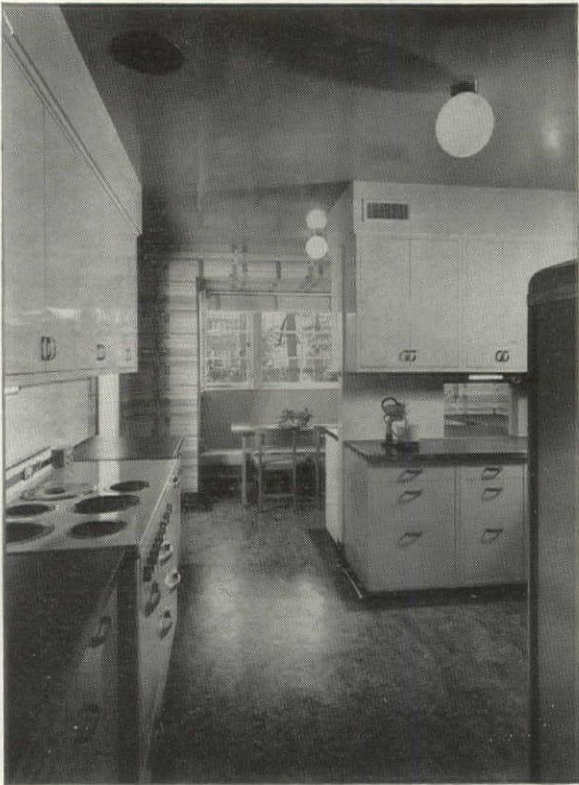
Hedrich-Blessing Photos



ENTRANCE

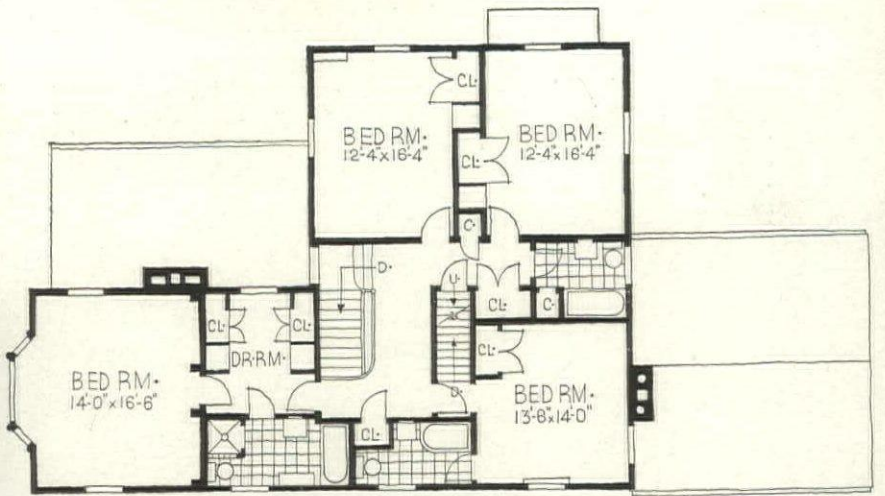


An ample design, with good organization of service and living facilities. The garage has direct access to the front hall through the service entry. A guest lavatory, also well placed in relation to the front hall, has been provided with a tub, making possible the use of the library as an extra sleeping room if desired. Both living and dining rooms are connected to a screened porch facing the garden at the rear. As in most plans where a breakfast room has been incorporated, this room has been arranged so that it may be used as a pantry; it has the further advantage of a large bay window so that it becomes more than a passage between two rooms. The exterior shows an uncommonly vigorous handling of conventional forms; the use of wide siding whose lines are carried through in the shutters and windows is particularly interesting.

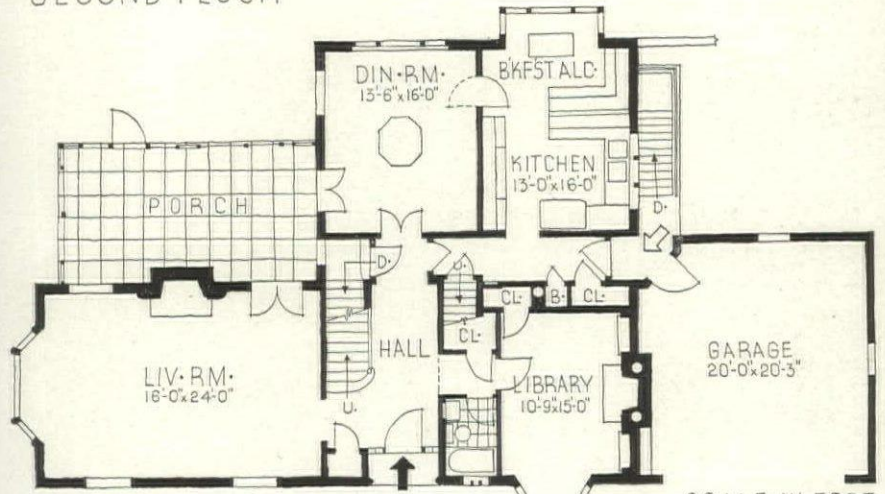


KITCHEN

LIVING ROOM



SECOND FLOOR



FIRST FLOOR



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—brick veneer, 12 in. bevel siding and wood studs; inside—U. S. Gypsum Co. Rocklath. Floor construction (1st.) poured concrete slab; (2nd.) wood joists.

ROOF: Covered with wood shingles.

FIREPLACE: Damper—Colonial Fireplace Co.

INSULATION: Outside walls—Balsam wool, Wood Conversion Co. Roof—rock wool. Weatherstripping—bronze and zinc. Sound insulation (library ceiling)—Acoustic block, The Celotex Corp.

WINDOWS: Sash—double hung white pine with storm sash. Glass—double strength, quality A. Glass block—Pittsburgh Corning Corp.

FLOOR COVERINGS: Kitchen—linoleum, Armstrong Cork Co. and Congoleum-Nairn Co. Bathrooms—rubber tile, Wright Rubber Products Co.

WALL COVERINGS: Living room—grass cloth, W. H. S. Lloyd Wallpaper Co. Bathroom (master's)—Vitrolite, Vitrolite Div., Libbey-Owens-Ford Glass Co.

TRIM: Window and door returns—metal, Milcor Steel Co. Garage doors—McKee Door Co.

PAINTING: Paint material by Pratt & Lambert, Inc. Floors—Minwax, Minwax Co.

KITCHEN EQUIPMENT: Range, refrigerator and garbage disposal unit—General Electric Co. Ventilator—Pryne fan, Emjay Building Supply Co. Dishwasher—Westinghouse Electric & Mfg. Co. Cabinets—Whitehead Metal Products Co.

BATHROOM EQUIPMENT: Fixtures by Crane Co.

HEATING: Boiler—Gar Wood, Inc. Grilles—Independent Register Co. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—Hot Point, Edison General Electric Appliance Co., Inc.

HOUSE FOR HERBERT STOTHART, SANTA MONICA, CALIF.



ENTRANCE SIDE

All photos by Ernest Ludwig

LIVING ROOM WINDOW



As indicated by the photographs, the designer has taken full advantage of the possibilities of the California climate, not only in the provision of generous outdoor living facilities and screens of glass for the main rooms, but also in the use of trellises and other devices for obtaining an interesting play of light and shadow. The plan has facilities for the most luxurious living, with a cloak room also used as a projection booth, six main bedrooms and two maid's rooms, and a variety of private sitting rooms on the second floor. Considering the complexity of the problem, the various requirements have been admirably met, with excellent provision for privacy, view and adequate service. Not only the house, but the furnishings, landscaping, lighting fixtures and decoration were done by Mr. Davidson. Cost: about \$30,000, at \$4.85 per square foot.

CONSTRUCTION OUTLINE

STRUCTURE: Wood studs and joists, 16 in. o.c., $\frac{3}{4}$ in. Vapor Seal sheathing, Celotex Corp., tarpaper, wire, plaster and 2 coats waterproof brush coating. Inside—lath and plaster, canvas and 3 coats paint.

INSULATION: Roofs, decks and balcony— $\frac{1}{2}$ in. Red Top, U. S. Gypsum Co. Music studio—Acousti-Celotex soundproofed ceiling, Celotex Corp.

WINDOWS AND DOORS: Steel, Druwhit Metal Products Co. Interior doors—built-up slab. Garage doors—overhead type. Trim—metal.

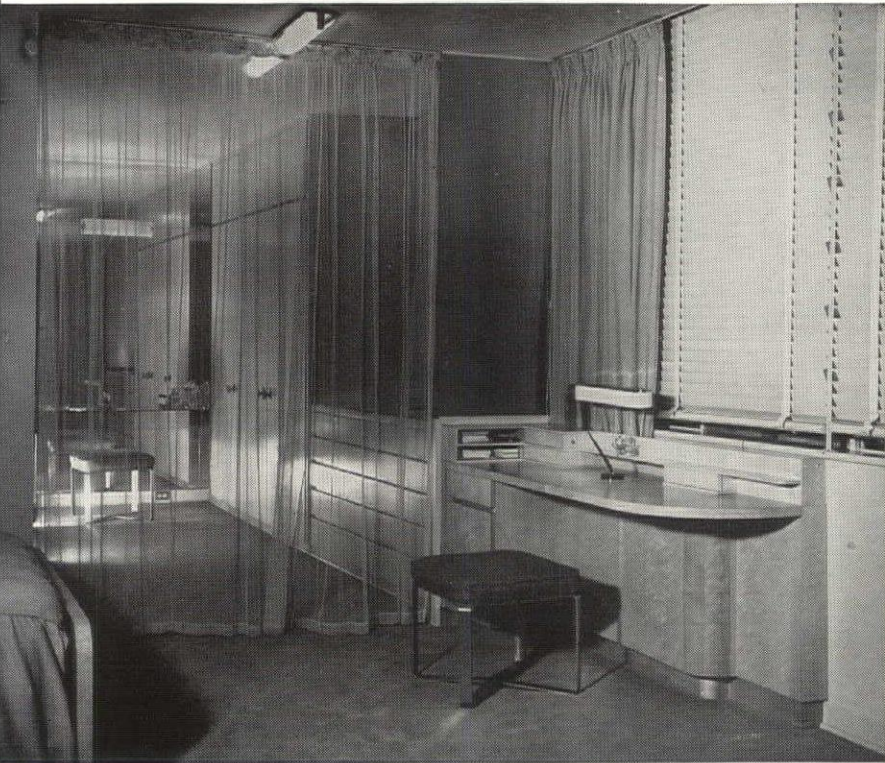
FLOOR COVERINGS: Living room and bedrooms—carpet. Dining room and hall—cork, Armstrong Cork Co. Remainder—T. & G. pine, sanded and varnished, and linoleum covered, Armstrong Cork Co. Balcony and sun deck—canvas laid in white lead.

ELECTRICAL INSTALLATION: Kitchen fan—Trade Wind Motor, Inc. Switch panel—Westinghouse Electric & Mfg. Co. Lighting fixtures—Hollywood Lighting Fixture Co.

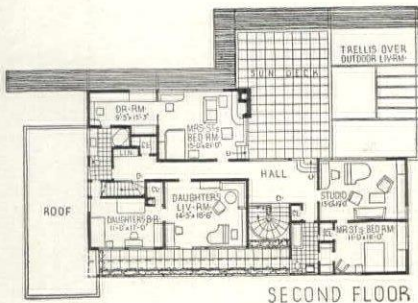
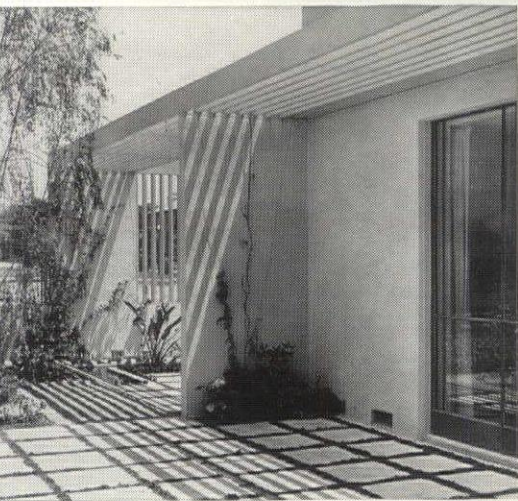
BATHROOM EQUIPMENT: Fixtures by Standard Sanitary Mfg. Co. Tub recess in main bath lined with Carrara, Pittsburgh Plate Glass Co.; in maid's quarters with Linowall, Armstrong Cork Co. Cabinets—Hall-Mack, Hallensheid & McDonald Co.

PLUMBING FIXTURES: Soil pipes—wrought iron, A. M. Byers Co. Hot and cold water pipes—copper, Mueller Brass & Copper Co.

HEATING: Two thermostatic controlled furnaces, General Electric Co. Incinerator—Burnrite Incinerator Co.

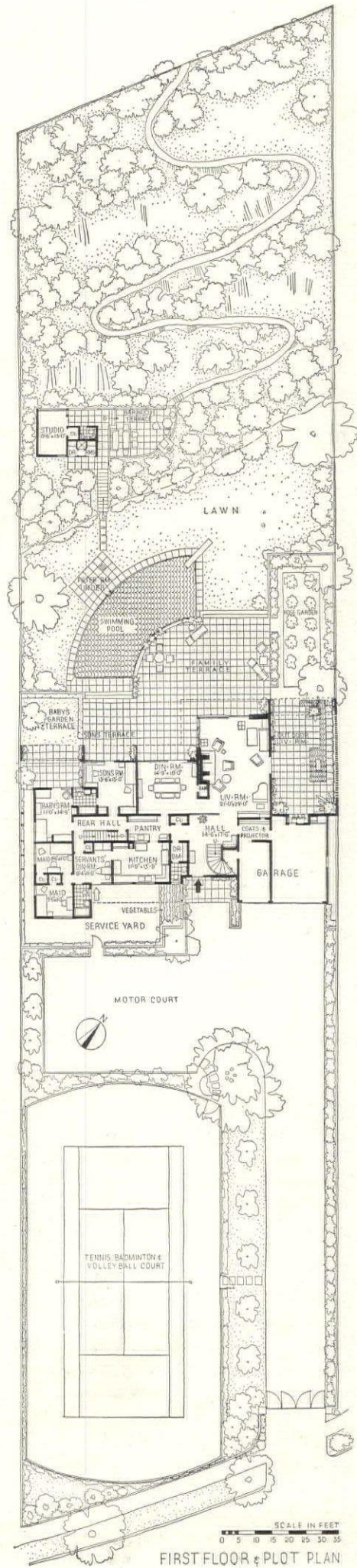
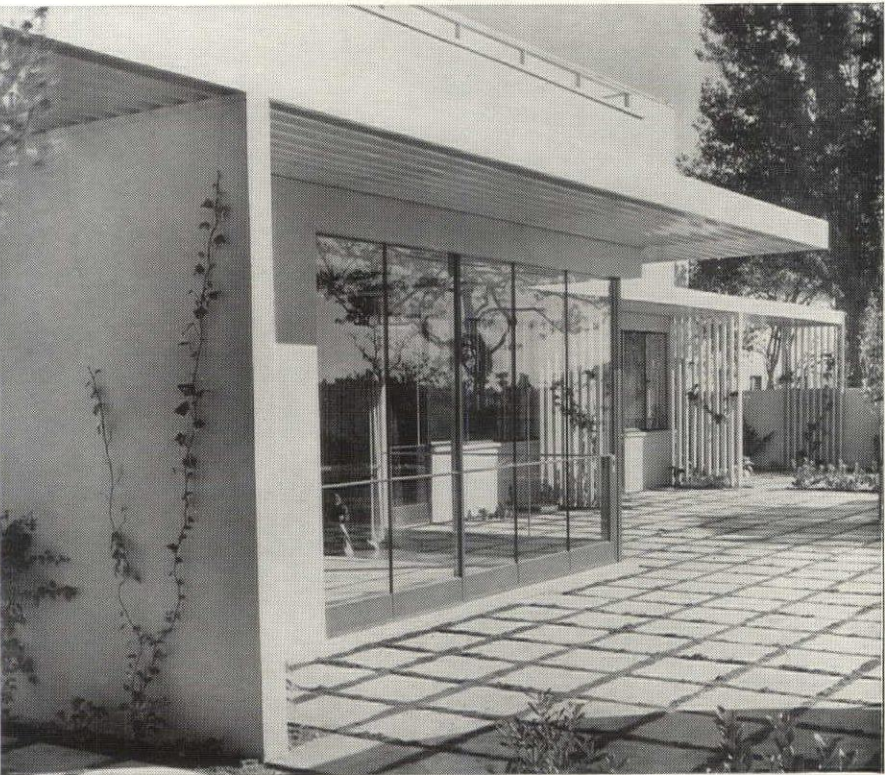


BED ROOM

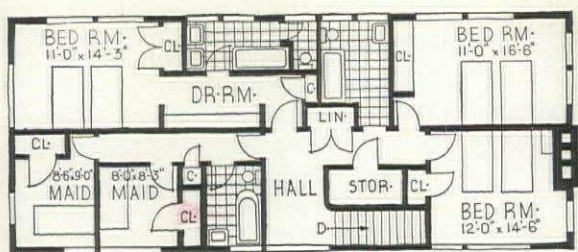


SECOND FLOOR

TERRACE



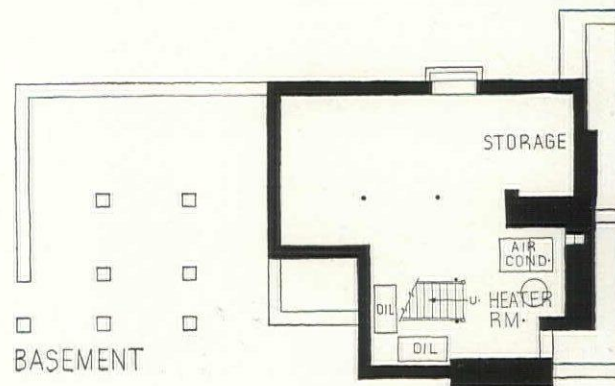
HOUSE FOR EDWARD DANE, ROWLEY, MASS.



SECOND FLOOR



FIRST FLOOR



BASEMENT

A tradition as old as New England has been followed in the exterior treatment of this house, whose dark-painted walls form an effective background for the white trim of doors and windows, and do much to eliminate the cold appearance of many modern houses. Shed roofs are an interesting variant from the flat, and represent a simpler solution of the drainage problem. The plan shows a very efficient arrangement, with the dining room completely separated from the living room, and an unusual amount of space allocated to the entrance hall and kitchen. On the second floor there are five bedrooms and three baths, with both single and double rooms well planned. The main interior finish is wood, used solid and as plywood; only bathrooms are plastered. Cost: about 43 cents per cubic foot.

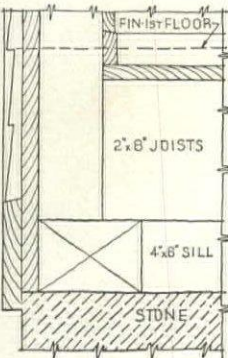
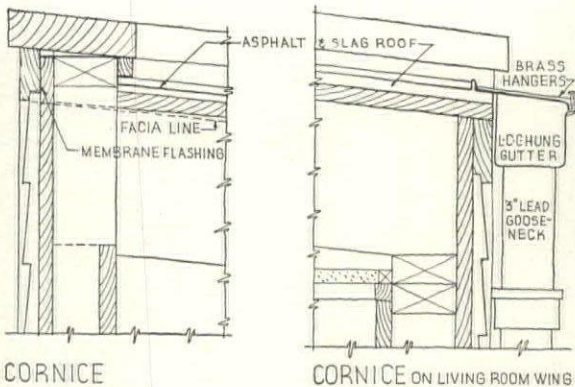




LIVING ROOM

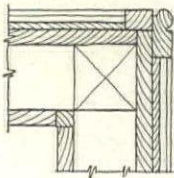


BED ROOM



WATER TABLE

SCALE IN INCHES
0 3 6 9 12



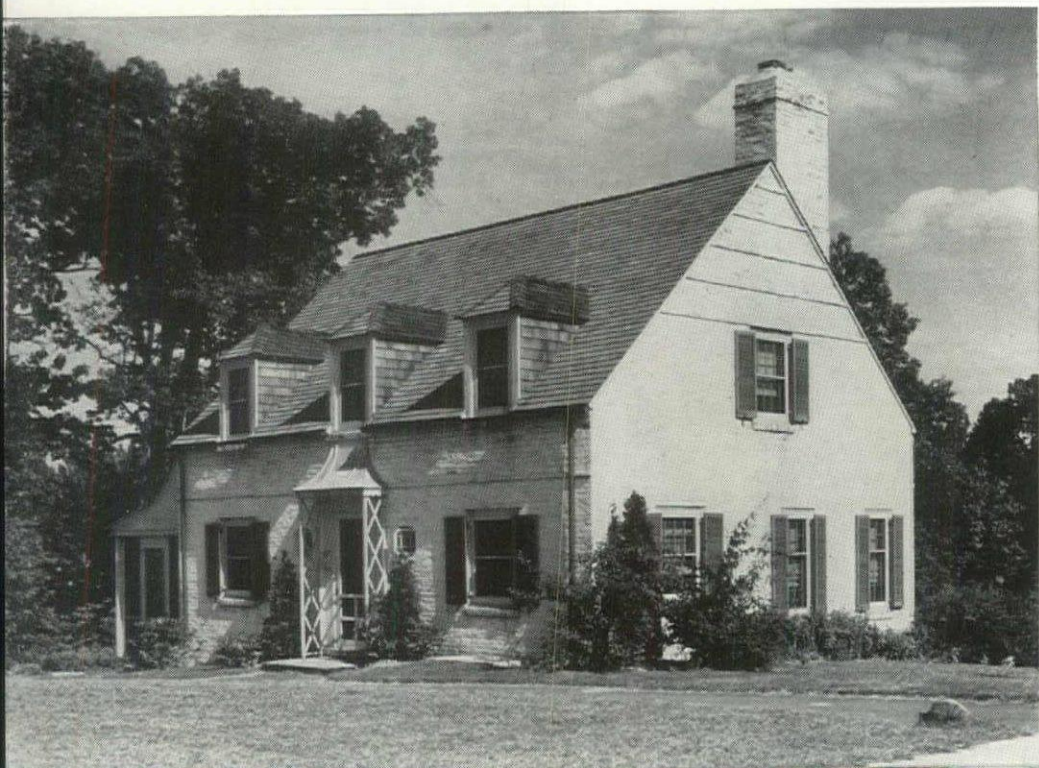
PLAN OF EXTERIOR CORNER

CONSTRUCTION OUTLINE

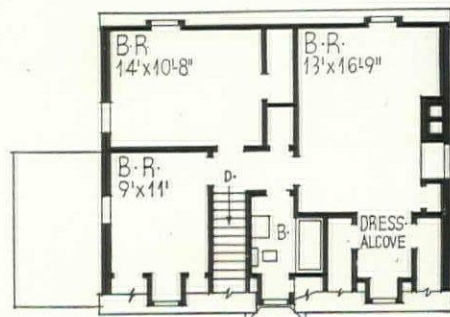
STRUCTURE: Exterior walls—2 x 4 in. studs, rough boarding, clapboards; inside—wood sheathing. Floor construction—wood joists, N. C. matched boarding, wood finish floor. Ceiling—plaster on wire lath.
ROOF: Covered with 5-ply built-up roofing.
FIREPLACE: Damper—H. W. Covert Co.
SHEET METAL WORK: Flashing—copper, H. N. Sandell membrane flashing. Gutters and leaders—copper. Ducts—galvanized iron.
INSULATION: Outside walls and roof—Sprayo-Flake Co.
WINDOWS: Sash and screens—Hope's Windows, Inc. Glass— $\frac{1}{8}$ in. quality AA.
STAIR: Treads—oak. Risers—white wood.
FLOOR COVERINGS: Living room and dining room—oak. Bedrooms and halls—pine. Kitchen and bathrooms—linoleum, Armstrong Cork Co.
WALL COVERINGS: Living room and dining room—birch sheathing. Bedrooms and halls—N. C. pine. Kitchen— $\frac{3}{4}$ in. plywood. Bathrooms—plaster on rock lath.
HARDWARE: By Sargent & Co. and W. C. Vaughan Co.
KITCHEN EQUIPMENT: Sink—Crane Co.
BATHROOM EQUIPMENT: All fixtures by Crane Co. Cabinets—Conant Bros.
PLUMBING: Hot and cold water pipes—brass.
HEATING AND AIR CONDITIONING: Complete Motor Wheel system.

HOUSE FOR WESTON HOLT BLAKE, WILMINGTON, DEL.

WESTON H. BLAKE, ARCHITECT

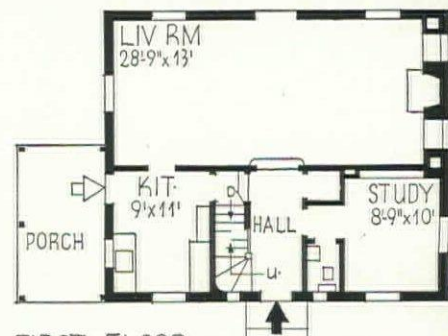


A pleasing exterior, due in large part to a very competent handling of wall and roof textures. The plan is unusual in the large amount of space reserved for the living room. By including dining space in this room it was possible to obtain a study and guest lavatory, thereby increasing the use possibilities of a restricted area. Equally compact is the second floor, which has a minimum-size hall, three bedrooms and a bath. The house has a half basement, used for a laundry and heater room. Cost: (including a separate garage): \$8,300. Cubage (house): 19,500, (garage): 1,630.



SECOND FLOOR

SCALE IN FEET
0 5 10 15



FIRST FLOOR

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—brick veneer, 1 in. air space, Sisalkraft Co. paper, wood sheathing, studs and plaster.

ROOF: Covered with wood shingles.

FIREPLACE: Damper—H. W. Covert Co.

INSULATION: Outside walls and attic floor—4 in. rock wool bats.

WINDOWS: Sash and screens—Silentite, Curtis Cos. Glass—single strength, quality B.

FLOOR COVERINGS: Living room—oak. Bedrooms—yellow pine. Kitchen and bathrooms—linoleum, Armstrong Cork Co.

WALL COVERINGS: Bedrooms—wallpaper. Bathrooms—Linowall, Armstrong Cork Co.

WOODWORK: All white pine, Curtis Cos.

HARDWARE: By Schlage Lock Co.

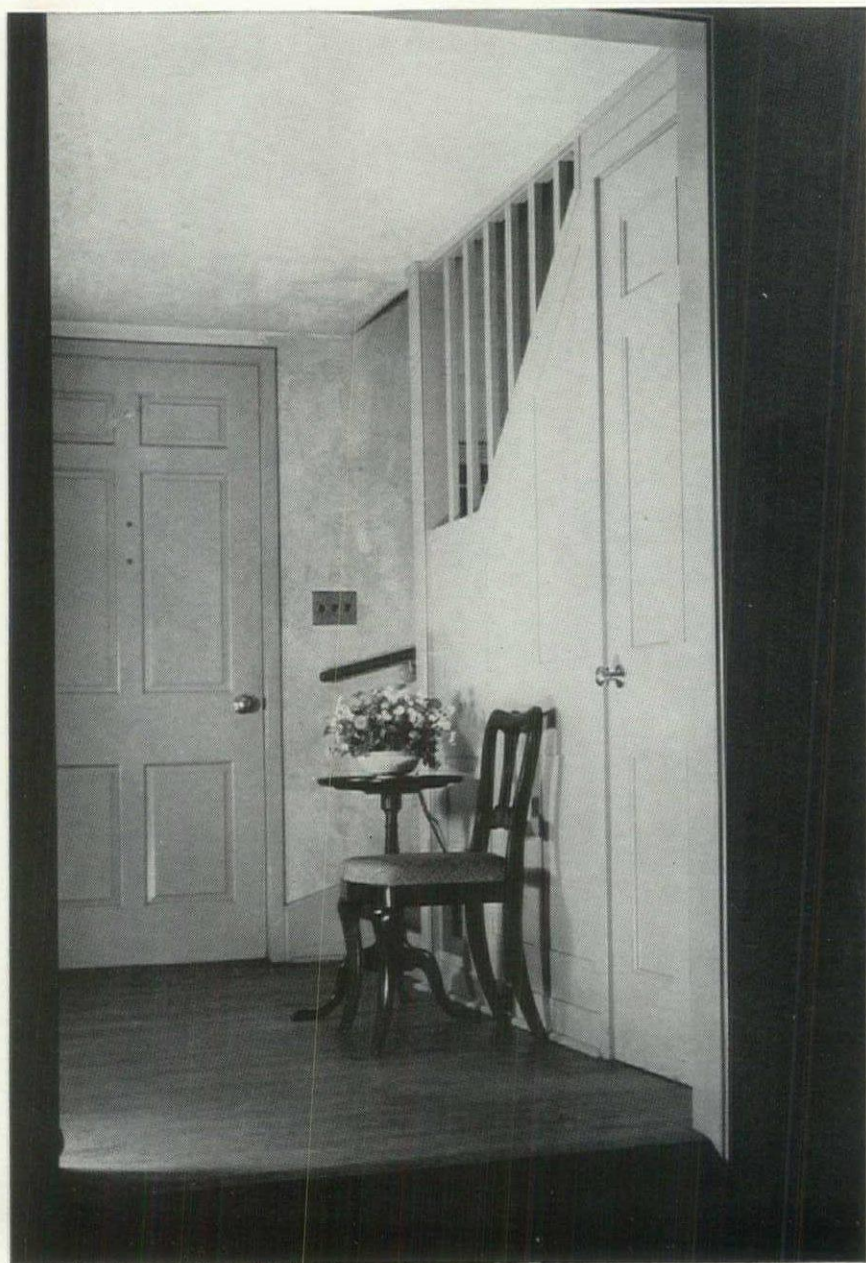
PAINTING: All paints by John W. Masury & Son. Floors—Minwax Co.

