

MAY 1937

THEME BUILDING	390
Architects Harrison & Foulhoux provide an exciting symbol for New York's 1939 World's Fair.	
APARTMENTS	397
The upturn in building now includes apartment houses. Examples of various types, here and abroad.	
HOUSES	433
More case histories in the small house series . . . Interior-exterior photographs . . . floor plans . . . critical comment . . . cost data . . . construction outlines.	
COLUMBIA BROADCASTING STUDIO	443
New Chicago studios take the modernity of their activities as the key to their design.	
PLANNING TECHNIQUES NO. 3, CAFETERIAS & LUNCHEONETTES	447
Cafeterias, their planning and equipment. A portfolio of recent examples, with details.	
PRODUCTS & PRACTICE	457
Architectural Ferro-Enamel: Kinds, properties, uses . . . Attic Ventilating Fans.	
BUILDING MONEY	461
What the President, the Builder, the Realtor, the Liberal, and the Taxpayer think of Senator Wagner's Housing Bill . . . The technique of a tourist camp, the new and rich industry now more than ever claiming Building's dollars . . . Labor looks at and comments on the Building Industry . . . A new wrinkle in remodeling . . . Exton, an experiment in row housing for private profit . . . Lumber's share in the cost of a house . . . Four per cent mortgage money goes to the flooded Ohio valley . . . The AFL legislates against the jurisdictional strike . . . Charts.	
MONTH IN BUILDING	2
FORUM OF EVENTS	12
Capitol alteration . . . New York Fair Boards in action . . . Poster exhibit . . . Russian architecture on stamps . . . Model House . . . Retail merchandising exhibit.	
BOOKS	30
Art in Federal Buildings . . . City Planning and Housing . . . Modern English Interiors.	
LETTERS	36
Jefferson Memorial . . . R. Buckminster Fuller . . . Architectural Criticism . . . Accord on Anachronism.	

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THE MONTH IN BUILDING

VOLUME

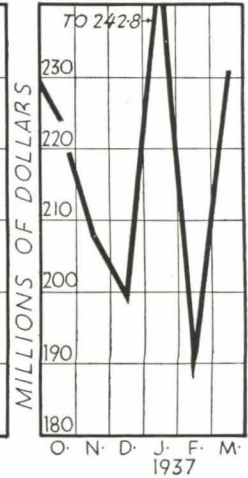
PERMITS (February) \$128,969,530	CONTRACTS (March) \$231,245,900
Residential 62,250,278	Residential 90,167,600
Non-residential 37,208,392	Non-residential 88,601,500
Alterations 29,237,860	Heavy Engineering 52,476,800
January, 1937 99,072,795	February, 1937 188,257,300
February, 1936 86,208,359	March, 1936 198,761,900

Residential construction, increasing most significantly in the Chicago territory, in Southern Michigan, in New England, in the Southeast, and in the Pittsburgh territory, rose 65 per cent over March, 1936. A sharp contra-seasonal decline in Government-financed public utility projects helped pull March's daily average down close to that of February, as did the fact that industrial building expanded less than seasonally due to uncertainty over the Wagner Act and to industrial strikes. Meantime, building costs were rising faster than prices in general, while rents were showing slow and relatively inconsequential increases. Concerned over this relationship, Economics Statistics predicted last month: "The rise in construction during April will be less than normal; unless there is further readjustment in costs, building activity will probably decline during the late spring and summer."

PERMITS



CONTRACTS

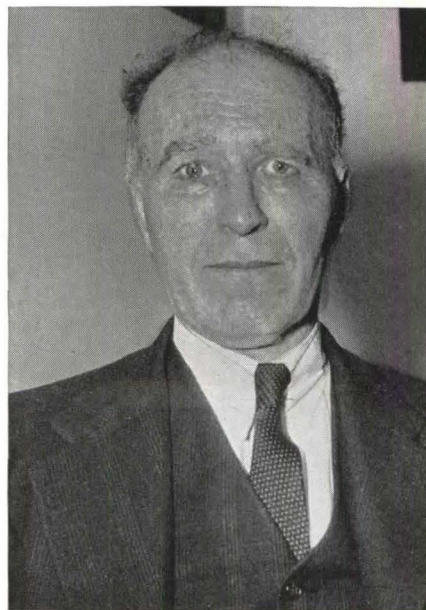


FEDERAL FLUX. Last month in Washington the New Deal was at a momentary standstill, stranded between the ebb of one of its fundamental policies and the flow of a new and opposite one. The change was signaled by the President himself when he announced that henceforth less Government money would be sluiced into the heavy industries, more into the consumers' pockets. Taken at its face value, this meant that in practice the Government would cut down on its public works, jack up its direct relief and light construction (WPA). However, an examination of Government emergency expenditures reveals that the Government has been doing just that for the last four months anyway. In March, for instance, it spent only \$32,000,000 on heavy projects as against \$170,000,000 for WPA, while last October the proportion was \$118,000,000 for heavy projects to \$180,000,000 for WPA. Faced with this contradiction, pundits last month came to the conclusion that the President's real intention was an all-round reduction in emergency spending. This conclusion was strengthened by the fact that the new policy was enunciated shortly after the preliminary returns on the income tax revealed them to be some 15 per cent below budget estimates. Certain it was, at any rate, that the President was making a determined effort to keep his 1937-1938 budget in nominal balance.

Caught thus in the ebb of capital goods spending was the New Deal housing program. First to feel it was Senator Wagner (see p. 462) when the President intimated that his new Housing Bill might be a good "blueprint for the future," but that it was definitely too expensive for this year's budget.

Next housing hope to feel the cold wind of the new policy was the Resettlement Administration. Under orders, Secretary Henry A. Wallace announced that the money spent on RA's housing activity must be spread thinner through a 50 per cent reduction in the construction costs. Forthwith, RA's Deputy Administrator Colonel Philip Fleming resigned to return to the Army. Hired to start the construction program of PWA, later assigned to the Passamaquoddy tide-harnessing project, he was reported "fed up" with the new pinch-penny policy.

But if the new Presidential policy blew cold on such policies, by implication it blew hot on a measure introduced in

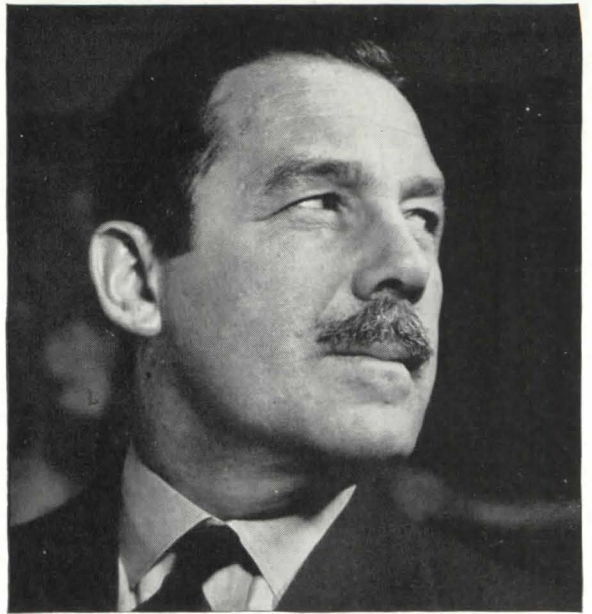


Representative Lemke

Congress last month by Representative William Lemke, erstwhile Presidential candidate of the Coughlin-Townsend-Lemke Union Party. His Frazier-Lemke Act had provided a foreclosure moratorium for bankrupt farmers. His latest bill is designed to extend the same type of moratorium to urban house owners. Under its provisions urban home owners and small business men who declare themselves bankrupt may seek a reappraisal of their properties under the jurisdiction of a Federal court, may then confine their payments for the next three years to a "reasonable rental." At the end of the grace period they may pay the reappraised amount of the debt minus the interim rental payments, or they may work out a new financial agreement based on the reappraised valuation. Otherwise they face foreclosure.

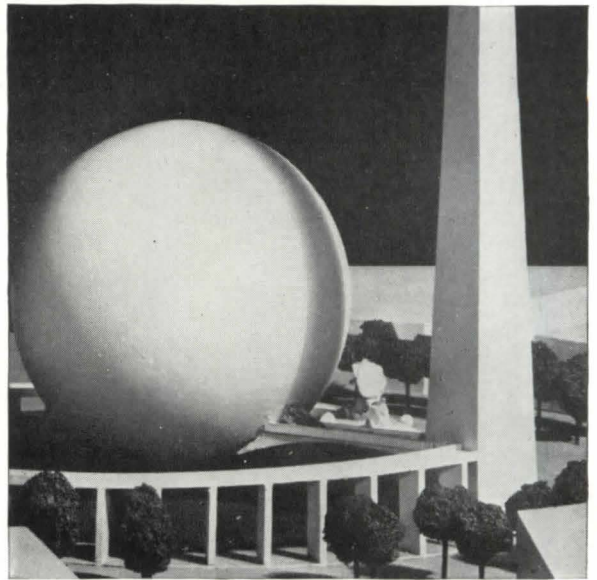
In the light of recent New Deal developments it was considered much in the Bill's favor that the Supreme Court month before last pronounced the duplicate Frazier-Lemke Act constitutional; that it comprised a housing measure which would not cost the Government anything to pass; and that foreclosures had taken a sharp fall last month anyway (see p. 470).

SPREADING BIDS. Last month in the larger cities from coast to coast the building industry was being badly disorganized by the reappearance of a common Recovery phenomenon: bids on large projects were showing a spread between high and low of anywhere from 30 to 65 per cent. Rumor gave the palm for spreading to the Administration Building of the World's Fair in New York, which reputedly drew bids varying by \$100,000 on



Bernard Hoffman

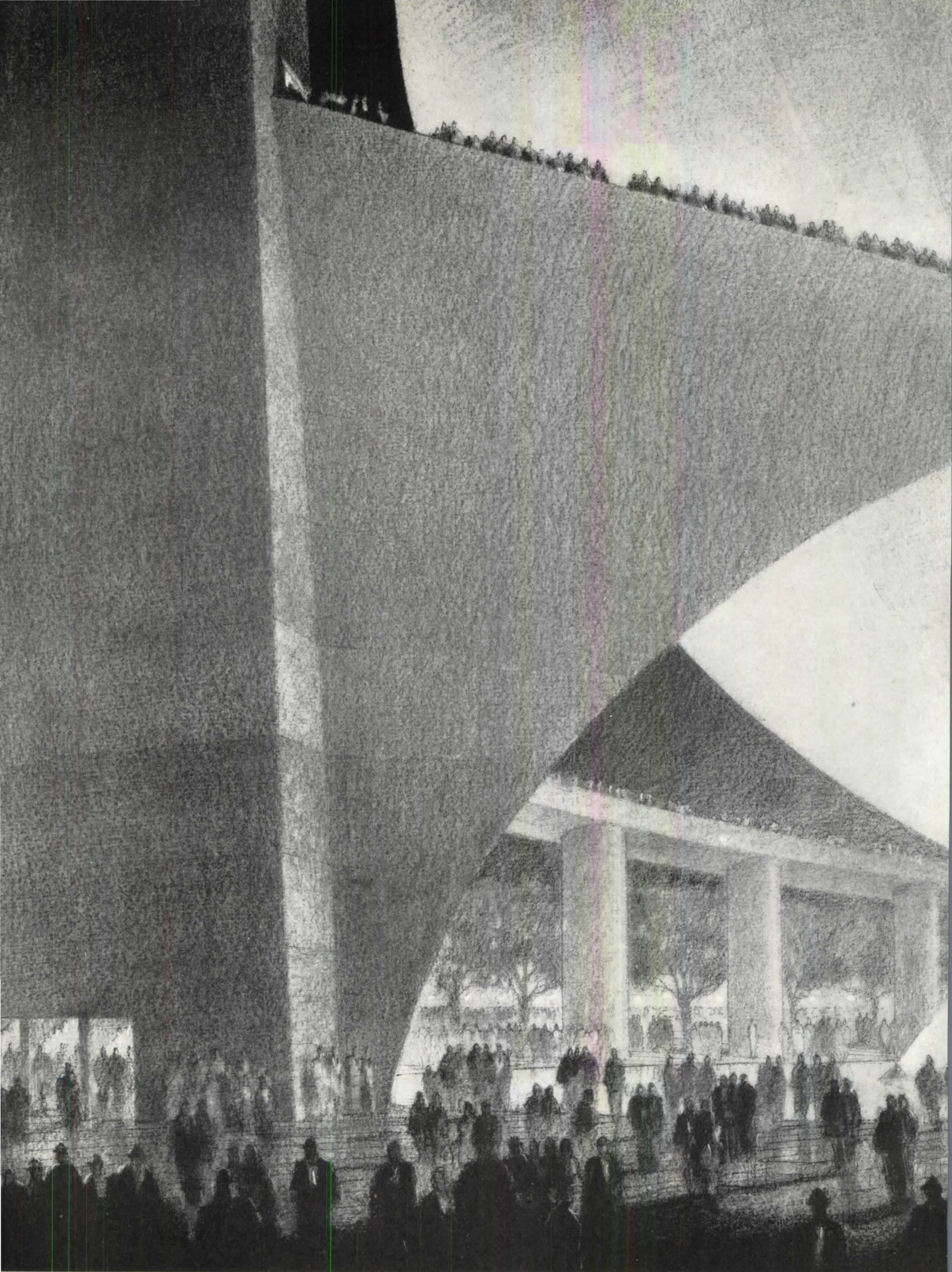
MAN OF THE MONTH . . . to the brave the Fair (page 394)



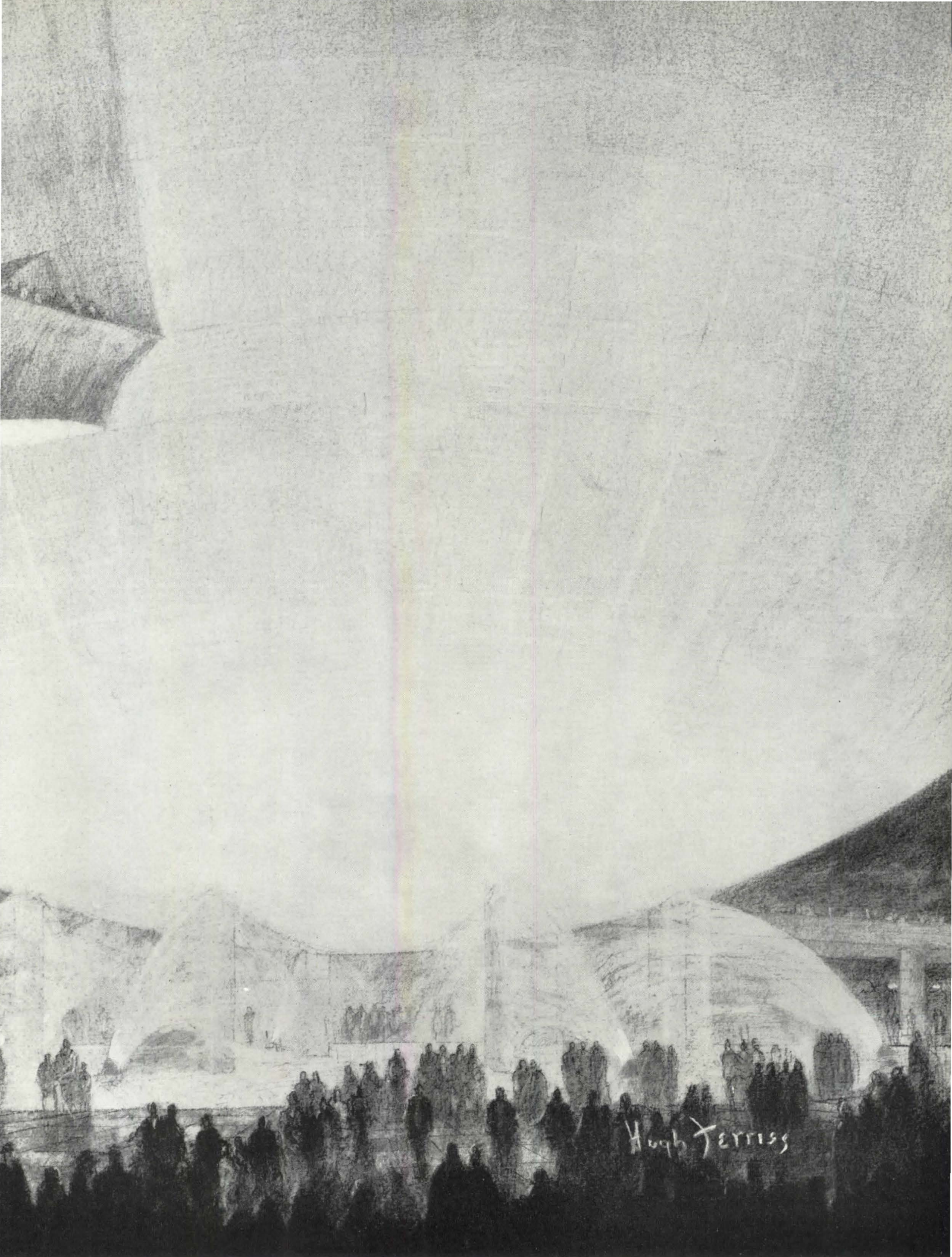
BUILDING OF THE MONTH . . . Trylon on trial (page 390)



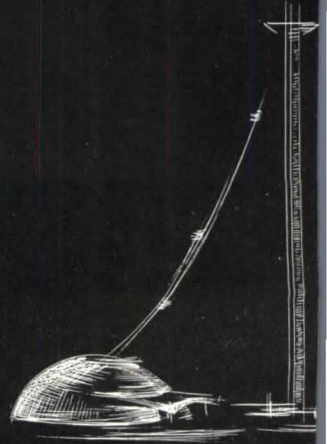
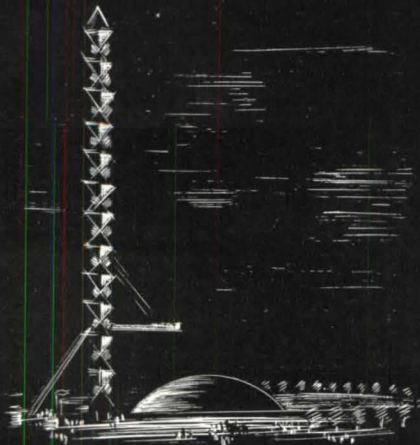
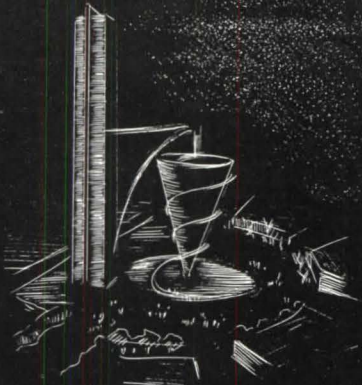
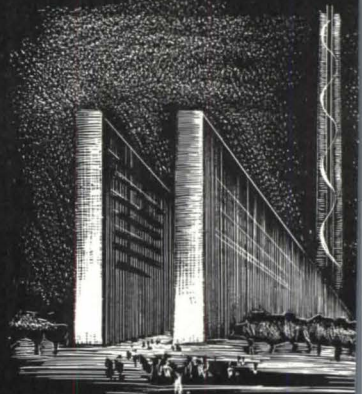
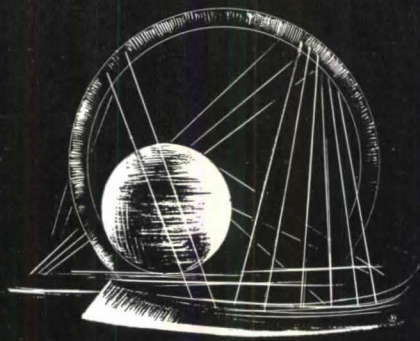
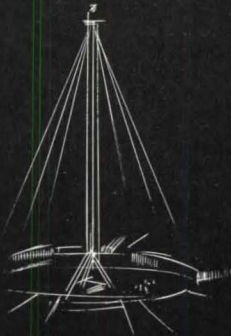
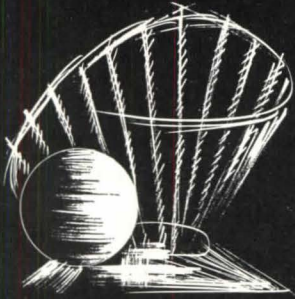
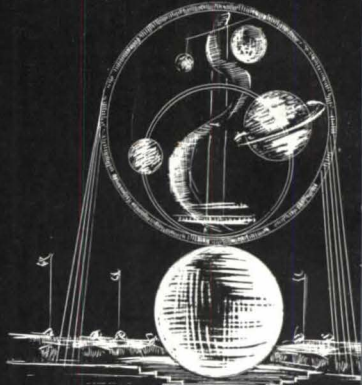
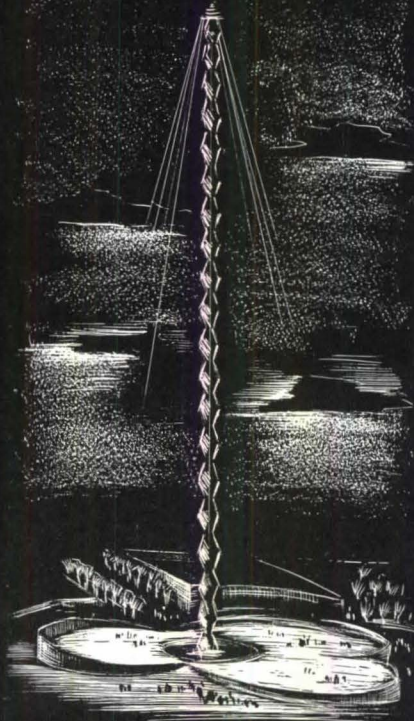
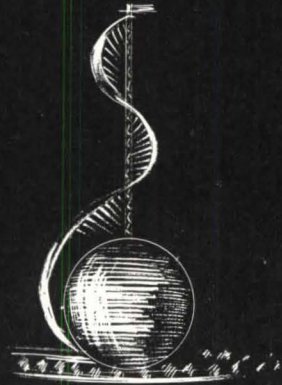
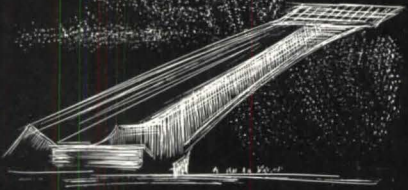
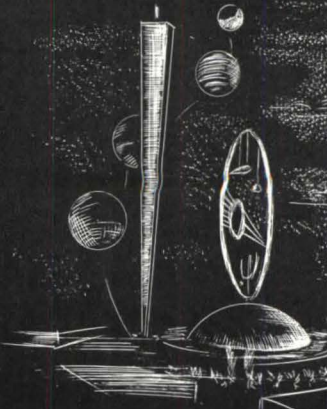
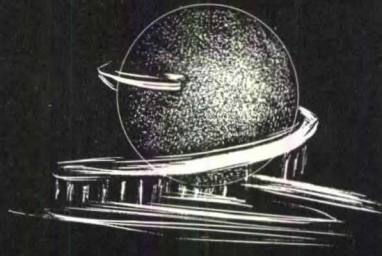
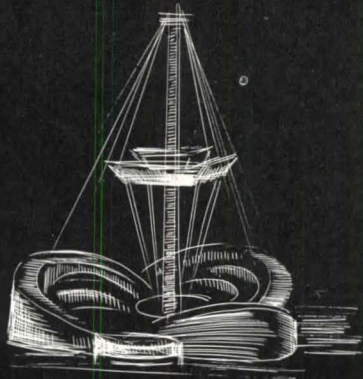
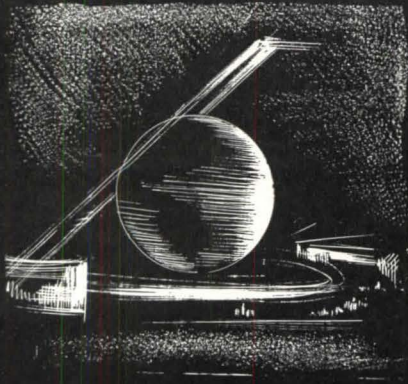
PRODUCT OF THE MONTH . . . fabricated, fused and finished (page 457)



HUGH FERRISS LOOKS AT HARRISON AND FOUILHOUX'



THEME BUILDING FOR THE 1939 WORLD'S FAIR



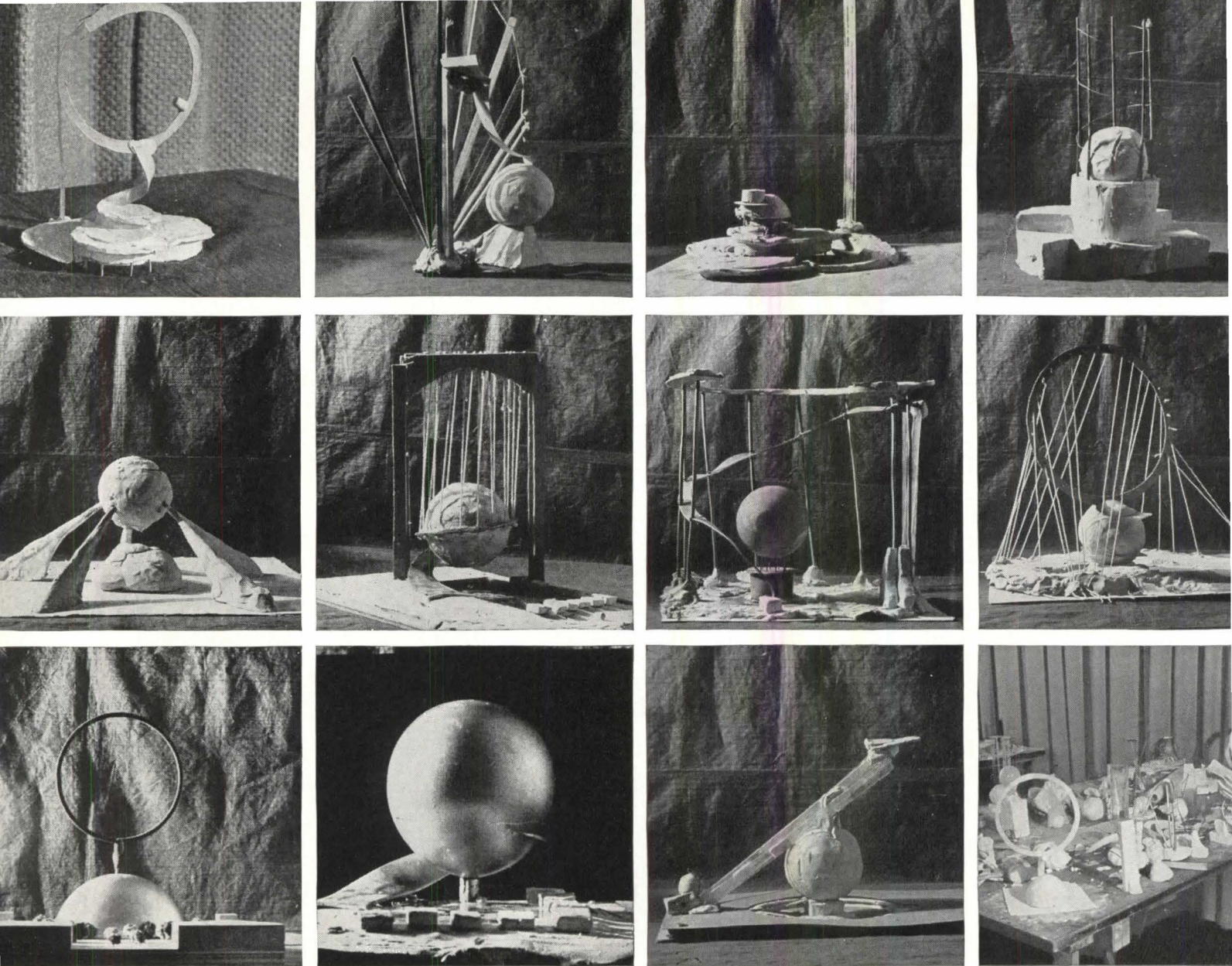
NEW YORK WORLD'S FAIR

THEME BUILDING

The problem put up to the architects of the Theme Building for the New York World's Fair was to create a focal point for the fair which would serve as an appropriate and immediately recognizable symbol. It was also stipulated that a key exhibit of some kind should be provided for, but the requirements in this respect were necessarily so general in their nature that there was no possibility of deriving the form of the building from this part of the program. It would be difficult to find a harder assignment, because there was no determinable point of departure. Moreover, the problem imposed a great responsibility on the architects due to the importance and conspicuous location of the building.

Studies began with sketches, made by anyone in the office who had an idea; nothing was too weird or wild for serious consideration. Abstract paintings, constructivist projects, ancient monuments, every conceivable source was examined for suggestions. As ideas were formulated, models were built and engineers consulted. The sketches by Werner Drewes on the page facing show only a few of the designs considered and rejected. Perhaps the most interesting single characteristic of the schemes taken as a whole is that never at any time was a building, in the conventional sense, considered. A form was sought for the symbol: there was no question of resorting to painting or sculpture to put an idea across. As studies progressed, three forms recurred with increasing frequency—the sphere, the tower, and the ramp.

The solution finally arrived at and approved by the Board of Design is a composition of the most elementary kind. It consists of a large ball, a three-sided tower, and a circular ramp. A child could draw it. That the



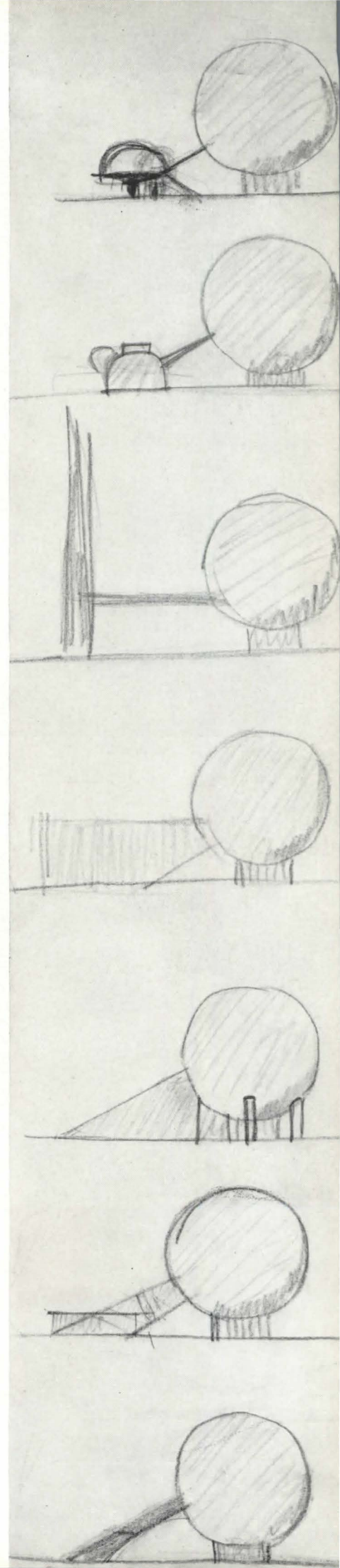
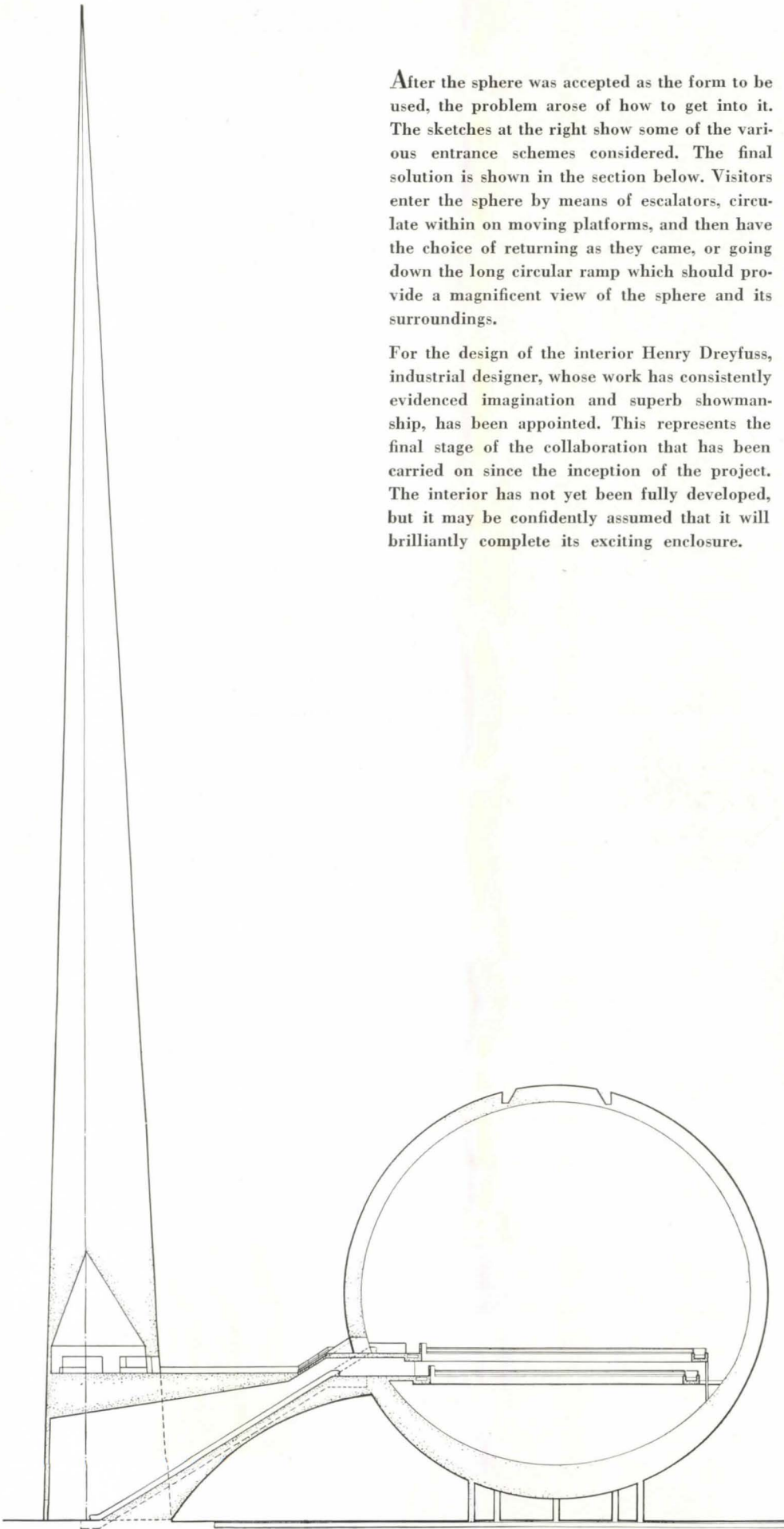
idea did not spring full-blown from the architects' pencil should be apparent after an examination of these pages.

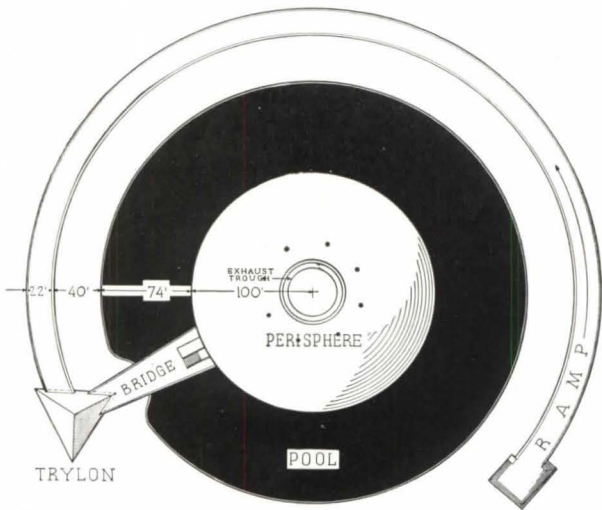
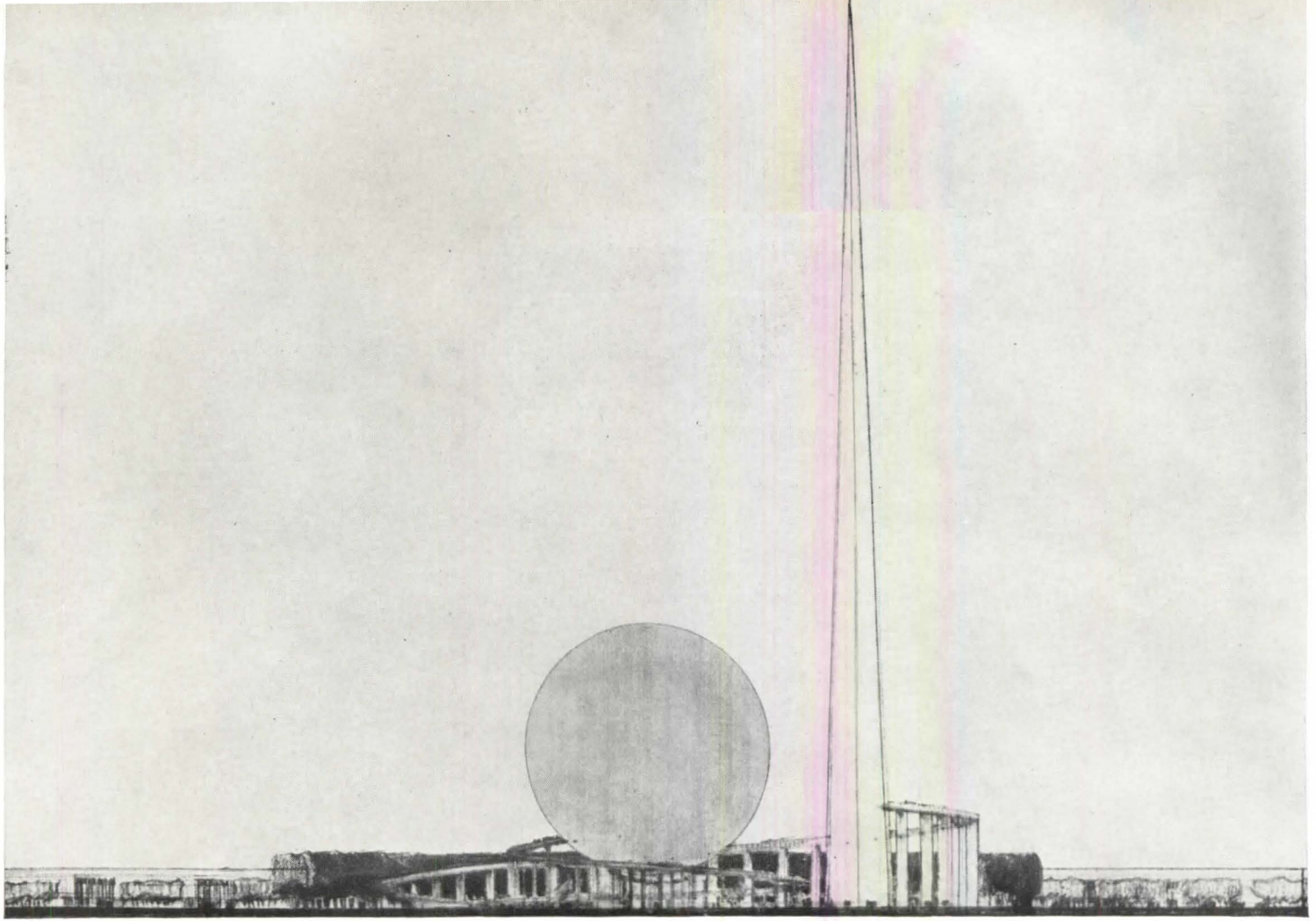
The design of the Theme Building was essentially a cooperative effort. Within the office it began as a search for ideas. At all stages the architects were in constant touch with their consulting engineers, Weiskopf and Pickworth, who played a definite part in developing the design. It was the engineers, for instance, who recommended the triangular tower on the grounds of greater stability. Finally, the architects' relations with the Board of Design represented another phase of this cooperative effort, and the Board played a definite part in bringing the design to its final form.

