ARCHITECTURAL FORUM

JUNE 1937

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VOLUME 66—NUMBER SIX

THE MONTH IN BUILDING

VOLUME

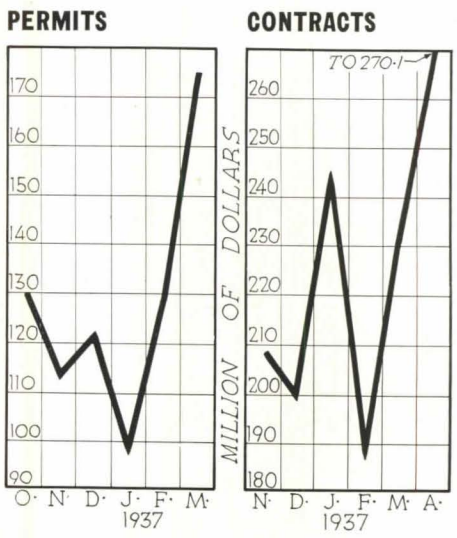
PERMITS (March)	$170,510,244
Residential	84,882,867
Non-residential	54,332,042
Additions	31,305,335
February, 1937	128,969,530
March, 1936	126,714,602

Permits from the Dept. of Labor

CONTRACTS (April)	$270,125,200
Residential	108,204,400
Non-residential	96,179,300
Heavy engineering	65,741,500
March, 1937	231,245,900
April, 1936	234,806,300

Contracts from the F. W. Dodge Corp.

Optimists can note that last month contracts in the residential column recorded the heaviest volume of home building since May, 1930; that the gain was some 20 per cent over March, some 61 per cent over April, 1936; finally, that the residential total of $339,782,400 for the year's first four months is 78 per cent higher than the $190,986,600 for the first four months of 1936. Pessimists can point to the fact that while January, 1937, residential building made a gain of 109.5 per cent over January, 1936, and February, 1937, was 102.1 per cent higher than February, 1936, the gain for March declined to 61 per cent. Moreover, the month's total increase was less than seasonal, since non-residential activity was increased by only 6 per cent and contracts for heavy engineering projects, including public works and public utilities, declined some 6 per cent.



HOME SHOWS. When the latest National Home Show opened last month in Manhattan it hung up the unenviable record of getting the frostiest press reception yet to be accorded to any similar event. Held in Madison Square Garden, with over 100 exhibitors, a $75,000 model house by Architects Harrison and Fouilhoux, and calling itself "The Million Dollar Home Show," it failed to rate one single line in either the *Times* or the *Herald Tribune* on opening day. This fact was not to be laid to any local ill will; rather it was symptomatic of a fundamental flaw in the current conception of a home show.

It is the fashion to refer to home shows as the "automobile show of the building industry." In the sense that the home show presents an annual opportunity to present new and newsworthy wares, the analogy is correct. But since the industry as a whole has consistently failed to show wares which are either new or newsworthy, the analogy is also pointless. The current revival of the home show (see p. 541) is about four years old, and from a high point which featured the new and newsworthy prefabricated house, it has since declined steadily in the public's interest. Reason: each show has proceeded on the premise that the public could be interested in the same old bill with the same old stars saying the same old lines. The model houses are practically indistinguishable, one from the other; the material exhibits are all as hackneyed as they are dull; and even the FHA's famed "Talking Towers" repeat themselves. By last month this reputation for dullness had become so firmly established that the Press dismissed the latest home show without even bothering to inspect it. That this precipitancy led them to overlook one good news item—but only one—merely confirms the essential soundness of their judgment.

No Broadway producer would think of reviving a dull show. If the building industry wants to get results from its home shows, it is high time it wrote a new one and a good one.

LABOR. Last month the CIO was one and one-half years old. From an idea it had grown to the most powerful force in the history of American labor. It was therefore fitting that, on May 10, to signalize the eighteen months of the CIO's life, Len De Caux, editor of the CIO's Union News Service, should review and define CIO aims. When he got up from his typewriter, he had written something which should, once and for all, blow the fuzz from current thinking on the relationship of the CIO and the building trades of the AFL. Editor De Caux had written of CIO policy:

"The purpose—and the practice—still remains the building of labor organizations where none existed before, not the invasion of organized fields . . .

"(To) illustrate the faithfulness of the CIO to its original purpose of organizing the unorganized, and not disrupting existing unions . . . is the CIO repudiation of unauthorized attempts to inject it into the organized building industry in New York City."

HOME BUILDERS' GUILD. Executives of the National Association of Real Estate Boards have a busy year. Besides the annual national convention, they must attend eight regional conventions, be able to present to the realtors at each constructive and entertaining material.

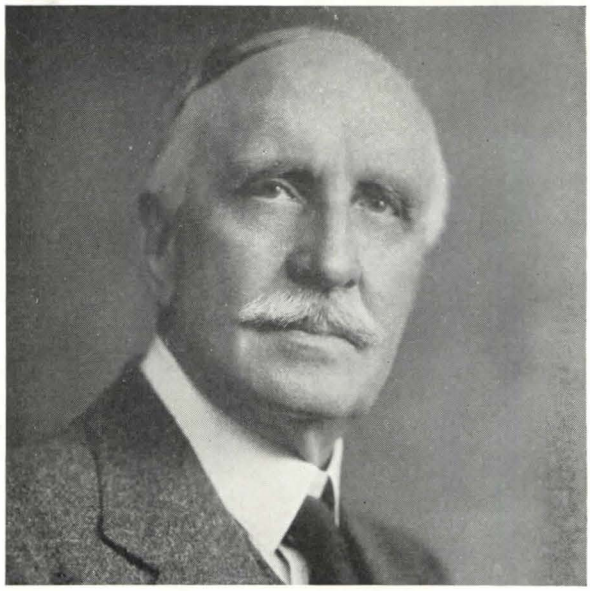
Last month, before the 350 realtors who were lifted to the nineteenth floor of Manhattan's Biltmore Hotel to attend the Middle Atlantic States regional meeting, a firm foundation was laid for one of the soundest NAREB ideas yet conceived, the Home Builders' Guild.

The Home Builders' Guild will have two purposes: 1) to bring together a large group of realtors in the building market so that basic materials can be bought and distributed at greatly reduced costs, and 2) to attract back into the market those realtors who have latterly confined their activities to the selling of lots, thus gain some measure of control over the nation's home building.

Obviously, the Guild will crumble without a large membership, and the Guild's guiding council of six has already undertaken a drive for members. Discussion of what materials and how much of them the Guild will dicker for has been deferred until it can be learned for how many it will be buying. Already the talk has turned to standardization of products and equipment, mass production.

The idea of the Guild has been rattling around for more than two years, awaiting concerted sponsorship and action. Popularly though not formally credited with fathering the idea is Executive Secretary Herbert U. Nelson. However, since energetic Realtor Wanless is chairman of the Land Developers' and Home Builders' Division, the project was properly put under his direction. The five others of the Guild's committee are Houston's Hugh Potter, Kansas City's J. C. Nichols, Baltimore's John McC. Mowbray, Washington's Waverly Taylor, Seattle's Hugh Russell, each already famed as a developer.

(Continued on page 4)



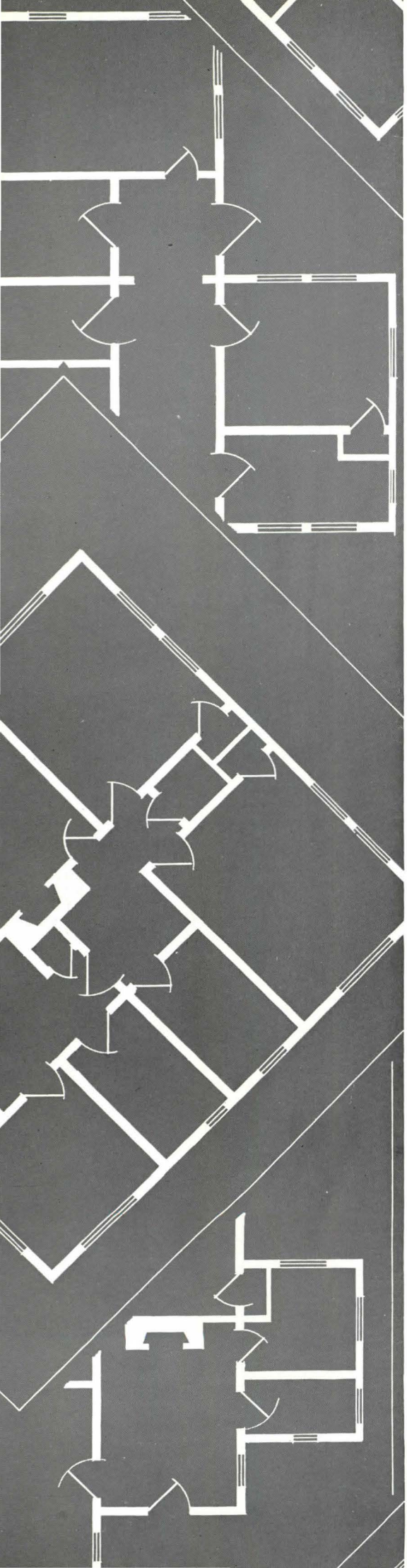
MAN OF THE MONTH . . . as the A. I. A. turns to New England (page 94)

BUILDING OF THE MONTH . . . to a new approach, a League Medal (page 515)

George S. Holmes Co.

PRODUCT OF THE MONTH . . . decibels meet their master (page 537)

The facets of the Housing Problem are as numerous as those of a coronation jewel but they somehow fail in the strong light of publicity to shine with comparable brilliance. Occasional examples point the way to a solution. Thus may be classified the communities designed by the technicians of the Resettlement Administration. In presenting a portfolio of these recently completed houses, THE FORUM is twice motivated—once, to record a significant contribution in housing; again, as a pattern which private industry well may study for clues to simplified, and therefore generally improved, standards of planning, methods of design and construction.

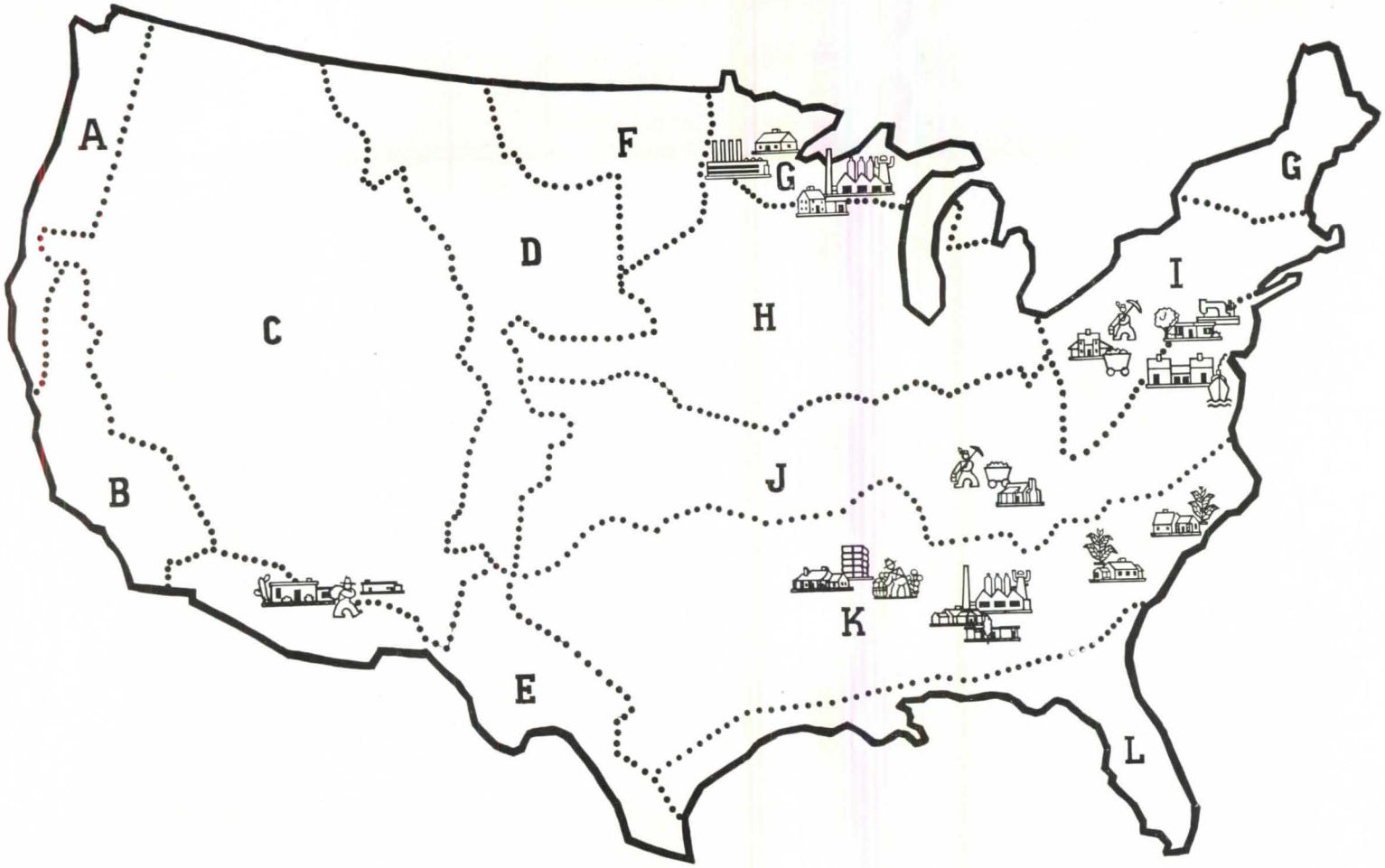


HOUSES

U. S. DEPARTMENT OF AGRICULTURE RESETTLEMENT ADMINISTRATION

HENRY A. WALLACE SECRETARY

W. W. ALEXANDER ADMINISTRATOR



HOUSING NEEDS vary in different parts of the country as heat, cold, altitude, rainfall, and other climatic conditions vary. This map indicates in a general way the areas in which farm families need similar housing facilities with respect to such factors as arrangement of rooms, need for privacy, facilities for outdoor living and working, and heating facilities. The areas are rough approximations, for of course there are great differences within any one of them, and many needs are common to most of them. They represent, however, discernible differences in needs.

ROOMS AND ROOM USES: While residents of homes in all regions express a preference for laundry space outside of kitchens, a majority of farm people in two regions only, K and L, express a preference for separate dining rooms, whereas dining space in kitchen is desired by householders in regions A, B, C, D, E, G, H, I and J. Families in regions B, C, E, G, H, I, J, K and L feel it desirable to have dining porches or terraces in connection with their homes. All regions express a preference for screened work porches and a linoleum covering on the dining area.

CLIMATIC FACTORS: Differences in temperature and humidity in different regions give rise to different needs, although these differences are not sharply defined.

ORIENTATION is another important factor. People in regions E, J, K and L prefer their bedrooms to face on side from which the breeze comes. In regions A, D, F, G, H and I, householders express a preference to have their living rooms face the south (Winter sun); and in regions E, H, J, K and L housekeepers prefer to have their kitchens avoid a western exposure.

DIVISION INTO SECTIONS: As a basis for classifying returns from the studies described in foregoing paragraphs, the United States was divided into twelve sections. The objective in the division was to determine areas in which farmhouses of a given cost level would be similar as to plan. Decisions as to the number and boundaries of sections were based upon weather bureau data, upon United States 1930 Agricultural Census data on sizes of farms and types of farm enterprises, upon the information secured from the forty-four State home demonstration leaders mentioned above, and upon suggestions made by Dr. O. E. Baker and other members of the staff of the Bureau of Agricultural Economics, United States Department of Agriculture. Boundaries were placed along county lines. The division is shown on the map above.

FOREWORD

THIS has been prepared to serve a double purpose: to show some samples of what the Resettlement Administration has done in the planning and construction of houses in rural and semi-rural areas: and to make available to those interested in small house design and construction some information gained from the experience of a Government Agency.

The Resettlement Administration is not and has not been primarily a housing agency. Building houses has always been but one factor in a major objective. For example, the houses it has built in semi-rural areas adjacent to middle-sized and small communities were usually part of a plan which enabled persons who made their living in town to supplement their income by raising certain types of agricultural products. Houses were necessary as places in which these people would live. Moreover, in assisting people who live on farms, the building of the house was not the chief objective. The house is simply an item in the general farm and home plan which has been worked out with these people.

The Government has been guided by the realization that

the conditions which stimulate house building on the edge of small towns are basically different from those on a farm. The person who constructs his own house near a town can usually regard it as an investment. The farmer's house, on the other hand, is a minor part of his investment. His chief investment is his productive land, his live stock, barns, and machinery. These must be cared for first; if his income from them is large enough, he may finally build himself a good house.

Taking such facts into consideration, the problem of building homes has been approached in terms of their surroundings. In the case of farmers, the Administration has not only striven to build better farm houses but also to build them in proper relationship to the farmsteads of which they are units. And where rural homes are an integral part of a community, it has built with the intention of relating each house to the rest of the community.

It should be remembered also that the primary purpose for which the Resettlement Administration received funds was for rural relief. It was possible to supply relief, to assist in the development of sound community life, and to establish housing standards all at the same time. However, rarely is it possible to expend funds in this way and secure the most efficient operations. There are too many conflicting, even though complementary, ends. The circumstances surrounding the use of relief labor, for example, are likely to make such labor costly. Hence low costs are seldom found on such projects.

The difficulties which stand in the way of low cost housing have been the subject of discussion for many years. Private builders have been remarkably successful in achieving economies on large scale mass production in many suburban developments. The very success, however, which has been achieved has been at the expense of variety, space and oft-times quality. The number of factors which must be assembled, the variety of ends sought, have made for increasing awareness of the fact that building a house is one of the most difficult tasks which can be undertaken. No architect or builder, no Government Agency, is today all-wise.

In building a house privately, a person usually follows the customs of his community. These customs have grown up over many years and rest on sound foundations. However, they are also likely to carry over into the house design many features which may have been necessary in the past, but which have outlived their usefulness. Also they fail to take into account the changing circumstances in the newer developments in materials and in the methods of construction. Sound design, then, requires that local prejudice and custom be taken into account, but be fused with the more modern methods.

It is exactly this process which the architects and builders of the Resettlement Administration have tried to follow as they have developed the various houses which the administration has built. No claim is made that perfection has been achieved; nevertheless, the designs which are shown in this booklet have some contribution to make in house planning.

Just like an individual building a house, the Government has had to work out means of obtaining the most house for the least amount of money. Although the Resettlement Administration may have been able to achieve savings through centralized design and planning, and through quantity production and wholesale purchase of materials, the private builders may be able to effect other savings, such as the use of qualified skilled labor, which costs less than the relief labor.

In building its houses, the Resettlement Administration attempted to keep the square foot areas of the houses to a minimum, conforming to the utility needs of each family. Stress was laid on room arrangements which would be most practical for the people living in the houses.

In determining the height of the houses, in stories, certain factors had to be considered: Location, climate, land cost and local custom. Houses that were constructed in the North are frequently one- or two-stories in height with a basement, to facilitate heating, while houses built in the South are often one-story in height without a basement.

The choice of materials for construction is also an important factor in building a house. Certain materials are manufactured in standard sizes and are so carried in stock. The use of standard sized stock materials generally makes for economy. In addition, materials manufactured locally, if practicable, are generally cheaper because of lower transportation costs. Local labor is also generally more familiar with local methods of construction and local materials, and the gain in time resulting from this familiarity is therefore reflected in a definite financial saving.

It is apparent that if the Resettlement Administration were to state the actual immediate costs of some of these houses, it would be completely misleading. An individual who tried to build at the figure stated could not do so. He would have some costs which the Government did not have—on the other hand, the Government had certain costs which the private individual would not have. Such contribution as these designs have is primarily in their suggestive quality. A soundly conceived design is usually more economical than a poor design. The suggestion of a new material or a new way of using an old material will be more helpful than a whole series of cost figures.

Economy does not imply the absence of beauty or taste. No small house is ever completely satisfactory if it is not also attractive; and no housing problem is ever solved that does not install the family amidst homelike surroundings. But little additional is required to obtain esthetic satisfaction. Care in the proportioning of the plan units, the mass of the house, the size and arrangement of the openings or the selection of harmonious colors, costs nothing extra. The resulting attractiveness is a decided incentive toward encouraging the occupants to maintain and enhance this attractiveness with furnishings and planting.

RESETTLEMENT ADMINISTRATION

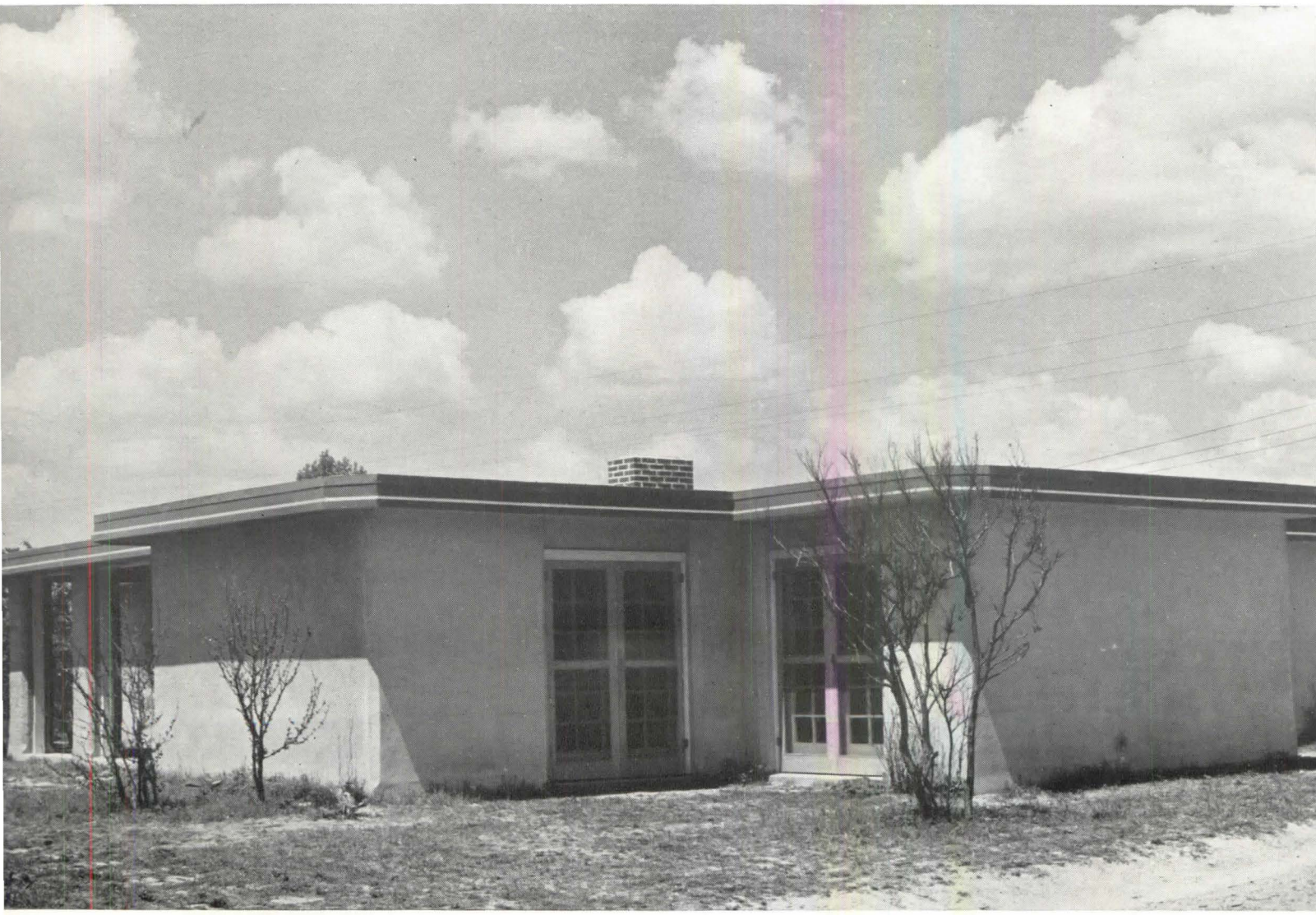
ALABAMA GARDENDALE HOMESTEADS

Seven houses made of mud—rammed earth—constitute one of the unique features of the Gardendale Homesteads. This project, 13 miles from Birmingham, was designed for part-time workers from the industries and white collar trades of the city. The project offers them good homes and a chance to supplement their small incomes by part-time farming on a small scale.

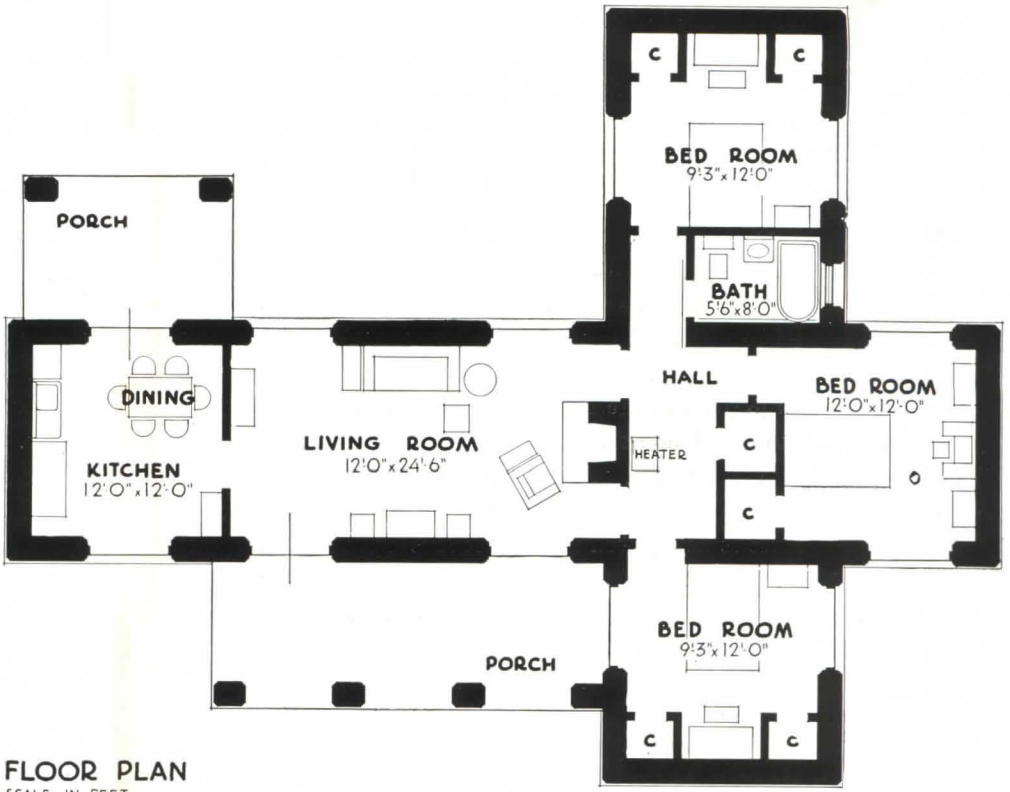
Rammed earth construction consists of tamping the earth in forms. The forms are designed in conformance to the plan. In them earth consisting of three parts sand, two parts clay and one part aggregate, is placed in three inch layers and tamped into a hard compact mass. After each layer has been tamped, another is placed on the form and the work continued until the form has been filled. The form is then raised and the operation is repeated until the wall has been completed.

Aside from the seven houses and barns built of rammed earth, Gardendale Homesteads will contain 68 additional one-story houses. Fifty-six of these are of frame construction, 12 are of brick veneer. With each unit there will be a combination garage, barn and poultry house. The whole tract is 512 acres and the individual tracts range from 3 to 10 acres.

Fencing, landscaping, walks and driveways are provided. Water is supplied by individual wells with pumps and pressure tanks.



TOOLS USED FOR RAMMING



FLOOR PLAN
SCALE IN FEET
0 5 10 15

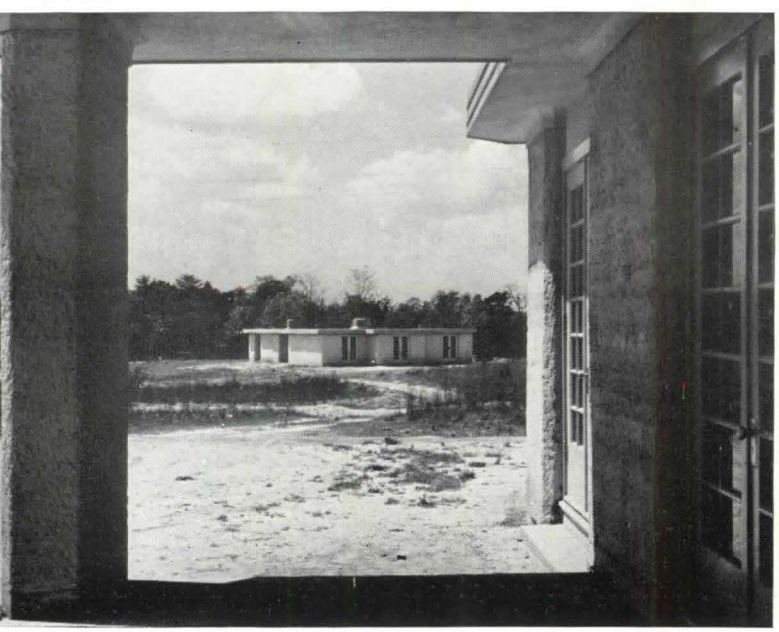
ANALYSIS OF BUILDING

This house is of rammed earth construction. Abundant, unskilled labor and local workable clay and sand deposits make the construction possible. The earth walls make exceptionally good insulating material which, combined with the ventilated roof, produce a house that is cool in hot weather and inexpensive to heat in the winter. The plan emphasizes cross-ventilation in all rooms. The full openings with French doors are used in place of windows because the local climate is such that for nine months of the year the greatest ventilation is desired. For the other three months a device is provided which, in effect, makes casement windows out of the doors. No laundry is necessary because all laundry is done out of doors. The rear porch is used for laundry in inclement weather. Volume: 17,528 cu. ft.

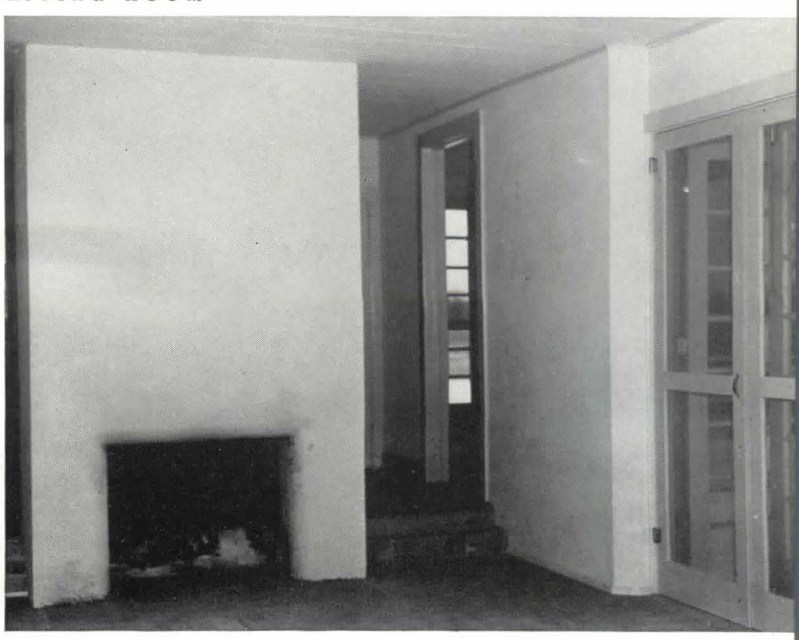
CONSTRUCTION OUTLINE

FOUNDATIONS: Concrete.
EXTERIOR WALLS: Rammed earth; exterior finish, linseed oil.
ROOFS: Wood framing, hollow ventilating spaces; finished roof 5-ply tar and felt.
INTERIOR FINISH: Plaster directly on wall.
CEILINGS: Plaster over plasterboard.
FLOORS: Asphalt tiles on reenforced concrete slab.
WINDOWS: Wood casements.
HEATING: Fireplace and stove in hallway.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Sewerage, individual septic tanks.

PORCH



LIVING ROOM



ALABAMA PALMERDALE HOMESTEADS, BIRMINGHAM

Palmerdale Homesteads is one of the four garden communities the Resettlement Administration is developing for low-income families in and around Birmingham, Alabama. It was designed to make possible a satisfactory standard of living for a group of part-time employes of the steel and chemical plants located in the Birmingham area. It enables these families to supplement their incomes by growing the major portion of their food supply on individual kitchen gardens.

When Palmerdale is completed it will provide 102 modern homes on 3-acre tracts. The first unit of 60 houses is now completed and occupied, and the second unit of 42 houses has also just been completed.

They contain four to five rooms, and are one story high. Thirty-four are of frame construction, eight of brick veneer. In addition to the houses each unit is equipped with a well house and either a combination cow-stall, feed room and poultry house, or a garage and poultry house. Water supply from individual wells, each equipped with automatic pump and storage tank.

A community house will be constructed with facilities for motion pictures, basket ball, community gatherings, kindergarten, clinic, library, and administrative offices. This building will also include a community store and will serve as a school for project children in the lower grades.

ANALYSIS OF BUILDING

The warm climate of its location affected the design of this home. The plan is open; rooms well ventilated. A screened service porch provides space for outdoor dining. There is also a large front porch. Large living room heated by fireplace. Spacious bedrooms are connected by center hall. While initial costs for frame construction with wood siding are lower than the cost of the brick veneer shown above, higher maintenance costs of frame houses, made necessary through the need of constant attention and repainting, partially defeat the low cost objective. Volume: 23,745 cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Brick.
EXTERIOR WALLS: Brick veneer.
ROOFS: Wood framed, red wood shingles.
INTERIOR FINISH: Wall board.
CEILINGS: Plaster.
FLOORS: Pine, double.
WINDOWS: Kitchen range and fireplace.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Sewage disposal by individual septic tanks and tile disposal field.