ELECTRICAL INSTALLATION: Wiring system—BX. Switches—Trumbull Electric Mfg. Co.

KITCHEN EQUIPMENT: Range—General Electric Co. Refrigerator—Norge Corp. Sink—Standard Sanitary Mfg. Co. Cabinets—Curtis Cos.

BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co.

HEATING: Hot water forced circulation system, H. A. Thrush & Co. Boiler—Burnham Boiler Corp. Oil burner and thermostats—Gilbert & Barker Mfg. Co.



THE ARCHITECT'S WORLD

THOUGHTS ON DECENTRALIZATION

By Ivor Brown

Excerpts from "Capital and Counties" in *The Manchester Guardian Weekly*, October 20, 1939

It is the boast of capitals that they are the places where you can, for money, get the best of everything. The countryman can retort that he gets the best of all the important things with little or no money. The inhabitant of a manufacturing town has his just reply that he makes the best of any one thing and that without him the vaunted shops of the capital would be desert places. . . .

To argue about the most agreeable and valuable form of town is only to involve oneself in the kind of debate arranged for the junior school. But there are some points of interest for those who are regarding the capital and counties problem with an eye to the changes in the social fabric which the war must bring about. London has proved itself to be a public nuisance in time of war because so many institutions and individuals have had to be removed from it. Even if we rather rashly assume that the next peace will be everlasting and that London's unfortunate strategical situation is no disadvantage, do we really want to pack everybody back into the overgrown and unwieldy chaos of pre-this-war London? Of course, most of the individuals who have been removed from their native towns, either for safety or because their work has been shifted, will rush back in delight when the day of release comes; during their rustication

they will have become homesick beyond endurance and will have seen far too much of lodgings or of that excessive proximity of kith and kin which is proving one of the major war-time horrors of civilian life. . . .

If, for example, the Government should decide, under pressure from above—to name it gently—to leave London during the war, is it desirable that it should return there, bag and baggage, scrip and scrippage, with not a secretary or a portfolio missing? The trouble with London has been its combination of two functions, that of commercial and that of political capital. The example of the federated nations and Dominions shows that this union is quite unnecessary, and we have close to us the sensible division of offices in Scotland, where Edinburgh supplies the Senate and the temple of the laws while Glasgow is the haven, the foundry, and the mart. . . .

London is doing the work of two capitals, and what England especially needs and might very well be given at the end of the war is an Edinburgh of its own, a political capital situated more conveniently and standing to the old London as Washington to New York. What a chance for the town-planners, architects, and artists in decoration of all kinds! That both the Executive and the Legislature

would be all the better for living closer to the workaday England and farther from the elegant pleasures of the capital is often obvious. . . .

There is another point of view to be considered, that of the great businesses which have transferred large sections of their staff to country houses. The plan is an admirable one for the owners of these white elephants which they never expected to hire out again; they may even get their antiquated buildings "remoderned" as the process has so nicely been called. The important question is how it has worked for the businesses. Have they discovered that a great deal of clerical work can be conveniently and economically done in the country, thus saving the enormous burden of city rents and rates? Is it feasible to run, for example, big insurance concerns from the economical tranquillity of some once ducal Towers with only a skeleton organization in London or other great towns? To perpetuate the rustication of many of the big concerns at present in prudent retirement would introduce some remarkable changes in the balance of British life and incidentally would afford the builders of the twentieth century some enchanting opportunities to develop in a mannerly way the surroundings of the great mansions with houses and villages for the transplanted workers. . . .

TO TEACH HOUSING IS ALSO TO TEACH ARCHITECTURE

By Carl Feiss

ASSOCIATE IN ARCHITECTURE, COLUMBIA UNIVERSITY

Excerpts from *The Octagon*, September, 1939

There are very few architects in the U. S. today, if they are graduates of accredited architectural schools, who were not directly or indirectly subject to a nineteenth century French system of training. The "Beaux Arts System" created a physical method of instruction easy to understand and to administer, and which is still the basis for architectural education in most of our schools today. The Problem Method, which is this system's real contribution to educational procedure, has

not been superseded even in the most progressive schools, although it often has been considerably modified. I do not intend to discuss here the pros and cons of the Beaux Arts System but wish to make clear that there are two types of problem methods which can be distinguished clearly from each other and which are constantly forming the basis of contention in and out of the schools.

Our charming, cultured, and distinguished design professors, whether at the

Ecole or imported, created fascinating imaginary architectural situations with an aura of such probability that the imagination of the student was fired to the utmost. Incredible towers pierced the skies, innumerable palaces for innumerable exiled monarchs graced cliffs that Capri must have envied. The cathedrals, villas and war memorials which we designed were no end fun to do, took lots of time and paint, and were grand for the development of the imagination. And they could

be built too! Our construction men saw to that. . . .

There were many excellent elements to this type of problem. . . . Where this type of teaching failed, and failed dismally, was in the fields of reality. We have only to look at our cities around us to realize this failure. Our architects have continued to design old-fashioned school problems even after they were out of school—falsely isolated buildings having little to do with the social and economic life of the community, let alone its planning. . . .

A. C. Shire, in his concluding paragraph ("Constructive Criticisms of Architects," *The Octagon*, September, 1939, partially reprinted in December *FORUM*), is not asking for a Leonardo, although Leonardo would have understood what was wanted. Shire is asking for a man with the kind of training which the present-day world requires. This man may not know what the words *poché*, *rendù*, *éskuisse*, *entourage*, etc., may mean, but he may know something about the dynamics of population; the principles of community planning; he may have one weather eye out for the latest experiment in plywood construction and the other eye on its effect on the labor unions.

This brings us to the second type of problem method—the method dealing with actualities. Housing is perhaps the most vital single architectural problem facing us today. Housing is architecture. But it is not facade and *poché* architecture. There is no help from a Parthenon or Chartres or Paris Opera House or White Pine Series. . . . To teach housing we build not upon a base of imagery but on a scientific humanism. Immediately the question arises—what can be the student's incentive to work with all the pleasure of "architectural" design taken away? Take the student for a walk through the slums his first afternoon in school and show him that some day it will be his job to clear that mess—build homes, schools, parks, health centers, theaters and shopping centers and all the rest. It takes no time to create a real and enthusiastic service attitude in even the most inexperienced man. This service attitude is the key to the whole new method of architectural training. All of the old incentives are there plus the will to serve the public as well as the client. The architect may yet become a professional in spirit. . . .

★

European architects have recognized this for the last 50 years; . . . they were not coming around to their governments sniveling for jobs. They created housing as an integral and important part of the profession, sold it to the public, and taught it in the architectural schools. . . . Irrespective of whether you are a radical or a conservative as far as your taste in architectural style is concerned (if your architecture must have a style), you must recognize the importance of men like

Taut, Schumacher, Ernst May and Walter Gropius from Germany; J.J.P. Oud and Dudok from Holland; Sundhal and Markelius in Sweden. In England countless architects, beginning with Barry Parker and Sir Raymond Unwin and continuing on to Tecton, have contributed to the building of 3,000,000 homes since the war. These are housing architects. They also have been leaders in their community, not only architecturally and artistically in prominence, but they also have been political and social forces as well. . . .

Architects are now coming around to me and are asking, "What are the tricks in this housing business? I'd like to get some of this Government money. Can I take a short course at Columbia which will give me all the dope?" Frankly, I'm pretty much ashamed and disgusted with the whole situation. Shire is correct not only in his statement that a new type of technical education is necessary, but a whole new professional attitude of the architect seems to be necessary as well. The schools have a big job ahead of them, and in addition there is a huge problem of

TO TEACH HOUSING MAY ALSO BE TO TEACH ARCHITECTURE

By Edgar I. Williams

There is an underlying motive of impatience in both Mr. Shire's* and Mr. Feiss' articles. If the facts reported by Mr. Shire reflect generally upon the architectural profession and not upon the few architects already at work or clamoring for political appointment to do housing, then the profession should be jolted out of its dream world into reality.

Mr. Feiss' article is provocative in its derisive comments on general teaching in the architectural schools and upon the profession. A large part of the article is devoted to building up an imaginary straw man teacher who teaches "*facade* and *poché* architecture." I do not think there are many such teachers in the good schools today.

It is popular to deride the Beaux Arts these days when the pack follows a new fetish. The very underlying principle of the Beaux Arts system has always been the "*esprit de recherche*." Beaux Arts may have other connotations for those who cannot or do not wish to see, but the same underlying principle remains although others today are attempting to preempt it. They call it "research." Incidentally, I am not a Beaux Arts man, if that has any bearing upon the point.

Who will dispute that housing is architecture if it is made to be architecture? That depends upon what definition one gives to the term architecture.

* "Constructive Criticisms of Architects," in *The Octagon*, September, 1939.

adult education which the architectural schools cannot tackle or are not ready to.

Housing is architecture. But housing is shelter for human beings. . . . The housing architect has a responsibility not only to his client, whether that client be the federal or local government or a private agency such as an insurance company, or a bank, but he has a responsibility to every man, woman and child who is to live in the homes he creates. If he is a true professional man, he will take this responsibility seriously, realizing that the health, welfare and safety and the future happiness of many thousands of people may depend on the success of his efforts. When the architect truly realizes this responsibility, and when he visualizes the fact that his job is not ended when the keys are turned over to the manager of the project, but that it has actually just begun; that from then on he must constantly check and cross-check his work so that errors are corrected and never made again, then in my opinion does he become a real professional man, with a standing comparable to the best in medicine and law.

One of the most false assumptions that can be made is that when a student has been subjected to a few years of general training in an architectural school he becomes an architect. There are general essentials which form a sub-layer of impulse, if not fact, which training in a school may awaken in an embryonic architect. Some of those essentials are a flexibility of mind, a structural concept, an awareness that we are living in the twentieth century, a dissatisfaction with everything but the best, an esthetic appreciation of form, and, may I say also an ability to put ideas on paper. In this world of reality it is fairly important for a young architect to be able to draw, although there is a popular belief that diagrams of cabalistic forms and a few notes may suffice.

★

Four years of study after youthful academic training is a very short time to plant the seed from which a sturdy architectural tree may grow. Conscientious faculties are aware of the wide needs of an architect's training and are constantly trying to adjust the curriculum to the very limited hours of a student's time, to the end that essentials are taught. Students' energies are not unlimited and in the better schools they are already taxed to the limit.

Mr. Feiss says "housing is architecture." Housing may be architecture but it is only one facet of architecture. A new

technique may well be called for in its teaching, but I believe the background of that training must contain the essential pigments of all good architectural training if housing is to be architecture. A problem method with emphasis upon factual data may be a crying need, but factual data is not necessarily the only reality. Such phases as "scientific humanism" are without tactile reality. The underlying intangibles I have called essentials have more meat of reality than that.

It is to the spirit of Mr. Feiss' article that I take principal exception. His flip-pant picture of teaching in the schools is ungracious.

Anyone who is aware of the changes in American architectural education since its inception can not but be impressed with our national humility. We Americans have always looked elsewhere than to America for guidance. Perhaps we have needed most of it. Perhaps, if we had laid a foundation of our own we would have progressed equally or better. That is surmisal, to be sure. If the same co-operative forces had been applied to creative American architecture in our generation as applied to the automobile industry, let us say, we might have progressed further. That too is surmisal. But to look backward for any reason except to see how far we have gone forward is useless . . .

There are others, many, I believe, who have the same high purpose of social service and service to their communities which I know Mr. Feiss has. The profession needs cooperative effort toward finding creative suggestions and not derision.

THEY SAY—

"Ivy is to an architect what sod is to a doctor."—WILLIAM E. KAPP of Smith, Hinchman & Grylls, quoting his college professor.

"Architecture is beginning, always beginning. It wasn't made by the Greeks nor by the Romans. It wasn't even made in the Georgian Period. It is something that has to be made afresh all the time, as life, as opportunity, as growth changes."—FRANK LLOYD WRIGHT.

"Either we apply the inventive genius of American finance and industry to the problem of supplying homes for those living in the slums, at a cost at least one-half of the cost today, or we shall see the slum elimination program fail as a long range endeavor."—WALTER R. MCCORNACK.

"More than half of all family automobiles are owned by families which have an annual income of \$1,500 or less. On this average car, to the value of \$197, the family pays an average annual total tax of \$53."—FREDERICK C. HORNER, Assistant to the Chairman of General Motors.

PAIRED

THE NATIONAL GALLERY IN WASHINGTON

During a recent visit to Washington I had the opportunity to make a survey, inside and out, of the new National Gallery presented to the country, with his collection, by the late Andrew W. Mellon. . . . The huge building—measuring 785 ft. in length—is a noble structure, proudly refuting the modernistic view that the classical tradition is played out. That tradition can never decline when it is handled by a man of genius, and that is what John Russell Pope was. He followed McKim as a major exponent of the grand style. He knew how to be majestic in architecture. His Scottish Rite Temple, also in Washington, long ago showed that. But he knew how to temper majesty with grace, with something that might almost be called elegance, and he designed the National Gallery in a singularly fine spirit. Dealing with mass, he saw to the perfect adjustment of proportions, so that the mass is not heavy, and then he relieved the imposing character of his great walls by a judicious play of line in the moldings, in the beautiful cornice, and in the pillared portico on the Mall, which rises to a low pediment, in turn having for its background a dome that is again kept well in hand. The building has a vitalized unity, and its austere simplicity is somehow made doubly sympathetic by the pinkish glow of its Tennessee marble investiture. One is aware of beauty of color as well as of beauty of form. In every element of the design there is evident Pope's unerring taste. There is no teasing of the walls with decorative expedients. He preferred blind windows to niches for statues, and the few wreaths in the upper reaches of the walls are in the lowest possible relief. The cornice is as modest as it is beautiful, ideal to one who happens to be, like myself, a lover of good cornices.



Pope's art, indeed, was one of extreme delicacy, but what gave him peculiarly high rank in his profession was his essential strength, his power, his instinct for grandeur.—ROYAL CORTISSEZ in the *New York Herald Tribune*, October 22, 1939.

I am aware that symbolism and romance are inescapable elements in architecture. They are highly desirable elements also, provided one does not pay too dearly for them. The price at Washington is colossal. To attain a "perfect harmony" of classic form, to create a stupendous symbol of the power and permanence of the Federal Authority, to satisfy a romantic sensibility toward that quality of form which was established by the Early Republic (as if scale and magnitude had nothing to do with the quality of form!), we deprive the Federal City not only of that sense of a heroic past which is the true source of dignity in cities but also of that organic order (itself a kind of history) which is a condition of power in all the great traditions of architecture. To these I might add the incalculable burden imposed upon the practical operation of the business of government. . . .

One must be dull of soul who fails to apprehend in the Parthenon an emotional value which transcends time and locality. Whoever had deeply felt that quality must have hoped that a way could be found to reestablish in our own discordant and fragmentary world a spiritual harmony as profound; and the belief that this might be accomplished through measurement and calculation, through codified knowledge and instruments of precision, would seem to be inevitable in a civilization accustomed to analysis and logical deduction. . . .

Of the hundreds of buildings which reproduce the outward forms of Greece and Rome, not one is informed by that inward spirit which was and remains the reality of classic architecture. Not the Madeleine, which is the most accurate of Roman temples; not the peristyle of the Berlin Museum, perfect as that is in proportion and detail; still less the vaults of the Pennsylvania Station, shattered by a harsh realism of function, or the Lincoln Memorial, or the more recent Archives Building. These are externally formalized by an exacting scholarship; but the spirit which they invite remains inaccessible to possible human thought and skill.—JOSEPH HUDNUT in "Twilight of the Gods," *Magazine of Art*.

FIRST AID TO BOMBED ARCHITECTURE

The English architectural journals, stepping aside from their usual course of aid in producing shelter, are now dwelling upon how that shelter may be preserved. For instance this from *The Architects' Journal*, London, for September 28, 1939:

"Clear roof spaces of anything that will

burn readily. Have a small heap of sand or earth (in the garden will do nicely) and something to carry it in. But *don't* try any of that dark glasses-scoop-bucket-of-sand business unless you would cheerfully burrow into a ship's furnace to save a hole in three carpets. A 1-kilo incendiary

bomb striking a normal house will probably spend its force on the roof, and fall through and ignite on the attic floor. It will then burn through wood floors at the rate of about 10-20 seconds per floor and bring up on the foundation concrete. If it comes into your bedroom, hop it (shrouded in the bedclothes) as you have never hopped before.

"When all is over you can retrace its path (crowbar needed for raising floor boards), putting out the results. If this is done quickly any jug or bucket will suffice. (Bath full of water very useful.)

"If you have concrete floors and the bomb brings up on one of them nothing should be done (except hopping it) unless by the calm, the resolute, the cheerful—equipped with a length of hose with a fine rose."

WHAT DO YOU READ?

Continuing the suggestions as to what the architect might read for pleasure and for profit, here is a list compiled by the late Charles Harris Whitaker, one-time Editor of the *Journal of the A. I. A.*:

Essentials in Architecture	John Belcher
Architecture, Industry and Wealth	Wm. Morris
Mont St. Michel and Chartres	Henry Adams
Louis Sullivan	Hugh Morrison
Kindergarten Chats	Louis Sullivan
The Nature of Gothic	John Ruskin
Beyond Architecture	Kingsley Porter
Modern Architecture	Walter Gropius
History of the Building Crafts	Briggs
Housing and Other Buildings of the Swedish Cooperative	
(Published in English)	



And here is what Hubert Ripley has to say about the stimulus of good reading:

"It makes one feel very humble to read the titles in Pope Barney's list, September FORUM, for, save for a few, both books and authors are unknown to me. I've tried to read Le Corbusier and F. L. W. and Tommy Tallmage and Russell Hitchcock, and I go sound asleep after a few pages. Oh, I know, the fault's in me. I like Mumford, though, probably shouldn't; anyhow he knows how to put words together. So do most of the R.I.B.A. fellers who write, M. S. Briggs, for example.

"Pope Barney's list may be mental pabulum for literary gourmets, but I prefer the list of books that a distinguished Bangkok architect, O. Wata Nars, Siam, finds 'profitable and enjoyable.' These aren't all the books he reads—by no means, only a few chosen at random, but I harbor a candid conviction that any architect who reads them all will become a well rounded cultured practitioner.

Sakuntala	Kalidasa
The Perfumed Garden	Incerti Auctoris
The Homeric Hymns	
Aphrodite in Aulis	George Moore
Rhododaphnae	Thomas Love Peacock

Elsie Dinsmore	Martha Finley
The Legacy of Greece	Oxford Umi Series
The History of Herodotus	
Silvae	Statius
Diepnoosphistne	Athanaeus
Physiologie du Gout	Brillat-Savarin
The Bon Vivant's Companion	Prof. Jerry Thomas
The Flowing Bowl	William Schmidt
Tables of Content	Simon
Of Cabbages and Kings	Rhode
The Flying Inn	Chesterton
Dr. Traprock's Memory Book	Chappell
Down the Alimentary Canal with Gun and Camera	Chappell

Montaigne's Essays	
Memoirs of Casanova	
Autobiography of Benvenuto Cellini	
The Domain of Arnheim	Poe
Paul Bunyan	Stevens
The Amenities of Book Collecting	A. Edward Newton
Sweet's Index	F. W. Dodge
Tales of Languedek	Jaques LeBrun
(Illust. by Ernest Pieixotto)	

"P. S. After reading the above in the sanctuary of his library at home, the architect can keep Pope Barney's list for reference in his private office, prominently displayed for the delectation and bemusement of his clients."

HAS WASHINGTON A PLAN?

By Gerald G. Gross

Excerpts from *The Washington Post*, October 8, 1939

Ten Washington architects, fed up with Washington-the-National-Capital grandiosity and resolved to turn the city back to its residents, created a minor tempest during the A.I.A. Convention with an exhibit and accompanying statement which take the late Major Pierre Charles L'Enfant over some very severe bumps.

The eyes and ears of the National Capital Park and Planning Commission and its technical staff are still smarting from the drubbing, both visual and verbal, which the ten rebels administered to the L'Enfant and McMillan plans for development of the District of Columbia, concluding their attack with the recommendation that existing planning machinery be scrapped and a drastically different system substituted. . . .

"It is not surprising," says Miss Woodard and Alfred Kastner, of the ten trouble-shooters, "that the citizens of American cities have no understanding of modern city planning. They have no leaders who have the vitality to fight those who have drilled into their minds that cities, as they exist, are the best for all concerned.

"Architects as leaders? Architects are gentlemen, above all else, and not given to shouting or fighting in the marketplace. Gentlemen architects speak to gentlemanly audiences in quiet clubs. The citizen does not look to them for leadership."

The last sentence above can stand some examination. Back in 1900, when railway trains spewed smoke across the Mall and the National Park and Planning Commission was not even an unfertilized egg in someone's imagination, the American Institute of Architects met in Washington and devoted much time to the discussion of ways and means to improve the Capital.

Next it played an important part in obtaining Congressional establishment of the McMillan Park Commission in 1901, a small but highly competent unit representing the first organized effort to systematize the District scene since L'Enfant's day. Again in 1921, although a fight in the marketplace was unavailable, the Institute voluntarily organized an advisory Council to supplement the work of the Fine Arts Commission, founded eleven years earlier, by passing upon plans filed for building permits.

Although the American Planning and Civic Association is properly referred to as the "daddy" of the National Capital Park and Planning Commission, the A.I.A., as far back as 1923, formed a special committee to call attention to "the shortcomings of the Washington plan and to cooperate with other groups working toward the proper development of the National Capital and to urge the creation of a planning commission."

The architects' organization definitely pulled no punches when it warned that "Washington . . . is going to be seriously handicapped in the future by irreparable errors unless early action is taken," and that "the twentieth century frame cannot, by the wildest stretch of the imagination, be considered worthy of the plan developed under the watchful eyes of Washington and Jefferson."

It seems, then, that the rebels' acidulous indictment of their profession as lackadaisical leaders is a bit thin.

And what about Major L'Enfant, whose masterpiece inspired Miss Woodard and Mr. Kastner to write:

"Unfortunately, present-day Washington is still known as the 'planned city' and is still considered a model by many communities. The word 'planned' carries a connotation implying 'well planned.'"

The fact that plans can be good or bad, obsolete or inappropriate, is ignored.

"The plan of Washington in 1939 is obsolete and inappropriate. L'Enfant's plan in 1791 was a bold scheme which, if viewed through the aims and ideals of the times, must have appeared to be a 'good plan.' Viewed from the distance of a century and a half it lacks the elements of what we would define today as the basic physical requirements for a democratic city, and revivals of 'lost' eighteenth century objectives do not provide solutions. Such attempts are historical restoration, not city planning.

"This is the basic error in the use of static city planning methods. Long after a plan has lost all meaning in relation to contemporary human needs, too often it is used as a model." . . .

The Chicago World's Fair of 1893 made the country, and especially Washington, beauty conscious. In that year Congress ordered the preparation of the Capital's first comprehensive highway plan. In 1900 Congress celebrated the centennial of the moving of the Nation's Capital to Washington by creating a commission, sponsored by Chairman James McMillan (Michigan) of the Senate District Committee, to formulate "plans for the development and improvement of the park system of the District of Columbia."

Members of the group were Daniel H. Burnham and Charles F. McKim, architects; Augustus Saint-Gaudens, sculptor, and Frederick Law Olmsted, Jr., landscape architect. Only one of these alive today is Mr. Olmsted. The secretary was Dr. Charles Moore, now a member of the Fine Arts Commission and formerly its chairman. The chief draftsman was William T.

Partridge, today a consultant to the National Capital Park and Planning Commission.

The McMillan Commission outlined the present park system, induced the railways to get their tracks and stations out of the Mall, proposed the erection of a memorial to Abraham Lincoln west of Washington Monument on land which was then swamp, recommended the construction of Federal buildings around Lafayette Park, set aside the Pennsylvania Avenue "triangle" for the development of municipal buildings and suggested numerous other innovations.

The McMillan plan, a restatement and enlargement of L'Enfant's, had its critics on Capitol Hill and elsewhere. "Uncle Joe" Cannon scoffed at the proposal to build a monument to Lincoln in a swamp. He fought the allocation of appropriations for the commission's work. Senator McMillan spent \$60,000 out of his own pocket on the job, with no assurance of reimbursement, though eventually he was repaid.

"The dawn of city planning" is the way Mr. Partridge, who has been the one most intimately connected with its execution, describes the McMillan plan. . . .



The Commission of Fine Arts was established by Congress in 1910 to pass upon the design of Government buildings and monuments. Thirteen years later, through initiative of the American Civic Association (now the American Planning and Civic Association), the Washington Committee of 100 on the Federal City was formed, under the chairmanship of Frederic A. Delano. Resolved to fight for a sound and comprehensive development plan, the association and the Committee of 100 succeeded in ob-

taining legislation creating the National Capital Park Commission in 1924. Two years later the agency's authority was broadened, membership increased and name changed to the National Capital Park and Planning Commission.

Mr. Delano has been chairman of the planning body since 1930. Its ex-officio members are the Army chief of engineers, District Engineer Commissioner, chief of the Forest Service, director of National Park Service, chairman of the Senate and House Committee on the District of Columbia. As of today, the "four eminent citizens well qualified and experienced in city planning" who are members of the group are William A. Delano, New York architect; J. C. Nichols, Kansas City realty developer; Henry V. Hubbard, Harvard planning expert; and Chairman Delano.

One of the complaints which the A.I.A. critics have against the commission is that it keeps its head in the clouds, refusing to take the citizenry into its confidence. The commission's monthly meetings are closed and newspaper reports of its activities are closely restricted.

The planners' position in this regard is that matters involving acquisition of land and discussion of complex plans are for the minds of skilled specialists, rather than for the real estate speculators and persons with axes to grind. The commission feels that both its objectives and its methods of achieving them are in the public interest.

[The American Federation of Arts is planning a national tour for the exhibit, to which the Washington Chapter, A.I.A., has agreed, providing that its critics be permitted to accompany it with a dissenting statement.—Ed.]

WHAT FORM OF BUILDING CONTRACT BEST CONSERVES THE OWNER'S INTERESTS?

By Henry C. Turner

PRESIDENT OF THE TURNER CONSTRUCTION COMPANY

Based upon conclusions drawn from experience in completing over 1,500 contracts, covering nearly half a billion dollars of construction, and from observations in the negotiations connected with an even greater number, Mr. Turner's findings carry weight.—Ed.

In buying most equipment—an automobile for example—the purchaser has the opportunity to inspect and test the completed article. In contracting for new construction, he is buying something that is to be made and assembled, and how it will be made and assembled is an indeterminate factor that depends largely upon the character and capacity of the builder.

Bearing this in mind, it is fair to state that under both the lump-sum contract and the fee type of contract, excellent results may be obtained, but each has the following features that should be carefully considered.

I. LUMP-SUM CONTRACTS

In principle, this is the simplest form of procedure. The owner, after limited competitive bidding, agrees to pay a definite sum of money to the builder for the construction of a definite piece of work. In actual practice, if the plans and specifications are well drawn and cover fully the owner's requirements, and if the builder has the experience and capacity to carry them out with thoroughness and fidelity,

the operation should be clean-cut and expeditious and the results satisfactory. Under these conditions, the owner should be assured of being relieved of the problems of construction and of obtaining the desired results at the lowest reasonable price; the builder enabled to plan and carry out his work intelligently and without interruption; and finally, the entire industry should benefit from the stimulation of healthy competition.