The fine impersonality of the result must be attributed, at least in part, to the procedure followed in its design. For the first time an American fair will have a focal structure whose appeal to the imagination equals that of the Eiffel Tower.

After the sphere was accepted as the form to be used, the problem arose of how to get into it. The sketches at the right show some of the various entrance schemes considered. The final solution is shown in the section below. Visitors enter the sphere by means of escalators, circulate within on moving platforms, and then have the choice of returning as they came, or going down the long circular ramp which should provide a magnificent view of the sphere and its surroundings.

For the design of the interior Henry Dreyfuss, industrial designer, whose work has consistently evidenced imagination and superb showmanship, has been appointed. This represents the final stage of the collaboration that has been carried on since the inception of the project. The interior has not yet been fully developed, but it may be confidently assumed that it will brilliantly complete its exciting enclosure.





PLAN OF THEME BUILDING

While changes have been made since the above drawing was completed, it shows the relations of the three main elements of the composition. The Trylon is now connected directly to the sphere by the bridge and escalator unit and the ramp has been simplified. The plan shows the building in virtually final form. The Perisphere will be supported on eight columns, and fountains will be used to give it an effect of lightness. Wide promenades will extend entirely around the large pool. Below is a diagram showing the size of the Theme Building compared with a number of historic structures.



APARTMENT HOUSES 1937

One notable fact in the changing building picture of the past two years is the remarkable rise in apartment house building. The activity in the small house field has temporarily obscured the fact that the percentage gain over 1935 in money spent for multifamily dwellings last year was considerably greater than the percentage increase in money spent for single houses.* Obviously this does not mean a revolution in American living habits, but it does mean that for the first time in nearly ten years the multifamily dwelling is entering the building picture again as a factor to be reckoned with.

What has happened to the apartment house in these years? Is it better planned, better equipped, more reasonable in appearance? The last half-dozen years have seen some fairly important changes in small house design; to what extent, during this period, have improvements been incorporated in the multifamily dwelling? The pages following tell part of the story; to get it all one should look back a few years.

In 1930 there was a large amount of fairly new work, particularly in the big cities. We see, for instance, the recently completed London Terrace, a pair of mammoth New York apartment houses, 16 stories high, covering a whole block, and valued at the time at \$20,000,000. Aside from the fact that the baths are on outside walls, its typical apartment plans might have been drawn yesterday. Windows were already large in some of the 1930 buildings; as a rule they are no larger today; the only difference is that they are more inclined to go around a corner or two. There was much building of cooperatives seven years ago; but too many people found that they had bitten off more than they could chew and cooperatives today are rather unpopular. Your pre-depression apartment house was likely to go in for bits of whimsy, and it was quite possible to recognize snatches of one's favorite style in a walk through any built-up residential section. One can still do this, but to a lesser degree: glass block and plain surfaces seem to be replacing Tudor doorways and half timber. Still, there are a number of buildings of 1930 which look quite as well or better than our best buildings of today.

In fact, as one pursues this comparison, it becomes quite evident that changes in the multifamily dwelling are exceedingly insignificant. Equipment, to be sure, has been vastly improved, as any kitchen, bathroom, or boiler room will testify.

That the apartment house of today is practically identical, to all intents and purposes, with the apartment house of seven years ago, might

*U.S. Department of Labor figures: percentage increase over 1935 in estimated cost of 1936 multifamily dwelling construction, 179%; single family houses, 97%.

BOSTON. New buildings average six stories, with brick and limestone combination most common. Large, rather lavish lobbies favored. Most popular apartments are one-room; twos and threes follow. Dropped living rooms beginning to appear; discouraged by many because of large number of elderly people who object to steps. Completely equipped kitchenettes. Nothing new in bathrooms. Dinettes in disfavor, no room for entertaining at dinner; dining foyers popular. Corner casement windows; wall space preferred to window space. Storage space in basement, or wherever it can be found. Concealed radiators gaining. Few fireplaces in new buildings. No use for wallpaper. One incinerator per floor. Four-story walk-up popular.

HOUSTON. Walk-ups almost exclusively. Colonial preferred, but architects are pushing modern. Entrance lobbies small. LR-DR, 2 BR, K, bath most popular unit. Living rooms small, average 15 x 17. Colored tile in bathrooms preferred, and stall showers in great demand. With the trend to smaller apartments the dinette is gaining. Casement windows most popular, corner windows coming in. Storage space gets little attention from builders and calls for maximum ingenuity on the part of tenants. Lighting trend toward indirect or semi-indirect. A bit warm for fireplaces, but some demand for gas logs. Wallpaper an overwhelming favorite for wall decoration.

NEW YORK. New buildings tend to be larger, average 10,000 sq. ft. In this way owner-builders hope to minimize unit operation and service costs. Most popular material: limestone. Most common: brick. Like the entrance, the foyer is getting simpler. Private foyers grow larger. Dropped living rooms and corner windows bring \$10-\$15 monthly premiums. The dining gallery an additional attraction. New buildings offer servants' quarters on a separate floor—generally the second. Fireplaces losing favor. Closet space a primary customer demand. Recreational facilities not wanted. Penthouse rents sky-high. Casement windows favored. Wallpaper staging a comeback. Dining rooms less of a feature, kitchenettes out-running kitchens. Most popular unit 3 rooms: LR, BR, Kitchen-dinette. New wrinkles include a kitchenette-foyer arrangement with meals served to LR.

MINNEAPOLIS. 3-4 story buildings for 30-40 families predominate. All potential apartments are walk-ups. Large lobbies a rarity. Best renting unit is 3 rooms—LR, DR, BR plus kitchenette. Kitchens jack the price above the popular rental price; are seldom demanded due to the "no children" renting policy. Colored tile bathrooms are still in vogue. Dinettes never have been in favor. Tenants like double-hung windows—claim they are more durable and easier to weather-strip. Buildings offer 4 x 8 storage booths in cellar. No new buildings have fireplaces. Wallpaper a "must." Frigid winters give rise to one predominant customer requirement: ample and even heat when needed.

LOS ANGELES. 2-story, 8-10 unit buildings most numerous. Rampant is the "U" or "L" shape to encompass a garden patio. Modern or colonial style surpasses the erstwhile Spanish in popularity; stucco remains the predominant material. Lobbies tend to be smaller and simpler. Most popular unit has 4 rooms: LR, BR, DR and kitchen. Two or three bedrooms often demanded. Favored are separate entrances to a duplex arrangement. LR's are getting larger. Kitchens must be tiled. Colored tile in bathroom going out. Corner windows coming in. Steel casement windows in style; *must open out* to allow for venetian blinds. A sudden fad for shutter doors. Most new buildings offer garages that allow for storage space. A maximum of base-plugs is required. Tenants want fireplaces; few to be found. Builders compromise with a fake over gas outlet in niche below. Wallpaper is booming. Linoleum has never left the kitchen.

TAMPA. Most popular and most common are rambling, two-story buildings. Ten units the average. Large central patio takes the place of main floor foyer. Spanish still predominates, but is disappearing with the discovery that Florida's climate and stucco do not mix. Brick now largely used. Four room units rent the quickest. LR's tend to be small—10 x 14 average. The dropped living room has not yet made its debut. Kitchens are favored over kitchenettes. Colored tile, stall showers, square tubs and dressing room alcoves are all popular for the bathroom. Dining rooms not a common inclusion in these small units. No interest in corner windows. French doors preferred. Wall lighting still favored, but tenants demand four additional base-board outlets. Fireplaces are welcomed as practical heating units for a few winter weeks. Wallpaper is coming back. Walk-ups are numerous and highly acceptable.

CLEVELAND. New apartments mostly three stories; higher walk-ups unrentable. Colonial favored over modern, with dark brick and limestone trim preferred. Tenant demand for separate service entries and stairs growing. Most popular unit is four rooms: LR, DR, K, BR, bath. No dropped living rooms. Kitchen preferred to kitchenette; exhaust ventilation demanded. Colored bathroom tile and square bathtubs popular. Servants' rooms generally in basement. The arch-connected living room and dining space are popular; corner windows a good selling gag. Fake fireplaces with electric logs highly favored; also wallpaper in bedrooms. Apartment house owners' ban on tenants with children obviates need to provide recreational space; none for adults. Air conditioning gaining. Number of garages in buildings increasing.

CHICAGO. Shirt-front type building of limestone and brick is most common. Best-renting unit: 3 rooms—LR, BR, with kitchen-dinette. To a tenant the kitchen size is of less importance than outside ventilation. The dropped living room has not yet been adopted. New apartment buildings offer "L" shaped LR's, averaging 250 sq. ft. Tile baths still popular but no more colored tiles. Favored in new construction is an extra BR in place of a DR. Corner windows coming in, but with high winds casement windows are deemed a nuisance; double-hung are preferred. French doors are popular. Wire partitioned basement space for storage. Wall brackets have given way to base outlets. Fireplaces bring increased rentals. Wallpaper more in demand than it has been for several years. Asphalt tile floors a new favorite. Where a maid's room is included it is on the same floor as the apartment. Stall showers included in high-class new buildings. Elevator service not widely available.

lead to the conclusion that the problem had been solved, that any further changes for the better would be in the nature of refinements. An examination of the apartment house of 1930 or 1937 will, however, show that such is by no means the case. The gargantuan London Terrace, for instance, consists of two 16-story buildings about 100 feet apart; since the buildings face south this means that only slightly more than one-quarter of the apartments ever get any sunlight. Even the very thoughtfully designed Rockefeller Apartments* may be criticized on the same basis, and there are few buildings in the following portfolio which do not contain apartments in which a reasonably intelligent person would refuse to live—if he could find anything better within his means. A case in point is the common "dining foyer," a dark, cramped space which exists only because apartment buildings have a depth all out of proportion to anything required by good planning. It should be evident that the problem of multifamily dwellings is by no means solved, and it should be equally evident that since land costs, labor and material costs, and speculative factors are controlling elements, the architect is in no position to do much about it.

Only one agency has succeeded in avoiding the inevitable consequences of present-day land practices, and that is the Federal Government, which in this respect has replaced the limited dividend corporations of the early Twenties. While the projects completed show an admirable regard for the essentials of decent living, they are unfortunately so few in number that their benefits will reach an infinitesimal fraction of the people who need them. The likelihood of Government operations in the immediate future on the scale required is exceedingly remote, although passage of the Wagner Bill would increase it appreciably. A consideration of the factors which would make possible a definite improvement in present-day apartment house planning cannot, however, be undertaken in this space. The architect, certainly, is least at fault. The suburban and small town apartments shown in the following pages demonstrate convincingly enough that the architect, when not constrained to force a maximum number of apartments into a totally unsuitable space, is quite capable of producing a very high quality of living accommodation.

All indications point to a continuation of the present typical apartment house forms for a number of years to come. Technical improvements will be, and are being included in new work, and planners will continue to show remarkable ingenuity in making the best of an unsatisfactory situation.

The following pages show the various types of multifamily dwellings now in common use, and represent good recent examples in their respective fields. Four foreign buildings are included as illustrations of contemporary solutions of similar problems abroad.

* See ARCHITECTURAL FORUM, Jan. 1937.

APARTMENT HOUSES



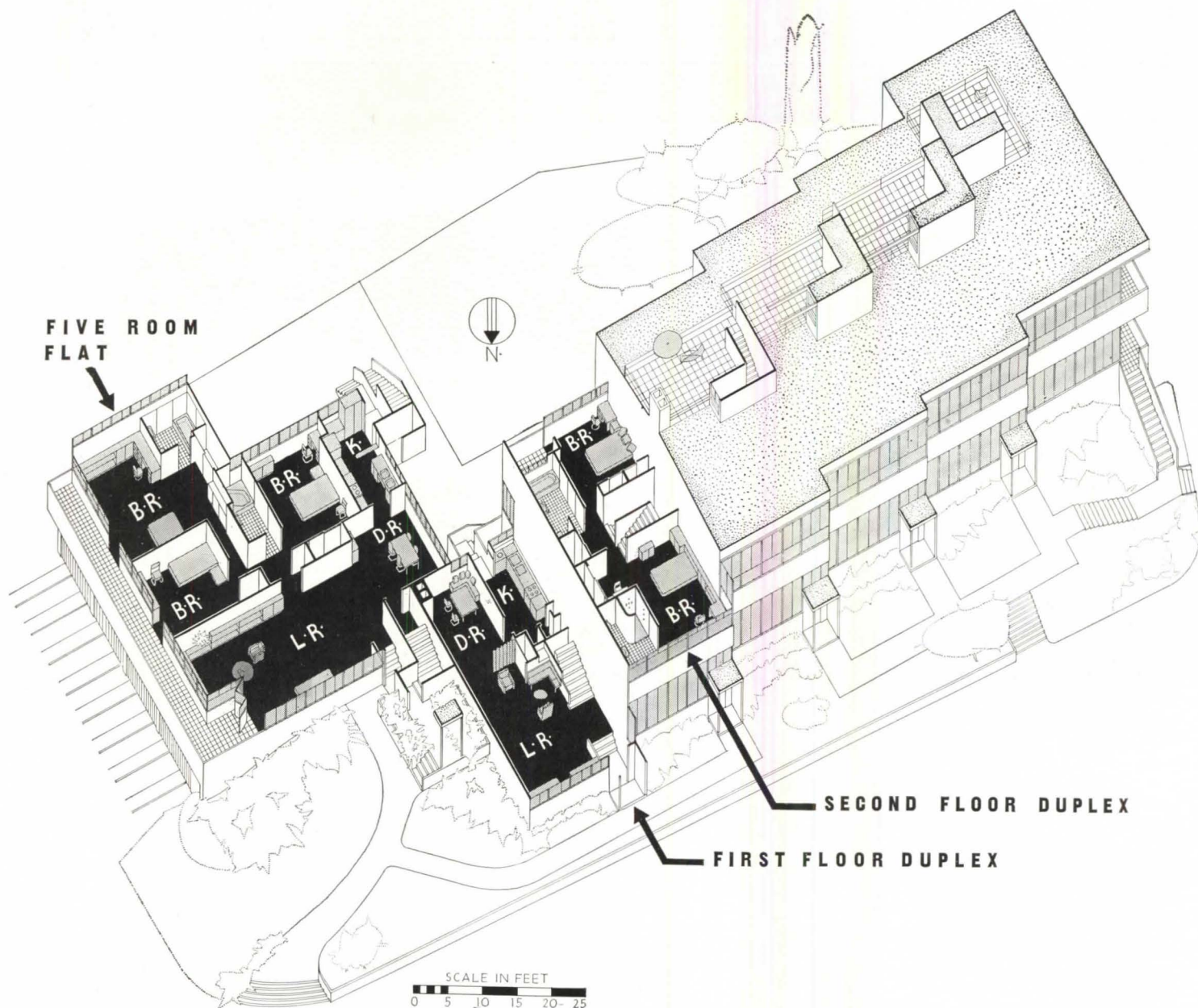
Luckhaus

LANDFAIR DWELLINGS, WESTWOOD, CALIF.

RICHARD J. NEUTRA,
ARCHITECT

PETER PFISTERER,
COLLABORATOR

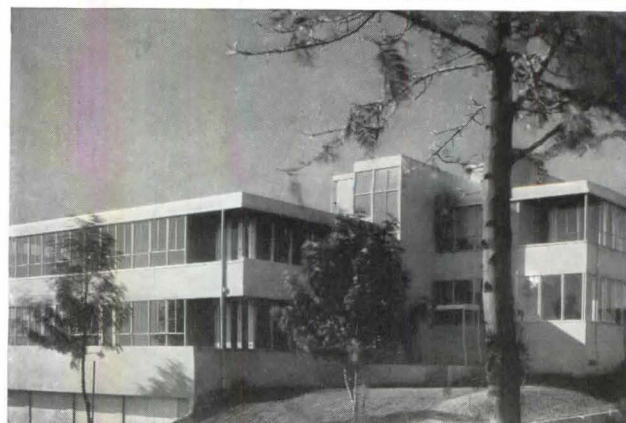
If one excepts the two apartments at the east end shown in the photograph above, this building is essentially a series of row houses, each occupying two floors and a roof terrace. The exterior exhibits all of the now-familiar features of Mr. Neutra's domestic work, such as the continuous rows of steel windows, overhangs with trough lighting, and flat planes of stucco. That the architect could progress from special houses for single clients to a multi-family dwelling without departing in any respect from his fairly uncompromising kind of design should be of considerable interest to architects who tend to accept realtors' positive statements as to what constitutes a rentable apartment house. In Westwood, at any rate, there is now positive evidence that at least one owner



has drastically modified his ideas.

The plans of the individual units are simple and flexible. A living room and dining room, used as one or two rooms, take up the bulk of the first floor of the duplexes; on the second floor closets and stairs occupy the unlighted space, while the bathrooms are placed at the ends. Staggering the units has increased the amount of sunlight from the east and west; it is hard to understand, however, why the kitchens and service entrances to the duplex apartments were placed on the south side of the building. Better orientation is displayed by the second floor plans, where a sun porch is placed adjacent to each south bedroom. The cost of the building was \$3.80 per square foot.

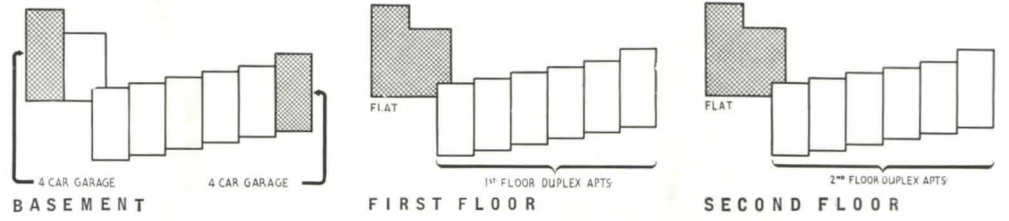
ENTRANCE TO FLATS



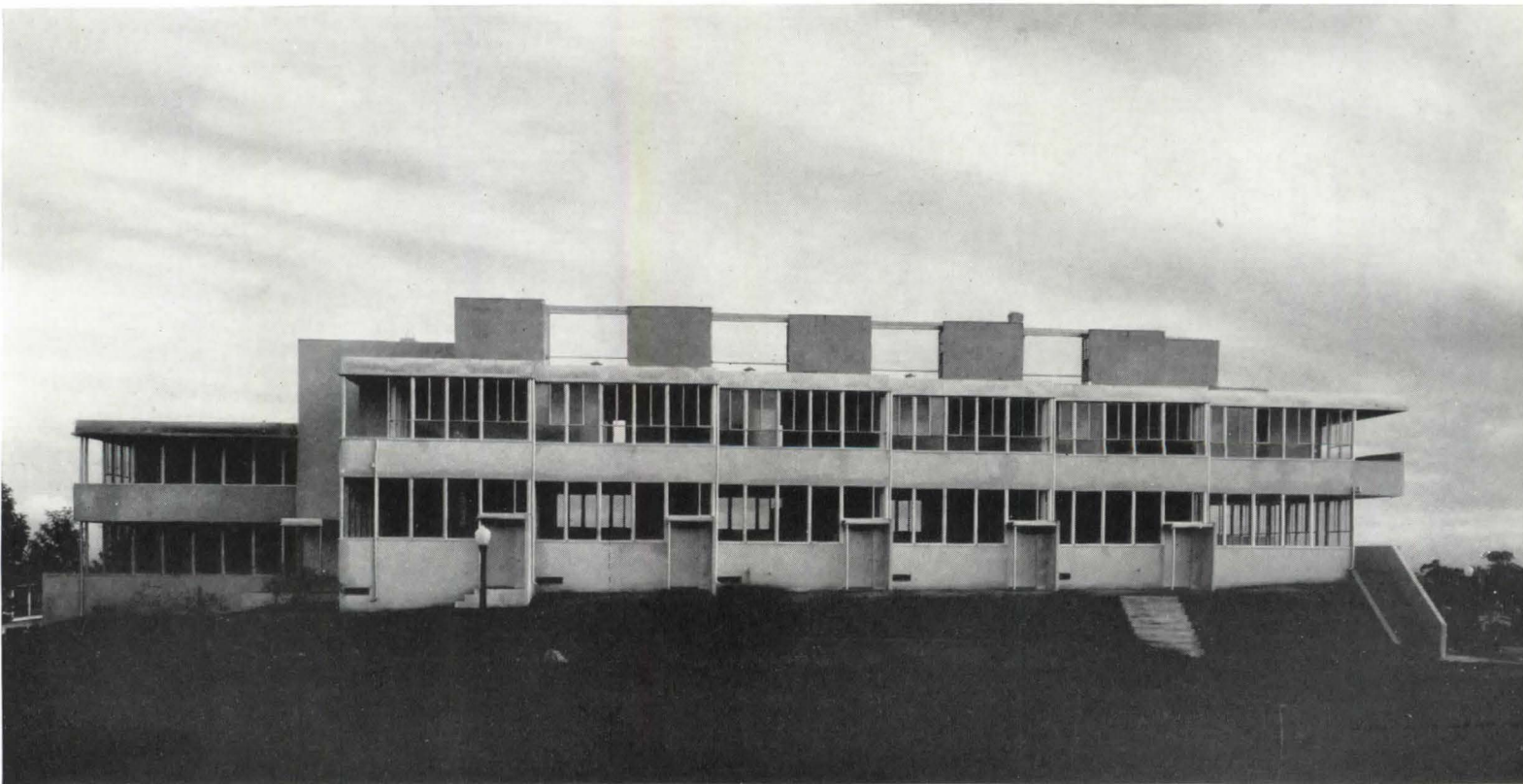
Luckhaus



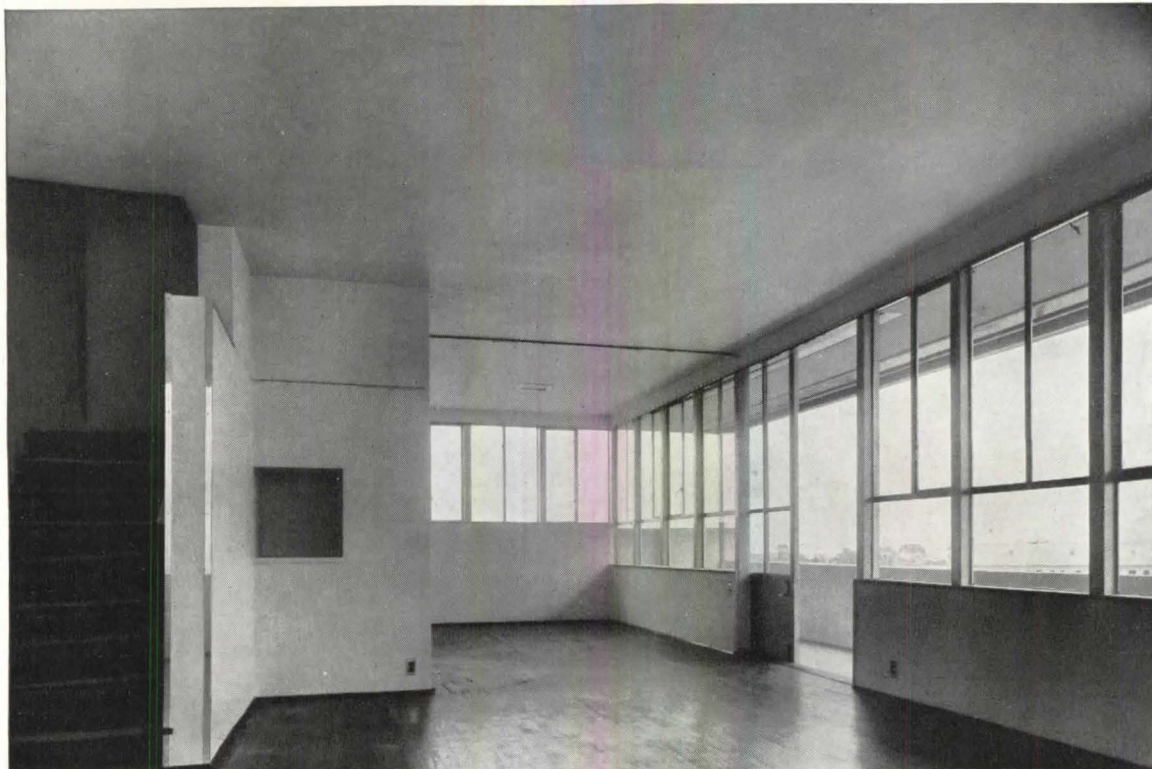
SOUTH ELEVATION



NORTH ELEVATION



Luckhaus Photos



LIVING ROOM WEST DUPLEX

Luckhaus Photos

KITCHEN



CONSTRUCTION OUTLINE

STRUCTURE

Composite standardized chassis of milled timber and steel members, pipe columns; 4 x 4 and 4 x 6 in. milled posts continuous from mudsill to roof, spaced 3 ft. 3½ in., cripple studding and diagonal bracing between. Exterior—brush coated cement plaster, interior plaster. Floor construction—wood joists, ceilings—plaster.

ROOF

Gravel roof, 4 layers, 15 lb. felt, Pabco, The Paraffine Companies, Inc. Decks—wood sheathing covered with dark red Mastipave on waterproofing membrane; cement slab over floating membrane.

CHIMNEY

Terra cotta flue lining, Kerner Incinerator Co.

SHEET METAL WORK

Flashing, gutters and leaders—24 gauge, galvanized iron, The American Rolling Mills Co.

INSULATION

Outside walls—division between apartments insulated with Weatherwood, U. S. Gypsum Co. Roof—Celotex, The Celotex Co.

WINDOWS

Sash—steel casements, Druwhit Co. Glass—double strength and ribbed glass, Libbey-Owens-Ford Glass Co. Screens—roller type.

FLOORS

Living room and bedrooms—hardwood on sub-floor. Kitchen—linoleum over soft wood flooring; Accotile in halls, Armstrong Cork Products Co. Bathrooms—Terrazzo, Consolidated Terrazzo Co.

WALL COVERINGS

Living room, bedrooms and halls—Sanitas, Standard Textile Products Co. Kitchen—enamel paint. Bathrooms—bright colored Marlite panels with extruded aluminum moldings, Marsh Wall Tile Co.

HARDWARE

Interior and exterior—Schlage Lock Co.

KITCHEN EQUIPMENT

Sinks—acid resisting enameled flat rim, Crane Co.

BATHROOM EQUIPMENT

Lavatory, tub and toilet, Crane Co. Flats are equipped with Neo-angle tubs, Standard Sanitary Mfg. Co. Shower—adjustable head, Speakman Co.

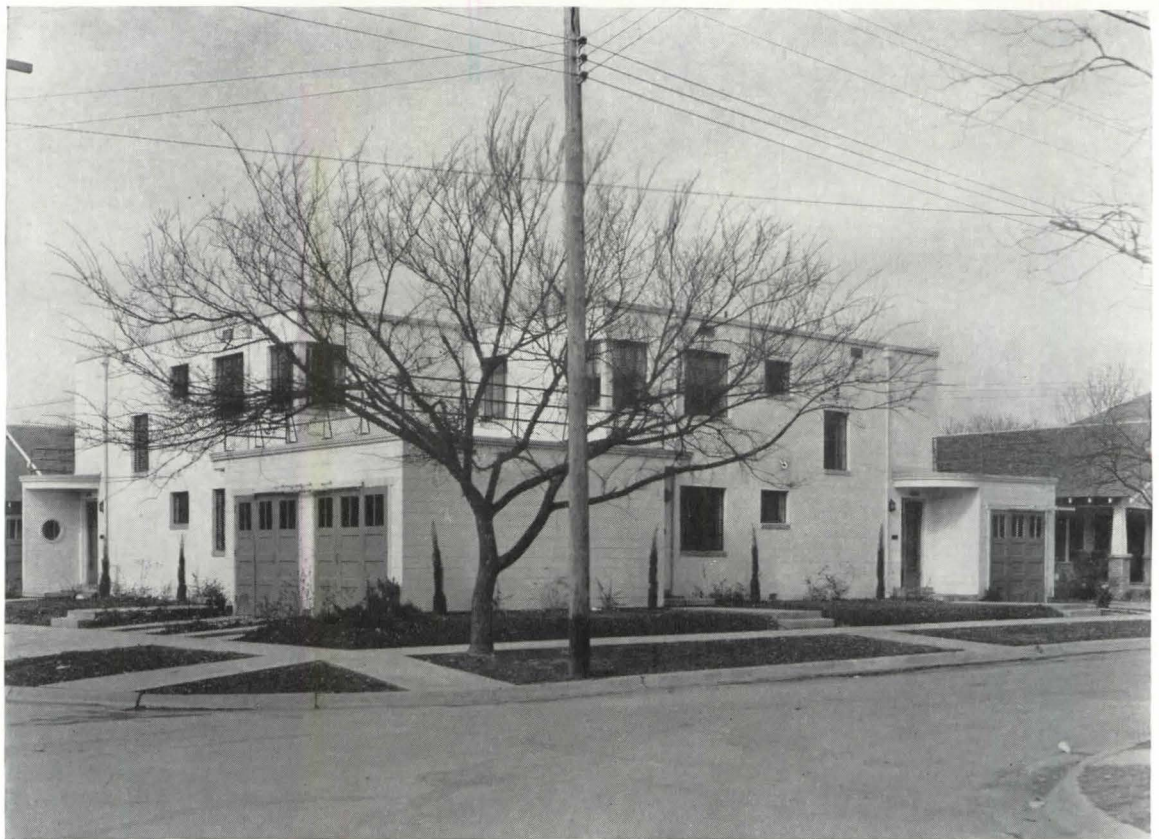
PLUMBING

Pipes: Soil—cast iron. Cold water—galvanized steel. Hot water—wrought iron.

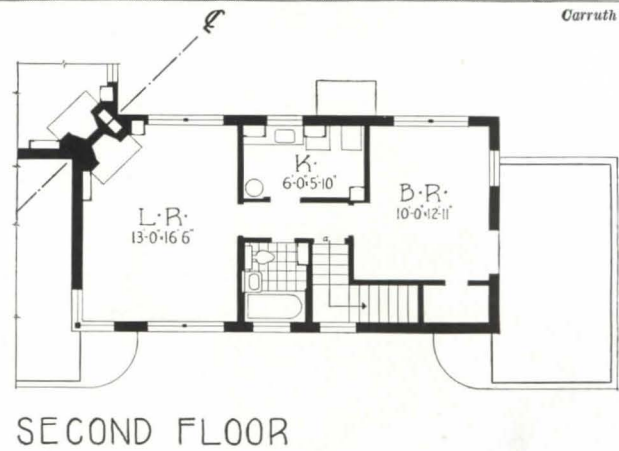
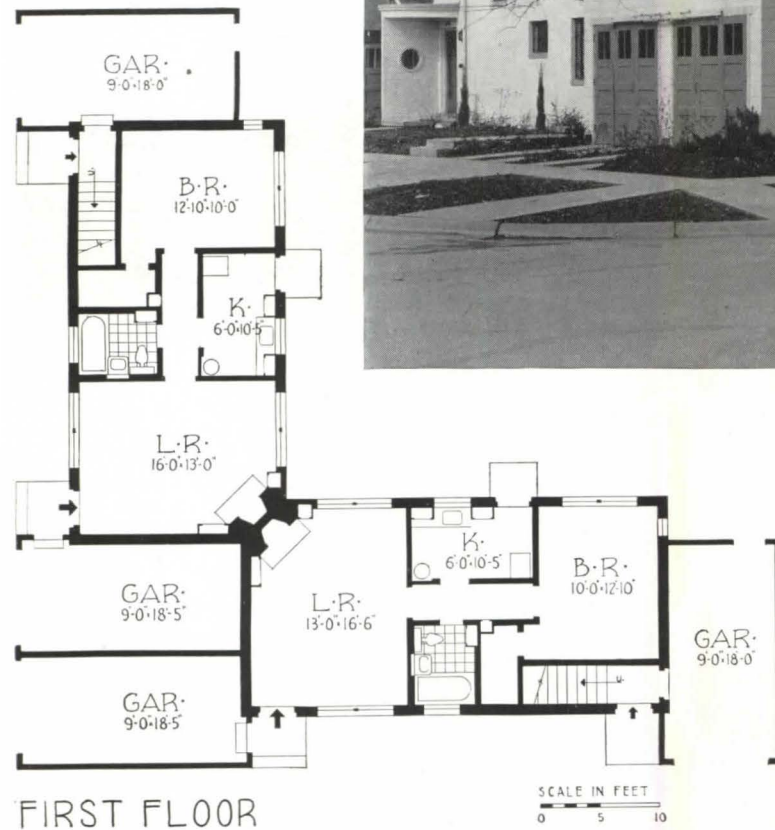
HEATING

Forced hot air system. Boiler—gas fired. Regulator—3-speed push button control. Hot water heater—30 gal., Bastian Morley Co., Inc.

APARTMENT HOUSE FOR DR. SPENCER STOKER, DENTON, TEX.



Carruth Studio



PRESTON M. GEREN, ARCHITECT

This four-apartment building, located in a neighborhood of small houses, has been kept down in scale by the use of a plan which is essentially a combination of two two-family houses, and by the projection of the garages from the main mass. The utilitarian appearance of the building is reflected in the plans, which are convenient, and provide a reasonable amount of privacy for the occupants. The exterior of the building suffers, however, from a lack of organization, and details such as the garage doors, and the entrance shelters which provide very little shelter, are features which do not improve the general appearance. Where windows must be as haphazard in their placing as these, walls less contrasting in value might be desirable. The building cost approximately \$12,000.

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—2 x 4 in. studs, 16 in. o.c. sheathed diagonally, Sisalkraft building paper, The Sisalkraft Co., concrete tile, canvas and paper inside. First floor ceiling is applied to joists independent of second floor joists to prevent sound transmission.

ROOF: All wood decks covered with 4-ply, tar and gravel, 15 year bond. Garages—Con-ser-tex canvas roof, William L. Barrell Co., Inc.

SHEET METAL WORK: Flashing—26 gauge galvanized iron, conductors and termite guards.

WINDOWS: Sash—Fenestra light sections casement, Detroit Steel Products Co. Glass—double strength, quality A. Screens—metal frame, copper mesh, hinged.

FLOORS: Select red oak throughout, except Sealex linoleum in kitchen, Congoleum-Nairn, Inc.

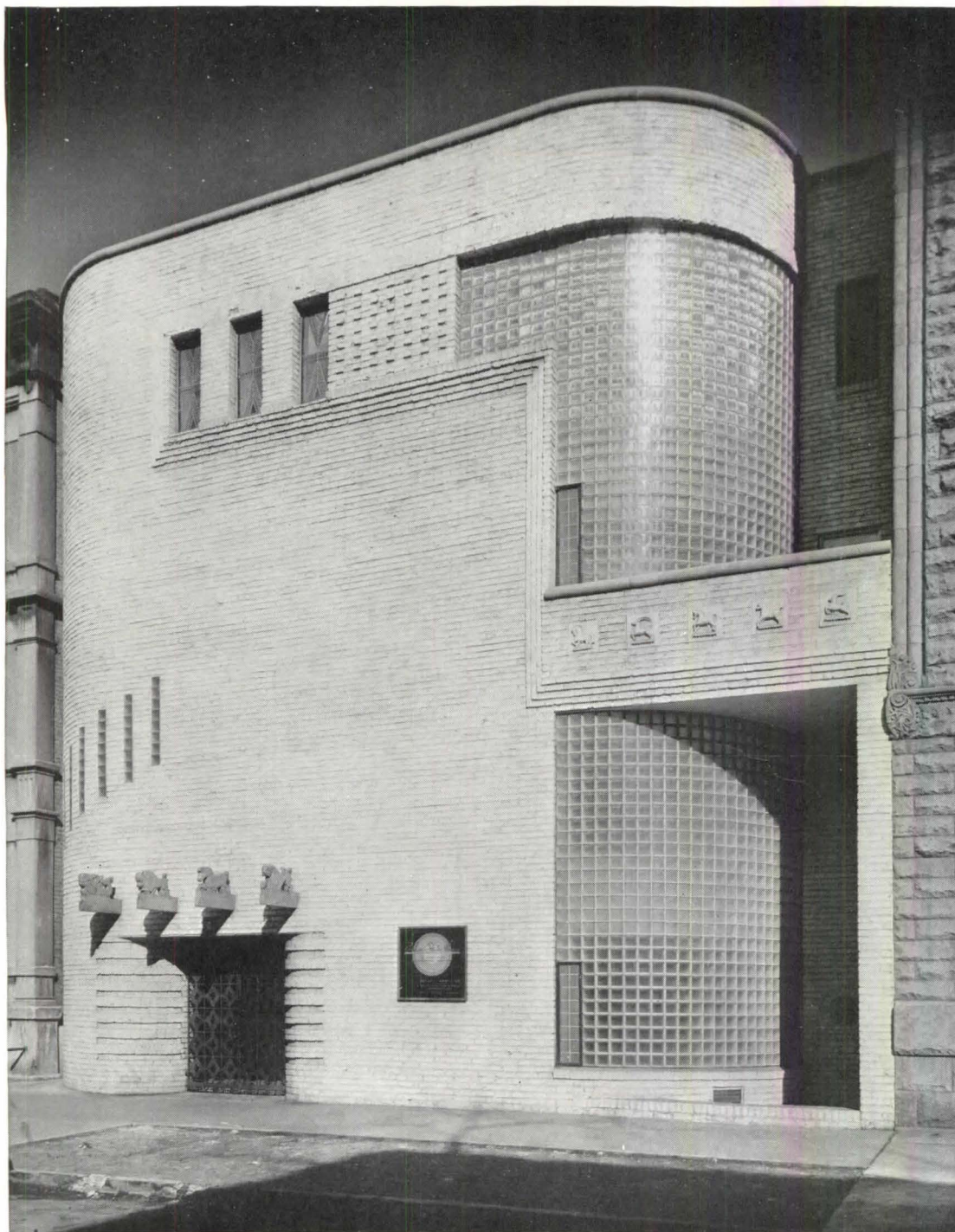
HARDWARE: Interior and exterior—Schlage Lock Co. Garage door track and hangers—Richards Wilcox Mfg. Co.

PAINTING: Interior: Floors—floor seal and wax. Trim and sash—semi-gloss enamel, Devoe & Reynolds Co., Inc. Exterior: Walls—Dry-Lite cement paint, Made-Rite Products Co.

PLUMBING: All fixtures by Eljer Co. Pipes: Soil—extra heavy cast iron. Water—galvanized steel.

HEATING: Unit gas heaters.

APARTMENT HOUSE FOR FRANK F. FISHER, CHICAGO, ILL.