PORCH

LIVING ROOM

KITCHEN

ARIZONA PART-TIME FARMS, PHOENIX, ARIZ.

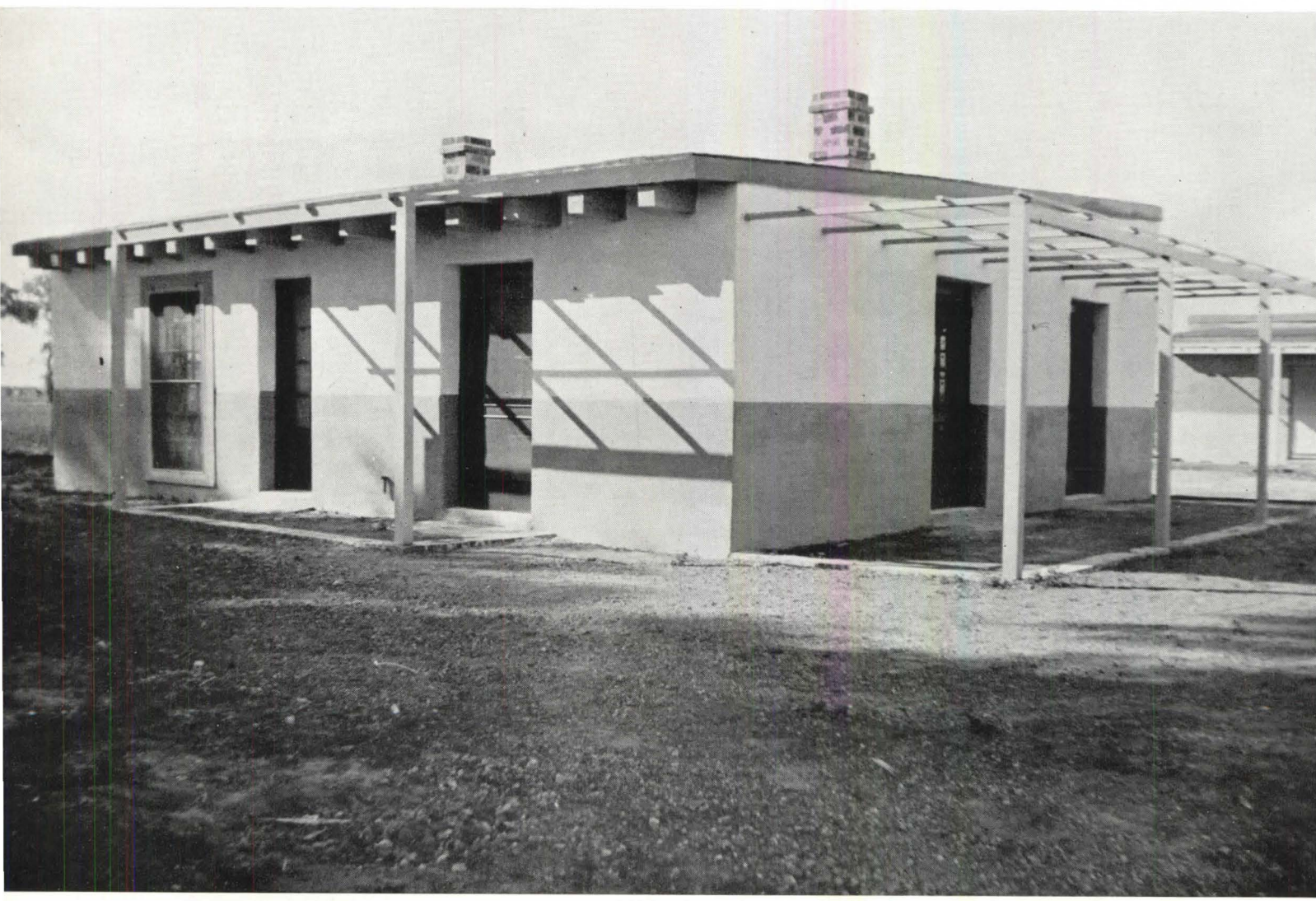
This project is being developed for the resettlement of the families of 100 farm laborers. A large majority of the working population in certain sections of Arizona are employed as farm laborers. The work is seasonal and the family incomes, as a consequence, are small. The project gives these people a chance to supplement their means of livelihood by homegrown foods and a small amount of cash crops.

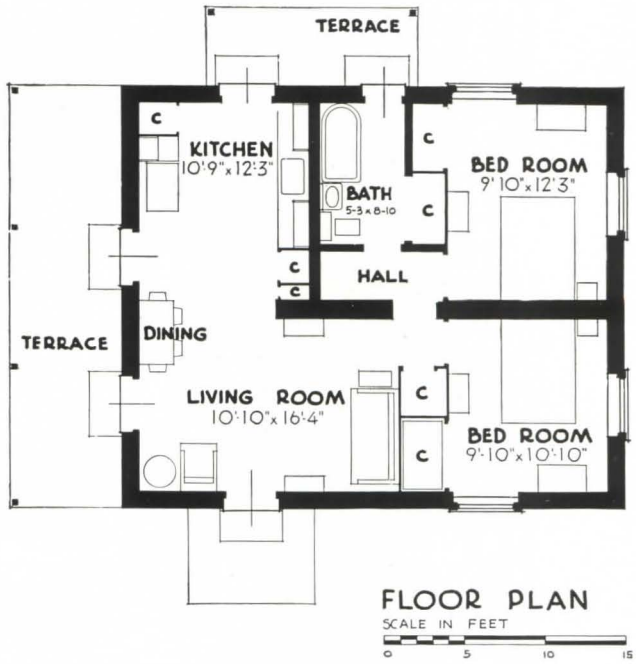
Arizona Part-Time Farms are being developed in three units—24 located at Glendale; 36 at Phoenix; and 40 at Chandler. The Glendale unit has been laid out so that the houses are located on small plots averaging 1/3 of an acre, and the main portion of the land is devoted to a community farm, cooperatively operated by residents in their free time.

In the Phoenix and Chandler units the houses are located on three-acre tracts. A cooperative dairy-poultry-truck farm will provide the families with part of their food.

The houses contain from 3 to 5 rooms, and are one story high. Domestic water supply is from electric motor driven pumps and deep wells. Additional buildings on each farmstead include a barn, poultry house, and milk shed. Fencing, landscaping and orchards are included in the plans as are a cooperative canning room and store.

An irrigation system with individual unit connections will be constructed. The water will be supplied from one general pumping plant.





ANALYSIS OF BUILDING

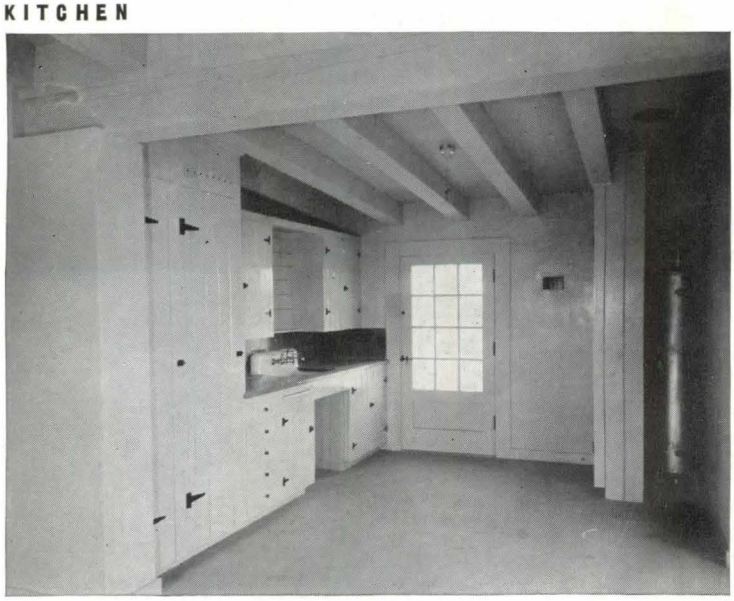
Extremely warm summers and mild winter temperatures characterize this region. The houses of adobe construction are typical of the area. They have paved floors. Their flat roofs are of wood construction, with an insulation of stabilized earth. This stabilized earth is adobe treated with oil emulsion, making it firmer and increasing its resistance to the elements.

The airy sleeping accommodations are completely screened. All of the rooms have cross ventilation and the closets are large in size. Three piece bathroom and kitchen sink. Volume: 10,083 cu. ft.

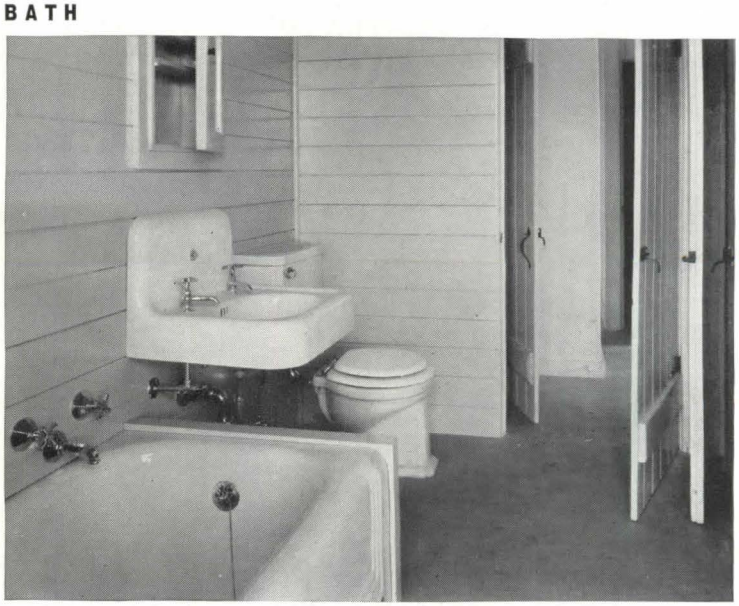
CONSTRUCTION OUTLINE

FOUNDATIONS: Concrete.
EXTERIOR WALLS: Adobe 12 in. thick with stucco exterior.
ROOFS: Stabilized earth.
INTERIOR FINISH: Plaster on metal lath.
CEILING: Plaster on metal lath.
FLOORS: Cement painted.
WINDOWS: Casement type, opening out.
HEATING: Kitchen range.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Sewerage disposal by individual septic tank and tile disposal field.

KITCHEN



BATH



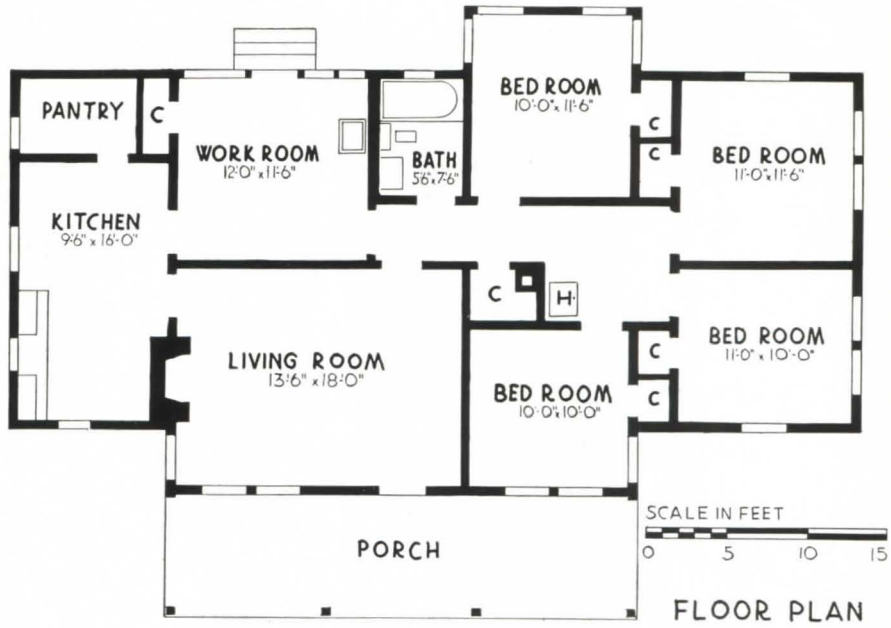
INTERIORS FROM SIMILAR BUILDING WITH PLAN REVERSED

ARKANSAS PLUM BAYOU PLANTATION, JEFFERSON CY.

The community is located on a 5,800-acre tract in Jefferson County, 35 miles from Little Rock, Arkansas. It included one hundred 36-acre farmsteads grouped about a community center and surrounded by woodland and pasture. This project has been designed for the resettlement of young families, whose heads are 35 years or under, selected from the farm families of the State. Many of them have been making a futile attempt to farm poor ground. The rich soil of the project will give them a better chance to earn a livelihood.

On each farmstead a modern one-story home containing from four to six rooms is being constructed. Each tract will be landscaped with native shrubs and trees, fenced, and equipped with a barn, cotton house, poultry house, hog house and well house. Running water under pressure is furnished by an electric pump from deep wells.

Old roads are being improved and new roads being built. Cooperative enterprises, including a cooperative store and warehouse, a cotton gin, a meat curing cold storage and ice plant, and a farm repair shop, are proposed.



FLOOR PLAN

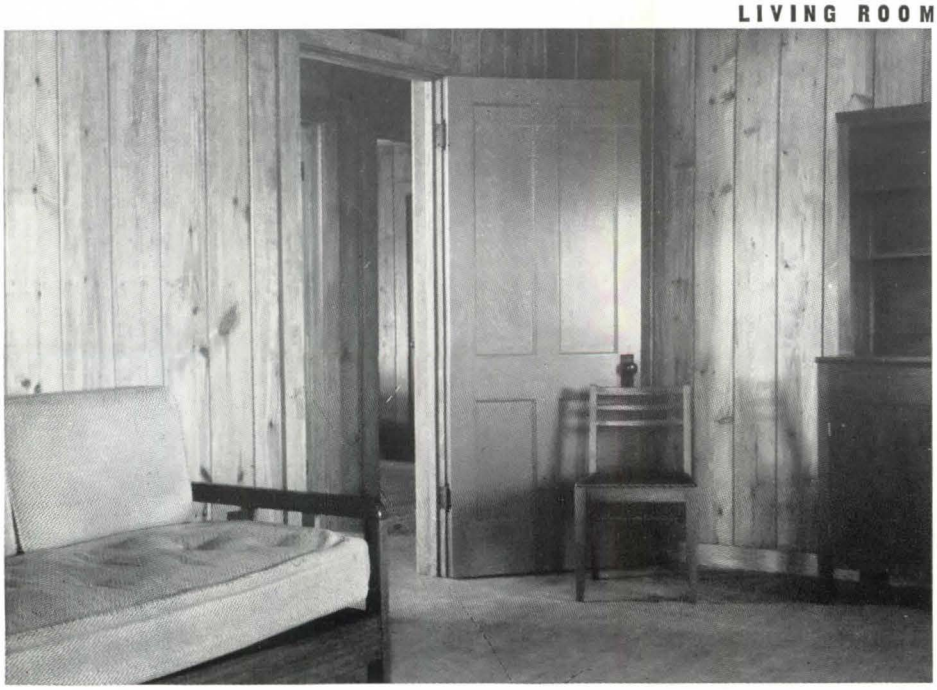
ANALYSIS OF BUILDING

This house is planned for a Southern climate. The arrangement of the rooms and the windows is designed to give the house maximum ventilation. To serve the same purpose louvers are placed in the side walls directly beneath the eaves and an 18 x 24 in. vent in the ceiling of the hall. There is also a 12 x 24 in. vent in the kitchen ceiling over the coal stove. This serves both for ventilation and to carry off the fumes from cooking. The vents may be closed if desired. The foundation of the house has metal termite guards and cast iron air vents. Heating is necessary during part of the year and to facilitate this there is an 8 x 12 in. hot air register over each hall doorway. These openings from the hall to the adjoining rooms are controlled by shutters. The ceilings are insulated with two inches of mineral wool insulation. All chimneys are lined with flue lining. All screen doors and windows are 16 in. mesh bronze screening. The kitchen has a built-in sink, drainboards, and cabinets. There is a large adjoining pantry with ample shelves. The hot water tank is located in the kitchen next to the range. The work porch is screened in and contains large laundry tubs. The bathroom has a bath tub and a lavatory. Volume: 18,250 cu. ft.

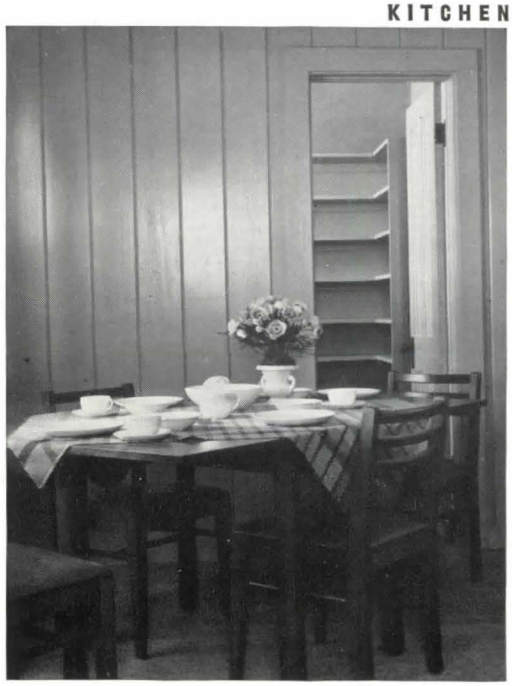
CONSTRUCTION ANALYSIS

FOUNDATION: Concrete wall.
EXTERIOR WALLS: Pine siding over insulating paper.
ROOF: Wood shingles.
INTERIOR FINISH: V-joint No. 2 pine 1" x 8".
CEILINGS: Kitchen and bath—v-joint No. 2 pine 1" x 6".
Remainder of house—v-joint No. 2 pine 1" x 4".
FLOORS: No. 1 edgegreen T&G fir 1" x 4".
WINDOWS: Double hung with wood sash.
HEATING: Fireplace, kitchen range and heater in hall.
PLUMBING: Galvanized wrought iron pipe.
SANITARY FACILITIES: Sewerage; sanitary privies.

LIVING ROOM



KITCHEN



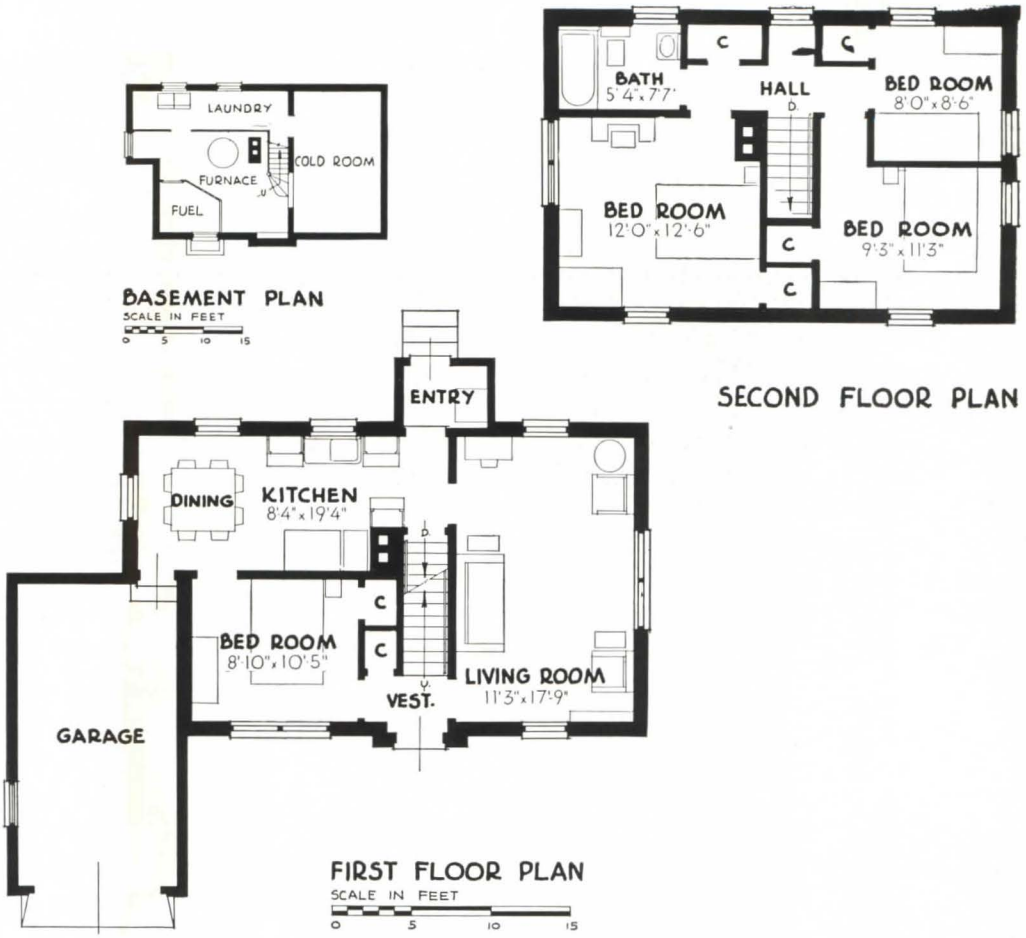
MICHIGAN IRONWOOD HOMESTEADS

A garden community for 200 low-income families, this project is now under construction on 1,600 acres of fertile land in Gogebic County, Michigan. It is a mile and a half north of the town of Ironwood.

Ironwood, an iron-mining town with a population of 14,000 is in the Upper Peninsula of Michigan. Bad housing conditions there were aggravated by the unusual severity of the economic depression in the region. Also, a residential section of the town has been slowly sinking because of underground mining operations. The building of Ironwood Homesteads will not only meet general housing needs but will primarily provide a chance for low-income workers to supplement their incomes with food grown for home consumption. Each family will have a garden plot of at least ⅝ of an acre adjacent to its home.

There will be 200 houses. Houses are two stories high and have from 4 to 6 rooms, basements, and in most cases, garages. The basement has a large cold room. A central water system will supply all buildings.

Cooperative facilities including a trade center, a cannery, dairy barns, hog shelters, and poultry houses are planned. Fencing, landscaping, walks, and driveways are provided.



ANALYSIS OF BUILDING

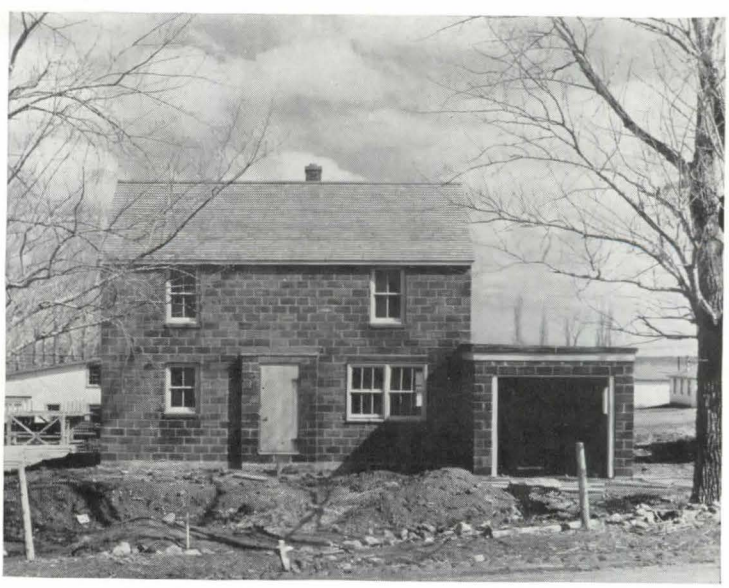
Because of the severe winter cold and the consequently low frost line, foundations are sunk six feet. Further protection against cold is provided by use of ¾ in. insulating material. To overcome the handicap of heavy snow the garage was located in advance of the house in order that access to the highway might be facilitated. A bedroom is located adjacent to the kitchen and may be used for a dining room if not required for sleeping. All plumbing is located on one line of piping. Volume: 18,770 cu. ft.

CONSTRUCTION OUTLINE

FOUNDATIONS: Concrete.
EXTERIOR WALLS: Concrete block veneer.
ROOFS: Cedar shingles; insulation, rigid insulation board.
INTERIOR FINISH: Plywood.
CEILINGS: Plywood.
FLOORS: Basement, concrete; first and second, double floors; finish, fir.
WINDOWS: Double hung, wood sash.
HEATING: Coal fired, duct system, warm air furnace.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Central sewerage system.

REAR

FRONT



PLANS FOR THIS HOUSE SIMILAR TO THAT SHOWN ABOVE, EXCEPT REVERSED

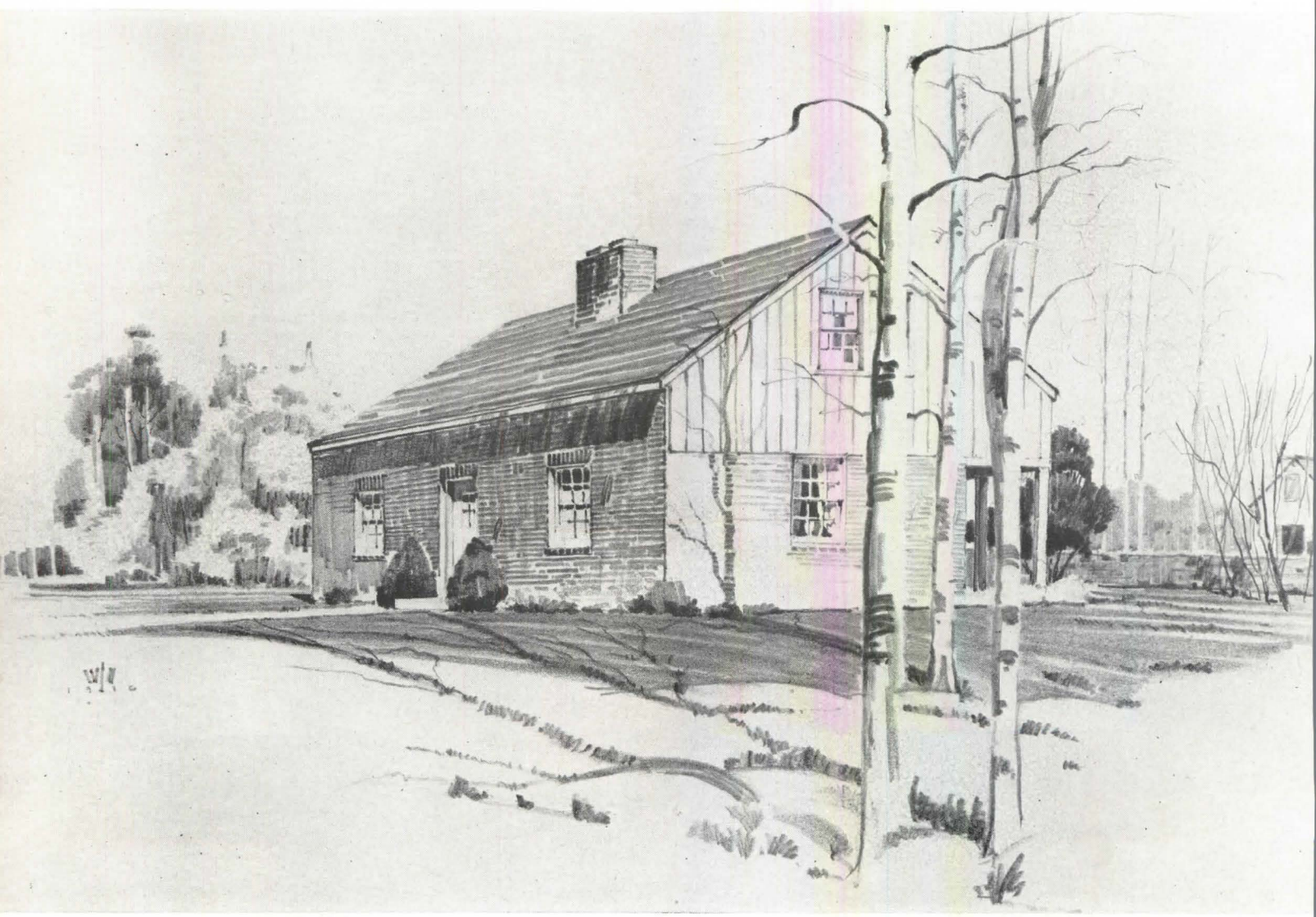
MINNESOTA DULUTH HOMESTEADS

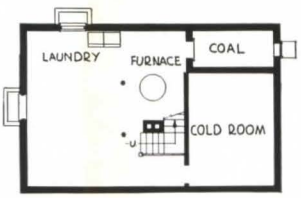
This is a suburban garden community, designed to provide homes for low-income families employed in the iron-works and the other trades and industries of Duluth. The community is located on a 1,200-acre tract in St. Louis County, in the northeastern part of Minnesota, seven miles from the business center of the city of Duluth.

Each home has an adjoining kitchen garden. These gardens enable the residents to supplement their income by raising a portion of their food supply.

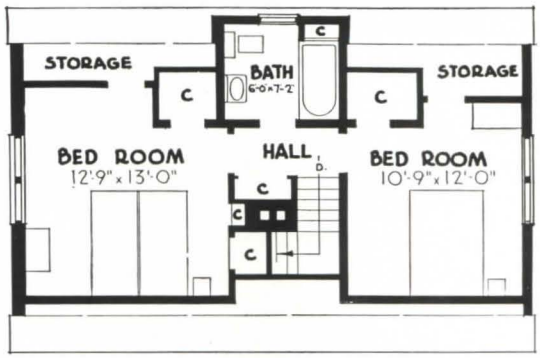
The 95 houses now under construction, of which 40 have been completed, contain from 4 to 6 rooms and are two stories high. The individual plots run from 5 to 10 acres. The necessary barns and other outbuildings are planned. It is planned to build a community building for educational and recreational purposes. Approximately 10 acres of land will be cleared and developed into athletic fields and community park. Fencing, landscaping, and driveways will be provided.

The domestic water supply comes from individual wells with pumps.

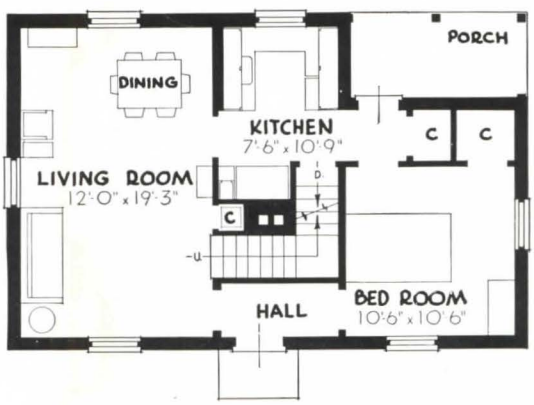




BASEMENT PLAN
SCALE IN FEET
5



SECOND FLOOR PLAN



FIRST FLOOR PLAN
SCALE IN FEET
0 5 10 15

ANALYSIS OF BUILDING

Severe winters characterize the area. All entrances are, therefore, protected by storm entries. All plumbing is located on one line on an interior wall to reduce the possibility of freezing. The kitchen is located between a large living room and a bedroom, either may be used as a dining room. The stairway is located in the center of the house, reducing hall space to a minimum and providing ample closet space. Volume: 15,948 cu. ft.

CONSTRUCTION OUTLINE

FOUNDATIONS: Concrete.
EXTERIOR WALLS: Brick veneer, wood frame, insulation.
ROOFS: Insulated, cedar shingles.
INTERIOR FINISH: Plaster.
CEILINGS: Plaster.
FLOORS: Basement, concrete; first and second, double; finished floor, straight grain fir.
WINDOWS: Double hung, wood sash.
HEATING: Coal fired, duct system warm air furnace.
PLUMBING: Copper tubing for cold water; galvanized iron for cold.
SANITARY FACILITIES: Sewage disposal through individual septic tanks.