But on many lump-sum contracts it has been our experience that some of the requirements have not or could not be fulfilled, with the resulting disadvantages:

1) The owner's requirements are not fully covered or are changed during construction, which results in changes and

delays that are expensive both to the owner and to the builder; and this may also result in forcing the architect to make these changes without adequate time to study and design them in the best manner.

2) The requirements as set up in the plans and specifications prove too expensive upon receipt of the bids. This results in unsatisfactory adaptations or in the cheapening of the character of the work to meet the available money, or in embarrassing delays in getting the work started.

3) There is a tendency under sharp competition for the builder to furnish the lowest admissible quality of labor, materials and sub-contracts in order to quote the lowest bid. Sub-standard work is likely the result.

4) The owner's choice of his contractor is often unduly influenced by a low bid price, whereas the capacity, experience and organization of the contractor may not have been given sufficient weight.

5) The owner loses the benefit of the builder's advice and services, which may be of great practical value in determining the cost and in developing the most effective methods and details of construction during the development of the plans and specifications.

II. FEE CONTRACTS

This type of contract, under which the owner assumes the cost and pays the builder a fee for his services, may advantageously be entered into for two reasons:

1) To expedite the work by starting construction in advance of the time that plans and specifications could be prepared with the completeness necessary for sound competitive bidding.

2) To establish a cooperative arrangement under which the owner, the architect and the builder will have a common incentive to use their full knowledge and efforts to produce well planned, well executed work in the most economical manner.

On the unfavorable side, lacking the guarantee of a lump-sum contract, the owner may find:

1) That the costs may be allowed to become excessive.

2) That the builder may be lax in his performance.

3) That the work might have been contracted for at a lower cost under competitive bidding.

The favorable aspects are:

1) That the owner pays only the actual cost, and this might be lower than under competitive bidding through the elimination of contingency allowances which the builder includes under lump-sum bidding.

(This is a likely possibility, for in our long experience the profits on lump-sum contracts have averaged larger than on fee contracts.)

2) That the financial protection of a lump-sum contract may be obtained by

the builder giving a guarantee of the outside cost. Although such a guarantee should include the contingency items of a lump-sum contract, the owner stands to benefit as he pays only the actual cost of the work.

3) The owner and the architect will have full cooperation of the builder both in working out construction problems and in the conduct of the work. This is an important factor that should produce better work at less cost for the following reasons:

a) Through the preparation of responsible estimates by the builder to guide the cost of the work during the development of the plans and specifications.

b) Through the adoption of specific methods of construction under which the particular builder can operate most effectively and economically.

c) By careful planning and scheduling of the various operations well in advance of the actual construction. This will eliminate uncertainties and assure a systematic operation.

d) During the development of the plans and specifications markets can be studied so as to take advantage of favorable opportunities in the selection and purchase of materials.

Up to the time of the World War, this form of contract was steadily growing in favor. During the War and in the subsequent period until the latter part of 1920, through pressure to complete construction and because of the disorganized conditions in labor and in the material markets, it became necessary to award practically all the construction, both public and private, on a cost-plus basis. This wide-spread necessity often led to the selection of inexperienced and incompetent builders with the resultant unsatisfactory performance at unreasonably high costs on many projects. The results of such outcomes are naturally still reflected in the disfavor of some owners toward the fee contracts, but a more careful analysis will indicate that the fault lay in the selection of the builder rather than in the type of contract.



In general we can state that both types have worked satisfactorily, but that, with the constantly increasing specialization in building requirements and in the mechanical equipment, there is a growing need of closer cooperation between the owner, architect and builder regardless of the type of contract.

Perhaps our best answer may be stated by considering work in two categories: 1) buildings having a somewhat standardized character in construction and in occupancy and operation, and 2) those which are original and special in design and are to be used for diversified but highly interrelated occupancy and operation.

For these two groups, we offer these broad conclusions:

I. LUMP-SUM CONTRACTS

This form of contract applies best to the simpler forms of work, like small factories and storage buildings of standardized type, where the cost of equipment and operation is of prime importance. Where a uniform layout is required which will allow for mass production and sweeping changes in the method of operation, certain standard forms of construction may be adopted. These in turn can be clearly specified and hence more closely estimated as to cost, and it may be to the advantage of the owner to contract for his building at the lowest reasonable price.

The disadvantages of this type of contract are: 1) that there is the possibility, when the requirements are later more precisely developed, that extensive changes may be required which are expensive and result in adaptation rather than in constructive planning; and 2) that under the conditions of sharp competitive purchase, the owner is often obliged to accept labor, materials and sub-contracts of the lowest range that meets the specifications.

II. FEE CONTRACTS

This form of contract has decided advantages for all parties—the owner, the architect and builder—in the development, planning and construction of the more specialized and highly finished classes of work, particularly institutional buildings such as insurance company home offices, hospitals, museums, fine stores, bank and office buildings, etc.—classes of buildings where fine, durable workmanship is desired.

To obtain the best results in this class of structure and its future operation, originality in plan and often bold combinations in both the structural and the esthetic design are required. To be successful, these must be carried out with precision and a thoroughness that can be obtained only by the most painstaking study by the owner in determining his requirements; by the architect in fitting them into the plan which must be followed because of design and site limitations, and for financial reasons; and by the builder in carrying out the work correctly and economically. Under these conditions, the fee contract offers the incentive and means to obtain the most satisfactory results.

The choice of a builder on a fee contract should be made only after the most painstaking investigation of his qualifications and record.

This investigation should concern itself with the builder's record on both fee and lump-sum contracts; with his organization, office and field; his methods of operation; and his financial condition, including his purchasing capacity and credit record with material dealers and sub-contractors.

Such an investigation is invaluable before entering into any construction contract, whatever the form may be.

THE DIARY

Henry J. Saylor

Friday, November 17.—The nostalgia for the Paris ateliers seems never to die. Tonight at the annual Beaux-Arts dinner, the spirit of the Ecole was manifested in constant attempts, without marked success, to sing the French songs of the Left Bank. This would not be so surprising if there were any American students now going to Paris to finish their architectural education, which apparently there are not. The musical efforts came from those whose hair was thinning and graying, and were somewhat handicapped by the fact that the three-piece stringed orchestra was made up of Hungarians. Tony Sarg promptly and efficiently rectified this racial error with a bit of grease crayon, adding upon the players the most convincing Gallic mustachios. Charles D. Maginnis, past president of the A.I.A., was the guest of honor and spoke in his usual scintillating form, even though in some doubt as to whether the gathering were a proper place for an ecclesiastical architect.

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Saturday, November 18.—Those who direct our foreign traveling scholarships are having their troubles these days in steering their students through passport difficulties, submarine channels, bombing raids and black-outs. Francis Keally, chairman of the LeBrun Traveling Scholarship Committee announces a new procedure for the competition this year. Rather than having the usual competition in New York for the hundreds of entrants, most of whom will have spent their time and money to little purpose, the applicants will be asked to send the Committee written statements of their qualifications and examples of their work. From these, five promising contestants will be selected and be invited to New York for a competition en loge. There still remains, having picked a winner, the problem of where to send him and how.

Monday, November 20.—In spite of several official rebuffs, I continue to believe there is a place for a photographic exhibition in connection with the A.I.A. Convention—photographs by architects and of architecture. English architects have such an exhibition and seem to find pleasure and profit in the procedure. The American Society of Mechanical Engineers has come to it, and is having a photographic exhibition during the annual meet-

ing of the Society in Philadelphia December 4-8.

Tuesday, November 21.—From the time of the Pyramid builders it has been a characteristic wish of mankind to perpetuate his name and fame. The newest variation of the technique is that followed by a widow who died last month in an Elmira rooming house, leaving an estate valued at slightly less than half a million to the Metropolitan Museum of Art for the purchase of bronze statuary to be inscribed with her name as donor.

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Wednesday, November 22.—Some details of how architecture is practiced under the Communist state in Russia filter through in a letter from William E. Hartmann, a Rotch Traveling Scholar. In the effort to harmonize the architecture of a city, each architect is allowed one street, and of this he is the design critic whose approval must be obtained for anything built thereon. In these days when one man's architectural harmony may be another man's nightmare such individualistic control must have its difficulties. It is interesting to speculate on just what would appear on the four corners if, for instance, Le Corbusier controlled one street while another crossing it at right angles was under the direction of some such staid conservative as William Mitchell Kendall, sole surviving member of the original firm of McKim, Mead & White.

Friday, November 24.—Edgar Williams made a most unusual suggestion at a recent luncheon meeting of the New York Chapter, A.I.A. He proposed that a meeting on some future occasion be devoted to a discussion of architecture.

Saturday, November 25.—Last year's hurricane which laid low much of the upper Atlantic seaboard played havoc with Long Island's 68 miles of ocean front. Engineers had proposed the spending of millions to bring back taxable land that had been seized by the ocean. Staggered by the prospect of such costly reconstruction, the Suffolk County engineers, remembering their success with "snow fences," strung some miles of five-foot lines of wire-bound wooden slat fences, and in the year have brought back sand dunes ten feet high.

Detroit, Monday, November 27.—Out to see Eliel Saarinen, Richard Rasmann, and their incomparable setting, Cranbrook. Unfortunately, I always seem to pick the winter months to visit the Academy, when Carl Milles' lovely fountains have been turned off and drained, when the trees are bare of leaves, and the school is without the dress that its landscaping abundantly provides during the brighter months of the year. Mr. Saarinen is at work on plans for a new library and museum, and quotes an old Finnish proverb to the effect that "He who works slowly has less occasion for regret."

Detroit, Tuesday, November 28.—Finding Albert Kahn for the moment incapacitated from his strenuous office routine, I had tea with him this afternoon at his bedside. It is something new for the dynamic A.K. to be under a doctor's orders and obliged to halt the pace at which for many years he has worked continuously. Moreover, he is already chafing under the restraint, giving Mrs. Kahn real concern as to how she will be able to keep him inactive much longer.

[Good news at press time indicates that the "one-man building boom" is back in his office opening the throttle.]

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Detroit, Wednesday, November 29.—Unpacking the drawings for Insulux Glass Block Competition No. 3—A Dairy—originally scheduled to be judged in Cleveland, but later moved here to Detroit, I am impressed once more with the architect's largess. All that was required of a competitor was to deliver his entry to the express company or post office November 20, before midnight, and prepay the charges. The program had carefully provided that he could mail his "Statement" concerning the choice of pattern independently of the drawing so as not to pay first class postage on the latter. With his characteristic openhandedness, however, many of the competitors pay first class postage on the drawings, and further gild the lily by assuming special delivery charges. Well, "Easy come, easy go."

Detroit, Friday, December 1.—The many friends and admirers of Paul P. Cret will be distressed at the news from Philadelphia that Dr. Cret has had his larynx removed in an unusual operation. The laws of natural compensation seem to have

their customary sway, for although Dr. Cret does not hear particularly well, and will now be able to speak only with difficulty, his pencil has an eloquence that commands international attention.

Detroit, Saturday, December 2.—Out to Dearborn for another look at Mr. Ford's Greenfield Village and one of the most amazing museum collections in the world. Among the typical dwellings in the Village I found a new group of house, barn and other outbuildings brought over from the Cotswolds and complete even to their native sheep and mourning doves. The significance of a Cotswold cottage in the collection of Americana was not clear until it was explained that it would afford many Americans a welcome opportunity to see how their seventeenth century forbears lived across the sea.

Detroit, Sunday, December 3.—Up to Ann Arbor for a look at the University of Michigan, overwhelming a small town with its student enrollment of 14,000. The exterior of the architectural building, designed by the faculty, bespeaks its purpose convincingly; inspection of the interior and the work of the students will have to be postponed for a future visit as I forbore routing Wells Bennett or Emil Lorch from their Sunday rest on a bleak and rainy day to open the doors.

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Detroit, Tuesday, December 5.—Almost without exception, the nearly 300 entries in the Insulux Glass Block Competition illustrate the changing technique in competition drawings. The day seems to have passed when a competitor lay chief stress on a beautiful rendering with which he hoped to impress the Jury. The pendulum has swung to the other extreme. Perspective renderings are apt to be diagrammatic in character, made very often without benefit of station point and picture plane and, more often than not, contemplating a mass of flat roofs from a bird's-eye view. The competitors perhaps choose these unfortunate viewpoints with the idea of conveying a more accurate idea of the building's general mass—an objective that was more convincingly achieved by casting a few simple shadows on the plot plan. In judging the effect of the dairy and milk bar upon the passing motorists, the Jury was obliged to rely chiefly upon its collective imagination.

Detroit, Wednesday, December 6.—Interrupting the judgment for a few hours after lunch today, the Jury was whisked down to the Ford River Rouge plant in three of Albert Kahn's cars to see his new Ford Press Building. One of the most interesting industrial buildings in the world, it includes 1,400 acres of floor space and has a forest of great hydraulic presses on a second floor level, stamping out car bodies,

doors and fenders from great drums of sheet steel. From the catwalk, which in itself meanders for three miles under the roof, we looked down upon this amazing epitome of American industry, then went to the end of the assembly line where finished cars were coming off at the rate of one every 45 seconds. If anyone questions, as we did, the location of tons of stamping machinery on a second floor level, it may be explained that the character of the soil was such that there could be no basement, the building consisting of a reinforced concrete mat three feet thick supported on many miles of steel piles.

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Detroit, Sunday, December 10.—No one can accuse the people of Detroit of any lack of appreciation of art. The Detroit Institute of Art was uncomfortably jammed today with a crowd seizing the last opportunity to see an exhibition of 57 paintings by old masters. At Cranbrook, twenty miles out in the country, 500 persons appeared daily over this and the previous weekend to see an exhibition of work by the staff of the Cranbrook Academy of Art. At the former exhibition, during one month 80,000 persons paid over \$17,000 to have a look at the old masters. At Cranbrook it was a small exhibition, but a particularly interesting one, containing the drawings and models of the Saarinsens' design for the Smithsonian Gallery of Art, a hall of music in Buffalo, and the Festival Theater at Williamsburg; some of Carl Milles' sculpture; a number of Zoltan Sepeshey's paintings; textiles, wrought metals, and pottery.

Detroit, Monday, December 11.—Motored up to Saginaw with Clair Ditchy and Arthur Hyde for a reunion with Robert Frantz, James Spence and Alden Dow and a hasty inspection of some of the architecture in this northern Michigan outpost. In this homeland of the motor car, with its broad highways, motoring 90 miles to dinner and back seems to be a matter to arouse comment only from a provincial New Yorker.

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Detroit, Tuesday, December 12.—Tonight as I start back to the home base, it occurs to me that, just as the old saying that a woman's place is in the home seems to have been turned upside down, the similar belief that an editor's place is at his office desk seems to have been disproven in my own particular case. In computing roughly the number of miles covered by railroad and plane during 1939, I was rather surprised to find the total reaching about 35,000. A rather poor showing compared with Mrs. Roosevelt's, but at least it has kept me out in the open air.

Wednesday, December 13.—Back in New York and to lunch with Ralph Walker who told me something of his recent exploration into Japan. He brings the good news that the Western wave of influence which demoralized and almost destroyed Japanese architecture in a few large cities never did penetrate the interior and is now receding. An architectural school in Japan looks very much like an architectural school in Ithaca or Cambridge, except that the plaster casts of Greek and Renaissance precedent are replaced by fragments of the ancient Japanese shrines and temples. Craftsmanship still reigns supreme in design.

Thursday, December 14.—Dwight Baum's death last evening comes as a particularly severe shock to all of his friends in the profession here in New York. On Tuesday night he attended a dinner of the National Sculpture Society at The League, and came in to the club house again for a meeting of the Fine Arts Federation yesterday afternoon at 5 p.m. Immediately afterwards, he rushed for his suburban bus to Riverdale, and was stricken on the street before he reached it. His last hours were typical of Dwight Baum's continuous activity in organization work connected with his profession. Committee work was being constantly thrust upon him, and in spite of a type of practice that laid unusual demands upon his supposedly leisure hours, he never refused an organization assignment.

The profession has had, it seems to me, far more than its customary depletion this year through death: Alfred Hoyt Granger and his partner, John Bollenbacher, Kirtland Cutter, Carl Gould, Emery Stanford Hall, C. Grant LaFarge, William E. Parsons, Irving K. Pond, Edward H. Prichard, Horace Trumbauer, Dan Everett Waid, to mention but a few of the names that come to my mind.

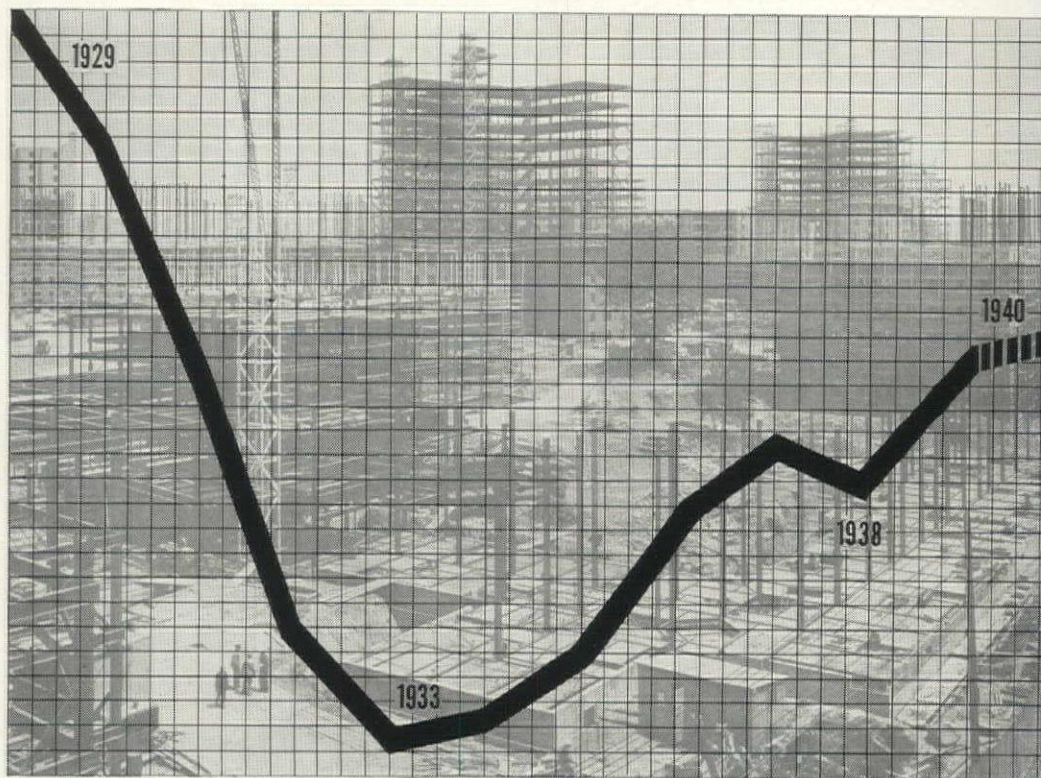
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Friday, December 15.—After being taught that the period just preceding our Civil War was perhaps the lowest point in all architectural history, many of us will be startled by Talbot Hamlin's statement in Columbia's current *University Quarterly*: "The general excellence of American architecture reached its highest point during 40 years just prior to the Civil War. The character of American towns from the Atlantic to the Great Lakes and the Mississippi was formed by the architecture of this period. . . . Never, before or since, has there been a period when the general level of excellence was so high in American architecture, when the ideal was so constant and its varying expressions so harmonious, when the towns and villages, large and small, had in them so much of unostentatious unity and loveliness." All of which I should say was the subject for a merry little debate.

BUILDING MONEY

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Building in review and preview

BUILDING FORECAST: 1940

The Architectural Forum collects and examines informed opinion, concludes residential construction will advance 11 per cent over 1939; total construction, about 4 per cent.

TEN days ago Building shut the door behind its best customer in nine years, rang up a cool \$6,310 million on its bulging cash register. With this total U. S. expenditure for building materials and labor, 1939 lived up to predictions, surpassed 1938 by a comfortable 22 per cent. And, the upward trend will continue. On the basis of its interpretation of informed professional opinion voiced in its nationwide survey of economists and building leaders, THE ARCHITECTURAL FORUM forecasts that total construction activity in 1940 will advance 4 per cent to \$6,558 million.*

More encouraging than the outlook for total volume is the predicted trend of ex-

penditures for private construction. Thus, while THE FORUM's survey indicates that public construction (Government financed highways, buildings, conservation projects, sewerage and water systems, etc.) will drop 6 per cent during 1940 to \$2,632 million, this decrease will be more than offset by a 12 per cent rise in private work, which by the end of the year should total \$3,926 million. Every major branch of private construction will share the upswing. Out in front dollar-wise will be non-farm residential building, due for an 11 per cent advance from \$1,900 million to \$2,109 million, exclusive of some \$500 million of public housing under the U. S. Housing Authority program.

Commercial building, which last year involved \$310 million is scheduled to expand 10 per cent to \$341 million. Commanding the spotlight percentage-wise, industrial building will jump 27 per cent from \$200 million to \$254 million. Expenditures for other private non-residential construction, however, will increase only about 2 per cent.

Also included in the private construction total are farm building, which will rise 9 per cent to \$360 million, and public utility construction which will total \$638 million, a 16 per cent advance over the 1939 figure.

The dollar volume of residential and commercial remodeling, excluded from these new construction figures, will expand 9 per cent.

BACKGROUND. The building industry this year will perform before a very satisfactory backdrop—the records of last year*—and will thus make less exciting year-to-year comparisons than has been the case in preceding Recovery years. Getting off to a fast start which actually began in the latter months of 1938, all classes of construction spurted through the spring of 1939. By mid-summer, the Public Works Administration's treasure chest began to run dry, and public building tapered off. General business conditions, however, perked up at this time and have

* See charts and statistics, page 61.

GOVERNMENT—An analysis of the existing favorable and unfavorable factors leads us to the conclusion that the rapid expansion in residential construction which took place during the first six months of 1939 (as compared with the same period in 1938) will not be repeated during the first half of 1940, unless some new stimulating influence appears. With the rather evident tendency for a marked reduction in the favorable spread of 1939 construction over 1938, it would appear that the estimated total private residential building activity for the full year of 1940 may well be as much as 5 per cent under the 1939 volume.—Chairman John H. Fahey, Federal Home Loan Bank Board.

ECONOMICS—We have arrived at the following estimates of building and construction for 1940: Residential, up 13 per cent; commercial, up 5 per cent; industrial, up 10 per cent; other non-residential, up 13 per cent; farm, up 8 per cent; public utility, up 10 per cent; public building, down 30 per cent; total building, down 6 per cent; remodeling, up 8 per cent.—Economist-Vice President Leonard P. Ayres and Assistant Vice President Loren M. Whittington, The Cleveland Trust Co.

BUILDING—On the basis of existing conditions, it is reasonable to expect an increase of 20 per cent or more in industrial construction during the year 1940.—Executive Vice President George A. Bryant, Jr., The Austin Co., Industrial Builders.

MANAGEMENT—The improvement in office building vacancy experienced since the low point of the depression which for us was reached on January 1, 1934, is approximately 10 per cent of the total rentable area. The highest vacancy was 27.57 per cent. The present vacancy is 17.65 per cent. Assuming that 10 per cent is a "normal" vacancy, it is apparent that the larger part of the surplus space which at one time overhung the rental market has been absorbed. . . . The fact that for ten years there has been practically no new construction is, of course, one of the fundamental conditions that has come to our rescue.—Chairman E. A. Hart, Committee on Renting, National Association of Building Owners and Managers.

As the normal vacancy is approximately 10 per cent, there is little justification for the construction of new office buildings at the present time.—Assistant Secretary W. J. McLaughlin, National Association of Building Owners and Managers.

STATISTICS—The estimates presented (below) assume that building cost increases will be moderate and will not be a vitally important factor in determining next year's total construction volume. Consideration has been given to the fact that 1940 will be a presidential election year with possible political controversies affecting business confidence. . . . An effort has also been made to discount over-optimistic estimates of foreign purchases. . . . The 1940 construction estimates here presented may be quite easily exceeded by next year's actual volume, but errors on the conservative side seem preferable to over-optimistic expectations. A moderately slow start with rising rates of activity as the year progresses is the indicated trend. . . . The 1940 estimate of total construction contracts, 37 Eastern States:

Classification	Million Dollars from 1939	% change
Commercial buildings	\$ 290	plus 16
Manufacturing buildings	240	plus 41
Educational buildings	135	minus 32
Hospital & institutional b'ld'gs.	95	plus 13
Public buildings	75	minus 26
Religious buildings	40	0
Social and recreational b'ld'gs.	75	minus 11
Misc. non-residential b'ld'gs.	35	plus 25
TOTAL NON-RESIDENTIAL	985	plus 3
Apartment and hotels	525	plus 26
1 and 2-family houses	983	plus 9
Other shelter	22	plus 29
TOTAL RESIDENTIAL	1,530	plus 14
PUBLIC WORKS & UTILITIES	1,065	plus 1
TOTAL CONSTRUCTION	3,580	plus 7

F. W. Dodge Corp.

continued strong ever since. Reflecting the resultant steady improvement in industrial activity, employment and national income, private building made a highly favorable showing in 1939's closing months, despite the adverse effects of war declaration in Europe and moderate building cost rises in the U. S. Mild weather in November and December helped bolster the year-end figures, permitted many a contractor to complete foundations for this year's operations. Only reason for increasingly unfavorable comparisons of construction activity in recent months is the fact that 1938's closing months were themselves above average—particularly in the home building field.

Residential building was, of course, the driving force behind the 1939 advance. While both house and apartment construction contributed to the 37 per cent increase, preliminary estimates indicate that of the \$1,900 million total residential expenditures, about 80 per cent, or \$1,520 million went for houses. A large part of the remaining \$380 million apartment expenditures went for the 125 projects whose mortgages were insured under Section 207 of the National Housing Act; 86 of them were undertaken prior to July 1 when Congress cut the appeal of this part of the Federal Housing Administration program by specifying that all labor must be hired at prevailing wage rates.

All told, private enterprise built about 485,000 dwelling units last year.

On the basis of ten-month building permits totals for all classes of construction (including additions, alterations, and repairs), these cities stole the 1939 show: New York, \$233 million, down 20 per cent*; Washington \$65 million, up 40 per cent; Los Angeles, \$64 million, up 5 per cent; Detroit, \$53 million, up 23 per cent; Chicago, \$46 million, up 100 per cent. Other cities in 1939's top flight (more than \$15 million): Philadelphia, Houston, San Francisco, and Cleveland.

ANALYSIS. With certain notable exceptions, Building enters the new year in as good a statistical position as it did twelve months ago. Many factors point to a general advance: 1) The business improvement which became markedly apparent prior to the declaration of war, 2) the added impetus given industrial production and employment by current and prospective war orders, 3) prospects for increased economic expansion and consumer income, and 4) retrenchment by Government from business baiting and deficit spending. On the other hand, there are some threatening clouds on the horizon which may throw cold water on the 1940 outlook: 1) The fact that 1940 is an election year may cause some general hesitancy pending an exact definition of future governmental policies, 2) the possi-

* This comparison is misleading; in 1939 an unduly large volume of permits was filed in New York City to take advantage of an expiring building code. Many are still pending.

bility of an abrupt peace in Europe, 3) the more remote possibility of U. S. participation in the war, and 4) the threat of rising construction and financing costs.

While changes in these factors will affect the general construction trend, the various classifications of construction will react more violently to their own particular stimuli and therefore merit individual analysis:

Residential. While building material costs jogged upward after the declaration of war, November saw a leveling of the trend at 4 per cent above the August level—a hopeful sign for potential home builders. Chances are that in 1940 the building industry drive of the Justice Department's trust-busters and the increased self-control of the industry itself will prevent a runaway cost rise. Other good signs: 1) the trend of rents, after much time-marking, has recently taken upward steps to the highest level in eighteen months, 2) the residential foreclosure rate continues its downward Recovery course, 3) the supply of idle home building capital is large and available at attractive rates, 4) vacancies are at rock-bottom levels, average about 1 per cent for the Nation, measure how far the supply-demand scales are out of balance.

Another important factor pointing to increased residential operations is Building's recognition at long last of the importance of the low cost house market. Its earnest design and construction efforts to meet this market and the budding FHA-RFC program of financial assistance to low cost builders (see page 2) should do much to expand the total volume of residential expenditures in the small house field.

Commercial. Less vulnerable to the trends of construction costs and rents, commercial building activity depends largely upon supply and demand and general business conditions. Right now office building occupancy is better than at any time since 1930, but still averages only about 82 per cent. Until this figure goes above 90 per cent, there is little justification for expecting any appreciable office building activity. Only important phase of commercial construction which can look for 1940 gains is the erection of retail stores to serve the residential expansion taking place on city outskirts.