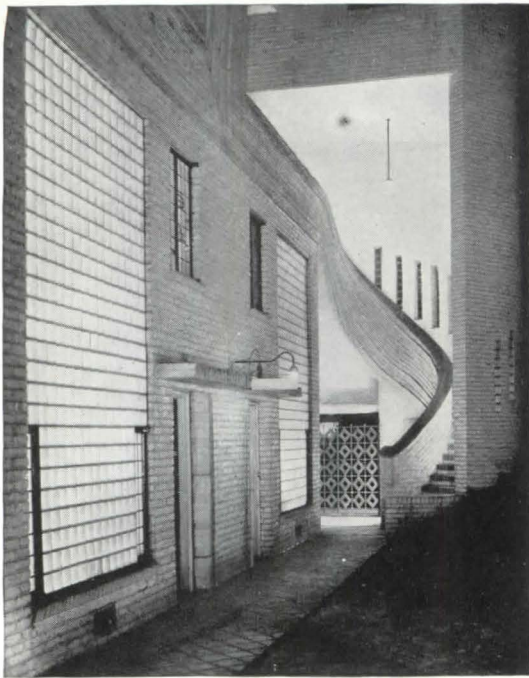


ENTRANCE

Hedrich-Blessing Photos

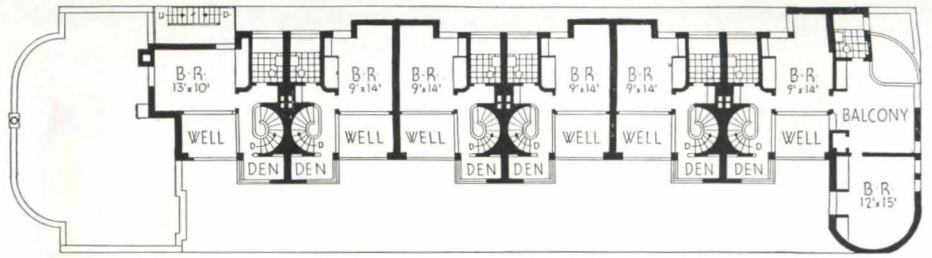
It would be hard to carry romantic eclecticism any farther than has been done in this most unusual apartment house. Built in no recognizable style, the structure combines glass brick, stained glass, medieval brickwork, and woodcarving in the Swedish manner, and displays an equally individualistic approach on the interior. As shown by the photograph above, the short end of the building faces on the street, its entrance vigorously marked by the four woodcarvings of Edgar Miller; the building extends back to an alley, its apartments facing on a courtyard. The apartments are of the duplex type, with glass block extending up the full two

stories in each case. Living rooms, in the majority of apartments, are so arranged that a portion extends the full height of the glass walls, with the bedrooms on the second floor set back. For those who want to look out there are narrow slits of casements. The second floor apartments are reached by the open stair shown on the facing page; this leads to an outside passage, an arrangement of which little use has been made in American multi-family dwellings. The duplexes are small, save for those at the ends of the building, and are chiefly interesting as a type of planning which would be scarcely possible without air conditioning.

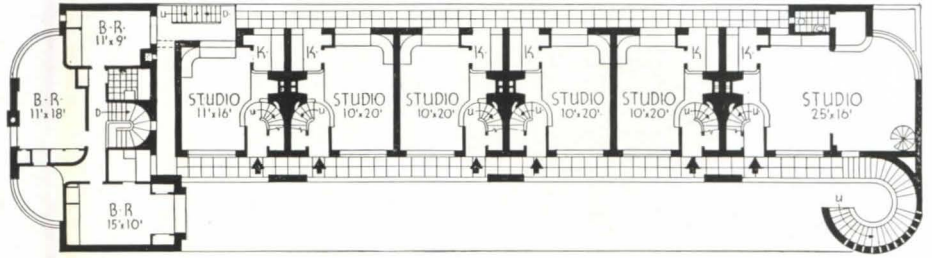


MAIN ENTRANCE

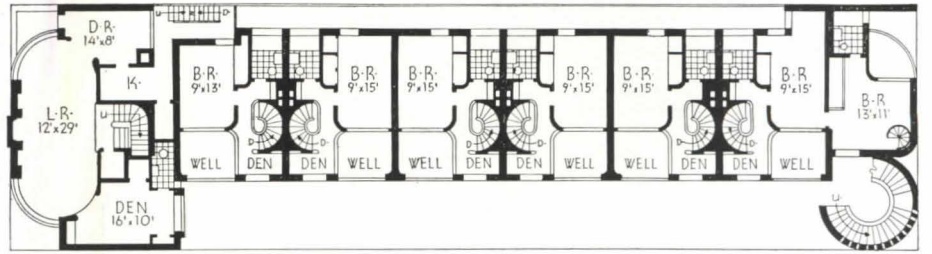
VIEW 1.



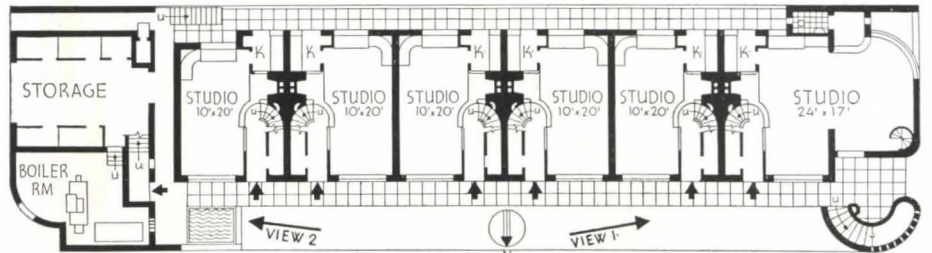
SECOND FLOOR - BALCONY PLAN



SECOND FLOOR



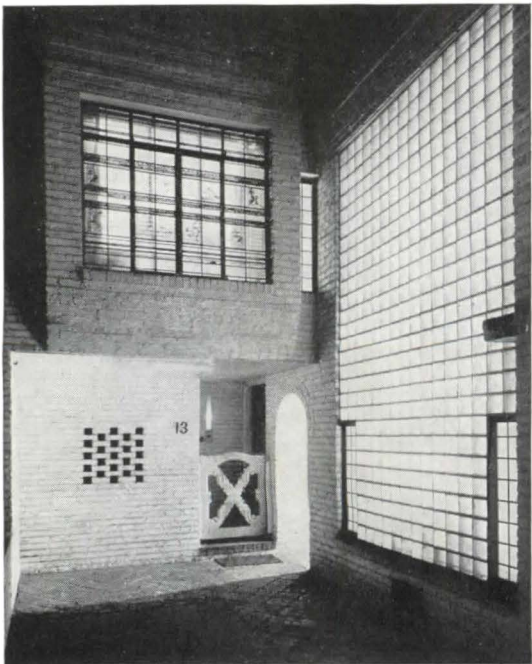
FIRST FLOOR - BALCONY PLAN



FIRST FLOOR

SCALE IN FEET
0 5 10 15 20 25

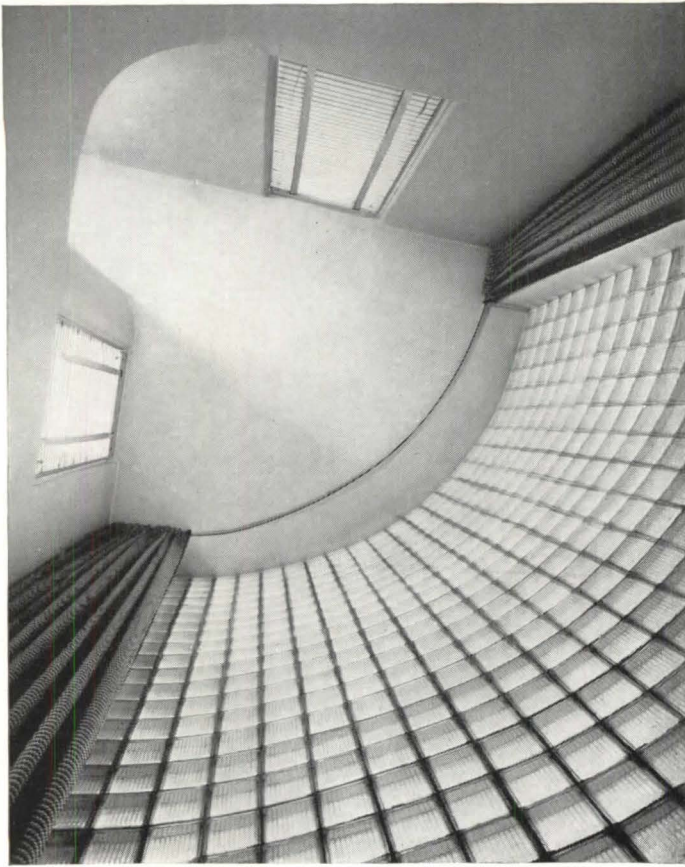
EAST END OF GARDEN COURT VIEW 2.



NORTH VIEW

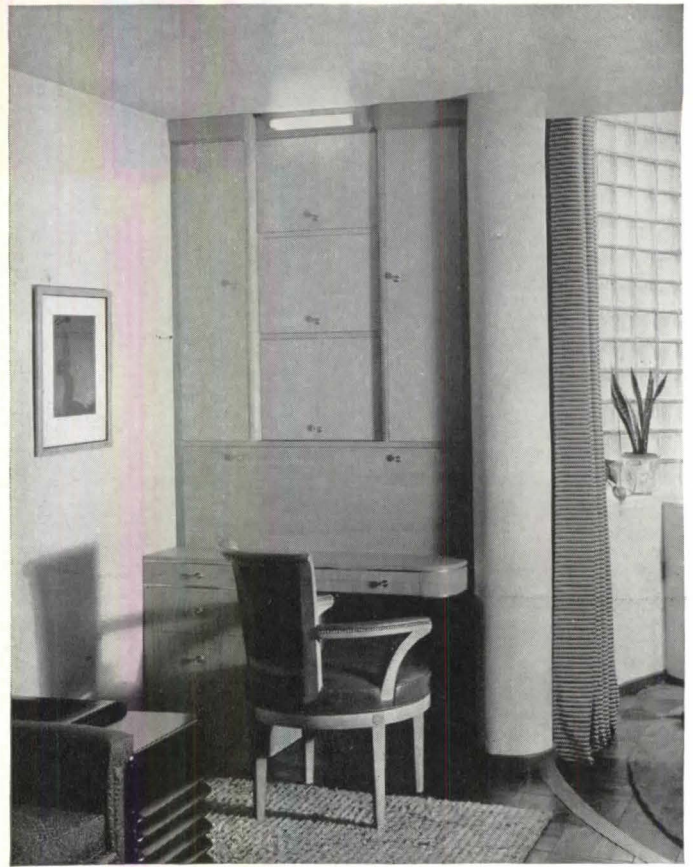


APARTMENT HOUSE FOR FRANK F. FISHER, CHICAGO, ILL.



WELL

Hedrich-Blessing Photos

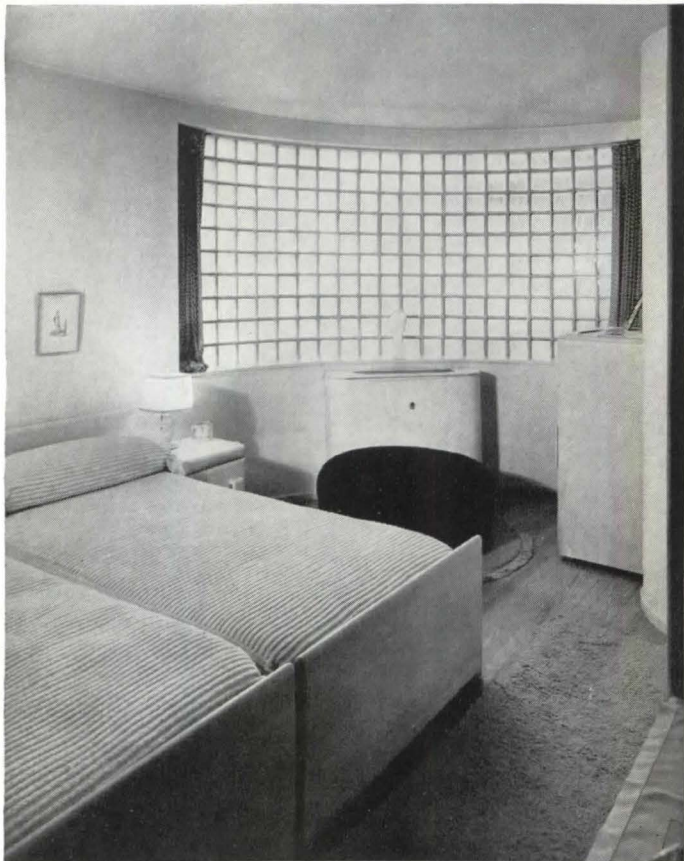


STUDY

INTERIORS OF EAST END STUDIO

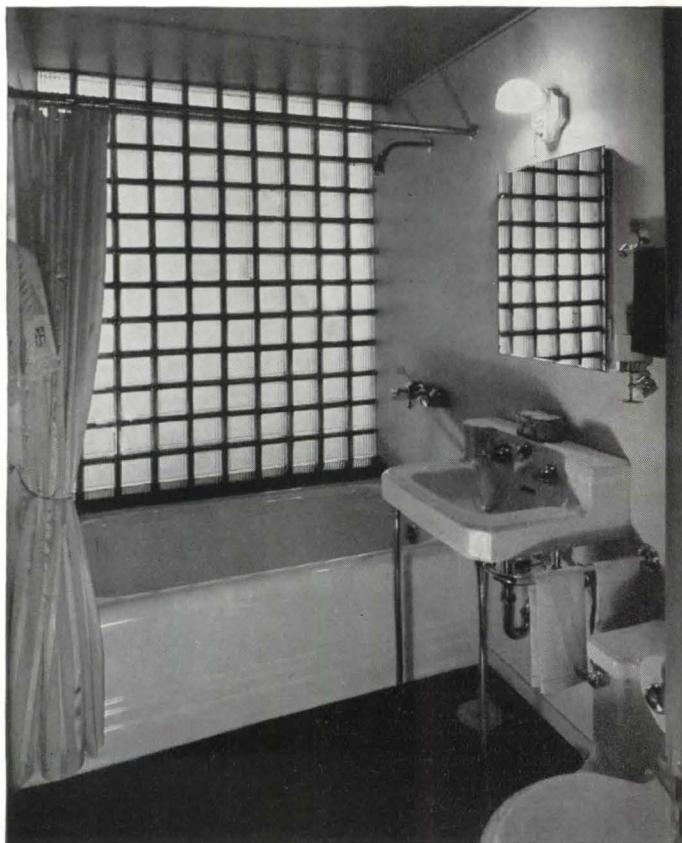


LIVING ROOM



BEDROOM

BATH



CONSTRUCTION OUTLINE

FOUNDATIONS

Footings and walls—reinforced concrete.

STRUCTURE

Exterior walls—common brick, painted. Coping—limestone. Exterior staircase—reinforced brick. Floor construction—reinforced concrete on structural steel frame.

ROOF

Tar and gravel, 4-ply, 15 year guarantee, Barrett Co.

SHEET METAL WORK

Flashing and gutters and roof over projecting bays—lead coated copper.

INSULATION

Roofs and all surfaces exposed above and below—4 in. rock wool bats, Kimbatts, Kimberly-Clark Corp.

WINDOWS

Sash—steel, Campbell Metal Window Co. Glass—stained leaded. Screens—bronze mesh with snap-on frames.

STAIRS

Treads and risers—2 in. plank on 2 x 4 in. wood stud uprights. Rails—covered with metal lath and plaster.

FLOORS

Ground floor and floors between apartments—reinforced concrete covered with Cellized flooring, E. L. Bruce Co. Bedrooms—wood framing covered with 1½ in. light-weight concrete fill, wood sleepers, red oak finish flooring.

WALL COVERINGS

Plaster throughout; Best Brothers Keene's cement plaster in bathrooms.

WOODWORK

Interior doors—flush panel, 1¾ in. Exterior doors—2½ in., carved wood.

HARDWARE

Interior—chrome finish and black iron; glass push plates on double acting door to kitchen.

PAINTING

Exterior walls—all brick painted white, Samuel Cabot, Inc. Sash—lead and oil.

ELECTRICAL INSTALLATION

Wiring system—rigid conduit, individual meters, Square-D circuit breakers throughout, Square D. Co. Switches—tumbler type, safety switches for heat control. Fixtures—concealed type, Revere Electric Co. Lumiline lighting troughs in each apartment, General Electric Co.

KITCHEN EQUIPMENT

Stove and refrigerator—General Electric Co. Steel cabinets—Dieterich Steel Cabinet Corp. Stainless steel counter top, sink and back and end splashes.

PLUMBING

All fixtures by Standard Sanitary Mfg. Co. Pipes: Soil—cast iron. Vents—galvanized steel. Water—Streamlined copper, Mueller Co. Also, circulating pump, pressure tank, storage tank.

HEATING AND AIR CONDITIONING

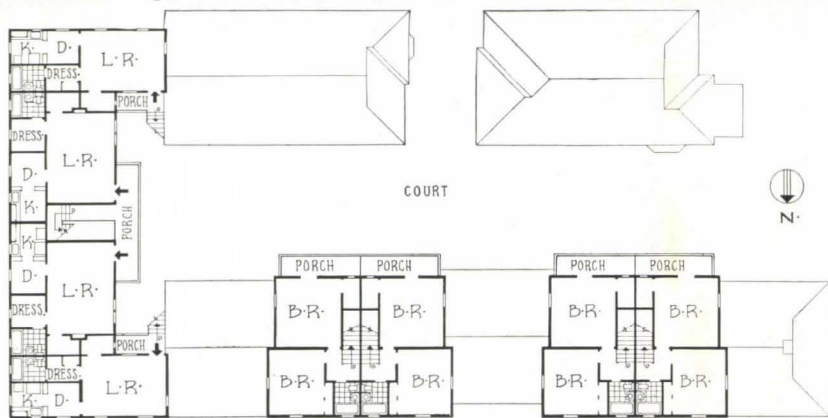
Heating—mechanically circulated forced hot water. Air conditioning—filtering, winter heating and humidifying. Provisions for summer cooling; individual fresh air intakes to each air conditioner, Fairbanks-Morse & Co.; separate exhaust vents for each kitchen and bathroom, air exhausted mechanically. Boiler—portable steel firebox, National Radiator Co. Fuel—Petro-Oil burner, Petroleum Heat & Power Co. Radiators—convector type with enclosures, National Radiator Corp. Valves—Crane Co. Thermostats—Minneapolis-Honeywell Regulator Co. Hot water heater—indirect external, controlled by Aquastat in warm weather.

APARTMENT HOUSES AT PASADENA, CALIFORNIA



Miles Berné Photos

A widespread trend in apartments is illustrated by the group shown here, not so much in the exterior design as in the use of low units, spaced far enough apart to ensure adequate light and air for all tenants. The advantages of such dwellings are cheapness, low maintenance costs (compared, for instance, with elevator apartments), and a domestic scale which permits their use in sections otherwise occupied by single-family houses. Selection of this type for PWA and Resettlement projects was made after extensive cost comparisons. The site for these apartments is only two blocks from the main business street of the town, and the buildings were designed to accommodate families where both husband and wife are employed, maid service being provided by the management.



SECOND FLOOR



FIRST FLOOR

CONSTRUCTION OUTLINE

FOUNDATIONS

Footings and foundation walls—concrete.

STRUCTURE

Exterior walls—wood frame and stucco, ship-lap and siding. Interior partitions—wood frame and stucco.

ROOF

Covered with first grade Royal cedar shingles.

SHEET METAL WORK

Flashing and gutters—Armco iron, American Rolling Mill Co.

INSULATION

Walls— $\frac{1}{2}$ in. Celotex, The Celotex Co.

WINDOWS

Sash—white pine, double hung. Glass—single strength, quality B, Libbey-Owens-Ford Glass Co. Screens—galvanized wire mesh and wood frame.

FLOORS

Living rooms, bedrooms and halls—oak. Baths—tile, Gladding McBean Co. Kitchens and dinettes—pine covered with linoleum, Armstrong Cork Products Co.

WALL COVERINGS

Bedrooms—wallpaper. Bathrooms and kitchens—Sanitas, Standard Textile Products Co.

WOODWORK

Trim—white pine. Interior doors—4-panel Colonial. Garage doors—overhead type, ship-lap.

HARDWARE

Interior and exterior—Schlage Lock Co.

PAINTING

Interior: Woodwork—4 coats paint, W. P. Fuller & Co. Walls and ceilings of bathrooms and kitchens—painted Sanitas, Standard Textile Products Co. Floors—fill, stain and wax. Exterior: Walls—3 coats paint, W. P. Fuller & Co.

ELECTRICAL INSTALLATION

Wiring system—conduit steel tube. Switches—General Electric Co. Fixtures—Wilkerson-Scott Co.

PLUMBING

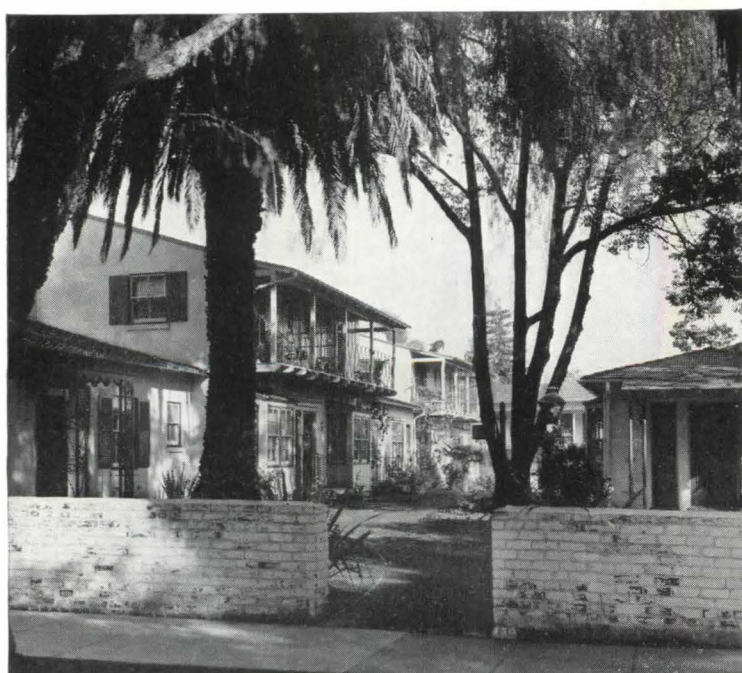
All fixtures and fittings by Standard Sanitary Mfg. Co.

HEATING

Furnaces—warm air. Warmolaters by Williams Heating Co.

SPECIAL EQUIPMENT

Central unit refrigeration, Kelvinator Sales Corp.



ENTRANCE TO COURT

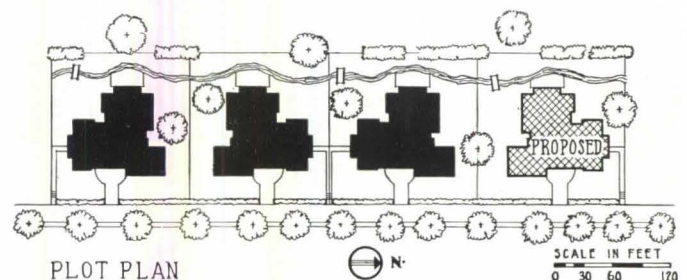


DINETTE-KITCHEN

APARTMENT HOUSE AT HARTSDALE, N. Y.



Harold Holiday Costian Photos



The elevator-type apartment building appears in its most reasonable form in some of the New York suburbs, where land values are sufficient to induce owners to build high, moderately isolated apartments which receive ample light and air, and have views more pleasing than the rear of similar buildings. In Hartsdale, about 30 minutes from New York by train, this recently completed apartment house is typical of the best suburban work being done, although the tenants are more fortunate than many in their proximity to a golf course which eliminates the possibility of future congestion. The 90-foot depth of the building was set by laws regulating building lines, and its apartments show compact arrangement, adequate-sized rooms, ample closet space, and well-arranged kitchens. The plan also provides cross-ventilation for all apartments.



VIEW—GOLF COURSE



CONSTRUCTION OUTLINE

STRUCTURE

Exterior walls—12 in. brick; troweled coat of mastic waterproofing, furring and plaster on interior surface. Interior partitions—wood studs with metal lath and 3-coats plaster. Columns—steel. Floor construction—3 x 10 in. and 3 x 12 in. furred beams. Metal lath and 3-coats plaster for ceiling, sub- and finished flooring.

ROOF

Finish—9-ply roofing, Barrett Co.

SHEET METAL WORK

Flashing and gutters—16 oz. copper.

INSULATION

Roof—4 in. rock wool, Liberty Rotary ventilators and wall louvers, Penn Ventilating Co. Sound insulation—partitions between apartments and ceilings have spring clip construction for deadening sound, U.S. Gypsum Co.

WINDOWS

Sash—operator, H. S. Getty & Co., Inc. Glass—double thick, quality A, Libbey-Owens-Ford Glass Co.

STAIRS AND ELEVATORS

Stringers—steel. Treads—Terrazzo. Elevators—automatic equipped with W. S. Tyler Co. cabs.

FLOORS

Selected white oak. Kitchens—No. 2 common oak, covered with linoleum.

WALL COVERINGS

Public spaces and lobby—Fabricoid, E. I. du Pont de Nemours & Co., Inc. Entrance vestibule—Formica, Formica Insulation Co.

WOODWORK AND TRIM

Trim—white wood. Interior doors—gum veneer. Exterior doors—white pine.

HARDWARE

Interior and exterior—Lockwood Hardware Mfg. Co.

PAINTING

Interior—Lead, zinc, linseed oil, enamel and varnish by National Varnishing Co. Ceilings—calcimine. Floors—1-coat pastefiller and pure white shellac.

ELECTRICAL INSTALLATION

Wiring system—BX cable for non-fireproof, conduit in fireproof areas. Switches—Hart & Hegeman. Fixtures—Lightolier Co. Special equipment—low tension AC telephone system, L. J. Loeffler.

KITCHEN EQUIPMENT

Ranges—gas. Refrigerators—electric, Westinghouse Electric & Mfg. Co.

PLUMBING

All fixtures by Standard Sanitary Mfg. Co. Pipes: Soil—extra heavy cast iron. Water—brass.

HEATING

One pipe steam, Warren Webster & Co. oil burner and Arco convectors, Petroleum Heat & Power Co. Valves—Warren Webster & Co. Regulators—Minneapolis-Honeywell Regulator Co.

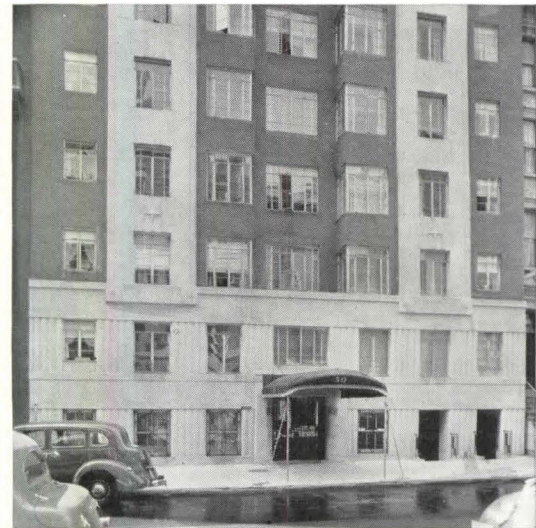
SPECIAL EQUIPMENT

Incinerators—Kernerators, Kerner Incinerator Co.

APARTMENT HOUSE AT 50 EAST 78TH ST., NEW YORK CITY



Samuel H. Gottscho



This building is located in a residential neighborhood in New York where small apartments are in active demand. Building for investment rather than quick resale influenced both plan and construction, and minimum upkeep and slow obsolescence became important factors. In designing the building the type of apartments considered most rentable were first worked out, then costs were estimated, and final decisions as to materials and exterior design were made on the basis of these controlling elements. The setbacks on the street facade were made to give the rooms another exposure; by the use of corner windows on a narrow street the view is considerably enlarged. The interiors show the continual trend toward greater simplicity in design. The dropped living room, illustrated on the facing page, is a feature which has become extremely popular in New York during the past few years, and its use is rapidly being extended to less expensive apartments.



LIVING ROOM

John Beinert



TYPICAL FLOOR



CONSTRUCTION OUTLINE

STRUCTURE
 Exterior walls—all brick face backed up with structural terra cotta tile creating masonry wall 12 in. thick. Interior of walls dampproofed with brushed-on hot mastic and 2-coats plaster on tile finish in bathrooms. Interior partitions—terra cotta blocks, National Fireproofing Corp. and gypsum blocks, H. W. Bell Co. Floor construction—steel beams, Bethlehem sections, Bethlehem Steel Co., 4 in. reinforced cinder concrete arch, 2 x 4 in. beveled sleepers, 2 in. cinder fill, 7/8 in. sub-flooring, building paper and 13/16 in. oak finish floor.

ROOF
 Construction—Cinder concrete arch and steel frame, fill, screed coat, built-up roofing and finish of tile walking surface.

SHEET METAL WORK
 Flashing—copper. Special ducts—galvanized sheet metal.

INSULATION
 Sound insulation blocks by U. S. Gypsum Co.

WINDOWS
 Sash—steel, casement, and wood, double hung. Glass—double thick, quality A, clear glass.

STAIRS AND ELEVATORS
 Stairs—iron. Stringers—steel plate. Risers and treads—iron, formed to receive cement finish. Railings and newels—iron. Elevators—one electric passenger elevator, collective automatic control with a duty of 1,500 lbs. and a speed of 250 ft. per minute. One combination service passenger electric elevator with car switch control; a duty of 2,000 lbs. and a speed of 200 ft. per minute.

FLOORS
 Vestibule—marble. Public halls—tile, U. S. Quarry Tile Co.

FLOOR COVERINGS
 Kitchens—linoleum. Bathrooms—tile.

WALL COVERINGS
 Public hall—washable, non-fading wallpaper. Entrance hall—Flexwood, U. S. Plywood Co., Inc.

WOODWORK AND SPECIAL TRIM
 Interior doors—single panel, gum veneer, one-hour test doors at entrance to each apartment. Elevator doors—hollow metal.

HARDWARE
 Interior and exterior—Lockwood Hardware Mfg. Co.

PAINTING
 Trim and sash—3 coats enamel, Bay Moore Paint Co.

ELECTRICAL INSTALLATION
 Wiring system—cable. Switches—The Hart Mfg. Co. Service and meter equipment—Cole Electric Products Co.

PLUMBING
 All fixtures by Standard Sanitary Mfg. Co. Pipes: Soil, waste and vents—cast iron. Water supply—brass. Pumps—Westco Pump Co.

HEATING
 Heating—oil automatic, Enterprise Foundry Co. Ventilation—Ilg Electric Ventilating Co. Radiators—convector type.

SPECIAL EQUIPMENT
 Mail Chutes and boxes—Cutler Mail Chute Co.

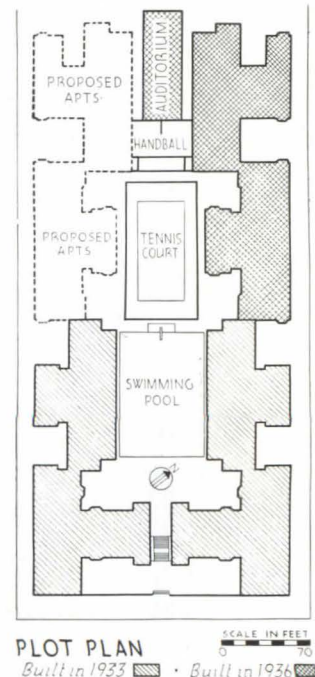
APARTMENT HOUSES AT BAY RIDGE, BROOKLYN, N. Y.



John Beinert Photos

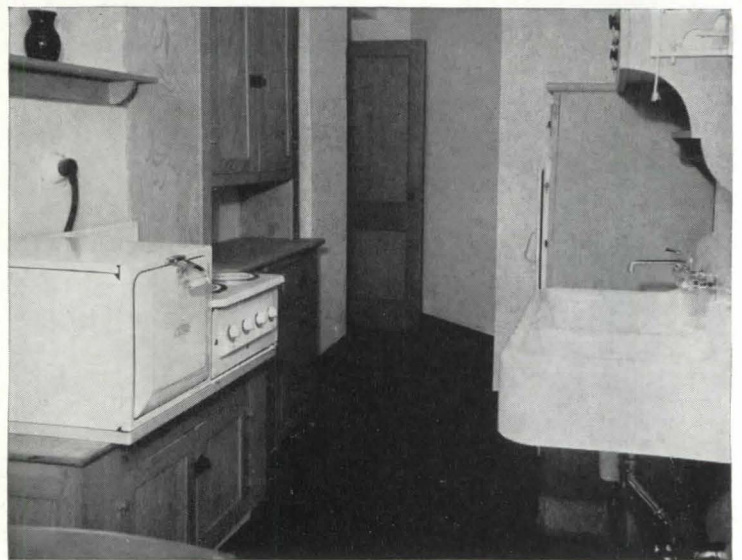


It is many years now since Ernest Flagg became widely known for his development of cheap masonry walls laid up in forms and backed with concrete. His early use of modular planning to reduce costs, now gaining recognition as an important factor in the integration of structure and equipment, was another indication of an alert and inquiring mind. In these apartment houses in Brooklyn further evidence of his ingenuity appears. The apartments have been designed as a long term investment, a factor reflected in the unusually fireproof construction, the quality of the equipment, and the amenities offered. Reversible fans provide flexibility of ventilation, window shades are located outside rather than inside the windows, and the underside of the concrete floor slabs have been so finished that plaster is unnecessary. Amenities include two swimming pools, recreation rooms, bowling alleys, and large roof playgrounds. Rents average about \$18 per room, a moderate figure in comparison with the New York rental scale.

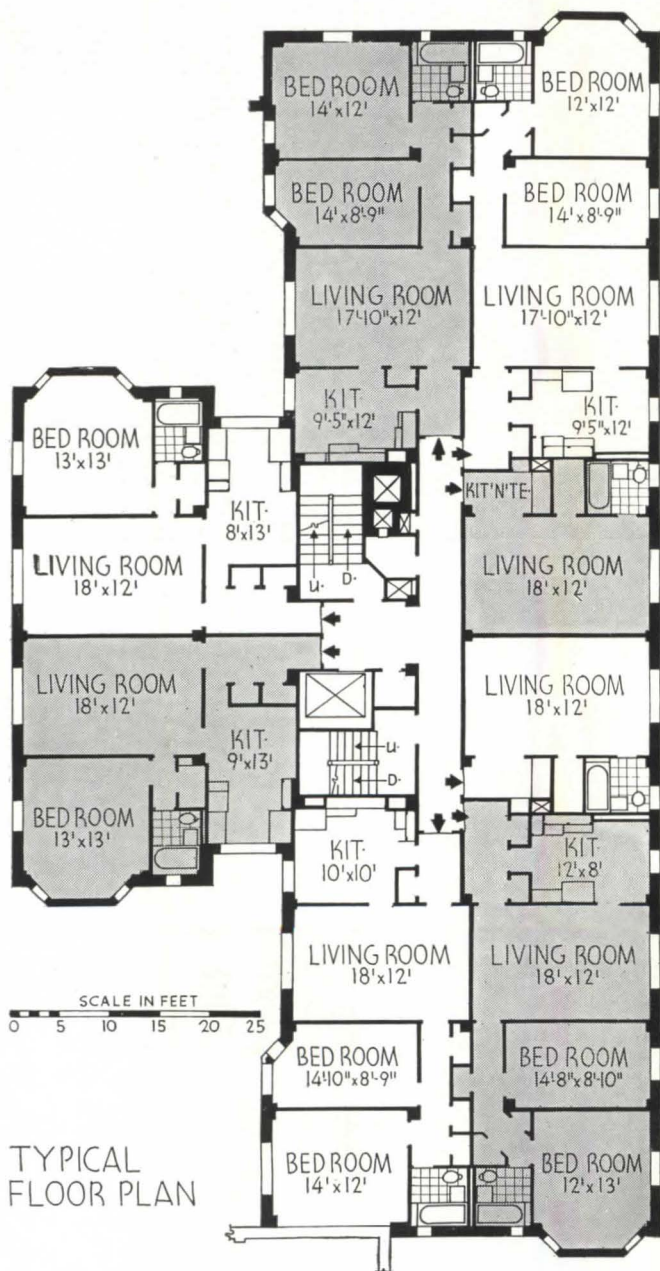




LIVING ROOM



KITCHEN



TYPICAL FLOOR PLAN

CONSTRUCTION OUTLINE

FOUNDATIONS

Footings—reinforced concrete. Walls—concrete. Water-proofing—Hydrocide integral paste, Sonneborn Sons, Inc.

STRUCTURE

Exterior walls—clinker brick, Sayre & Fisher Brick Co., trimmed with cut cast stone, hollow tile backing. Interior partitions— $1\frac{3}{4}$ in. cement slabs, Portland Cement Co., covered with colored plaster, Structural Gypsum Div., American Cyanamid & Chemical Corp. Floor construction—3 in. cement slabs, Portland Cement Co.

ROOF

Built-up roofing, 5 layers of tar saturated asbestos felt over insulation, Johns-Manville, Inc., covered with sand and topped by promenade tile set in cement.

SHEET METAL WORK

Copper, 16 oz. throughout, Revere Copper & Brass, Inc.

WINDOWS

Sash—wood, casement. Glass—Lustraglass, American Window Glass Co. Screens—pure copper mesh, John A. Roebing Sons, Co.

STAIRS AND ELEVATORS

Stairs—steel, with iron railings, North American Iron Works. Elevators—automatic, collective control, Otis Elevator Co.

FLOORS

Main rooms—oak parquet laid in mastic. Bathrooms—tile.

WALL COVERINGS

Lobbies, Martstone, Mart & Lawton, Inc. Bathrooms—tile wainscoting.

WOODWORK AND TRIM

Trim and cabinets—long leaf Georgia pine and fir. Doors—No. 16 U. S. gauge steel, Aetna Steel Products Corp.

PAINTING

Ceilings—calcimine. Floors and trim—wax, John T. Swanson Co.

KITCHEN EQUIPMENT

Ranges—electric, Landers, Fray & Clark. Refrigerators—electric, equipped with Clark Controller Co.'s automatic defroster.

PLUMBING

All fixtures by Crane Co. Pipes: Water—solid brass, Revere Copper & Brass, Inc. Pumps—Chicago Pump Co.

HEATING

Steam system; oil burner, Petro Model W., Petroleum Heat & Power Co. Radiators—brass, Revere Copper & Brass, Inc. Special features—two-way ventilating fans under each window, The Westwind Corp., Seattle, Wash.

SPECIAL EQUIPMENT

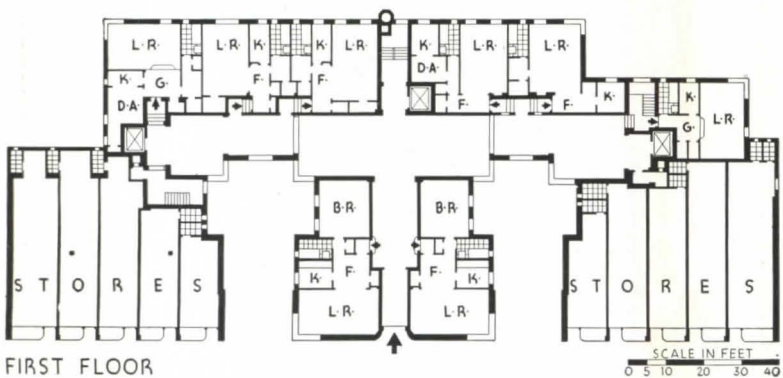
Mail boxes—United Metal Box Co., Inc. Individual lockers for baby carriages. Incinerator—Equal-Aire, Sargent Building Specialties Co.

APARTMENT HOUSE ON GRAND CONCOURSE, BRONX, N. Y.



Robert M. Damora Photos

One of the most active districts in New York at present is the large section up north known as the Bronx. Apartments in this area are five to eight stories, for the most part, and are built largely by speculative builders. "Modern" is the newest vogue in building, and this example is typical. Overcrowding has been one of the results of speculative activity, and its effects can be seen on the plan. Many rooms face on small courts, the corner windows are only twenty feet apart, and dark interior spaces are used as galleries, also known as "dining foyers." Obviously under such conditions the architect is powerless to plan suitable accommodations. Within these limitations, however, considerable ingenuity in planning has been displayed. Living rooms are moderately large and well proportioned, bedrooms have adequate wall space for beds, and circulation is direct.



CONSTRUCTION OUTLINE

FOUNDATIONS
Footings—concrete. Walls—brick. Waterproofing—membrane, around exterior walls.

STRUCTURE
Exterior walls—brick. Interior partitions—studs, metal lath and plaster. Columns—steel. Floor construction—wood beams, sub-and finish flooring. Ceilings—hung on metal sound deadening clips with wire lath and 3-coats of plaster.

ROOF
Construction—built-up roofing, The Johns-Manville Co., wood boards, Celotex covered, The Celotex Co.

SHEET METAL WORK
Flashing—copper, American Brass Co.

INSULATION
Walls—rock wool, Johns-Manville, Corp. Roofs—Celotex, The Celotex Co.