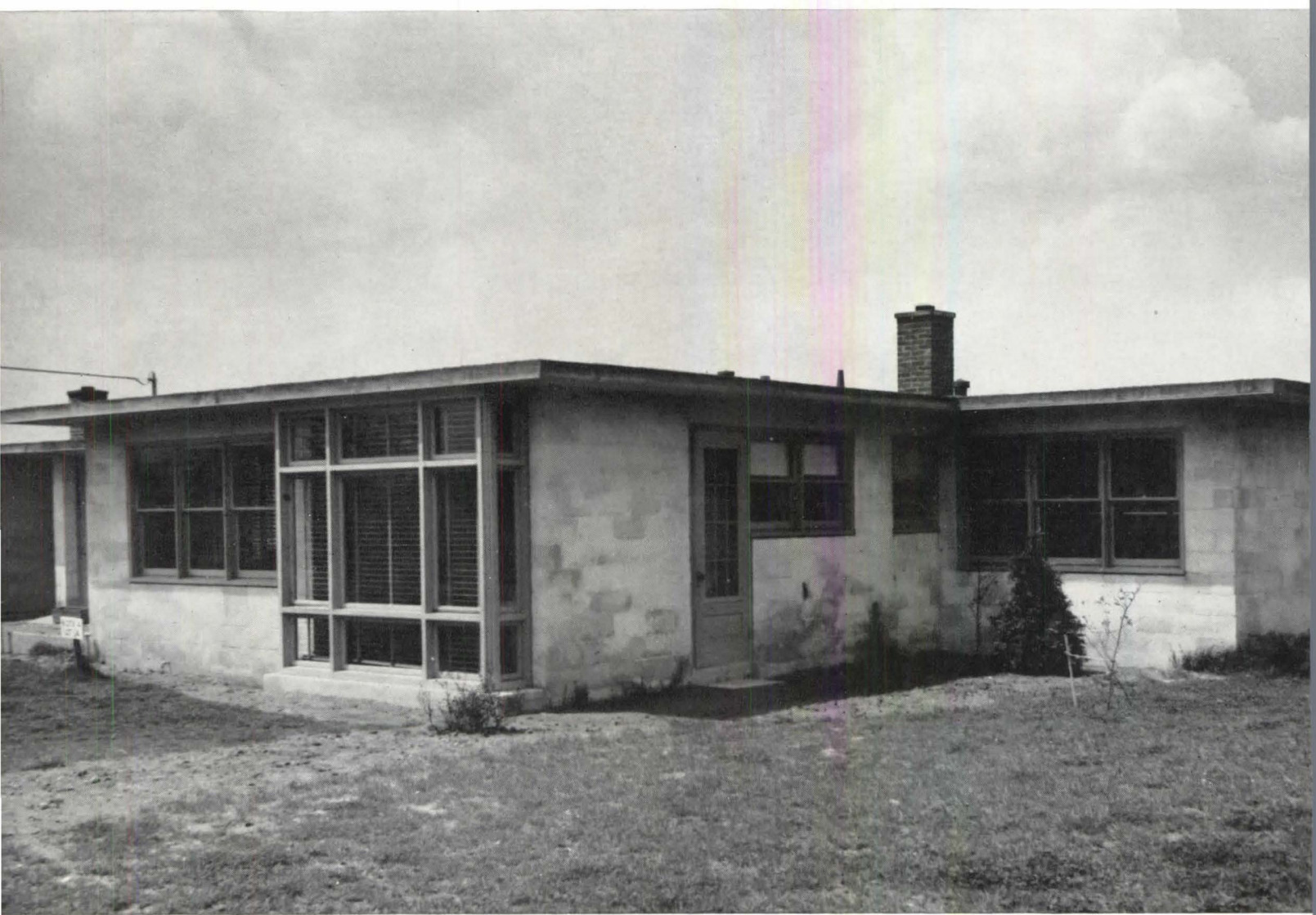
NEW JERSEY JERSEY HOMESTEADS, HIGHTSTOWN, N. J.

This is an agricultural-industrial community located near *Hightstown* in the central part of New Jersey. The 200 families selected for occupancy are needle trades workers from the New York and Philadelphia areas, who have suffered as the result of seasonal unemployment.

The families, cooperatively, manufacture women's garments and operate a 414-acre farm. In addition, they will have their own cooperative stores and shops, a community center and other necessary service trades. Of the 200 families, 160 will work in the factory; 25 will run the cooperative farm, the remaining 15 families will service the community, when in full operation, as clerks in the community store, carpenters, plumbers, shoemakers, barbers, and the like.

The homes are grouped in horseshoe formation, with the community buildings in the center. There are 39 four-room, 106 five-room, 48 six-room, and 7 seven-room houses, all of which are one story in height.

The water supply system includes five miles of main, two artesian wells and a 75,000 gallon reserve tank. The colony's sewage disposal system is one of the most modern in the country, with five miles of sewer ducts and a disposal plant. As soon as possible the community will become an incorporated township and pay State and county taxes.



John Beinert Photos

FLOOR PLAN

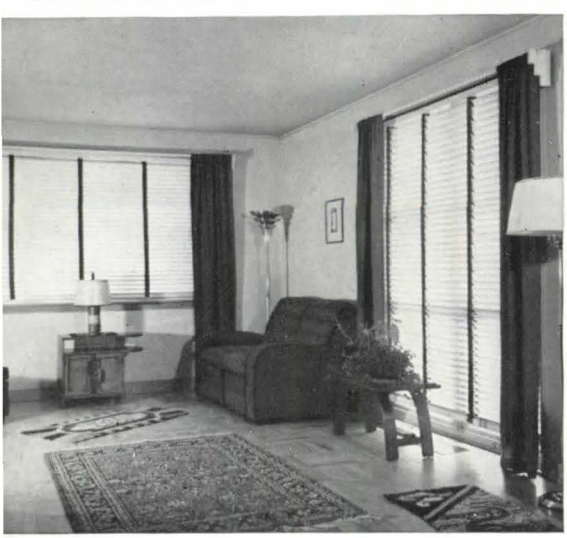
ANALYSIS OF BUILDING

This house was planned to give adequate shelter in a region that has severe winters and warm summers. Its thorough insulation and the design of its heating system help protect its occupants against both heat and cold. Besides the airspace in the cinder blocks its walls have a ⅞ inch furring space. Its ground floor has ½ in. sheet insulation over cinder concrete fill. The roof has 1½ in. sheet insulation. To increase the efficiency of the insulation in the summer time the air ducts of the heating system are brought into use. During the day the insulation absorbs a good deal of the summer heat. To quicken the rate at which the walls cool off at night, a fan forces the comparatively cool night air through the duct system. Another feature is the large overhang on the roof. This shields the interior from the direct rays of the summer sun and still allows the slanting rays of the winter sun to reach inside the house. Volume: 14,800 cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete.
EXTERIOR WALLS: Cinder blocks, furring (wood) strips, insulated wire lath, two coats of plaster (scratch and finish).
INTERIOR FINISH: Plaster finish same as outside wall.
CEILINGS: Casein paint on cement slab.
FLOORS: Hardwood block units, laid in mastic over ½" sheet insulation, excepting bathroom and kitchens, which are of asphalt tile laid in mastic.
ROOF: 4" structural concrete slab, 1½" sheet insulation, 4 ply built up roofing.
WINDOWS: Double hung wood sash, weather stripped with provisions for ventilated storm sash.
HEATING: Gravity oil burning warm air furnace, duct system, forced circulation.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Central sewerage system.

LIVING ROOM



DINING

KITCHEN

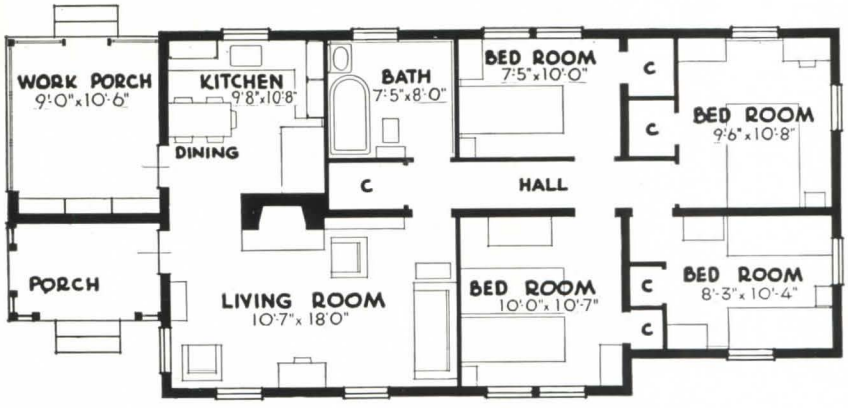
NORTH CAROLINA PENDERLEA HOMESTEADS, WILLARD, N. C.

Penderlea Homesteads, located on the Coastal Plain, forty miles from the city of Wilmington, N. C., has been designed to give farmers in the poor land area around Wilmington an opportunity to relocate on land capable of providing them with a living.

This region is classed by farm economists as being in the farm tenant belt of the nation. Occupant families were selected with this in mind and came from four groups—families living on wornout land, tenant farmers, rehabilitation clients who have been under the care of the Resettlement Administration, and young married couples fitted for and desiring an agricultural life. Approximately 4,500 acres have been purchased for the development of this project.

There are 142 families housed in attractive four- five- and six-room dwellings, one story in height. A farmstead of 20 acres for each family has been cleared and made ready for the planting of crops. In addition to the home there is a chicken house, barn, movable hog house, and a pump house on each tract. Running water under pressure is furnished by electric power-driven pumps from wells.

The small acreages place the residents relatively near one another. The community is organized in cooperation with the State and County.



FLOOR PLAN

SCALE IN FEET

0 5 10 15

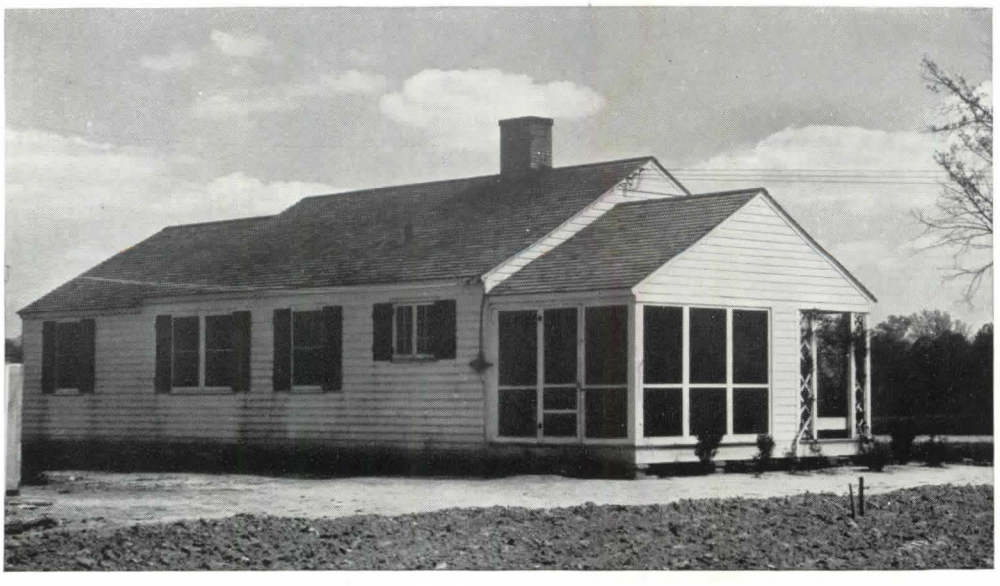
ANALYSIS OF BUILDING

The mild climate influenced the design of these houses. Screened work porch open on two sides may be used for dining in the summer. Living room heated with fireplace. Bedrooms have ample closet space. Three-piece bathroom. Kitchen sink. Hot water tank. Copper termite shields set in foundation. Volume: 13,979 cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Brick piers with copper termite shields.
EXTERIOR WALLS: Wood siding insulated with building paper.
ROOF: Cedar shingles.
INTERIOR FINISH: Knotty pine, waxed; insulated sills.
CEILINGS: Knotty pine.
FLOORS: Double floors, clear yellow pine, stained and waxed.
WINDOWS: Check rail, 12-light, wood sash.
HEATING: Fireplace, kitchen range.
PLUMBING: Galvanized wrought steel tubing.
SANITARY FACILITIES: Sewage disposal by individual septic tank and tile disposal field.

REAR



KITCHEN

SOUTH CAROLINA ASHWOOD PLANTATION

This is an agricultural community, located on a 6,900-acre tract in Lee County in the north central part of South Carolina. It is designed for 134 farm families, most of whom are moving there from poor lands purchased by the Resettlement Administration in its land use program.

The residents will derive their living and cash income from the operation of their individual tracts varying in size from 37 to 60 acres. Several cooperative enterprises, such as cotton gin and tobacco storage barn, may also be developed by the residents.

The one-story homes contain from 4 to 6 rooms. Besides the dwelling each homestead will have a poultry house, a barn, and a storage house. Domestic water supply is afforded by windmills installed on each unit. Necessary roads, bridges, and culverts are being built. Fences, orchards, and landscaping are planned.

It is planned to remodel various existing structures and equip them as a community center. The community center and the playground will provide recreational facilities.

FLOOR PLAN

CONSTRUCTION ANALYSIS

FOUNDATION: Brick piers with termite shields.
EXTERIOR WALLS: Vertical boards and battens.
ROOF: Galvanized iron.
INTERIOR FINISH: Knotty pine, V-pointed boards, stained and waxed.
CEILINGS: ½ inch insulation boards in interior. ¾ inch dressed board on porch.
FLOORS: Wood, stained and waxed.
WINDOWS: Double hung wood sash—not weighted.
HEATING: Open fireplace and kitchen range.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Sewage disposal by individual septic tank and tile disposal field; also complete bathroom and kitchen plumbing.
SERVICES: Electricity—Electric ceiling outlets and wall plugs.

ANALYSIS OF BUILDING

Mild winter temperature prevails. Ample porches provide shade and screened areas for living quarters. The kitchen has space for eating and the adjacent porch may be used for dining area in the summer. Large living room heated with central fireplace. Bedrooms have clothes closets and are connected by bath and small central hall. Large work-room adjoining kitchen has facilities for laundry. Volume: 11,128 cu. ft.

ALTERNATE SCHEME

FLOOR PLAN

TENNESSEE CUMBERLAND HOMESTEADS

Cumberland Homesteads is located on a 13,000-acre tract on the Cumberland Plateau, four and one-half miles from the town of Crossville, Tennessee. It is being built to aid three groups of people: the timber workers, the miners, and the farmers in the poor land areas. Many of these families have been dependent upon private and public relief funds for the last five years. It is an agricultural community planned for 274 families who will derive their income from the cultivation of individual tracts of some 25 acres each, and from the development of cooperative enterprises.

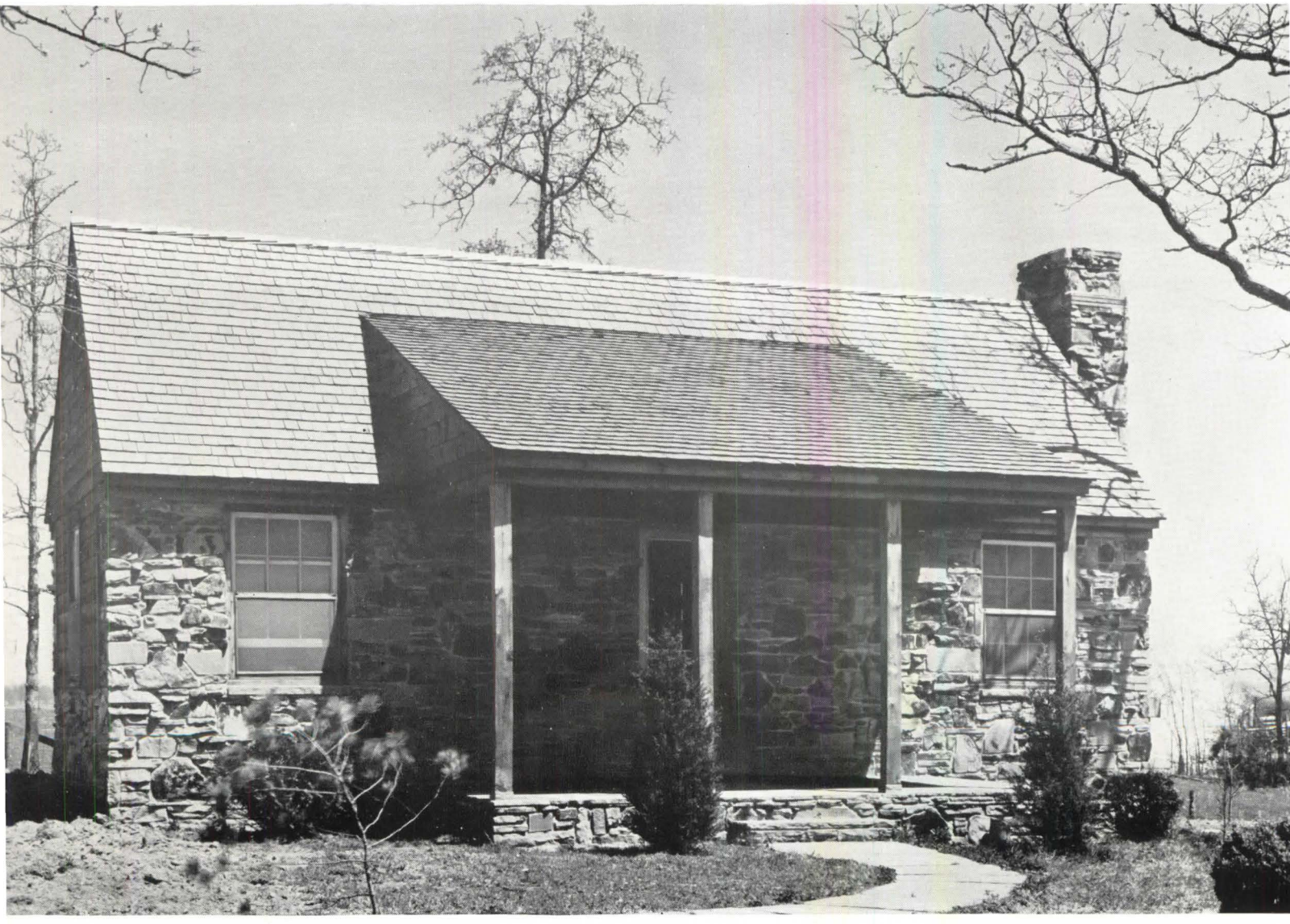
Fifteen different architectural plans, eight of which are recurring, have been used in constructing houses in the community.

They are one and one and one-half stories high and contain from 4 to 7 rooms.

By using local materials—the easily quarried native Crab Orchard stone and the abundant oak and white pine available on the project site—the cost of these houses is extremely low for dwellings of their type.

Additional buildings on each unit will consist of a poultry house, a garage and tool storage house, a stable and barn.

Health facilities are to be provided in part by an infirmary.



ANALYSIS OF BUILDING

Walls, fireplace, and porch floors are of sandstone, quarried locally. Hand-hewn solid oak beams have been used in the interiors and for porch posts. Efficient arrangements for canning and other work are provided in the kitchen. The large living room with dining alcove provides adequate space for the social life of the family during the winter months. The arrangement of closet space, through reduction of hall area, has increased the usable area of the bedrooms. Volume: 13,600 cu. ft.

CONSTRUCTION OUTLINE

FOUNDATION: Crab Orchard stone (native quality).
EXTERIOR WALLS: Stone masonry, furred and lined with native molded wood paneling.
ROOFS: White pine wood shingles.
INTERIOR FINISH: Wood paneling, pine.
CEILINGS: V-joint wood paneling.
FLOORS: Wood framing, double; finish, native oak.
WINDOWS: Double hung and casements, wood sash.
HEATING: Coal and wood burning stoves and fireplaces.
PLUMBING: Galvanized wrought iron piping.
SANITARY FACILITIES: Individual septic tanks.

REAR ELEVATION

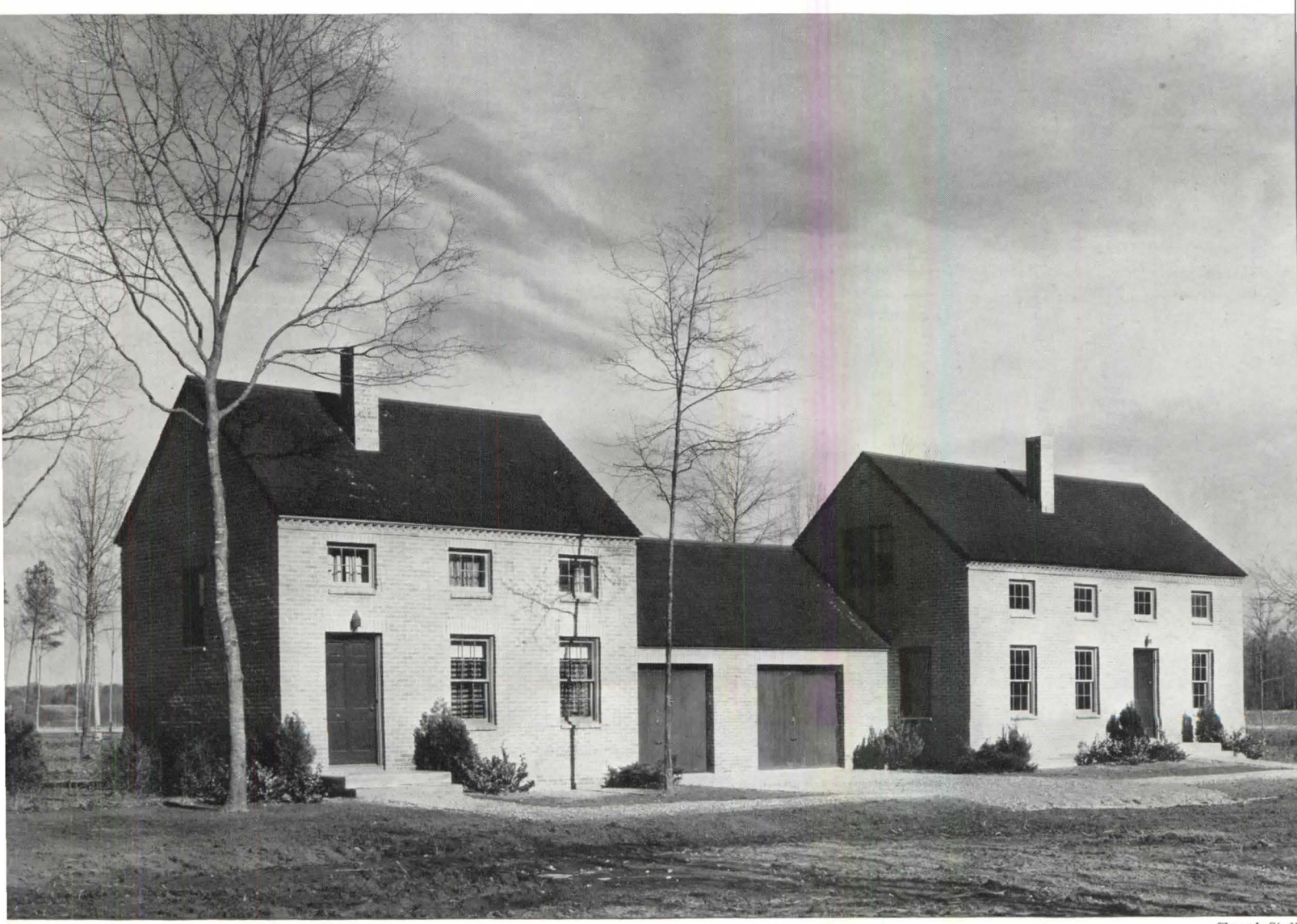
DINING

VIRGINIA NEWPORT NEWS HOMESTEADS

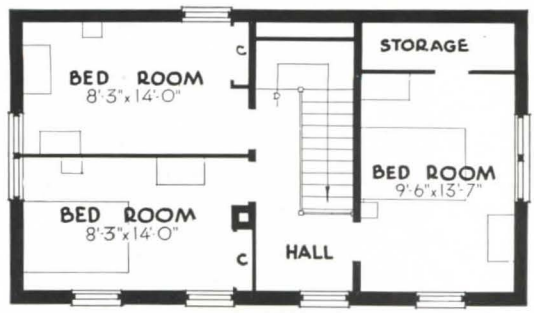
Located on the Aberdeen Road, this community is some four miles from the business center of Newport News, Virginia. It is of the suburban type, designed to provide homes with gardens for 158 low-income colored families. These families are employed, full or part-time, in the shipyards, railroad industries and other trade and service occupations in the Newport News and Hampton Roads area. They will be able to supplement their earnings with food grown for home use in the kitchen gardens.

The plot arrangement of this project provides for a concentrated group of living units surrounded by a greenbelt of forest land and truck gardens. The individual units consist of ⅜ to ½ an acre and are grouped about a community building and shopping center.

The homes are constructed in two-family units, being connected by attached garages which also serve as workshops and laundries. The houses are of seven types and vary in size from 3 to 5 rooms. They are two stories in height. The living room can be converted into an auxiliary bedroom. A cooperative association is being formed for the operation of the truck farms on the 110 acres comprising the outside circumference of the community.



Cheyne's Studi



SECOND FLOOR PLAN

FIRST FLOOR PLAN

SCALE IN FEET

0 5 10 15

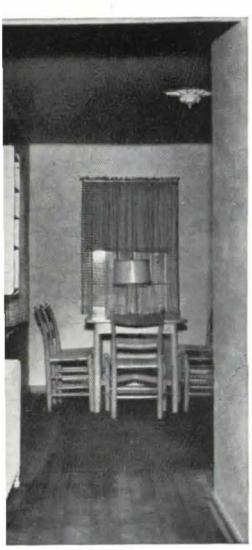
ANALYSIS OF BUILDING

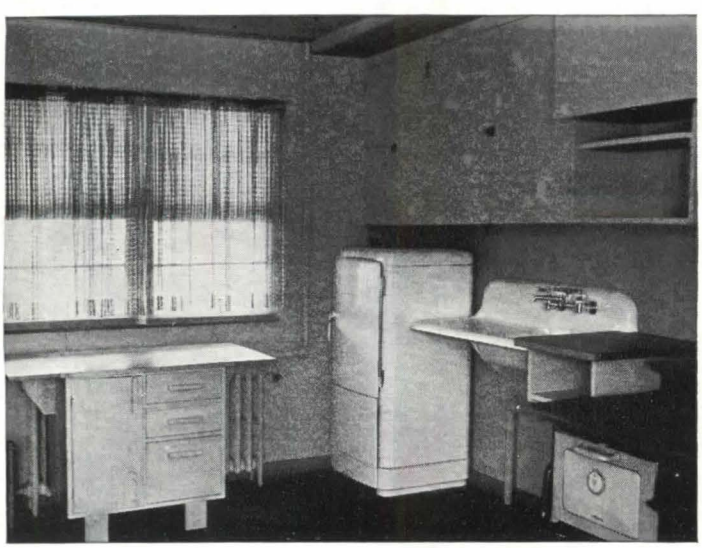
Economy in construction and space arrangement, without sacrifice of low maintenance cost, is characteristic of this house plan. On a strictly cost basis one sizable combination living-workroom was substituted for the usual living room-dinette-kitchen elements. Provision is made in the plan for additions to the house. In view of the hot summers, adequate porches are provided adjacent to the kitchen gardens and cross ventilation maintained in all rooms. The utility room, or garage, was substituted for a basement. Volume: 15,200 cu. ft.

CONSTRUCTION OUTLINE

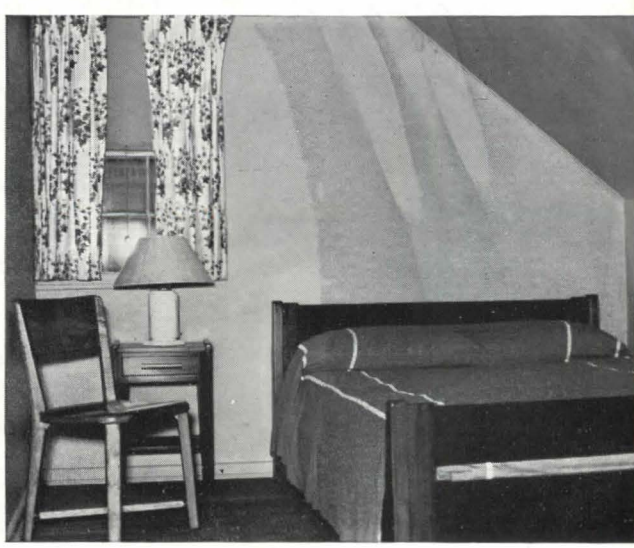
FOUNDATION: Concrete.
EXTERIOR WALLS: Brick veneer, wood frame.
ROOFS: Cedar shingles.
INTERIOR FINISH: Plaster board.
CEILINGS: Plaster board.
FLOORS: Wood.
WINDOWS: Double hung.
HEATING: Coal fired hot water radiation.
PLUMBING: Copper tubing.
SANITARY FACILITIES: Central sewerage system.

KITCHEN





BED ROOM



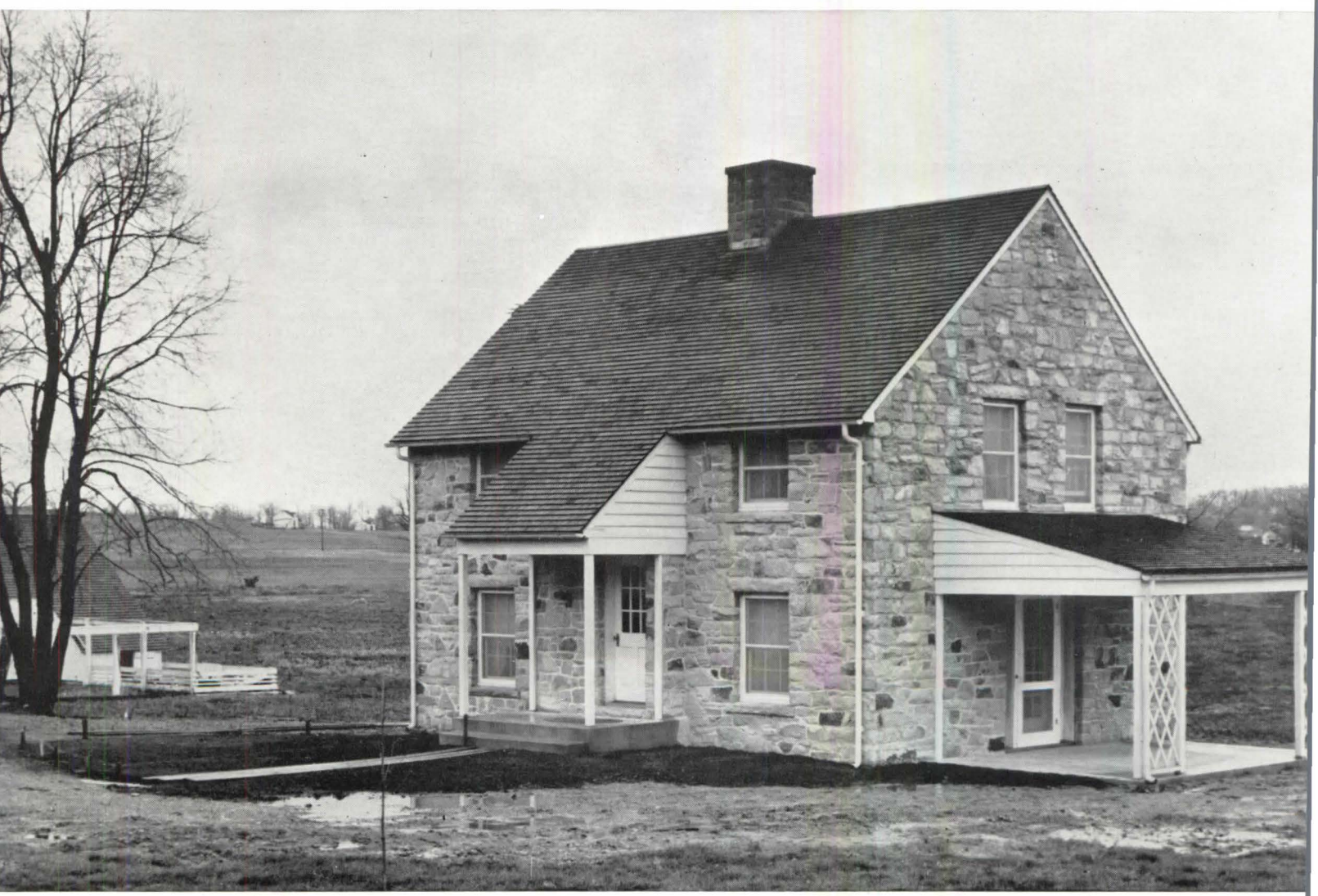
WEST VIRGINIA ARTHURDALE COMMUNITY

The Arthurdale Community was initiated by the Subsistence Homesteads Division of the Department of Agriculture for the purpose of rehabilitating, both socially and economically, destitute mining families by establishing them in small farm homes and providing them with a new form of livelihood. Labor saving machinery, improved mining methods, and the competition of other fuels created a growing surplus of partially employed labor in this section long before production was curtailed or the mines closed. As a consequence of this situation, families found themselves either without any means of livelihood, or reduced to an extremely low standard of living.

The employment opportunities offered by two small private industries, and the development of cooperative agriculture and community enterprises by the Arthurdale Association with homestead membership chartered under the laws of West Virginia, assures future economic security to the 165 Arthurdale homesteaders. Additional income is provided the occupants through individual subsistence garden and livestock activities on home tracts.

The community of 165 houses is laid out on a 1,377 acre tract, with 26 four-room, 23 five-room, and 116 six-room houses located on 2.25 to 5.11 acre individual tracts; 444.79 additional acres have been purchased by the Arthurdale Association for a cooperative farm.

First unit of fifty houses are rebuilt portable Hodgson houses, one story cedar and pine frame dwellings with cinder block basements. Second unit of 75 houses are two-story frame dwellings with cinder block first floor designed and constructed at the project. Third unit of forty houses same except for first floor of stone veneer instead of cinder block. Some houses in last two units have cellars; others have storage and furnace rooms on the first floor. One hundred and fifty-eight outbuildings are combination barn, poultry house, and pig pen. The remaining seven houses have garages.



1ST FLOOR PLAN

2ND FLOOR PLAN

CONSTRUCTION OUTLINE

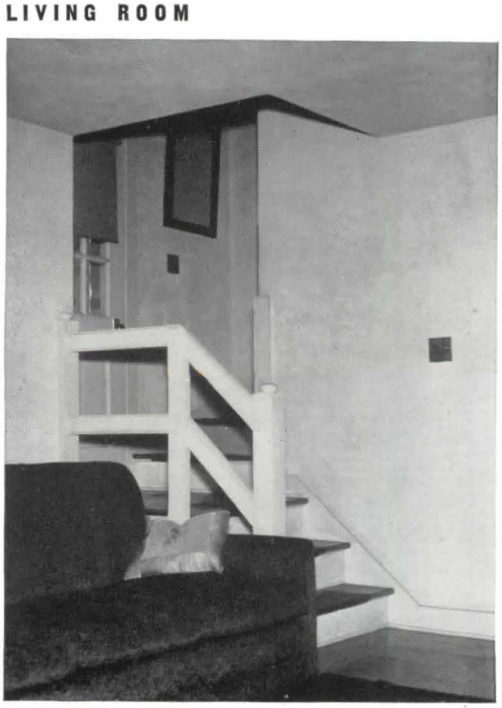
FOUNDATION: Concrete base with concrete footings.
EXTERIOR WALLS: 1st floor: Cinder concrete block. 2nd floor: Wood stud. Wall cover: Clapboard.
ROOF: Cedar shingles.
WINDOWS: Double hung sash.
DOORS: Standard panel.
FLOORS: 1st floor: asphalt tile, cement in Work Room. 2nd floor: Hardwood.
WALLS INSIDE: Plaster.
CEILINGS: Plaster.
PLUMBING: Standard throughout. Kitchen with sink and drainboard. Work room two laundry trays. 2nd floor, complete bathroom.
SEWAGE DISPOSAL: Septic tank with grid field for disposal.
WATER: Individual well, operated by electric pump and pressure tank, for house service.
HEATING: Hot water boiler, with radiation throughout.
ELECTRIC: Individual meter service from project lines.

