THEME BUILDING
Architects Harrison & Fouilhoux provide an exciting symbol for New York's 1939 World's Fair.

APARTMENTS
The upturn in building now includes apartment houses. Examples of various types, here and abroad.

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

COLUMBIA BROADCASTING STUDIO
New Chicago studios take the modernity of their activities as the key to their design.

PLANNING TECHNIQUES NO. 3, CAFETERIAS & LUNCHEONETTES
Cafeterias, their planning and equipment. A portfolio of recent examples, with details.

PRODUCTS & PRACTICE
Architectural Ferro-Enamel: Kinds, properties, uses ... Attic Ventilating Fans.

BUILDING MONEY
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 ... Labor'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
FORUM OF EVENTS
Capitol alteration ... New York Fair Boards in action ... Poster exhibit ... Russian architecture on stamps ... Model House ... Retail merchandising exhibit.

BOOKS
Art in Federal Buildings ... City Planning and Housing ... Modern English Interiors.

LETTERS
Jefferson Memorial ... R. Buckminster Fuller ... Architectural Criticism ... Accord on Anachronism.
THE MONTH IN BUILDING

VOLUME

PERMITS (February) $128,969,530

- Residential 62,200,778
- Non-residential 37,308,392
- Alterations 29,283,690

February, 1937 99,072,793

Residential 90,167,600

Heavy Engineering 32,476,800

February, 1936 86,208,359

March, 1936 198,761,900

CONTRACTS (March) $231,245,900

- Residential 90,167,600
- Non-residential 88,601,500

Heavy Engineering 32,476,800

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 20 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 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
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'S
HEME BUILDING FOR THE 1939 WORLD'S FAIR
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.
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.
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.\(^\text{8}\) 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

\(^{8}\) U.S. Department of Labor figures: percentage increase over 1935 in estimated cost of 1936 multifamily dwelling construction, 179%; single family houses, 97%.
LOS ANGELES. 2-story, 8-10 unit buildings most numerous. Ramp 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, BR and kitchen, and a small bedroom off kitchen windows coming in. Steel casement windows in style; must open out to allow for Venetian blinds. Shutters 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 false over gas outlet in niche below. Wallpaper is booming. Lime stucco has never left the kitchen.

TAMPA. Most popular and most common are rambling 2-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, steel 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 maximum of base-plugs are included in high-class new buildings. Elevator service 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.

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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, BR, 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 architect- 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. NR, 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.

What steps have been taken to increase the rental of apartment buildings in Chicago and other cities? How have architects addressed the problem of multifamily dwellings? What are the implications of these changes for the future of apartment living?
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.
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

WINDOWS

FLOORS

WALL COVERINGS

HARDWARE
Interior and exterior—Schlage Lock Co.

KITCHEN EQUIPMENT
Sink—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

HEATING
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 $15,000.
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.
A. N. REBORI, ARCHITECT; EDGAR MILLER, ARTIST

MAIN ENTRANCE

VIEW 1.

EAST END OF GARDEN COURT

VIEW 2.

NORTH VIEW

M A Y  -  1 9 3 7

405
CONSTRUCTION OUTLINE

FOUNDATIONS
Footings and walls—reinforced concrete.

STRUCTURE

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. lightweight 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

HEATING AND AIR CONDITIONING
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.
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

WINDOWS

FLOORS

WALL COVERINGS

WOODWORK

HARDWARE
Interior and exterior—Schlage Lock Co.

PAINTING

ELECTRICAL INSTALLATION

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.
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.
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.

WALL COVERINGS

WOODWORK AND TRIM

HARDWARE
Interior and exterior—Lockwood Hardware Mfg. Co.

PAINTING

ELECTRICAL INSTALLATION

KITCHEN EQUIPMENT

PLUMBING

HEATING

SPECIAL EQUIPMENT
Incinerators—Kernerators, Kerner Incinerator Co.
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.
ELECTRICAL INSTALLATION

PLUMBING

HEATING

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

FOUNDATIONS

STRUCTURE

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

STAIRS AND ELEVATORS

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

WALL COVERINGS

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, Frary & 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

SPECIAL EQUIPMENT
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

STRUCTURE

ROOF

SHEET METAL WORK
Flashing—copper, American Brass Co.