Significant light is thrown upon the whole commercial building picture by the latest Dun & Bradstreet Reference Book, listing 2,140,000 individual U. S. business establishments—an increase of 37,000 in two years. About 75 per cent of both the total and the two-year increment may be classed as retailers. These enterprises and their demand for space should increase in step with greater industrial and business activity.

Industrial. Contrary to general belief, the current upsurge in industrial production is not war-born. The Federal Reserve

Board index in June began moving up from 94 (per cent of 1923-25 average), reached 123 in October. This indicates that the current industrial boomlet is thriving on local orders as well as on war demands from Europe. However, while most crystal gazers are optimistic about the prospects for industrial plant expansion as a result of increased foreign and domestic trade, it is probable that much of the expenditures will be directed, for some time at least, toward the purchase of equipment and the modernization of existing structures. The U. S. will not indulge in reckless over-expansion as it did in 1914-18.

Noteworthy is the outlook for industrial building activity in New York State. November was the fourth consecutive month in which the number of industrial building plans filed was higher than the number in any previous corresponding month. More than half of November's 154 plans were for new buildings as opposed to alterations and additions. However, all of the proposed operations are small.

Other non-residential. The market for private non-residential construction, other than commercial and industrial, offers little basis for expecting its volume to be

much different from last year's. Included in this classification are religious, memorial, educational, social, recreational, hospital and institutional buildings.

Farm. Significant for farm building is the fact that farm income last year rose \$170 million to \$7,802 million. Probability that this level will be maintained, if not exceeded, points to increased rural construction activity.

Public Utility construction covers such broad subjects as railroad transportation, street railway and subway systems, pipe line transportation, light, power and gas production and distribution, telephone communication, etc. While expansion by most all of them will be encouraged by Federal spokesmen as a part of the national defense program, Government may continue its discouraging policy of direct competition—especially in the light and power production field. Pending presidential elections also make any prognosis of this type of construction extremely hazardous.

Public construction is closely dependent upon the whims of Congress. Last year's total was boosted to \$2,800 million by \$1,500 million of PWA pump priming. To-

REAL ESTATE—It seems probable to me that in 1940 new construction will continue to increase in volume and that we may reach or pass 500,000 family units for the country as a whole. If we do this, we will be on a sound replacement basis but will still be far from anything like a boom. I doubt if there will be much activity in the building of commercial properties or factories. Public building, of course, depends largely on what Congress does.—Executive Vice President Herbert U. Nelson, National Assn. of Real Estate Boards.

INDUSTRY—It seems to us likely that private construction will continue its gains in 1940. Private residential building we think will equal and may exceed 1939, perhaps by 10 per cent. Publicly financed construction may be smaller in 1940 except for military and naval expansion, aggregating about the same. Total construction may be somewhat greater in 1940, perhaps by 5 to 7 per cent, than in 1939, with residential showing greater gains than non-residential, and public works and utilities some declines. In dollar value changes, we think the volume may be somewhat greater than the above as we think building costs will be slightly higher than the average for 1939.—Secretary and Manager Wilson Compton, National Lumber Manufacturers Assn.

FINANCE—We may reasonably expect somewhere between a 5 and 10 per cent increase in the amount of money which American families will spend in building one-family houses during 1940. This estimate is exclusive of all money which will be spent for public housing.—Executive Vice President Morton Bodfish, U. S. Savings and Loan League.

CONTRACTING—It is probable that the following lines of public works will be continued and probably enlarged; river and harbor improvements, flood control, highways, airport facilities (both commercial and military), army housing and facilities for the storage and maintenance of material and equipment, development of power resources, and greater hospital facilities. . . . Prospects for the revival of PWA in any form such as we have known during the last six years are not bright. . . . Based upon what we can now foresee, and not anticipating that this nation will become involved in a war during 1940, it appears that there should be no serious losses in the public works market except by reason of the stoppage of the PWA program. It is anticipated that other types of construction financed by the Federal Government will be increased in the aggregate. . . . Fortunately favorable business prospects have given impetus to the private market. All estimates in the field are looking up. . . . Looking at the construction picture as a whole, the market for construction during 1940 will be considerably better than for 1939.—Managing Director Edward J. Harding, Associated General Contractors of America, Inc.

APPRAISING—The following is my thought of probable changes in the construction volume for the coming year: Residential, plus 20% (1 & 2-family houses, 35-40%; Apartments, 5-10%); Commercial, plus 7-10%; Industrial, plus 32-35%; Farm, plus 25%; Public, minus 20%; Remodeling, plus 10%.

One of the big factors in the probable trends of 1940 will be the question of construction costs; the last three months have seen a rise of approximately 3 to 5 per cent, due mostly to materials. . . . A great proportion of our labor in the residential market is working below their local prevailing union wage scales and this is a very potent factor in residential costs. This type of labor is subject to absorption by commercial and industrial enterprises. Should we have a war boom in any degree, the ensuing consequences will be that the union labor wages will then prevail in the residential construction field and automatically drive residential costs up about 25 per cent. If this situation happens, it will throw the residential construction costs on a par with apartment construction costs, with a probable trend to more apartment construction in place of residential construction.—President E. H. Boeckh, E. H. Boeckh & Associates, Consulting Valuation Engineers.

SECTIONAL OPINION as to 1940 dollar volume (compared with 1939) by classifications of construction:

CITY	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	PUBLIC	REMODELING
BALTIMORE	+ 5%	+ 20%	+100%	+	+ 5%
BOSTON	+10			0	+ 5
BUFFALO	+15	+ 8	0	—	+12
CHICAGO	+20	+	+100	+	+20
CINCINNATI	+		+	0	
CLEVELAND	+15	+ 20	+ 20	—	
DENVER	0	— 10	+ 15	— 20%	0
DETROIT	+15			+ 80	+15
HOUSTON	+ 5	+ 20	+ 10	— 30	+20
KANSAS CITY	+ 5	+ 25	+100	— 60	+25
LOS ANGELES	+12	+ 8	+	+ 10	+ 5
MIAMI	0	— 5	0	+ 50	0
MILWAUKEE	+25	+		0	
MINNEAPOLIS	+15	0	0	—	+25
NEW YORK	+22	+ 14	+ 12	—	+26
PHILADELPHIA	+10	0	0	— 50	+10
PITTSBURGH	+45	+ 7	— 50	+100	+
ST. LOUIS	+12	— 5	+ 8	0	+ 8
SAN FRANCISCO	+15	+100	+	+	0
SEATTLE	+10	0	+ 10	+ 10	+10
WASHINGTON	+	—	0	+ 10	

day, PWA building is approaching the vanishing point and stands little chance of being revived as it has in each of the past six years. Thus, in September PWA returned to some 5,000 municipalities their applications for a total of \$750 million of Federal grants. Other straws in the wind: 1) The defeat of the general pump-priming bill in the last regular session of Congress and 2) the accepted opinion that Federal spending next year will be concentrated on national defense works. Decreased PWA building will be offset, at least in part, by a rise in unassisted municipal construction and increased Federal expenditures for river and harbor improvements, flood control, highways, airports (commercial and military), coast defense, Army housing and warehouses, electric power production and hospitals.

One thing is certain in the outlook for public construction, more money will be spent this year on the construction of USHA housing projects than was the case in 1939. While construction has already started on 122 projects, only about \$90 million was actually advanced last year. This year the total will exceed \$500 million. (Due to the amount of preliminary work which must precede actual construction, the doubling of the USHA program, now proposed, would not affect 1940 expenditures to any extent.)

FORECAST. Such, briefly, are the factors upon which Building bases its opinion of 1940. To measure this opinion, THE FORUM collected written statements as to the probable trend of this year's construction activity from several prominent sta-

tistical agencies, from 17 nationally known economists and from 130 recognized leaders in the building industry. Representing 21 of the largest cities coast to coast, the last mentioned group was composed largely of bankers, savings and loaners, contractors, realtors, subdividers, architects, engineers and FHA and city officials.

Pertinent comments on the national picture from some of the economists are quoted in the foregoing marginalia. All of the local opinions are summarized in the table on page 59. Where those interviewed expressed their opinions with specific percentages, the figures for each classification of construction are averaged and placed opposite the city. If the consensus pointed to an increase, but was not measured in percentage, a plus sign (+) appears in the proper place; conversely, a minus sign (—). Where a classification of construction is expected to remain unchanged from the 1939 volume, a zero (0) appears; where insufficient opinion was voiced, the space is blank.

Interesting is the agreement among the 21 cities that residential construction will advance, but not more than 15 per cent; only four cities look for larger increases—Chicago, Milwaukee, New York and Pittsburgh. When compared to the sweeping advances made by home building in 1939, it appears that these individual predictions for 1940 have been tempered with doubt as to what the New Year holds in store. Undoubtedly, if current conditions continue and nothing unforeseen develops, estimates of the reporting cities will prove to be conservative. Taken at its face value,

THE FORUM's forecast for an 11 per cent increase in private residential construction means that more than 500,000 dwelling units will be built in 1940.

While the majority of the cities anticipate improvement in both commercial and industrial building, the opinion of Pittsburgh seems particularly significant. One of the largest U. S. industrial centers, it foresees a 50 per cent drop in local factory construction. Widespread doubt concerning the trend of public building expenditures is restated in the varying city estimates for this classification; they range from a decrease of 50 per cent to an increase of 100 per cent.

Reflecting the parallel thinking of building professionals is the fact that the average local opinion of Building's probable 1940 trend jibes closely with the average opinion of the national trend as expressed by the surveyed economists. On the whole, however, the individual forecasts of statistical agencies and economists were more conservative than local expressions. Only a few of them anticipate more than a 10 per cent increase in residential building; only one predicts a decrease (5 per cent). They look for sizable advances in commercial and industrial construction and a decided drop in publicly financed undertakings.

Interpreting and weighing the informed opinions of all the 151 individuals and agencies participating in its symposium and reducing them to one composite group of percentages, THE FORUM arrived at the bold-faced forecasts shown below, concluded that 1940 will be a \$6,558 million year for Building—the best in a decade.

STATISTICAL REVIEW AND FORECAST¹

TYPE OF CONSTRUCTION	1920-29 AVERAGE	1938 ²	1939 ³	1940	1939-40
				FORECAST	CHANGE
TOTAL RESIDENTIAL (NON-FARM)⁴	\$3,511	\$1,390	\$1,900	\$2,109	+ 11%
COMMERCIAL	\$ 918	\$ 311	\$ 310	\$ 341	+ 10%
INDUSTRIAL	552	192	200	254	+ 27
OTHER NON-RESIDENTIAL⁵	443	203	220	224	+ 2
TOTAL NON-RESIDENTIAL	\$1,913	\$ 706	\$ 730	\$ 819	+ 12%
FARM⁶	454	336	330	360	+ 9
PUBLIC UTILITY⁷	1,147	500	550	638	+ 16
TOTAL PRIVATE	\$7,025	\$2,932	\$3,510	\$3,926	+ 12%
TOTAL PUBLIC⁸	1,947	2,157	2,800	2,632	— 6
TOTAL CONSTRUCTION	\$8,972	\$5,089	\$6,310	\$6,558	+ 4%

1—Dollar values for 1920-39 are estimates (in millions) of activity for the entire U. S. as prepared by Chief Lowell J. Chawner of the Division of Economic Research, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. (For explanation of derivation of these figures and for a more complete tabulation of building activity from 1915 to 1937, inclusive, see ARCH. FORUM, June 1938, page 517 et. seq.) All figures in the last two columns are based

upon an interpretation of expert opinion obtained by THE FORUM in a nation-wide survey; they were not computed by Mr. Chawner, but are comparable with his estimates. These figures are not comparable with those published by F. W. Dodge Corp. and titled "contracts awarded," inasmuch as the figures in this tabulation are estimates of actual expenditures for building labor and materials in the entire U. S. All figures exclude maintenance and work relief.

2—Revised.

3—Preliminary estimate.

4—Private ownership only; excludes USHA building, see footnote No. 8.

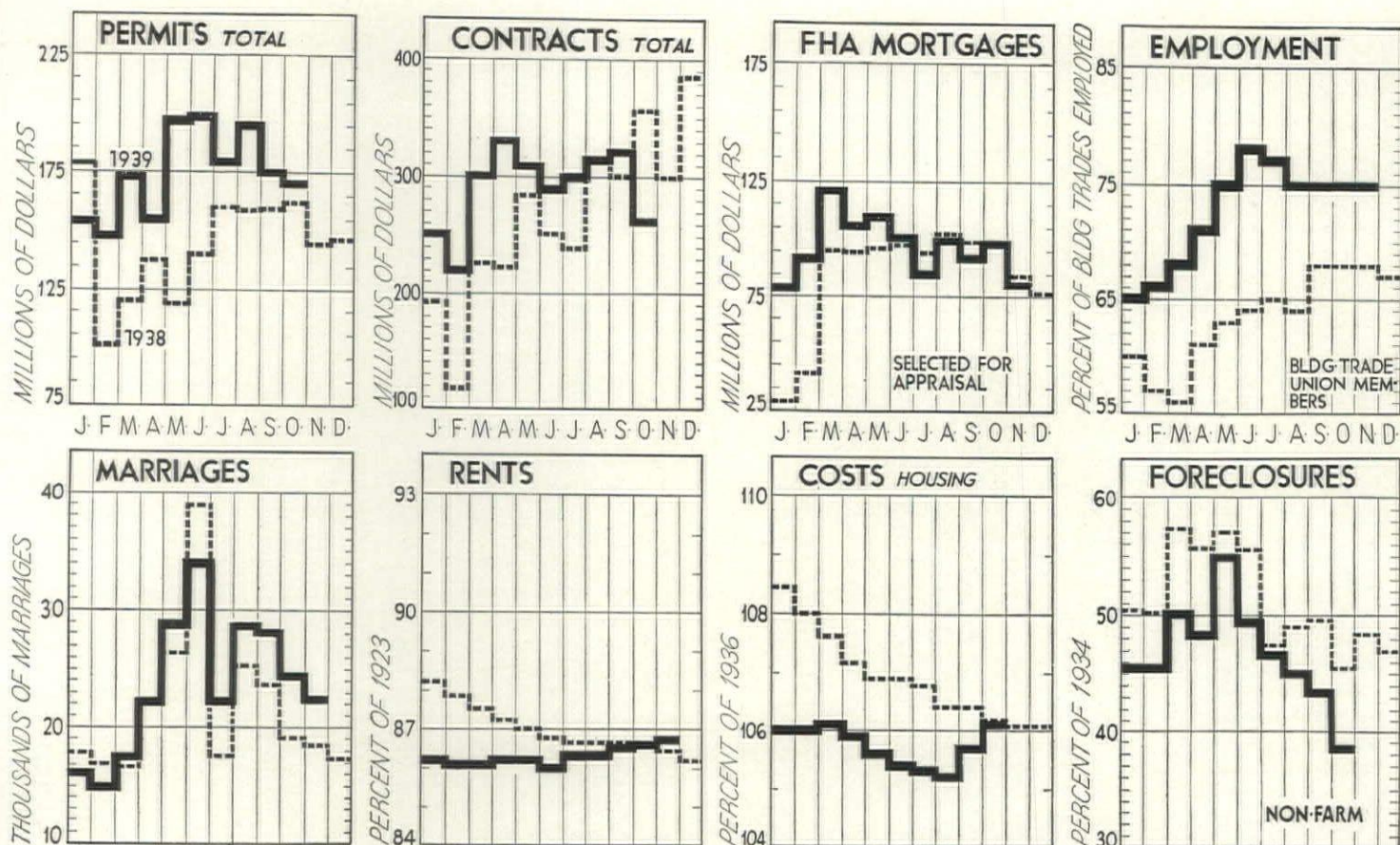
5—Excludes non-residential building by utilities.

6—Includes repairs.

7—Private ownership only.

8—Includes USHA residential building; \$32 million in 1938; \$80 million (approximate) in 1939, a predicted \$500 million in 1940.

1939 BUILDING IN REVIEW



	LATEST MONTH*	PRECED. MONTH	CORRES. MO. 1938	CUMULATIVE 1939		LATEST MONTH*	PRECED. MONTH	CORRES. MONTH-1939
PERMITS—residential (000,000) ¹	\$92.0a	\$87.9	\$78.0	\$945.4	INSURANCE CO.—real estate held (000,000) ¹⁰	\$1,750.0a	\$1,747.0	\$1,801.0
non-residential "	49.3	59.9	55.3	506.8	COSTS—wholesale materials (% of 1926) ¹¹	93.0n	92.8	89.2
alterations "	29.0	28.4	28.8	292.9	housing—labor (% of 1936) ¹²	111.1o	111.2	112.1
total "	170.3	176.2	162.1	1745.1	materials "	103.6	102.9	103.3
CONTRACTS—residential (000,000) ²	\$118.3o	\$129.7	\$112.7	\$1129.0	total "	106.1	105.7	106.2
non-residential "	72.7	82.5	131.0	830.1	RENTS—new leases (% of 1923) ¹³	86.7n	86.6	86.4
engineering "	70.8	111.0	114.0	937.5	FORECLOSURES—non-farm (% of 1934) ¹⁴	38.4o	43.4	45.5
total "	261.8	323.2	357.7	2896.6	metropolitan (% of 1926) ¹⁵	120.0	136.0	142.0
DWELLING UNITS—total (000) ³	23.9o	23.7	21.0	256.7	BOND PRICES—real estate ¹⁶	316.0n	310.0	334.0
FHA—mortgage selections (000,000) ⁴	\$80.7n	\$99.3	\$84.1	\$1056.6	STOCK PRICES—bldg. materials (% of 1926) ¹⁷	85.0o	83.0	108.0
mortgage acceptances "	65.0	74.2	59.3	684.7	WAGE RATES—common bldg. labor (per hr.) ¹⁸	\$0.685o	\$0.685	\$0.682
rental housing mtgs. "	1.5	1.6	4.9	48.6	skilled bldg. labor (per hr.)	\$1.46	\$1.46	\$1.43
modernization loans "	24.5	2.8	22.5	210.9	EMPLOYMENT—bldg. unions (% of total) ¹⁹	75.0n	75.0	68.0
MORTGAGES—					COST OF LIVING—(% of 1923) ²⁰	85.6o	85.9	85.8
building & loan assns. (000,000) ⁸	\$105.2o	\$104.5	...	\$973.5	PAYROLLS—factory (% of 1923-25) ²¹	93.6s	89.7	81.6
insurance cos. "	28.5	28.1	...	274.2	PRODUCTION—industrial (% of 1923-25) ²²	123.0o	111.0	97.0
bank and trust cos. "	84.7	74.6	...	763.0				
mutual savings bks. "	13.0	13.5	...	112.7				
individuals "	53.9	53.0	...	546.5				
other mortgagees "	47.7	43.5	...	454.0				
total "	333.0	317.2	...	3123.9				
MARRIAGES—38 cities (000) ⁹	22.4n	24.5	18.5	260.3				
				252.2				

FOOTNOTES:

- 1—Valuation of building permits in some 2,100 communities; source, U. S. Department of Labor.
- 2—Valuation of contracts awarded in 37 States; source, F. W. Dodge Corp. via U. S. Dept. of Commerce.
- 3—Number of dwelling units covered by permits. See footnote No. 1.
- 4—Home mortgages selected for FHA appraisal under Title II, Section 203; source, FHA.
- 5—Home mortgages accepted for insurance under Title II, Section 203; source, FHA.
- 6—Large scale rental housing mortgages becoming premium paying under Title II, Section 207; source, FHA.
- 7—Property improvement loans insured under Title I; source, FHA.

- 8—Non-farm mortgage recordings of \$20,000 or less based on 500 counties (48 States); source, FHLBB.
- 9—Number of marriages recorded in 38 largest U. S. cities; source, ARCHITECTURAL FORUM.
- 10—Total real estate holdings by member companies of the Assn. of Life Ins. Presidents.
- 11—Composite index of wholesale building material prices; source, U. S. Department of Labor.
- 12—National averages based on six-room house of 24,000 cu. ft. unfinished; source, FHLBB.
- 13—Rates at which new rental contracts are made; source, National Industrial Conference Board.
- 14—Foreclosures in some 1,500 non-farm communities; source, FHLBB.

- 15—Foreclosures in metropolitan communities with population in excess of 100,000; source, FHLBB.
- 16—Average price of 200 hotel, office building and theater bonds; source, Amott-Baker & Co.
- 17—Average price of twelve building material manufacturers' stocks; source, Standard Statistics Co.
- 18—Source, Engineering News-Record.
- 19—Trade Union members employed; source, American Federation of Labor.
- 20—Covers clothing, food, fuel and light, housing and sundries; source, NCB.
- 21—Source, U. S. Dept. of Labor.
- 22—Combined unadjusted index; source, Federal Reserve Board.

A PLANNED COMMUNITY APPRAISED.

Greenbelt, Md., turns in its first expense account, fulfills two out of three basic functions.



WHEN the Federal Government rolled up its sleeves some five years ago and tackled the stupendous job of rehousing this country's poor, its principal precedent was the work of European countries, and its only experts, a handful of far-seeing city planners. Quite logical, therefore, was one of its first creations—the town of Greenbelt, Maryland, a community of 885 families, 12.5 miles from the center of Washington, D. C. One of three suburban towns built by the now defunct Resettlement Administration (the other two: Greendale near Milwaukee, Wisconsin; Greenhills near Cincinnati, Ohio), it reflects both the ideals of those who believe that land planning is the way to better living and the gropings of Government taking its first fling at housing.*

Laid out in seven superblocks which form a crescent about an artificial lake and community center and protected from the surrounding countryside by a belt of forest and farms, Greenbelt has often been praised as offering its citizens a bigger share of the amenities than any other U. S. town—its two sisters excepted. Costing the taxpayers a cool \$14 million, it has at the same time been roundly denounced as high cost housing for low income families, as boondoggling on a cosmic scale. In fact, for its size, Greenbelt has caused much more than its share of public controversy.

Today, for the first time, this controversy can be armed with the cold facts of operation. This past fall the town management submitted its first complete report of income and expenses to RA's successor, the Farm Security Administration. Although some tenants moved into Greenbelt late in 1937, the project was not fully completed and occupied until a year later. Thus, the town as a whole has been in operation for only one year.

Conflicting opinions on Greenbelt have developed not only because the project

* For latest flings at Public Housing, see p. 1.

represents a radical departure from Government practice, but also because the Government's original reasons for building it were themselves in conflict. Not one, but three, were Greenbelt's *raison d'être*: 1) to provide work relief, 2) to demonstrate better community planning, and 3) to house low income families.

That it fulfilled the first of these is in the construction record. Begun in 1935, completed three years later, the project provided a total of 8 million direct man-hours of work relief. But in fulfilling this first function, a blow was dealt to its demonstration of the economics of community planning and to the low cost of its housing. The Farm Security Administration estimates that, by using hand construction methods to up the man-hour total, by spreading work over a three-year period and by hiring unskilled relief labor, the cost was increased from \$9 to \$14 million. Hence, a fair appraisal of the second and third of Greenbelt's purposes must needs discount the cost of relief.

The Town. With a population of 3,100, Greenbelt ranks in size with 570 other U. S. communities. There the resemblance ends. Greenbelt is the complete antithesis of the ordinary town, for, instead of just growing, it was planned.* Its 885 modern dwelling units are grouped principally in three-story apartments (306 units), and one and two-story rows (574 units). In addition, there are five single-family houses, built to test prefabricated plywood construction. Within each large block, the dwellings fall wherever contours, orientation and pedestrian traffic dictate, and they are turned away from the streets to face interior-block gardens.

In the center of the super-blocked crescent of dwellings are the public buildings, which supply all the goods and services a



DWELLINGS

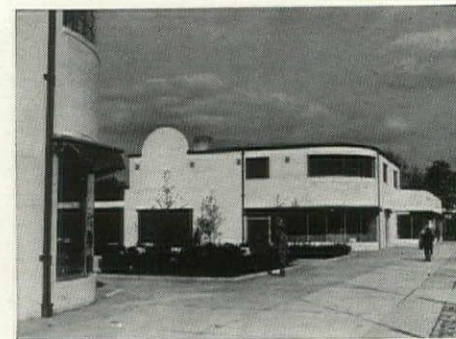
small town could need. Four buildings harbor seven stores, a 600-seat theater, bus terminal, post office, management offices, telephone exchange and newspaper office. A community building serves as an elementary school by day, a social center

* Responsible: Hale Walker, Town Planner; Douglas D. Ellington and Reginald J. Wadsworth, Architects; H. B. Bursley, Engineering Designer; and Wallace Richards, Coordinator.

by night. (Resettlement also built a high school, put it one-and-one-half miles outside the town to make it accessible to other nearby communities.)

Just beyond the shopping center toward the outside of the crescent is the recreation center, which offers more than any tenant would dream of demanding. There is a swimming pool, bath houses, tennis courts, an athletic field and, a little beyond, a 23-acre artificial lake stocked with game fish, and supplied with row and sail boats. Obviously, the aim in creating this sportsman's paradise was not low cost housing; it is questionable that all of it helps demonstrate better community planning.

The Tenants. A comparison of Washington's drab and dismal low rent dwellings with the idyl that is Greenbelt leaves little room for wonder that 9,000 applications for apartments were submitted when the project opened. That large number of



SHOPPING CENTER

hopefuls gave the Government plenty of elbow room in picking prospects. Hence the lucky 885 who survived the winnowing are the cream of Washington's poorly housed. Some 75 per cent work for the Government; half have college degrees.

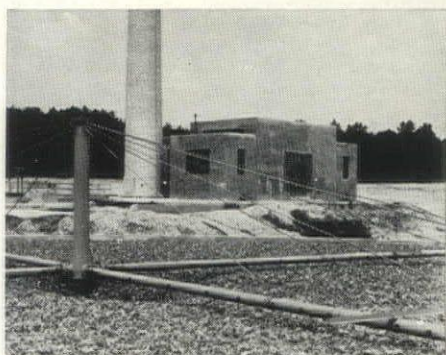
Proud claim of the management is that the Greenbelt birth rate is four times the national average. Although this may be partially due to security-plus-surroundings, it is largely explained by the fact that Greenbelt's population is startlingly young; family heads average only 31 years of age, and there are 500 children under five years old. The elementary school alone has an enrollment of over 600 pupils.

Incomes of the selected tenants are not by many a dollar the lowest in the city, but neither are Greenbelt rents. RA set the rents as low as it dared with a \$14 million investment hanging over it, but still failed to get them down into the lowest brackets. They range from \$18 a month for a one-room apartment to \$41 for a seven-room row house, average \$31. In comparison, income limits vary from \$800 for a single person to \$2,200 for a family of six, are roughly five times rent.

Included in the rent is the cost of heating and hot water; extra are all other utilities and services. Despite the fact that the kitchens are electrically equipped throughout, electric bills average only \$2.25 to \$3.25 per tenant per month, which bespeaks the advantages of community purchasing. Tenants have no submeters, are charged a flat percentage of their rent. But the management reserves the right to install a check meter if a tenant is suspected of taking advantage of the system. Other tenant costs: water, \$0.20 to \$1.20; garage \$1 (open), \$2 (with a lock).

To those family heads working in Washington, an important budget item is the cost of transportation. Only means of public conveyance is by bus to the city's outskirts, then by street car. Time—one hour; cost—\$2 for a weekly pass. Car owners (65 per cent of the tenants have cars) can, of course, cut the time if not the cost of commutation.

Good gauge of the type of tenants selected is the record of general tenant turnover, evictions and collections. First glance at turnover would indicate that the selection has been bad. During the 26 months that the project has been open, 175 families have left, which is 20 per cent of total tenancy. Most of that number were not evicted, however. They simply outgrew the town. The Government has a carefully graded scale closely tying family size and income together which is the gauge of any tenant's eligibility to live in Greenbelt. Prospering or growing families soon find themselves outside the limits of that scale and have to move. To give some leeway, tenants are permitted income increases to 25 per cent above the regular limits, and can move into any available larger quarters if their families grow, but apparently that leeway has not been enough. The number of families evicted because they did not fit into com-



SEWAGE DISPOSAL PLANT

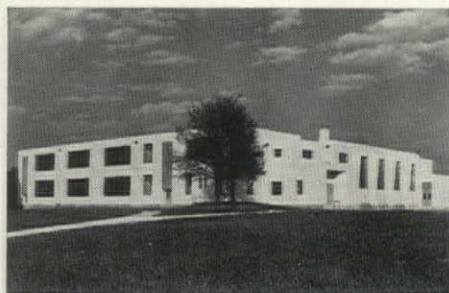
Rothstein

munity life has totaled no more than a half-dozen. Also noteworthy is the record of rental collections. At the end of September, they were less than 1 per cent delinquent.