WINDOWS
Sash—steel casement, G. S. Thorn Co. Glass—single strength, quality B, Pittsburgh Plate Glass Co.

STAIRS AND ELEVATORS
Stairs—iron. Treads—marble. Elevators—full collective, automatic control, Otis Elevator Co.

FLOORS
Living room—oak parquetry. Public halls and bathrooms—ceramic tile. Entrance halls—Terrazzo.

WALL COVERINGS
Entrance halls—Flexwood, U. S. Plywood Co., Inc.

WOODWORK AND SPECIAL TRIM
Trim—white pine, stock. Interior doors—birch. Exterior doors—oak.

HARDWARE
Interior and exterior—bronze, Lockwood Hardware Mfg. Co.

PAINTING
Throughout—3 coats lead and oil, Sherwin-Williams Co.

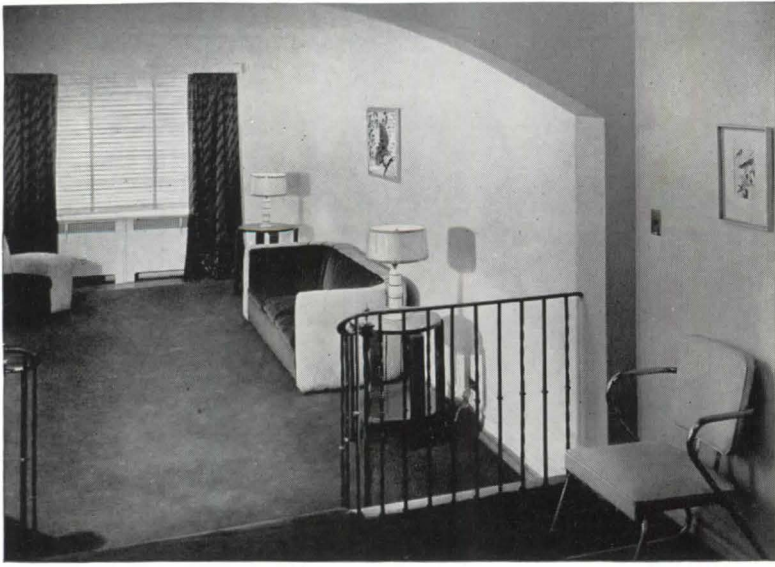
ELECTRICAL INSTALLATION
Wiring system—BX cable and rigid conduit. Switches—Hart & Hegeman.

PLUMBING
All fixtures by Kohler Co. Pipes: Soil—cast iron; Water—brass, American Brass Co.

KITCHEN EQUIPMENT
Refrigerators—General Electric Co.

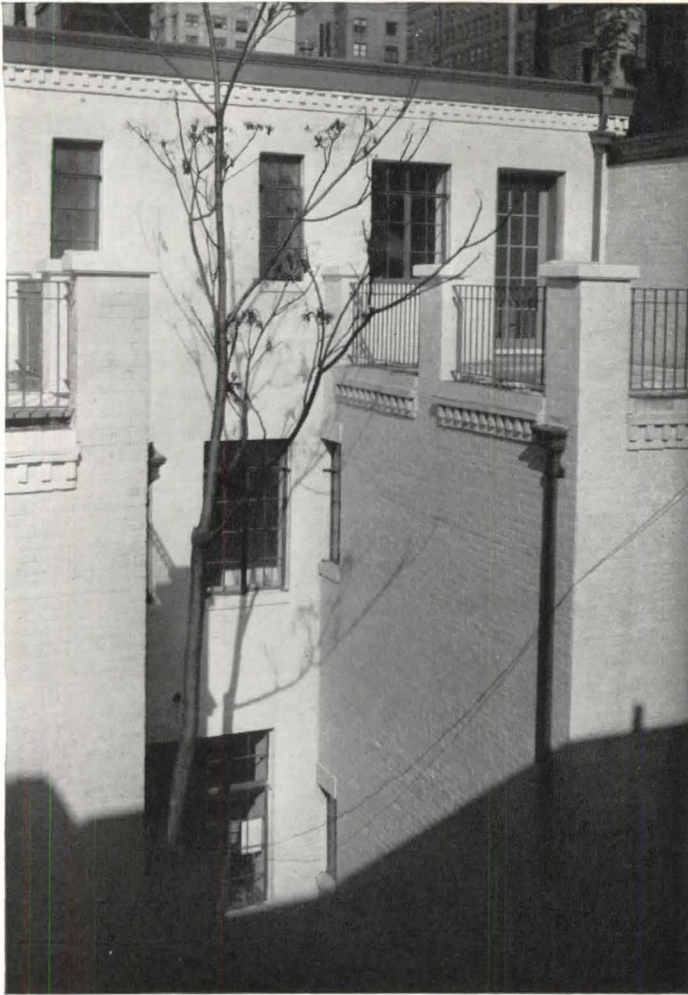
HEATING
One pipe return system. Boiler—Kewanee Boiler Corp. Fuel—Petro oil burner, Petroleum Heat & Power Co. Radiators—American Radiator Co.

SPECIAL EQUIPMENT
Incinerators—Kerner Incinerator Co.



TYPICAL LIVING ROOM

REMODELED APARTMENT HOUSE AT 1612 PINE STREET



REAR



FRONT

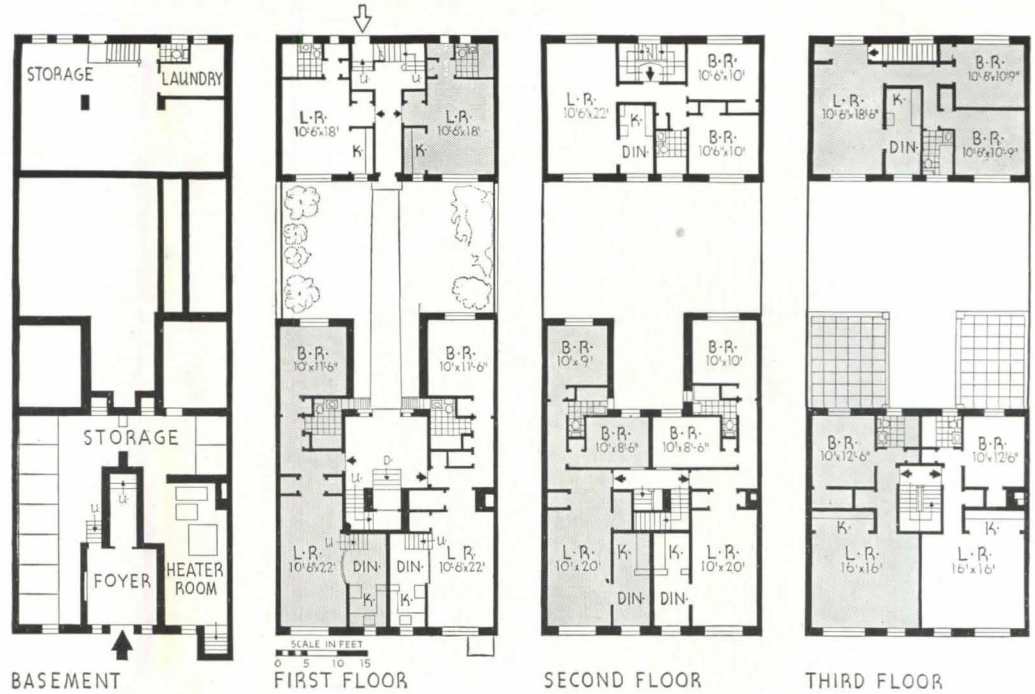
C. V. D. Hubbard Photos

COURT



This remodeling venture offers an interesting case study in fluctuating property values. The lot, 34 x 100 feet, originally consisted of four properties, which in the 1920's were selling for \$15,000 to \$20,000 apiece, and purchasable, under normal conditions, for \$7,500 to \$10,000 each. During the depression the four parcels were acquired for \$9,500, and remodeled at a cost of \$31,000, or 29 cents a cubic foot. Ten apartments were put into the buildings, and rent from \$45 to \$80 per month. The apartments provide a net income of about \$6,000 a year, which, applied against a total of \$40,500, is an excellent return. In the face of these figures, the owner finds it difficult to explain the lack of interest of lending institutions in this type of investment. The whole field of modernization of old properties in now depressed sections of cities, he comments, is one with vast potentialities.

BEFORE



LIVING ROOM — THIRD FLOOR



C. V. D. Hubbard

CONSTRUCTION OUTLINE

STRUCTURE

Existing walls retained. Interior partitions—2 x 4 in. studs, 3/4 in. rock lath and plaster.

ROOF

Construction—2 x 10 in. joists, The Barrett Co.

SHEET METAL WORK

Flashing and gutters—galvanized iron.

WINDOWS

Glass—Pittsburgh Plate Glass Co.

STAIRS

Yellow pine, painted and carpeted. Wrought iron railings.

FLOORS

Public halls—carpet. Kitchenettes—linoleum, Armstrong Cork Products Co. Rooms—5/16 in. selected oak, stained dark. Lobby—tile.

WALL COVERINGS

Vestibule—knotty pine. Hallways—washable paper. Kitchenettes—Sanitas, Standard Textile Products Co., Inc.

WOODWORK AND SPECIAL TRIM

Trim—7/8 x 3 in. with back band. Interior doors—2-panel. Exterior doors—Lupton, Michael Flynn Mfg. Co.

HARDWARE

Interior—Lockwood Hardware Mfg. Co.

PAINTING

Interior: Walls and ceilings—Texolite, U. S. Gypsum Co. Exterior—cement paint.

ELECTRICAL INSTALLATION

Wiring system—BX. Switches—Hart & Hegeman. Telephones—Edward & Co., Inc.

KITCHEN EQUIPMENT

Refrigerators—gas, Servel Sales, Inc.

PLUMBING

All fixtures by Standard Sanitary Mfg. Co. Pipes—Youngstown Pressed Steel Co.

HEATING

Equipment by American Radiator Co. Fuel—oil, Delco Appliance Corp. Hot water heater—Taco Heaters, Inc. Regulator—Minneapolis-Honeywell Regulator Co.

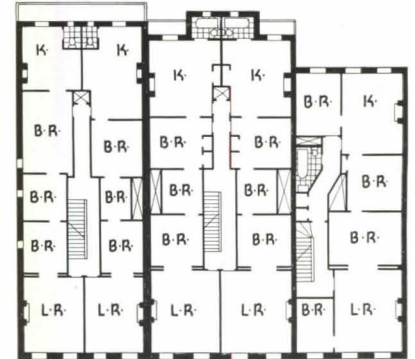
REMODELED APARTMENT HOUSE EAST 86TH STREET, NEW YORK CITY



Apeda Photos

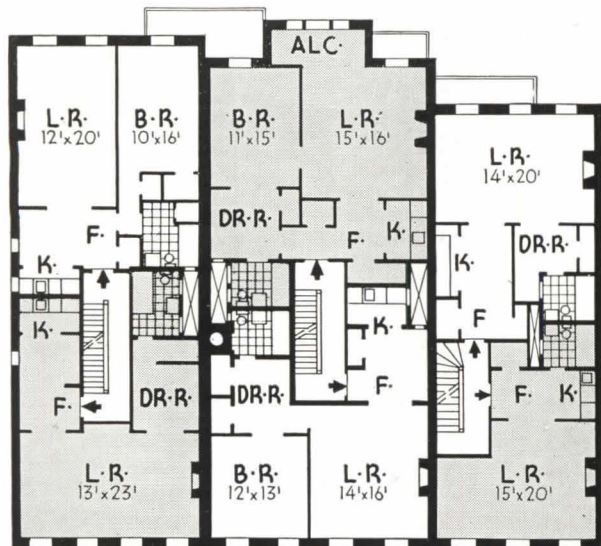


BEFORE



TYPICAL FLOOR - BEFORE

WALTER S. SCHNEIDER, ARCHITECT



TYPICAL FLOOR-AFTER

SCALE IN FEET
0 5 10 15

The work shown here is typical of much tenement remodeling done in New York City during the past few years. The old type flat with its dark, unventilated interior rooms has been changed so that kitchens, baths, and closets occupy the unlighted portion of the apartments. One- and two-room apartments are in steady demand, and the expense of alteration is considered definitely worth while since such apartments can command rentals of \$75 to \$90 per month. The yards in the rear of this building have been developed into gardens for the use of ground-floor tenants.

CONSTRUCTION OUTLINE

STRUCTURE: Existing structure retained. Interior partitions—stud, wire lath and cement plaster.

ROOF: Ruberoid roofing and flashing; powdered green slate aggregate spread over roofing as finished surface.

SHEET METAL WORK: Galvanized iron ventilating ducts for baths and kitchenettes.

WINDOWS: Sash—wood, double hung and some casement. Glass—quality A, American Window Glass Co.

FLOORS: T. & G. oak throughout apartments, except tile in baths, rubber tile in kitchenettes and vitreous tile in entrance vestibules.

FLOOR COVERINGS: Stairways and public halls—carpet, Bigelow-Sanford Carpet Co.

WOODWORK: Interior doors—wood, single panel; 1 hour test fire doors to all apartments. Metal bucks at all doors. Exterior doors—oak, special design, 6-panel flush.

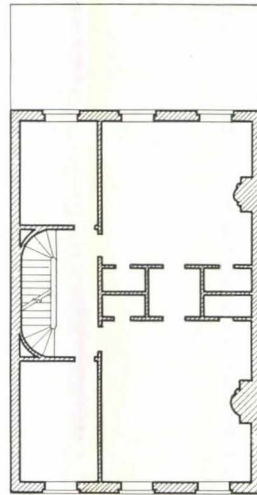
HARDWARE: Apartment entrance doors—Segal locks and chains; glass door knobs all interior doors. All other hardware dull bronze finish, P. & F. Corbin.

PAINTING: Interior: Walls—oil paint, Devoe & Reynolds Co., Inc. Ceilings—calcimine, excepting baths. Floors—stained and waxed.

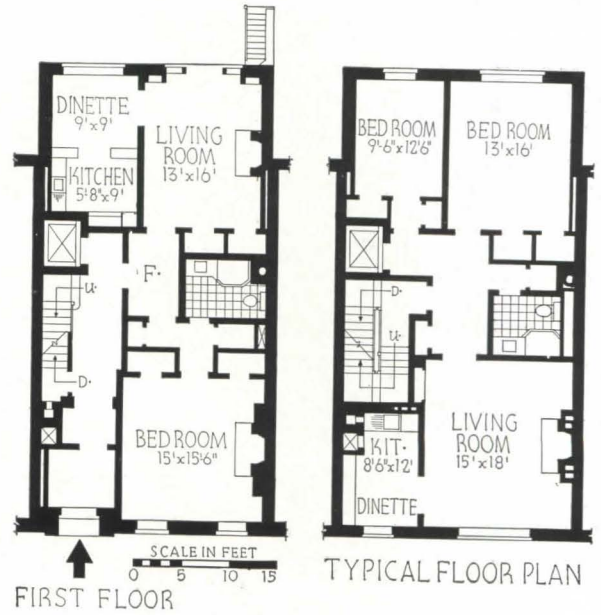
ELECTRICAL INSTALLATION: Switches—20 amp. 2 pole tumbler, General Electric Co. Fixtures—Beaux Arts Lighting Co. Kitchen equipment—electric refrigerators (under sink type).

PLUMBING: Fixtures—Standard Sanitary Mfg. Co. Pipes—brass for all supply lines.

HEATING: One pipe steam. Boiler—oil fired. Radiators and Arco Packless radiator valves, American Radiator Co. Thermostat—electric clock type; Aquastat hot water control.



TYPICAL FLOOR-BEFORE



R. F. SCHIRMER, ARCHITECT



CONSTRUCTION OUTLINE

STRUCTURE: New rear wall—common brick; stucco on front walls. Interior partitions—studs, wood lath, plaster; some walls lathed with Insulite, The Insulite Co.

ROOF: Construction—5-ply tar and gravel.

SHEET METAL WORK: Flashing and gutters—copper.

INSULATION: Roof—rock wool, Johns-Manville, Inc. Floors— $\frac{1}{2}$ in. Celotex between rough and finish floors, The Celotex Co.

WINDOWS: Sash—cottage type casements, The Truscon Steel Co. Screens—steel frames, bronze mesh.

STAIRS AND ELEVATORS: Stairs—steel. Elevator—automatic, Otis Elevator Co.

FLOORS: White oak, 9 x 9 in. parquet blocks, E. L. Bruce Co., set in cold mastic cement on Celotex base, The Celotex Co. Kitchen and bathrooms—covered with linoleum, Armstrong Cork Products Co.

WOODWORK: Doors—wood, except stair doors which are Kalamein.

HARDWARE: Interior and exterior—Russell & Erwin Mfg. Co.

PAINTING: Interior: Walls and ceilings—lead and oil, National Lead Co. Floors—Dura Life and Dura Luster, Floor Maintenance Co., Newark, N. J. Trim and sash—lead and oil, Vitrolite enamel, The Vitrolite Co.

ELECTRICAL INSTALLATION: Wiring system—BX cable. Special equipment—house telephones and radio equipment.

PLUMBING: Bathroom—Lavashower, Lavashower Corp., Inc. Pipes—brass throughout.

HEATING: One pipe steam. Boiler—coal fired, H. B. Smith Co. Radiators—concealed, Burnham Boiler Corp. Hot water heater—coal burning; storage tank independent.

SPECIAL EQUIPMENT: Incinerator—J. C. Rochester & Co., Inc. Ventilation fans—Universal Blower Co.

Old city houses have been found as unprofitable as abandoned tenements, and those which still remain are gradually being changed into apartments. Here each floor has been made into an apartment, and the building has been enlarged by an extension on the rear. Originally similar to the adjoining houses in appearance, the facade has undergone a complete alteration, with large steel casements providing great improvement in lighting. Equipment is similar to that furnished in the average inexpensive apartment.

HOUSING PROJECT, LIBERTY SQUARE, MIAMI, FLORIDA



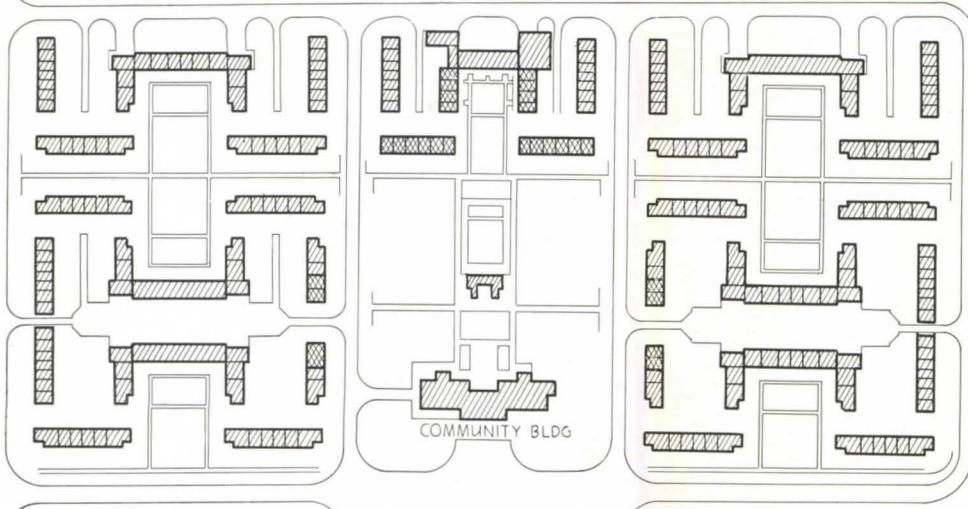
Theodore Wood, Jr. Photos

ARCHITECTS:

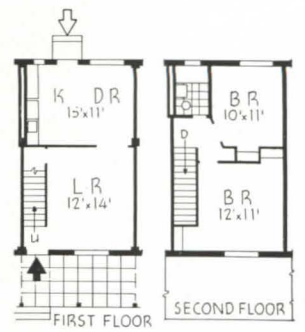
PHINEAS E. PAIST; C. SHELDON TUCKER;
HAROLD D. STEWARD; WALTER C. DE GARMO;
E. L. ROBERTSON; V. E. VIRRICK

Fourth of the PWA housing projects to be opened is Liberty Square, a \$1,000,000 low rent housing development. The houses were built for Negro occupants who at present live in an extremely congested section near the center of the city. Standard unit plans were used, with exteriors varied to suit local conditions. In many respects these houses are most attractive, and they present an incomparably better appearance than the average real estate subdivision. Rents are low, being announced as \$2.85 per week for a two-room dwelling, and \$3.73 per week for three-room apartments.



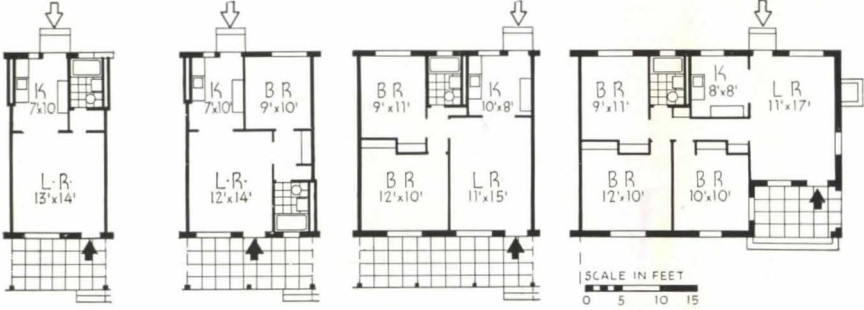


PLOT PLAN ONE STORY UNIT TWO STORY UNIT

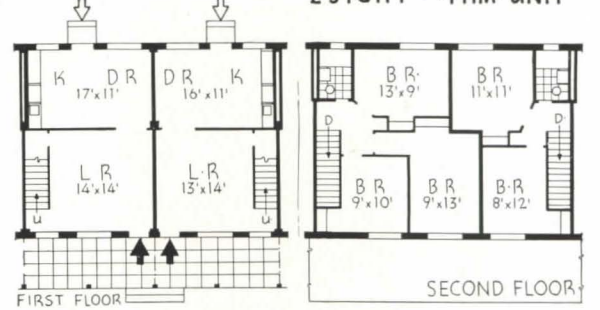


2 STORY - 4 RM. UNIT

1 STORY UNITS



2 RM. UNIT 3 RM. UNIT 4 RM. UNIT 5 RM. UNIT



2 STORY - COMB. 4 & 5 RM. UNIT

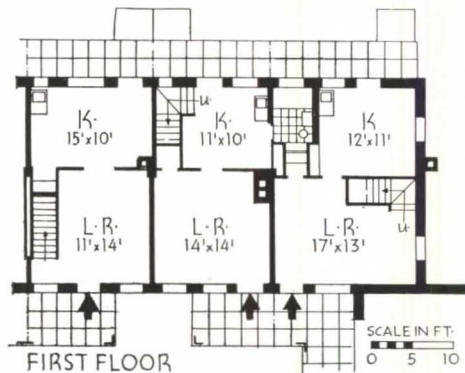
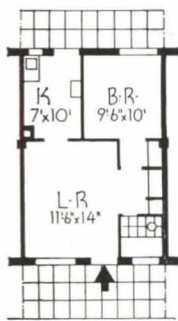
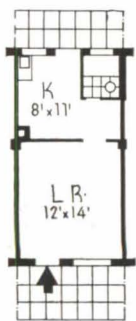
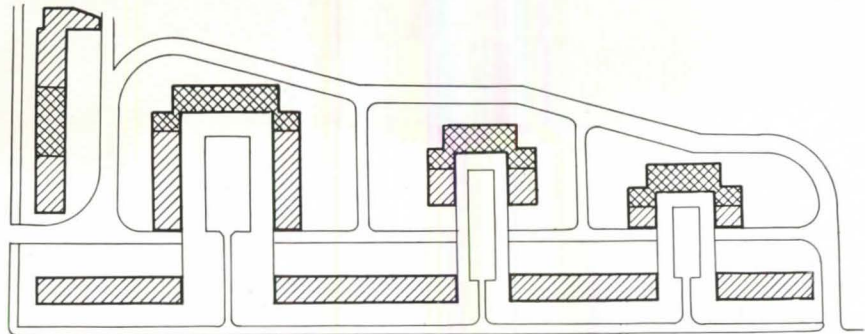
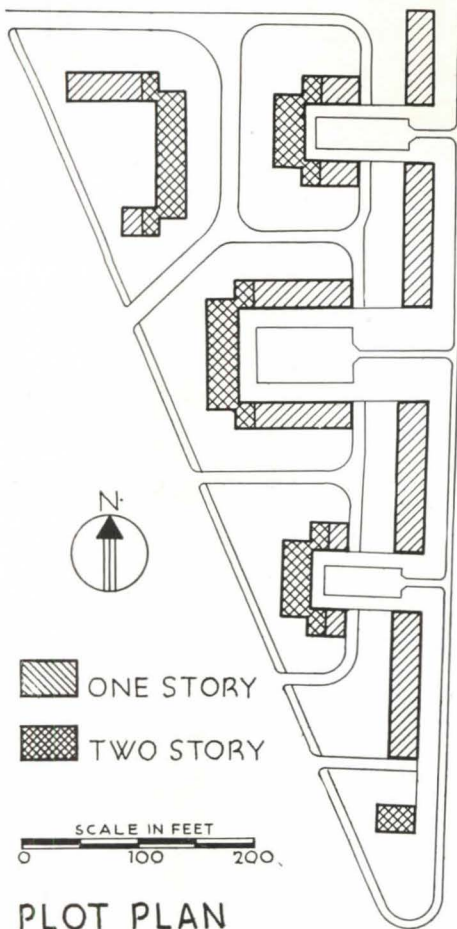
CONSTRUCTION OUTLINE

- FOUNDATIONS**
Footings and walls—reinforced concrete. Waterproofing—integral, emulsified asphalt on inside of concrete block walls.
- STRUCTURE**
Exterior walls—concrete block stuccoed on exterior; interior of block plastered over emulsified asphalt. Interior partitions—metal lath, plaster, hollow tile. Floor construction—reinforced concrete, cement finish, no plaster for ceilings.
- ROOF**
Wood sheathing, rafters, and asbestos shingles, Johns-Manville, Inc.
- SHEET METAL WORK**
Flashing and gutters—copper.
- WINDOWS**
Sash—steel casement with hinged screens, Hope Windows, Inc. Glass—American Window Glass Co.
- STAIRS**
Cement on reinforced concrete, Flour City Ornamental Iron Co.
- FLOORS**
Cement on concrete; tile in bathrooms.
- WOODWORK**
Trim—metal bucks. Interior and exterior doors—wood, A. H. Ramsey & Sons.
- HARDWARE**
Interior and exterior—bronze, Yale & Towne.
- PAINTING**
Interior: Walls and ceilings—1 coat primer, Sherwin-Williams Co., and 2 coats cold water paint, Muralo Co., Inc. Exterior—cold water paint.
- ELECTRICAL INSTALLATION**
Wiring system—conduit.
- PLUMBING**
Fixtures—Grinnell Co.



HOUSING PROJECT, MONTGOMERY, ALA.

MORELAND GRIFFITH SMITH,
ARCHITECT



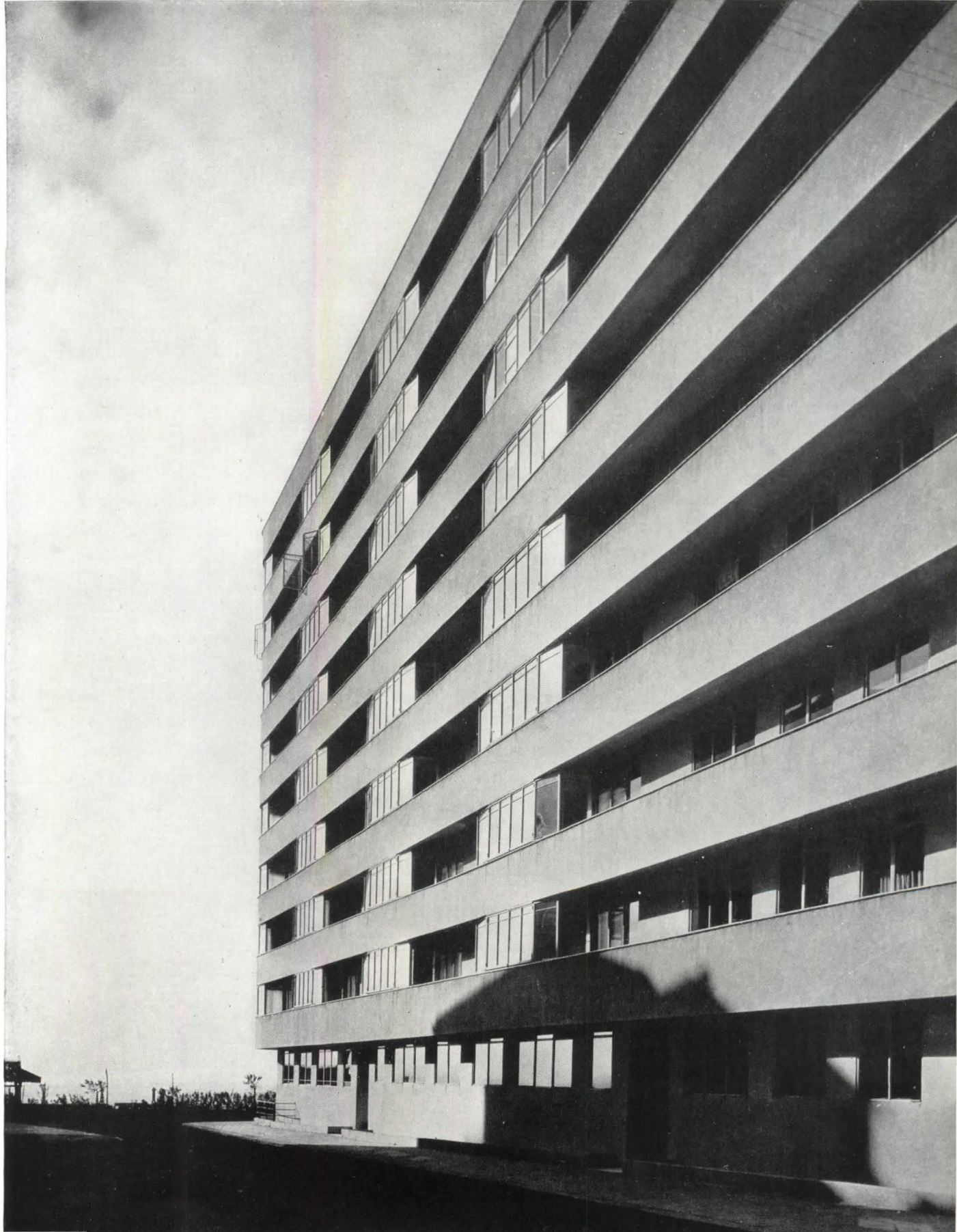
Paterson Courts was the second housing project to be started under PWA. It occupies a plot of irregular shape on the edge of a cheap residential district of Montgomery. The plot was considered desirable as it is well located in relation to schools and places of employment. The occupants of the houses are Negroes and a great many of them are employed as servants. One hundred and fifty-eight units are provided, spread through one- and two-story buildings, which form seven courts. The superiority of this form of housing over the closely crowded shacks usually available to people in this income class is well indicated by the air view at the right.



EMBASSY COURT APARTMENTS, BRIGHTON, **ENGLAND**

WELLS COATES, ARCHITECT

Courtesy, Museum of Modern Art

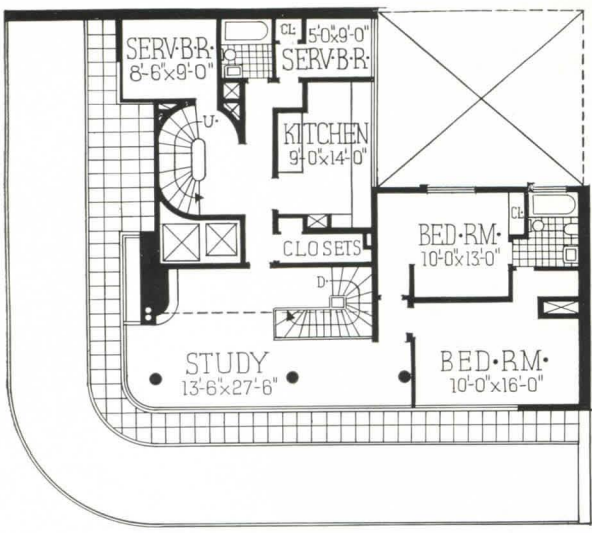


ARGENTINA APARTMENT HOUSE IN BUENOS AIRES



Gomez Photos

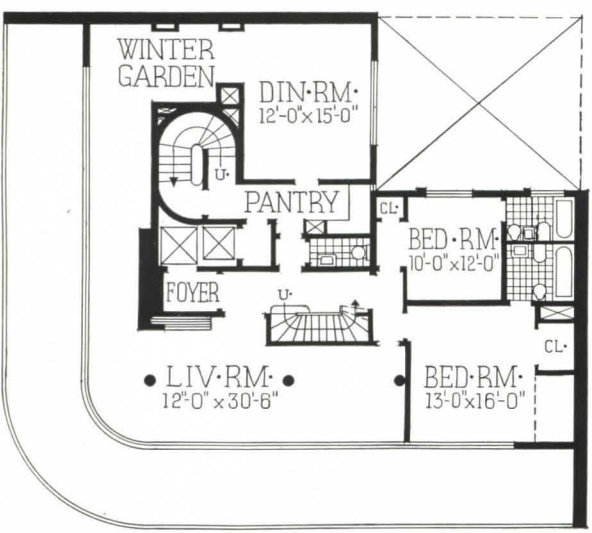
Distinctly a luxury apartment house, this building has one apartment to a floor, and a two-story penthouse. It is of interest to note that it does not represent an isolated example of modern design, but a currently universal trend in Buenos Aires. Modern architecture has received virtually complete acceptance, with the result that very recent work, such as this building, shows great finish and sureness of design. Ample balconies are provided on each floor, and show an interesting relationship to the open plan of the living quarters. Servants' rooms and some of the bedrooms receive daylight only from a rather small light shaft. Of this, however, one need not go beyond our own cities to find much worse examples.