ANALYSIS OF BUILDING

A well-planned house with four bedrooms. Special attention paid to house service as shown by the arrangement of kitchen, work room, and storage space. Due to the generous size of the living room, a separate dining room was omitted—in line with custom in this locality. Ample closet space in the bedrooms gives the housewife an opportunity to keep things in order. Volume: House, 13,417 cu. ft. Porch, 1,536 cu. ft.


Rothstein

LIVING ROOM



RURAL RESETTLEMENT COMMUNITIES*

ALABAMA
GARDENDALE HOMESTEADS, BIRMINGHAM
GREENWOOD HOMESTEADS, BIRMINGHAM
PALMER HOMESTEADS, BIRMINGHAM
PALMERDALE HOMESTEADS, BIRMINGHAM
SLAGHEAP VILLAGE, BIRMINGHAM
BANKHEAD FARMS, JASPER
CUMBERLAND MOUNTAIN FARMS, JACKSON COUNTY

ARIZONA
PHOENIX HOMESTEADS, PHOENIX

ARKANSAS
WRIGHTS PLANTATION, JEFFERSON COUNTY
LAKEVIEW, PHILLIPS COUNTY

CALIFORNIA
EL MONTE HOMESTEADS, LOS ANGELES
SAN FERNANDO HOMESTEADS, LOS ANGELES

GEORGIA
WOLF CREEK FARMS, GRADY COUNTY
IRWIN HOMESTEADS, IRWIN COUNTY
PIEDMONT HOMESTEADS, JASPER COUNTY
BRIAR PATCH, PUTNAM COUNTY

ILLINOIS
LAKE COUNTY HOMESTEADS, LAKE COUNTY

INDIANA
DECATUR HOMES, DECATUR

IOWA
GRANGER HOMES, GRANGER

MICHIGAN
IRONWOOD HOMES, IRONWOOD

MINNESOTA
AUSTIN HOMES, AUSTIN
DULUTH HOMES, DULUTH

MISSISSIPPI
HATTIESBURG HOMESTEADS, HATTIESBURG
MAGNOLIA HOMESTEADS, MERIDIAN
McCOMB HOMESTEADS, McCOMB
RICHTON, PERRY COUNTY
TUPELO HOMESTEADS, TUPELO

MONTANA
MALTA HOMESTEADS, PHILLIPS COUNTY

NEBRASKA
KEARNEY HOMESTEADS, BUFFALO COUNTY
SOUTH SIOUX CITY HOMESTEADS, DAKOTA COUNTY
GRAND ISLAND HOMESTEADS, HALL COUNTY
FAIRBURY HOMESTEADS, JEFFERSON COUNTY
FALLS CITY HOMESTEADS, RICHARDSON COUNTY
SCOTTSBLUFF, SCOTTSBLUFF COUNTY
LOUP CITY HOMESTEADS, SHERMAN COUNTY

NEW MEXICO
BOSQUE FARMS, VALENCIA COUNTY

NEW JERSEY
JERSEY HOMESTEADS, HIGHTSTOWN

NORTH CAROLINA
ROANOKE HOMESTEADS, HALIFAX COUNTY
PENDERLEA HOMESTEADS, PENDER COUNTY

PENNSYLVANIA
WESTMORELAND HOMESTEADS, GREENSBURG

SOUTH DAKOTA
SIOUX FALLS HOMESTEAD, MINNEHAHA COUNTY

TENNESSEE
CUMBERLAND HOMES, CROSSVILLE

TEXAS
BEAUXART GARDENS, BEAUMONT
DALWORTHINGTON GARDENS, DALLAS
HOUSTON GARDENS, HOUSTON
THREE RIVERS GARDENS, THREE RIVERS
WOODLAKE HOMESTEADS, TRINITY COUNTY
WICHITA GARDENS, WICHITA FALLS
WICHITA VALLEY HOMESTEADS, WICHITA COUNTY

VIRGINIA
NEWPORT NEWS HOMESTEADS, NEWPORT NEWS
SHENANDOAH HOMESTEADS, PAGE COUNTY

WASHINGTON
LONGVIEW HOMESTEADS, LONGVIEW

WEST VIRGINIA
ARTHURDALE HOMESTEADS, PRESTON COUNTY
RED HOUSE, PUTNAM COUNTY
TYGART VALLEY HOMESTEADS, RANDOLPH COUNTY

★ The exact status of several of these projects has not been finally determined.

PLANNING TECHNIQUES

FOR NEW AND REMODELED BUILDINGS

VIEW 1 OF SHOWROOM PAGE 502

John Beinert

NO. 4. WHOLESALE SHOWROOMS

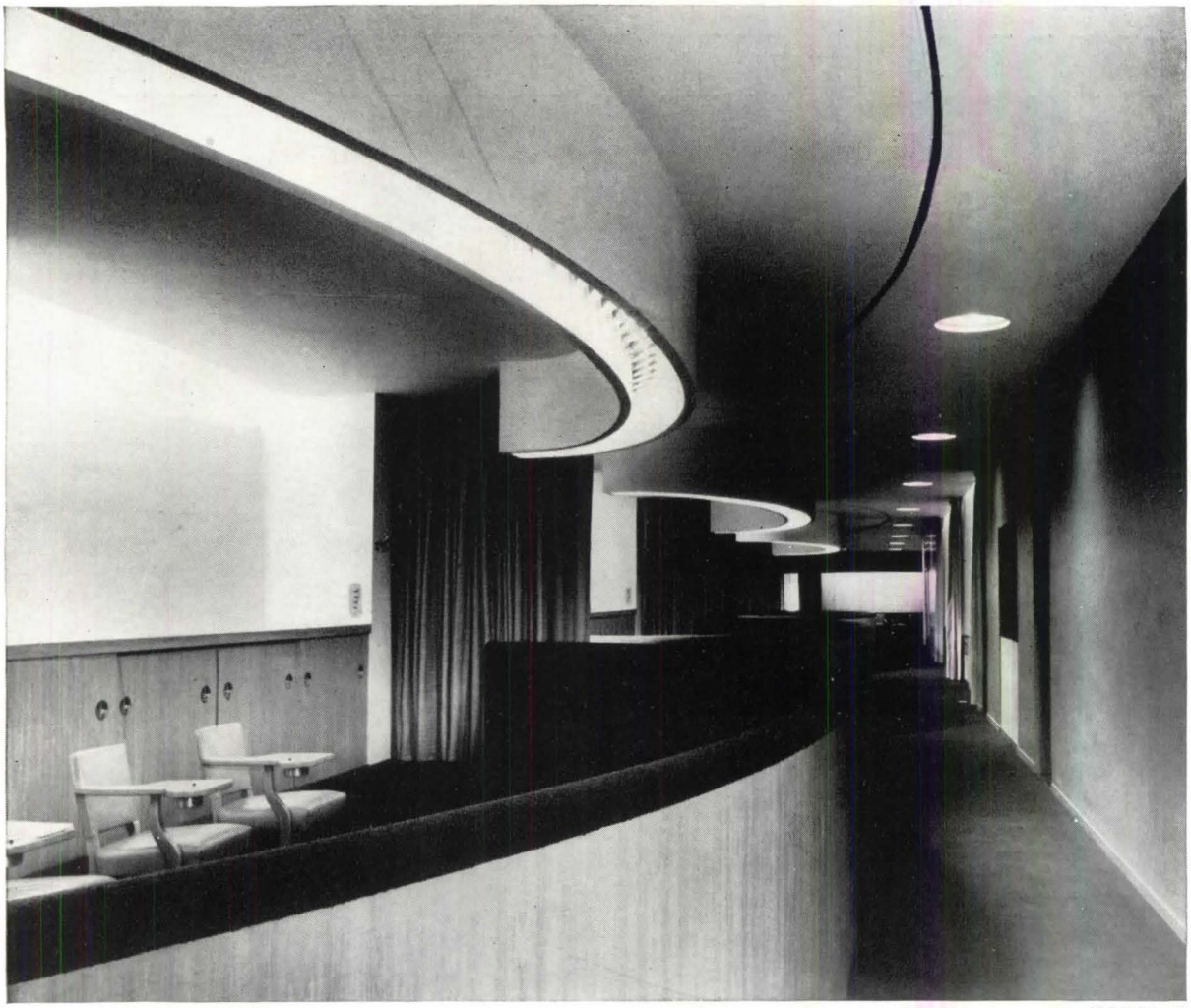
WITHIN a comparatively short space of time a new field has opened up to the designer: that of wholesale display rooms. It has long been contended that the showroom for the trade needs no face-lifting, that the visiting buyer knows what he or she wants, and that there is no point in spending substantial sums of money on convenience, comfort and atmosphere. The first doubts as to the soundness of this viewpoint began to appear when the effects of intelligent remodeling showed up in the sales records of retail shops. These doubts increased when a few venturesome manufacturers had their display rooms replanned to fit the requirements of their products. Now, the field is very active and the trend is definitely up.

The problem of a wholesale showroom is a very special one. In the first place only a limited line of goods is handled, such as carpeting, lace, or optical instruments, and each line has its own specific display requirements. In the second place the clientele consists of a limited number of buyers, each of whom, however, is a prospect for a fairly sizable order. These factors help to explain the appearance and arrangement of the interiors shown on this and the following pages.

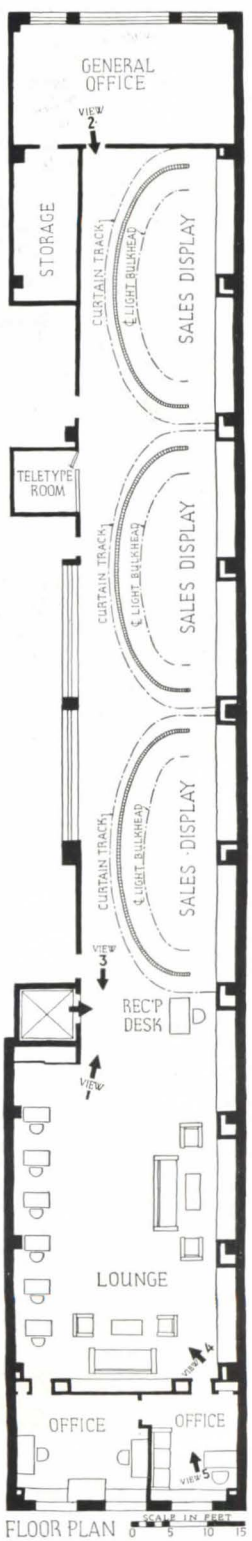
It will be noted that each of the showrooms selected is distinctly modern in design, even in the case of a company which sells lace in period patterns. This, however, is not entirely the reflection of an editorial preference: the showroom imposes a set of requirements which have little to do with architectural precedent. It must be completely unobtrusive, because the merchandise is the thing; it must incorporate lighting fixtures whose efficiency could not be duplicated by chandeliers; it must frequently contain storage space that is immediately accessible but unnoticeable; it must be flexible in its use. Modern design provides the logical solution to these requirements because to a large extent it has been called into existence by them.

Previously published in this series: NO. 1. SERVICE STATIONS, February 1937; NO. 2. SHOE STORES, March 1937; NO. 3. CAFETERIAS AND LUNCHEONETTES, May 1937.

LACE.... WHOLESALE SHOWROOMS



Richard C. Wood **VIEW 2**



FLOOR PLAN

WILKES-BARRE LACE CO., NEW YORK CITY

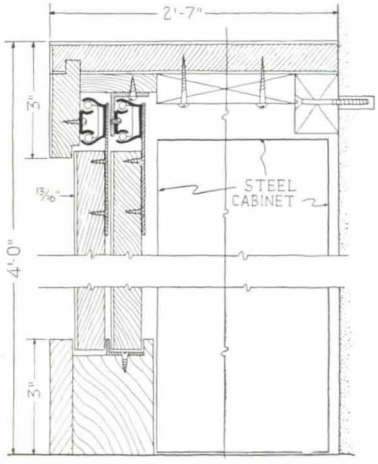
RUSSEL WRIGHT, DESIGNER

A SHOWROOM the length of a New York City block but only 20 ft. wide save at the ends presents a problem quite distinct from that of effective merchandise display. The solution, therefore, is of particular interest. To break up the long corridor three enclosures were created, well lighted from above, with curtains that can be pulled when privacy is desired. At the end is a lounge and a series of desks for the use of buyers. It was felt by the designer that any decided color scheme would have an unfavorable effect on the appearance of the lace displayed, and everything was toned to the characteristic beige color of the merchandise. The wood in walls and furniture is blond, walls are either white or a warm chocolate brown, and the carpet, almost black in value, is used not only on the floor, but on the inside of the showroom enclosures. This dark background provides an excellent contrast to the samples draped over it. Fixed displays of lace have been incorporated in the walls of the lounge, with lighting behind the exhibits to show off the pattern as distinctly as possible.

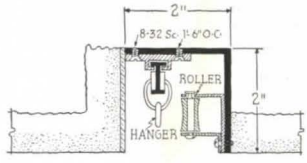
VIEW 3

John Beinert Photos

VIEW 4



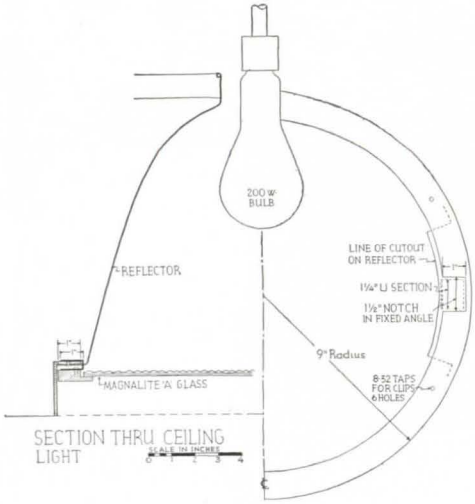
SECTION THRU CABINET



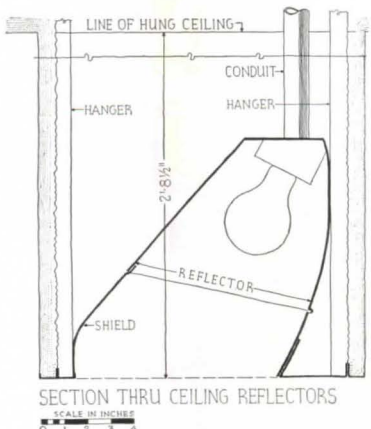
SECTION THRU CURTAIN TRACK

FINISHES AND EQUIPMENT

Partitions: gypsum block plastered and finished with Granitex, U. S. Gypsum Co., Inc. Floor coverings: Lokweave carpet, Bigelow-Sanford Carpet Co., Inc. Wall coverings: aspen flexwood, U. S. Plywood Co., Inc. Cabinet: flexwood, U. S. Plywood Co., Inc. Ornamental iron: Acme Iron Works. Sliding door track, McCabe Hanger Mfg. Co. Drapery track, Kroder Roebel Co. Lighting: indirect; special fixtures of satin chromium, Acme Iron Works. Ventilating: Exhaust fans with Uni-flo grilles, Barber-Colman Co. Desks, Conant Ball Mfg. Co. Other equipment: one-arm chairs with built-in ash receptacles, special. Albert A. Lutz & Co., Inc., General Contractors.



SECTION THRU CEILING LIGHT

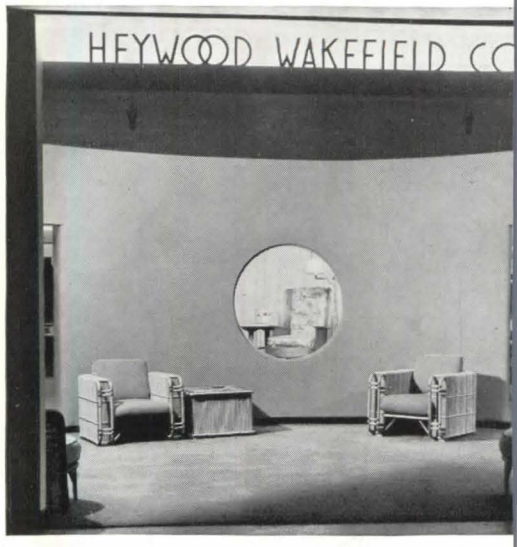


SECTION THRU CEILING REFLECTORS

VIEW 5

VIEW 1

Hedrich-Blessing Photos



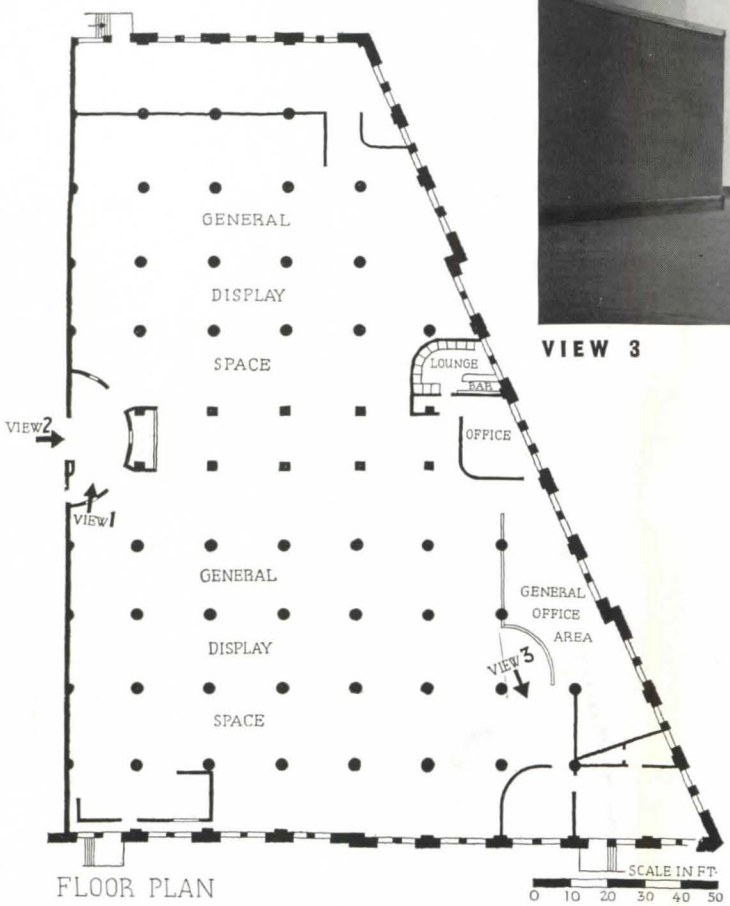
VIEW 2

HEYWOOD WAKEFIELD COMPANY, CHICAGO, ILL.

GILBERT ROHDE, DESIGNER

DUE to the diversity and bulk of the products of a furniture manufacturer the main requirement for a showroom is a large general area where exhibits may be grouped and re-grouped as new lines come out. In the case of the Heywood Wakefield showroom it was also necessary to provide a number of special display areas, as the company manufactures school chairs and theater seats, seating for cars and buses, and baby carriages. This merchandise has been located at the ends of the showroom as it is not of interest to all buyers and bar equipment has been placed in a special lounge for the same reason. The small office area occupies a portion of the exterior wall, with partitioning designed to allow a maximum of daylight to enter the general display space. Color in the entrance hall is white on the ceiling, yellow on the furred-down portion, and deep blue on the circular wall. The Transportation Seating Department, shown on the opposite page, has reddish gray and off-white walls, gray lettering, and red for the locomotive cut-out. Columns are a neutral metal tone. Rattan has been used extensively in the lounge, unobtrusively recalling the furniture in this material which forms an important part of the company's line. A feature of the entrance hall is the series of circular show windows which are used for seasonal displays.

VIEW 3

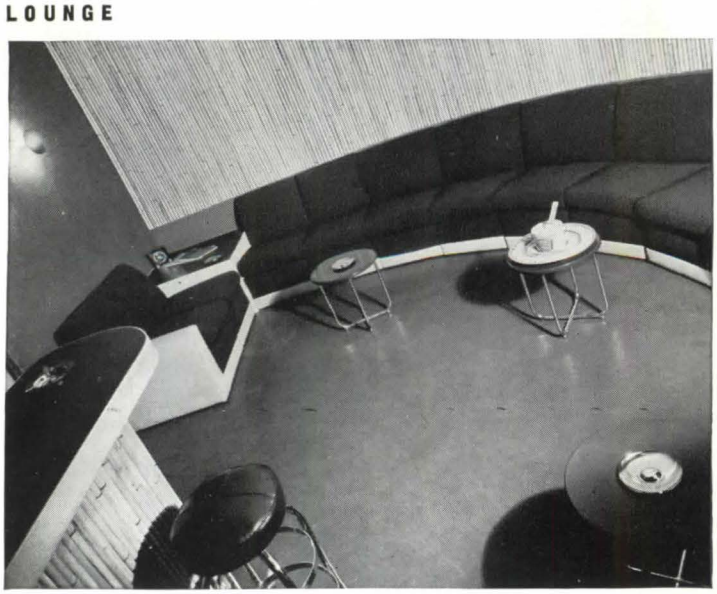


FLOOR PLAN

FINISHES AND EQUIPMENT

Partitions: fiber board, open cane on hard board low partitions. Walls to ceiling gypsum block and plaster, Certain-teed Products Corp. Floor coverings: linoleum in lounge, Sloane-Blabon Corp.; all other floors, carpet, Bigelow-Sanford Carpet Co., Inc. Wall coverings: loom-woven fiber on partitions, rattan in lounge and bar, Heywood Wakefield Co.; Painting: Walls: 2-coats flat paint. Trim and sash: 2-coats low-gloss enamel, James B. Day Co. Lighting: indirect Luminaires, Curtis Lighting, Inc. Two wall lights of brushed anodized aluminum and indirect floor reflector of polished chrome, Kurt Versen, Inc. Desks: special finish light oak, Leopold Desk Co. Tables and special rattan bar and circular sofa, Heywood Wakefield Co.

LOUNGE



BAR IN LOUNGE

SILKS....WHOLESALE SHOWROOMS

VIEW 1

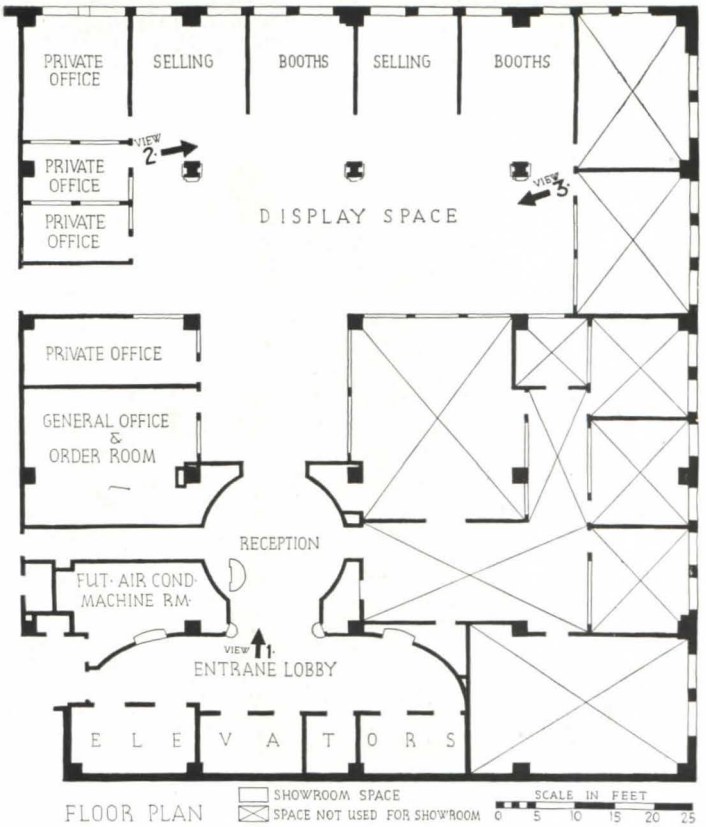
Two distinct types of merchandise are handled in this showroom, neckwear silk and dress silks, and it is essential that the two be sold separately. For the former a series of small salesrooms were designed, and for the latter a large sales space with semiprivate booths. The booths are similar in arrangement, each containing a table on which the silks can be spread, and a few chairs; low partitions are an excellent device for maintaining the open character of the room. Silks are not sold from samples, but from bolts which are brought in on carts from an adjacent storage room. As the space was originally constructed for manufacturing purposes the ceilings are too low to allow the effective penetration of daylight, and the installation of a duct system, and the required furred ceiling, further aggravated this condition; consequently artificial light provides the bulk of the illumination. The color treatment in the showrooms is neutral, of necessity. Walls are a warm gray, floors are blue, and the ceiling is a grayish white; in the private offices, where display is a less important factor, the walls have been painted yellow, and floors are dark green.

SUSQUEHANNA SILK MILLS, NEW YORK CITY

VIEW 2

F. S. Lincoln Photos

PLANNING TECHNIQUES NO. 4.



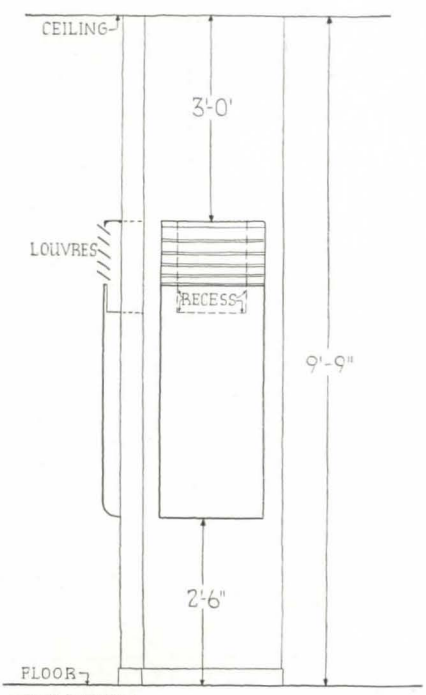
FLOOR PLAN

FINISHES AND EQUIPMENT

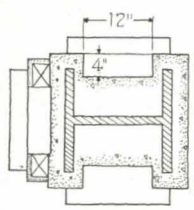
Floors: concrete. Floor coverings: blue linoleum, inset patterns of gray. Wall coverings: prima vera flexwood in elevator lobby; elevator wall is sheathed in bronze. Rotunda covered with faux satine flexwood. All flexwood by U.S. Plywood Co., Inc. Trim: flat steel. Doors: wood and calcimine, U.S. Plywood Co., Inc. Ceiling paint: casein lithophone. Electrical installation by Hanfield Lighting Co. Display cases by Treitel-Gratz Co. Venetian blinds by Swedish Venetian Blind Co. Glass columns by Corning Glass Works.

JOSEPH ARONSON, DESIGNER
HELEN SHEPPARD PLIMPTON, DECORATOR

VIEW 3



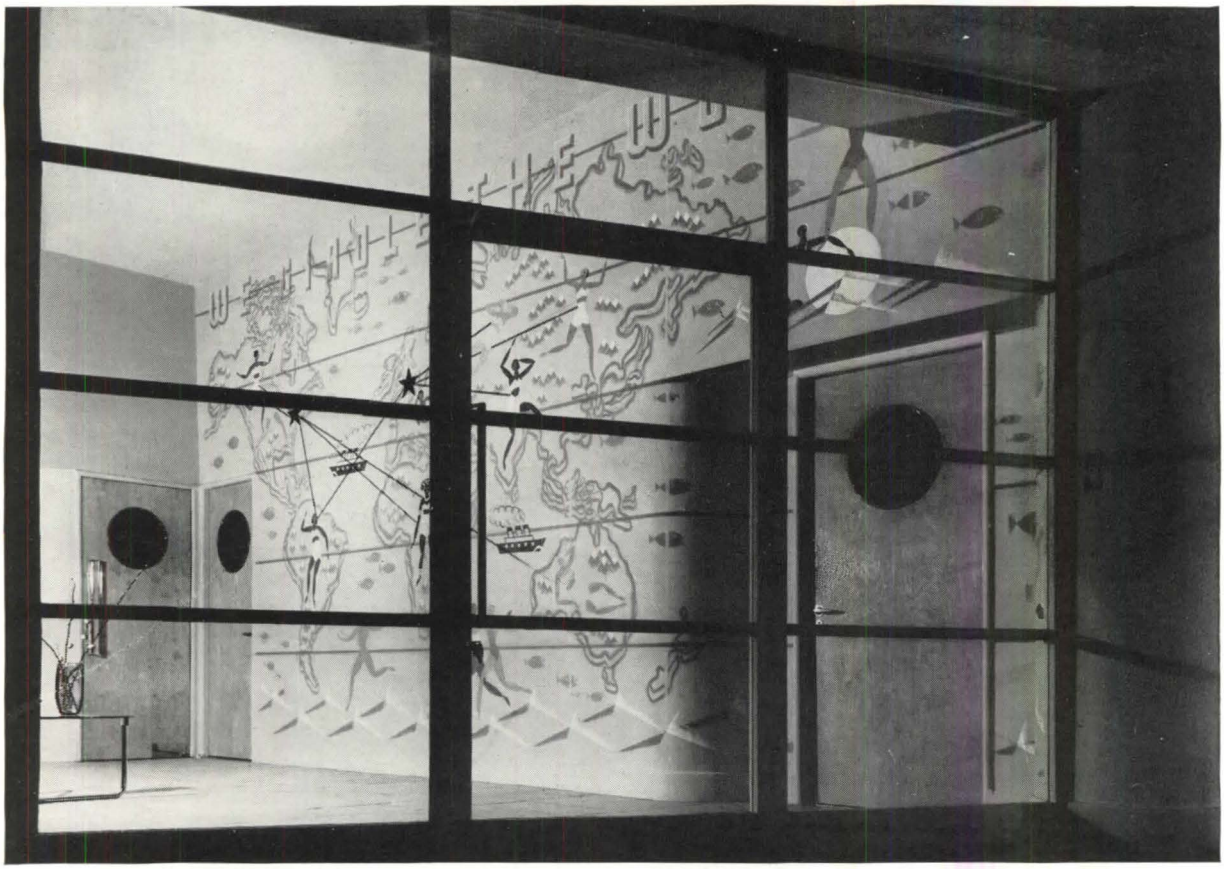
ELEVATION



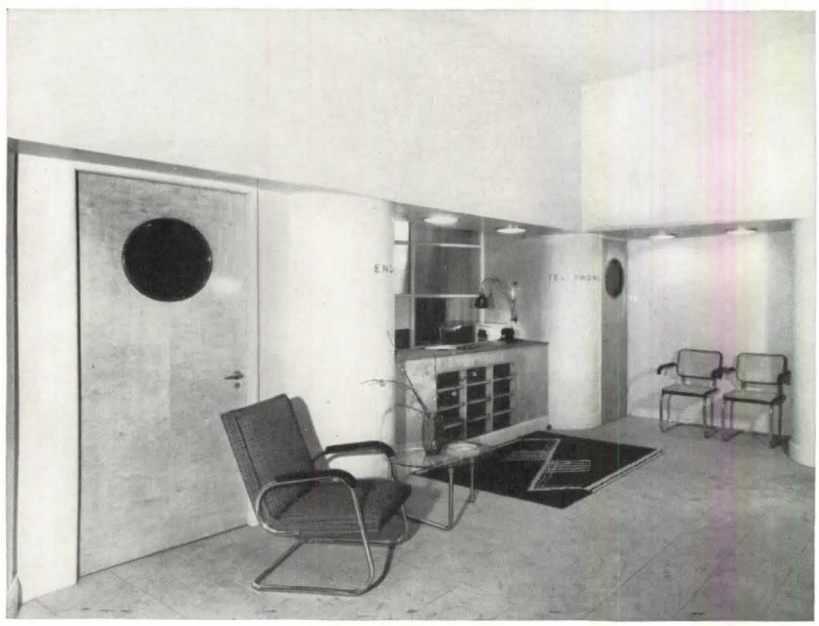
PLAN

LOUVRED LIGHTS IN COLUMNS

CORSETS . . . . WHOLESALE SHOWROOMS

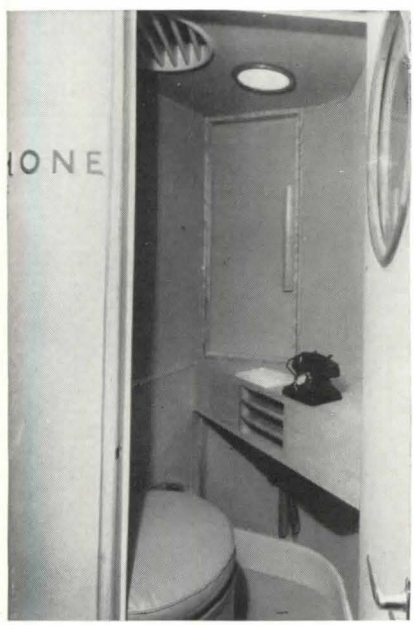


VIEW 1



VIEW 2

Studio Sun Photos

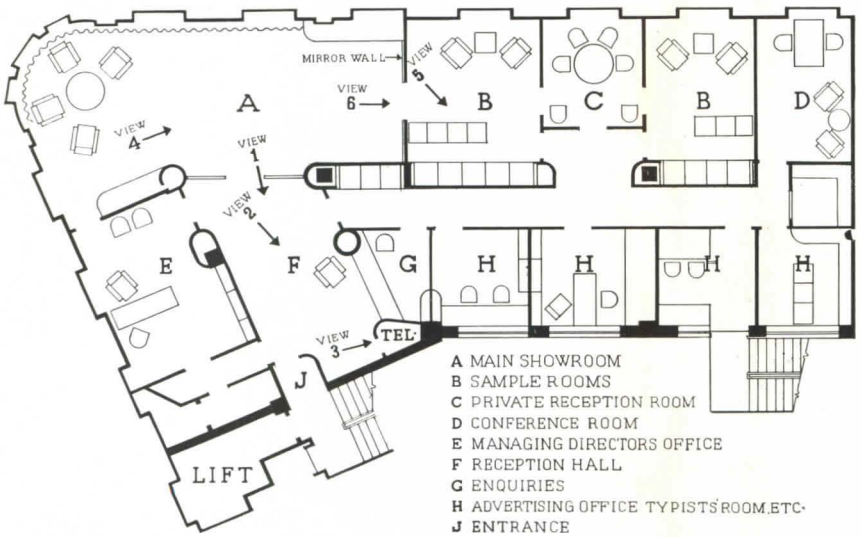


VIEW 3

WEINGARTEN BROS., LTD., LONDON

SERGE CHERMAYEFF, ARCHITECT

To design these showrooms, Serge Chermayeff, architect for a number of excellent studios for the British Broadcasting Company, was retained. The plan developed into a number of small display rooms, rather than one large one, as the type of merchandise handled does not require extensive space. Each small room has built-in cases for samples, and the conference and reception rooms are so located that they could also be used for this purpose if need arose. The rooms can be reached directly from the main showroom, through a door in a mirrored partition (View 4) or by a separate corridor. The reception hall has been decorated with an amusing map illustrating the various markets reached by the company. The design of the showrooms has admirable unity and directness; materials are few and their use is standardized for simplicity.