INSULATION

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

STAIRS AND ELEVATORS

FLOORS

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

WOODWORK AND SPECIAL TRIM

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

RADIANCERS—American Radiator Co.

SPECIAL EQUIPMENT
Incinerator—Kerner Incinerator Co.
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.
 PHILADELPHIA, PA.  MORRIS J. ROSENTHAL, ARCHITECT

BEFORE

LIVING ROOM — THIRD FLOOR

CONSTRUCTION OUTLINE

STRUCTURE
Existing walls retained. Interior partitions—2 x 4 in. studs, 3/8 in. rock lath and plaster.

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

SHEET METAL WORK
Flashings and gutters—galvanized iron.

WINDOWS
Glass—Pittsburgh Plate Glass Co.

STAIRS
Yellow pine, painted and carpeted. Wrought iron railings.

FLOORS

WALL COVERINGS

WOODWORK AND SPECIAL TRIM

HARDWARE
Interior—Lockwood Hardware Mfg. Co.

PAINTING

Exterior—cement paint.

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

KITCHEN EQUIPMENT
Refrigerators—gas, Servel Sales, Inc.

PLUMBING

HEATING
Equipment by American Radiator Co. Fuel—oil, Delco Appliance Corp. Hot water heater—Taco Heaters, Inc.

Regulator—Minneapolis-Honeywell Regulator Co.
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.

REMODELED APARTMENT HOUSE  EAST 86TH STREET, NEW YORK CITY

WALTER S. SCHNEIDER, ARCHITECT

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.


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. Curbin.


HEATING: One pipe steam. Boiler—oil fired. Radiators and Arco Packless radiator valves, American Radiator Co. Thermostat—electric clock type; Aquastat hot water control.
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.
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.
HOUSING DIVISION, FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

CONSTRUCTION OUTLINE

FOUNDATIONS

STRUCTURE

ROOF
Wood sheathing, rafters, and asbestos shingles, Johns-Manville, Inc.

SHEET METAL WORK
Flashing and gutters—copper.

WINDOWS

STAIRS
Cement on reenforced concrete, Flour City Ornamental Iron Co.

FLOORS
Cement on concrete; tile in bathrooms.

WOODWORK

HARDWARE
Interior and exterior—bronze, Yale & Towne.

PAINTING

ELECTRICAL INSTALLATION
Wiring system—conduit.

PLUMBING
Fixtures—Grinnell Co.
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
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.
"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
to the services enumerated there is also a sickroom 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.
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.
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.
CONSTRUCTION OUTLINE

STRUCTURE
Exterior walls—% in. redwood boards on double-kraft building paper, % in. Oregon pine diagonal sheathing and studding. Interior finish—California stucco on metal lath.

ROOF

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

WINDOWS

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

WOODWORK

HARDWARE
Doors—Schlage Lock Co.

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

ELECTRICAL INSTALLATION

KITCHEN EQUIPMENT

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.

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

FOUNDATION

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
Flashimg, gutters and leaders—copper.

INSULATION
Outside walls and attic floor—4 in. rock wool. Weatherstripping—zinc interlocking.

WINDOWS

FLOORS

WALL COVERINGS

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.

GARAGE 20'x19'

TOOLS

MAID'S R. 10'x9'

KITCHEN 10'x19'

DEN 10'x14'

BED ROOM 17'x12'

BED ROOM 11'x12'

BED ROOM 12'x14'

GLAZED PASSAGE

LIVING ROOM 22'x14'

DINING ROOM 12'x15'

BKFST. ROOM

SERVICE 7'x9'

SCALE IN FEET

0 5 10 15 20 25

George H. Hyatt Photogr
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.”

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, re-enforced 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

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

ELECTRICAL INSTALLATION

KITCHEN EQUIPMENT
Stove and refrigerator—electric. Sink—Standard Sanitary Manufacturing Co.