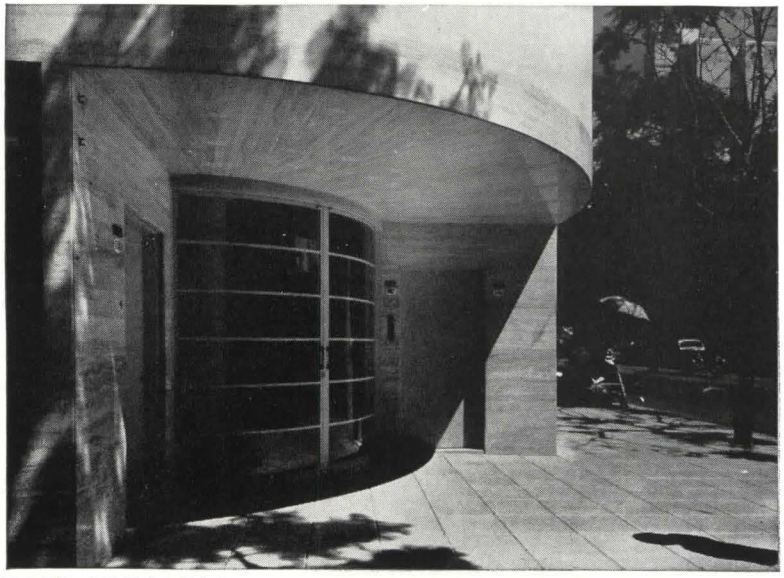
SECOND FLOOR-PENT HOUSE



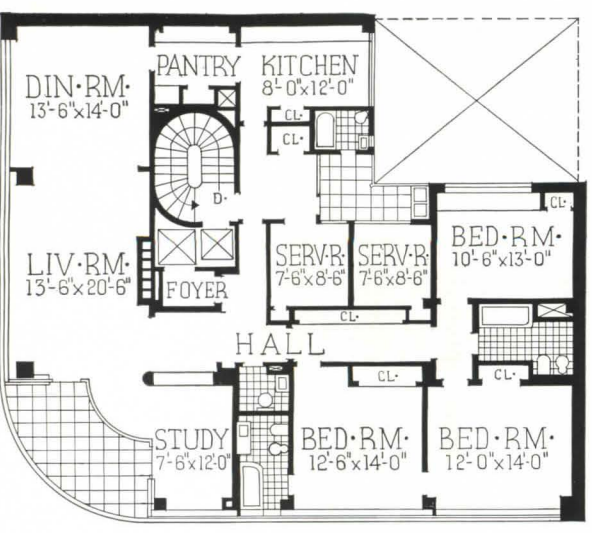
TERRACE



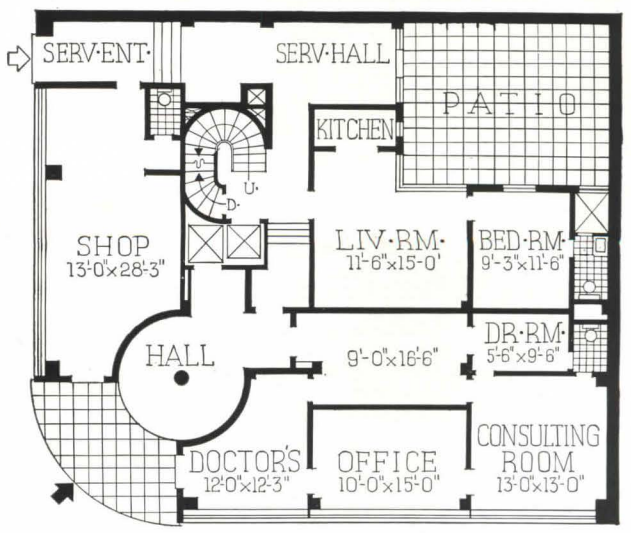
FIRST FLOOR-PENT HOUSE



MAIN ENTRANCE



TYPICAL APARTMENT FLOOR



FIRST FLOOR



SWEDEN, APARTMENT HOUSE IN STOCKHOLM

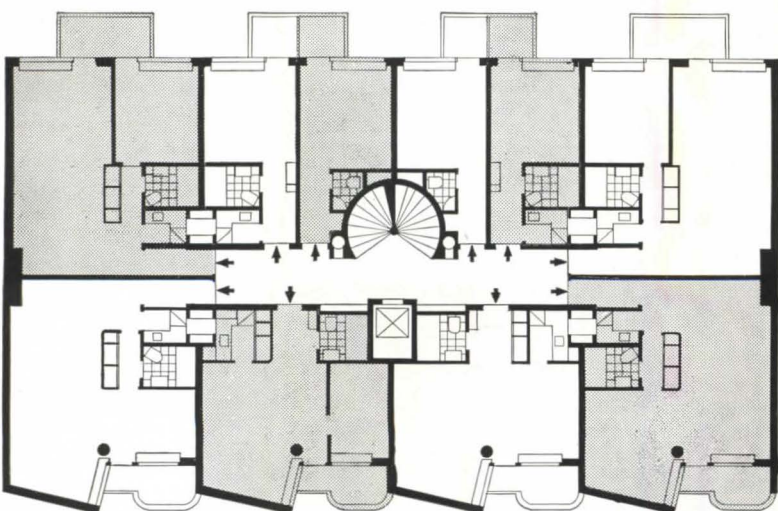


Wahlberg

“Kollektivhuset,” or Collective House, is a communal type of dwelling which, in the words of its distinguished designer, “is the natural outcome of those changes in family life essentially connected with the increasing acquisition of work by women.” (Statistics for 1930 show that at that time 25.1 per cent of all married women in Stockholm were employed.) There is a restaurant which will deliver complete meals by dumbwaiter, a children’s department where children play and study under trained supervision, and where they may sleep when occasion demands it, and all housework, laundering, etc., is done by the staff. Most interesting is the children’s section, certainly a rational solution of the problems of the family in which both father and mother must work. The charge for a child’s board, laundry, and food is about 40 cents a day. In addition



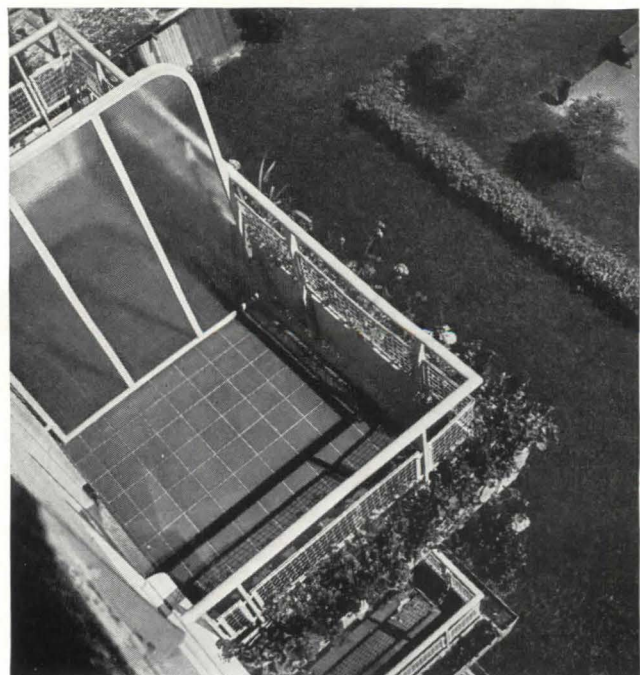
GARDEN SIDE



TYPICAL FLOOR

SCALE IN FEET
0 5 10 15 20 25

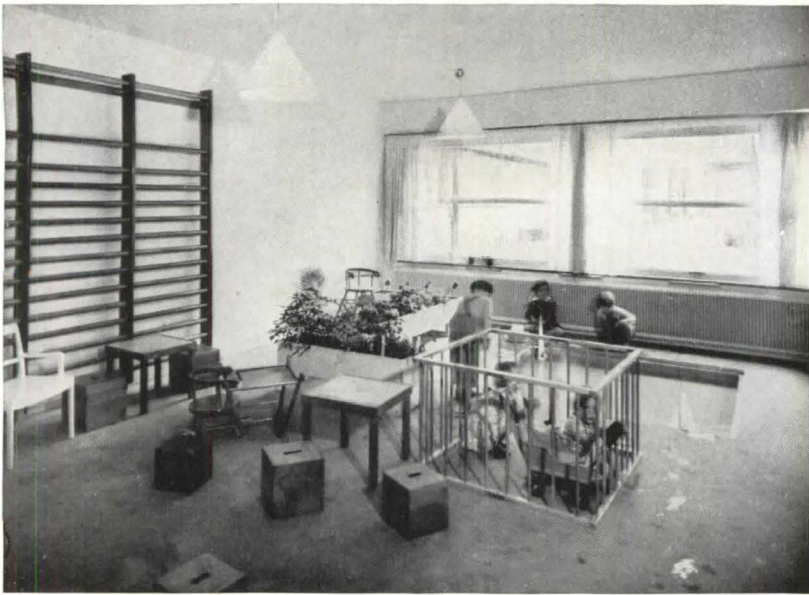
BALCONIES



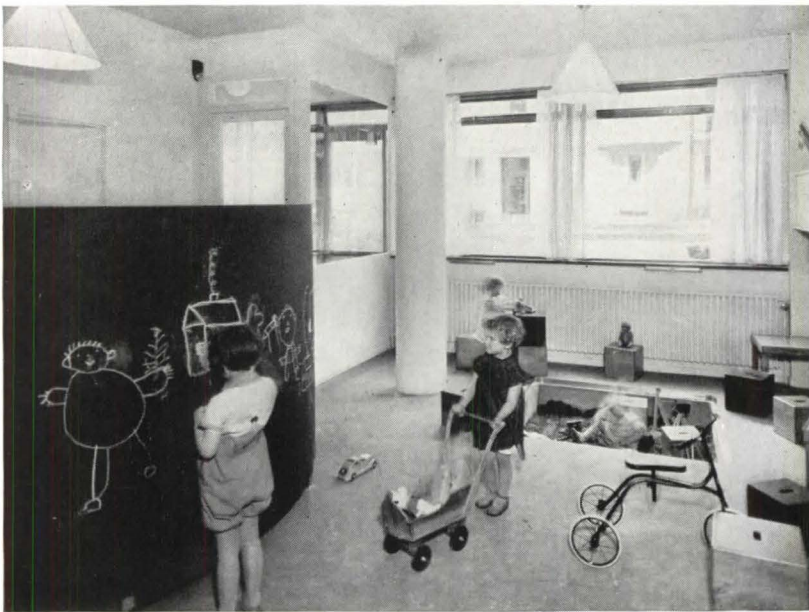
Vera Markelius Photos

APARTMENT HOUSE IN STOCKHOLM, SWEDEN

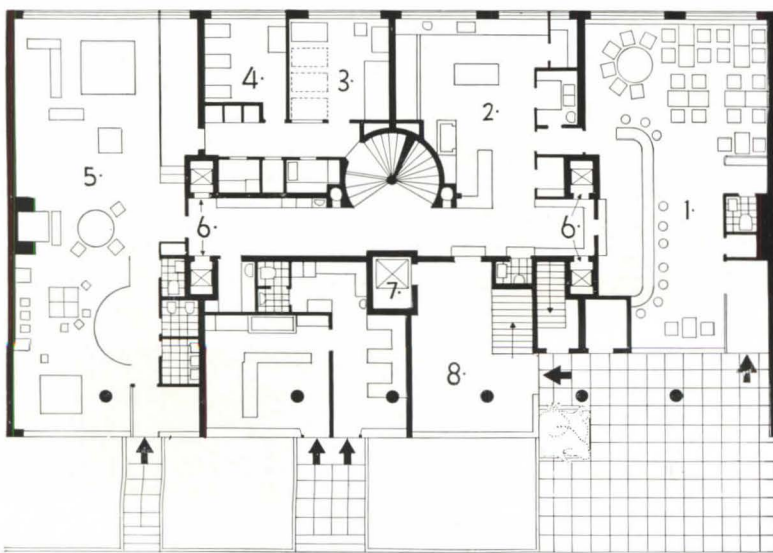
SVEN MARKELIUS, ARCHITECT



NURSERY



Wahlberg Photos



GROUND FLOOR

SCALE IN FEET
0 5 10 15 20 25

to the services enumerated there is also a sick-room on the first floor, together with a dormitory and workroom for children of school age.

The building is a reinforced concrete structure, with mushroom columns used in the bays to avoid projecting beams. Steel is only used for secondary supports, as for the floor slab in the elevator machine room. The form of the street facade was developed to shield the flats and balconies from the neighboring apartments, and to give the living rooms a direct view of Lake Malaren. The building, like so many of the excellent new multifamily houses being erected in Stockholm, was erected by a Tenants' Cooperative Building Society; its cost, at the present rate of exchange, was about \$215,000, which includes approximately \$32,000 for the land. Financing consisted of 10 per cent put up by the tenants, a loan of \$25,000 from the government mortgage bureau, and the remainder, unobtainable from the usual credit sources, was acquired by an arrangement with the builders, in the form of a ten-year amortization scheme.

- 1. RESTAURANT
- 2. KITCHEN
- 3, 4, 5. NURSERY

- 6. DUMBWAITERS
- 7. ELEVATOR
- 8. ENTRANCE LOBBY

HOUSES



N. Richardson

MICHAEL GOODMAN, ARCHITECT

BUILDING COSTS VARY FROM MONTH TO MONTH, FROM TOWN TO TOWN. COSTS QUOTED IN THE FORUM ARE IN ALL CASES SUPPLIED BY THE ARCHITECT, ARE USEFUL AS A RELATIVE GUIDE IN COMPARING ONE HOUSE WITH ANOTHER, BUT IN NO CASE ARE TO BE INTERPRETED AS A LITERAL AND LOCAL CURRENT INDEX.

HOUSE FOR MISS HELEN L. CRANDALL, OAKLAND, CALIF.



Photos, N. Richardson

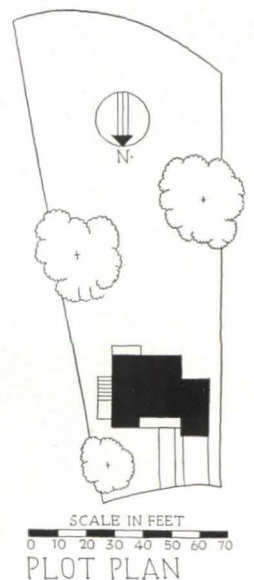
One of the most frequent criticisms of the modern house is that, unless it is located in an urban setting, it is out of keeping with its environment. That form and materials have considerably more bearing on the matter than the less tangible factor called "style" is well borne out by this hillside house whose surroundings are echoed in its use of native redwood. The dark, severe wood box, with its sharp overhangs and white trim, is of a type unfamiliar in the U.S., but common in Scandinavia, particularly Norway.

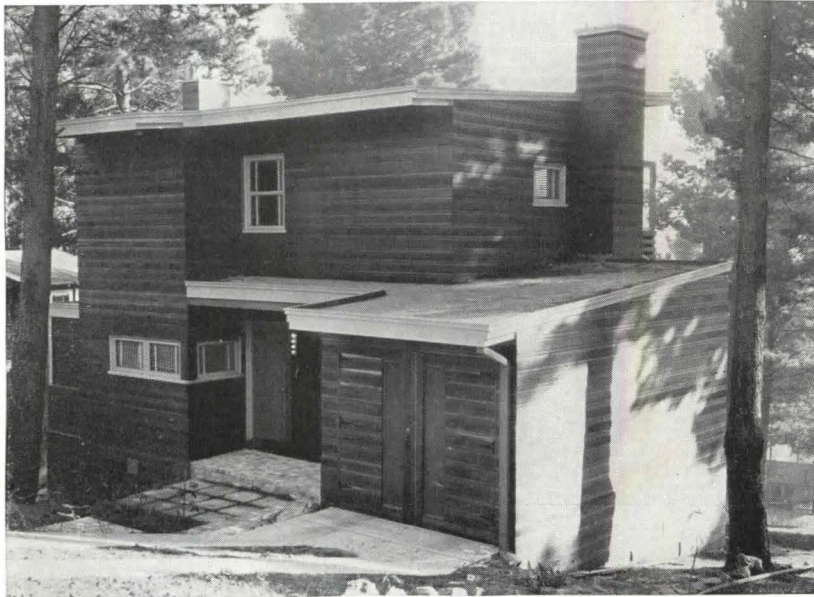
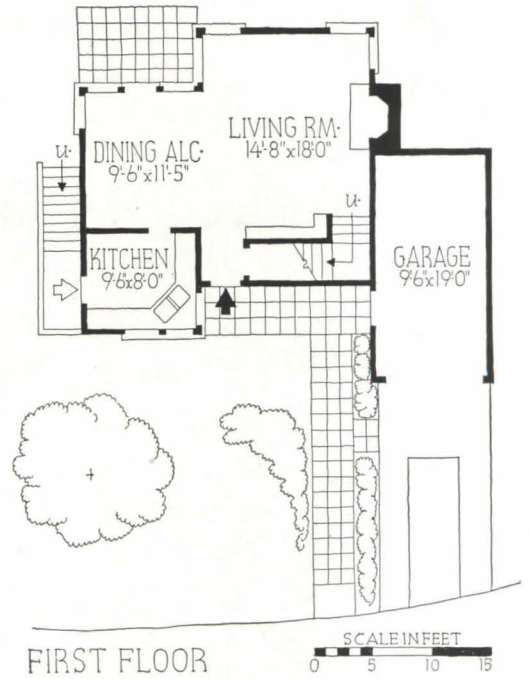
The architect comments: "The redwood boards on the exterior were partly surfaced and partly left rough-sawn. The combined effect is interesting.

"I find that a discriminating client should plan her own kitchen, which I detail later; this one is a particular joy as a consequence.

"The only disadvantage I had was that the client had been made too function-minded and 'deck-conscious' through reading your magazine. For a small house and the inexpensive materials used, the plan is too involved structurally. However all requirements were fulfilled within the budget limits."

Cubage: 10,500. Cost: \$4,100 at 39 cents per cubic foot.





ENTRANCE

LIVING ROOM—DINING ROOM



CONSTRUCTION OUTLINE

STRUCTURE

Exterior walls— $\frac{7}{8}$ in. redwood boards on double-kraft building paper, $\frac{7}{8}$ in. Oregon pine diagonal sheathing and studding. Interior finish—California stucco on metal lath.

ROOF

Construction—Oregon pine wood joist covered with $\frac{3}{8}$ in. sheathing, covered with 4-ply tar and gravel, Paraffine Companies, Inc. Deck construction—T. & G. Oregon pine sheathing on wood joist, covered with 3-ply tar and felt; finish—giant asphalt shingles set in hot tar, Paraffine Companies, Inc.

SHEET METAL WORK

Flashing and leaders—No. 26 Armco galvanized iron, The American Rolling Mill Co. Gutters—redwood.

WINDOWS

Sash—white pine, awning type. Glass—single strength, quality B, Libbey-Owens-Ford Glass Co. Blinds—venetian, National Venetian Blind Co.

FLOORS

Living room, bedrooms and halls—vertical grain Oregon pine. Kitchen and bathrooms—linoleum, Armstrong Cork Products Co.

WOODWORK

Doors: First floor—flush panel, Rezo, The Paine Lumber Co., Ltd. Second floor—single panel.

HARDWARE

Doors—Schlage Lock Co.

PAINTING

All paint material by W. P. Fuller & Co.

ELECTRICAL INSTALLATION

Wiring system—knob and tube. Switches—flush tumbler type. Fixtures—Lumeline, General Electric Co.

KITCHEN EQUIPMENT

Stove—The Tappan Stove Co. Refrigerator—General Electric Co.

BATHROOM EQUIPMENT

All fixtures by Standard Sanitary Manufacturing Co. Seat—C. F. Church Manufacturing Co.

PLUMBING

Pipes: Cold water—wrought iron, A. M. Byers Co. Hot water—streamline copper tubing, Mueller Co. Septic tank.

HEATING

Warm air, gas furnace. Thermostat—electric remote control. Hot water heater—copper tank, Ruud Manufacturing Co.

HOUSE FOR WARD L. BERRY, BRONXVILLE, N. Y.



John Gass Photos

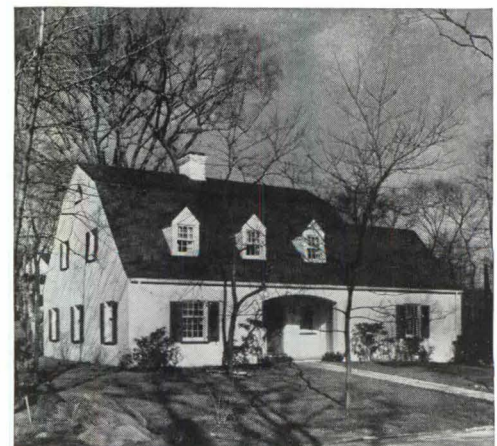


A notably well-organized plan, with the utmost convenience of circulation; the kitchen has direct access to the front door, the maid's room is very well located, and the entrance to the garage has been judiciously incorporated with the arched shelter.

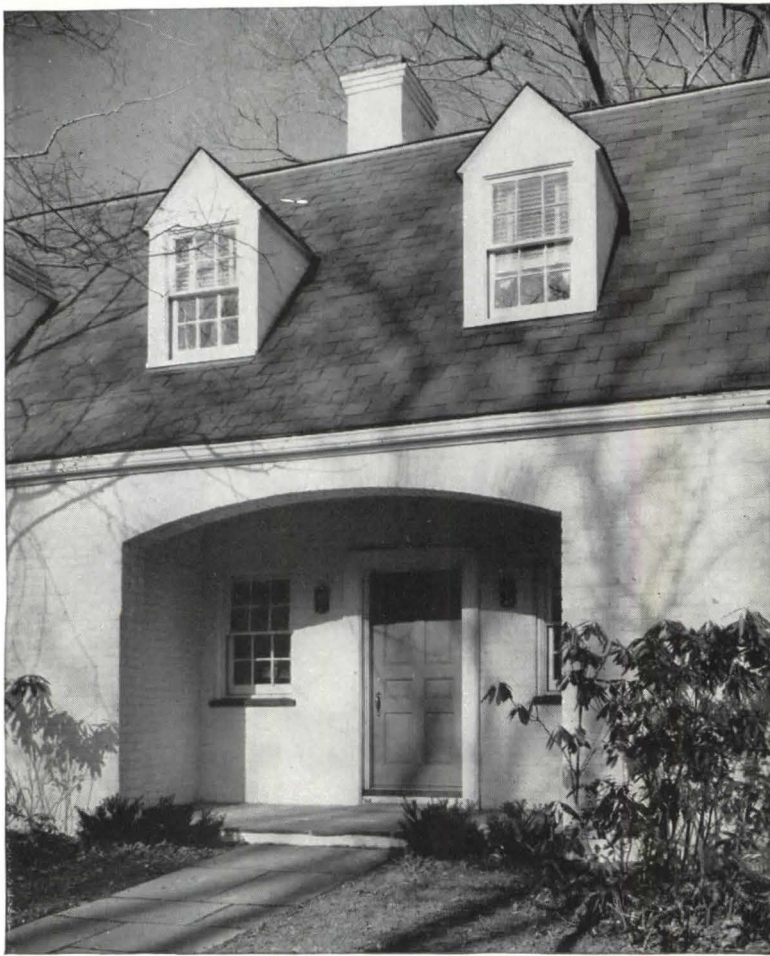
The architect comments: "The owners in seeking privacy in a suburban community, were fortunate in finding a heavily wooded plot of half an acre on a quiet street. Outdoor living space is in the rear, accessible from the dining room. The living room, dining room, and child's room face south.

"The owners were especially pleased with the compactness of the plan, and find the house almost as easy to run as an apartment. The linoleum work counters and floor in the kitchen, the air conditioning system, and the pine-paneled living room have proven particularly satisfactory. The kitchen, however, needs additional ventilation, and a fan will be installed to remedy the situation. The owners also feel now that it was a mistake not to spend the additional amount that would have been required to excavate the entire cellar."

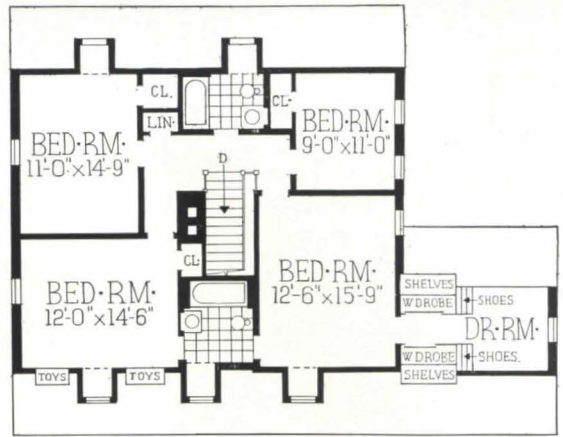
Cubage: 46,000. Cost: \$16,200 at 35 cents per cubic foot.



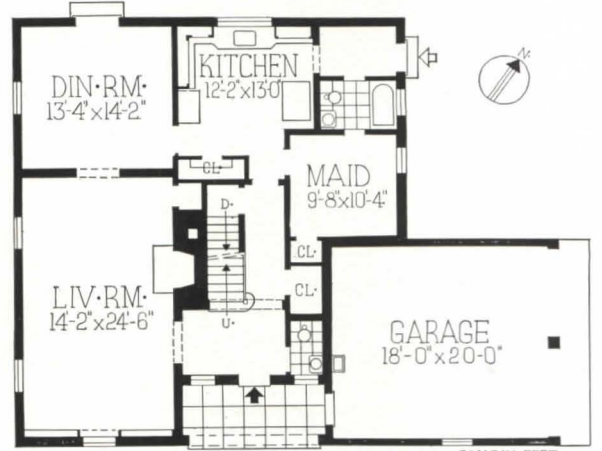
FRONT ELEVATION



ENTRANCE



SECOND FLOOR



FIRST FLOOR

SCALE IN FEET
0 5 10 15



LIVING ROOM

CONSTRUCTION OUTLINE

FOUNDATION

Walls—concrete block. Cellar floor—concrete on cinder fill. Waterproofing—R. I. W. on basement walls, Toch Brothers, Inc.

STRUCTURE

Exterior walls—brick veneer, frame construction.

ROOF

Construction—wood rafters, covered with No. 1 Bangor slate.

CHIMNEY

Terra cotta flue lining. Damper—H. W. Covert Co.

SHEET METAL WORK

Flashing, gutters and leaders—copper.

INSULATION

Outside walls and attic floor—4 in. rock wool. Weather-stripping—zinc interlocking.

WINDOWS

Sash—wood, double hung. Glass— $\frac{1}{8}$ in., double strength, quality A, Libbey-Owens-Ford Glass Co. Screens—bronze mesh.

FLOORS

Living rooms, bedrooms and halls—wood. Kitchen—linoleum covered, Armstrong Cork Products Co. Bathrooms—Tile, Franklin Tile Co.

WALL COVERINGS

Living room—clear Idaho pine. Bedrooms and halls—wallpaper, Richard E. Thibaut, Inc.

HARDWARE

Interior and exterior—Yale & Towne Mfg. Co.

PAINTING

Exterior walls—Bay State cement coating, Devoe & Reynolds Co., Inc.

PLUMBING

All fixtures by Standard Sanitary Manufacturing Co. Water pipes—brass.

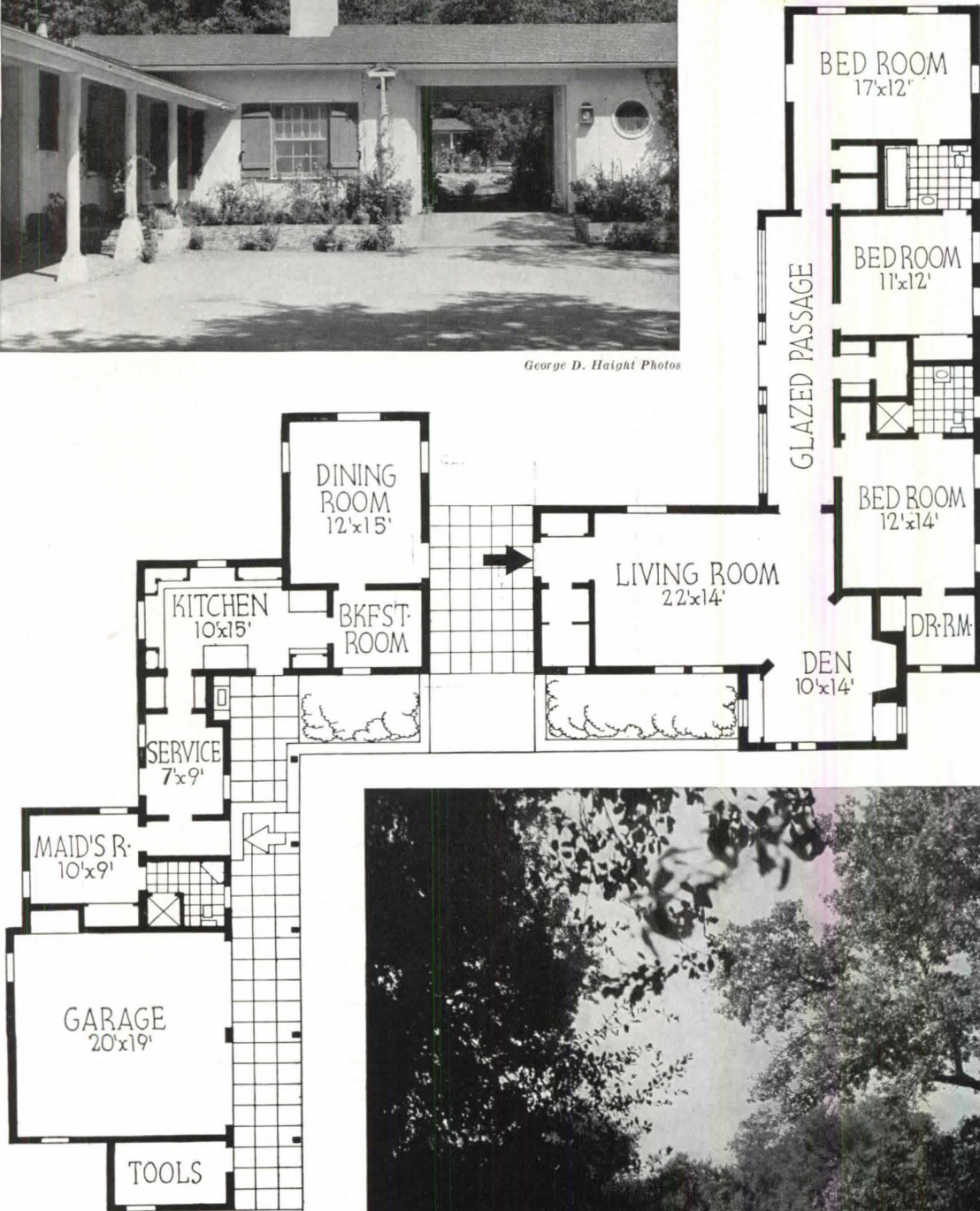
HEATING AND AIR CONDITIONING

Bryant gas fired boiler and air conditioning, The Bryant Electric Co.

HOUSE FOR DAVID WALTER, ARCADIA, CALIF.



George D. Haight Photos



An unusually extended plan provides an almost ideal living arrangement, with all rooms adequately lighted and ventilated. Instead of forming the customary patio, the bedroom wing has been turned in the other direction, thereby providing two outdoor living areas. A maximum of privacy has been obtained by placing the garage, service quarters, and dining room in a separate wing, with access from the living quarters through a covered passage.

The architects comment: "The owner wished the exterior design to suggest a simplified California farmhouse type, with the added refinement that was lacking in these earlier houses. The property is located near the Sierra Madre mountains, and contains many fine old live oak trees; a major problem was designing the house to avoid the trees and to get it in proper relation to them.

"The house is set on a concrete slab and has parquet floors set in mastic. The glazed room shown on the plan is used also as a connecting passage from the living room to the bedrooms."

GLAZED PASSAGE



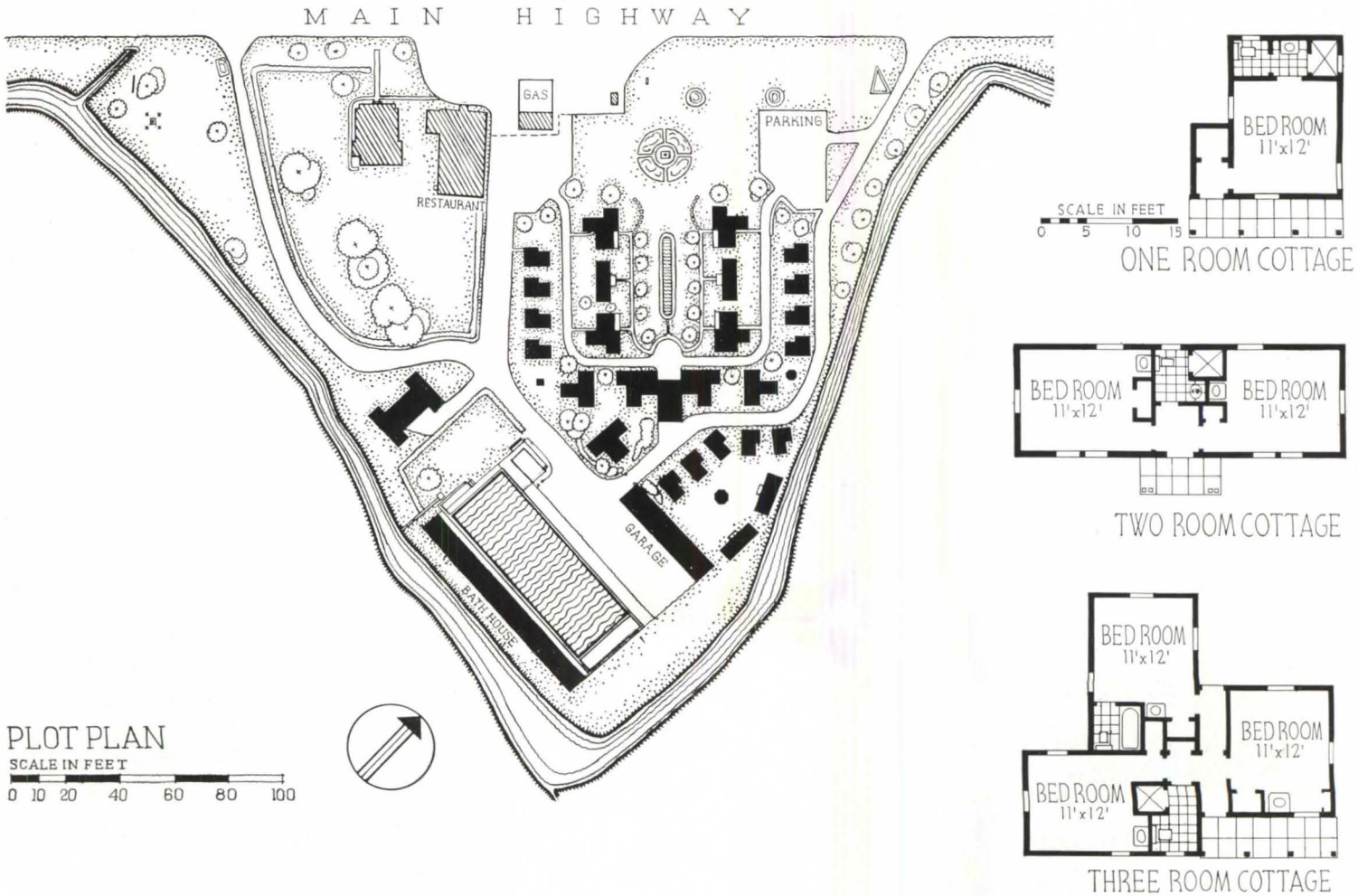
CONSTRUCTION OUTLINE

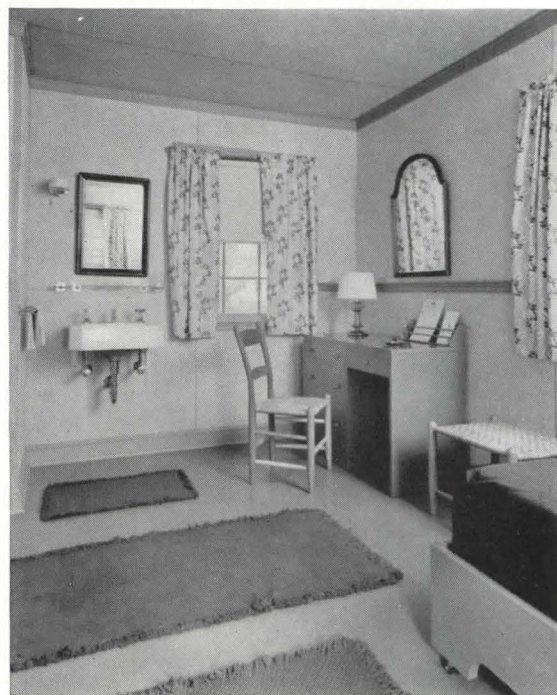
- STRUCTURE**
Exterior walls—common brick veneer, 1 x 12 in. clear Oregon pine vertical boarding; some parts 2-coats monolithic cement plaster over 18 gauge 1 in. mesh. Inside—plaster. Floor construction—concrete slab, reinforced with wire mesh laid on fill, waterproofed, covered with wood block flooring laid in hot mastic, E. L. Bruce Co.
- ROOF**
Construction—2 x 6 in. rafters, covered with sheathing and No. 1 royal cedar, 24 in. shingles, laid 4 to 5 in. to weather.
- SHEET METAL WORK**
Flashing—No. 26 gauge galvanized iron and 2½ lb. sheet lead. Gutters—5 in., ½ round, double beaded.
- INSULATION**
Roof—1 in. blanket of rock wool. Weatherstripping—Chamberlin Metal Weatherstrip Co., Inc.
- WINDOWS**
Sash—wood, double hung and casements. Frame—vertical grain, Oregon pine. Glass—single strength, quality A, Libbey-Owens-Ford Glass Co. Screens—1¾ in. sugar pine covered with wire mesh.
- FLOORS**
Living room, bedrooms and halls—wood block, E. L. Bruce Co. Kitchen and bathrooms—linoleum over concrete slab.
- WOODWORK**
Trim, cabinets and doors—select California white pine.
- HARDWARE**
Interior and exterior—Russell & Erwin Manufacturing Co.
- PAINTING**
Interior: Walls and ceilings—no paint, except in kitchen and bathrooms which have putty coat covered by 3-coats of paint. Trim and sash—5 coats paint. Exterior: Trim and sash—3 coats paint. Walls—1 brush coat. Roof—2 coats creosote shingle stain.
- ELECTRICAL INSTALLATION**
Wiring system—conduit. Switches—General Electric Co.
- KITCHEN EQUIPMENT**
Stove and refrigerator—electric. Sink—Standard Sanitary Manufacturing Co.
- PLUMBING**
All fixtures—Standard Sanitary Manufacturing Co. Pipes: Soil—cast iron. Water—galvanized iron.
- HEATING**
Forced air system, Pacific Manufacturing Co. Hot water heater—No. 50 Superbo, Superbo Manufacturing Co.

TOURIST CAMP, ROANOKE, VIRGINIA



Charles E. Knell Photos





BEDROOMS

The value of the architect from a merchandising point of view has been repeatedly demonstrated in the case of stores, theaters and similar commercial buildings. This tourist camp is an example of his usefulness in a different field. The original camp on this site was a haphazard group of buildings, unattractive and unprofitable. Convinced that there was nothing wrong with a tourist camp as such, the owners decided to build a camp which would have the convenience of a modern hotel plus the advantages of rural surroundings. A comprehensive plan was prepared by the architect, the

first four cottages have been erected, and an existing row has been remodeled. For the cottages a series of basic units was worked out, and various combinations adopted; three of the combinations are shown here. The cottages are admirably simple, and are spaced far enough apart to ensure light and privacy; the interiors are superior to those of the average commercial hotel. The venture has proved sufficiently successful to warrant the erection of the other cottages, and has been widely recognized as a model of its kind. For costs and additional data, see pages 464-465.

ONE-ROOM COTTAGE



CONSTRUCTION OUTLINE

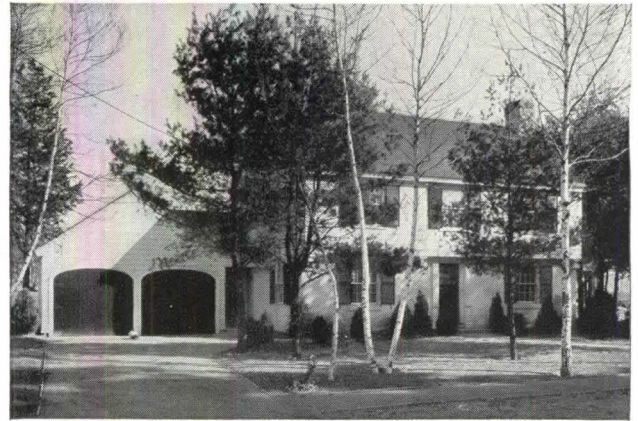
FOUNDATION: Walls—concrete footings, cinder blocks, 8 in. thick.
STRUCTURE: Exterior walls—8 in. bevel siding, building paper, ½ in. Celotex, sheathing, 2 x 4 in. studs, 16 in. o.c. Inside—½ in. Celotex finish, The Celotex Co. Floor construction—2 x 6 in. beams, sub-floor paper, yellow pine flooring. Ceilings—Celotex, The Celotex Co.; 4 in. rockwool insulation, Johns-Manville, Inc.
ROOF: Construction—2 x 6 in. rafters, 7/8 x 6 in. sheathing, paper, covered with standard strip shingles, The Ruberoid Co.
SHEET METAL WORK: Flashing, gutters and leaders—galvanized iron.
WINDOWS: Sash—double hung, wood, weather-stripped, Curtis Companies, Inc. Glass—double strength, quality A.

WOODWORK: Trim, cabinets and doors—white pine, Curtis Companies, Inc.
HARDWARE: Interior and exterior—black, Colonial, P. & F. Corbin.
PAINTING: Interior: Walls and ceilings—left natural. Trim and sash—3 coats semi-gloss finish. Floors—2 coats deck enamel, Benjamin Paint Co.
ELECTRICAL INSTALLATION: Wiring system—3-wire. Switches—Harvey Hubbell, Inc. Fixtures—Lightolier Co.
BATHROOM EQUIPMENT: Lavatory, tub and toilet—Kohler Co. Seat—C. F. Church Mfg. Co. Shower—Speakman Co.
PLUMBING: Soil pipes—cast iron. Vent and water pipes—galvanized iron. Hot water heaters—Westinghouse Electric & Manufacturing Co.

HOUSE FOR EVERETT M. BROOKS, NEWTON, MASS.



Russell B. Harding Photos



LIVING ROOM

ALBERT M. KREIDER, ARCHITECT

This house was designed for a family of three; it displays a familiar plan, and a conservative exterior; not unlike the early houses of the locality. Early American was chosen not only because of the strong Colonial tradition in Massachusetts, but because it forms an appropriate setting for the owner's collection of antique furniture. An unusually large kitchen permits the omission of a pantry, an arrangement found to be most satisfactory. A good feature of the plan is the compact and convenient combination of garage and service entrances.

Cubage: 32,625. Cost: \$10,500 at about 32 cents per cubic foot.

CONSTRUCTION OUTLINE

FOUNDATION: Walls—concrete, continuous. Cellar floor—cement.

STRUCTURE: Exterior walls—shingle exterior, except first floor which has brick veneer. Construction—wood frame, plastered inside.

ROOF: Covered with asphalt shingles, Fuller Lumber Co.

CHIMNEY: Terra cotta flue lining. Damper—H. W. Covert Co.

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

INSULATION: Outside walls and attic floor—rock wool. Weatherstripping—Chamberlain Metal Weatherstrip Co., Inc.

WINDOWS: Wood, double hung, Newton Door & Sash Co. Glass—single thickness, Libbey-Owens-Ford Glass Co.

FLOORS: All rooms—oak, Fuller Lumber Co. Kitchen and bathrooms—covered with linoleum.

WALL COVERINGS: All rooms—wallpaper. Bathrooms—tile dado, painted above.

DOORS: Interior—6-panel Colonial. Exterior—glazed, Morgan Sash & Door Co.

HARDWARE: Interior and exterior—Lockwood Hardware Manufacturing Co.

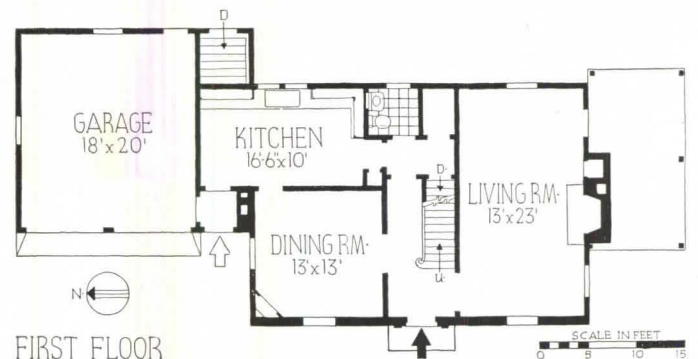
PAINTING: Interior: Ceilings—calcimine. Floors—shellac, wax.

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

KITCHEN AND LAUNDRY EQUIPMENT: Stove and washing machine—electric, General Electric Co. Refrigerator—Frigidaire Sales Corp.

PLUMBING: All fixtures by Kohler Co. Water pipes— $\frac{3}{4}$ in. Anaconda copper, American Brass Co.

HEATING: Steam heat. Boiler—oil fired, Burnham Boiler Corp. Radiators—Burnham Boiler Corp. Valves—Hoffman Specialty Co., Inc.