The Government. Although Farm Security Administration still holds title to Greenbelt and has a staff of 56 employees to handle renting and maintenance, it does not attempt to run the project single-handed. Three other agencies help:

► *The Town of Greenbelt*, incorporated

in 1937 by a special act of the Maryland legislature, provides the usual services of any local government—police, fire, and health protection—but in fuller measure than most. With a staff of 39 employees it operates a hospital, recreational facilities, a kindergarten, a library, and runs Greenbelt's private sewage plant. Titular heads of the Town are a council of five. They appoint one of their number mayor, and serve for two-year terms. The actual, hard-working head, however, is Town Manager Roy S. Braden, who has held the job since the project started. He is also manager of FSA's Greenbelt administration, draws salaries from both jobs.



SCHOOL

Rothstein

► *The County of Prince George's*, Maryland, gives to Greenbelt the same services that all other towns within its jurisdiction receive. It operates both the elementary and high schools, provides county police protection, jails and courts.

► *Greenbelt Consumer Service, Inc.*, is a cooperative organization that runs the stores and other retail enterprises. It is operated under contract by the late Edward A. Filene's Consumer Distribution Corp.—a non-profit enterprise to foster cooperation. The Federal Government provided that when half the tenants purchased \$10 shares in the cooperatives, the CDC would retire. Although it is still in the running, the prospects are that the tenants will take over in the near future. At first, the stores lost money, but currently they are well in the black and earning dividends. FSA takes 2 per cent of their gross revenue as rent.

The Budget. Like every unit of government, Greenbelt has a budget. Unlike most, the odds are good that this unit will stay within its budget. According to the first and only report of income and expense of the FSA management and rental office, the sum expended during the first quarter of the 1939-40 fiscal year (July-September) was 25 per cent less than one quarter of the annual budget. In fact, gross income exceeded expenses by \$31,866. Income sources:

Residences	80.5%
Garages	1.4
Stores	3.4
Sale of water.....	2.4
Sale of electricity	8.6
Sale of furniture	3.4
Miscellaneous .....	.3

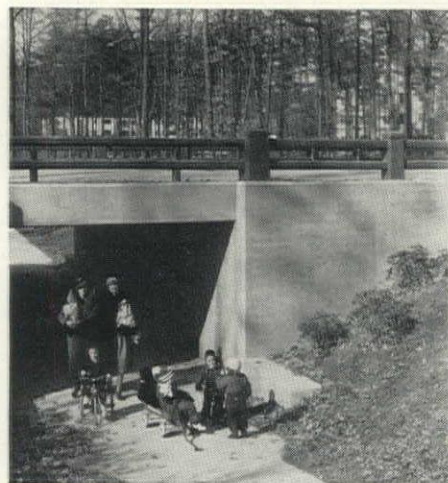
Of first quarter expenses, one-third went for FSA employee wages, the remain-

der for other expenses, whose biggest single item is *taxes*. The Federal Government as sole owner of Greenbelt, deemed it wise to pay lump sums in lieu of taxes to the local units of government. These lump sums, which come from annual earnings, are: \$68,247 to the Town of Greenbelt (which has a supplementary income of \$17,000 from personal taxes and fees); \$45,000 to Prince George's County; and \$7,500 to the State. Totaled, these taxes constitute 32 per cent of the annual budget.

Also important is *heating*, budgeted as 18 per cent of expenses. Each residential building has its own fuel oil plant which costs \$85 per dwelling unit per year to operate according to the estimates of FSA, this compares with \$126 per year per dwelling had individual oil burners been installed.

Although the total cost of *maintenance* is hidden in a great diversity of services and in the lump sum tax payment to the town, a breakdown is available of the upkeep cost of the extensive road, park and forest belt system. Surprising is the fact that the 12,000 acres and six miles of roads currently require the equivalent of full time work for only five men, cost only \$6,000 a year to maintain. As to the cost of maintaining the dwellings, FSA has so far repainted 136 of them for \$8 per room and plans to redecorate every three years.

If income and costs should continue at the rate presaged in the first quarter, Greenbelt will have netted a total of



Rothstein

UNDER PASS

\$127,468 by the end of the fiscal year, or 1.4 per cent of the total investment after relief costs have been written off. But such a return is highly optimistic, as it does not include the cost of winter heating and maintenance. Actually, FSA will do well to net one third that amount by year-end.

Such are the practical dollar and cent figures that Farm Security has to face. As the net return leaves little room to retire the investment, the Government is in for a sizable chunk of subsidy. How big that chunk will be, they have not yet dared to calculate.

(Continued on page 34)

TRAFFIC JAMS BUSINESS OUT,

produces bald spots in city centers. Engineer Steep charts decentralization in Detroit, prescribes elevated highways.

TEN years ago a search for vacant land in downtown Detroit would have gone largely unrewarded; almost every square inch of land had a building on it. Today in the same area, a similar search would be satisfied at almost every turn; out of 140 business blocks, 107 currently contain one or more parcels of vacant land. Such are the alarming dimensions of downtown real estate decline in this country's fourth largest city, as measured by Engineer-Economist James B. Steep. More alarming is the fact that Detroit is not an isolated case, but one victim of a fast-spreading epidemic. As almost any business man with a stake in commerce will testify, the condition in the center of Detroit has its parallel to some degree in most every U. S. city, and is rapidly becoming Real Estate's No. 1 problem.

A superficial analysis of the trend to vacant land might well lead to the conclusion that it was merely depression-born—that many old buildings were torn down because shrinking business made them unprofitable. But Engineer Steep looks closer, finds a much more logical answer. Noting that secondary shopping centers have mushroomed on the periphery of the city despite Depression, he pins the blame for downtown decline squarely on decentralization—the centrifugal swing of business away from the center of town.*

According to Steep's theory, this flight from downtown has developed because city streets are inadequate for heavy automobile traffic and parking. In common with most cities, the center of Detroit is plagued by a perpetual traffic jam, which interferes with the normal transaction of business. Many a firm has been unwilling to tolerate that interference, has moved out where their customers and employees can more easily get to them. The effects of decentralization are particularly evident in Detroit, for the automobile is even more of a transportation kingpin there than in most cities. In per-capita car ownership, the city ranks second only to Los Angeles. In fact, the citizens of Detroit have more money invested in their private automobiles than they have in the public transportation systems—\$300 million as against \$70 million. Obviously, they will use that large private investment regardless of delays and difficulties. The headache for downtown, however, is that the public tends to follow the line of least inconvenience which oftentimes leads to secondary business centers.

*The National Association of Real Estate Boards devoted much study to the effect of decentralization on downtown real estate at their annual convention two months ago, thus apparently agrees with Mr. Steep.

Traffic Trend. To prove that traffic congestion causes business decentralization, Engineer Steep points to the fact that commercial districts first, last, and always have depended for their existence upon transportation. Most of them were born at the meeting places of rivers or railroads and those that held a key position grew apace to commercial dominance. This period of growth was marked by a parallel development in mass transportation—railroads, street cars, elevated and subway lines—which made the business center the most accessible place in town and, being fixed in both direction and destination, apparently assured downtown the permanent monopoly of business enterprise. Then the automobile reversed the situation. Instead of being the easiest place to reach, the center of town became the most difficult. Narrow streets and cross traffic force 50-mile-an-hour automobiles to crawl at a snail's pace. And inadequate parking facilities make a car a white elephant once it reaches its destination.

Result is a sequence of cause and effect as simple as a natural law. The difficulty of transportation causes business concerns to move out to less congested areas, leaving the least desirable buildings vacant. When they become unprofitable, they are torn down and the vacant lots are used for parking. As a result, street congestion is somewhat relieved, but the problem is not solved. Engineer Steep estimates that parking space for an additional 18,000 cars is needed in Detroit, which is double present facilities, and that Detroit parking lots earn only one-third their taxes.

Also inadequate have been the measures taken to relieve traffic congestion. The city has spent \$12.7 million to widen two and one-half miles of Woodward Ave., \$10 million of which was for the purchase of property, damage and interest. Expectation that an increase in adjoining property values would result was doomed to disappointment. Few months ago the assessed valuations along the street were reduced upon the property owners' petition.

Effects. If the only result of this migration to the hinterland was to put downtown land owners out of pocket, it could be accepted as a break of the game. Unfortunately, however, such is not the case. The lowering of central property values has seriously threatened the city's econo-



Otto Hagel

my. Downtown real estate traditionally carried a heavy share of the tax load, but in central Detroit it is less and less able to do so. During the past three years alone, some 96 buildings have been demolished in the central area, and to date have not been replaced by other structures (see map, below). Further, 105 of the 140 business blocks harbor obsolete buildings at least 50 years of age, many of which are too far gone for modernization. With low incomes and high taxes, odds are high that many of these will be torn down in the near future, adding to the wide open spaces and reducing the city's tax income. Although outlying business centers help carry the tax load, Engineer Steep contends that they are unable fully to compensate for the downtown loss.

At the same time that this haphazard decentralization causes a reduction in tax income, it also creates a need for higher taxes by forcing the city to extend its services to outlying areas. Since those services are nothing more than a duplication of those already existing for the benefit of downtown's vacant lots, they put a double burden on the city.

Cure. Obviously, measures so far taken to save the city from real estate ruin have been but stop-gaps. Vacant lots are not the solution, but the problem itself, and

street widening does not appreciably speed up traffic because it does not remove cross traffic delays.

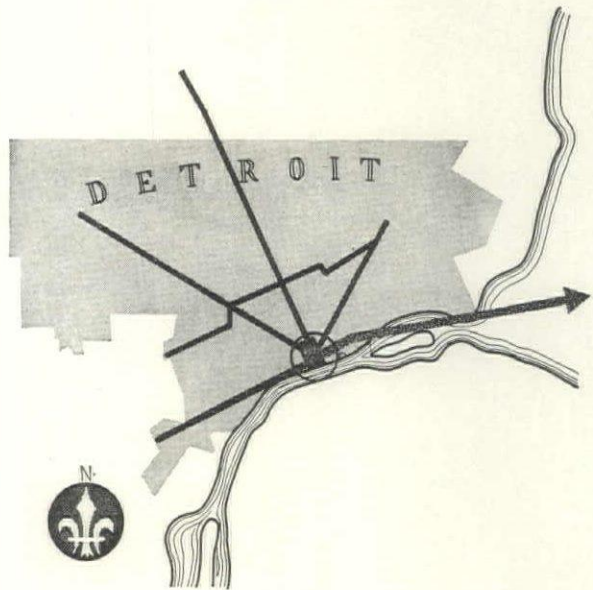
According to Engineer Steep, cure for this hardening of traffic arteries is to take the stop-and-go out of city driving by building elevated highways such as have proved so notably successful in New York City. He estimates that these high-speed roadways can be built for a million dollars a mile, which is one-fifth of the cost of the city's unsuccessful street widening.

To solve the parking problem, he suggests first that the city encourage the private construction of multi-deck open parking lots, claiming that these could be built economically of steel at a cost that would permit the investment to be profitably retired within five years. Second, the city should eventually build multi-decked parking lots in the center of Detroit's widest streets which would logically act as terminals at the downtown end of the

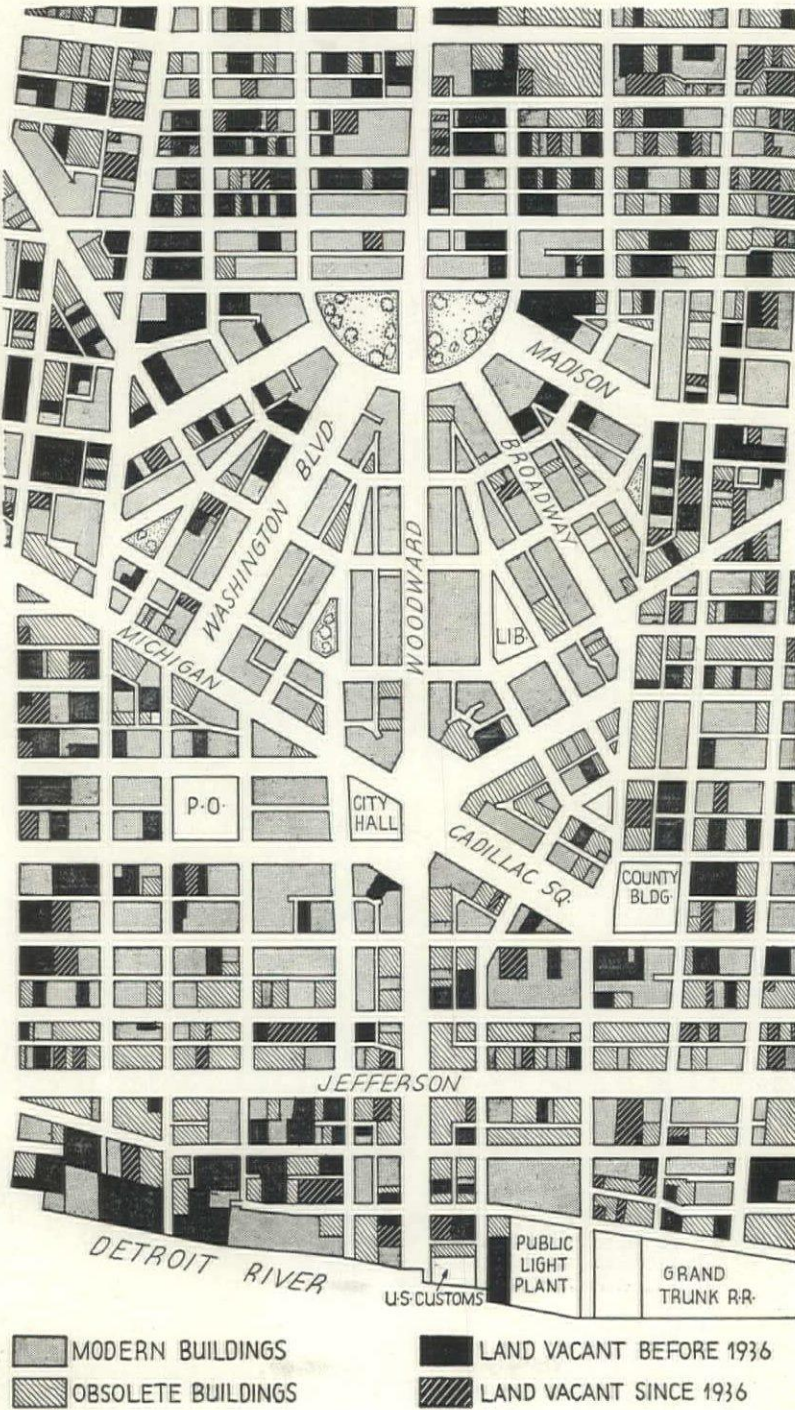
elevated highways. These public projects could also be self-liquidating*. This scheme for parking is particularly feasible in Detroit where several thoroughfares spread 200 ft. from curb to curb. But in many a city where narrow streets are the norm, it might be difficult.

If Engineer Steep's conceptions are ever carried out, Detroit's auto-minded citizens will be able to speed instead of crawl to the city's center, and when they get there, they can park their cars without spending maddening minutes cruising about in search of a vacant 20 ft. of curb. As a result, real estate values might well revive. If they are not carried out, however, Engineer Steep forecasts a black future for downtown real estate, more black spots on Detroit's property map.

* For a look at the Steep conception of streamlined outdoor parking, see ARCH. FORUM, Dec., 1938, p. 20.



Vacant lots and obsolete buildings blacken Detroit's downtown real estate picture. As the map (right) shows, they constitute about half of all central real estate parcels. And this picture has been getting steadily darker. In 1936, vacant lots were limited to the solid black areas. Since then, the dark shaded areas have been added. Cause of this condition, according to Engineer Steep, is decentralization of business toward outlying areas; cure, he claims, is construction of elevated highways following the five black lines on the map above. He estimates that their forty miles of length would cost the taxpayers a total of \$40 million. But they might save that much in terms of downtown real estate values.



FACTORY HOUSES FOR \$2,995

appear in a Chicago suburb. Standard Houses Corp. makes a five-house debut, shows building dowagers one way to lower costs.

TRADITIONAL way to break into the home building business is to hire sub-contractors for site construction. New way is to open a factory and produce prefabricated houses. Following this new way, and finding it pleasant are four young men from Chicago. Organized as the Standard Houses Corp., they glued together the knock-down parts of five identical plywood houses, assembled them in Chicago suburb, Melrose Park, sold them all in one day for the bargain-counter price of \$2,995 (including land). And they made those houses attractive to boot—both outside and in.

Although this running record bears the stamp of tyros blithely barging in where experienced builders fear to tread, it was not the result of luck, but of several years of preliminary research and experimentation by Standard Houses President—Bauhaus-trained Architect Bertrand Goldberg. Before he teamed up with his three other corporate cronies for a venture into building, he carefully studied the Forest Products Laboratory's stressed-covering principle of plywood construction and tested his own theories by building two small experimental houses.

In translating his ideas into practical building, however, Goldberg had behind him the full weight of the other three members of the corporation. And they make an effective team. Architect Gilmer Vardiman Black (vice president) co-worked the design details; Lawyer Edwin

Ashcraft III (secretary) handled legal matters; and Ross J. Beatty, Jr., (treasurer) owned and provided the land. Old friends, the four do not stand on business formalities, are not yet subdued by the dignity of their offices. During the operation of their factory (rented just long enough to complete the five four-room houses) they even pitched in and helped run the machinery.

Starting point for their five-house project was Beatty's extensive land holdings in rundown Melrose Park, 12 miles from downtown Chicago and hence outside the range of that city's stringent building code. He acquired this land by buying up heavily watered special assessment bonds at 35 cents on the dollar. Many lots had unpaid assessments of \$1,400 apiece against them, and owners were glad to get out from under, selling for as little as \$10. Total cost to Beatty: \$850 per lot.

As Beatty was ready to sell any number of these lots at cost to Standard Houses, the company was long on land. But it was short on operating capital. Each one of the four partners chipped in \$1,000 to cover the expected cost of labor and overhead for the five houses. To cover material costs they talked materials manufacturers into extending them credit for 60 days after the houses were up. But they had to agree that if the houses were still unsold at the end of the 60-day period the manufacturers would be appointed attorneys-in-fact with authority to sell the

houses for enough to cover the materials bill. Thus, the four Chicagoans had to make a smash hit right from the start or run the chance of losing their investment in the project.

Construction. Because the Corporation was severely limited by a dearth of manufacturing equipment, the houses are actually only half-prefabricated. Assembled in the rented factory were the plywood wall, ceiling and roof panels, wardrobes and cabinets, all of which were kept to a size that would make for easy trucking (wall panel: 4 x 8 ft.). But all plumbing, electric wiring, etc., was handled by conventional subcontractors on the site.

Following well-established prefabrication practice, the houses were designed to involve a minimum of field labor. Further, each field man was given a limited series of operations to perform in order that his efficiency would increase as work progressed. The effectiveness of this system is well demonstrated by the record: four men assembled the prefabricated shell of the first house in a day and a quarter, but the fifth and last house took them only six hours. The subcontractors who followed them were slower, worked a week to complete the houses.

Because 35 x 125 ft. lots permitted only 8 ft. of space between the houses, Architects Goldberg and Black staggered each house the full depth of its neighbor. Thus, the two end houses are only 15 ft. from the street, the one in the middle 55 ft. Result was both a more interesting grouping and more air and sunlight. This arrangement has the distinct disadvantage, however, of giving the house in the center a closeup view of its neighbors' backyards.

Costs. Original plan of the Standard Housers was to sell their plywood houses



Photo-Ad

Four musketeers of Standard Houses Corp. study future plans. Left to right, Ross J. Beatty, Jr., Gilmer V. Black, Edwin Ashcraft, III, and Bertrand Goldberg.



Hedrich-Blessing

for \$3,220, but at the last minute they chose a spectacular price tag in preference to a comfortable profit and chopped the total cost to \$2,995. A breakdown of that cost shows how little they could afford such a reduction:

Land	\$850
Landscaping	65
Construction	1,980
Profit	100

Conspicuously absent from this list is any allocation to overhead. Were it included, even the small profit of \$100 would fly out the window. They feel justified in writing it off however, in view of the experimental character of this first project. With a regular production schedule of 100 houses a year, they estimate that gross profits would be \$400 on each.

Goldberg attributes the rock bottom construction cost of \$1,980 principally to the economies of prefabricated construction, claiming that the same house traditionally built would cost \$3,000. The cost of the factory-made structural shell of the houses constitutes less than 25 per cent of the total construction cost, or slightly less than \$500 per house. Of this amount, about \$70 was spent for site assembly, and \$430 for fabrication of wall panels, transportation, etc. The remaining 75 per cent of the total construction cost, amounting to almost \$1,500, went for mechanical equipment, decorating, insulation, steel sash, roofing, etc.

Sales. One thing Architect Goldberg's first two experimental houses taught him was that in selling prefabricated houses it is best not to mention how they are built. If the public thinks of factory-made houses at all, it is with antipathy. But in selling the five Melrose Park houses, he had little opportunity to use his knowledge. Attracted by feature articles in two Chicago evening papers, 3,000 visitors flocked through one unfurnished house on opening day, last September 24. Of that number, only nine submitted applications to purchase, but that was enough. Within

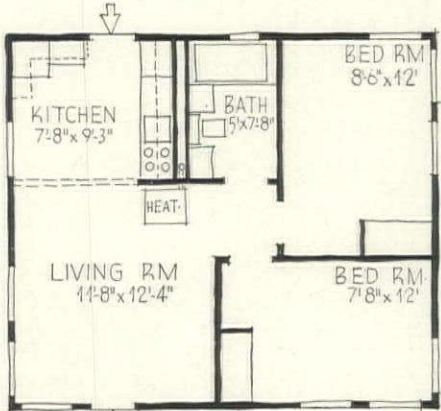


Hedrich-Blessing

24 hours, Standard Houses Corp. was sold out, was considering its next step.

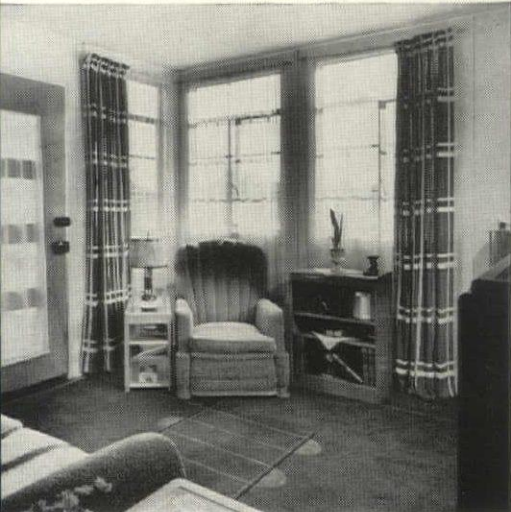
With ideals as well as ideas, Goldberg and Co. see in their prefabricated houses not just a way to profits, but a means of providing low income families with good low cost housing, sans subsidy. They hold that the builder has a large responsibility in developing the character of neighborhoods, and admit that their houses or any others can easily deteriorate into slums unless protected by proper land planning and owner selection. Selected for Melrose Park were office workers with incomes ranging from \$1,500 to \$2,500 a year. Although this initial project was too small for effective land planning, they eventually hope to build 100 houses there, work out a plan that will protect the neighborhood.

(Continued on page 36)



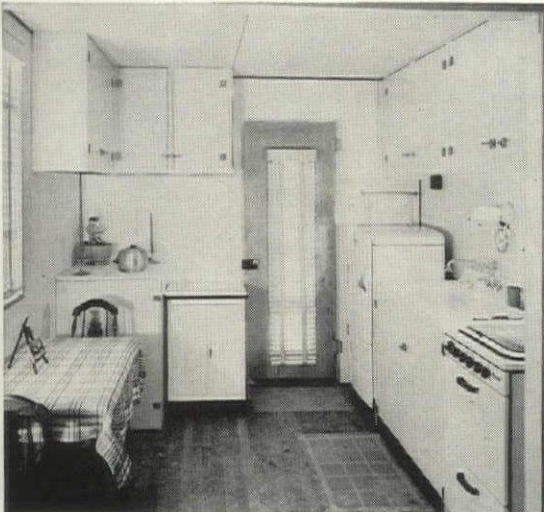
Inside and out the prefabricated house of Standard Houses Corp. is well planned. Architects Black and Goldberg kept interior partitions to a minimum, thus lent a sense of space to cramped quarters. Although the kitchen appears to be in the living room's lap, it can be shut off with a screen. Note flexible shower head in the bath, below.

LIVING ROOM



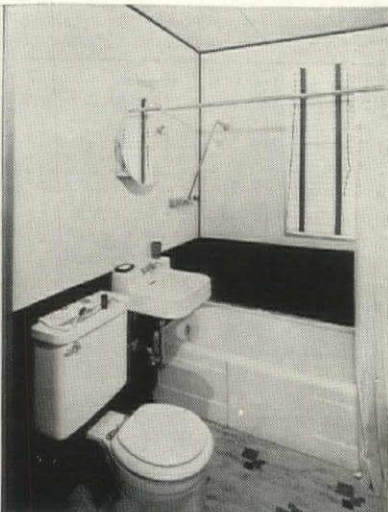
Hedrich-Blessing

KITCHEN-DINING



Courtesy, Crane Co.

BATH



Courtesy, Crane Co.

FORUM BUILDING COST INDEX

Local home building costs in 81 cities—expressed as per cents of the 1936 national average

STATE	CITY	LATEST MONTH	PRECEDING MONTH	SAME MONTH 1938	STATE	CITY	LATEST MONTH	PRECEDING MONTH	SAME MONTH 1938
ALA. ³	Birmingham	93.1	96.0	105.9	NEV. ¹	Reno	121.1	118.8	118.7
ARIZ. ¹	Phoenix	112.5	110.8	116.9	N. H. ³	Manchester	96.4	98.1	98.1
ARK. ¹	Little Rock	93.7	94.4	94.0	N. J. ²	Atlantic City	113.4	104.1	106.7
CALIF. ¹	Los Angeles	95.9	94.6	98.9		Camden	105.4	100.8	100.5
	San Diego	98.9	101.3	105.2		Newark	102.2	99.3	100.1
	San Francisco	113.9	114.1	115.1	N. M. ¹	Albuquerque	114.2	115.7	118.2
COLO. ³	Denver	113.4	115.3	118.7	N. Y. ²	Albany	....	105.6	105.7
CONN. ³	Hartford	105.5	105.6	105.0		Buffalo	113.1	107.6	113.9
	New Haven	102.5	101.2	101.6		Utica	104.6	103.1	102.3
DEL. ¹	Wilmington	97.4	97.9	106.6		White Plains	112.0	110.2	112.7
D. C. ³	Washington	103.7	102.2	105.4	N. C. ³	Asheville	87.8	88.1	92.0
FLA. ³	Tampa	100.8	100.8	100.2		Raleigh	87.7	89.5	95.8
	West Palm Beach	103.1	104.8	104.9		Salisbury	84.0	84.4	85.8
GA. ³	Atlanta	86.6	87.2	91.5	N. D. ²	Fargo	105.8	101.3	105.4
IDAHO ²	Boise	110.5	111.4	108.5	OHIO ¹	Cincinnati	105.0	103.8	105.5
ILL. ³	Chicago	122.3	123.7	123.0		Cleveland	123.5	117.3	116.0
	Peoria	120.0	118.5	116.9		Columbus	104.4	101.6	103.5
	Springfield	122.5	122.7	123.1	OKLA. ³	Oklahoma City	106.5	105.9	105.3
IND. ²	Evansville	110.2	103.8	103.8	ORE. ²	Portland	99.9	97.6	98.6
	Indianapolis	103.5	107.7	104.2	PENNA. ¹	Harrisburg	110.4	103.5	102.7
	South Bend	105.7	100.4	96.8		Philadelphia	100.9	99.1	97.2
IOWA ²	Des Moines	113.9	113.6	111.4		Pittsburgh	115.7	116.4	115.8
	Wichita	109.6	108.8	....	R. I. ³	Providence	107.5	108.4	106.8
KAN. ³	Wichita	109.6	108.8	....	S. C. ³	Columbia	85.3	86.5	88.0
KY. ¹	Lexington	106.9	100.4	98.9	S. D. ²	Sioux Falls	109.4	108.7	116.3
	Louisville	97.6	94.5	94.7	TENN. ¹	Memphis	97.9	95.2	97.0
LA. ¹	New Orleans	105.9	102.0	104.9		Nashville	90.8	89.6	92.5
ME. ³	Portland	94.9	95.7	95.9	TEXAS ¹	Dallas	96.4	98.2	103.9
MD. ³	Baltimore	89.8	90.5	89.6		Houston	106.0	106.3	106.9
	Cumberland	99.0	100.1	99.6		San Antonio	102.8	106.1	107.2
MASS. ³	Boston	114.5	113.6	113.6	UTAH ²	Salt Lake City	108.4	108.7	106.3
	Worcester	102.6	102.7	....	VT. ³	Rutland	96.8	98.1	100.3
MICH. ²	Detroit	107.3	110.6	111.5	VA. ³	Richmond	90.1	89.2	91.4
	Grand Rapids	102.5	105.3	106.1		Roanoke	97.0	96.9	95.8
MINN. ²	Duluth	109.2	108.5	111.8	WASH. ²	Seattle	114.1	113.1	113.1
	St. Paul	118.4	118.4	118.1		Spokane	113.6	110.5	113.6
MISS. ¹	Jackson	108.7	106.5	109.6	W. VA. ¹	Charleston	105.6	105.1	106.4
MO. ²	Kansas City	107.7	110.5	....		Wheeling	114.7	114.1	108.5
	St. Louis	109.4	107.7	108.3	WIS. ³	Milwaukee	107.4	108.3	104.0
MONT. ²	Great Falls	124.5	125.3	....		Oshkosh	106.7	107.0	106.8
	Omaha	107.4	104.4	105.0	WYO. ²	Casper	119.2	117.9	116.2

1 Latest report—November; preceding report—August; 1938 report—November.
2 Latest report—October; preceding report—July; 1938 report—October.