PLUMBING

HEATING
Forced air system, Pacific Manufacturing Co. Hot water heater—No. 50 Superbo, Superbo Manufacturing Co.
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.

**FOUR ROOM COTTAGE**

MAY 1937

**CONSTRUCTION OUTLINE**

FOUNDAION: Walls—concrete footings, cinder blocks, 8 in. thick.


ROOF: Construction—2 x 6 in. rafters, ⅛ x 6 in. sheathing, paper, covered with standard strip shingles, The Ruberoid Co.

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

WINDOW: Sash—double hung, wood, weather-stripped, Curtis Companies, Inc. Glass—double strength, quality A.

WOODWORK: Trim, cabinets and doors—white pine, Curtis Companies, Inc.


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

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

HARDWARE: Interior and exterior—Lockwood Hardware Manufacturing Co.
ELECTRICAL INSTALLATION: Wiring system—BX. Switches—toggle.
KITCHEN AND LAUNDRY EQUIPMENT: Stove and washing machine—electric, General Electric Co. Refrigerator—Frigidaire Sales Corp.
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.
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.
CONSTRUCTION OUTLINE

STRUCTURE
Interior partitions—terra cotta in offices and studios.

WINDOWS
Control room windows—double glazed 3/16 in. and 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

WOODWORK

HARDWARE
Interior—aluminum push and kick plates on studio doors.
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 increasing 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.

The arrangement of the food counter, kitchen and dishwashing 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.
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 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 bar" 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.
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.

FINISHES AND EQUIPMENT

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.
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 conveyor 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
LUNCHEONETTES

COCO TREE CAFE, HOLLYWOOD, CALIFORNIA

Located on a busy corner in the very center of town, his luncheonette and restaurant was planned to make he most of the display possibilities of the extremely vide street frontage. Conceived as a "glass partitioned sidewalk cafe," with booths along the sidewalk and entire ength 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 tention to detail and eye for final simplicity of effect.

FINISHES AND EQUIPMENT

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.
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.
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.
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.
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 caulked 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.
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 81.25 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 80 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

ARCHITECTURAL PORCELAIN ENAMEL


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


MAY 1937

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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 caulked 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)

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

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

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

**THE ARCHITECTURAL FORUM**

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Stock toilet partitions and shower stalls, Sonymetal Products Co., Cleveland, Ohio.
BUILDING MONEY

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

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WAGNERIAN CAST: WAGNER, KEYSERLING, BAUER, VINTON, WOODBURY, BOHN (See p. 462)
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 13 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. Keyseling. Born in South Carolina, Keyseling got his A. B. from Columbia in 1928, his law degree at Harvard three years later. Thence he stepped straight into the 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 Colemen 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 1/2 per cent), repayable within 60 years. It may then make outright annual grants to the local authorities up to 3 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 $85,000,000 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 1/2 per cent for 60 years are about equivalent 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 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

*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.
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 a few 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 rub it 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.7 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 of the ticklish question of land acquisition costs. Uncomfortable bedfellows with them are the professional housing reformers, 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 the local authorities. They feel also that a good market was badly 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. Being a 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 Housing 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.

*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.
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 un-
precedented 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 swankiest 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
incidents, and since it is further esti-
mated 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 8500,-
000,000. At present there are 40,000 such
camps, with corresponding increases in
clientele and revenue not radically dis-
turbed by the fact that there are today
some 300,000 trailers on the road.

Some three years ago, the investment
firm of Walker-Whitecomb began to realize
the potentialities of this fast-growing army
of tourists. James A. Whitcomb is the
owner of the 300 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 busi-
ness 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 Busi-
ness 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 com-
mon, however, with most southern tourist
camps, the first Traveltown could count
on full occupancy 240 nights in the year.*

*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.