FIRST FLOOR



SECOND FLOOR

COLUMBIA BROADCASTING STUDIO

WILLIAM LESCAZE, ARCHITECT

The offices and studios of the Columbia Broadcasting Co. in Chicago mark the most recent work done by William Lescaze in this field. Earlier examples of this company's studios have already appeared in previous issues.* In these first remodelings a number of highly ingenious solutions to the numerous mechanical and acoustical problems were worked out; similar features appear in this new studio. The development of standard forms has much to recommend it, chief of which is the fact that any studio or office of the company is immediately recognizable as such. Thus, in the Chicago studio one notes the repetition of the clock, receptionist's desk, control booth, and other features initially used in the New York studios of the company. An advantage

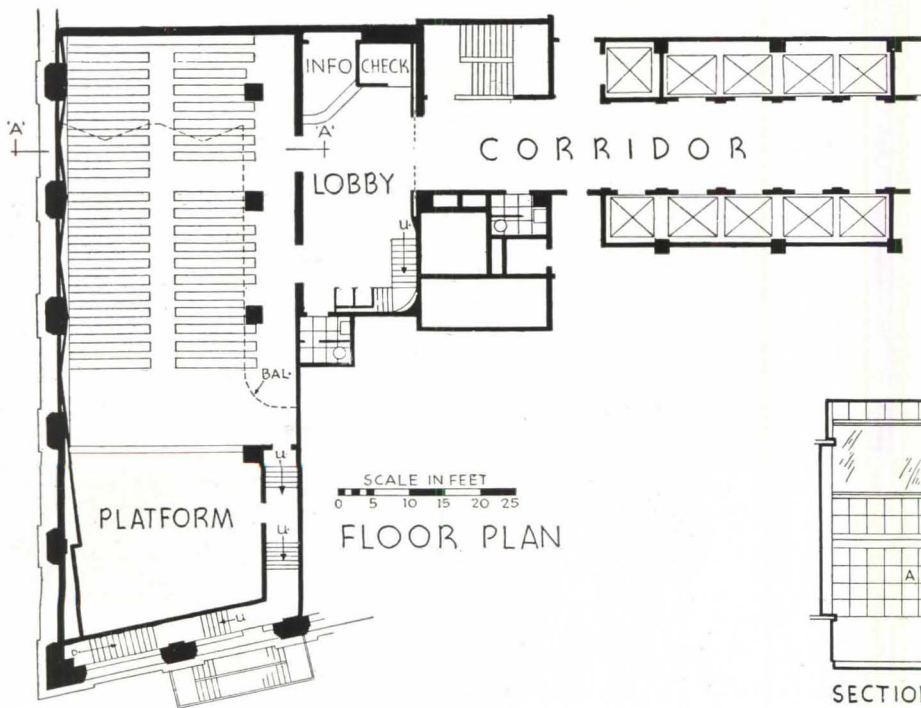
*See issues of August, 1935, June and October, 1936.

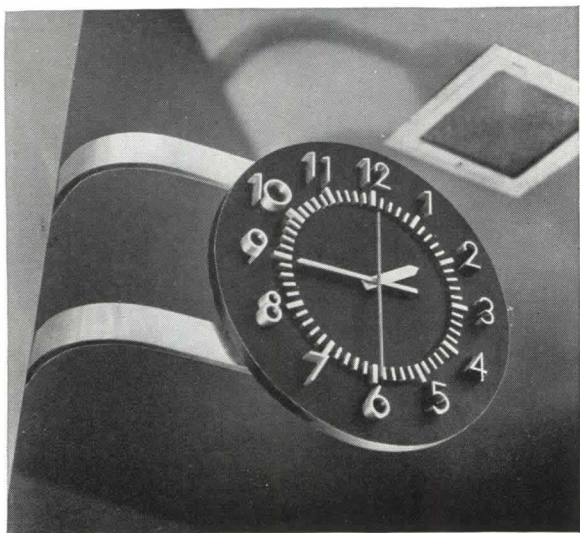


Hedrich-Blessing



Hedrich-Blessing

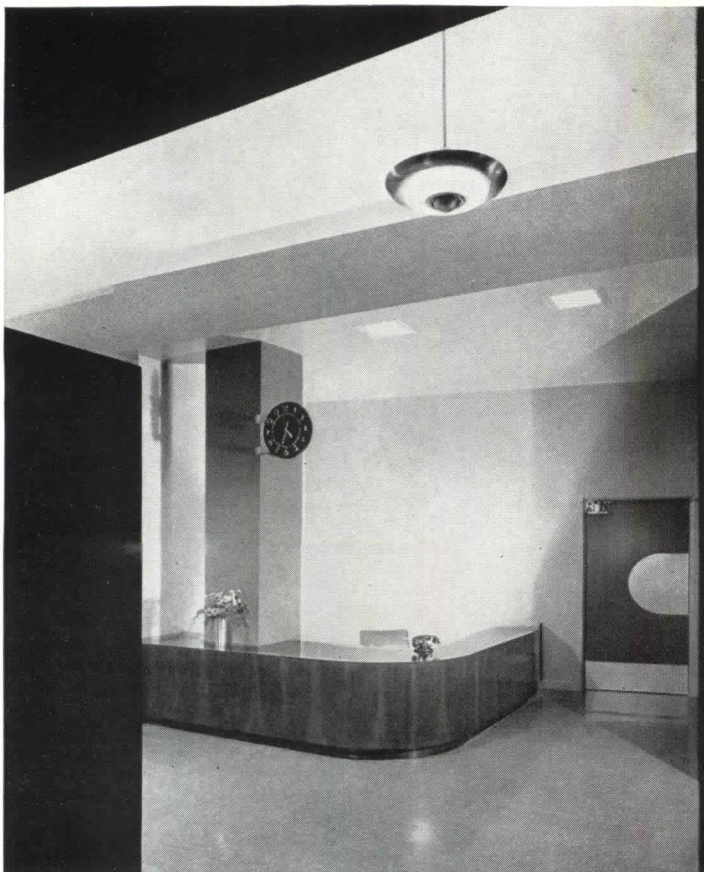




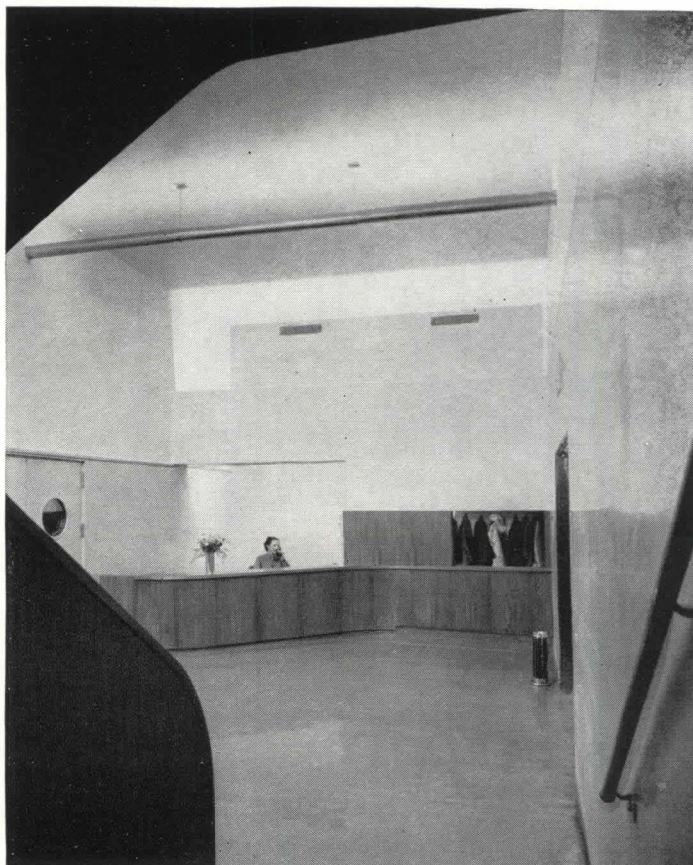
Hedrich-Blessing

which the architect did not have previously, however, is the comparative freedom in planning which was not possible where the work consisted only of revamping a number of existing studios and equipment rooms. One innovation which appears is the corridor in the office space which becomes narrower at its ends, where there is less circulation. Other details of the plan reveal the care given to a practical solution of problems of use and circulation. Easy access to the studios, for instance, is provided for those offices intimately connected with them, and the plan is so arranged that the offices not in use at night may be shut off from those that are. Much of the furniture, such as that in the vice president's office, was designed by the architect.

RECEPTION ROOMS



Hedrich-Blessing

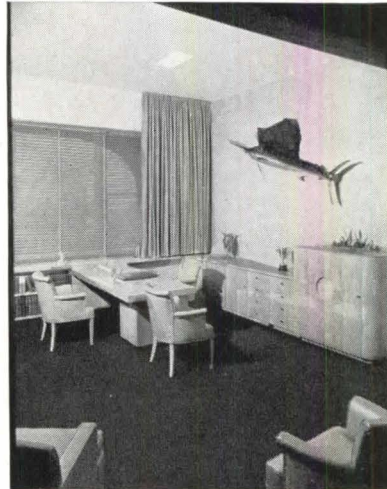


Hedrich-Blessing

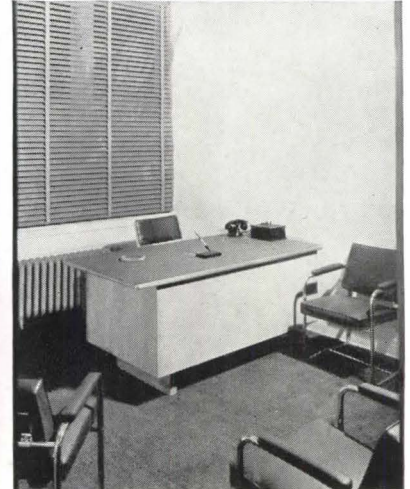


OFFICE OF VICE-PRESIDENT

Hedrich-Blessing



Hedrich-Blessing



OFFICE

Hedrich-Blessing

OFFICE SPACE



Chicago Architectural Photo Co.

CONSTRUCTION OUTLINE

STRUCTURE

Interior partitions—terra cotta in offices and studios.

WINDOWS

Control room windows—double glazed $\frac{1}{2}$ in. and $\frac{1}{4}$ in. polished plate glass set in felt in aluminum frames.

FLOOR COVERINGS

Studios and reception rooms—rubber tile, for sound deadening and ease of maintenance. The Goodyear Tire & Rubber Co., Inc. Private offices—carpets.

WALL COVERINGS

Studios—plaster and Johns-Manville, Inc. perforated Transite. Reception rooms—rubber tile wainscot, The Goodyear Tire & Rubber Co., Inc. Offices—wood paneling in vice-president's office.

WOODWORK

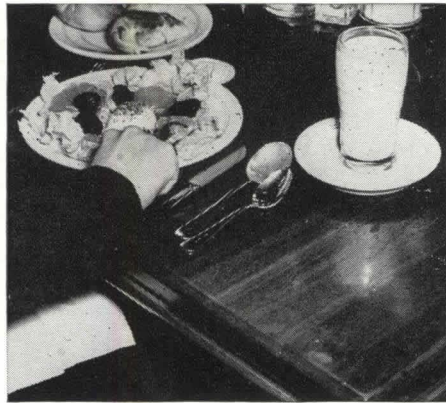
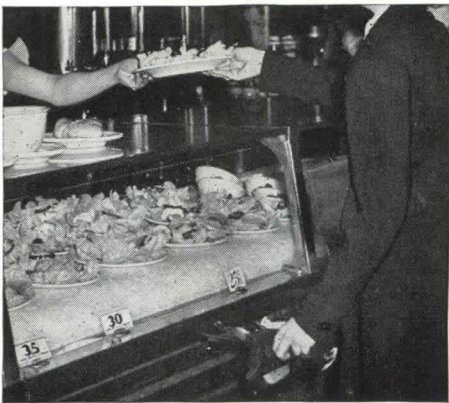
Trim—satin aluminum for control room windows, Alcoa, Aluminum Co. of America. Interior doors—wood, flush veneered and aluminum. Reception rooms—ebony furniture.

HARDWARE

Interior—aluminum push and kick plates on studio doors.

PLANNING TECHNIQUES

FOR NEW AND REMODELED BUILDINGS



Courtesy, Willow Cafeteria, New York. Bernard Hoffman Photos

NO. 3. CAFETERIAS AND LUNCHEONETTES

Started as a means of reducing the cost of serving food in a philanthropic home for working girls, and given the provincial Spanish name for coffee pot, the "cafeteria", or self-service restaurant, has had an interesting and varied history. Sometimes traced to rough and ready ways of serving food developed during the California gold rush in 1849, the cafeteria as we know it today did not appear as a full-fledged commercial venture until about 1900.

Ranging all the way from the Exchange Buffet, dating from 1885, where wealthy stockbrokers get quick noon-day meals on the "honor system," to the industrial cafeteria, such as that established by the U. S. Playing Card Co., in 1905, the appeal of the cafeteria system has always hinged on two almost equally important features: low cost and quick service. As such it has had its main development almost entirely in urban centers, got a big boost from the depression, when many people who formerly patronized only service restaurants switched to the cafeteria because of its relative inexpensiveness.

This movement did not leave the cafeteria unchanged. New patrons demanded, and received, more comfort—better seating facilities, some sense of privacy. Tables

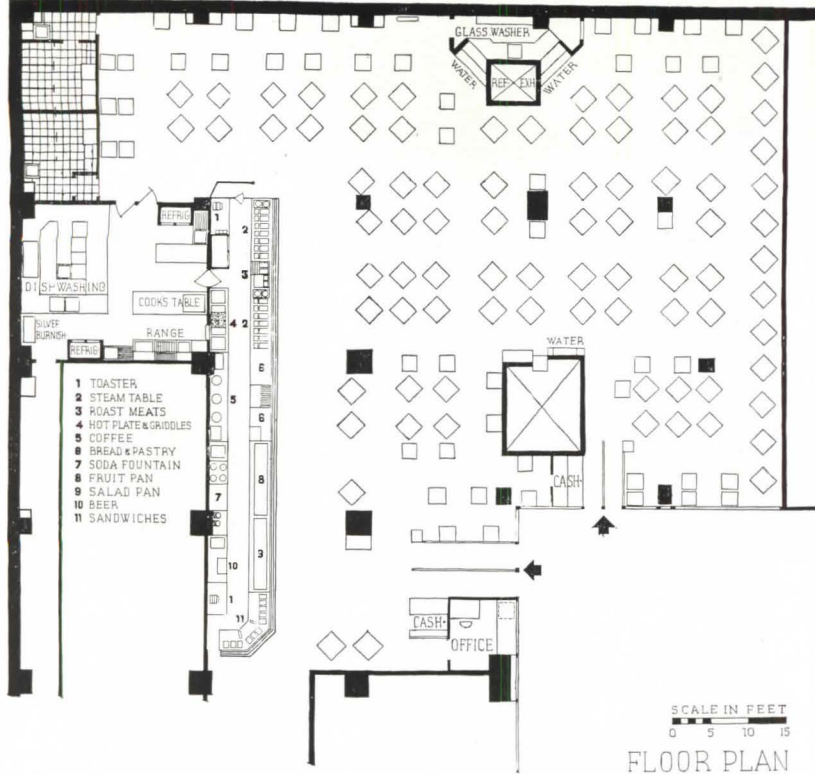
for six were replaced by tables for four and two, revolving doors to keep out drafts adopted, specialties added to the bill of fare, acoustical ceilings and molded-plastic trays employed to cut down noise, air conditioning installed.

Meanwhile the "food tunnel," or passage running the full length of the food counter, was virtually abandoned in some cities in favor of the open counter with checks marked by the individual counter-man for quicker and more satisfactory service. This meant new importance for the counter as a display feature, its relocation in a more prominent position, radical changes in the arrangement and layout of the cafeteria as a whole.

These several factors have combined to make the problem of designing the cafeteria one totally different than it was ten, or even five, years ago. As the appended examples abundantly illustrate, designing the cafeteria of today is a wholly new technique, one in which architects will inevitably play an increasingly important part. No longer the banal air of rococo tilework it once was, the cafeteria shows definite signs that owners are beginning to recognize the cash-value of good design, the necessity of architectural guidance in achieving an attractive, workable result.

Previously published in this series: NO. 1. SERVICE STATIONS, February 1937; NO. 2. SHOE STORES, March 1937.

CAFETERIAS



INTERNATIONAL CAFETERIA
ROCKEFELLER CENTER, NEW YORK
DESIGNER: CONSTRUCTION DEPARTMENT
OF THE UNION NEWS COMPANY

ENTRANCE—CASHIER



The arrangement of the food counter, kitchen and dish-washing space used in this example may be considered typical of the best work where there are no special factors to complicate the layout. Beverage and dessert section is located in the center of the straight-line counter, with steam table at one end (opposite kitchen) and sandwiches at the other. This is done in order to divide the traffic of those wanting cold lunches from those wanting hot food. The food counter is of the latest type, with glass front and shelf to protect food on display and hood extending out over the front of the counter. Provision for glass washing behind the two water fixtures is unusual, and has the advantage that this operation is kept out of the kitchen and closest to the point where the glasses are needed. Separate service entrance to the kitchen is provided by the passage at the extreme left of the plan. Note especially the large dining area, with two entrances and cash counters, evidence of volume business. Within the dining area, the use of four seat tables placed diagonally is almost universal, in line with current practice. Attractively furnished and simply and effectively lit and decorated, this example is prime evidence of the cafeteria's coming of age.



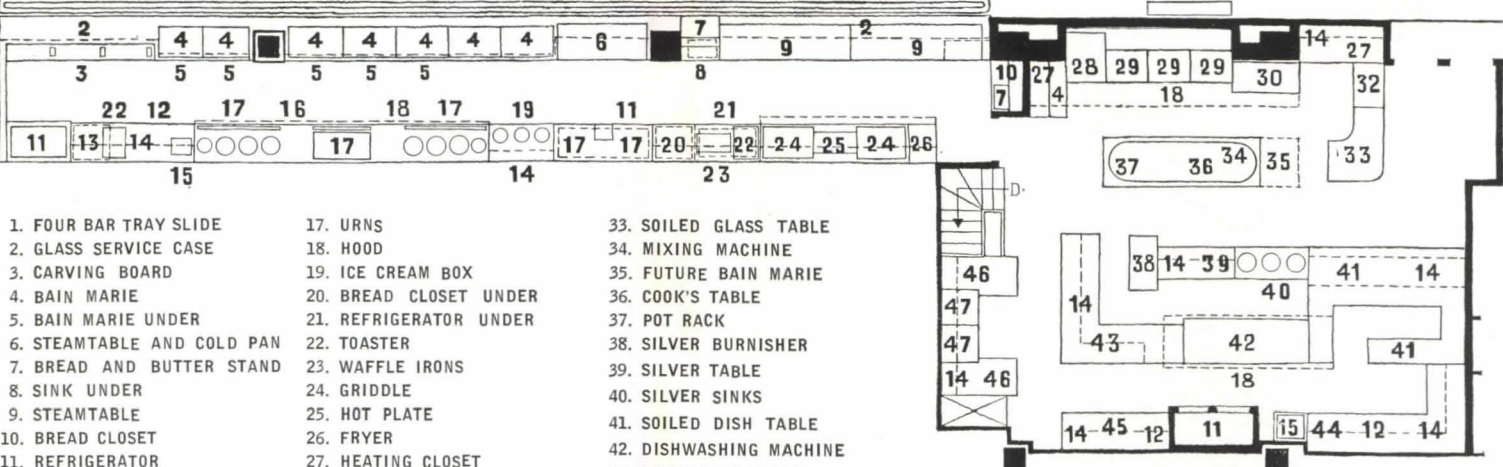
Cambon Studios

COUNTER



PLANNING TECHNIQUES NO. 3.

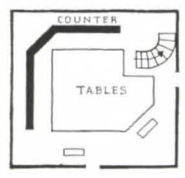
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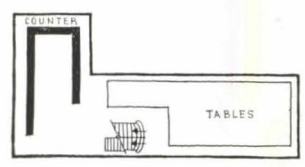
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|----------------------------|---------------------------|-------------------------|
| 1. FOUR BAR TRAY SLIDE | 17. URNS | 33. SOILED GLASS TABLE |
| 2. GLASS SERVICE CASE | 18. HOOD | 34. MIXING MACHINE |
| 3. CARVING BOARD | 19. ICE CREAM BOX | 35. FUTURE BAIN MARIE |
| 4. BAIN MARIE | 20. BREAD CLOSET UNDER | 36. COOK'S TABLE |
| 5. BAIN MARIE UNDER | 21. REFRIGERATOR UNDER | 37. POT RACK |
| 6. STEAMTABLE AND COLD PAN | 22. TOASTER | 38. SILVER BURNISHER |
| 7. BREAD AND BUTTER STAND | 23. WAFFLE IRONS | 39. SILVER TABLE |
| 8. SINK UNDER | 24. GRIDDLE | 40. SILVER SINKS |
| 9. STEAMTABLE | 25. HOT PLATE | 41. SOILED DISH TABLE |
| 10. BREAD CLOSET | 26. FRYER | 42. DISHWASHING MACHINE |
| 11. REFRIGERATOR | 27. HEATING CLOSET | 43. CLEAN DISH TABLE |
| 12. TABLE | 28. BROILER | 44. BREAD SLICER |
| 13. BREAD CLOSET UNDER | 29. RANGES AND SHELVES | 45. MEAT SLICER |
| 14. SHELF | 30. STOVE | 46. DRAIN BOARDS |
| 15. SINK | 31. CLEAN GLASS TABLE | 47. POT SINKS |
| 16. URN STAND | 32. GLASS WASHING MACHINE | |

Planned by Louis Allen Abramson, Archt.

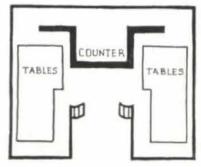
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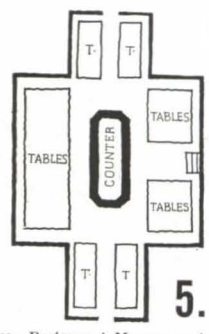
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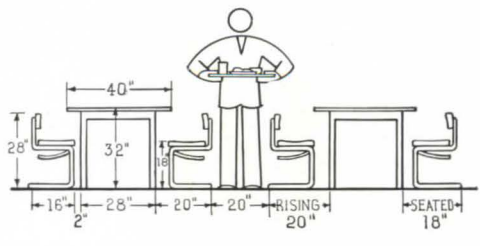
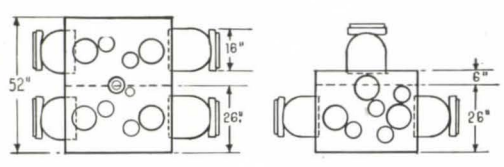


4.



5.

Courtesy Restaurant Management



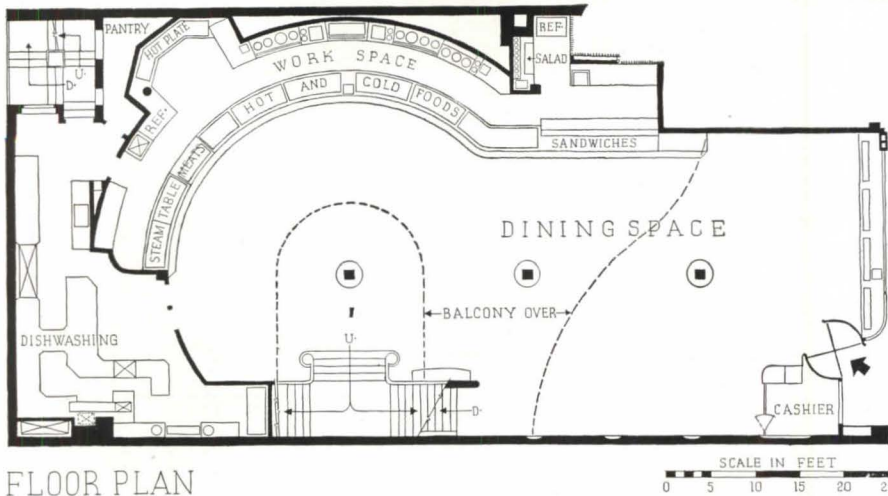
Shown above are various cafeteria food-counter shapes. Experts in cafeteria planning emphasize the importance of employing the straight-line counter (1) wherever space permits, pointing to serious disadvantages common to the other shapes. Biggest disadvantage of the L-shaped or right-angle counter (2) is its tendency to create a pocket which may be hard for the customer with a loaded tray to get out of during rush hour periods. The U-shaped counter, with the customer's side the inside of the U (3), is even worse in this respect, while the outside U (4) has the disadvantage that each side of the counter must be equipped with the same food, if the patron is not to be extremely inconvenienced. The circular counter (5) has the same disadvantage as the outside U, and emphasizes another disadvantage common to both, the lack of adequate "back yard" space. Where, because of insufficient or improperly shaped space, the right-angle counter or one of its variants must be employed, it is important to round the corner and to locate at this point a type of food which the customer can pick up quickly, in order that jamming may as far as possible be avoided.

Details of the typical cafeteria table are shown at the left. As has already been suggested, tables for four are the type most generally used in cafeteria work; use of tables for two being generally confined to the sidewalls if they are used at all. This—in spite of the fact that people usually come to cafeterias alone or in couples—because of the higher efficiency of the four-seat table and because the extra seats when available are the best place for parcels and men's overcoats.

CAFETERIAS

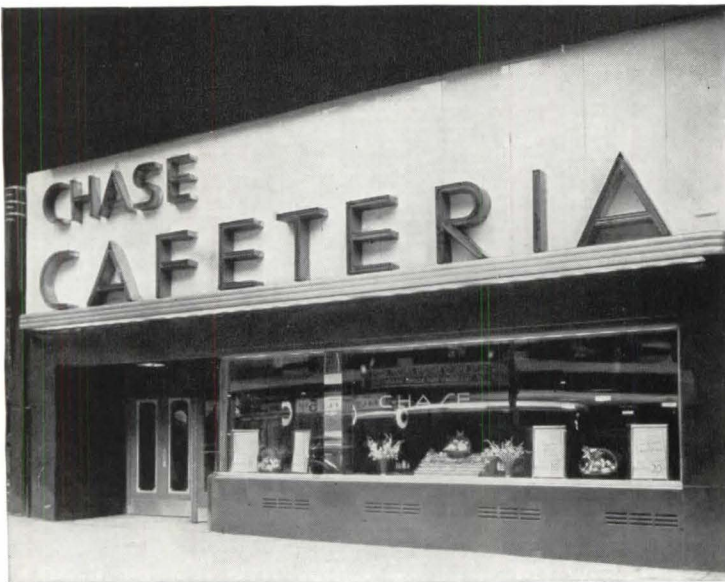
CHASE CAFETERIA, NEW YORK CITY

LOUIS ALLEN ABRAMSON, ARCHITECT



FLOOR PLAN

Here the disadvantages of the L-shaped food counter referred to on the preceding page have been expertly avoided by the use of a sweeping curve, and desirable separation of the food counter from the dining area partially achieved. Salad preparation has been separated from the main kitchen and located directly behind the sandwich counter, dishwashing carefully segregated from food preparation. Stairs to the balcony dining area are advantageously placed to encourage second floor dining and the balcony itself shaped in such a way as to appear an integral part of the room as a whole.



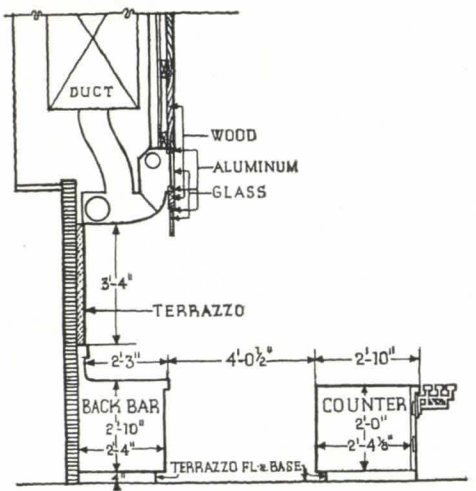
Photos, Henri H. Davis



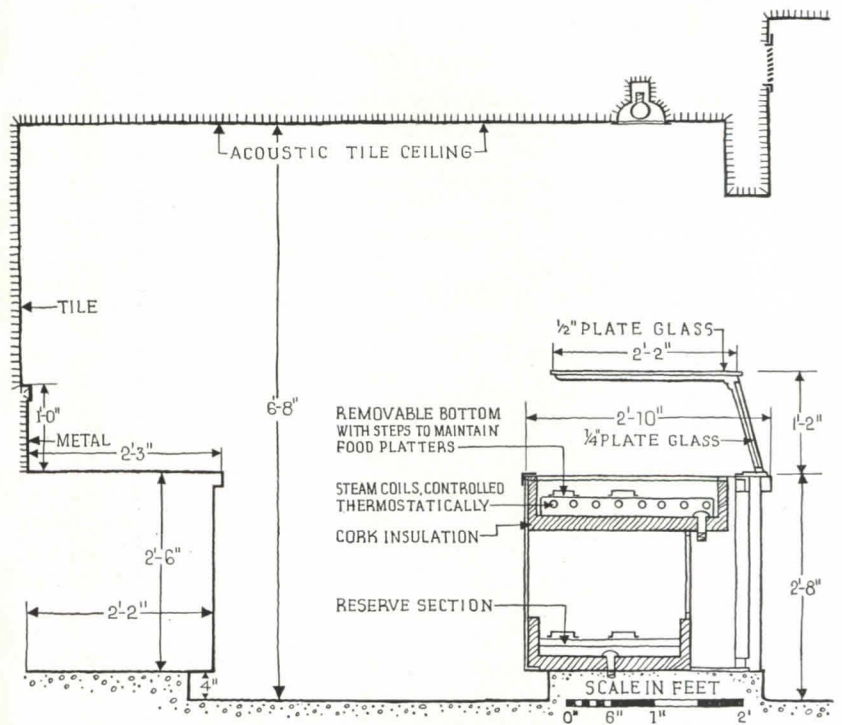
BALCONY

FINISHES AND EQUIPMENT

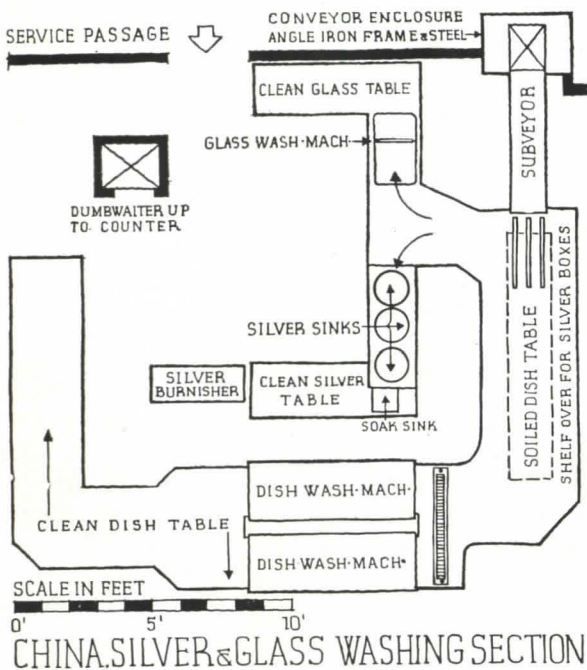
Main floor: terrazzo, mezzanine: Accotile (Armstrong Cork Products Co.). Wall finish: Tekko (Fredrick Blank Co.) and Masland Duraleather. Pantry doors Formica. Food counter, top: 18-8 stainless steel (U. S. Steel Corp.), front: plywood covered with Masland Duraleather. Water fixture: stainless steel, nickel silver, and structural glass (Pittsburgh Plate Glass Co.). Soiled dishes conveyed from mezzanine to pantry by Subveyor (F. W. Heath). Chairs: wood with pad seats and backs (Thonet Bros.). Kitchen equipment: Galvanized iron. Store front: porcelain enamel.



TYPICAL SERVICE COUNTER SECTION.



SECTION - HOOD & COMBINATION STEAM TABLE & COLD PAN



CHINA, SILVER & GLASS WASHING SECTION

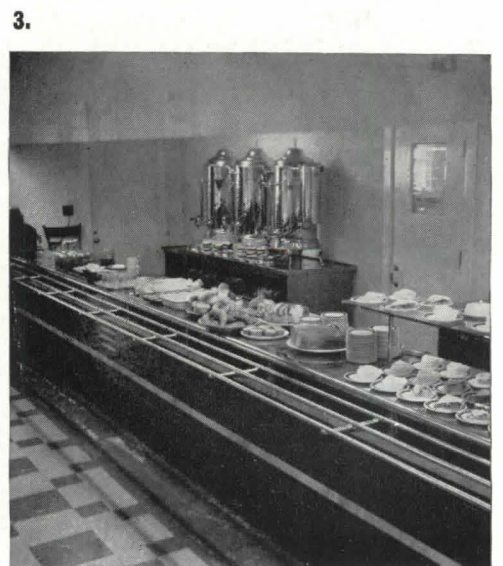
Shown above in drawing form, and illustrated photographically at the bottom of the page, are various types of food-counters in current use. At the left is a section through a low, open type of counter, with hood over back-counter only. This type of counter is gradually being replaced by the higher counter with glass front and shelf to protect food displays, illustrated by the drawing on the right (photo 1). Here the hood extends over the front of the food counter and recessed lighting fixtures spotlight the food display. The particular design shown in the drawing above embodies a special development of Architect Louis Abramson, a steam table so made that it can be converted during the summer season into a section for chilled salads, etc., by lifting out the pans and filling the space beneath with ice. At the left is a plan showing the ideal layout for a china, silver and glass washing section. Photo 2 shows hood over back bar only. Photo 3 illustrates an open food counter.



CONSTRUCTION DEPT., UNION NEWS CO.

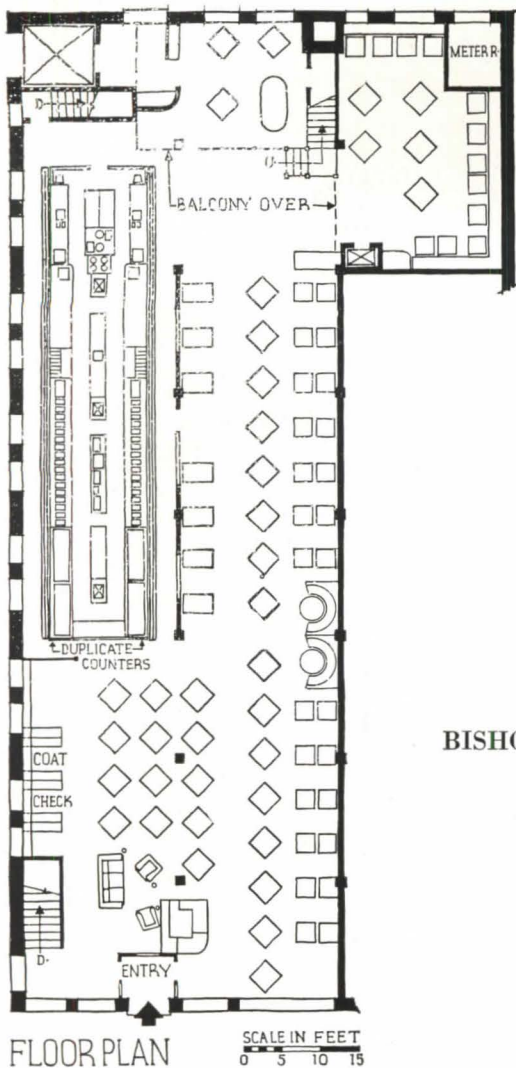


LOUIS ALLEN ABRAMSON, ARCHT.



THE GRACE E. SMITH RESTAURANT, TOLEDO

CAFETERIAS



FLOOR PLAN

SCALE IN FEET
0 5 10 15



BISHOPS CAFETERIA, DES MOINES, IOWA

PROUDFOOT-RAWSON BROOKS AND BORG, ARCHITECTS

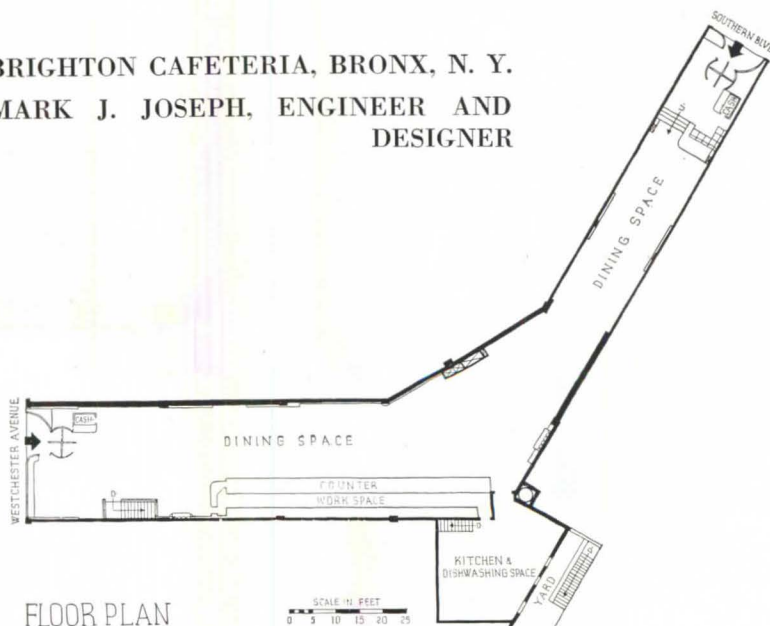
A modern version of the old-style cafeteria in which the customer must pass the entire length of the food counter and obtain his check at the far end. The screen between the food counter and the dining space is here employed primarily to divide the two and route traffic during rush hours, has an opening midway in its length for special entrance. The novel device of two complete food counters is used in order to handle a greater volume of business. From the kitchen, which is located in the basement, three dumbwaiters placed at strategic points in relation to the food counter and the kitchen equipment carry prepared food to the dining room level. Soiled dishes are returned to the kitchen level on a subveyor located near the center of the dining area. The Brighton Cafeteria, shown below, has the regular, open, straightline food counter. An irregular, elongated space has here been utilized to maximum advantage. The kitchen and dish-washing space is favorably located at the end of the food counter and near the center of the dining area.

BRIGHTON CAFETERIA, BRONX, N. Y.

MARK J. JOSEPH, ENGINEER AND DESIGNER

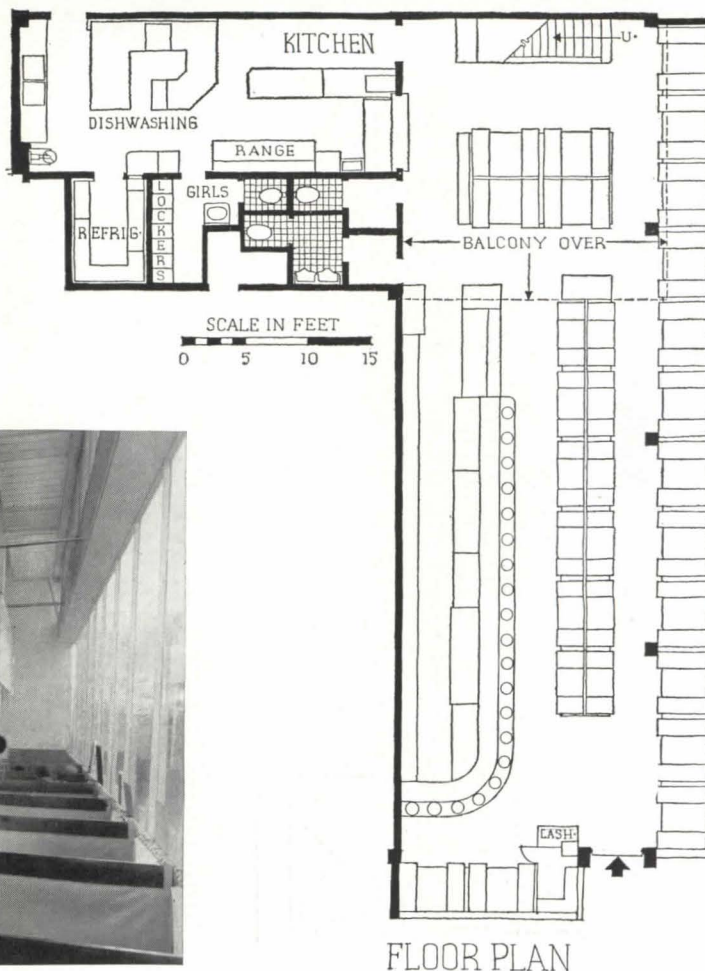


R. M. Damora



FLOOR PLAN

SCALE IN FEET
0 5 10 15 20 25



COCO TREE CAFE, HOLLYWOOD, CALIFORNIA

RICHARD J. NEUTRA, ARCHITECT
G. AIN, COLLABORATOR

Located on a busy corner in the very center of town, this luncheonette and restaurant was planned to make the most of the display possibilities of the extremely wide street frontage. Conceived as a "glass partitioned sidewalk cafe," with booths along the sidewalk and entire length of counter plainly visible from the street, it was designed to handle an extensive quick-lunch business at noon. Furnishings and equipment throughout have been carried out with the architect's customary scrupulous attention to detail and eye for final simplicity of effect.