3 Latest report—September; preceding report—June; 1938 report—September.

Based on Federal Home Loan Bank Board statistics covering the cost of building the same typical house in each city. This typical or standard house has six rooms, a total volume of 24,000 cu. ft. On the first floor are living and dining rooms, kitchen and lavatory; on the second floor, three bedrooms and bath. Exterior finish is wide-board siding with brick and stucco as features of design. Included in the cost of the standard house are all fundamental structural elements, an attached one-car garage, unfinished cellar and attic, fireplace, insulation, and all essential plumbing, heating and wiring. Only cost variables are materials and labor; compensation insurance, overhead and profit are included as constants. Excluded from the cost of the standard house are all items of finish and equipment such as wallpaper, lighting fixtures, refrigerator, window shades, etc. Costs do not include land, landscaping, walks and driveways, architect's fee, building permit, financing charges, etc. For a more detailed explanation, See ARCH. FORUM, Dec. 1939, Page 474.

USE OF INDEX.

1. To show current local trends of building costs by means of three reports for each city, covering the most recent month, as well as three months and a year

previous. In addition, the index of each city provides a direct comparison with the 1936 national average, as it is given as a percentage of that average.

2. To report the wide variation in local cost levels, shown by the relative size of the index figures. As all local indexes are based on the 1936 national average, they are directly comparable.

3. To provide a ready means of adjusting house costs between cities.

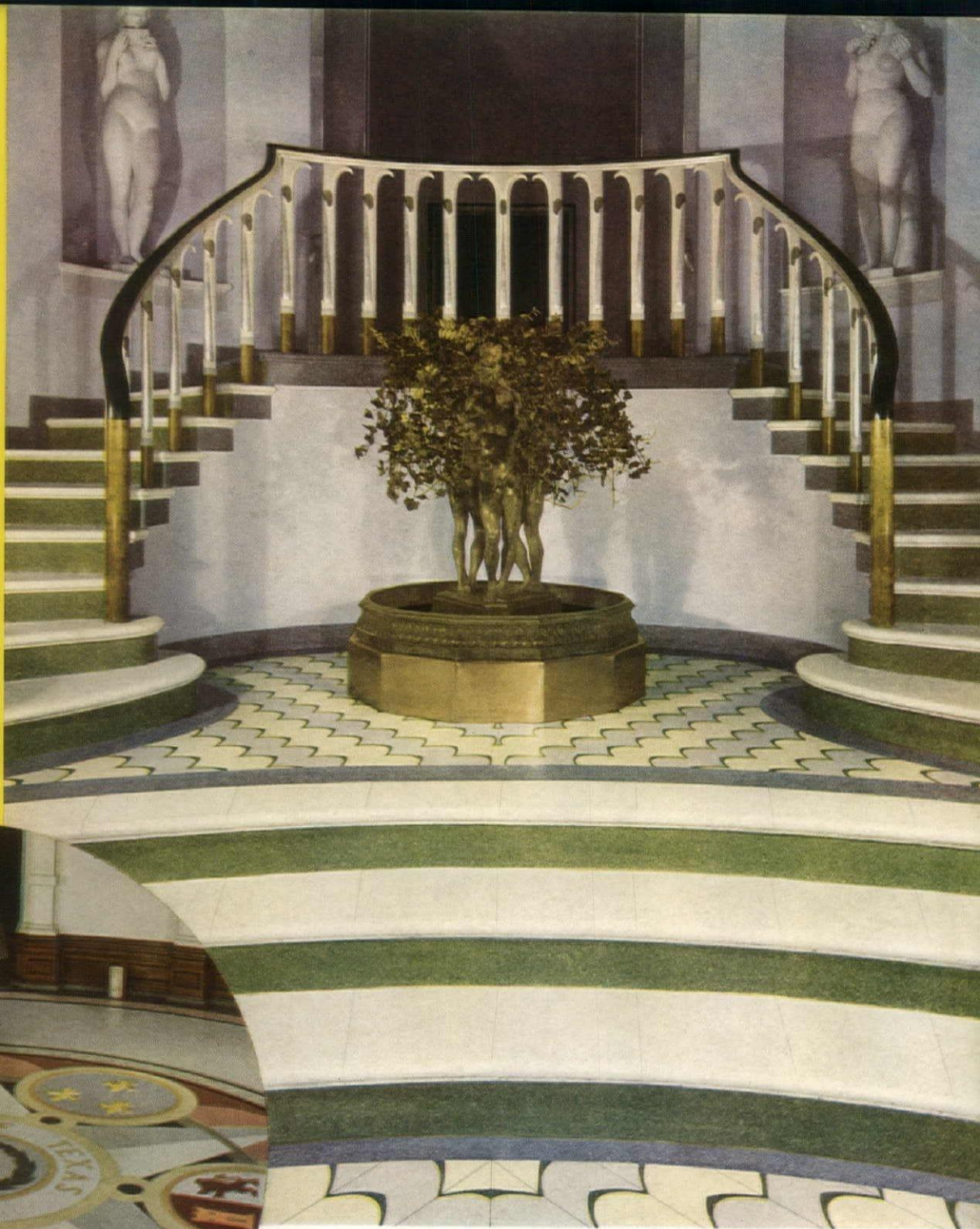
Thus, to find the cost in City B of a house built in City A for \$5,000, first multiply the most recent City B index (90) by the cost of the house in City A (\$5,000). The result is 450,000. Second divide that 450,000 by the latest City A index (110). Result: \$4,090—the approximate cost of the house in City B.

In using THE FORUM Building Cost Index to make such an adjustment of costs between cities, the basis of the index—the standard house, defined in the first column—should be kept in mind. The index applies to medium-to-small houses, not to large houses and those replete with gadgets. Neither does it apply to costs which include land. If land is included in the total cost, 20 per cent may be deducted to obtain a rough approximation of construction costs. For application in the South, the cost of cellar and heating plant may be eliminated from a Northern house by deducting 10 per cent.

Terrazzo fits easily into odd-shaped areas. Here is a floor, made with Atlas White, in the Whitney Museum of American Art, New York. Decorator, Bruce Buttfield, New York. Terrazzo Contractor, United States Mosaic & Terrazzo Corp., Brooklyn.

History in a terrazzo floor, made with Atlas White and installed in the Texas State Capitol. Architect, C. H. Page, Austin. Terrazzo Contractors, Art Mosaic & Tile Co., Toledo, and J. B. Martina Mosaic Co., Denver.

(Bottom) In the Detroit Times Building is this striking terrazzo floor, made with Atlas White. Architect, Albert Kahn; Terrazzo Contractors, Tramontin Brothers—all of Detroit.



Every Floor different

... YET ALL ARE ALIKE!

YOU cannot imagine three floors as different in design as those shown here. But basically they are the same, made of *FINE TERRAZZO* adapted in design and color to each building. Here you see examples of the flexibility of this modern flooring material—its adaptability to any situation.

FINE TERRAZZO does not lose its original freshness. Patterns in a *FINE TERRAZZO* job remain clean-cut. But that means the use of *white* portland cement matrix. Then you get exact color control and minute pattern reproduction.

So, on your next job specify terrazzo, made with Atlas White (plain or waterproofed). It is a pure *white* cement and makes *FINE TERRAZZO* that is moderate in first cost, inexpensive to maintain—the floor you “refinish” by simply cleaning. For detailed information see Sweet’s Catalog, or write us for free book showing 24 true color specimens of *FINE TERRAZZO*. Universal Atlas Cement Company. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.



T-16

FOR FINE TERRAZZO SPECIFY ATLAS WHITE PORTLAND CEMENT

HOMES LIKE THIS

SELL ON SIGHT!



↑
Another Prize-Winning Home! Built by Mr. J. H. Hughes of Abilene, Texas. This attractive "All-Gas Home" at 777 Elwood Drive, Abilene, is the much admired residence of Mr. M. L. Bird.

←
Mr. Bird's spacious "all-gas kitchen" is the kind that puts an end to servant problems before they start...a very strong sales appeal to domestically inclined women.

TO builders all over the country "GAS" is rapidly becoming a three-letter word meaning "SALESMANSHIP"!

By installing Gas Equipment in the houses you build, you transform them from empty shells into inviting, livable homes...All your clients need to do is sign on the dotted line and move in! You've completed the picture—removed the question-marks—and quoted a price that includes "the works" with *no extras!*

Here, briefly, are the *sales-winning secrets* of the new gas ranges, refrigerators, water heaters and house-heating equipment. (1) Sleek, compact design. (2) Efficient, automatic operation. (3) Simple, sturdy construction. (4) Low first cost. (5) Low installation cost. (6) Low operating cost.

DIRECT PROFIT TO YOU! Ask your local gas company how you actually *make more money* by installing gas equipment for "the 4 big jobs"!

AMERICAN GAS ASSOCIATION

LET

GAS

DO THE 4 BIG JOBS

COOKING
WATER HEATING
REFRIGERATION
HOUSE HEATING



Be sure the gas appliances you specify bear the Approval Seal of the American Gas Association Testing Laboratories.

SIMONDS 5 ACRES of SAW and STEEL Manufactured Weather

WORLD'S FIRST "Controlled Conditions" plant is this new home of Simonds Saw and Steel Company, Fitchburg, Mass. Designed by Austin Company, and completely air conditioned by Carrier, this modern 5-acre plant replaces 17 acres previously required.



SINGLE ROOM includes every department... production, engineering and clerical. But, although 70 Forges and more than 1000 Grinding and Welding Machines are constantly in operation, Carrier conditioned air keeps workers cool and comfortable.



400,000 CFM of Temperature and Humidity Controlled Air for New Windowless Plant

● THIS windowless plant manufactures the proper weather for each department. The heat developed in the factory section presented its special problems in air conditioning. In the office and engineering locations, the efficiency of the workers required different comfort standards. But, Carrier equipment and technique brought the successful solution through Carrier's long,

world-wide experience in meeting the air conditioning requirements of industry.

Carrier engineers in principal manufacturing centers offer to management and operating executives its experience in meeting the air conditioning problems of industry for 38 years, in old or new buildings.



THIS SUMMER, visit the Carrier Igloo of Tomorrow at the New York World's Fair. 1940 is the 50th Anniversary of what is now Carrier Refrigeration, and the 25th Anniversary of the present Carrier organization.

Carrier
Air Conditioning

CARRIER CORPORATION, DESK 8A
"Weather Makers to the World"
SYRACUSE, NEW YORK
(In Canada, Box 1050, Station C, Toronto)

Send me information about
Carrier Air Conditioning for:

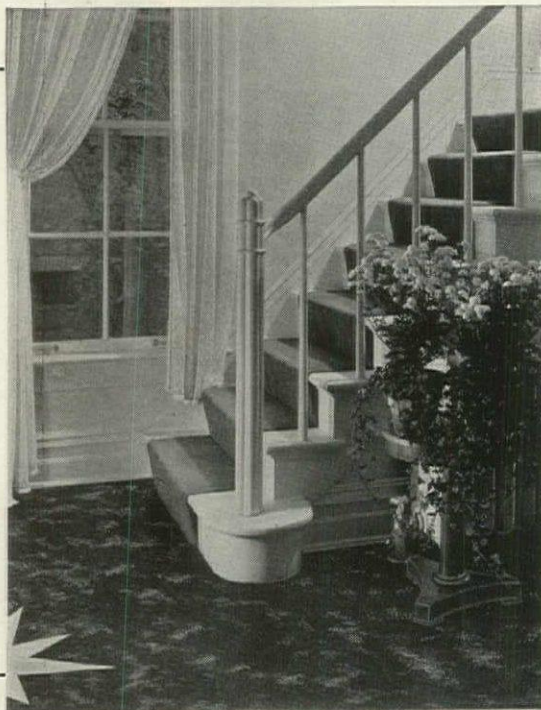
- ☐ Processing ☐ Laboratories ☐ Offices
☐ Carrier Space Heating
☐ Carrier Refrigeration

NAME.....

COMPANY.....

ADDRESS.....

TO SELL THE HOUSE QUICKLY SELL THE HOUSEWIFE FIRST



HOME-BUYERS' CHOICE is this entrance hall floor of Armstrong's Linoleum in an Evanston, Ill., residence. The field is Black Marbelle No. 021 with a star inset in White No. 23. Nationally advertised Armstrong's Linoleum helps sell houses because it has wider consumer-acceptance.

*For floors that catch the feminine eye,
use colorful Armstrong's Linoleum*

FEW homes are bought without a woman's stamp of approval. By installing colorful floors of Armstrong's Linoleum in the houses you build, you win over the woman instantly. And don't forget to mention that the linoleum is *Armstrong's*. That's a name she is sure to know.

From your viewpoint, Armstrong's Linoleum is a most satisfactory floor to work with. The 200 colors and patterns available make it easy for you to create appropriate floors for homes of every type. From the buyer's viewpoint, floors of Armstrong's Linoleum immediately suggest a home that's easy to keep clean—one which will have unscuffed, fresh-looking floors for years without replacement or expensive refinishing.

For over 20 years, Armstrong's national advertising has been telling *millions* of women that Armstrong's Linoleum is ideal, not only for kitchens, bathrooms, and entrance halls, *but for every room in the house*. See Sweet's for full information, or write for color-illustrated booklet. Armstrong Cork Company, Building Materials Division, 1203 State Street, Lancaster, Pa.



ARMSTRONG'S FLOORS LINOLEUM

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

GREENBELT

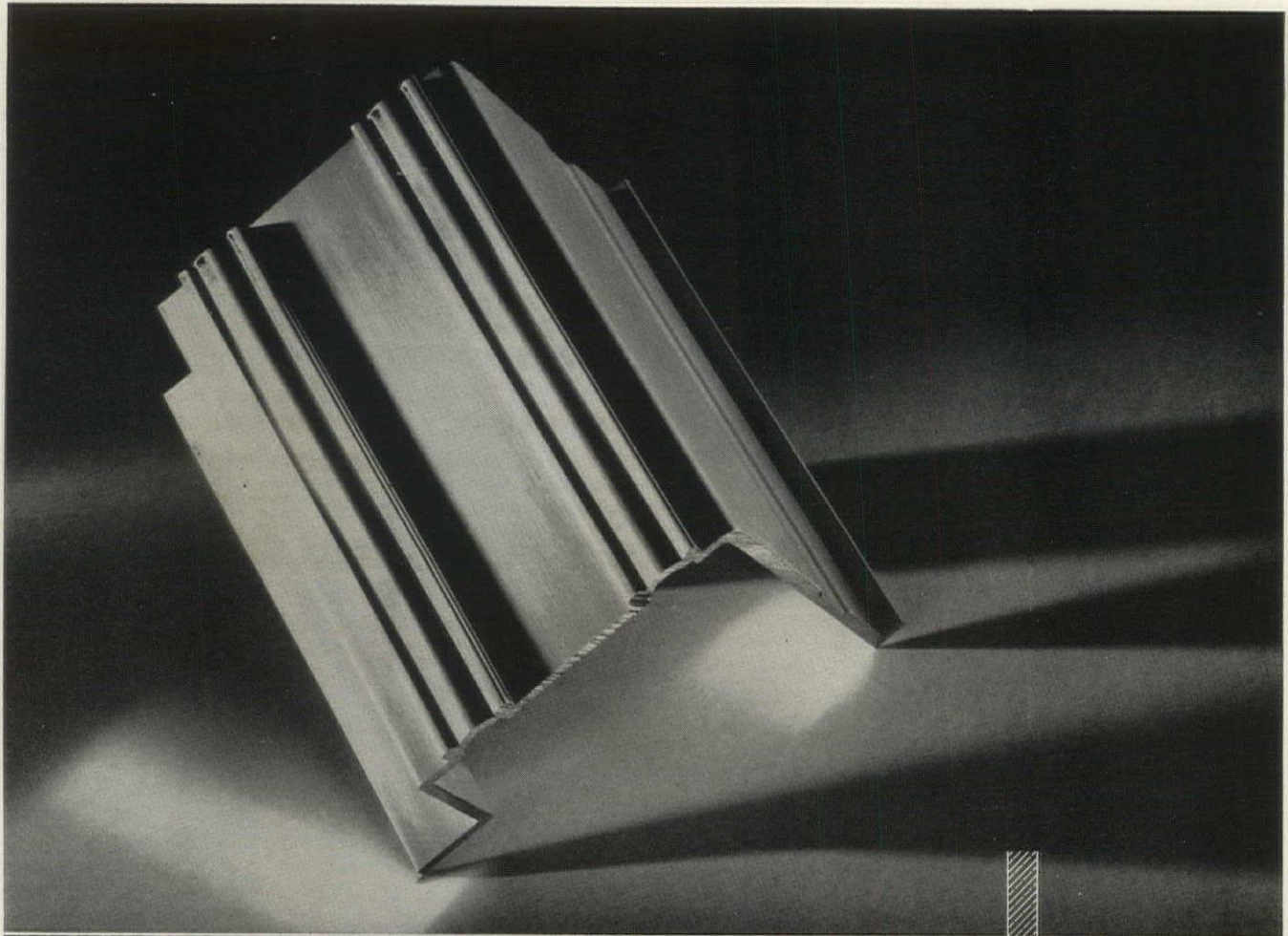
(Continued from page 63)

Expansion. Despite its practicality, the current balance sheet is unfair to the Greenbelt type of planning. It takes no account of the fact that the town was planned and partially built for 3,000 families instead of 885. Hence, present earnings carry the cost burden of stores, utility mains, roads and land three times too big. These extra facilities did not result from Resettlement Administration megalomania, but from the practical consideration that there is an economic lower limit to the size of the town, below which the dwellings cannot profitably support their needed services. Proof: Greenbelt's present staff could not well be cut, yet it could run the full-sized town with the help of only a few extra janitors, gardeners, etc. RA did not have money enough to build to this economic limit, but planned for it anyway.

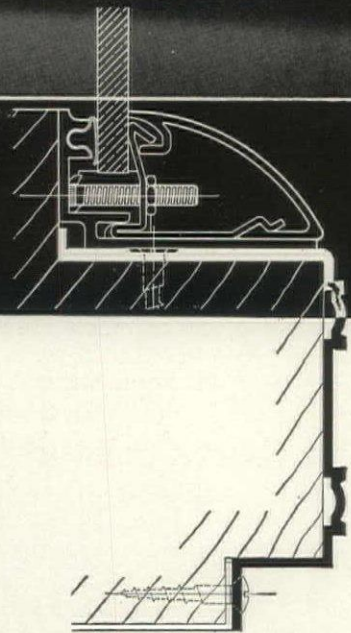
Obviously, a three-times increase in income paralleled by a much smaller rise in operating costs would considerably improve the picture. But the construction of 2,000 more dwellings would probably add \$9 to \$10 million to the present investment and keep the Government at least partially on the subsidy spot.

Because Farm Security sees no prospect of getting either funds or authorization to complete the town, it would be glad to have private enterprise step in and undertake the job. And there is no disputing the fact that the project offers some intriguing inducements. A private builder would have no need for worry about getting tenants; the town's luxuries could be counted on to bring them flocking even though rents were well above present Government levels. Neither would he be troubled by declining land and building values; since the project started, land adjacent to the present buildings has increased in value from \$98 to \$4,000 an acre. Even FSA's design restrictions would hardly prove a handicap in view of the truce between traditional and modern.

Until some private contractor gets the urge to build in a corner of a planned community, however, Greenbelt will have to struggle along as best it can. The fact that its struggle will be centered on making income cover bills, is a telling measure of the way it has fulfilled its three-fold functions. It has demonstrated first of all, that low cost housing does not mix well with either relief labor or planned communities which have the flavor of Utopia. Thus, it deals a blow to those who prescribe rural housing as the cure of slum ills. Nonetheless, it has well shown that good land planning is a potent factor both in attracting tenants and in stabilizing values. Although there is little likelihood that public housing will soon follow in Greenbelt's footsteps, the imprint of those steps will certainly leave its mark on future private planning.



UNITY OF DESIGN



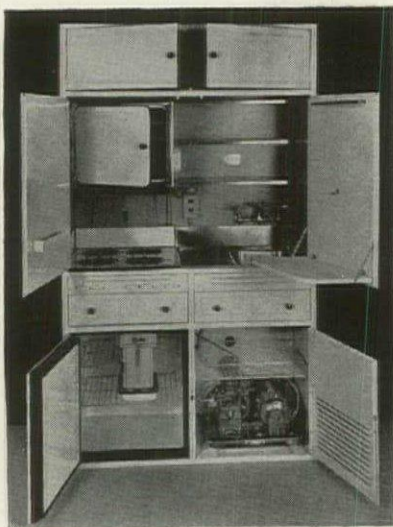
PITTCO Store Front Metal was developed specifically to be used in connection with Carrara Structural Glass and other Pittco Store Front Products. In consequence, this quality metal, when so used, is noteworthy for the pleasing and harmonious relationship it bears to the other parts of the finished store front. And the completed front itself possesses a distinguished unity of design which expresses perfectly the architect's original conception. Combining strength with beauty in all members, the Pittco Metal line provides a wide variety of mouldings, bars and sash to meet every store front need the architect may encounter. And the versatility of the line offers him new possibilities for the creation of effective store fronts. Pittsburgh Plate Glass Co., Grant Bldg. Pittsburgh, Pa.

PITTCO STORE FRONT METAL
PITTSBURGH PLATE GLASS COMPANY

"PITTSBURGH" stands for Quality Glass

DETAIL:

Cross-section of a Pittco Metal moulding specially designed for use as the jamb and sill on projecting show windows, and as an attractive frame for illuminated sign panels.



Patented and patents pending

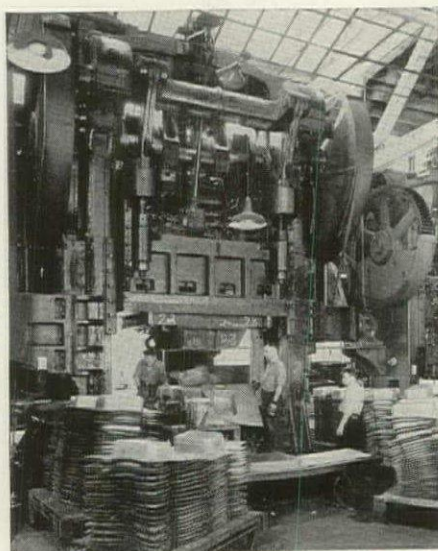
PARSONS

Pureaire
KITCHEN

is designed and built to automobile industry standards of accuracy in a plant which produces yearly many millions of automobile parts and assemblies. . . . For example, the press below turns flat sheets of heavy monel into Pureaire sinks, integral with drainboards. . . . Only by many such methods of labor-saving manufacturing, assembling and finishing can we offer Pureaires at such low prices. . . . Just think! An all-steel Kitchen, complete with stove, oven, sink, refrigerator and unit, and generous storage, all at the price of corresponding units, separately installed. . . . Odorless cooking too, and the whole Pureaire installation using less than 8 sq. ft. of floor. . . . By all means write! . . . Today!

THE PARSONS COMPANY

Detroit



FACTORY HOUSES

(Continued from page 67)

Right from the start, Standard Houses had difficulty with mortgage financing. FHA at first questioned the type of construction, finally capitulated, and all but one mortgage lender said the loans were too small for profit. With a \$300 down payment, 90 per cent mortgages together with taxes and fire insurance cost only \$21.75 a month. In addition, the cost of automatic gas heat is estimated at \$60 a year, \$5 a month.

Potentialities. Biggest stumbling block in merchandising factory-made houses is transportation—each additional mile that knock-down parts are shipped adds to the total cost. Thus, every plant is ringed by a definite economic limit to the scope of operations. In this respect, plywood panels have an advantage over their weightier competitors. Architects Goldberg and Black estimate that they can ship their houses a good 1,000 miles, and envision a country-wide coverage with only four plants scattered to the compass points.

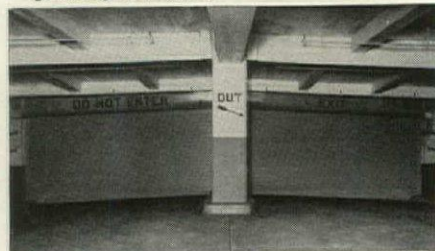
Immediate plans, however, are more modest: Standard Houses will begin construction of four more houses in Melrose Park, this time of five instead of four rooms, and 50 per cent bigger in area. Next spring they hope to test the acceptance of their house both in the East (Pennsylvania) and somewhere in the West by building four houses in each section. That the test will be passed with at least fluttering if not flying colors seems likely. There is a market everywhere for attractive, low cost houses.

CONSTRUCTION OUTLINE

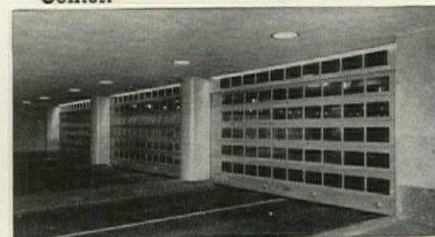
FOUNDATION: Piers—concrete.
STRUCTURE: Exterior walls—2 x 4 in. studs, 14 in. o.c., 1/4 in. plywood glued and nailed, Weldwood outside and Weldbord inside, U. S. Plywood Corp. Floor construction—2 x 6 in. joists, 5/8 in. plywood and oak finish.
ROOF: Rafters, 2 x 4 in., Weldwood outside, Weldbord inside, covered with Johns-Manville Corp. asphalt shingles.
CHIMNEY: Transite flue, Johns-Manville Corp.
SHEET METAL WORK: Flashing and leaders—galvanized iron.
WINDOWS: Sash and screens—Crittall-Federal, Inc. Glass—double strength, quality A, Libbey-Owens-Ford Glass Co.
FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—Masonite, Masonite Corp.
WOODWORK: Trim—pine. Doors—Rezo, Paine Lumber Co.
HARDWARE: By Yale & Towne Mfg. Co.
PAINTING: Material by A. C. Horn Co.
ELECTRICAL INSTALLATION: Wiremold by M. B. Austin Co. Fixtures—Lumiline.
KITCHEN EQUIPMENT: Sinks—Crane Co.
BATHROOM EQUIPMENT: All fixtures by Crane Co. Seat—Beneke Corp.
PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—copper, Mueller Brass Co.
HEATING: Gas fired automatic hot water system, Reznor Mfg. Co. Thermostat—Robert Shaw.

TWO TYPES Of Service Doors In Rockefeller Center Parking Garage .. BOTH KINNEAR

Double proof of Kinnear Door efficiency . . . two types of Kinnear upward-acting doors operating daily in one of the world's busiest parking garages!



Two of the Kinnear Steel Rolling Doors installed in the huge new parking garage at Rockefeller Center.



A battery of Kinnear Steel RoL-TOP Doors gives rugged, dependable door service in the garage without cutting off visibility and light.