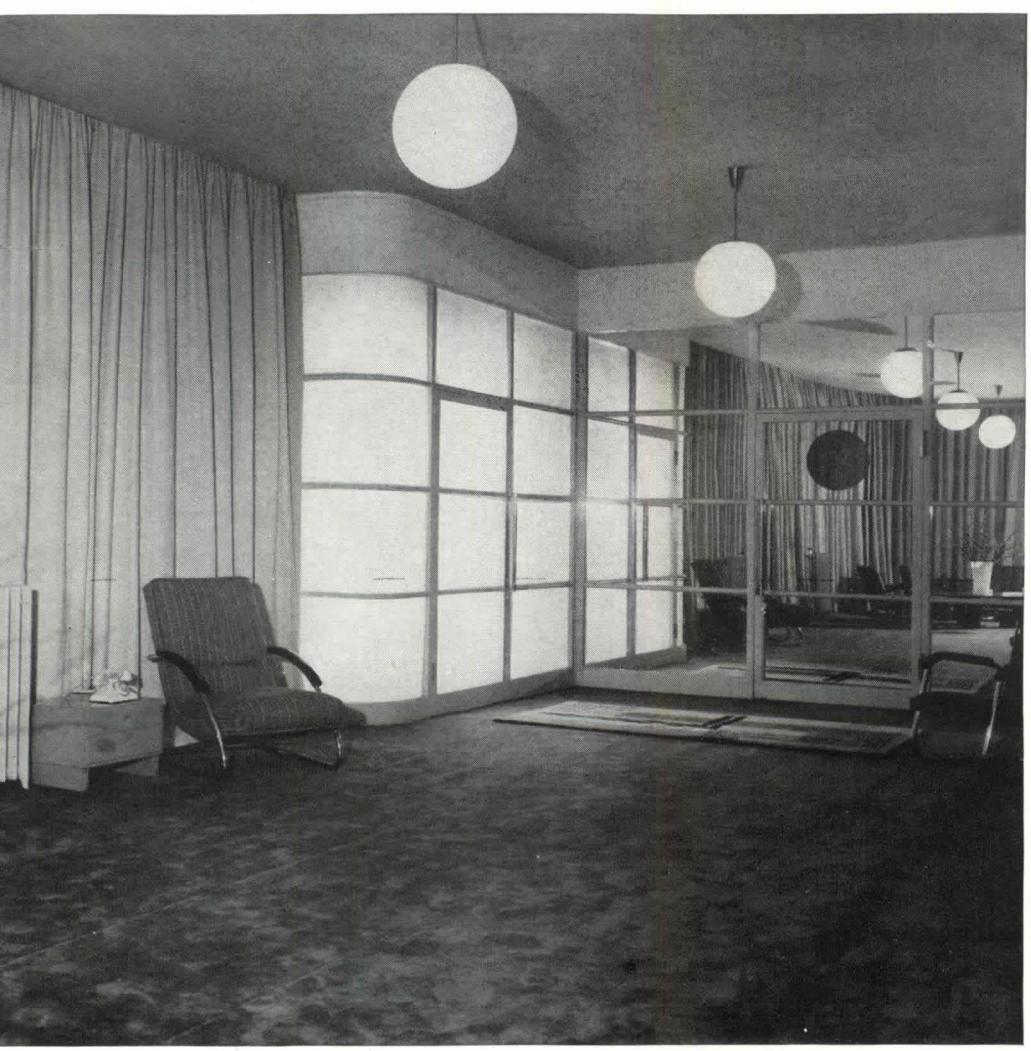
A MAIN SHOWROOM
B SAMPLE ROOMS
C PRIVATE RECEPTION ROOM
D CONFERENCE ROOM
E MANAGING DIRECTORS OFFICE
F RECEPTION HALL
G ENQUIRIES
H ADVERTISING OFFICE TYPISTS' ROOM ETC.
J ENTRANCE

SCALE IN FEET
0 5 10 15 20 25

FLOOR PLAN

VIEW 5

VIEW 4



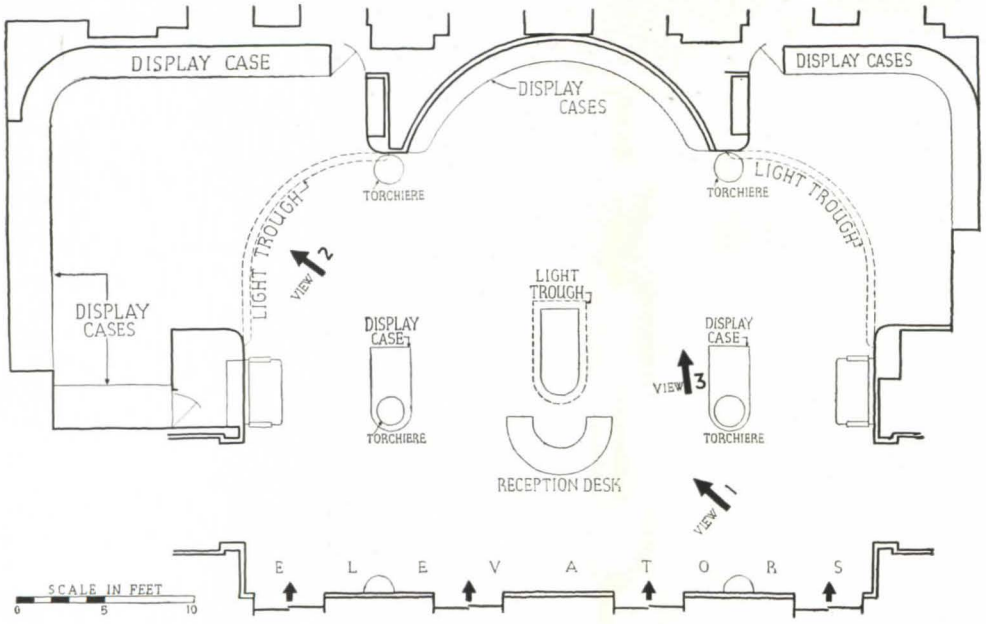
VIEW 6

VIEW 1.

REPUBLIC STEEL CORP., CLEVELAND, OHIO

WILBUR HENRY ADAMS, DESIGNER

VIEW 2.



FLOOR PLAN

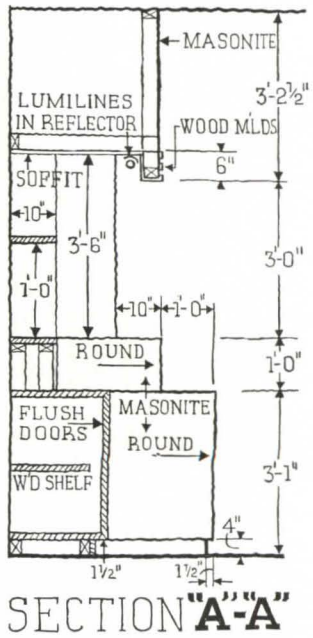
FINISHES AND EQUIPMENT

Floors: 12 in. hollow tile arch with 4 in. concrete fill and cement finish. Floor Coverings: carpet, Charles R. Cochrane Co., laid over Ozite, Clinton Carpet Co. Wall Coverings: plaster. Woodwork and Special Trim: stainless steel, W. S. Tyler Co., wood, leather covered, Clauss Mfg. Co. Hardware on cases: W. S. Tyler Co. Paint Materials: Sherwin-Williams Co. Lighting: indirect fixtures, stainless steel special design, Mockwith Bros. Co. Heating and Air Conditioning: Carrier Engineering Co. Desks: maple, faced with Duo-Tons stainless steel, walnut top, Clauss Mfg. Co. Display Cases: heavy gauge stainless steel, W. S. Tyler Co.

VIEW 3.

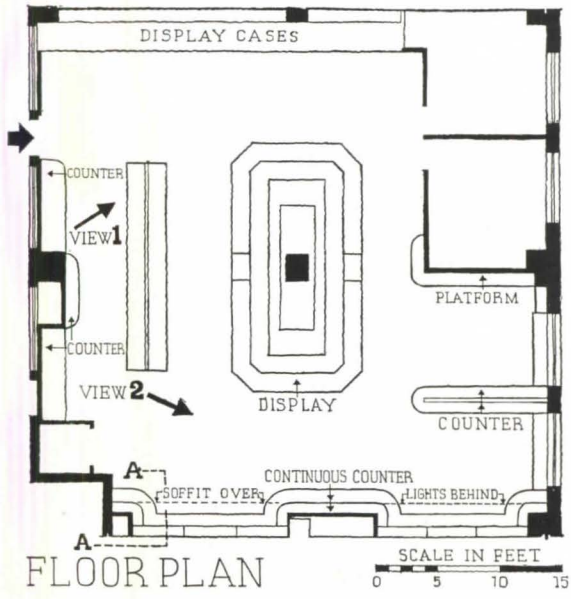
The best way to show a building material is to build something with it. In the case of steel such a technique becomes possible, and in this combined showroom and reception room for Republic Steel Corp., one finds it used for display cases, lighting fixtures, and reception desk. The room is used by purchasing agents and others who do business with the sales branch of the company, a fact which makes its double use entirely logical. Indirect lighting was used because of the high reflectivity of stainless steel, and glareless illumination was required. Since displays have to be changed frequently, cases are equipped with adjustable shelves. To provide a neutral background for the exhibits the walls of the room have been kept neutral in color.

VIEW 1



SECTION "A"-"A"

VIEW 2



FLOOR PLAN

SHOWROOM FOR THE A. C. GILBERT CO., NEW YORK CITY. ROBERT HELLER, DESIGNER

THE merchandise exhibited and manufactured by this company consists of about 70 per cent toys and 30 per cent electrical appliances. No separation of these two lines has been made as the number of electrical appliances is not yet large enough to warrant a separate showroom. Strong colors were used on the side where toys are displayed: navy blue walls, white lettering, and yellow showcases. Counters are blue, with red and white trim. On the wall used for electrical appliances the display background is blue and white, lettering is bright red, and chair upholstery is lemon yellow. The floor is solid black.

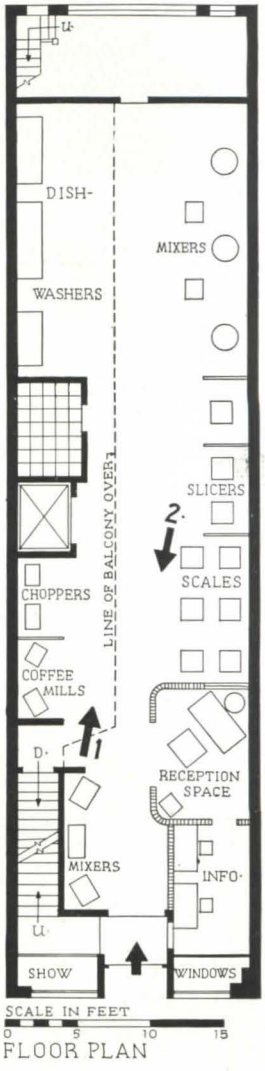
FINISHES AND EQUIPMENT

Partitions: 2 x 4 in. studs covered with ¾ in. Masonite, Masonite Corp. Floor coverings: quality A, black linoleum, Armstrong Cork Products Co. All paint material by Sherwin-Williams Co. Lighting: direct, Lightolier Co.; indirect Lumiline troughs, Pittsburgh Reflector Co. Metal furniture by Howell Co. Venetian blinds by Columbia Venetian Blind Co.

VIEW 1

VIEW 2

Drucker & Baltes Co.



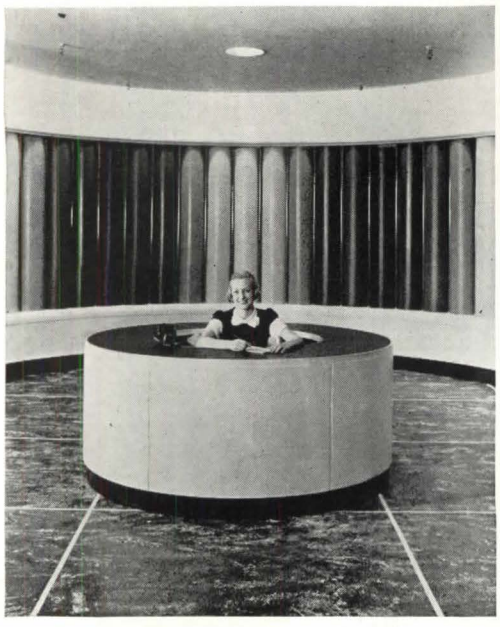
FLOOR PLAN

THE HOBART MANUFACTURING CO., NEW YORK CITY EGMONT ARENS, DESIGNER

It was attempted in the design of this showroom to suggest the eventual surroundings of the machinery on display, most of which goes into hotel kitchens. The machines are in white, gray, and chromium, and are set against an ivory background. The floor is maroon and brown and ceiling and walls are painted in white and off-white. To isolate the different types of machines, such as scales, dishwashers, meat grinders, etc., movable wings have been provided, making possible changes in displays when desired.

FINISHES AND EQUIPMENT

Floors: Brown Master resilient flooring, Mastipave, Cottalap Co. Partitions: ¾ in. plywood, U.S. Plywood Co., Inc. Floor coverings: mottled biscuit color carpets, Mohawk Carpet Mills, Inc. Wainscoting in reception area: white, prima vera flexwood, U.S. Plywood Co., Inc., with chromium stripping. Display area: ivory Marshtile, capped with cafe au lait Marsh cap, Marsh Wall Tile Co. Lighting: indirect, The Egli Co., Inc. Standards for machine, tubular steel, Troy Sunshade Co.



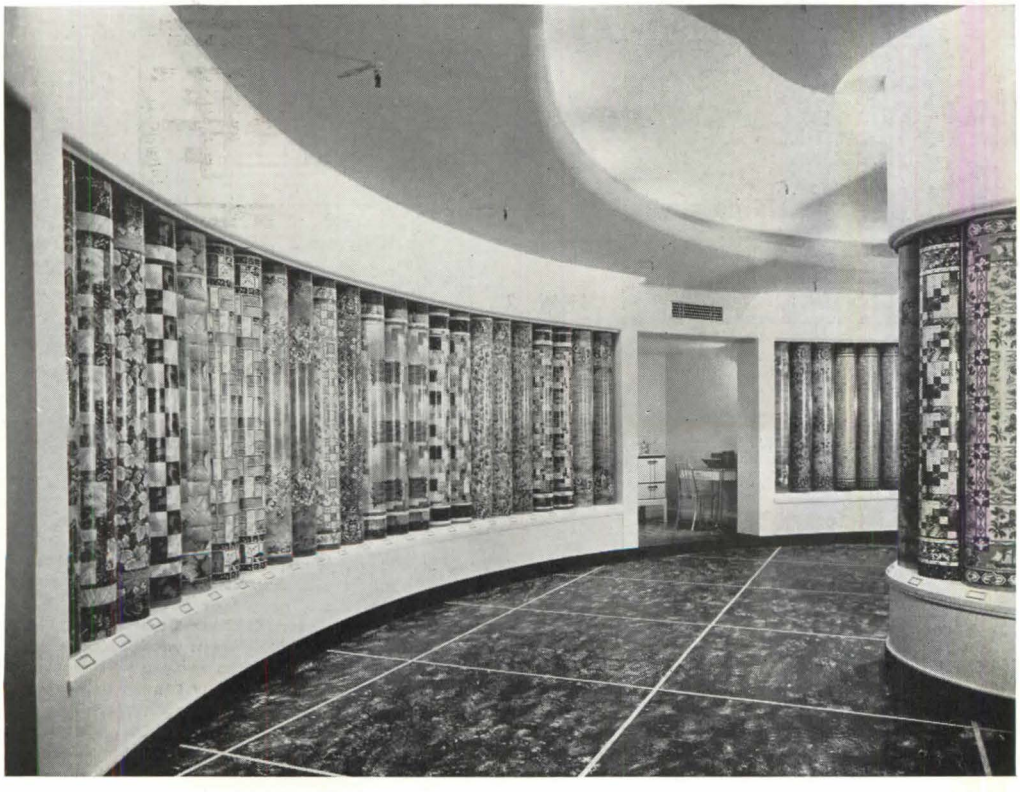
RECEPTION

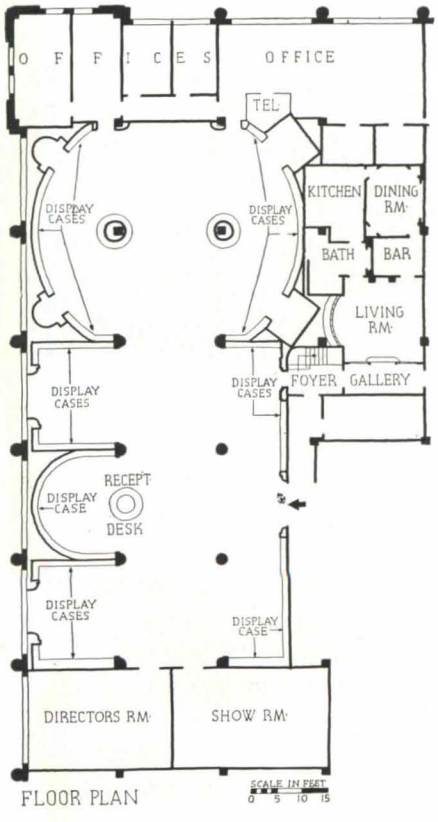
CENTER AISLE

DESIGNED AND EXECUTED BY THE INTERIOR DECORATION BUREAU OF CONGOLEUM-NAIRN, INC. AND KENNETH H. RIPNEN CO., NEW YORK CITY

Linoleum presents a display problem that is almost unique: it must be shown in large pieces, but is too heavy and inflexible to permit its being moved conveniently; a fixed type of display, therefore, is indicated. For the Congoleum-Nairn showroom an ingenious display was designed in which the linoleum becomes the main element in the decoration of the interior. To supplement the fixed exhibit there is also a section of floor which can be quickly covered with the desired sample and base-boards, and wheeled anywhere in the showroom. In addition to the general display space there are a number of typical rooms, illustrating the use of linoleum for floors and walls by actual examples.

DISPLAY DETAIL





FLOOR PLAN

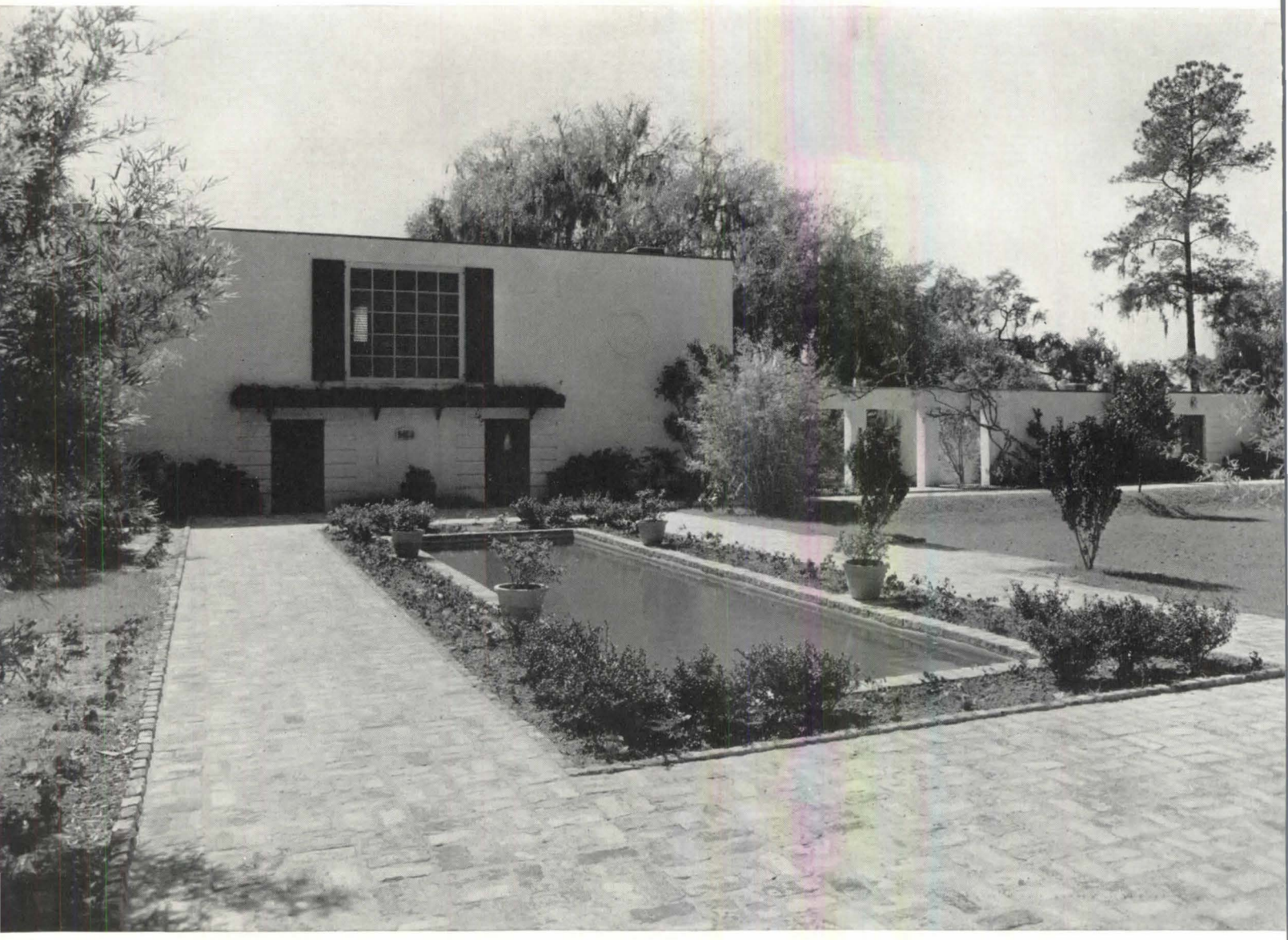
MEPKIN PLANTATION MONCKS CORNERS, S. C.

WINTER HOME FOR MR. AND MRS. HENRY R. LUCE

EDWARD D. STONE, ARCHITECT

Samuel H. Gottscho

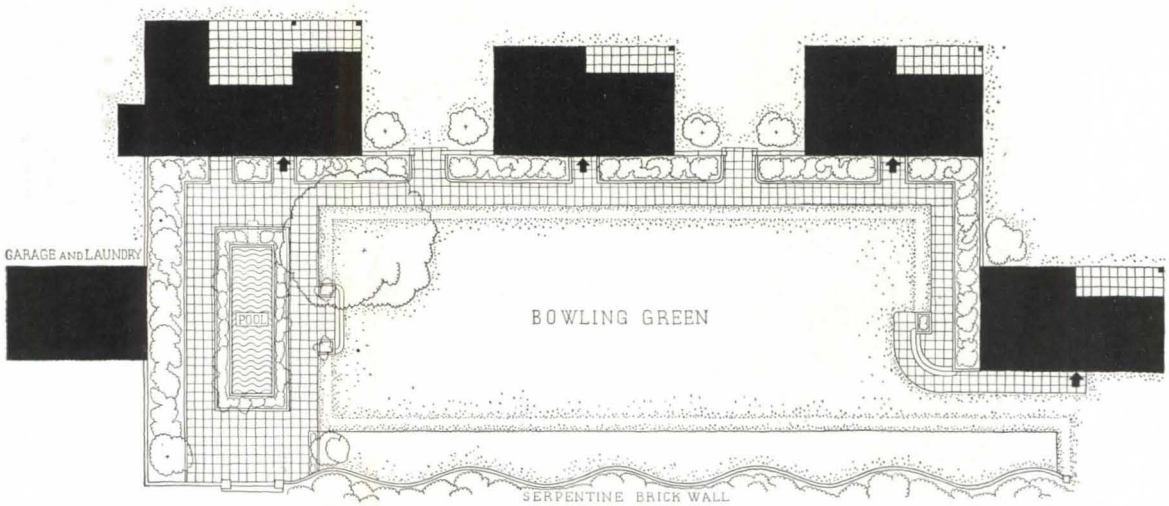
★ AWARDED THE MEDAL FOR DOMESTIC ARCHITECTURE AT THE 51ST ANNUAL EXHIBITION OF THE NEW YORK ARCHITECTURAL LEAGUE



Located on a tract of about 7,000 acres, this group of guest houses forms part of what will eventually be a larger establishment. The owners at present occupy the house shown above, its large living and dining room being used in common with guests occupying the other three houses.

The use of a main house (now being planned) and separate guest houses reflects a strong local tradition that goes back to the days when every plantation house was the main element in a group of slave quarters and other dependencies. Present-day ideas of hospitality also suggest the adoption of this arrangement, which gives the guest the utmost in privacy and comfort. A scheme of extreme simplicity was adopted for the group. A formal garden wall ties the houses together, and all that is visible of the living quarters is the large house and the doors to the others. The result is a composition, intimate in scale, which places admirable emphasis on the magnificent surroundings.

Many and caustic critics have claimed—with some justice—that in the domestic field the modernist fails to invest the house with a quality of graciousness quite as important as its functioning. Here is the refutation. That a group could have been built, so thoroughly modern in design, and yet so profoundly influenced by the traditions of southern living demonstrates the ability of the architect and the basic soundness and adaptability of modern architecture.



PLOT PLAN

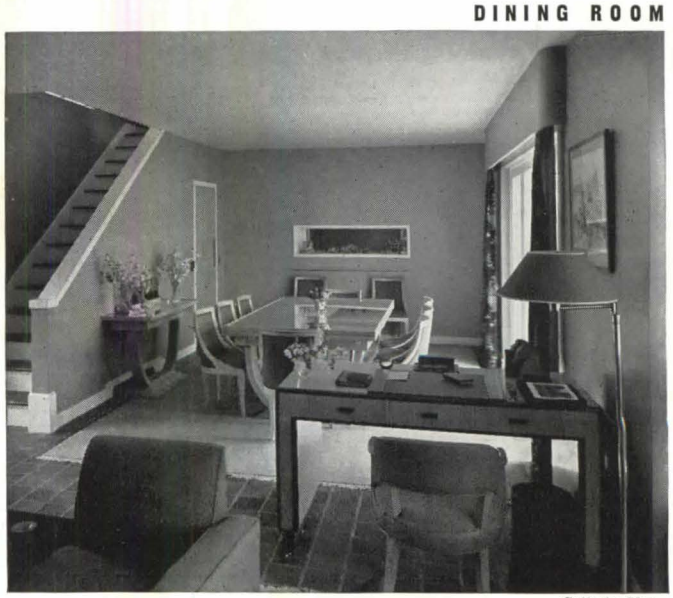
BRIGGS & STELLING, LANDSCAPE ARCHITECTS

Gottscho

LIVING ROOM

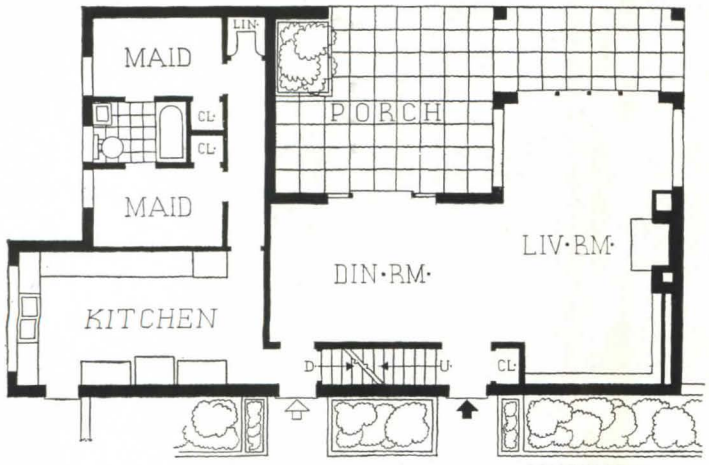
GLADYS FREEMAN OF JAMES PENDLETON, INC., DECORATOR

DINING ROOM

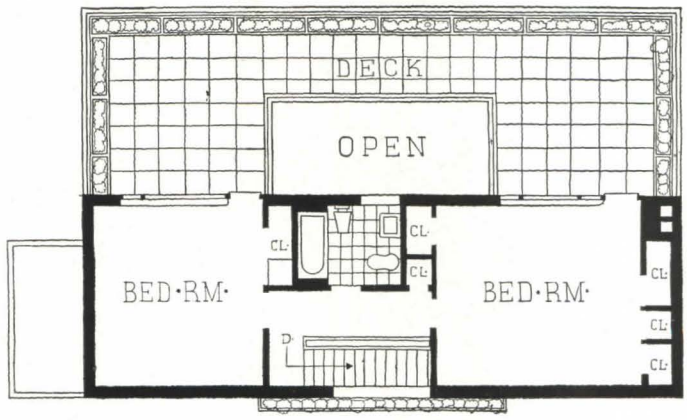


Gottscho Photos

The illustrations on this page show the largest of the four guest houses. When the main house has been built, and additional servants' quarters provided, it is planned to convert the present maids' rooms into a dining room, giving more space to the living room. As in the other buildings, large areas of glass have been concentrated on the southern side, providing a superb view of the live oaks on the slope which leads down to the river. An interesting feature of the south elevation is the open well, which admits light to the dining room and offers a sheltered corner for use as a sun terrace.



FIRST FLOOR

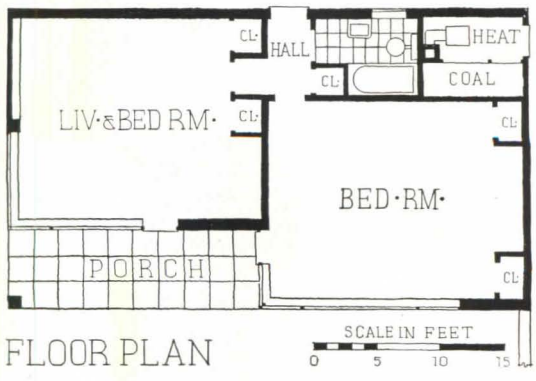


SECOND FLOOR

Gottscho

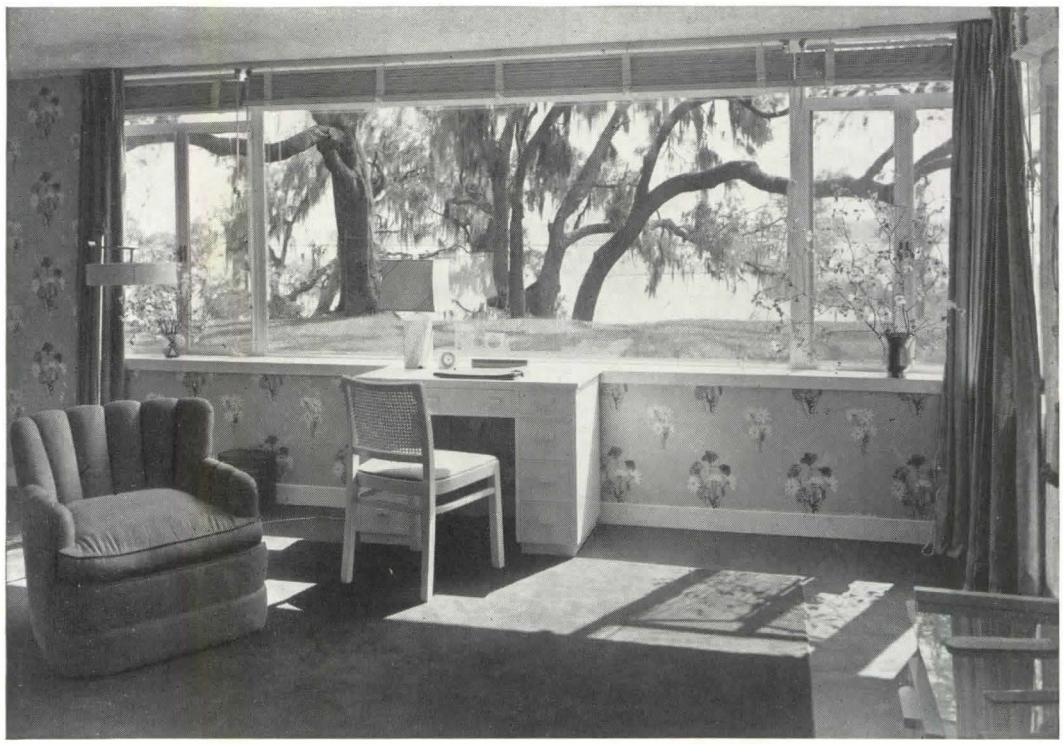
Gottscho P

The typical guest house is a simple two-room building with a bath and small heater. It will be noted that the plan has been so arranged that both rooms can be used as bedrooms, or one as a living room. The interiors, while modern, show a refreshing conservatism in the avoidance of metal furniture. Here, comfort rather than stylistic excesses, has guided the decorator's choice. Wallpaper forms a pleasing wall surface, unexpected in contemporary interiors. The relation of the guest house to the connecting garden wall is clearly shown in the photograph above.