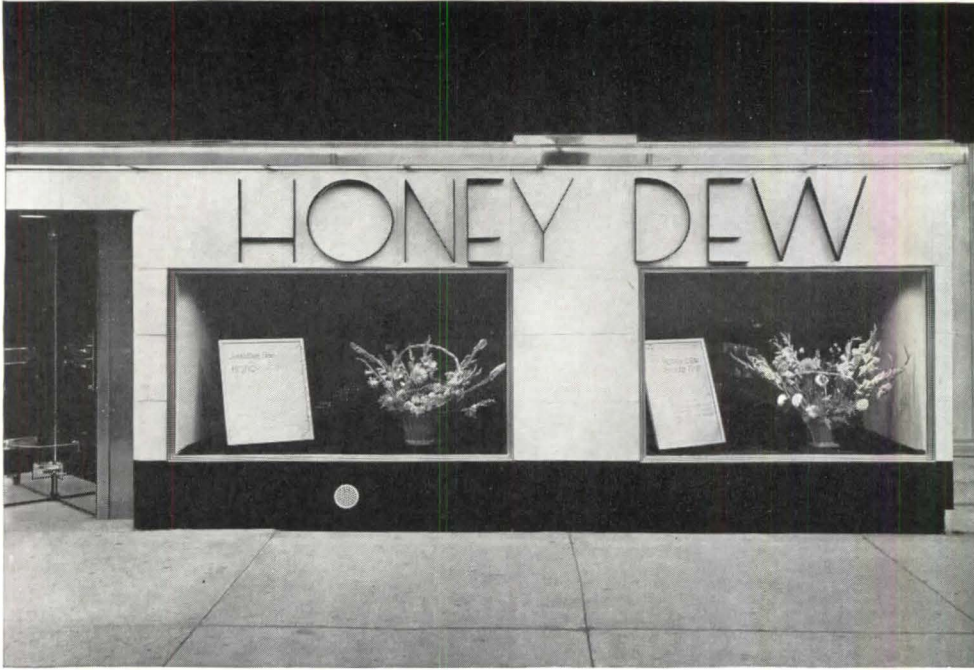
FINISHES AND EQUIPMENT

Floors: Rose marble chip terrazzo with cove base, aluminum division strips, balcony floor and stairs: battleship linoleum. Wall finish, wainscot: Masonite Presdwood; walls Sanitas and washable oil paint. Ceiling: acoustical plaster. Counter: stainless steel front (U. S. Steel Corp.), top linoleum. Backcounter as uninterrupted sliding plate glass front. Water fixture: stainless steel. Tables and Chairs: Wood booths with chromium plated legs, aluminum bound linoleum table tops; seats with reversible removable Fabricoid covered cushions and backs; exposed woodwork mahogany-chocolate stained poplar. Chromium plated brass tubing hat and coat racks attached to booths. Store front: 18 Ga. Stainless steel (U. S. Steel Corp.) bulkhead facing; Libbey-Owens plate glass; chromium plated brass awning box with 8 oz. duck awning aluminum coated on outside for heat reflection. Exterior lighting and decoration, neon tubes.

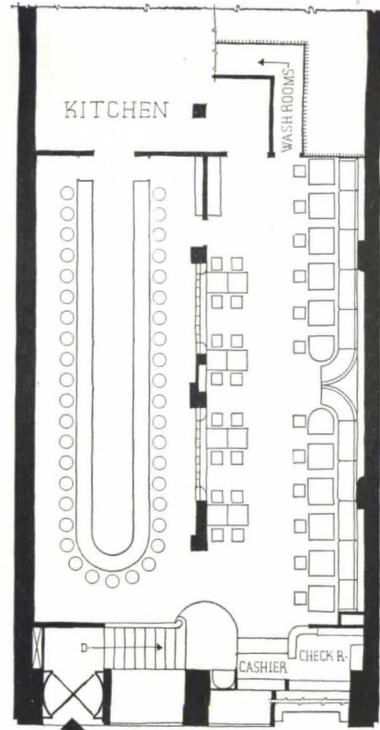


VIEW FROM BALCONY

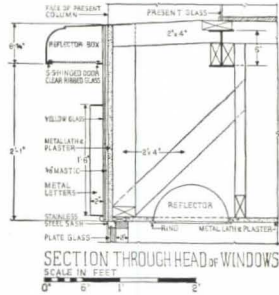
LUNCHEONETTES



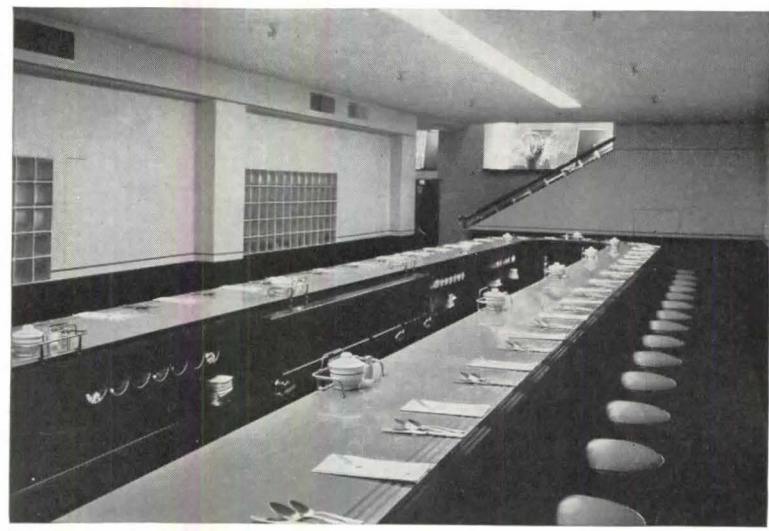
Pringle & Booth Photos



FLOOR PLAN SCALE IN FEET 0 5 10 15



HONEY DEW RESTAURANT
 TORONTO, CANADA
 PIOSO-PETERSON & ASSOCIATES
 ARCHITECTS

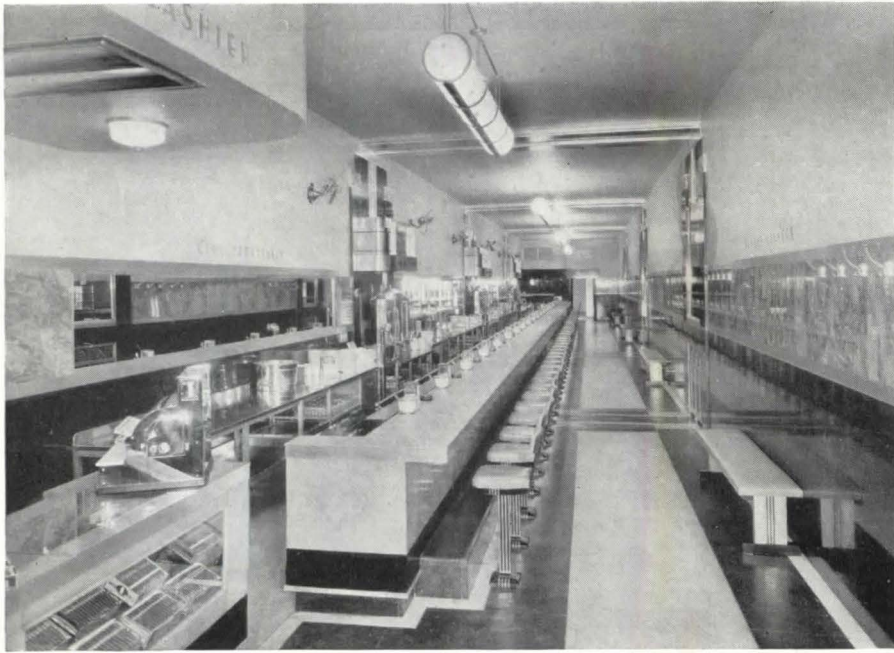


LUNCHEONETTE

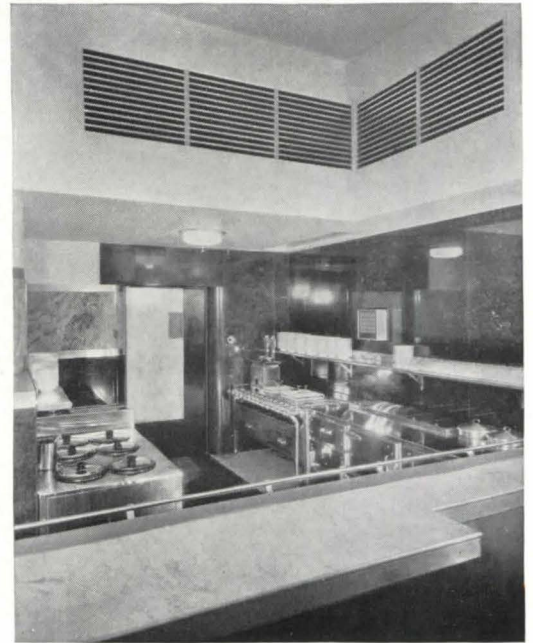


TABLE SERVICE

Located on the basement level, this combined luncheonette and service restaurant is simply and effectively planned. Complete separation of the luncheonette from the service section is effected by dividing the dining area along the line of the structural columns, a kitchen serving both being placed across the back. In the luncheonette section, a long U-shaped counter gives the maximum number of seats with minimum serving-space length. The decorative scheme is commendably restrained, depending largely on attractive furniture and a single photomural for effect.

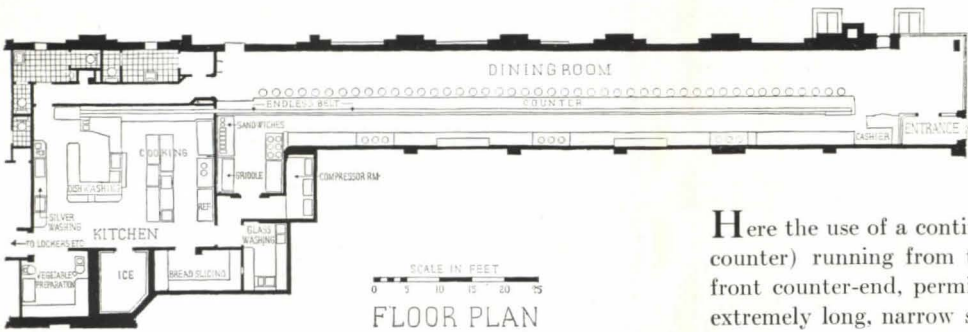


Earl C. Roper



Earl C. Roper

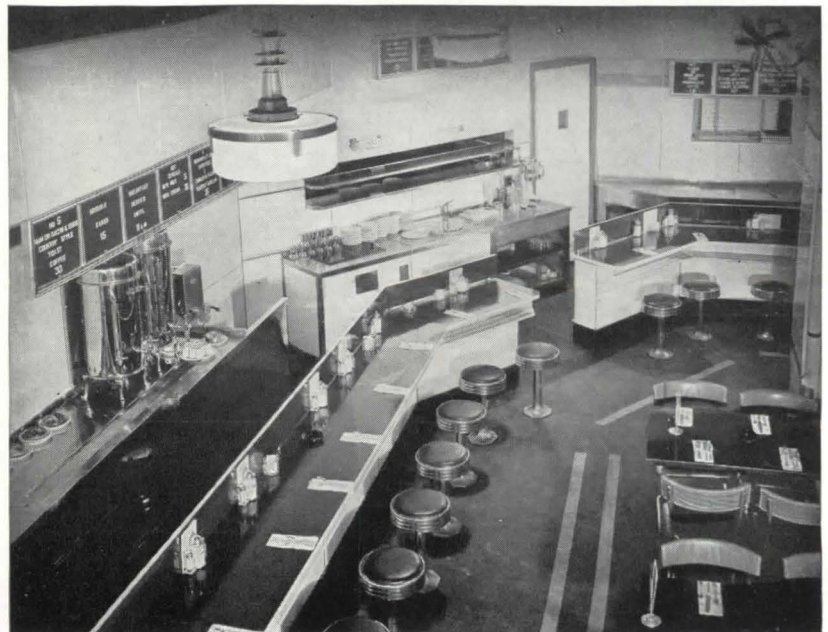
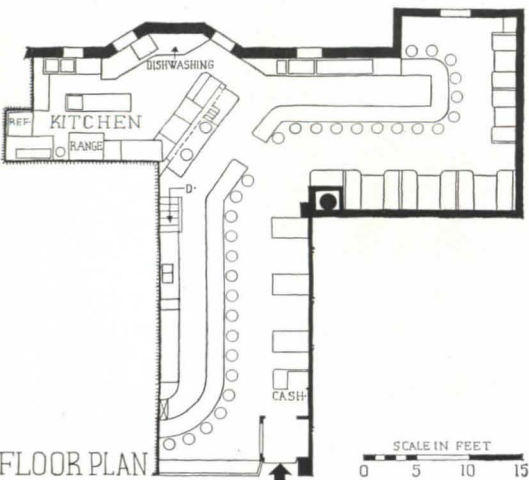
LINTON RESTAURANT
PHILADELPHIA, PENNA.
ISRAEL DEMCHICK, ARCHITECT



Here the use of a continuous conveyor belt (an integral part of the dining counter) running from the dish-washing space in the extreme rear to the front counter-end, permits an interesting and practical development of an extremely long, narrow space. Food from the kitchen and sandwich bar in the rear is carried forward on the upper level of the belt to every point on the long counter, while the lower level carries soiled dishes back to the dish-washing space. Details of this device are shown on the next page. In the restaurant shown below, an irregular counter shape has been effectively employed to make the most of a T-shaped space, with beverage section, kitchen and dish-washing advantageously located near its center. The splash board at the back of the low table counter serves both as a utility rack for salt and pepper, and a partial screen between service facilities and the customer. A convenient package rack has been installed beneath the table surface.

LITTLE WHITE HOUSE RESTAURANT
NEW YORK CITY

MARK J. JOSEPH, ENGINEER AND DESIGNER

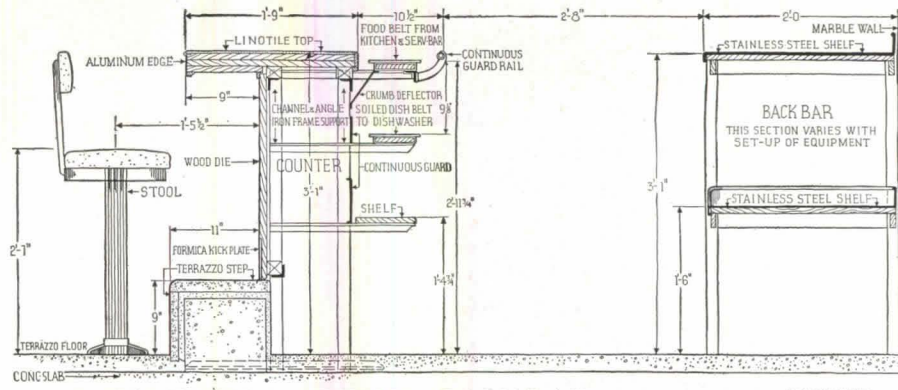


R. M. Damora



COURTESY: BAKELITE CORPORATION

Wilber F. Turner

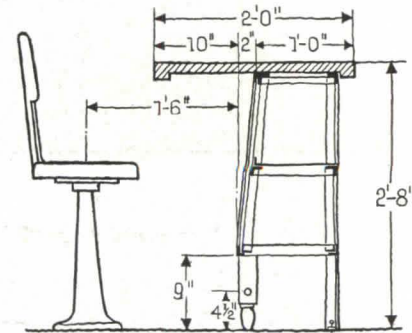
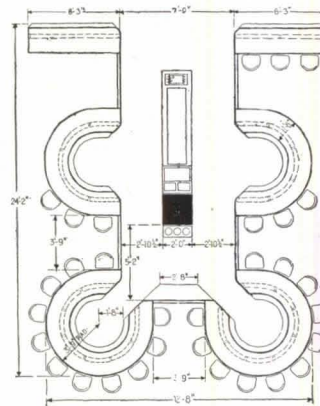


SECTION THRU COUNTER & BACK BAR

SCALE IN FEET
0 6" 1 2 3



OWEN WEBBER, ENG., ALLEGHENY STEEL CO.



SECTION THRU COUNTER

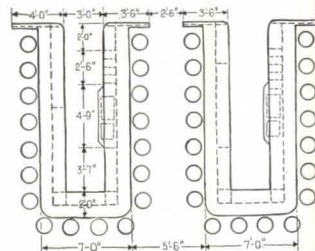
SCALE IN FEET

0" 6" 1 2 3'



MARK J. JOSEPH, ENGINEER & DESIGNER

Robert M. Damara



SIMON B. ZELNIK, ARCHITECT

Gray

The upper three of the photographs at the left show various patterns for luncheonette food counters. In contradistinction to cafeteria food counters, luncheonette counters are generally made irregular in shape to provide maximum seating accommodation. Straight line counters are employed only where space requirements dictate this shape, as in the example on the preceding page—where the conveyor belt shown in detail in the sectional drawing above was employed in order to overcome the serious disadvantage of this counter shape. Below this drawing is a section through a more typical luncheonette counter. Its sloping base provides ample knee space, and the use of nine inch counter legs facilitates cleaning. The low height of the counter chairs is becoming increasingly popular both for customer comfort and for appearance. The consequent reduction in counter height results in the relegation of all food services to the back bar. The photograph in the lower corner shows an interesting serpentine bench, a modern variant of the booth, which serves to separate tables and give a sense of privacy. Not the least advantage of this arrangement is the fact that it can be used in the middle of the room, with little loss of space, replacing a center row of tables which might otherwise be unpopular.



ARCHITECTURAL PORCELAIN ENAMEL

Almost entirely a development of the past few years, the business of supplying and erecting architectural porcelain enamel has grown from practically nothing seven years ago to a total well over a million dollars in 1936, and still is growing fast. All over the country there are now companies which specialize in the fabrication and enameling of steel and iron sheets for structural purposes. Filling stations, restaurants, store fronts and entire facades of porcelain enamel are today almost as familiar as the porcelain enamel bathtub and kitchen range were a few years ago.

What are the reasons for the growth in the use of porcelain enamel as a building material? Besides the undoubtedly important novelty value of the material there is its cleanliness, durability, attractiveness, and low maintenance cost. Other features include ease of erection (of particular importance in modernization work) and high salvage value (especially significant to chain stores likely to move about). Too, there is the fact that porcelain enamel, like some other materials of which glass masonry is a particularly good example, has become

identified in the public mind with that which is up-to-date; in the simple meaning of the term, porcelain enamel is modern.

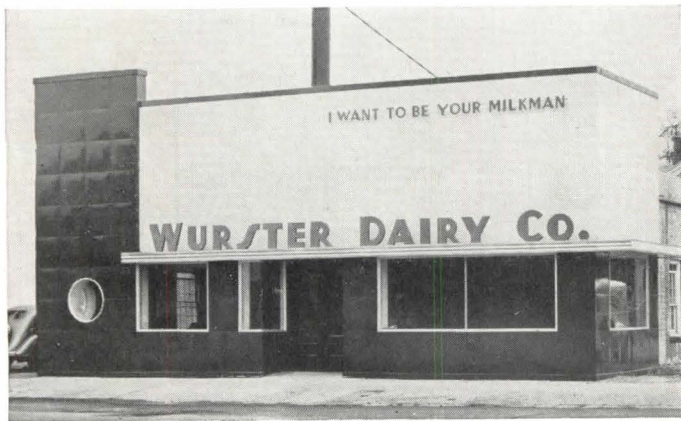
But most important of all, architects are fast learning that architectural porcelain enamel is far more than a "novelty" material. Originally regarded as suitable only for hamburger palaces and filling stations, the experience of the past few years has shown that porcelain enamel is a building material of real potentialities for many types of work.

New methods of erection, providing neat joints and concealed fastenings, new finishes, including the new "matte" finish for jobs in which the characteristic glossy sheen of enamel work would be objectionable, and new methods of fabrication, permitting freedom to employ curves and complex shapes in the design, have combined to make of architectural porcelain enamel a mature material ready to take its place alongside traditional building products. Apparently, porcelain enamel is here to grow and develop as a first-class material of modern building.

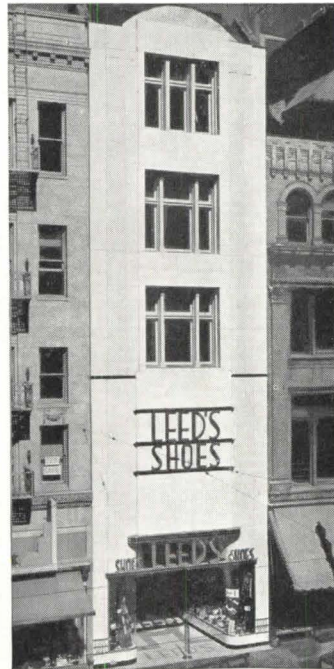


Hedrich-Blessing

SERVICE STATION: Typical Shell station, Evanston, Ill.; H. O. Alden, Architect; Beaver Enameling Co., through Dresser Engineering Co., Tulsa, Okla.



DAIRY: Wurster Dairy Co., Ann Arbor, Mich.; Ralph W. Hammett, Architect; The Toledo Porcelain Enamel Products Co., Toledo, Ohio.



MODERNIZATION: Leeds' Shoe Store, Los Angeles, Calif.; W. Emil Forman, Architect; U. S. Porcelain Enamel Co., through Q. R. S. Neon Corp., Ltd., Los Angeles, Calif.

KINDS

All kinds of porcelain enamel work consist of steel, iron or cast-iron sheets to which three or more coats of porcelain enamel—an inorganic mineral compound like glass—are fused at extremely high temperatures. "Architectural porcelain enamel" is the term applied to sheets or shapes especially fabricated for use as a building material—as an exterior or interior wall facing, finishing material for ceilings, partitions, floors, etc.

Porcelain enamel may be regular or acid-resisting. Acid-resisting enamel is generally used for the final coat in architectural porcelain enamel work. In order to effect a better bond with the metal base, the first, or "ground", coat of enamel is of special composition.

Colors of all kinds are obtainable; pastel shades and black being the ones usually used. There may be any number of colors per sheet, but each additional color represents an additional coat of enamel and additional firing, therefore adds to the cost.

Sheets are erected on either a wood or steel supporting framework, or attached as a facing to light-weight concrete masonry units which are built into the structural wall. Flat or flanged sheets are used, attached with exposed or concealed screws or clips; joints may be calked with asphalt mastic or covered with batten strips of porcelain enamel or other material.

PROPERTIES

Porcelain enamel sheets are durable, weather-proof, easily cleaned, and require practically no maintenance. They are not damaged by fire or violent changes in temperature. Their surface reflectivity is high—therefore adapted to floodlighting. *Disadvantages:* The material is somewhat fragile, sharp hammer blows being sufficient to cause spalling; it must therefore be handled with care, not exposed to impact. It must be completely shop-fabricated before the enameling is done and cannot be cut to fit on the job, for this reason it requires carefully figured drawings and a true and accurate base. Owing to distortion of the sheets caused by the firing process, they are never perfectly flat; this may affect appearance, particularly when the glossy finish is used, since with this finish irregularities have a tendency to reflect highlights.

USES

EXTERIOR: As an exterior facing for masonry, wood and steel frame construction, particularly for service stations, store fronts, theater fronts, modernization work, taxpayers, etc.



TAXPAYER: New York, N. Y.; William I. Hohaus, Architect; Porcelain Metals, Inc., Long Island City, N. Y.

INTERIOR: As a wall and ceiling finish, also for floors, particularly in bathrooms, bakeries, restaurants, and wherever cleanliness is an especially important factor. Also used for shower stalls and toilet partitions.

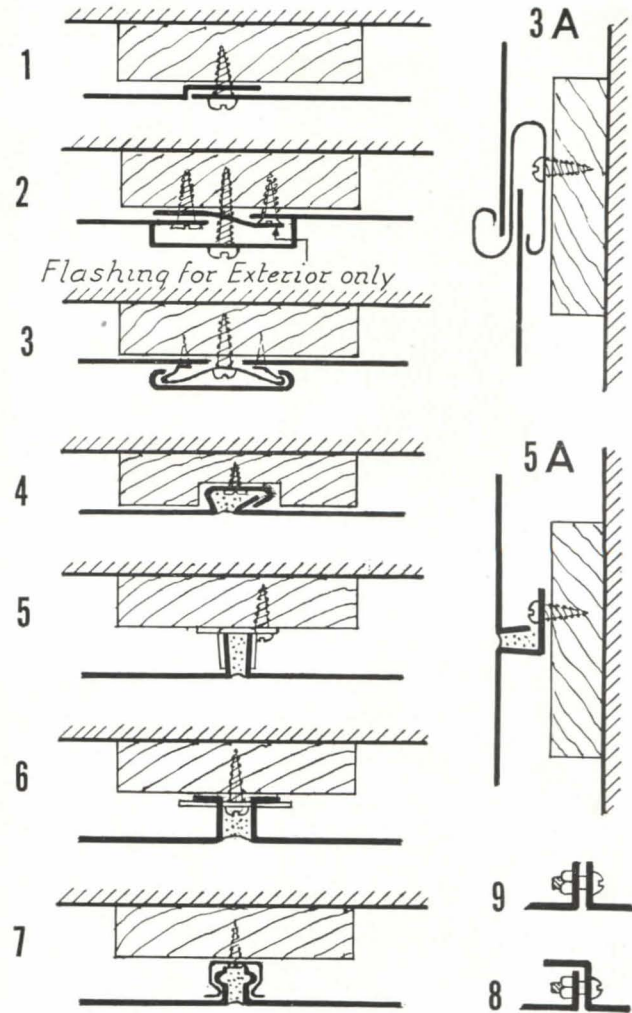
COST

Average, exterior, made-to-order flanged sheet work with provision for concealed fastenings costs from 85 cents to \$1.25 per sq. ft. in one color. Additional colors add about 15 cents per sq. ft. per additional color. A good rule-of-thumb is to figure a dollar a square foot for this class of work (store fronts, modernization, etc.) plus an allowance for additional color work. Erection costs vary from 10 cents to 25 cents per sq. ft., are generally about 15 cents. Cost of exterior work using stock flat sheets and batten strips with exposed fastening is about 80 cents per sq. ft., may be as low as 65 cents. Interior work is generally about 20 cents cheaper per sq. ft. than exterior work of similar character. Large, flat, simply shaped interior surfaces such as ceilings may be covered with strictly stock, quantity produced flat sheets and batten strips by a contractor doing quantity work for a price in some cases as low as 30 cents per square foot. In estimating costs of porcelain enamel work it is extremely important to distinguish between types of work. The same job may, and often does, contain types of work of totally different character, to which two altogether different figures apply. A store front together with a porcelain enamel ceiling inside the shop may, for instance, represent opposite extremes as far as cost is concerned.

ERECTION

Porcelain enamel work is sometimes erected by the enameler or the enamel-jobber, more often by the general contractor or carpenter contractor from the enameler's shop drawings. Both flat and flanged sheets are usually attached to wood furring strips with screws. Round head screws are used in order to provide some leeway in setting the sheets. Screws may be either exposed or concealed, according to the type of jointing used. Other methods of fastening include bolts (for work set on steel frame), various spring clips, and patent furring systems of the type used with all forms of sheet material.

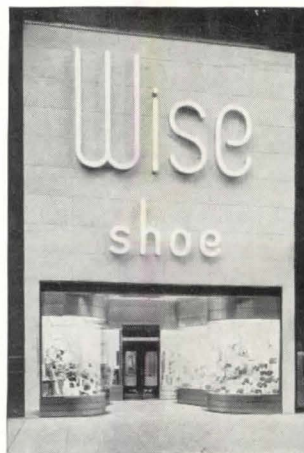
In addition to furring strips beneath each joint, which may be 20 or more inches apart in each direction, it is important to introduce additional strips so spaced that the material will be



METHODS OF ATTACHMENT: 1. & 2. Exposed fastenings 3. Snap-on molding 3A. "Clip Strip" 4. Lock joint 5. Lug fastening (vertical joint) 5A. Horizontal joint for use with lug fastening 6. Clip fastening 7. Fastening with spring steel clip 8. & 9. Rear fastenings.



Astleford

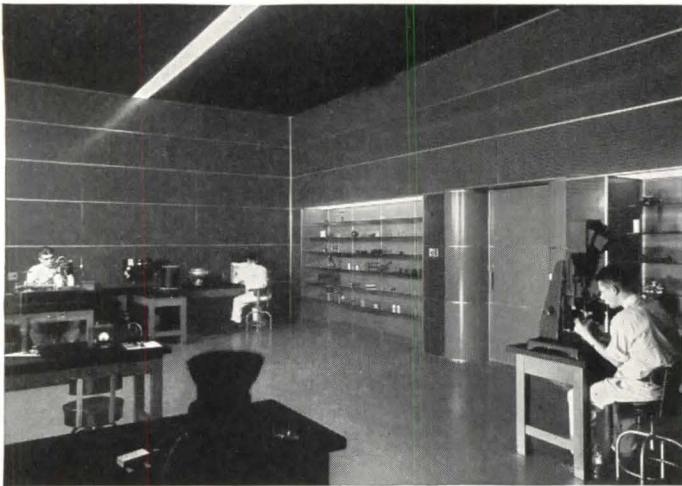


Hedrich-Blessing



THEATER: Riviera Theater, Port Huron, Mich. Wolverine Porcelain Enameling Co., Detroit, Mich.

STORE FRONTS: Wise Shoe Store, Chicago, Ill.; Elias Rothschild & Co., Architects, Sobel & Drielsma, Associates; General Porcelain Enameling & Mfg. Co., Chicago, Ill.; London Character Shoes, New York, N. Y.; Vesco Sales Corp., through Colvin and Livingston, New York, N. Y.



Hodrich-Blessing

INTERIOR: Laboratory, Chicago Vitreous Enamel Product Co., Cicero, Ill.; R. Harold Zook, Consulting Architect.



Kenneth D. Newell

HOUSE: Porcelain enamel shingles, South Euclid, Ohio; Charles Bacon Rowley and Associates, Architects; Davidson Enamel Products, Inc., Lima, Ohio.

supported from behind at least every 18 in. Sheets may also be backed-up with insulating board cemented to the back of the sheet with mastic. Cast insulation, poured into the back of flanged sheets, is also sometimes used.

Porcelain enamel work backed-up with light-weight concrete masonry units is laid up like other masonry facing material. Metal ties are incorporated in the units for anchorage and larger units have steel lifting hooks to facilitate handling.

FABRICATION

Sheets are generally fabricated in the enameling shop. Iron and steel "prime enameling sheets," preferably No. 16 gauge, should be used. No. 18 gauge is sometimes used, but this should be avoided unless the work is to be very carefully backed-up. Sheets are punched, bent and sheared in the regular manner, connections are almost entirely welded. Clips for attaching flanged sheets are welded to the inside of the flange; studs, etc., are welded to the back of the sheets. All welds, etc., must be filed smooth. Sheets should be carefully cleaned and pickled in acid before the enameling process.

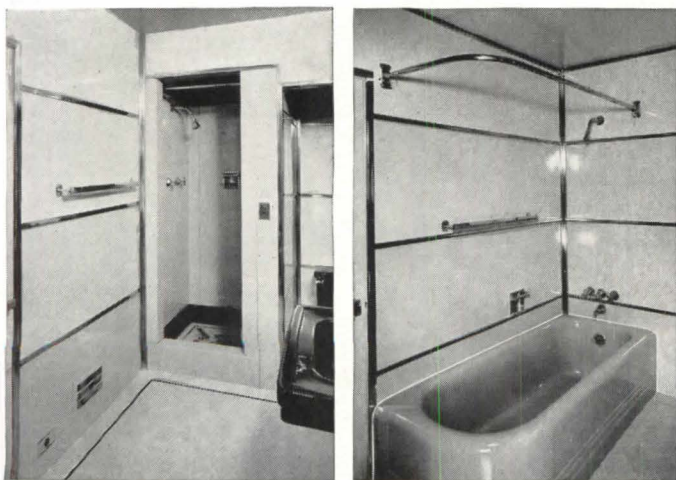
ENAMELING

Good work is generally done in three coats, exclusive of additional color coats. The ground coat may be dipped or sprayed, cover coats are sprayed. Each coat of enamel is separately dried and fired in special furnace at 1500° to 1550° F. Work must be carefully supported in the furnace to avoid undue distortion of the sheets. The largest sheet which the standard enameling furnace will accommodate is 4 x 10 ft.

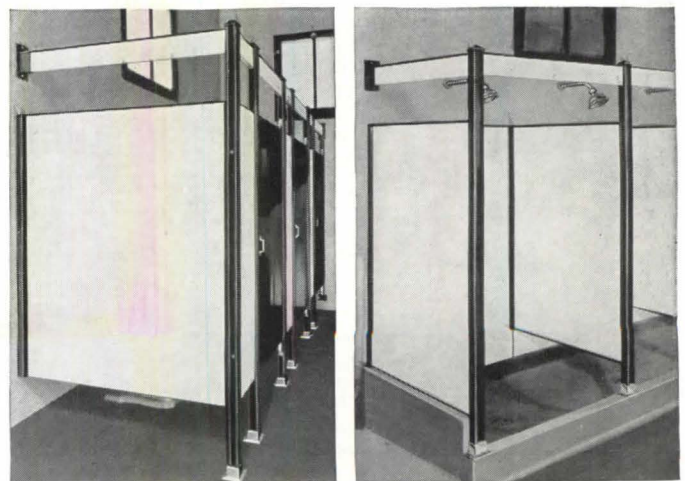
DESIGN DATA

It is desirable to keep specially fabricated, flanged sheets fairly small in size to avoid distortion and provide adequate support for the material. The maximum desirable size is about 30 in. wide by 6 ft. long, although this may be exceeded if necessary. Data on joints and methods of attachment are given on the drawing on the preceding page. Flanges on the sheet, besides providing for concealed fastenings and calked joints, also help to support and stiffen the surface material both during firing and after the sheets are erected. Stock flat sheets come in 24, 30, and 36 in. widths, by 4, 5, 6, 7, and 8 ft. in length. All porcelain enamel work must have a true and rigid base—wood furring should, if possible, be finished millwork rather than rough carpentry. Erection of sheets is considerably simplified where it is possible to provide access to the sheets from behind.

(Continued on page 112)



BATHROOM: Ferro Enamel Co. Building, Oakland, Calif., Miller and Warnecke, Architects.



Stock toilet partitions and shower stalls, Sanymetal Products Co., Cleveland, Ohio.

BUILDING MONEY

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

CONTENTS

President, Builder, Houser, Taxpayer Look at Wagner's Housing Bill	462
Tourist Camps: A New and Profitable Outlet for Construction	464
Labor Speaks about Building	465
A Dayton Office Building Shows a New Trick to Remodelers	467
Row Houses for Rent in Milwaukee Solve an Old Plan Puzzle	468
Charts	470
How Much Lumber Costs the Builder	66
The AIA, the Small House, and the Architect	68
Craft Labor Moves to Outlaw the Jurisdictional Strike	68
Four Per Cent Mortgage Money Heads for the Ohio Valley	70
Unfinished Attics Invite Summer Building Money	74



WAGNERIAN CAST: WAGNER, KEYSERLING, BAUER, VINTON, WOODBURY, BOHN (See p. 462)

Wide World, Harris & Ewing, Pictures Inc., Steinmetz

THE HOUSING PROBLEM COMES OF AGE

as Senator Wagner offers Congress his second Housing Bill and the opposition solidifies. How the Bill works and where it stands.

It was a little over four years ago that a group of housers managed to smuggle low-rent housing into the Federal fold by hiding it in one of the capacious subsections of the National Industrial Recovery Act. When, in due time, the Federal Government found that it had thus assumed the whole U. S. housing problem, it adopted toward that problem the aimless, experimental attitude of a small child with a watch; it treated low-rent housing as an industrial pump-primer; then it called it slum clearance; finally it tried it out as a "demonstration program." The results were pretty unsatisfactory, and about a year ago it finally got around to looking at the works. There it found two hard facts: it found that the housing problem was a very big one, and that it was a permanent one.

Best estimates place the number of families now living in substandard homes at five million.* On the basis of current Federal housing practice, it would cost about 15 billion dollars in subsidy to build that number. Neither of these figures makes any allowance for the increase in the need for low-rent housing due to the 1930-1936 building famine, the natural increase in population, the deterioration of existing structures, and the rising cost of living. The housing problem, unfortunately, is not a static one.

It is in the light of these hard facts that any further attacks on the housing problem must primarily be judged.

Wagner's Bill. Senator Robert Wagner of New York gave these fundamentals their first official recognition when he offered his Housing Bill to the last session of Congress. It failed to pass, but last month Congress was ready once again to debate the proposition as presented in the somewhat modified Wagner-Steagall Bill. Drawn up at the instance of Senator Wagner, the bill was given its first form by his brilliant young assistant, Leon H. Keyserling. Born in South Carolina, Keyserling got his A. B. from Columbia in 1928, his law degree at Harvard three years later. Thence he stepped straight into the

*At last year's Wagner Bill hearings responsible estimators put this figure anywhere from four to 18 million. The Brookings Institution estimates that in 1929 about 17 per cent of the population earned less than \$1,000 a year. There are today approximately nine million able-bodied unemployed, according to Department of Labor estimates.

New Deal under Wagner's wing, where he cut his legislative teeth by helping to draft the Wagner Labor Relations Act.

The Bill—a severe modification of its unsuccessful forerunner—was then submitted to the critical inspection of four leading housers. It passed under the pencil of Warren Vinton, head of the Resettlement Administration's realistic research department; of Catherine Bauer, executive secretary of the Labor Housing Council and free-lance student of housing; of Director Coleman Woodbury of the National Association of Housing Officials; and of NAHO's President Ernest Bohn.

The first provision of the new Wagner Bill is a three-man U. S. Housing Authority to be appointed by the President. This Authority is given the power to make loans to local housing authorities up to the full acquisition or development cost of a low-rent housing project at the going Federal rate of interest (current rate: $2\frac{1}{2}$ per cent), repayable within 60 years. It may then make outright annual grants to the local authorities up to $3\frac{1}{2}$ per cent of the original cost.* This grant is intended to absorb about 45 per cent of the carrying and operating charge of the project. To limited dividend projects it may make the same type of loans up to 85 per cent of the development cost, but no grants at all.

The Bill provides that the Authority shall be given one billion dollars for loans over the next four years. It specifies that the Authority can enter into contracts for annual grants so long as the new commitments in any one year (past commitments aside) do not average more than \$10,000,000. The Bill does not, however, authorize any money to be appropriated for these grants, and specifies that money for grants may not come from the one billion dollar appropriation for loans. These grants are therefore presumably to be appropriated by Congress as required. Total loans to limited dividend projects may not exceed \$25,000,000 in any one year.