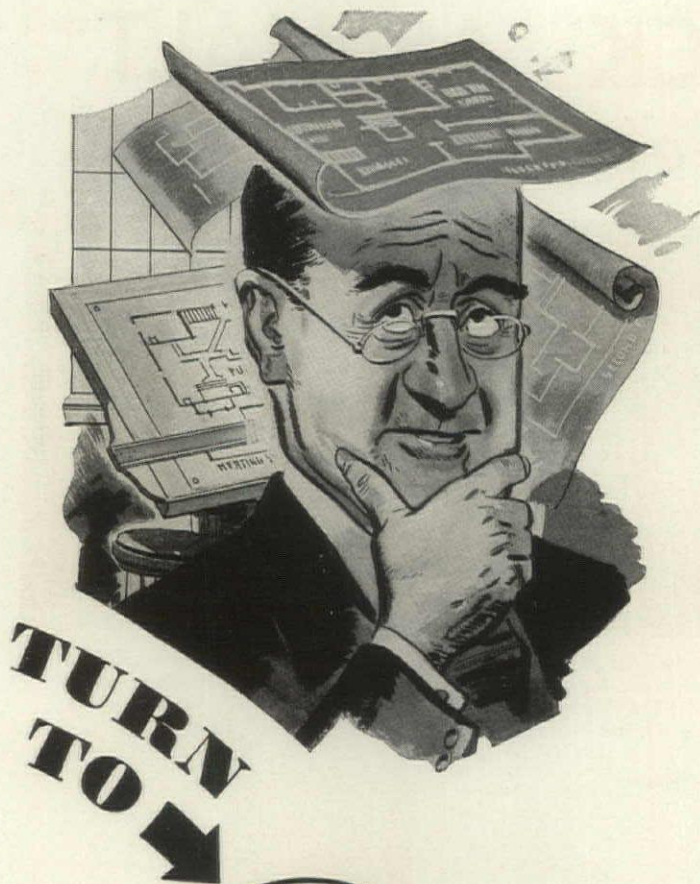
For efficiency and lasting economy, the interlocking steel slat door—originated and pioneered by Kinnear—has never been surpassed. And many of the advantages of this famous door are now offered by Kinnear in another popular style—the All-Steel RoL-TOP Door! Both types feature the outstanding advantages of rugged steel construction. Both open overhead,—where they remain out of the way, are safe from damage, save floor and wall space, and keep door costs down. Specify Kinnear Doors on your jobs for complete satisfaction all along the line . . . write for the new 1940 Kinnear Catalog today

The KINNEAR Manufacturing Co.
1640-60 Fields Ave., Columbus, Ohio

Offices and Agents in all principal cities.

Factories: San Francisco, Calif., Columbus, Ohio

KINNEAR
ROLLING DOORS



How to stop heating and cooling headaches

First thing you do is think of an organization that has developed many of the advances in automatic heating, air conditioning, and commercial refrigeration. An organization that is famous for its engineering, research and service. The rest is easy too.

You then specify that equipment—*General Electric*, obviously. Your client will like your recommendation, for in all probability he's already sold. Rest assured, too, that when you rely on *General Electric* your clients will *not* be disappointed. Nor you.



Architects say—

"G-E SPECIFICATIONS ARE A REAL HELP!"

Don't struggle with any heating, air conditioning or commercial refrigeration problem. Wire or write us. You'll get the correct, unbiased answers pronto. (The G-E complete line is illustrated in Sweet's Catalogue.) General Electric Company, Division 190-113, Bloomfield, N. J.



GENERAL  ELECTRIC

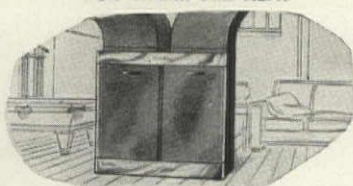
FOR HEATING, AIR CONDITIONING & COMMERCIAL REFRIGERATION

FOR RADIATOR HEAT



G-E FURNACE (oil or gas) for steam, hot water or vapor. Probably the most beautifully designed furnace you've ever seen. Compact—easy to install—economical to operate.

FOR WARM AIR HEAT



G-E WINTER AIR CONDITIONER (oil or gas). One of the most popular of all G-E units. Compact in size—highly efficient in operation. Heats, humidifies, filters and circulates warm air.

FOR A SPLIT SYSTEM



INCORPORATES ALL THE ADVANTAGES of radiator heat *plus* winter air conditioning. A G-E Furnace (oil or gas) with Conditioner Unit. Summer Cooling may be added. Priced right.

FOR RESIDENCES



AIR CONDITIONING UNITS—for one room—or for the entire house. Available with air-cooled or evaporative-cooled condenser. G-E air conditioning units are unusually quiet in operation.

FOR STORES, SHOPS, ETC.



INSTALL A G-E "PACKAGED WEATHER" unit for low cost air conditioning. Available in a complete range of sizes. Low installation costs—no duct work needed. Low operating costs.

AIR CIRCULATORS



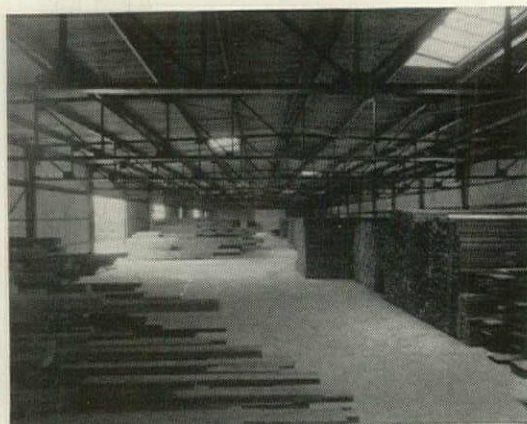
FOR ATTIC VENTILATION in homes, for exhaust service and air circulation in commercial establishments. Two sizes and various models, all using G-E Aphonic Fan for unusual quietness.

UVALDE ROCK ASPHALT

★Surfaces for Service



★ St. Marys Street, San Antonio, Texas. 3" Uvalde Rock Asphalt on a concrete base. No repairs to date after 22 years' service.



★ One of the many industrial plant floors surfaced with Uvalde Rock Asphalt paving mixture. After 12 years' service, no repairs are needed.



★ Sidewalk in Houston, Texas. Uvalde Rock Asphalt mastic laid in 1902—no repairs to date.



★ Quartermaster offices, Fort Sam Houston, Texas. Red and green combination, 3/16" AZROCK Floor Tile, laid 7½ years ago.

When you recommend installation of a product, you investigate not only its qualifications, but also the reliability of the firm behind it. In choosing an asphalt floor tile, one of the oldest names in the asphalt business will confirm your selection of AZROCK. From the great open pit mines in Texas to the far corners of the world, Uvalde Rock Asphalt means quality.

AZROCK, with a basic content of fine rock asphalt, keeps intact all the amazing qualities of this mineral. It is durable, long-lived, resilient for quiet and comfort underfoot, fire-resistant, moisture-proof, and is cut micro-close for smoothness, sanitation and easy cleaning.

AZROCK is economical in first cost, easily

maintained, exceptionally attractive in appearance. Many beautiful all-the-way-thru colors, plain and marbleized, are available—offering a tempting invitation for originality in floor design. Be it a factory, store, home, hospital or office, there is an AZROCK Tile to serve you.

AZROCK

(TRADE MARK REG. U. S. PAT. OFF.)

Manufactured by
Uvalde Rock Asphalt Co.
(In Business Since 1912)

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





NATIONAL LEAD COMPANY

111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Building, Philadelphia.

DUTCH BOY WHITE-LEAD

Good Paint's Other Name



TEST PILOTS are paid to run risks...that sometimes end in disaster.

The architect is an entirely different kind of pilot. His job is to steer his clients away from costly experiments — to make sure that there will be no “crack-ups” due to methods or materials that have not yet been tested by years of service.

Paint is a product which architects have learned to consider carefully. Through experience they have found out that the durability of a paint cannot be demonstrated in a few short years. A paint has not proved itself thoroughly until it has stood up not only as a first painting but also under successive re-paintings.

Dutch Boy White-Lead has long since graduated from the experimental stage. Anyone with any questions about Dutch Boy will find them answered by millions of successful paint jobs. No paint made anywhere has ever given a more convincing demonstration of complete dependability.

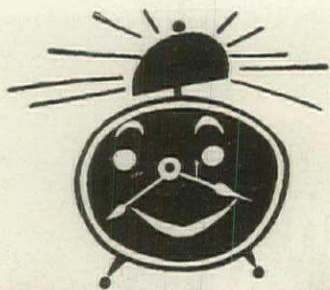
By specifying Dutch Boy White-Lead you secure that combination of beauty and durability which is a fundamental objective of good architecture.

You're money ahead...when you paint with

White Lead



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



QUICKER SALES LARGER PROFITS



when your
customers can distinguish between
"jimcracks" and true value

When your customer has a tendency to buy on "eye-value" rather than real structural worth, you can use the booklet *How to Buy a Better Home* to advantage.

How to Buy a Better Home is valuable to you because it tells your story—"that good houses can be bought as well as built." It sets up the operative builder as the man who can usually deliver more house for the money, with less trouble, because he is a combination of all building factors.

As a "clincher" it contains a 12-page check list that you can use with your customers to compare value—to show the home-owners-to-be the true difference between "jimcracks" and value.

BETTER HOMES & GARDENS believes that *How to Buy a Better Home* can be one of your most powerful sales tools. If you haven't a copy we'll gladly send you one, free of charge. And we'll include suggestions for using it, which will help you make *quicker sales and larger profits*. The coupon below will bring your copy.

Better Homes & Gardens

Read Monthly by More Than TWO
MILLION Homeowning-Minded Families



BETTER HOMES & GARDENS

Dept. AF 1-40, Des Moines, Iowa

Send me my free copy of "How to Buy a Better Home"
and suggestions for using it in selling houses.

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FORUM OF EVENTS

(Continued from page 12)

AWARDS

AMERICAN GROUP of the Société des Architectes Diplômés par le Gouvernement has awarded the 1939 University Medal to the Georgia School of Technology. The award is made annually "for the best record of accomplishment in the teaching of architecture," judged on the basis of a comparison of results obtained by schools which submitted student work to the Beaux-Arts Institute of Design.

To Paul Campagna of the University of Illinois, the Société's Gold Medal for individual accomplishment; and to A. Clark Hudson of the Georgia School of Technology, a Silver Medal.

To GEORGE McANENY, president of the Regional Plan Association and honorary chairman of the Board of the World's Fair, the first Medal of Honor for City Planning, for "distinguished contribution to the Plan of the City of New York." The Medal was founded jointly by the New York and Brooklyn Chapters, A.I.A., the New York Chapter, A.S.L.A., and the Metropolitan Section, A.S.C.E.

U. S. REGIONAL COMPETITION No. 3, a \$400,000 post office and court house for Montpelier, Vt., won by Frederick Mathesius, John A. Thompson, and Gerald A. Holmes, associate architects, Stamford, Conn. Three entries were given Honorary Mention: Thomas M. James Company, Boston; Raphael Hume, Stamford; Austin & Austin and Edmond J. Ryan, Burlington, Vt. The Jury: Sherley W. Morgan, Princeton; George B. Cummings, Binghamton, N. Y.; Alfred V. duPont, Wilmington, Del.; Edward B. Green, Buffalo, N. Y.; Charles T. Ingham, Pittsburgh, Pa. Region No. 1 includes Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut.

U. S. REGIONAL COMPETITION No. 4, a \$150,000 post office for Burlingame, Calif., won by Ulysses F. Rible, Beverly Hills. Honorable Mentions were awarded to Harry M. Michelsen, San Francisco; John E. Dinwiddie, San Francisco; Graham Latta, Whitney R. Smith, associate, Glendale, Calif. The Jury: Ellis F. Lawrence, Portland, Ore.; Burnham Hoyt, Denver, Colo.; Ralph H. Cameron, San Antonio, Tex. Region No. 11 includes the States of California, Nevada and Arizona.

COMPETITIONS

INSULUX GLASS BLOCK COMPETITION No. 4—A Newspaper Plant. \$2,500 in prizes; closing midnight of March 18; open to architects, architectural designers and architectural draftsmen in the Western Hemisphere. Program available from THE ARCHITECTURAL FORUM.

BEAUX-ARTS INSTITUTE OF DESIGN—A 1,000-watt Broadcasting Transmitter Station. \$400 in prizes, closing May 1; open to students in all architectural schools and ateliers in the U. S. Registration with the Secretary, B.A.I.D., 304 East 44th St., New York, N. Y.

EDUCATIONAL

PRINCETON UNIVERSITY. Lowell M. Palmer Fellowship in Architecture, exempting a student from tuition fees, and carrying a stipend of \$700 to complete a year of residence at Princeton. Applicants must be citizens of the U.S.A., less than 27 years of age on October 1, 1940. Applications, blanks

(Continued on page 44)

IN THE *Largest Federal housing project* IN THE U.S.



Airplane view of Queensbridge Houses,
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William F. R. Ballard, Chief Architect
Fredrick G. Frost, Henry C. Churchill
Burnett C. Turner, Associate Architects
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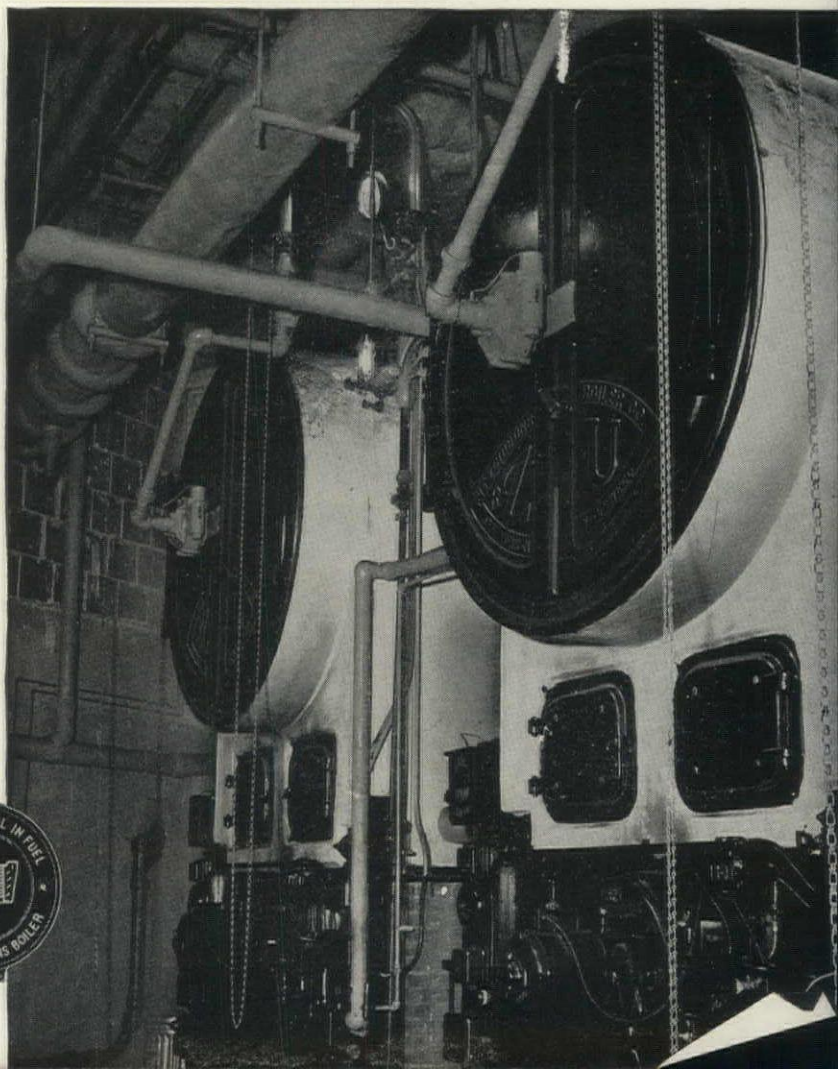
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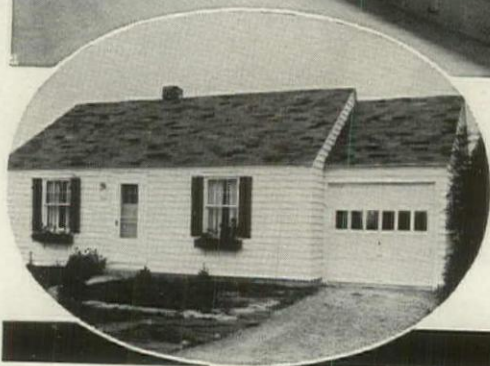
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Cabot's "Quilt"

Heat Insulating

Sound Deadening

FORUM OF EVENTS

(Continued from page 40)

for which may be had from the Secretary, School of Architecture, Princeton University, Princeton, N. J., must be received not later than March 1.

AMERICAN ACADEMY IN ROME. Subject to cancellation or postponement on account of the European situation, awards may be made for the Gordon Fellowship in Architecture, the Garden Club of America Fellowship in Landscape Architecture, and a Fellowship in Sculpture. Competitions are open to unmarried men not over 30 years of age, citizens of the U. S. A. Stipend of each Fellowship is \$1,250, a year with an allowance of \$300 for transportation and \$200 to \$300 for materials and incidental expenses. Residence and studio are provided at the Academy. Term of Fellowship, two years. Entries for competitions received until February 1. Circulars of information and application blanks obtainable from Executive Secretary, American Academy in Rome, 101 Park Ave., New York, N. Y.

CALENDAR

January 22-26. Sixth International Heating and Ventilating Exposition, Lakeside, Cleveland, Ohio, held under the auspices of the American Society of Heating and Ventilating Engineers, in conjunction with their annual meeting and the national meeting of the National Warm Air Heating and Air Conditioning Association.

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

PREPAREDNESS

STEPHEN F. VOORHEES, New York, a past president of the Institute, and head of the World's Fair Board of Design, has been appointed chairman of an A.I.A. Committee on Preparedness for Emergencies. To the Committee is entrusted the task of mobilizing the Nation's architects for action in cooperation with national and local governments. The Committee will start its work with a survey to determine how the architectural profession can best serve the country in periods of disaster and emergency.

DEATHS

DWIGHT JAMES BAUM, architect, 53, in New York. Born in Little Falls, N. Y., Mr. Baum was graduated from Syracuse University in 1909, and began practice in New York in 1915. Known widely as an architect of residential work, he also designed the West Side Y.M.C.A. in New York, a number of buildings on the Syracuse University campus, the Syracuse Memorial Hospital, the Recreational Center at Saratoga Springs. Mr. Baum was awarded the Gold Medal of the Architectural League of New York in 1923, and medals by *Better Homes in America* in 1931, '32, '34, and its Gold Medal in 1932. He was a Fellow of the American Institute of Architects, a member of the Beaux-Arts Institute of Design, and treasurer of the National Sculpture Society.

RANDOLPH BOLLES, architect, 68, of Washington, Conn., in New York. Born in Englewood, N. J., Mr. Bolles attended The Gunnery School, was graduated in 1892 from Columbia University; after a postgraduate course there he studied at the Ecole des Beaux-Arts in Paris, and received his diploma from the French Government. His active practice was spent in association with the architectural firm of Edward and

(Continued on page 48)

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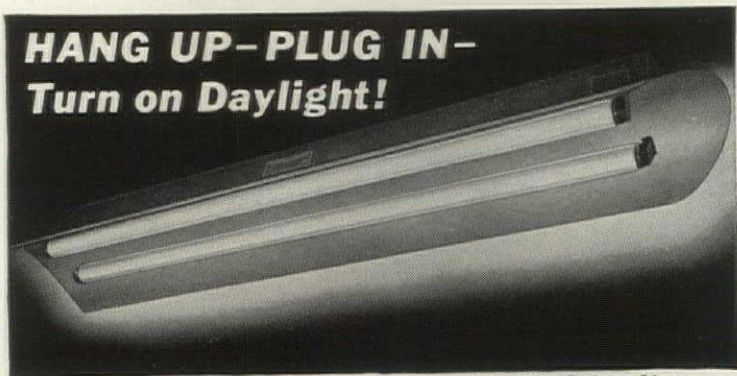
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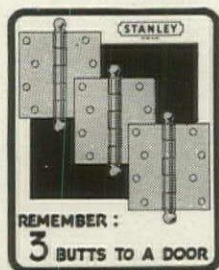
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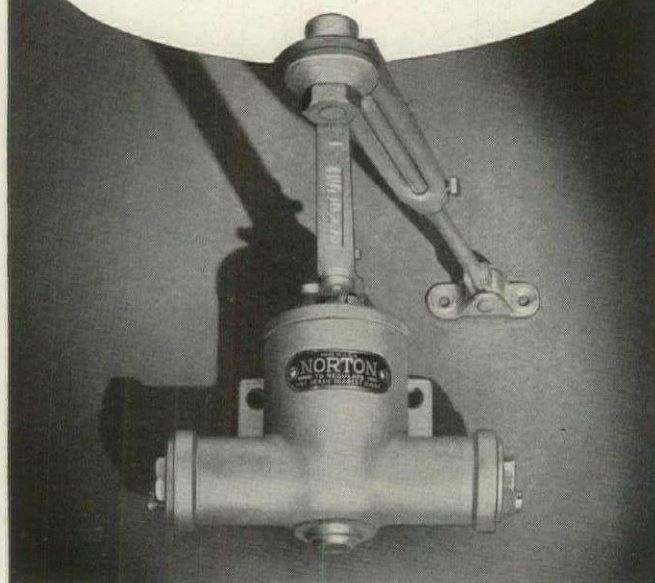


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FORUM OF EVENTS

(Continued from page 44)

W. S. Maxwell of Quebec. In 1927 he returned to the U. S., but had not been in active practice since then.

ALFRED HOYT GRANGER, architect, 72, in Roxbury, Conn. Major Granger was born in Zanesville, Ohio, received his A.B. degree from Kenyon College, then studied architecture at Massachusetts Tech from which he was graduated in 1889, continuing his studies at the Ecole in Paris. He spent several years as a draftsman in the offices of Shepley, Rutan & Coolidge of Boston and Chicago, and of Jenney & Mundie, Chicago. In 1893 he established the firm of Granger & Meade in Cleveland. In 1898 he formed a partnership in Chicago with Charles S. Frost, which firm was particularly active in the design of railroad stations. During the World War he served as a captain of engineers, being honorably discharged with the rank of major. Resuming his practice in Chicago, he established the firm of Granger & Bollenbacher. Major Granger retired in 1936. He was a Fellow of the American Institute of Architects, a former president of the Chicago Chapter, a founder and for six years president of the Architects of Chicago club. He was author of "Charles Follen McKim," "England's World Empire," and "Spirit of Vienna, 1936."

EDWIN HAWLEY HEWITT, architect, 65, in Minneapolis, Minn. Born in Red Wing, Minn., Mr. Hewitt was educated at the University of Minnesota, Massachusetts Institute of Technology, and L'Ecole des Beaux-Arts. He first practiced alone in Minneapolis, 1904-11, then with Edwin H. Brown until the latter's death, after which in 1937 the firm of Hewitt & Brown became Hewitt, Setter & Hamlin. Among the better known buildings designed by Hewitt & Brown are the Northwestern Bell Telephone Building, Minneapolis School of Fine Arts, Northwestern National Life Insurance Building, St. Mark's Episcopal Church, and the Fort Snelling Chapel.

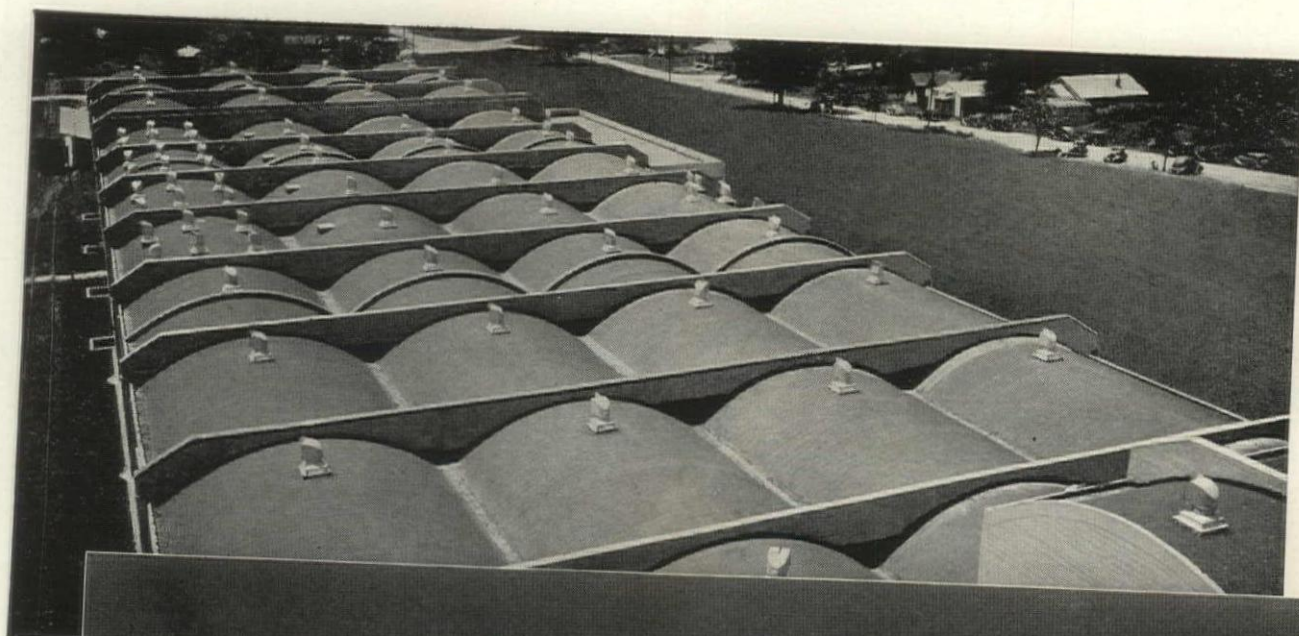
Mr. Hewitt was a Fellow of the American Institute of Architects, president of the Minnesota State Art Society, and of the Metropolitan District Planning Commission, a trustee of the Minneapolis Institute of Art, and a member of the Athenaeum Board.

NOBLE FOSTER HOGGSON, builder, 74, in New York. Born in New Haven, he was educated at Hillhouse High School and at Yale. In 1897 he organized the firm of Hoggson Brothers, which was closely connected with the building of many bank buildings throughout the East.

DAN EVERETT WAID, architect, 75, in Old Greenwich, Conn. Born in Gouverneur, N. Y., he was graduated from Monmouth College in Illinois in 1887, and then studied architecture at Columbia University. His first association in practice was with Jenney & Mundie, Chicago, from 1888 to 1894, in which latter year he returned to New York and practiced until the time of his death.

Mr. Waid was a former president of the American Institute of Architects, and in 1929 received the annual Medal of the New York Chapter "for distinguished work and high professional standing." He was a member of the Municipal Art Commission under Mayor Walker. During the World War he served as a deputy director of production and housing in the Emergency Fleet Corp. For many years Mr. Waid

(Continued on page 52)



Armstrong Tire & Rubber Co. plant, Natchez, Miss. Main factory, 160 x 760 ft., office building, power plant. Architectural Concrete exterior walls; reinforced concrete Z-D barrel shell roof. Cost was very low. Roberts & Schaefer Co., Chicago, engineers, J. T. Canizaro, Jackson, Miss., architect.