Exterior design of the cabins was dic-
tated chiefly by the dubious competition
of the usual tourist's shack-with-a-vigna.
Seeking a style appropriate to Virginia,
instantly inviting to the motorist, Archi-
tect 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 run-
ning 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-venti-
lacion; 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 accom-
modations, Decorator Brown planned for
Traveltown cabins a series of variable
color schemes, simple and postcard-like
greens, whites, yellows, mahoganies.
Furniture was guided by the results of a ques-
tionnaire, 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. Khott

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double beds. The usual bureau gave way to a roomy 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 82 ft., a croquet lawn, slides and swings for children, a first-aid station, 3-foot bunks for children, a bunkhouse for sleeping quarters for the camp's staff. 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 $8,787. Total investment in the camp, considering the sales price of some $40,000, was thus $85,838. 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 house. Its problems are analogous to the development of the trailer, which cuts the daily 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 $50 per year. A chart of expenses per room per year for 100 persons:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost per Room Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat</td>
<td>$16.00</td>
</tr>
<tr>
<td>Hot water</td>
<td>16.00</td>
</tr>
<tr>
<td>Electric light</td>
<td>16.00</td>
</tr>
<tr>
<td>Water tax</td>
<td>4.50</td>
</tr>
<tr>
<td>Phone</td>
<td>25.00</td>
</tr>
<tr>
<td>Real estate tax</td>
<td>30.00</td>
</tr>
<tr>
<td>Fire insurance</td>
<td>1.00</td>
</tr>
<tr>
<td>Liability insurance</td>
<td>2.00</td>
</tr>
<tr>
<td>Mortgage interest (against a $20,000 mortgage or a 50-room project at 5 per cent)</td>
<td>30.00</td>
</tr>
</tbody>
</table>

| 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). Total cost $18,974; land, $8,226; (this item is usually cheap); service station, $3,000; administration building, $12,000; roadways and approaches, $8,000; 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 $87,140 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 $9,000 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, 10½% for the cottages and administration building, 6½% for parking of cars and trailers. Land cost, as nearly as Walker-Whitcomb can compute from other service research, is some $800 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 House Catherine Bauer was polling labor and housing conditions throughout the country. Recipients were central labor unions and building trade 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 contradiction involved in 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 initiatives 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.

| 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% | 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 |
| Are rents rising faster than wages? | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes |
| What are the lowest rental prices 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 | No |

*Have only 40% of maximum membership
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:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture</td>
<td>$8,250</td>
</tr>
<tr>
<td>General Contractor</td>
<td>$7,200</td>
</tr>
<tr>
<td>Plumbing</td>
<td>$4,500</td>
</tr>
<tr>
<td>Electrical Work</td>
<td>$650</td>
</tr>
<tr>
<td>Cabinets</td>
<td>$1,170</td>
</tr>
<tr>
<td>Stoves</td>
<td>$500</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>$1,380</td>
</tr>
</tbody>
</table>

| Total            | $17,900|

The 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 $2,500,000 PWA low-cost housing project with units for more than 2,000 persons, which is to rent from $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 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
houses can still compare favorably with Sunny Side. The amount of living space has been increased by the use of far smaller kitchens and dining alcoves (see plan).

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 kitchens and dining alcoves (see plan). Story Hill’s third unit. A two-story apartment building, it is equipped with an outside stairway to a 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. 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 $85.50 per month if they live in the two-bedroom units, $95.50 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 ....... 84.25 ....... 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


ROOF: Construction—2 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.


WOODWORK: Trim, cabinets and doors—Ponderosa pine.

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


MONEY

MAY 1937 BUILDING MONEY
Costs. At present the Exton Realty Co. is financed by a stock issue of 60 shares, $8 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 $62,118.58. 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 $8,700 and $86,000 per year. His rents, which total some $81,000 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 31 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.

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**BUILDING PERMITS**

Data for 1932, for all cities over 25,000, for 1933-1938, for all cities over 2,500,000.

**FORECLOSURES**

**STOCKS**

**RENTS**

**BUILDING MATERIAL COSTS**

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DATA FROM U.S. DEPT. OF LABOR

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**THE . ARCHITECTURAL . FORUM**

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