FLOOR PLAN

BEDROOM

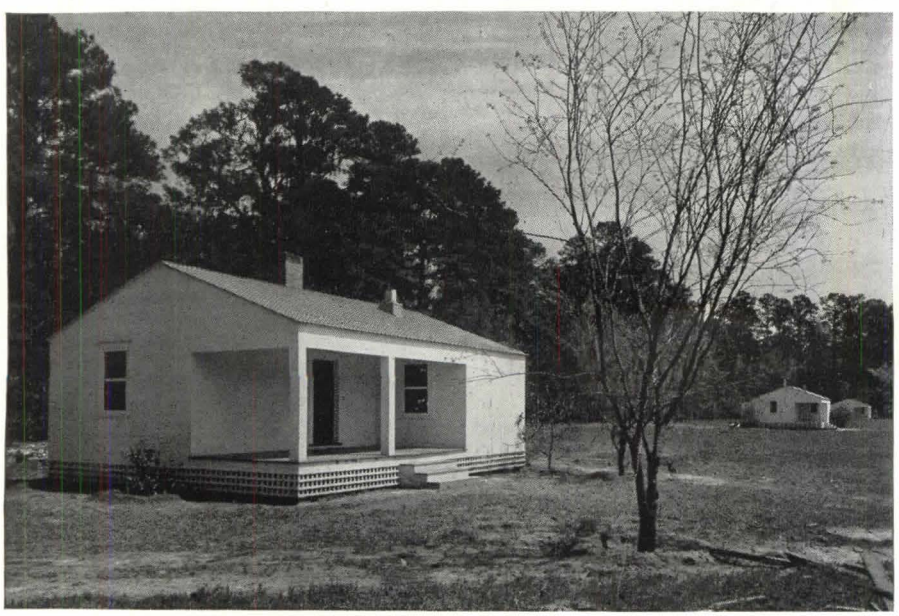


LIVING ROOM

MEPKIN PLANTATION

EDWARD D. STONE, ARCHITECT

The cabins for the Negro servants and the stables have only recently been completed, and still lack the advantages of finished landscaping. They illustrate, however, how the consistently direct and simple treatment has been carried through in the smallest and most remote structures on the property.



Gottscho Photos

CONSTRUCTION OUTLINE

FOUNDATION
Walls—continuous poured concrete footings. Floor—3 in. concrete slab on 4 in. hollow tile laid flat. Waterproofing: Exterior of walls below grade and interior of wall above grade—2 coats of damp-proof paint, Elaterite No. 6, Elaterite Products Co.

STRUCTURE
Exterior walls—4 x 8 in. brick, 2 in. furring, ½ in. Celotex lath, The Celotex Co., 2 coats of plaster, Best Brothers Keene's Cement Co. and patent plaster, U. S. Gypsum Co. Interior partitions—wood studs and plaster.

ROOF
Construction—wood joists and sheathing, covered with built-up roofing, Barrett Co. Decks—covered with 9 x 9 in. promenade tile on built-up roofing.

CHIMNEY
Brick with fire clay lining. Fireplace—fire brick, Old Style damper, H. W. Covert Co.

SHEET METAL WORK
Flashing, gutters and leaders—16 oz. copper. All exposed copper lead coated.

INSULATION
Outside walls—½ in. Celotex, The Celotex Co. Roof—4 in. rock wool, Johns-Manville, Inc.

WINDOWS
Sash—casement, Hope's Windows, Inc. Glass—¼ in. clear plate in fixed lights; other glass quality A, double strength, Libbey-Owens-Ford Glass Co. Screens—removable stock tubular steel, baked enamel finish, Hope's Windows, Inc.

STAIRS
Treads—white oak. Risers—pine. Stringers—special detail wood.

FLOOR COVERINGS
Living room—quarry tile on cement. Bedrooms and halls—wood or linoleum in mastic on cement. Kitchen—linoleum in mastic on cement. All linoleum by Congoleum-Nairn, Inc. Bathrooms—tile on wood or cement.

WALL COVERINGS
Bedrooms—wallpaper or paint.

WOODWORK
Doors—Rezo, flush panel, Paine Lumber Co., Ltd. Garage doors—stock, overhead type, wood, Stanley Works.

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

PAINTING
Interior: Walls—3 coats Dutch Boy, National Lead Co. All enamel and varnish by Pratt & Lambert, Inc. Exterior walls—whitewash.

ELECTRICAL INSTALLATION
Wiring system—No-Fuse panel boards, Westinghouse Electric & Mfg. Co. Switches—Square D main switches, Square D Co. Fixtures—built-in and indirect, Kurt Versen, Inc.

KITCHEN EQUIPMENT
Range—AGA, AGA Co. Refrigerator—General Electric Co. Cabinet—special to detail.

PLUMBING
All fixtures by Crane Co. Pipes: Soil—extra heavy cast iron. Water—copper tubing, type L, with sweated malleable fittings, Chase Brass & Copper Co. Septic tanks—San-Equip, Inc.

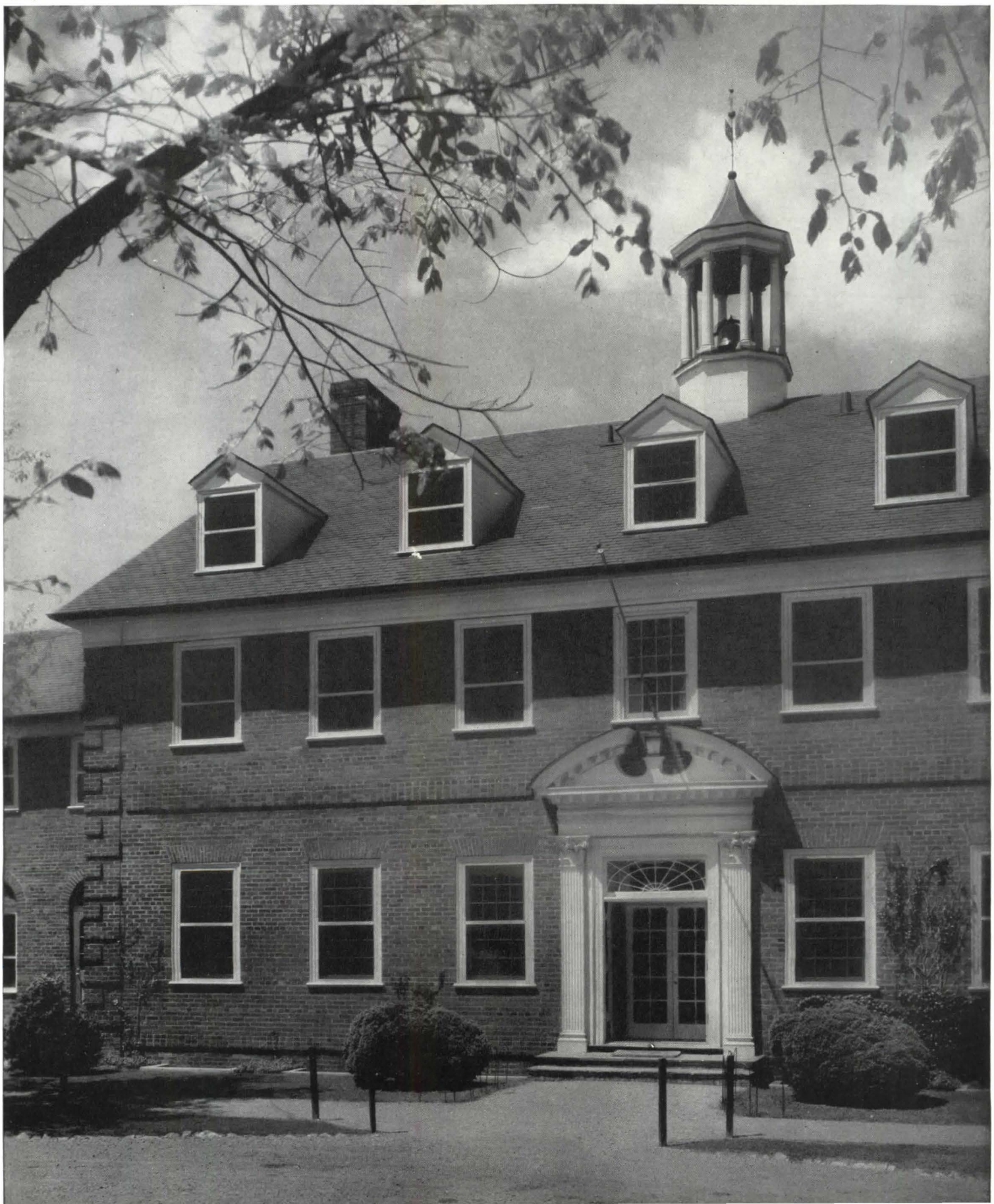
HEATING
Forced hot air system, with supply and return ducts, American Radiator Co. Boiler—oil fired, American Radiator Co.

THE MADEIRA SCHOOL, GREENWAY, VIRGINIA

WALDRON FAULKNER, ARCHITECT

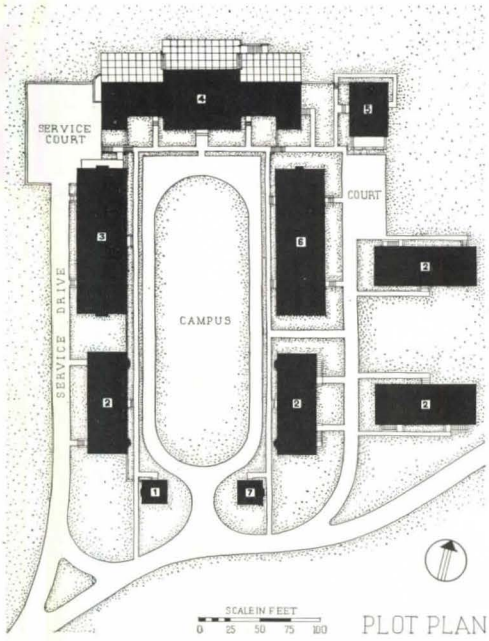
A. B. TROWBRIDGE, CONSULTANT ARCHITECT

Photos, Frances Benjamin Johnston



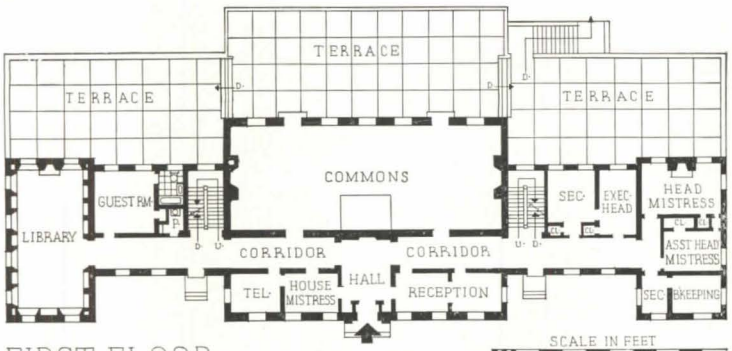
THE MADEIRA SCHOOL, GREENWAY, VA.

CAMPUS

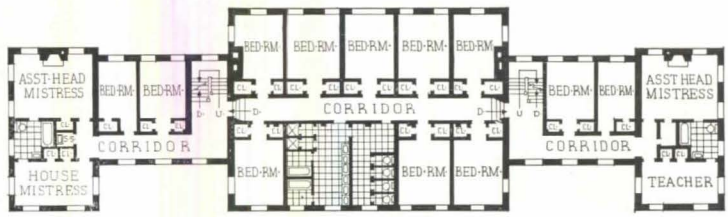


PLOT PLAN

1. FACULTY HOUSE
2. DORMITORY
3. DINING HALL
4. MAIN BUILDING
5. INFIRMARY
6. RECITATION HALL
7. SENIOR PARLOR

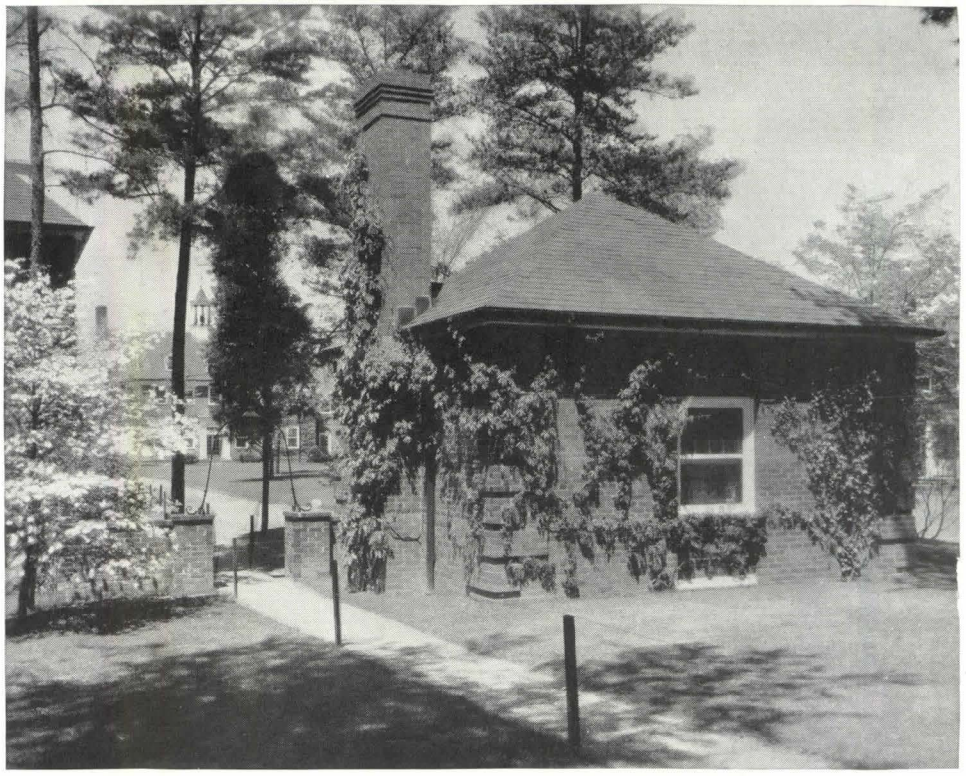


FIRST FLOOR

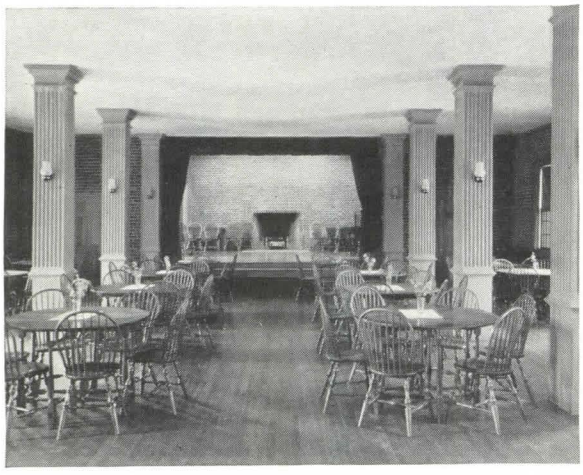


SECOND FLOOR

The Madeira School is located on a large tract of rolling, wooded land about ten miles from the city of Washington. Due to the difficulty of finding a level site sufficiently large for a group, it was originally planned to house all the activities in one building. Later studies, however showed that it was possible to create a small campus, with room for a few additional buildings in the future. The school houses a maximum of 125 girls, and is organized to take care of a number of day students. The plan of the group follows the simple symmetrical pattern which was developed to its highest point in this country in the University of Virginia, and the type of architecture current at that time was selected as the most suitable. The group has an extremely attractive appearance, due not only to the charm of its landscaping and the pleasant surroundings, but also to the intimate scale of the buildings and the simplicity with which materials have been handled. The school has a total cubage of 1,342,666 cu. ft. (including two new buildings not shown on the plot plan), and was constructed at a cost of about $600,000.



FACULTY HOUSE



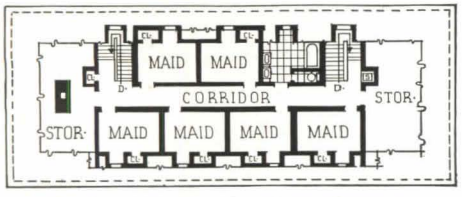
DINING HALL

CORRIDOR—MAIN BUILDING

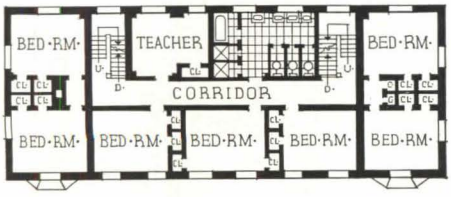
THE MADEIRA SCHOOL, GREENWAY, VA.

WALDRON FAULKNER, ARCHITECT
A. B. TROWBRIDGE, CONSULTANT

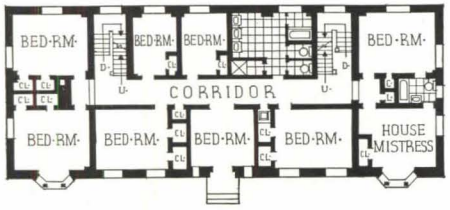
DINING HALL



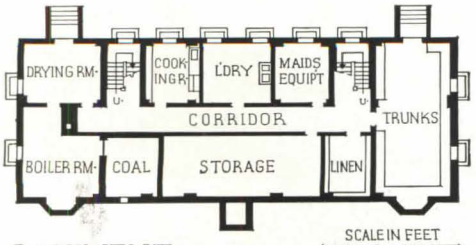
ATTIC FLOOR



SECOND FLOOR



FIRST FLOOR



BASEMENT

FLOOR PLANS OF DORMITORY BUILDING

CONSTRUCTION OUTLINE

FOUNDATIONS
Footings and foundation walls—concrete. Waterproofing—Ironite for water tank under garage, Western Waterproofing Co.; exterior of foundation walls dampproofed below grade with Par-Lock, The Votex Mfg. Co.

STRUCTURE
Exterior walls—solid brick, dampproofed inside with Par-Lock, The Votex Co., gritted with plaster applied directly, no furring. Interior partitions—gypsum tile, terra cotta hollow tile around bathrooms, toilets and for bottom course under gypsum block, Atlantic Terra Cotta Co. Floor construction—Kalman bar joists, Kalman Steel Corp., 3 in. concrete on rib lath above and plaster on metal lath below.

ROOF
Construction—wood frame, ⅞ in. sheathing, 30 lb. felt, hard vein slate, Chapman Slate Co. Decks—canvas covered, Con-Ser-Tex, Wm. L. Barrell Co., Inc.

INSULATION
Roofs—½ in. Celotex in attic space, The Celotex Co. Acoustic plaster on ceiling of dining room and piano rooms.

WINDOWS
Sash—wood, double hung. Glass—single strength, sheet. Screens—copper mesh in white pine frames.

STAIRS
Iron with metal pan treads, filled with cement and terrazzo. Stair rails—iron; wood hand rails.

FLOORS
Basement—1 in. cement on concrete slab. Main building: Vestibule, halls, corridors—terrazzo. Bathrooms, toilets, pantries—linoleum, Armstrong Cork Products Co. Corridors in dormitories and recitation building—tile. All other floors—oak, with the exception of maple in sports building.

WOODWORK
Exterior trim—white pine. Interior door trim—combination buck and trim, Art Metal Construction Co.

HARDWARE
Interior—brass knobs, painted butts. Exterior—brass handles, brass butts, Yale & Towne Mfg. Co.

PAINTING
Interior: Floors—stained or fumed. Trim—prepared flat paint and Minwax, The Minwax Co. Sash—semi-gloss. Exterior: Sash—prepared outside paint.

ELECTRICAL INSTALLATION
Wiring system—rigid conduit, General Electric Co. Switches—tumbler type, Hart & Hegeman. Fixtures—special design, Nessen Studio.

PLUMBING
All fixtures by Crane Co. Pipes: Soil—extra heavy cast iron. Water supply—wrought iron. Sewage disposal, Stroudsburg Septic Tank Co.

HEATING
Low pressure steam, vacuum. Boiler—Hart & Crouse. Coal stokers, Iron Fireman Mfg. Co. Radiators—American Radiator Co. Valves—Webster, Warren & Co. Regulators—Minneapolis Honeywell Regulator Co. Pump—Jennings, vacuum, Nash Engineering Co., General Electric Co. motor.

LABORATORY EQUIPMENT
All equipment by Kewanee Mfg. Co.

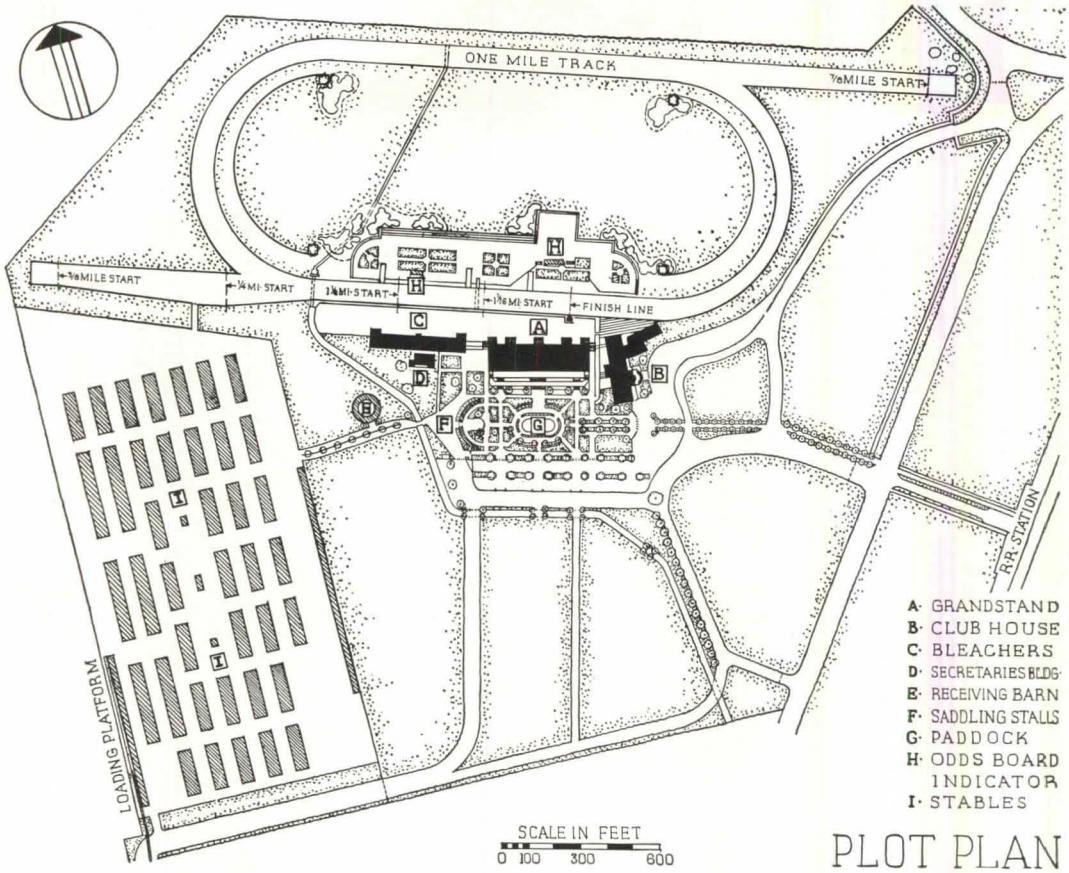
RACING CLUB, ARCADIA, CALIF.

GORDON B. KAUFMANN, ARCHITECT

W. P. Woodcock Photos

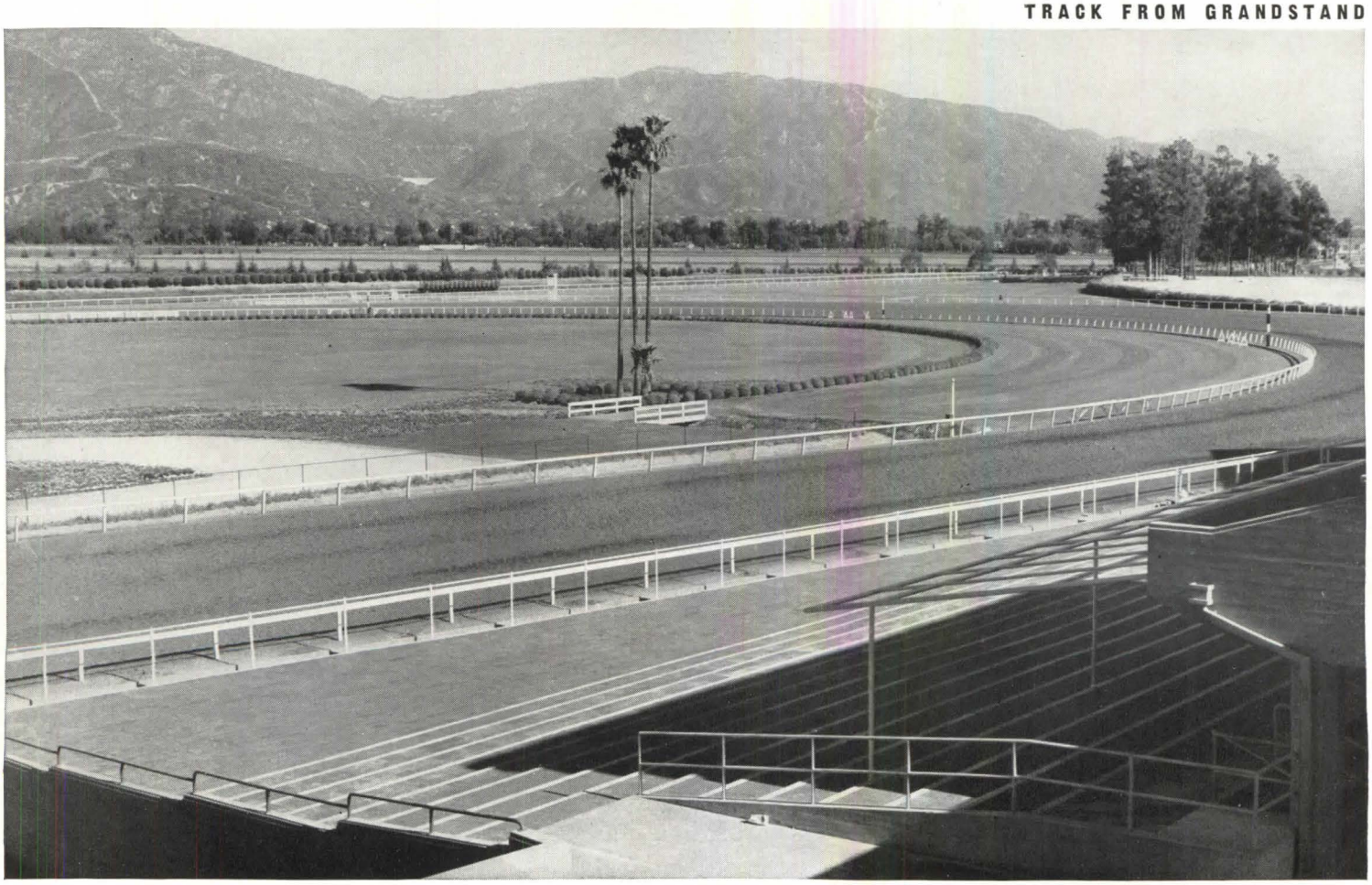
An unsurpassed location and a comprehensive plan are responsible for the distinction of the racing plant at Santa Anita. The chief planning problem in such an establishment, obviously, is one of circulation. Large crowds have to be accommodated within the confines of the home stretch, and their free movement through the grounds to the various refreshment stands, services, and betting rings must be provided for. The main betting ring occupies the full length of the stand and is open on both front and rear so that crowds may enter from the track or paddock side of the grandstand. Stables for 1,000 horses have been provided and there is parking space for 10,000 cars. In addition to the grandstand, which seats 6,000, there is a clubhouse with lounges, a restaurant, and a private betting ring for the use of club members. The buildings are of steel and reenforced concrete, for the most part, and they have been painted a blue-green color to reduce glare. Provision has been made in the plan for an extension of the grandstand and for an increase in the size of the clubhouse.

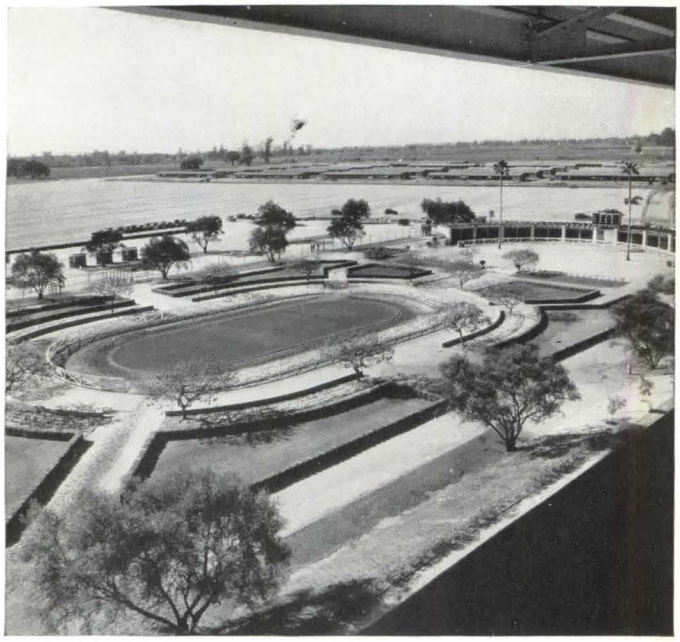
RACING CLUB, ARCADIA, CALIF.



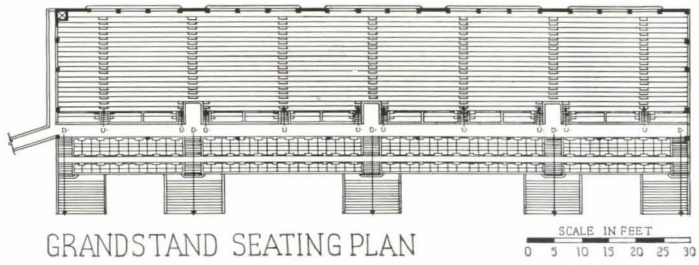
PLOT PLAN

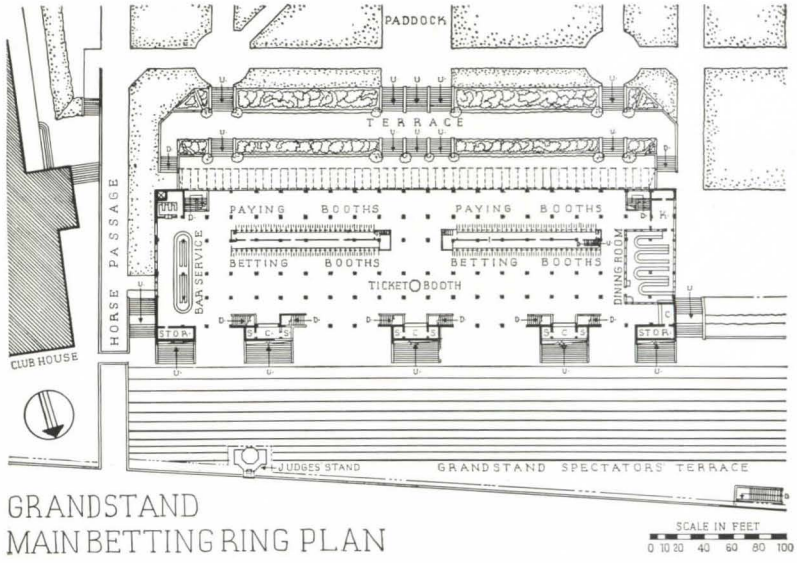
TRACK FROM GRANDSTAND





PADDOCK



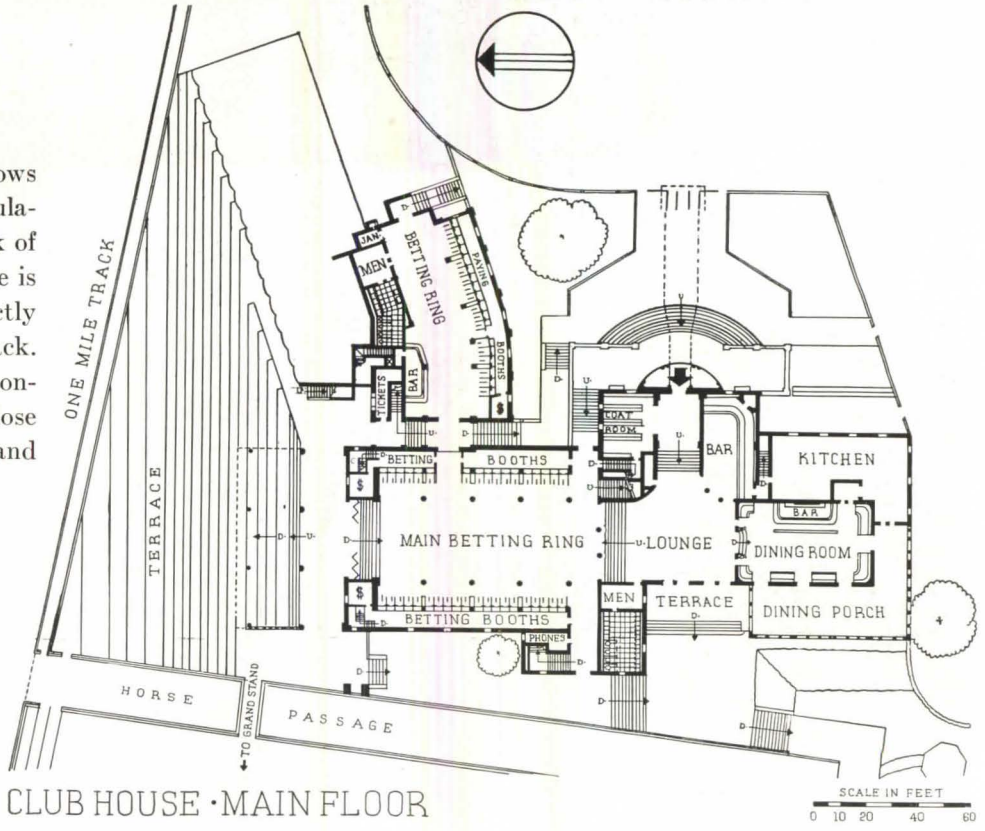


GRANDSTAND, DETAIL

The general layout of the plant is shown on the facing page. The stables occupy a large proportion of the total area; they consist of 47 buildings with simple board and batten finish and low-pitched roofs. Centrally located between the stables and the entrance to the grounds lies the paddock, unusual in its formal landscape treatment. The main buildings facing on the track are the bleachers, grandstand and clubhouse. On the right is a detail of the grandstand, treated with a series of shallow bays, alternately filled with louvers and with sheet metal cut-outs depicting racing scenes.