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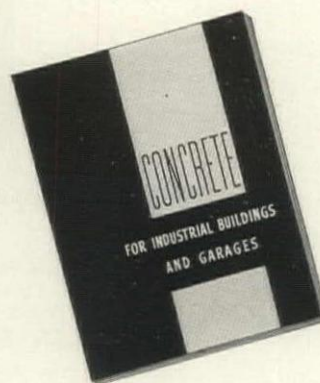
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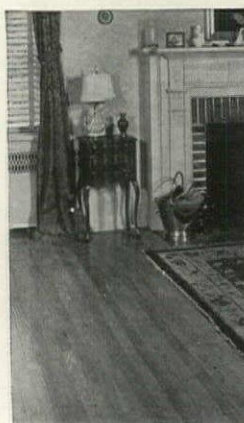
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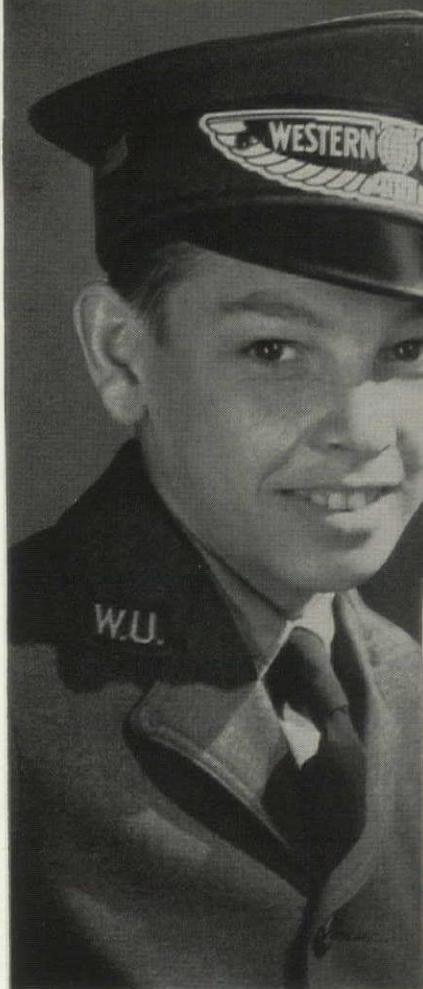
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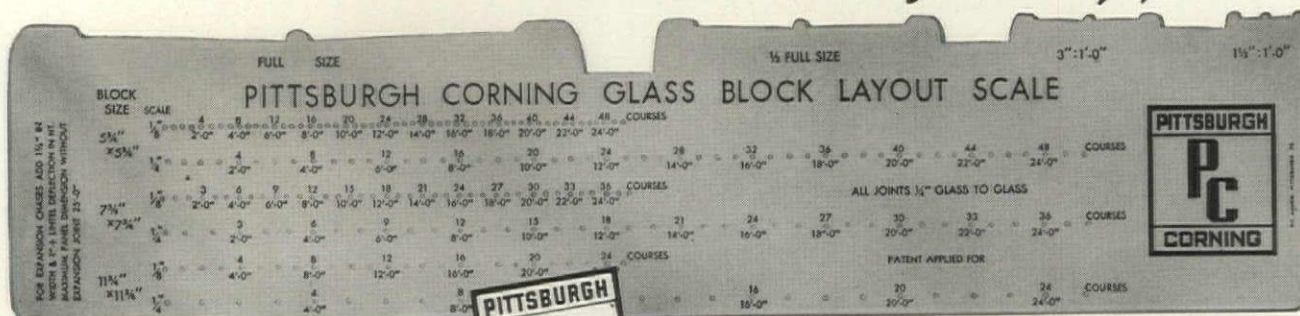
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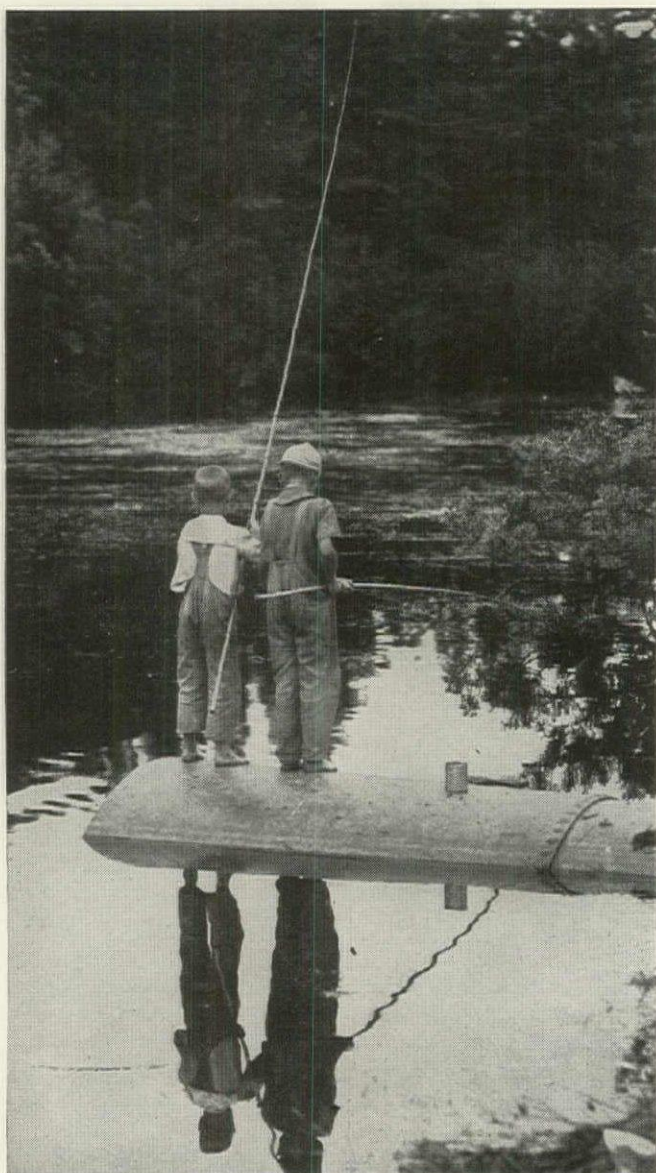


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FORUM OF EVENTS

(Continued from page 48)

had served in a consulting capacity to the Metropolitan Life Insurance Co., and at the time of his death he was engaged with Harvey Wiley Corbett in designing a 28-story addition to the Metropolitan's home office.

A resolution by the New York State Board of Examiners of Architects follows:

With the death of Dan Everett Waid the architects' profession of this country suffered a profound loss. Dan Waid was a practicing architect of distinction, a man whose engagements in that practice were multifarious and demanding, and all met with a scrupulous exactitude. In spite of these he gave unstintingly of his time and means to that wider field whose only remuneration was to be found in the gratitude and respect of his fellows. His real interest in life was to raise the standards of his profession, to make it respected and honored. He was active in urging that New York State be among the first to pass a law requiring licensure for the practice of architecture within its borders.

In 1915 such a law was enacted and Dan Waid became the first President of the New York State Board of Examiners of Architects, a position he filled until his resignation from that Board in 1924. This Board owes to him a very great debt. In the early days of its existence Dan Waid, as its President, did all in his power to set its standards high, to make its findings respected by the public and by the profession, and to create for it a tradition of impartial justice as exact and fair as may be humanly possible. The present Board adopts this resolution as an inadequate recognition of its unending debt to the work of its first President, Dan Everett Waid.

(Signed) O. H. MURRAY, *Secretary*

ADDENDA

Plywood used in the I. Miller Store (Robert Carson, Architect, Louis H. Friedland, Associate Architect for Interior, Dec., 1939, pp. 438-439), was Rift Oak (U. S. Plywood Corp.) $\frac{1}{8}$ in. thick to permit sandblasting.

The Harvard Lock Company, Inc., and not the Howard Lock Co., Inc., supplied the hardware for Castle Village (Nov. 1939, p. 346).

PERSONAL

Allan H. Meinecke, architect, has moved his office from Moorhead, Minn., to 129 North Main St., Austin, Minn.

Thomas Lyon White, architect, announces the opening of his office at 445 South Warren St., Syracuse, N. Y., and would appreciate having manufacturers' samples and catalogues.

Harry L. Alper, architect, announces the opening of his new offices for the general practice of architecture at 62 West 45th St., New York, N. Y.

William Cramp Scheetz, Jr. has been admitted to full partnership as of July 15, in the firm of Savery, Scheetz & Gilmour, architects of Philadelphia.

The office of Newton W. Richards, 46 Bayard St., New Brunswick, N. J., who died in February 1939, is temporarily closed. Correspondence, excepting advertising matter, will be received at the above address by his brother, John B. Richards, registered architect.

(Continued on page 56)



Did You Ever Build a House for an . . . "Average" Person?



IT IS very doubtful if anyone in this country ever built a house for that mythical person, an "average" man or woman. Always individual likes and dislikes must be considered.

Home temperatures should be planned for in the same way. There is no "average" temperature most comfortable and healthful for everyone. The safest guide is this: "It's healthy to be comfortable whether comfort is found at 65° or 80°."

Home can be comfortable. Cold floors, the 9:30 chill, all the minor discomforts resulting from maintaining too low temperatures for comfort, can be avoided by planning for the use of low cost bituminous coal or coke. With these low cost fuels, comfortable summer temperatures can be maintained for 14, 16 or 18 hours out of the 24 without bankrupting the homeowner.

Investigate the possibilities of providing your clients with homes that will be healthful because they are comfortably heated day and night without excessive fuel bills. Send for our new booklets, "*The Modern Basement Plan Book*," and "*Unmasking the Great American Delusion That 'You Have To Be Cold To Be Healthy'.*"

They may help you in the details of planning homes for the modern use of the low cost fuels: bituminous coal and coke.

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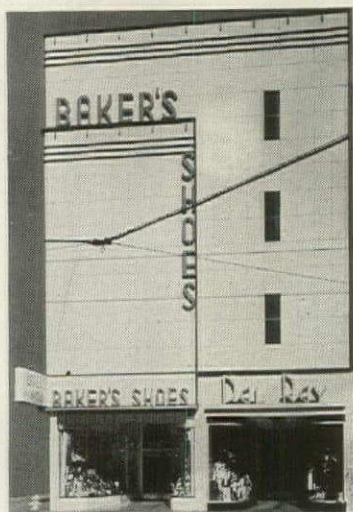
NATIONAL COAL ASSOCIATION AF 1-40
The Nationwide Organization of Bituminous Coal Producers

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Please send me a copy of your Free Booklet
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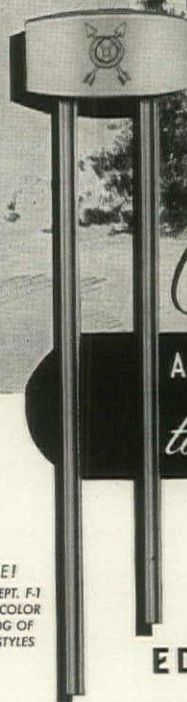
The reason it's never been done before, is that the boiler has to be especially designed to take care of it.

Most small sized boilers are only large sized ones made smaller, and then there isn't room for a tankless heater. One having capacity enough for supplying bath and kitchen in a 4 to 6 room house, besides having a room heating capacity of 300 sq. ft. for steam, or 480 for warm water. Its price size is in keeping with its heating size. For further information see our catalog in Sweets'.

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equipment, and Youngstown has spent \$94,000,000 in the past ten years to keep its mills up-to-the-minute. However, men are more important than machinery in the making of steel, and Youngstown is more proud of its experienced men than of all the equipment in the world. We in the sales department know how these workmen operate we've watched them in the mills and we know they won't allow a pound of steel to carry their name that isn't the finest that can be made. You can't blame us for being proud to offer the output of a bunch like that.



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in Case fixtures for
public installation.

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with seat and flush valve.

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treous china stall
Urinal, with flush-
ing rim.

DISTINCTIVE PLUMBING FIXTURES

FORUM OF EVENTS

(Continued from page 52)

USHA COMPETITIONS

USHA APPROVES COMPETITIONS. From the U. S. Housing Authority comes a Bulletin No. 5 on policy and procedure. It discusses the "Qualifying Competition" as a method for the use of local housing authorities in selecting architects. To quote from the Bulletin:

"The Method supplies a scientific process for determining, in advance, the architects who have the analytical ability necessary to solve the new problems and meet the new issues involved in planning USHA-aided projects.

"The Method supplies the local authority with a Panel of architects from which, under the terms of the Competition Program, architects will be selected for future projects. The local authority may reserve complete discretion as to selection from the Panel or may request the jury to assign a numerical order of merit or to arrange working groups.

"The Method is inexpensive. The costs to the local authority are limited mainly to the expenses incurred in printing or mimeographing and mailing the 'Competition Program' and any necessary compensation to the local architect or housing expert serving on the jury.

"The Method tends to expedite the program by obviating the delays which sometimes develop in obtaining qualified architects when they are needed. Selection under the Method may be completed well in advance of the time of actual need as no particular site or any other purely local conditions are involved.

"The Method provides an exceptional opportunity for brilliant but inexperienced young architects. Such architects are at a disadvantage in certain forms of competition since 'names' and established reputations tend to outweigh technical resourcefulness and originality. The Method also provides a means of associating younger men with qualified seniors and thereby developing the professional maturity of the juniors as well as obtaining a nice balance between originality and experience.

"The principal steps in organizing and carrying out a 'Qualifying Competition' are as follows:

"The local authority notifies the local architects that a 'Qualifying Competition' will be held to obtain a Panel of architects for future projects. Interested architects are advised to obtain from, and file with, the local authority applications for the Competition Program. The letter of notification should also state that the proposed competition will have the approval of the American Institute of Architects and that applicants should submit with their applications proof of their eligibility, such as registration.

"The local authority obtains from the USHA a suggested form of Competition Program setting forth a hypothetical problem in large scale, low rent project and unit planning. This problem is designed to show the analytical ability of the architect rather than his skill as a draftsman. The drawings required are few and the time allowed short."

After the appointment of a Professional Adviser the local authority issues the program to qualified competitors and agrees that from the Panel selected by the jury it will choose architects for its future projects. For the jury it is customary to appoint a member of the local authority, an architect selected by the local architectural society, and a specialist in housing (preferably an architect). USHA will furnish any technical assistance required, including the suggested form of Competition Program meeting the requirements of both USHA and A.I.A.

What paint do most architects prefer?



Drucker & Baltes Co.

PRESERVED FOR THE FUTURE—Protection against time and weather of this beautiful old Long Island residence, built in 1705, is entrusted to pure white lead paint.

EVERY architect wants his work to stand the test of time—and paint has a lot to do with that.

That is why so many architects favor the use of paints made with white lead—because long experience proves there's nothing like white lead in making paint resistant to time and weather.

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The best proof of that is the many fine old buildings that have been preserved down through the years by white lead paint.

So it's a good idea when specifying paint to know how much lead it contains. And it's a pretty safe rule to say: *the higher the lead content*, the better the paint. You can't, for example, get a more durable paint than one containing 100% white lead. This is the kind good painters mix from lead-in-oil. In many localities it is also sold ready for use.

LEAD INDUSTRIES ASSOCIATION
420 Lexington Avenue, New York, N. Y.

Some see in Metropolitan's project merely the story of the world's largest housing scheme. Others realize that its significance cannot be bounded by the Bronx . . . that here is a pattern which many another great institutional investor may well repeat in many another city. It is a major function of THE FORUM to search the building horizon for basic, new ideas which will put idle dollars to work. And having found such an idea, to report it authoritatively, completely . . . and first. Ideas from the pages of this magazine have a way of ending up in three-dimensions . . . 1940 should prove no exception.

THE ARCHITECTURAL FORUM



... a street controlled the planning



... of an organized heap of bricks, concrete and

METROPOLITAN'S PARKCHESTER

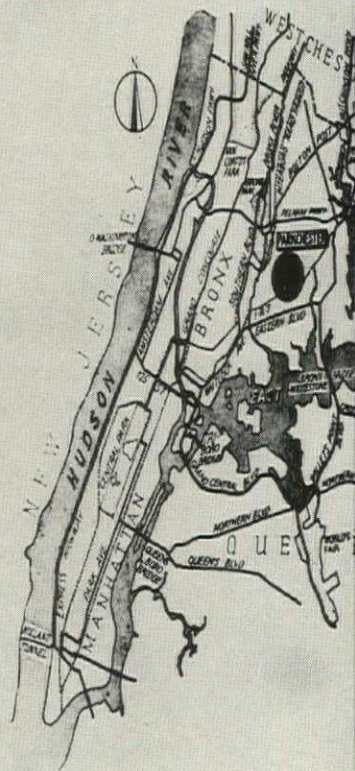
Private enterprise builds a city
for 42,000 people, trades modern
living for low rents, crooks a fin-
ger at idle investment millions.

BOARD OF DESIGN

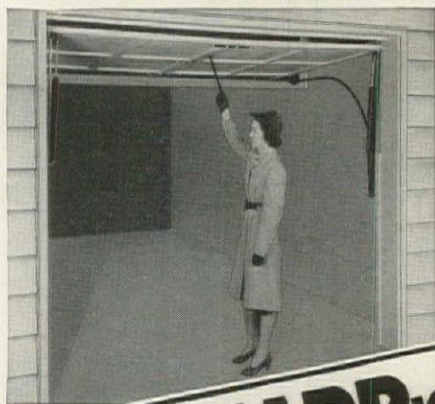
Cilmere D. Clarke, Town Planner
Irwin Clavan, Architect
Robert W. Dowling, Builder
Andrew J. Eken, Builder
George Gove, Owner's Representative
Henry C. Meyer, Jr., Engineer
Richmond H. Shreve, Architect, Chairman

BUILDERS Starrett Bros. & Eken, Inc.

OWNER Metropolitan Life Insurance Co.



Such projects are not subsidized and must be financed entirely with private funds. They also are exempted from any State regulation, except that the Insurance Department has supervision over the financing arrangements. Parkchester, the first units of which are to be occupied next March 1, will rent apartments of two to five rooms at rents ranging from \$12.60 to \$17 a room a month.



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overhead acting
Garage Door

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Brings You New Customer Satisfaction

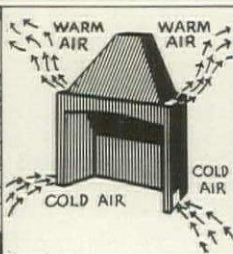
EVERY car owner wants a garage door that always opens easily and safely . . . regardless of the weather. The famous positive acting "CARR-dor" helps you to serve added clients in the small home market. Here is a quality overhead acting door that is priced to fit small budgets. The finest wood construction, hardware and operating arm assure extra years of

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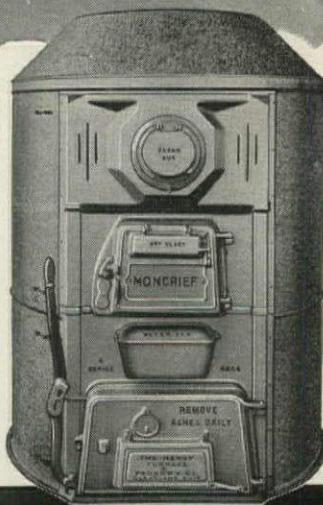
Concealed inside the masonry, the Heatilator is a double-walled steel form around which any style of fireplace is correctly built. The firebox, damper, smoke dome and down-draft shelf are all built-in parts of a unit which is scientifically proportioned for efficient, smokeless operation in homes, recreation rooms and camps. Write for full details TODAY!

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Get our booklet which gives complete proof of the longer life of U·S·S Copper Steel. Write to one of the companies below.



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TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
Scully Steel Products Company, *Chicago, Warehouse Distributors*
United States Steel Export Company, *New York*

UNITED STATES STEEL

SPECIFICATION AND BUYING INDEX

The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be built completely of products advertised in THE FORUM. While it is not possible for a magazine to certify building products, it is possible to open its pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

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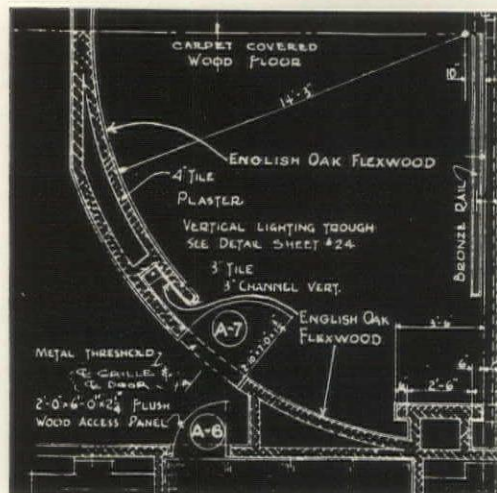
The art of modern wood treatment



Platform, Board Room, Chicago Park District, Soldiers' Field; English Oak Flexwood treatment, from design by Holabird & Root, Architects.



Interesting reverse-grain Flexwood treatment under windows of Board Room. Foyers also finished in Flexwood. One English Oak log produced the five thousand sq. ft. required.



Detail of construction of curtain wall at back of platform. Note Flexwood treatment of returns to vertical lighting troughs.

ENGLISH OAK FLEXWOOD CURTAIN WALL, BOARD ROOM, CHICAGO PARK DISTRICT, HOLABIRD & ROOT, ARCHITECTS

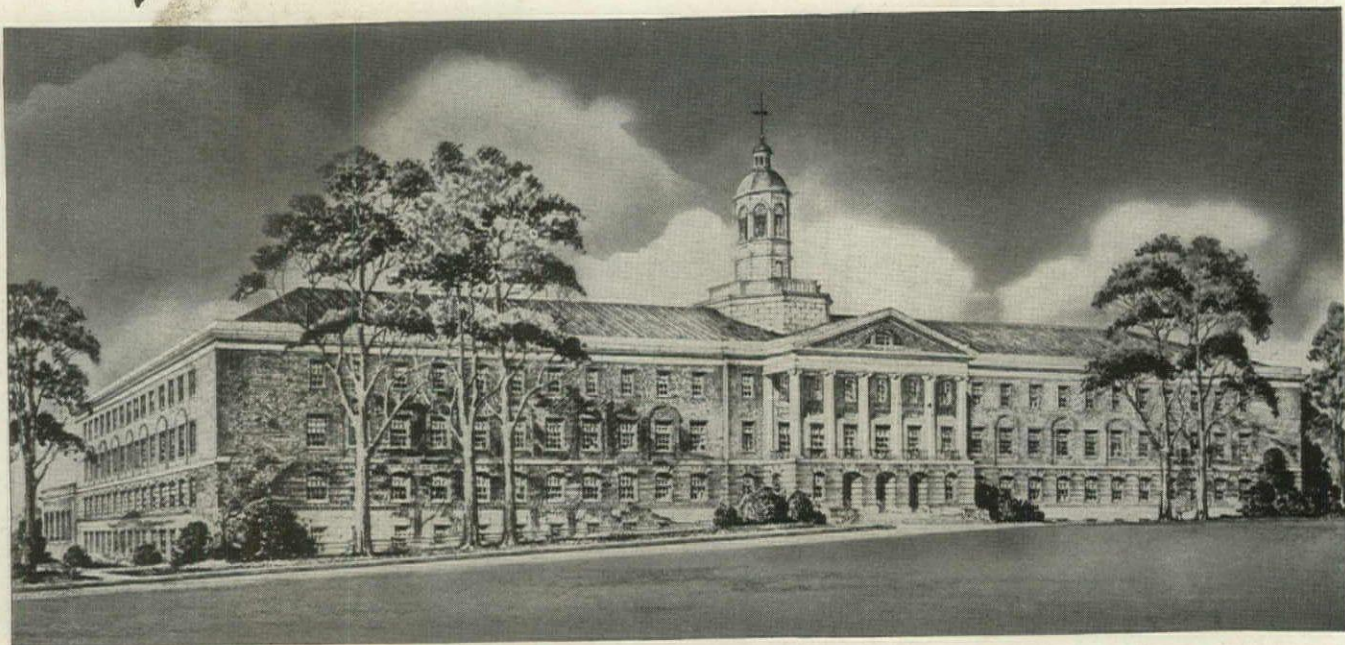
Imaginative design and exotic English Oak Flexwood, produced the curved curtain wall shown above. Returns to the vertical lighting troughs as well as the 17' high walls are treated continuously with end-matched Flexwood, which obviously would have been economically impossible with wood in any other form. The richness and beauty of this impressive interior is belied by its moderate cost. Rare woods from the four quarters of the globe offer such a wide variety of colors and figures that design possibilities are practically limitless, and the ease and speed of application of Flexwood makes it the logical choice when the luxury of real wood treatment is desired.

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For the Nation's Finest Schools



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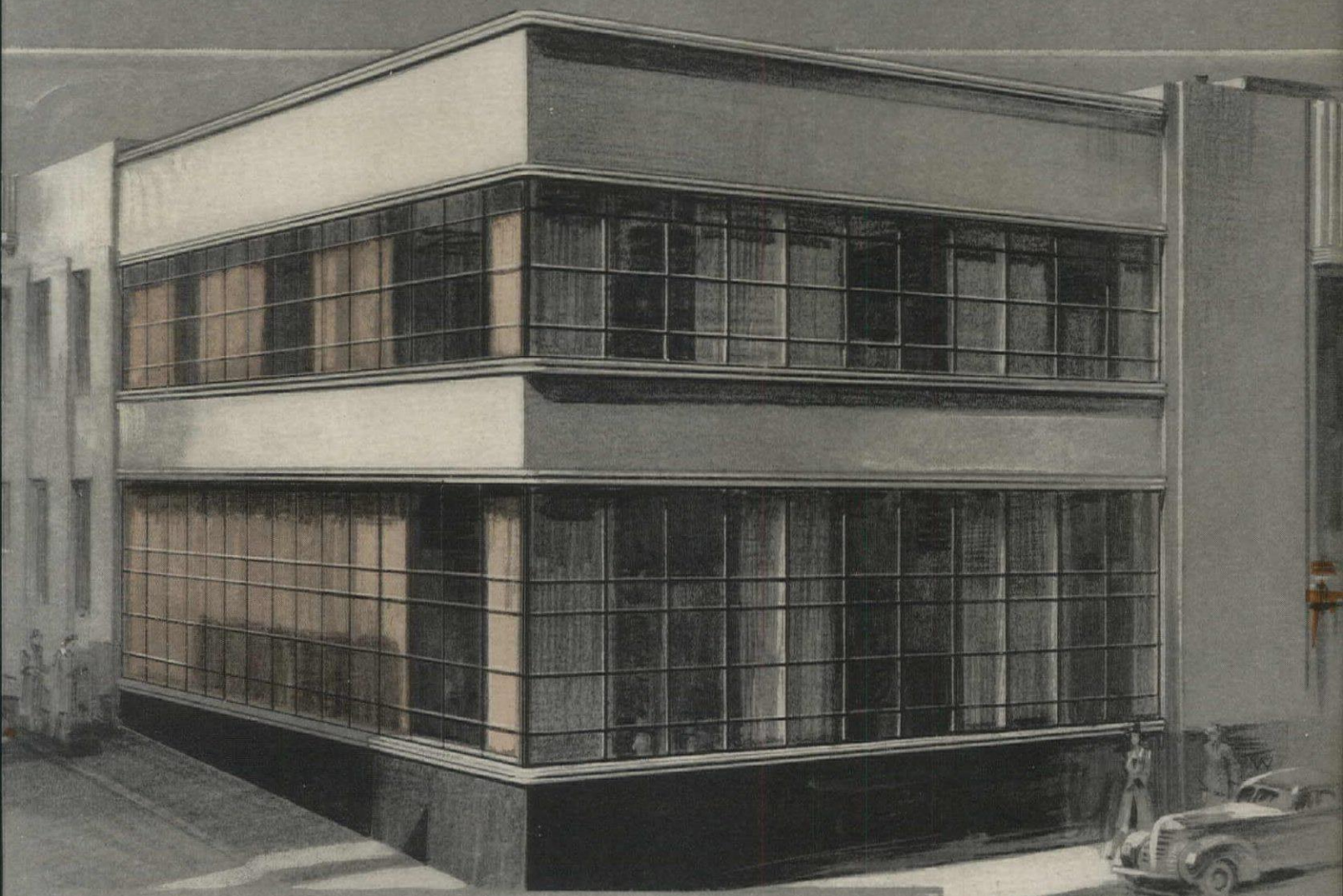
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Ease of operation is engineered into these casements. Solid bronze hardware is modern and durable. Detailed information, illustrations of typical casements and complete specifications are contained in a new catalog just published. Your copy will be mailed promptly upon request.

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For complete details and specifications, see Truscon's 1940 Catalog in Sweets.



Signs of the Times



The beautiful new G-E Electric Sink, with its spell-binding message — "Washes All the Dishes — Disposes of All Garbage" has *already* been influential in the sale of many a new home.

Women are going to LOOK for the G-E Electric Sink, for they will be hearing about its amazing utility and will be reading its intrigu-

ing message of freedom in the advertising columns of leading national magazines from now on.

No kitchen is modern without the G-E Electric Sink. Make it a feature of the homes you are planning and give your business a boost. For complete information phone your G-E Appliance Distributor NOW!

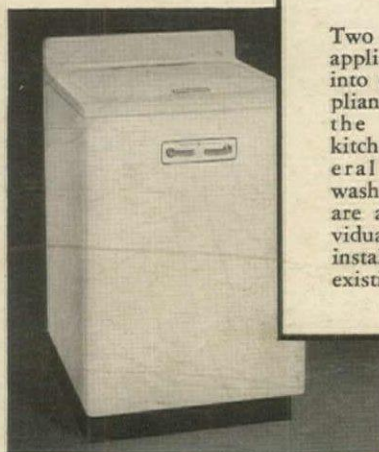
DON GRAF DATA SHEETS are yours for the asking. Give details on the G-E Electric Sink and all equipment for complete G-E residential kitchens. Write to Specialty Appliance Section SR-0351, General Electric Company, Bridgeport, Connecticut.

Complete information may also be found in SWEET'S CATALOG.



"No old-fashioned sink in my new home" says Mrs. Modern America!

"I want an electric sink that does all of the job for me".



G-E DISHWASHER. Washes all the dishes, glasses, silverware, pots and pans quicker and better than it can be done by hand. Dishes dry in their own heat. Dishwasher cleans itself.

Two time-tested G-E appliances combined into one beautiful appliance that replaces the old-fashioned kitchen sink! The General Electric Dishwasher and Disposall are available as individual appliances for installation in new or existing kitchens.



G-E DISPOSALL. Ends messy disposal of garbage by disposing wastes right at the sink. Down the drain they go and into the Disposall they are reduced to a pulp and away like water.

GENERAL  ELECTRIC