Such are the mechanics of the Wagner Bill. In practice it more than doubles the subsidy granted under the PWA housing scheme. A PWA project got a flat subsidy of 45 per cent on its labor and material cost, nothing else besides loans. Under the Wagner Bill a project gets no subsidy at all on its original cost; but its annual grants of $3\frac{1}{2}$ per cent for 60 years are about equivalent

*Actual percentage is the going Federal interest rate plus 1 per cent.

to the interest and amortization on 100 per cent of the original cost, are therefore substantially the equivalent of a 100 per cent grant on the development cost.

Furthermore, for the local authority this arrangement opens up several new methods of attracting private capital. Because the contracts for annual grants are guaranteed by the U. S. Government, they offer a very favorable inducement for a local bond issue. For the same reason, banks might look very receptively on the idea of granting a mortgage on a low-cost housing project, particularly if the FHA would undertake to guarantee it. It is this arrangement of loans and grants which is the Bill's most important contribution to the housing problem.

The President. The first objection to the Bill came from the President and his Secretary of the Treasury Henry Morgenthau. At the outset of this session they had together cooked up what looked to be a balanced budget for 1937-38—balanced at least in the sense that income would equal current expenses. Since that time, however, it appears that the relief appropriation of one and a half billion dollars was going to be too small; and preliminary returns from the income tax fell some 15 per cent below expectations. With these two facts painfully on his mind, the President was led to remark that one billion dollars—even though spread over four years—was too big a pot of money. Furthermore, he saw that commitments for the annual grants of $3\frac{1}{2}$ per cent of one billion dollars over 60 years amounted to more than two billion dollars in outright subsidy. He thought this was a pretty big pot of money too.

He sent the Bill to his corps of housing experts and asked them to "work out a formula," presumably a magic one which would provide housing without expense. He liked to think of the Bill, he said, as a "blueprint for the future."

The Builder. The most vociferous critics of the Wagner Bill are the builder and the small contractor. The root of their objections—and they are numerous as gnats—is undoubtedly the presence of the "prevailing wage" clause in the Bill. This clause, of course, provides for the payment to the building trades of the "paper" union scale, a rate which many builders habitually undercut. The builder's objection stems from

the fact that the presence in any city of a large Federal project paying union rates tends to hike the rates on all other projects up nearer the union rate, and so "freeze" all labor costs at a high level.

Pursuing this thought to its bitter end, *News & Opinion*, published by New York's Building Trades Employers' Association, says flatly: "Low-cost housing cannot be built under the Wagner Act. That is certain." The customary answer to this dilemma is that building trade workers on Federal projects be given year-long contracts, under which they would accept a lower daily rate in return for the assurance of a twelve-month income equal to their current earnings. The scheme reads well; in practice it would be difficult because only three of the building trades on the average large-scale project are ever needed for extended periods. Trades such as glazing and plumbing would require some expert juggling and exact cutting of personnel on the job in order to stretch their quota of work over a period long enough to make a contract desirable.

The Realtor. The owner of real estate, the subdivider, the apartment operator, all have shown themselves commendably alive to the benefits which may flow from a housing program, and in their official journals have time and again given general support to the idea. With the appearance of the Wagner Bill and its implication of a big and permanent program, however, they instinctively formed a united front in objecting to one feature; the method of determining the eligibility of the Federal tenants. The Bill provides that tenancy shall be limited to those families whose net income at the time of admission is not more than five times the rental, except in the case of families with three or more dependents, whose income may be six times greater.

To really the rub is that while the Bill limits the income of the tenant, it does not limit the rent; and it is the size of the Federal rentals which will determine whether or not they compete with private enterprise.

The objection will prove a difficult one because it involves a fundamental split in the corpus of housing theory. On the one side stand those who believe that the subsidy should be applied to the tenant rather than the home; that the needy (and hence non-competitive) tenant should receive from the Government enough money to pay the economic rent. Proponents of this theory point to the fact that, unless there is a considerable improvement in housing technique, the very poor (*i.e.*, those who need new housing most) will never be able to afford the \$4 to \$8 rental unless they, rather than the house, are subsidized. Besides the fact that this system is devised to reach the neediest first, it has the advantage of allowing the subsidy to be diminished as the occupant's

earnings increase instead of giving him a free ride at others' expense. Called the "rental subsidy," this system has been in moderately successful use for the last two years in England. On the basis of quarterly examination of tenants' incomes, it costs about 70 cents per tenant per year to administer.

In rebuttal those on the other side of the question maintain that such a subsidy would cost more money in direct proportion to the extent that it reached below the current economic rent of the project; that the periodic examinations would necessitate the kind of bureaucracy which in this country has proved uniformly susceptible to graft and to inefficiency. Not yet officially considered by anybody has been a combination of a lower fixed rental and a smaller, supervised rental subsidy.

As of last month, however, all that really could discern standing between it and competition from Federal projects was the discretion of the three-man U. S. Housing Authority.* Recognizing this fact, the United States Building & Loan League has already begun a drive to have the personnel of the U. S. Authority reconstituted and enlarged to include representation from the fields of construction and mortgage credit.

The Liberal. The socially minded liberals among the commentators on the Wagner Bill cannot seem to meet on any common ground of agreement. Those liberals who stand farthest left feel that the Government alone can do the job. Their chief objections to the Wagner program are that it is too small, and that because it is too small it will simply serve to "freeze" the whole problem where it is today. A bigger program, they feel, would make for greater economies in construction costs and labor costs, besides forcing the issue on the ticklish question of land acquisition costs. Uncomfortable bedfellows with them are the professional housers, who also stand on the premise that the Government alone can do the job. Their most basic complaint lies not against the Bill but against many of its critics. They make the point that the Wagner Bill is essentially an *enabling* piece of legislation, and that as such it should not make any attempt to particularize its broad aims. To include many of the suggested specific restrictions as to standards or occupancy in a national Bill is, they think, to undertake the impossible task of reconciling a thousand local peculiarities, a task properly belonging to

*This body has the power to regulate rentals in local projects by the indirect but nevertheless potent means of increasing the interest rate on its loans by up to 2 per cent or by withholding part or all of the annual grants. Whether the courts will uphold this procedure is uncertain, inasmuch as the Bill also pledges the Government's faith to live up to all contracts of grant.

the local authorities. They feel also that a good market was sadly underestimated in limiting the amount of construction loans for limited dividend companies to \$25,000,000 a year. And they would like more definite provisions for exempting projects from state and local taxes.

Most nebulous suggestions to date have come from those liberals who want to see agencies other than the Government participate in the housing program. Most nebulous of all is the popular thesis that the housing problem must be treated as a social problem, with subsidies going to pay the rent in housing constructed by private enterprise for limited profit—an extremely idealistic extension of the rental subsidy idea. More immediately practicable is their idea of having the States tighten up their laws governing the reversion of tax-delinquent properties to the point where they could acquire land for housing projects without cost to the project itself.

The Taxpayer. As a class the average citizen is notoriously inarticulate save at the polls, but the opposition to the Wagner Bill has been careful to give expression to what the public's objections should or might be. There is no doubt that the taxpayer is still a bit apprehensive, still straddling the fence on the question of housing. Basing his question on the type of low-rent housing which has already appeared under PWA, he might well ask—as Wagner's critics have—whether this housing was really minimum housing. Obviously it is in every sense better housing than many a taxpayer not eligible for it can afford.

To answer this question requires a moderately precise definition of what constitutes minimum housing; requires, furthermore, the kind of a definition that can be justified by economic, sociological, and medical evidence; requires the same easily grasped kind of supporting evidence that is used to justify the elimination of slums or the purchase of electric refrigerators. For while it is important that housing projects do approach some sort of a defensible minimum in the accommodations they provide, it is much more important in the long run that the general public—the taxpayer—be convinced that there *is* a minimum. So far there exists no such a definition to give the taxpayer.

Such last month was the line-up for and against the Bill, within and without the Administration. As it went into hearings before Senator Hugo Black's Committee on Labor and Education at mid-month, the Bill had in its favor besides its own considerable virtues the high prestige with which the Supreme Court had just the week before invested Sponsor Wagner by upholding the validity of his other great piece of social legislation. Against it there still stood the pressing realities of an unbalanced budget and Presidential vacillation.

HOUSING THE TOURIST

is a \$600,000,000 industry. A look at one of Building's new fields, and the quick profits of a model camp.



LAST winter, to the delight of the owners of the thousands upon thousands of tourist camps and cabins which line all highways from Canada to the Gulf of Mexico, the warm sun of prosperity hatched an unprecedented number of American tourists. Despite the new competition of trailers, this legion of trippers meant, for the camp owners, the most lucrative months in the short years of their industry's existence. This month, the owners of the most ambitious of such tourist camps meet in a convention of the Tourist Cottage Owners Association, in Jackson, Tenn. And the most far-sighted of these owners might well eye the progress and achievement of one of the newest and swankest of their number: Tourist-Traveltowns, Inc.

Traveltowns last winter operated two projects, one near Roanoke, Va., the other near Rockwood, Tenn. Last month it was preparing to multiply into five new sites in five new States, and was equipped to show a procedure and technique which qualify as a model for future development.

The tourist camp industry is still an

infant. In 1922, the U.S. Chamber of Commerce officially recognized only 1,000 pioneers. This number was doubled in four years, shot up fast through the late Twenties to answer the need created by the thousands of motorists obeying the call to "See America First." Since it is estimated that seven cents a mile will cover one passenger's accommodations, food, gas and oil, running expenses, and incidentals, and since it is further estimated that each additional passenger can pay his way with an additional two cents a mile, the depression was kind to the tourist camp industry. A writer for the *New York Herald Tribune* placed the number of camps in 1934 at 32,000, of clients at 30,000,000, the revenue at \$500,000,000. At present there are 40,000 such camps, with corresponding increases in clientele and revenue not radically disturbed by the fact that there are today some 300,000 trailers on the road.

Some three years ago, the investment firm of Walker-Whitcomb began to realize the potentialities of this fast-growing army of tourists. James A. Whitcomb is the owner of the 200 Baltimore Dairy Lunches, is wise in the ways of chain merchandising. John R. Walker is one-time president of the Morris Plan Corp. of America. These two brought confident capital to the business of building better class tourist camps, put in charge of the project one Mary Chambers, an astute young woman who,

in her travels through the Southeast as assistant booker for concert artists, had likewise been struck with the possibilities of chain tourist camps.

Traveltown No. 1. The site of the first Traveltown was guided by the fact that, hard by Roanoke, Va., there was a tidy, respectable 10-cabin camp which the owner was willing to sell for some \$40,000. The architect chosen to remodel the ten buildings, design four new ones, was Adolph E. Klueppelberg, a stocky, red-haired New Yorker. To assist him Business Manager Chambers employed Effa Brown as interior decorator.

These three found, with experience, that a mistake had been made in the choice of location: their camp was on a Shenandoah Valley highway, not heavily traveled during the icy winter months since it leads over a mountain. In common, however, with most southern tourist camps, the first Traveltown could count on full occupancy 240 nights in the year.*

Exterior design of the cabins was dictated chiefly by the dubious competition of the usual tourist's shack-with-a-spigot. Seeking a style appropriate to Virginia, instantly inviting to the motorist, Architect Klueppelberg came naturally to the solution of Colonial's white clapboards.

The ten remodeled cabins were equipped with two double rooms. Of the four new ones, two were designed with a double room, two with three double rooms. Interior arrangement of the cottages, new and remodeled alike, was kept as flexible as possible. Each room is approximately 12 x 12 ft., with adequate closet space. The one-room cabins are shaped in the form of an L, with the wash-bowl, shower, and toilet separated by partitions, in order to simplify hurried and simultaneous dressing by two people. In the three-room cabins, each room is provided with running water, and there are two baths.

The large cabins can be rented to one party of six, or parceled out to three couples, an arrangement made possible by the dividing central hall. Each room has three windows to insure cross-ventilation; all cabins are insulated; electric radiators are supplied when necessary.

It was felt that on the interior the best idea would be to right the wrongs of the boarding house and the "family hotel." Mindful of the dreariness of such accommodations, Decorator Brown planned for Traveltown cabins a series of variable color schemes, simple and poster-like greens, whites, yellows, mahoganies. Furniture was guided by the results of a questionnaire, which, among other things, yielded the discovery that 70 per cent of overnight travelers prefer twin beds to



Traveltown's Three-Room Cottage

Charles E. Knell

*Experience has shown that September is a lean tourist month, as is December, just before the Christmas season. Scattered throughout the year there are other unaccountably bad weeks.

double beds. The usual bureau gave way to a modern writing table, which included a few drawers for shirts or blouses. The hotel room's ornate, inefficient chandelier and heavily shaded occasional lamps were superseded by two movable wall lamps with light-diffusing glass bowls.

Beside such modern accommodations, Traveltown at Cloverdale takes cognizance of the fact that few travelers care to cook their own meals at day's end, has supplied a dining hall in a one-time dance hall. There is also an administration building for registration purposes, and to supply sleeping quarters for the camp's staff. And as earnest of Traveltown's wishes to cater to the tourist, there is a swimming pool, 160 x 62 ft., a croquet lawn, slides and swings for children, a first-aid station, 5-foot bunks for children, a bunkhouse for servants, a Western Union office.

Cost of remodeling the ten existent cottages at Cloverdale came to \$7,560; cost of the two new one-room cabins and two new three-room cabins amounted to \$8,278. Total investment in the camp, considering the sales price of some \$40,000, was thus \$55,838. Cloverdale's income, computed on the basis of 54 people at an average of \$1.50 per night for 240 nights in a year, means an annual income of \$19,440, a total which swells to about \$20,000 in view of the revenue from the dining hall. Operating charges on the 27 rooms at \$465 per room comes to \$12,555. There is thus an annual profit of \$7,445 against the original investment.

To run the town, the necessary staff is surprisingly small. The personnel of Cloverdale comprises a manager, a housekeeper, two maids, a night watchman, and a boy to tend the grounds. Wages run from the manager's weekly \$25 (plus room and board) to the boy's \$10.

Registration is done by a file-card system, the visitors signing in the administration building. Well aware of the disconcerting fact that a survey of Texas tourist camps determined that 75 per cent of the patrons were couples who made use of the cabins for only an hour or less, and keenly realizing that the type of tourist which Traveltowns might be expected to attract would have none of this, the management has adopted a system to keep the dubious patron out. Admittance is refused couples branded "suspicious," and to all couples whose license plates betray them as living within 50 miles.

For Traveltown advertising, see the cut at the top of page 464. This, enlarged to 12 x 25 ft., and blocked out boldly in red, black, blue, and white, is supplemented with occasional, but not objectionable, roadside advertising, such as "50 Miles to Traveltown, the Highway Hosts." These signs are spotted 50 miles apart for 250 miles either side of Roanoke.

Technique. Tourist camp profits are quick profits, and the tourist camp's market is

big and growing bigger. But from the scattered appearance this year of such camps as Traveltown, it is apparent that competition is enforcing a higher standard on this infant industry, and that to the well-built and carefully-designed camp will go the biggest slice of profit.

The main functions of the tourist camp are to effect an instantaneous sale and to provide a fair degree of amenity at a minimum cost. Thus viewed as a problem in merchandising, it stands midway between the store front and the lower-priced subdivision home. Its problems are analogous.

First, there are a number of ruling factors which decide the site. Southern climate is preferable, because of the greater flux of tourists, and because of low heating overhead. The camp, if possible, should be at the junction of two "blue" routes, those recommended by travel agencies and filling stations. It should be between five and fifteen miles from the nearest city. It should be within sight of the main highway, at about the middle of a generous stretch of straight, level roadway. A camp on a curve is only visible at the curve itself. And the camp must be placed with relation to others in the chain. The average tourist's day's trip is 300 miles. With the advent of the trailer, which cuts the daily stint down considerably, chain camps would probably be better spotted some 250 miles apart.

In the same way, a special technique of design is dictated by a number of factors. A one-room cabin is not a good investment, since, in order to obtain a revenue commensurate with the investment, the charge per night must be \$2.50 per person. The privacy offered by a two-room or three-room cabin is as much as the average single tourist will ask, particularly since the cost of lodging is reduced to an average of \$1.50.

Further expenses of the one-room cabin are the porch and the individual bathroom. In building a two-room cabin, it is possible to center the bathroom between the two bedrooms and make the single-size porch serve for the double cabin, thereby reducing the price by one-third.

The point where expenses will be most favorably aligned to income is on the basis of 50 double rooms, or accommodations for 100 persons. Profits are three times as great if there are 100 guests as if there are but 50. Although as few as 30 persons can be handled at a profit, for smaller camps such items as payroll, advertising, and real estate taxes would run considerably higher per room per year.

Computing the depreciation of the average house at a median of 20 years, the life of the tourist camp unit, due to the uncertainty of highway continuation and to the treatment to which the cabins may be subjected, must be scored at fifteen years. Furniture is estimated to lose its useful life in five years, which, at a total

value of \$150 per room, puts its depreciation at \$30 per year. A chart of expenses per room per year for 100 persons:

Heat	\$16.00
Hot water	16.00
Electric light	16.00
Water tax	4.50
Payroll	125.00
Real estate tax	30.00
Fire insurance	1.00
Liability insurance	2.50
Mortgage interest	30.00
(against a \$30,000 mortgage on a 50-room project at 5 per cent)	
Laundry	16.00
Advertising	30.00
Depreciation of house	100.00
Depreciation of furniture	30.00
Annual care of grounds	10.00
Exterior paint	9.00
Interior paint	8.00
(on the basis of one coat per two years)	
Total operating charges per room per year	\$444.00

For this ideal 50-room project, a cost sheet would look like this: 10 three-room cabins (60 people), 8 two-room buildings (32 people), and 4 one-room cabins (8 people), to cost \$48,674; land, \$3,000 (this item is usually cheap); service station, \$3,000; administration building, \$15,000; roadways and approaches, \$3,000; recreational facilities, such as a croquet lawn, swings, etc., \$2,326. Total: \$75,000.

Income from the 100 guests paying \$1.50 per night for 240 nights is \$37,440 plus profits from dining hall and service station. Operating charges, overhead, and depreciation for the 50 rooms at \$444 per room is \$22,200, leaving a net profit of \$15,240, a figure probably nearer \$20,000 after the inclusion of profits on gas, oil, and meals. Against an investment of \$75,000 the owner of this ideal camp will thus get a 20 per cent yield, as against 13 per cent for the smaller Cloverdale.

On the projected ideal plan (see page 440), the area for the camp would be 17 acres, 10 $\frac{2}{3}$ for the cottages and administration building, 6 $\frac{1}{3}$ for parking of cars and trailers. Land cost, as nearly as Walker-Whitcomb can compute from on-the-road research, is some \$200 per acre. Each cottage gets a little less than half an acre, including the area necessary for roads and approaches to the cottage. For roads, 12,000 sq. ft. are necessary, for approaches 2,400 sq. ft.

The Future. Cloverdale's future is secure. Despite the minor mistakes made in the choice of its site and the difficulties encountered which only experience could iron out, Cloverdale is a financial success. Rockwood's Traveltown, run on a considerably smaller scale, does not yield the profits of its forerunner. But as proof of their faith in the venture, Walker-Whitcomb is already busy laying plans for its extension of the tourist camp chain. They have taken options on properties in Fayetteville, N. C., Texarkana, Ark., Dallas, Tex., Provincetown, Mass., and Washington, D. C.

BUILDING LABOR POLLED

on employment, rents, wages, and FHA policy
by the Labor Housing Conference.

BECAUSE the building industry notoriously lacks any central clearing house for statistical information about itself, it is constantly being peppered by small, unrelated questionnaires whose results are usually too fragmentary to be used as anything but straws in the wind. Last month an unusually interesting pile of such straws was piling up in the Washington office of the Labor Housing Conference, whence Houser Catherine Bauer was polling labor and housing conditions throughout the country. Recipients were central labor unions and building trades councils in the 48 States. A partial tabulation of the returns is given below; omitted by request of the respondents are the names of the towns from which the answers came—usually the largest or second largest in any given district.

Most clearcut of all conclusions to be derived from the questionnaire are those concerning employment in the building trades. The inhibiting effect of winter weather accounts for the wide deviations

between the unemployment figures from the Southern States and the Northern and Western States for the late winter of 1936. Nevertheless, it is noteworthy that so recently as twelve months ago the rate of unemployment in Washington ran to the fantastic level of 90 per cent; that in Ohio (which, of course, has a more severe winter than Washington) it went up to 95 per cent. In completing the twelve-month cycle to the end of this winter only two States—Alabama and Georgia—failed to show less unemployment. Incidentally, the wide variations between winter and summer buildings in the Northern States exhibits very clearly the contradictions involved in a labor "shortage" which is acute in the summer and degenerates into a labor glut in the winter.

Taken in combination, Questions 6, 7, and 8 give credence to the thesis that not even the organized building workers can afford to rent or buy even the cheapest of the houses they build while they are new. Sole exceptions in the questionnaire are

registered by Massachusetts and Ohio. In attempting to draw any large conclusions from this evidence two facts must be borne in mind: in relatively well-developed districts unorganized labor gets less than union labor; and in rural districts union wages are not very rigidly required. Both of these facts tend to strengthen the validity of the conclusion that even in its lowest price ranges the building industry is still shooting over its workers' market.

Not tabulated below are the answers to two questions, both of them involving opinion rather than fact. The first reads: "Does the average wage-earner occupy a better dwelling than he did twenty years ago?" To this the majority of respondents replied in the negative. The obvious qualification to be made in weighing the significance of this answer is that building trades workers constitute only a fraction of all wage-earners. The other question: "Is it the general opinion in your town 1) that private enterprise will eventually solve the housing problem, or 2) that the workers' housing condition can never be much improved except by large-scale public aid and initiative similar to the Wagner Housing Bill promoted by Labor last year?" To this there was the most unanimous and enthusiastic response in favor of Government intervention—the obvious answer to such a pointed question from such a special audience.

	MASS.	MASS.	ALA.	GA.	GA.	W. VA.	ILL.	MO.	WIS.	OHIO	OHIO	S. DAK.	WASH.	WASH.	WASH.		
What proportion of building workers are unemployed at present?		*	50%	20%	30%	25%	25%	50%	90%				60%	50%	80%	50%	25%
What proportion of building workers were unemployed last summer?		40%	10%	10%	20%	35%	40%	5%	30%				0	5%	shortage	50%	10%
What proportion of building workers were unemployed a year ago?		60%	10%	10%	15%	50%	20%	75%	80%				95%	80%	90%	70%	90%
Is there a housing shortage in your locality?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Are rents rising faster than wages?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
What are the lowest rentals reached by recently constructed new dwellings?		\$35				\$50			\$30	\$29	\$15		\$35	\$40		\$25	
What are the lowest sales prices reached by recently constructed new dwellings?		\$5,000				\$8,000	\$4,500		\$4,500	\$6,000	\$2,000	\$2,500	\$3,500	\$5,000			
About what rental can the average organized industrial worker pay for his home?		\$40	\$25	\$20	\$22	\$45		\$25	\$25	\$30	\$10		\$20	\$12	\$15		
Are the FHA houses built with labor paid at union rates?	Yes	No	Yes	25%	No		Yes	50%	Yes	No		Mostly	No			No	

*Have only 40% of maximum membership

OFFICE INTO APARTMENT

A new remodeling trick which pulls a Dayton property out of the red for \$18,000.

LAST month in Dayton, O., the local agent for the New York Life Insurance Co. showed the town and the country a brand new wrinkle in remodeling for profit: the conversion of a downtown office building into a series of eighteen one-room apartments. The building was—and still is—an ugly four-story structure which had stood 75 per cent vacant for nearly a decade. A default in mortgage payment to the New York Life had resulted in a change of management which brought the property under the shrewd eye of Receiver Sidney Eisenberger.

With General Motors and New Deal money moving more freely through Dayton's capillaries, Receiver Eisenberger late in 1936 set about converting the offices into one-room apartments with kitchenette and bath. By the time renovation was completed last month all were rented, furnished, for from \$42.50 to \$50 a month, with light, heat, and gas supplied. The yearly revenue is now \$9,600; former office revenues never topped \$6,000 even when the building was fully occupied. The investment will be recaptured in approximately two years.

Formerly each of the building's three upper floors contained nine small cubicle offices plus four large units of eccentric shape (see plans). In dealing with the row of nine cubicle units, the plans provided for the conversion of three sets of three adjacent offices into two apartments. This was done by constructing a partition of hollow tile in the middle of every second office. The half rooms on either side of the partition were further divided to become bathrooms and kitchenettes for adjacent apartments. In other words, each apartment occupies one former office room, plus half of an adjoining room. The kitchenette in each apartment is 7 ft. x 8 ft., 10 in., and the bathroom is 6 x 7 ft. The four larger eccentric rooms became three apartment units.

Only structural changes needed were partitioning, cutting through a few doorways, and those occasioned by plumbing rearrangements, electrical work. The oak woodwork was repainted in ivory. Inexpensive semi-indirect lighting fixtures were installed, and venetian blinds were hung at the windows to obscure an ugly roof and apartment wall across a narrow court. Two apartments front on the street, and therefore command a rental of \$50; six of the apartments go for \$47.50 and ten for \$42.50.

Kitchenettes have a combination green kitchen cabinet which includes a small gas

stove of four burners and an oven, a sink with a composition top, and a small electric refrigerator. A dinette set in maple and linoleum floor covering for the kitchenette are supplied.

The bathroom has a built-in tub and shower. Walls are green linoleum covered up four feet, and floors are of rubber tile. Bathrooms are outfitted down to soap dishes, towel racks, and toilet tissue.

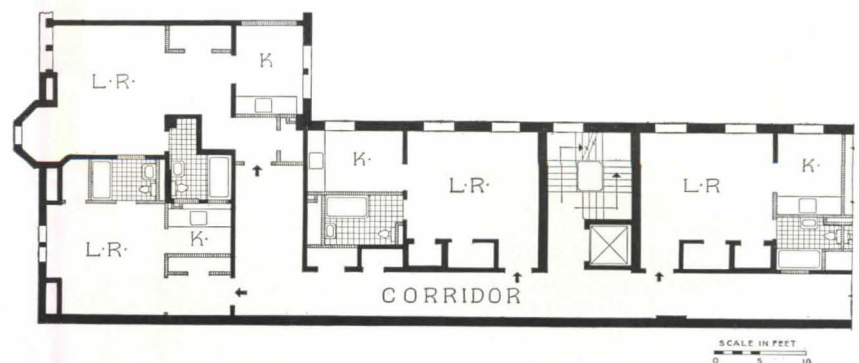
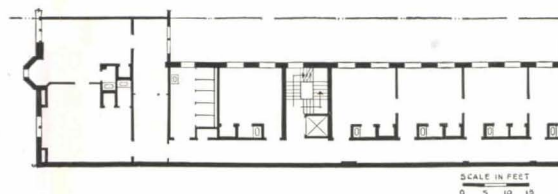
The living rooms have a heavy green carpet, and furnishings supplied include a studio couch or in-a-door bed, and a maple chest of drawers. There are two closets in each apartment.

Estimated costs:

Furniture	\$ 2,500
General Contractor	7,200
Plumbing	4,500
Electrical Work	650
Cabinets	1,170
Stoves	500
Refrigeration	1,380
Total	\$17,900



Mayfield Photos



Neatest trick in this remodeling is illustrated at the right end of the plans above. One and a half of the old office cubicles (upper plan) make one apartment unit (lower plan). Not shown here are six more office cubicles which become four more apartments. Above, see also a typical bedroom and kitchen as furnished by the management. Note that the kitchen is large enough to hold a dining table, that the living room has venetian blinds.

ROW HOUSES FOR RENT

figure to pay 5 per cent on stock financing. An advanced experiment in Milwaukee.

LAST February, the protests of Milwaukee's building and loan fraternity against the volume of that city's Government-subsidized housing took concrete form in a demand that none be considered as a potential tenant unless he earned less than \$1,200 per year. In answer, Milwaukee's famed Socialist Mayor Daniel Webster Hoan retorted: "If private capital is able to build low-cost housing, it will have my support as against the Government in the housing business. But if private capital is unable, the Government must do it. I am not as much interested in who is providing the capital as I am in seeing that such housing is provided." And supporting the mayor's stand is the fact that Milwaukee's rents are up 7.7 per cent in a year.

Milwaukee's population is some 750,000 persons. On the Federal and State side of the low-priced housing ledger there is a fifteen-year-old cooperative housing project for 105 families; Parklawn, a \$2,800,000 PWA low-cost housing project with units for more than 2,000 persons, which is to rent for \$15.15 to \$27.70 per month; and Greendale, a \$7,000,000 Resettlement Administration greenbelt, which sprawls over 3,000 acres and comprises 750 living units.

Last month it appeared that there was at least one privately financed low-cost housing development that Mayor Hoan could support. On Story Hill, near Bluff Park, the Exton Realty Co. was building its fourth structure in a development of row houses, in which units were being rented for \$10.30 per room per month.

The story of the Exton Realty Co. is bound up in its founder and president, Frank Kirkpatrick. President Kirkpatrick was born 38 years ago in the Tennessee

mountains, was schooled through the first year of high school, then started on the first colorful square of his career's patchwork quilt. He worked first as clerk, then as woodworker, blacksmith, machinist, joined the Navy during the War. Following his term of enlistment, he was successively a candy store manager, bond salesman, real estate salesman. Milwaukee was



Myron Nutting

President Kirkpatrick.

a chance stop, but he stayed on, lecturing on economics, actively aiding in union organization, education, and mutual bargaining. A friend then stepped in with the offer that he take over some money to provide employment and housing, with but two strings: that there be if possible some return on investment, and that Kirkpatrick assume the whole show.

With this windfall, President Kirkpatrick set out around the country to investigate other attempts at low-cost housing. First move, after buying the site on

Story Hill, was to hire as architect Harry Bogner, chairman of the committee of architects who designed Parklawn, and a consultant on the Greendale project.

Design. Final result for the design of the houses was a 16-unit adaptation of the Philadelphia row house, with automatic heating and apartment house service for the entire project. Inside and out, the changes from the traditional that have been effected in the design of these row houses are so rational and intelligent that, for speculative building, they are without precedent. There are, for instance, no fake arches between dining alcove and living room. The kitchens are small and compact, but no source of irritation to the housewives. Closets have not been banked along in a row between bedrooms, but have been unobtrusively set in corners, with curtain tracks in the ceiling instead of doors, in order to save wall space. Architect Bogner preferred a flat roof, but layman reaction was strong for a peaked roof, and the space has been utilized for storage. But the most important change has been in the size and shape of the houses.

Traditional row house planning has dictated as small front footage as can be sold, the obvious aim being more houses per lot. Such long and narrow floors resulted in a minimum of light and air, a situation which Housing Pioneers Henry Wright and Clarence Stein set about improving on their Sunnyside development in New York. The Sunnyside row houses had as their big talking-point the fact that the floors were wider and shallower, therefore better served with light and air. Actually, their overall measurements showed a front footage of 17 ft., 6 in., a depth of 28 ft., 4 in. The Story Hill row houses have less square foot area, but are wider and shallower in proportion, with a front footage of 16 ft., 6 in., a depth of only 24 ft., 5 in. Thus Exton Realty Co.'s big talking-point, and with more reason, has also been the abundance of light and air. And even on the score of square foot area, the Story Hill



Story Hill's First Two Buildings.

Milwaukee Comm

houses can still compare favorably with Sunnyside. The amount of living space has been increased by the use of far smaller kitchens and dining alcoves (see plans).

Another change has been effected in Story Hill's third unit. A two-story apartment building, it is equipped with an outside stairway to a gallery running along the second floor. Thus saved is the space necessary to construct inside stairways and corridors on the second floor. (See Architect Andrew Rebori's Chicago apartments, p. 407). Tenants for the upper story enter their apartments from the gallery by way of the kitchen or the dining alcove. President Kirkpatrick apparently can afford to design this type of entrance despite Milwaukee's snow.

Tenants. This is significant, for, in a

strictly speculative project, it has had satisfactory results. The first sixteen units were rented before completion, the first lease being signed before the building had been framed in. President Kirkpatrick does not follow the system of keeping a waiting list, but has adopted a serve-as-they-come policy. Result: 100 per cent occupancy.

Tenants are chiefly couples, 85 per cent of whom own automobiles, do not have to depend on the street cars two long blocks away, twenty minutes from the city's shopping center. The first sixteen units have attracted a population of 46 persons, representing every age group from two newly married couples to grandparents. By occupation, the residents run from curator of a geological museum to professor of German at Marquette University, through printer, electrical engineer, school teacher,

department store manager, veterinarian, and office worker, to plumbing salesman and beer salesman.

The tenants pay \$55.50 per month if they live in the two-bedroom units, \$65.50 if they live in the three-bedroom units. For this they get not only their shelter, but taxes, garage, heat, hot water, public lighting, fire insurance, water rents, janitor, repairs and redecorating. Rentals were not figured to include showers, ranges, or refrigerators, since prospective tenants were not unanimous in their desire for showers, and since many already owned ranges and refrigerators. For those that wanted them, the following arrangement was worked out:

	Deposit	Monthly Charge
Range	\$4.25	\$.70
Refrigerator	8.85	1.50
Shower	4.25	.70

The deposit is returned, the monthly charge discontinued at the end of five years, the lessor becoming the owner.

CONSTRUCTION OUTLINE

FOUNDATION: Walls—cinder block, 12 in., cement plaster, hot asphalt, Stone-Tex, The Truscon Laboratories. Footings—poured reinforced concrete.

STRUCTURE: Exterior walls—common brick veneer, 15 lb. building paper, 1 in. pine sheathing, fir studs, 2 coat plaster, sand finish, and U. S. Gypsum Co.'s rock lath. First floor—hollow tile with reinforced concrete ribs; red oak finish floor.

ROOF: Construction—2 x 8 in. yellow pine rafters, open joint fencing, 15 lb. roofing felt, red cedar shingles stained dark red.

SHEET METAL WORK: Flashing and gutters—26 gauge, 40 lb. coated tin. Leaders—Armco galvanized iron, American Rolling Mills Co.

INSULATION: Outside walls and attic floor—Gimco rock wool, Reynolds Metal Co., Inc. **WINDOWS:** Sash—wood, double hung; Unique sash balances, Unique Window Balance Co. Storm sash and doors made by local mill. Glass—single strength, Libbey-Owens-Ford Glass Co.

STAIRS: Stringers and risers—pine. Treads—oak.

FLOORS: Living room and halls—red oak. Bedrooms—fir. Kitchen—cement, linoleum covered, Congoleum-Nairn, Inc. Bathrooms—ceramic tile.

WOODWORK: Trim, cabinets and doors—Ponderosa pine.

HARDWARE: Interior and exterior—Russwin, Russell & Erwin Manufacturing Co.

PAINTING: Interior: Walls and ceilings—lead and oil. Floors, trim and sash—Minwax Co., Inc. Exterior: Walls and trim—lead and oil. Roof—dipped shingles.

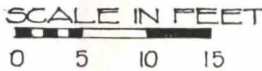
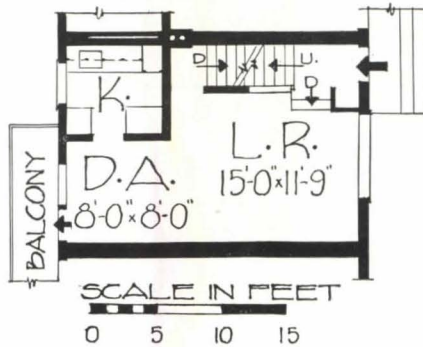
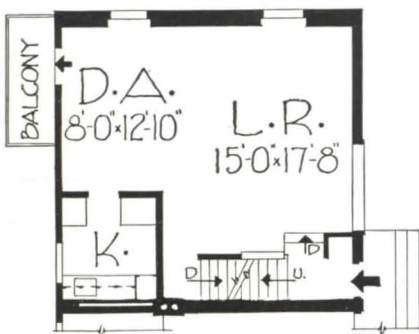
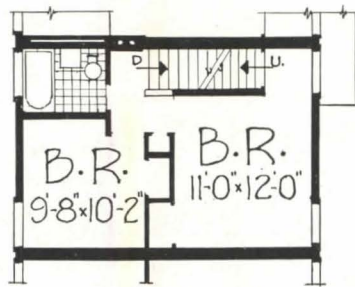
ELECTRICAL INSTALLATION: Conduit—Steel tube, Steel & Tubes, Inc. Switches—Pass & Seymour. Receptacles—Hart & Hegeman. Fixtures—Moe Brothers, Milwaukee.

KITCHEN EQUIPMENT: Stove—cabinet type gas range, Geo. D. Roper Corp. Refrigerator—Electrolux, Servel Sales, Inc. Sink—flat rim, Standard Sanitary Mfg. Co.

BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Manufacturing Co.

HEATING AND AIR CONDITIONING: Humidified, gravity, warm air, gas fired. Gas-Era furnaces, L. J. Mueller Furnace Co. Thermostat—heat accelerated, Minneapolis-Honeywell Regulator Co. Hot water heater—22-S gas fired, The Bryant Heater Co.

SPECIAL EQUIPMENT: Kernerator community incinerator, Kerner Incinerator Co.



At row's end, the three-bedroom units (left). In the middle, the two-bedroom units (right). The tiny kitchens, allowing more living space for the other rooms, met housewives' approval.



Rear Elevation.

Milwaukee Commercial

Costs. At present the Exton Realty Co. is financed by a stock issue of 60 shares, 58 of which are owned by President Kirkpatrick. Since the project was inaugurated and carried out on the basis of investment return, rents were based on this prospect. President Kirkpatrick insists, however, that these rents are still under the Milwaukee market, especially after consideration of the product offered. Cost of the first two buildings, including contractor's fee and exclusive of ranges and refrigerators, was \$62,148.58. Land costs of the area devoted to the first two buildings came to \$14,200. Figuring approximately, President Kirkpatrick scored his depreciation on the buildings at 3 to 5 per cent, his taxes at 2 to 5 per cent, his upkeep at 3 to 5 per cent, striking the average of a 20-year period. His land costs were later spread over into the costs of the more recent two buildings. Computing on the basis of his estimates, his returns on the total investment will vary between 2.2 and 8 per cent per year, or between \$1,700 and \$6,000 per year. His rents, which total some \$11,000 per year on the first two buildings, were based on a return of 4 to 5 per cent on the total investment. He figures that, by maintaining a combined interest and depreciation rate of 8 per cent, his buildings will pay out in 21 years.

Exton contracts call for guaranteed maximum costs, President Kirkpatrick paying for labor and materials twice monthly on architect's certificates and production of receipted bills from all material supply houses covering previous payment. This set-up provides Kirkpatrick with the privilege of approving or disapproving the sub-contractors and the source of materials. The contractor gets his fee only if the costs stay within the guaranteed minimum; if not, his fee is withheld to pay off the balance. Savings are divided: 75 per cent to the owner, 25 per cent to the contractor. Five per cent of the owner's savings are voluntarily turned over to the foreman. President Kirkpatrick this year experimented with winter building, found better labor available, costs no higher.

Long term policy will be guided by indications of Story Hill's immediate future. With 30 family units now provided, 4 more under construction, hopes for maintaining 100 per cent occupancy rates run fairly high. There is still considerable undeveloped area at Story Hill. The Exton Realty Co. also owns a lot 110 x 350 ft. in Milwaukee's best residential district, Prospect Avenue; three small, commercially zoned corners; and 21 acres overlooking a large park development within walking distance of 11,000 industrial jobs. For the last few months President Kirkpatrick has been busy as consultant on an industrial housing project in Plymouth, N. C., besides having his hands full with Story Hill's fourth building. It is logical to expect an attempt to house industrial workers as his next step after improving the swanker lot on Prospect Avenue.

MATERIAL COSTS TOP '28 LEVEL

as building permits swing high. Rents climb steadily, foreclosures hit new low.