RACING CLUB, ARCADIA, CALIF.

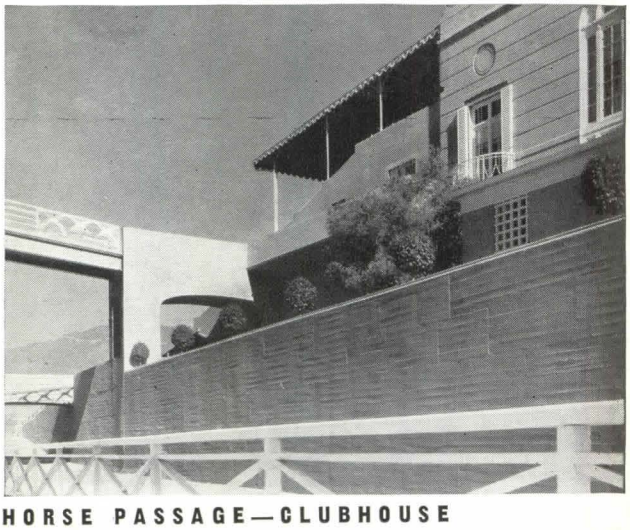
The ground floor plan of the clubhouse shows the attention which has been paid to circulation. Various betting rings occupy the bulk of the floor area, and on the floor above there is another, smaller ring which connects directly to balconies and boxes overlooking the track. An extension of the clubhouse which is contemplated will span the horse chute and close the present gap between the grandstand and the clubhouse.



CLUB HOUSE · MAIN FLOOR

CLUBHOUSE—MAIN ENTRANCE

TRACK FROM CLUBHOUSE



HORSE PASSAGE—CLUBHOUSE

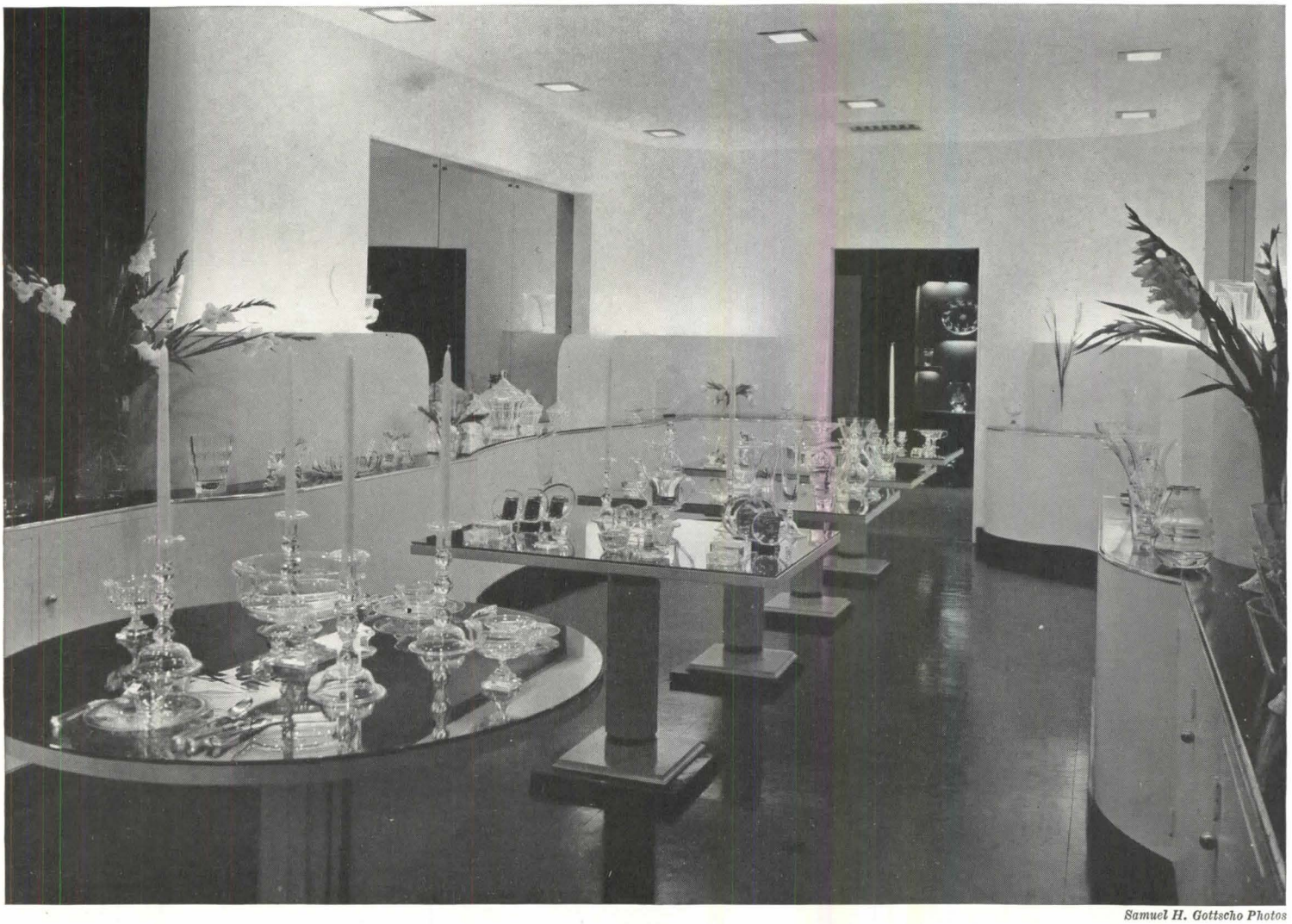
MAIN BETTING RING

CONSTRUCTION OUTLINE

FOUNDATIONS
Footings and walls—reenforced concrete. Waterproofing—integral, Tricosal Co.
STRUCTURE
Grandstand—structural steel, Columbia Steel Co., with reenforced concrete seat decks and floors. Clubhouse—reenforced concrete. Stables—frame construction. Interior partitions—metal lath and plaster, Truscon Steel Co. and Blue Diamond Corp. Floor construction—reenforced concrete.
ROOF
Grandstand—structural steel, Columbia Steel Co. Clubhouse—frame.
SHEET METAL WORK
Flashing and gutters—galvanized iron.
WINDOWS
Sash—wood. Glass—double strength, quality A.
STAIRS
Grandstand—cement finish.
FLOORS
Clubhouse—rubber tile, Armstrong Cork Products Co. linoleum, asphalt tile and rubber deck sheets. Upper Turf Club—oak parquetry. Exterior of Grandstand—red quarry tile. Toilets—encaustic tile.
WALL COVERINGS
Dressing rooms—wallpaper.
WOODWORK
Trim and interior doors—California pine. Exterior doors—sugar pine.
HARDWARE
Interior and exterior—Russell & Erwin Mfg. Co.
PAINTING
Interior paint by Matthews Paint Co.
ELECTRICAL INSTALLATION
Wiring by General Electric Co. and Westinghouse Electric & Mfg. Co. Fixtures—B. B. Bell & Co. Special equipment—Totalizator, American Totalizator Co.
PLUMBING
Fixtures—West Coast Sanitary Mfg. Co. Pipes: Water supply—steel, Youngstown Sheet & Tube Co.
HEATING AND AIR CONDITIONING
Heating—Thermador, Thermador Electrical Mfg. Co. Ranges—Dohrmann Hotel Supply Co.
SPECIAL EQUIPMENT
Fire protection system—Lohman Brothers.

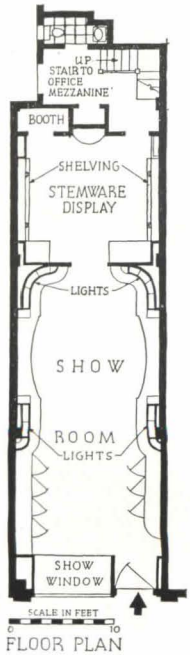
STORE FOR STEUBEN GLASS, PALM BEACH, FLA.

JOHN M. GATES, ARCHITECT · HENRY K. HARDING, ASSOCIATE



Samuel H. Gottscho Photos

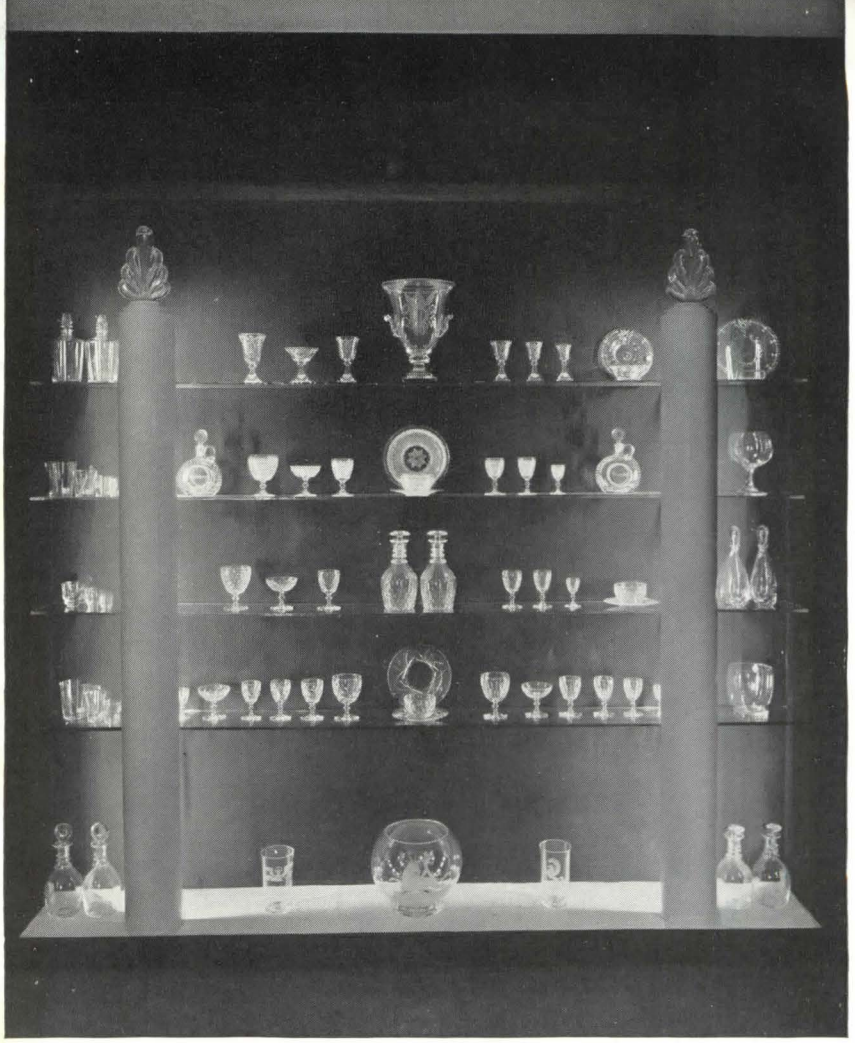
The problem confronting the architects was that of providing an efficient and appropriate display for glassware of high quality. Specifically this led to great emphasis on finish and on lighting. Cabinet work was of the best quality obtainable, and five coats of paint, sanded and rubbed between coats, were applied. Direct lighting fixtures were used because the type of illumination obtained accentuates the brilliance of the glass. Tables with glass tops form a prominent part of the display, thereby suggesting the setting of the merchandise in actual use. In such shops as these the use of color is generally avoided, because black shows off the glass to best advantage. A southern exposure created the problem of glare on the show window, here solved by the installation of an invisible glass window; the added visibility gained allows the shop interior to function as part of the display. This Florida shop is the third of a series of superlative store designs for Steuben glass; the first two were built in New York and Chicago.



FLOOR PLAN

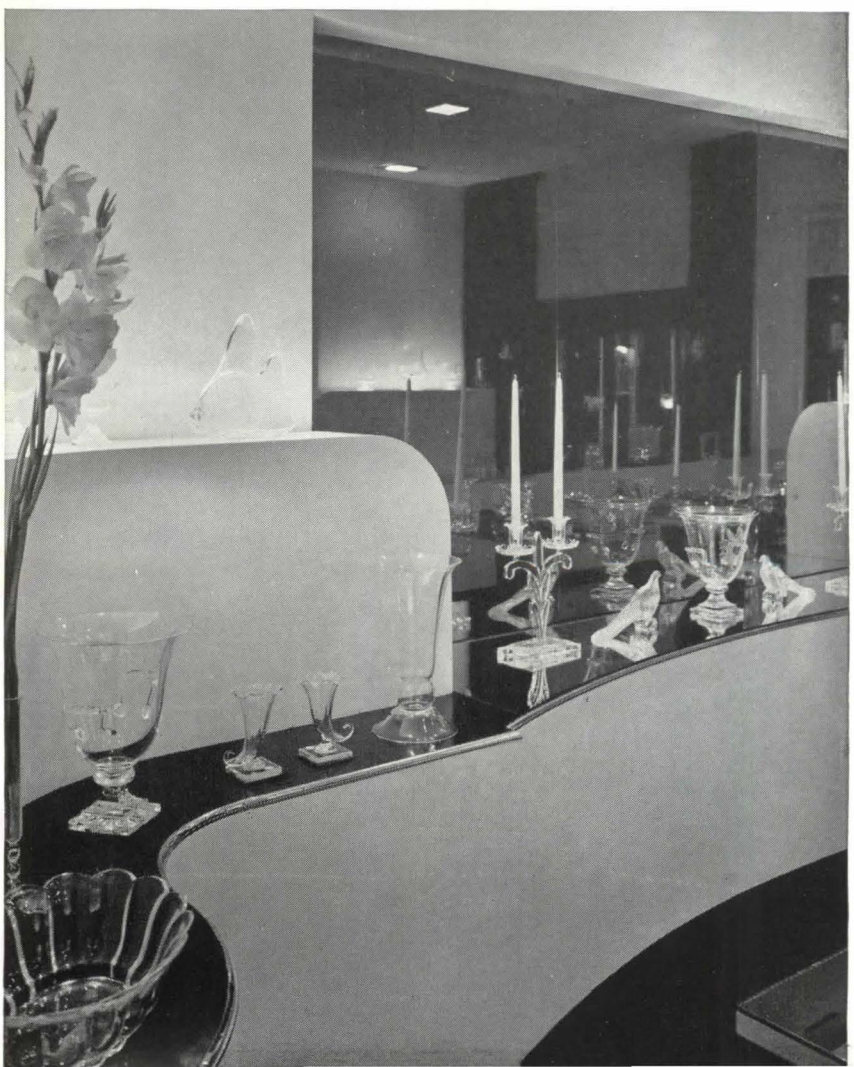
FINISHES AND EQUIPMENT

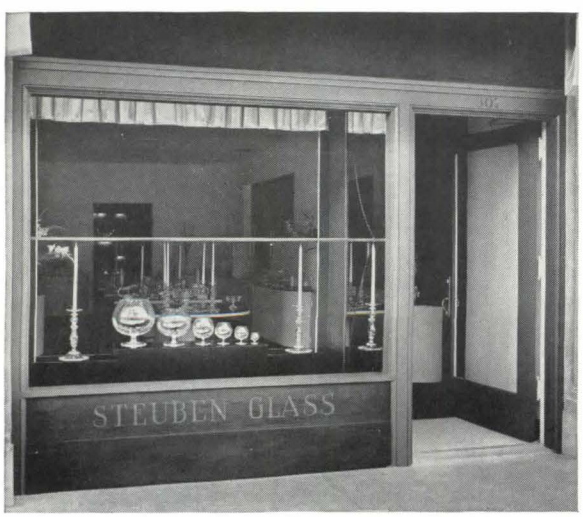
Show windows: invisible glass, Invisible Glass Co. Floor coverings: black asphalt tile laid over terrazzo; carpet in rear display room by Bigelow-Sanford Carpet Co., Inc., laid over Ozite, Clinton Carpet Co., over existing terrazzo. Hardware: chromium satin finish, Sargent & Co. Painting: Interior: white and mat black walls; calcimine ceilings and white for trim and sash. Exterior walls: mat black with green trim. All paint by Walden Paint Co. Electrical Installation: Wiring: flexible conduit. Fixtures: concealed troughs and recessed Holophane spotlights, Holophane Co. Ventilating: exhaust fan.



STEMWARE DISPLAY

DETAIL—SHOWROOM





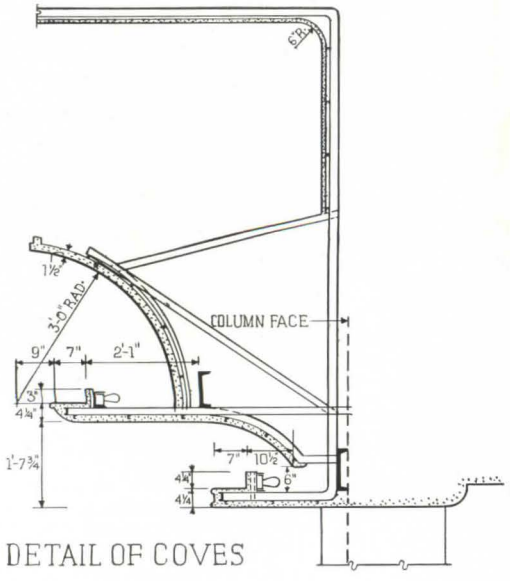
STORE FRONT

CONGRESS CASINO, CHICAGO, ILL.

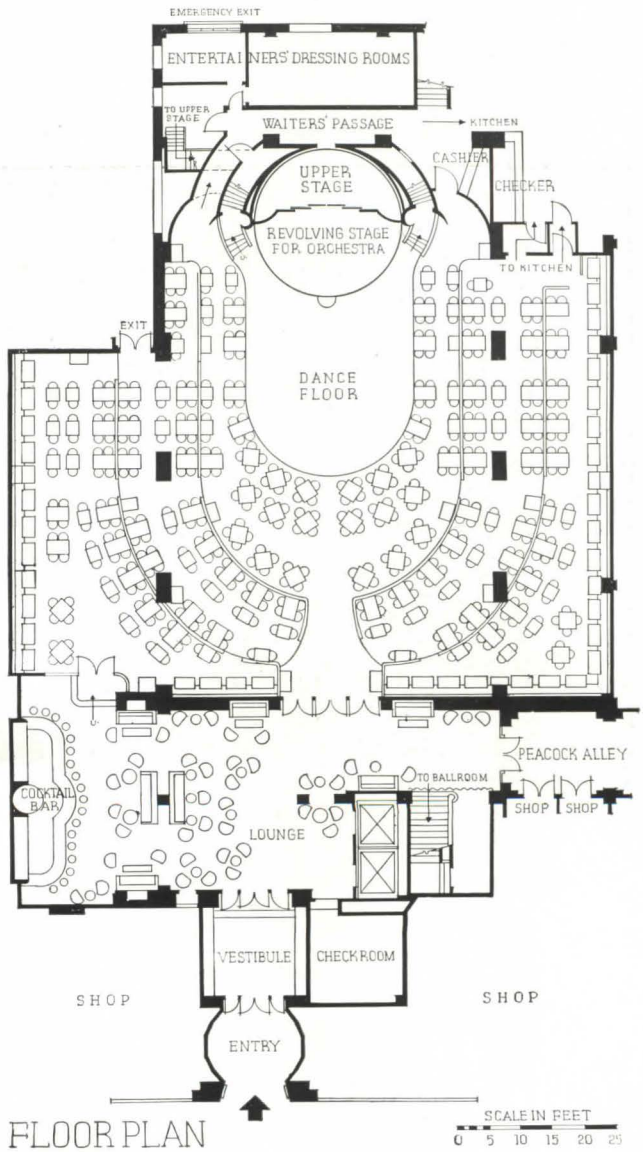
HOLABIRD & ROOT, ARCHITECTS

Hedrich-Blessing Photos

The extensive remodeling of the Congress Hotel in Chicago included the doing over of its night club. The result is a brilliantly colorful interior executed in crimson and fuchsia, with murals in shades of blue, dubonnet, and magenta. Aside from the murals, the room obtains its decorative effect entirely from the interesting forms of the stage and lighting troughs, sharply defined by flat masses of color. A revolving stage is used, permitting the rapid alternation of two orchestras; above the orchestras is a stage, concealed by sliding panels, which connects with the dance floor by means of stairways at either side.



DETAIL OF COVES



FLOOR PLAN

CONGRESS CASINO, CHICAGO, ILL.

HOLABIRD & ROOT, ARCHITECTS

MURALS PAINTED BY KATHARINE O'BRIEN AND MILDRED WALTRIP

BAR

CONSTRUCTION OUTLINE

STRUCTURE
Interior partitions—some new hollow tile and plaster. Terraces—formed in concrete filled over existing floor construction.

STAIRS
Upper stage—wood.

FLOOR COVERINGS
Entry—terrazzo, John Caretti Co. Vestibule—rubber mat over blue linoleum, Johnson Floor Co. Lounge and restaurant—carpet, Mohawk Carpet Mills, Inc. Bar—linoleum, Johnson Floor Co. Dance floor—8 in. square oak, E. L. Bruce Co.

WALL COVERINGS
Restaurant—gold mirrors on columns, Pittsburgh Plate Glass Co. Entry—Formica, Formica Insulation Co. Vestibule—wallpaper, Katzenback & Warren.

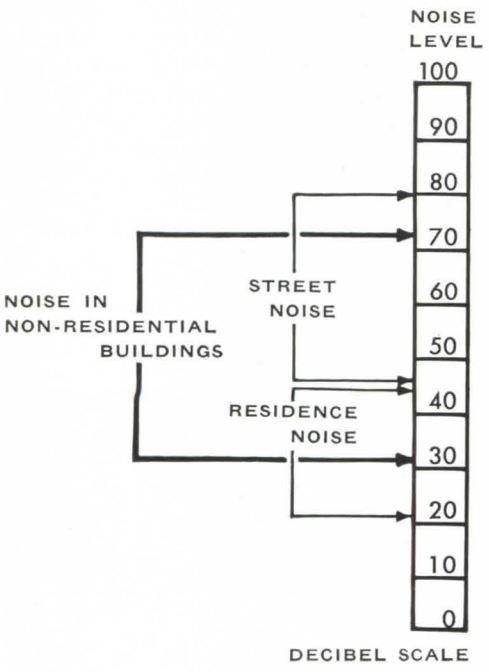
WOODWORK
Trim—painted birch. Vestibule and entry—glazed screen with blue glass, Pittsburgh Plate Glass Co.

PAINTING
Throughout, 3 coats lead and oil and flat paint.

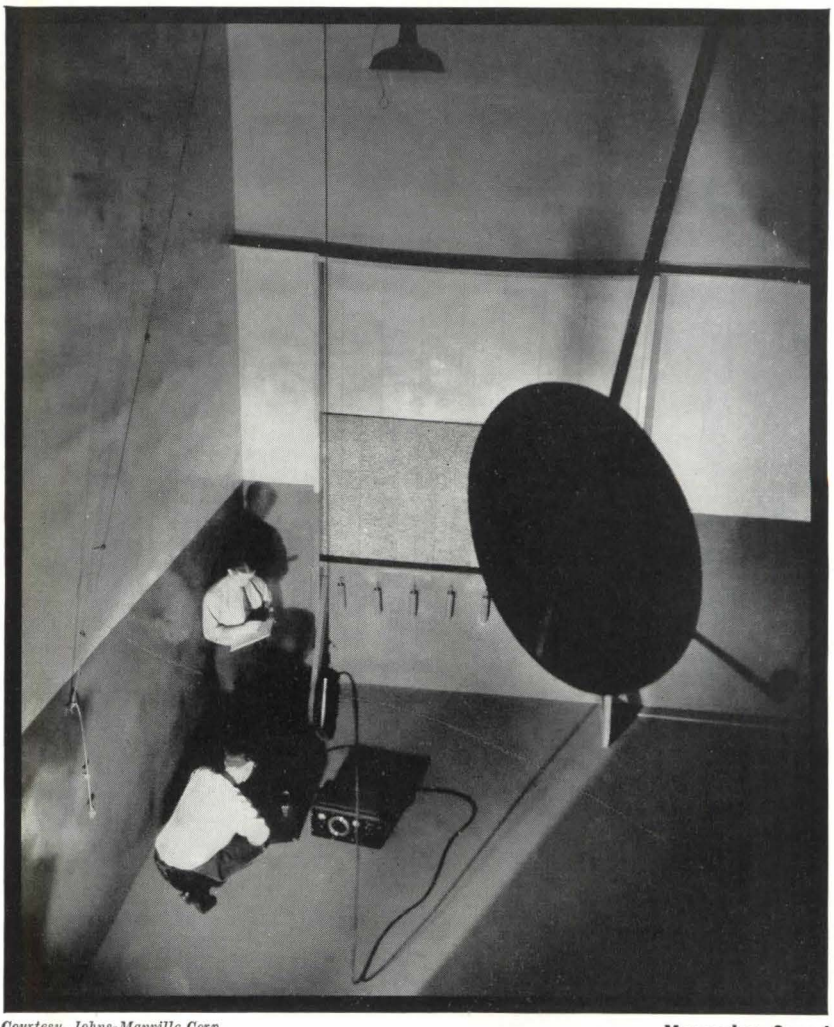
ELECTRICAL INSTALLATION
Lighting—indirect; special neon lights illuminating back bar. The electrical equipment including dummies and revolving floor of stage was revamped from existing equipment.

AIR CONDITIONING
New ducts installed with present coil and equipment renovated.

SPECIAL EQUIPMENT
Stage: Draperies—Paramount Stage Curtain Co. Fixtures—Belson Manufacturing Co. Steel—Chicago Ornamental Iron Co. Bar—Brunswick-Balke-Collender Co. Chairs and benches—covered with Russealoid, L. C. Chase & Co.



SOUND INSULATION



Courtesy, Johns-Manville Corp.

Measuring Sound

Increasingly recognized by building owners and managers as well as architects and engineers as a factor of considerable economic importance, excessive sound transmission in buildings is beginning also to be regarded by the public at large as a serious structural defect. Partly because of increases in sources of sound, notably radio receiving sets, and partly because of the propaganda of "noise abatement commissions" and other agencies concerned with the reduction of sound at its source, building's consumers are rapidly becoming sound conscious. Associated in the public mind with forward strides in air conditioning, lighting, etc., this widespread recognition of the importance of sound insulation has led to the question: if heat and light can be controlled, why not sound?

Admitting in general the justice of this query, the reply of the average architect will probably be that while sound control and sound insulation have indeed been successful in radio broadcasting and sound picture studios, and in other highly specialized types of buildings where elaborate precautions to prevent sound transmission are justified, that, unfortunately, enough is not yet known about the subject to provide a reliable guide for practical, everyday work.

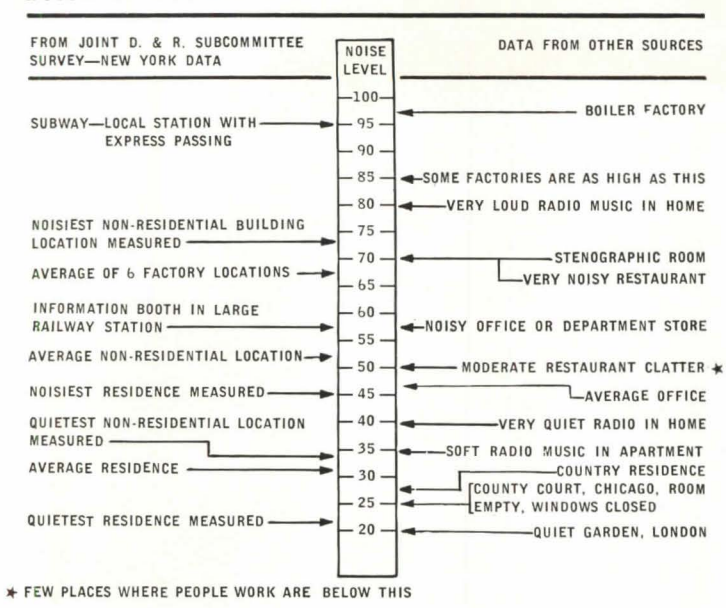
Actually, this is untrue: sufficient data are now available to furnish an adequate basis for the solution of most practical sound insulation problems. This improvement is due in part to the experience of the last decade in the construction of sound studios and in part to the further accumulation of laboratory data and development of the theory of sound transmission.

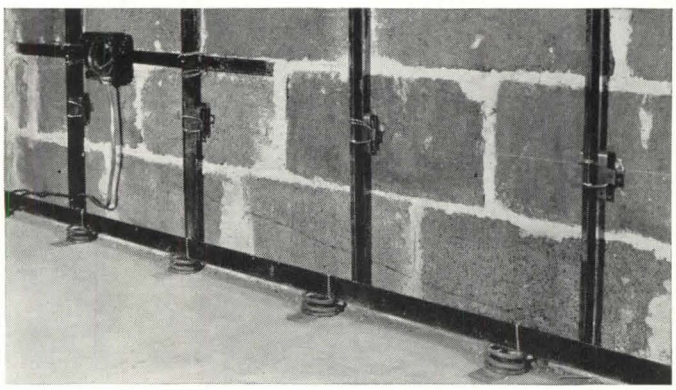
Whatever the cause, the importance of this fact to architects is that sound transmission is today a fairly predictable phenomenon, that sound insulation can be designed.

Why, then, does the notion that sound transmission is practically an unknown quantity persist? For this there are two principal reasons: one, the fact that architects are likely to think of sound insulation in absolute, rather than relative terms and, two, their erroneous impression that sound insulation depends primarily upon the materials used, rather than the methods employed in construction; and, more particularly, their altogether false belief that materials which are good thermal insulators are therefore good sound insulators.

The reasons for the persistence of these notions will appear in greater detail as the subject of sound insulation is explored, but it may be said in general that they stem from a misconception of the nature of sound; the first from a mistaken idea of sound volume, and the second from a failure fully to comprehend the importance of the fact that sound, unlike other forms of wave motion such as light, is a purely mechanical motion on the part of tangible media: everyday substances such as air, plaster, brick, etc.

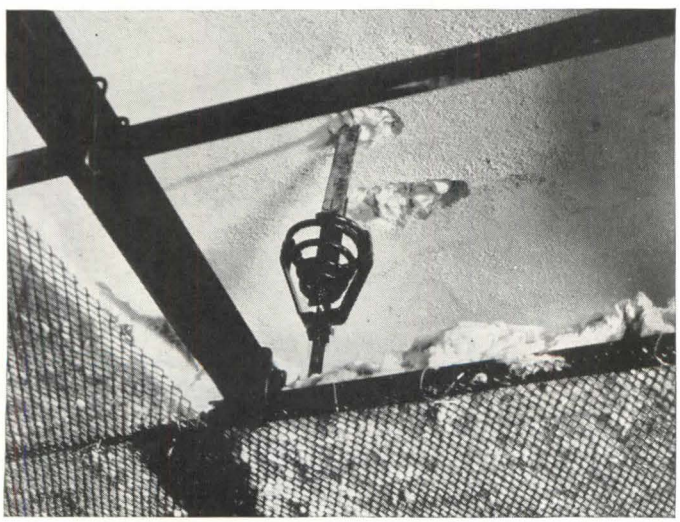
The importance of these misconceptions lies in the fact that they have resulted in unfortunate experiences on the part of many architects, whose most ambitious attempts at sound insulation have sometimes yielded little or nothing in tangible results. It is therefore essential that the whole subject be reviewed in the light of current knowledge and practice if there is to be a sure basis for future attempts of this kind.





Old Masters

RESILIENT FURRING: designed to support metal lath and plaster, Holmes System of Sound Insulation, The George S. Holmes Co., Inc., New York. Note that springs at the floor line support the weight of the wall, furring clips are for dampening only.



George S. Holmes Co.

RESILIENT CEILING CONSTRUCTION: Holmes System of Sound Insulation. This construction employs a spring to absorb vibration. On top of the metal lath is a layer of sound absorbing material.

"ZONING" AND SOUND MEASUREMENT

The greatest contribution which the architect can make to the art of sound insulation is "zoning," or the location of those isolated spots or extended areas in a building where sound insulation is necessary and economically justified. To do this requires both a careful analysis of the individual building and a study of the various sources of sound which must be confined. An obvious example of what is meant by "zoning" is the separation of the different dwelling units in a multi-family building; less obvious but of equal importance in a given instance might be the desirability of isolating certain rooms, such as sleeping rooms, within the individual units. An example of the other aspect of zoning, that of locating the sources of sound, is the isolation of bathrooms, within a unit, or particular attention to the separation between units at this point.

Clearly, the architect is in a position to do a better job of sound zoning than anyone else. He is in a position to analyze thoroughly a particular building while it is being designed, and can readily employ such simple and obvious expedients as, for example, the location of a row of closets along a wall dividing apartments to cut down sound transmission. But in order to do this he must have a fair idea of what intensity of sound is, and how it is measured.

Loudness

The intensity or loudness of sound is dependent upon both the amplitude and frequency of the sound waves, and may be measured in terms of the amount of energy involved. In sound insulation an extremely simple measure of the loudness of sound is ordinarily employed: *decibels*, or loudness units, in terms of average frequency or pitch. For sound insulation problems involving particular high-pitched or low-pitched sounds, the sound insulating quality of partitions or floors for the particular pitch must be specially investigated.

Roughly, the decibel unit is about the smallest change in the loudness of a sound which can be detected by the ordinary human ear. The decibel scale bears a logarithmic relation to the amount of sound energy involved: if the intensities of two sounds are in the ratio 10:1, the sounds differ in level by 10 decibels (db); if the intensities are in the ratio 10^2:1—that is, 100:1—the sounds differ by 20 db; and in general, the number of decibels measuring the difference in level between two sounds is ten times the common logarithm of the intensity (energy) ratio.

At the bottom of the decibel scale is the threshold of audibility, that is, the degree of loudness at which sounds become barely audible; at the top (126 db) is the threshold of feeling, or the point at which sound vibrations begin to be felt as well as heard. Loudness of many typical sounds, expressed in decibels, is given in the table at the left.

The sound insulating properties, or resistance to sound transmission, of a partition or floor construction are properly expressed in terms of *decibels reduction*. By this is meant the extent to which the loudness of a given sound, measured in decibels, will be reduced on passing through the partition. Thus a partition with a *sound reduction factor* of 40 db will reduce the intensity of a 60 db sound 40 db or to 20 db. It is not possible to describe the sound insulating value of a partition in terms of per cent, since such a partition may reduce the intensity of a particularly loud sound by only a small percentage, while the same partition may reduce a sound of much lower intensity 100%—to inaudibility. A partition with a sound reduction factor of 40 db, for example, will reduce a sound of 30db to inaudibility.

Relative sound insulation

With this in mind, the importance of zoning sound insulation becomes clearer. If the loudness of the noise which is to be insulated against be taken at 65 decibels, the level of ordinary conversation, a partition with a sound reduction factor of 40 db

would reduce the sound to 25 db, at which point it would be quite audible but probably unintelligible. In order to reduce the sound to 15 db, the point at which it would be barely audible, a partition with a sound reduction factor of 50 db would be required. In this instance the difference in the reduction factor between the two partitions would be quite important. If, however, the sound which is to be insulated against be that of a very loud radio, about 80 db, the difference between the two would become much less important, since the better partition would reduce the sound only to 30 db, while the partition with the 40db factor would reduce it to 40 db. If this is borne carefully in mind, the classification of various tested partitions employed by the U.S. Bureau of Standards quoted below provides an extremely valuable index of sound insulation value:

"PANELS WHOSE REDUCTION FACTORS ARE LESS THAN 40 SENSATION UNITS (DECIBELS).—Conversation in ordinary tones heard through the panel is distinctly audible and intelligible.

"PANELS WHOSE REDUCTION FACTORS LIE BETWEEN 40 AND 50 SENSATION UNITS.—Conversation in ordinary tones heard through the panel is quite audible but difficult to understand. If the voice is raised, it becomes intelligible.

"PANELS WHOSE REDUCTION FACTORS LIE BETWEEN 50 AND 60 SENSATION UNITS.—Conversation in ordinary tones heard through the panel is barely audible but unintelligible.

"PANELS WHOSE REDUCTION FACTORS ARE OVER 60 SENSATION UNITS.—Conversation carried on in an ordinary tone of voice is reduced to inaudibility. If there is external noise in the listening room, a shout on the other side of the panel would be practically unnoticeable."

Masking sounds

Another aspect of zoning sound insulation is suggested by the last of these classifications, that of *masking sounds*. Theoretical inaudibility, zero on the decibel scale, is for a perfectly quiet room. In practice, on the other hand, there are always present in a room certain sounds which tend to mask noises from adjoining spaces. It is therefore sufficient for all practical purposes that sound insulation between two such spaces reduce the level of the transmitted sound to the persistent, more or less constantly maintained sound level within the space to be insulated.

SOUND TRANSMISSION: GENERAL

When sound waves generated by a source of sound within a room strike the walls of the room, a portion of the energy is reflected into the room and the rest is said to be "absorbed." Of the "absorbed" energy, a small part is actually absorbed by the pores of the wall and is dissipated into heat. If there are cracks and holes, however small, a part of the energy will travel

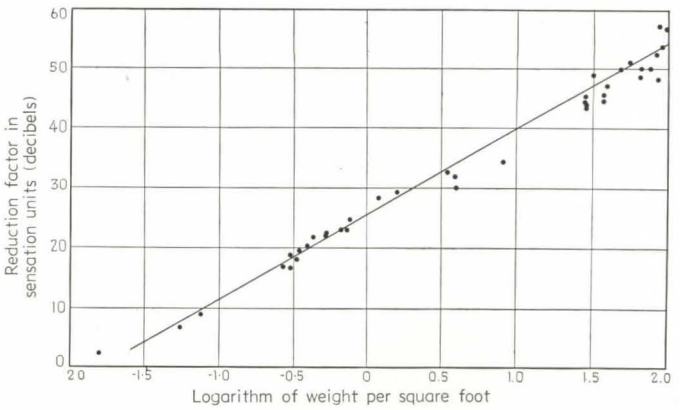


Chart showing results of Bureau of Standards Tests, indicating that the sound insulating properties of partitions tested is primarily dependent upon their weight.

through them as air-borne sound. A small part of the energy will set up sound waves in the material of the wall which will be transmitted through it just as such waves are transmitted by air, but in almost every case the amount of sound energy penetrating the wall in this way will be of no practical importance. Finally, the sound waves striking the wall will cause it to vibrate as a diaphragm, and so to absorb energy from the sound waves and reproduce these waves on the other side of the wall.

Weight and rigidity

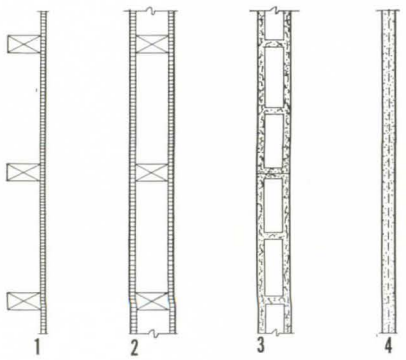
Sound transmission through relatively air-tight partitions is almost entirely a matter of such "diaphragmatic" action. The sound insulating value of homogeneous substances is, therefore, almost entirely a matter of their relative weight, thickness, and area, and in homogeneous partitions of normal dimensions, depends mostly upon weight.

This is borne out by a conclusive series of independent laboratory investigations of sound transmission by various partitions of this kind. Thus, comparison of the relative sound insulating properties of homogeneous partitions is rendered comparatively simple, it being easy to more or less accurately estimate the sound insulating value of partitions of this kind if their relative weights are known.

Complex Partitions—Double Walls

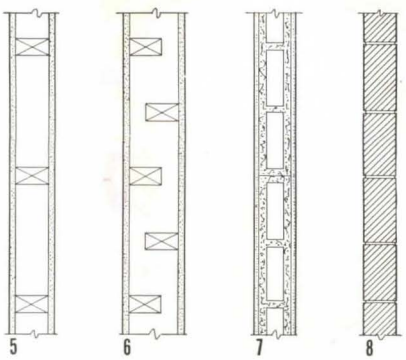
Every complex floor or partition structure, as distinguished from homogeneous construction, depends for any added sound insulating properties it may possess upon the relative mechanical separation of its two surfaces. The clearest example of this, the

SOUND REDUCTION LESS THAN 40 DECIBELS



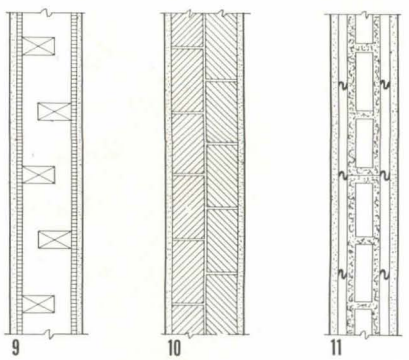
1.-2. Wood studs and wall board, unplastered, sound reduction 15 to 30 db; 3. Unplastered hollow block and light-weight masonry: 35 db; 4. Very thin solid plaster: less than 40 db.

SOUND REDUCTION 40 TO 50 DECIBELS

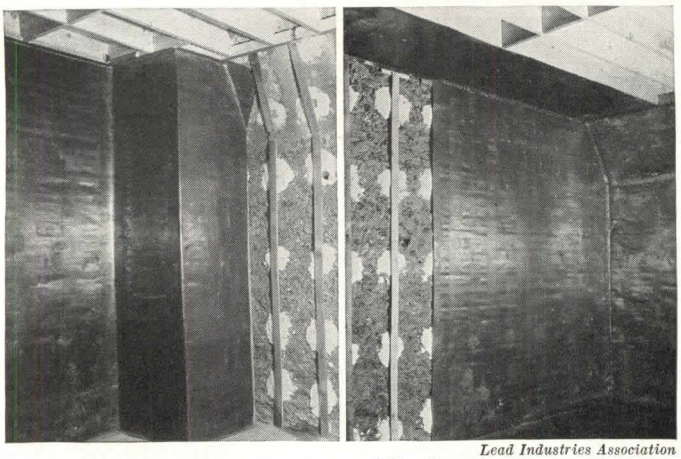


5. Wood studs, plaster on lath, sound reduction over 40 db; 6. Same with staggered studs: 45 db; 7. Hollow block, plastered: 45 db; 8. Brick, 4 in., unplastered: 45 db.

SOUND REDUCTION 50 TO 60 DECIBELS

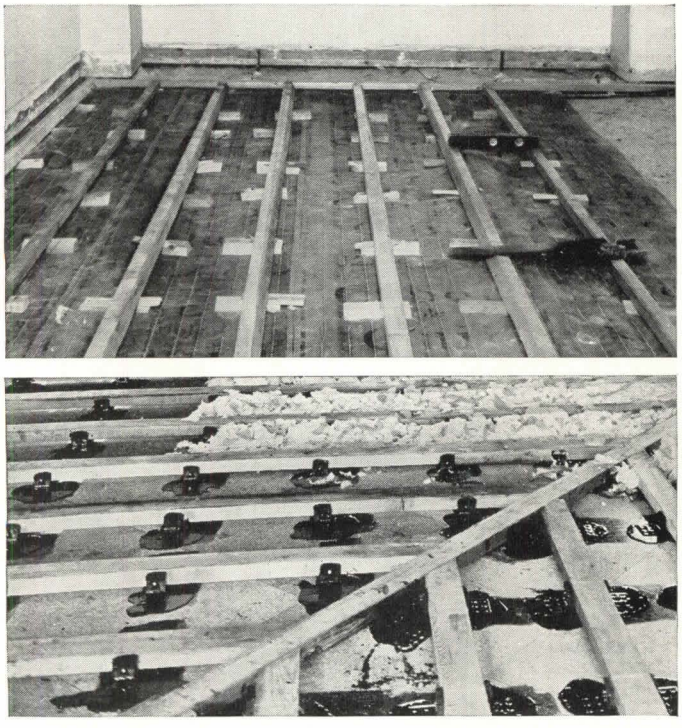


9. Staggered studs, 3-coat plaster on plaster board, sound reduction more than 50 db; 10. 8" brick, plastered: 55 db; 11. Hollow block, plaster on resilient furring; just under 60 db.

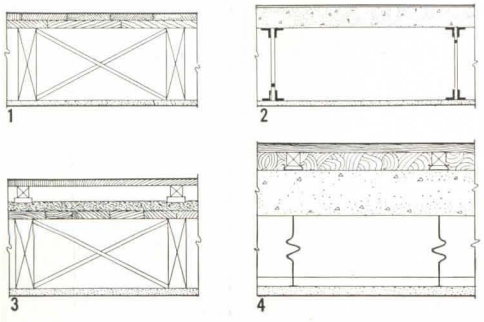


Lead Industries Association

Laboratory sound insulation employing 4 lb. sheet lead on wood furring strips, seams soldered. Finish, fibre board on lead chairs.



"FLOATED" FLOORS: Upper, floor floated on Cabot's "Quilt," Samuel Cabot Inc., Boston, Mass.; lower, floor supports resting on J-M Floor Chairs, Johns-Manville.



1. Regular wood joist construction, plaster ceiling, sound reduction 40 db; 2. Concrete supported by 8" open truss steel joists, plaster ceiling: 55db; 3. Regular wood joists, "floated" floor: 55 db; 4. Concrete slab, "floated" floor, resilient ceiling: 60 db.

double wall, depends upon an attempted *complete* separation of the two surfaces.

An analysis of the appended data for various types of construction will show that, even among constructions of a comparatively complex nature, weight and air-tightness are of primary importance, and the relative degree of isolation of the two wall surfaces a secondary factor which does not enter the picture until this primary requirement has been satisfied, except perhaps in work where lightweight construction is absolutely necessary. An excellent example of this is the comparison of certain test panels, the first of which was constructed with staggered studs but with lightweight surfacing materials, which was shown to have a sound reduction factor considerably less than a second panel consisting of typical wood stud construction with three coats of plaster on heavy plaster board.

That the isolation of wall surfaces plays an important part in partitions which show insulating properties of a high order is undeniably a fact, but it must be recognized that such partitions must first of all possess a core or one surface of considerable weight and rigidity before such isolation can be expected to be effective. Thus it is usually partitions having masonry cores of usual thickness, and relatively lightweight isolated wall surfaces whose tendency toward diaphragm action is restrained by proper dampening clips, which exhibit sound insulating properties of a high order; but such isolated surfaces cannot be regarded as a substitute for the heavy core.

The reason for this would appear to be the tendency of air-borne sound to span the air space between the two layers of a partition or double wall, causing the second layer to vibrate in spite of its mechanical isolation from the first layer. According to this theory, a partition consisting of two lightweight layers would have only the combined sound insulating value of the two layers, even though their mechanical isolation was complete. This analysis is borne out by test data for such partitions.

Diffraction

Because of the tendency of sound to *diffract,* or spread, after passing through an opening, cracks and holes must be avoided in every type of construction if sound insulation is to be achieved. As a result of this tendency every crack or opening must be regarded as a *source* of sound, of importance almost equal to that of the original sound-producing agency.

Impact Sounds

A final general aspect of sound transmission is the transmission, or more properly the propagation, of impact sounds. Insulation against such sounds is primarily dependent upon the relative isolation of the surface struck and the tendency of the materials involved to conduct mechanical vibration. In practice, the control of such sounds is best accomplished by 1) reducing the initial intensity of the sound and dampening the force of the impact by carpeting or providing a soft floor surface such as cork, 2) isolation of the floor or floor and ceiling from the supporting construction, and 3) employing a floor construction with a high degree of resistance to air-borne sounds.

FLOORS

40 to 50 db sound reduction

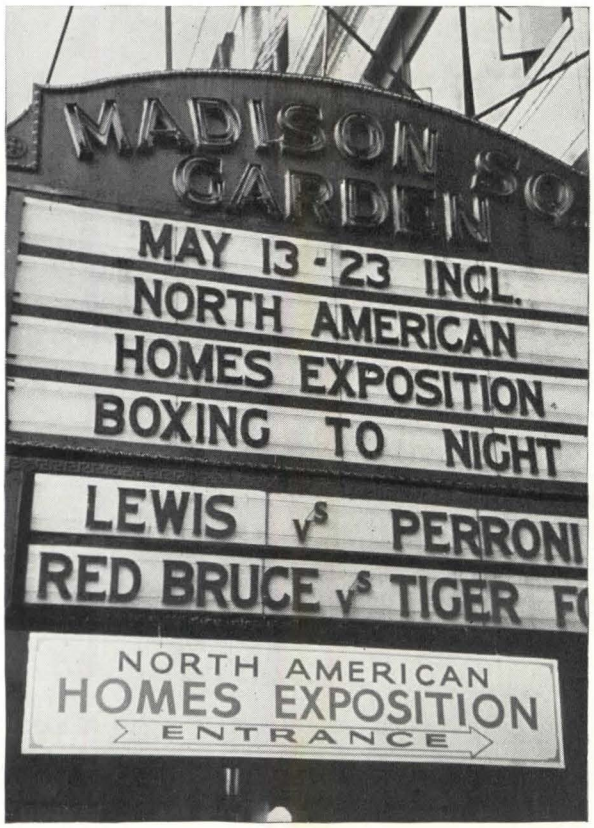
The sound insulating value of various standard floor constructions varies with the weight and rigidity of the floor structure, but not to the same extent as in the case of partition walls. Regular wood joist floor construction, with typical sub- and finish floors and plaster ceiling on wood or metal lath, shows a sound reduction factor ranging from 40 to 45 db. Reenforced concrete slab construction reduces sound transmission about 45 db, with furred ceiling about 50 db. Cellular steel flooring, where used to support concrete fill, reduces sound transmission to about the same extent as a reenforced concrete

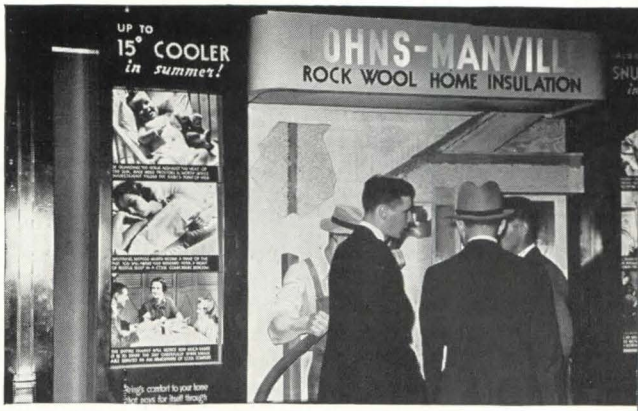
(Continued on page 114)

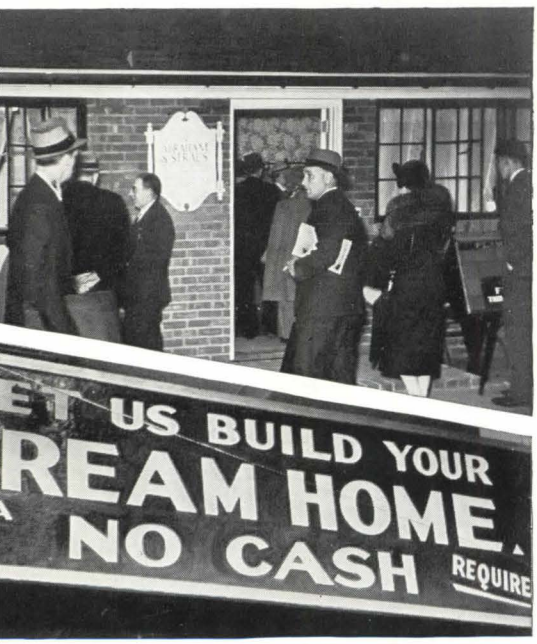
BUILDING MONEY

A MONTHLY SECTION DEVOTED TO REPORTING THE NEWS AND ACTIVITIES OF BUILDING FINANCE, REAL ESTATE, MANAGEMENT AND CONSTRUCTION

Photos by Vandivert and Mydans







PWA CLEARS A SYNTHETIC SLUM

But Editors steal New York's National Home Show with space and gardens and glass and gadgets

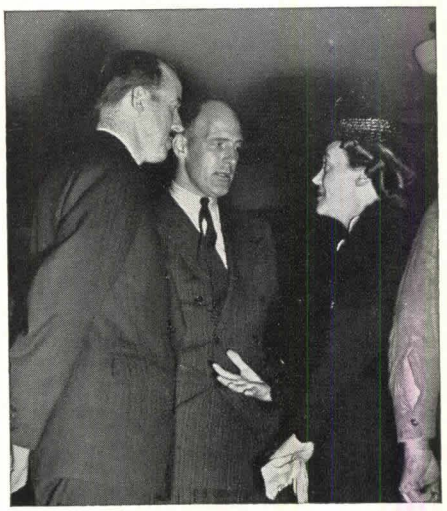
ONE night in the middle of last month, while the main arena of Manhattan's Madison Square Garden lay in unprofitable darkness, some 5,000 men and women scuttered through a heavy rain, ducked into the Garden's basement. There they swarmed through 100 exhibits at the opening night of the North American Home Show.

Inside they found the sort of displays which have become routine for home shows over the last four years. They found linoleum and refrigerators, furniture and plumbing, washing machines and window sashes. They found considerable space devoted to the display of building materials and insulation. They found a profusion of FHA propaganda, far more skillfully displayed than any of the commercial merchandise. But what stopped the crowds flat on their heels, what brought real attention were a model house and a housing exhibit. The former was the work of Architects Wallace Harrison and André Fouilhoux, sponsored by the *Ladies' Home Journal's* astute Editors Bruce and Beatrice Gould; the latter was sponsored by the New York Housing Authority, contained a life-size replica of a slum flat and of a PWA low-rent apartment. In these two exhibits the building industry could perceive, perhaps for the first time, the full potentialities of a home show.

Home Shows. The first home shows in this country were opened just after the War. In 1919 the Department of Labor had sponsored a national "Own Your Own Home" week, featuring an exhibition in New York and Washington. The exhibitions were repeated in 1920, 1921, and 1922, drawing heavy crowds as residential building jumped from $570,000,000 in 1920 to $1,340,000,000 in 1922.

During this early post-War period the acute housing shortage awoke in the public the same "buy-now" attitude it gives to automobile shows. The homes and plans on display excited the public, drew it in droves because they were as novel as they were attractive. Over the next decade, however, the model houses failed to emulate the automobile by improving in performance and looks every year, assumed instead a deadly monotony not at all disguised by gables, half-timbering, and new notes in the door bell. Result was that these exhibits changed in the public's mind from model homes to sample houses, from newsworthy events to out-of-date catalogues. With this change the home show lost its ability to draw the crowds, disappeared from the national scene. It was replaced by the sample house on the subdivider's site, a house which retained the title of "Model" only by courtesy.

It was not until 1932 that the home show came into its own again. In that year Harry D. Phillips, publisher of the New York State Real Estate Board's *Digest*, staged a building modernization show in the Empire State building which drew a good response. In 1935, the FHA, then deep in its modernization campaign, sponsored a similar though much larger show in New York's giant Port of Authority building. From the point of attendance, this was probably the largest home show ever produced, drawing in excess of 750,000 people.



Vandivert

Editor Gould, Architect Harrison, Editor Gould

Encouraged by this auspicious start, the FHA thereupon organized the National Homes Shows in cooperation with the Manufacturers' Housing Display Council. On July 4, 1935, President Roosevelt touched a gold telegraph key in the White House to open the first official National Home Show in Baltimore. It drew 45,000 people, sold $53,000 worth of goods, initiated $1,288,000 in FHA-insured loans. Top in National Homes Shows was reached in February, 1936, when the Philadelphia exhibition drew 214,000, sold $363,000 in goods, initiated $6,213,000 in FHA-insured loans. Since that day, the home show business has suffered the same sort of slump it displayed after its spurt in 1920-1924, and it appears that the cause is the same: the public interest is in direct proportion to the originality of the displays. And once again the public is being surfeited with the same old houses, a modicum of new equipment.

Homes Are News. The directors of last month's North American Home Show were Promoter Porter Moore and Captain R. L. Purdon, but credit for the twin highspots of the show goes to those two top-flight promoters, the *Ladies' Home Journal* and the U. S. Government.

"The House of Tomorrow" is the official title given to the *Ladies' Home Journal* house designed by Architects Harrison and Fouilhoux, and the title, for once, is apt. The house comprises only four rooms and a garage, but it has more ideas per cubic foot than anything else in the show. It gives the public the first example of a truly open plan it has ever been privileged to see. Incidentally, it includes air conditioning, the newest electrical equipment, G.E.'s most advanced version of the integrated kitchen. But it was the revelation of the dramatic architectural possibilities of the house, rather than its gadgets, which drew and excited the public. Here was a home that was news—the first home news, aside from that of prefabrication, to penetrate to the general public in fifteen years.*

The second highspot and promise of the show was the educational exhibit of the local Housing Authority. Reproduced in grim life-size was an exact replica of a three-room New York slum apartment, complete with communal toilet, windowless rooms, and air-shaft perspectives of the sky. Further on was another reproduction, this one of the small, light, efficient apartments now being erected under PWA at the Williamsburg Housing project in Brooklyn. Connecting the two is a circular corridor in which are displayed some of the most telling posters ever conceived in this country. Their mission: to educate the public to the need and the economic justification of better housing. Their significance: education, no less than promotion, has a legitimate and valuable place in the home-show sun.

Also last month a Chicago department store gave the building industry another lesson in model houses with two exhibits (opposite) which not only ignored a local home show, but drew better proportionate crowds.

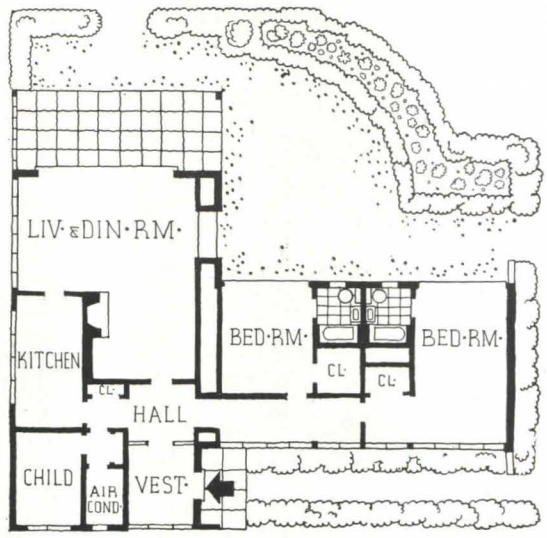
* For a full presentation of "The House of Tomorrow", see next month's FORUM.

MODERN HOUSE, MARSHALL FIELD

JOHN ROOT, ARCHITECT

Hedrich-Blessing Photos

LIVING ROOM



FLOOR PLAN

SCALE IN FEET
0 5 10 15 20 25

To this compact Modern house, and to its more traditional partner (overleaf), trooped last month a daily contingent of some 6,000 persons, a total of 75,000 by mid-month. To see the two model houses, visitors had to be lifted to the eighth floor of the Marshall Field store in Chicago. Prime function of each house was to merchandise Marshall Field furniture and interior decorations, second function to get the name of *The Woman's Home Companion* before the public. To accomplish the first duty, price lists of the furnishings were hung on the walls of each room, hostesses were present to help sales of duplicates along. As promotion, the Chicago press and *The Woman's Home Companion* combined to push the project; announcements were carried in morning radio programs for four days. Marshall Field & Co. announced that the house could be reproduced for between $11,500 and $12,500.

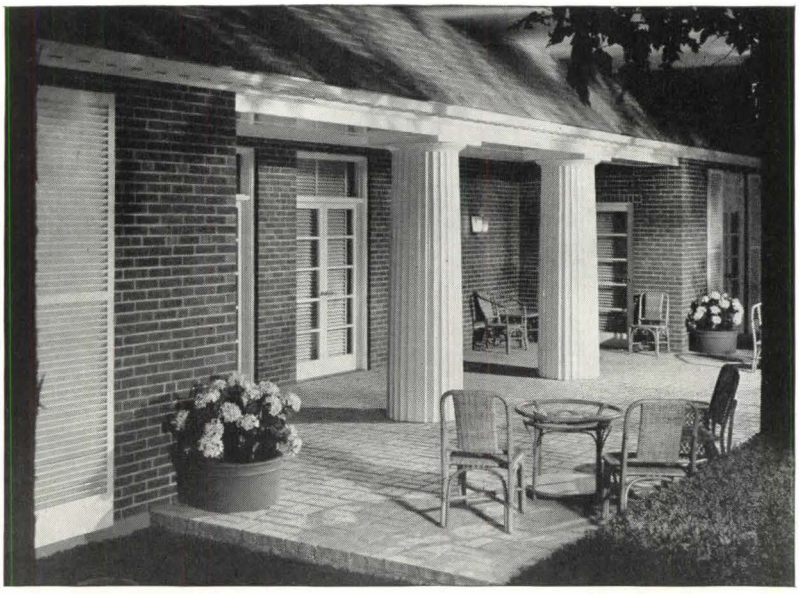
CONSTRUCTION OUTLINE

WALLS: Face brick, Moulding-Brownell Corp. and Streator Brick Co.; common brick, The Brick Mfgrs. Assn. Steel studs, Ryber Mfg. Co.
ROOF: Materials and insulation by U.S. Gypsum Co.
FIREPLACE: Hearth lining—Walter M. Buchroeder & Co. Facing—marble, Vermont Marble Co.
INSULATION: Plaster board and Texolite paint, U.S. Gypsum Co.
GLASS: Window—Libbey-Owens-Ford Glass Co., Pittsburgh Plate Glass Co., Cadillac Glass Co. and Vitrolite Products Co. Mirrors—H. M. Hooker Co. and Pittsburgh Plate Glass Co.
FLOORS: Wood—Wood Mosaic Co., Inc. and Robbins Flooring Co. Tile: Suntile, Cambridge Wheatley Mfg. Co. Tile setting by Ravenswood Tile Co.
FLOOR COVERINGS: Rug cushions—Ozite, Clinton Carpet Co. Carpets—Karastan, Fieldcrest, Marshall Field & Co. Linoleum—Congoleum-Nairn, Inc.
WALL COVERINGS: Veneer paneling—U.S. Plywood Co., Inc. Wallpaper—Katzenbach & Warren, Inc.
DECORATIVE FABRICS: Fieldcrest, Marshall Field & Co., Celanese Corporation of America, Moss Rose Mfg. Co. Drapery trimmings—E. L. Mansure Co.
MILLWORK: Hartmann-Sanders Co.
HARDWARE: Interior and exterior—Sargent & Co.
GRILLE WORK: Hart & Cooley.
PAINTING: All material by Nu-Enamel Co. and U.S. Gypsum Co.
ELECTRICAL INSTALLATION: Fixtures—Solar Light Co. and Curtis Lighting Co.
KITCHEN EQUIPMENT: Gas Ranges—Magic Chef by American Stove Co.; others by Tappan Stove Co. Sink—electric, General Electric Co. Dishwasher—Westinghouse Elec. & Mfg. Co. Refrigerators—Westinghouse

(Continued on page 544)

BRITISH COLONIAL HOUSE, MARSHALL FIELD

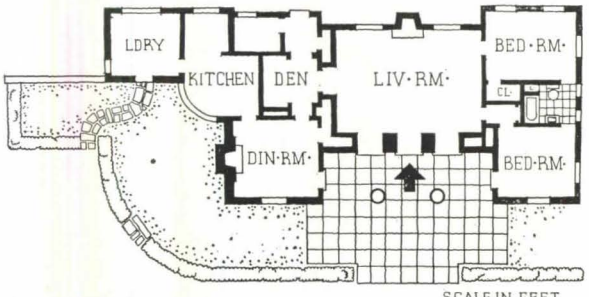
ALFRED SHAW, ARCHITECT



Hedrich-Blessing Photos

DINING ALCOVE

LIVING ROOM



FLOOR PLAN

There was room on the eighth floor of Marshall Field for only the first floor of this British Colonial house. To build the complete house the sponsors estimated a necessary outlay of $16,000. Architect Alfred Shaw's floor plans allowed for smooth circulation of the thousands of daily visitors. Provided for the latter by Marshall Field were brochures with complete data on both houses, including floor and plot plans, elevations, details, and complete specifications. Their prices: for the Modern house, $3; for the British Colonial house, $5. All brochures were soon sold out. In designing and building this house, Architect Shaw aimed at "families who like to live simply, comfortably, and well." It was therefore, like the house on the preceding page, equipped to the roof-tree with modern conveniences, including full air conditioning.

CONSTRUCTION OUTLINE

(Continued from page 543)

Elec. & Mfg. Co. and General Electric Co. Cabinets—The Howell Co. and Mutschler Bros. Co.

LAUNDRY EQUIPMENT: All equipment Thor, Hurley Machine Co.

BATHROOM EQUIPMENT: Fixtures by Kohler Co. and Briggs Mfg. Co.

AIR CONDITIONING SYSTEMS: British Colonial House: Equipment by Kelvinator Division of Nash Kelvinator Corp. Sheet metal work: A. M. Castle & Co., installed by R. B. Hayward Co. Modern House: Equipment by Sampson Electric Co., distributors of Norge Heating & Conditioning; sheet metal work by Anchor Sheet Metal Works; copper tubing by Chase Brass & Copper Co., installed by the General Heating Corp.

SPECIAL EQUIPMENT: Radios—R. C. A., Victor, Zenith Radio Corp. Venetian blinds—Miller & Connell Co., Inc.

DEPOSITS: $10,101,000,000

The Savings Bankers' 17th Convention reports record capital, worries about its shrinking mortgage portfolio.

DURING the last three days of April, 750 cautious, solid citizens representing ten billion dollars in savings met in Manhattan's Waldorf-Astoria in the 17th and largest convention in the history of the National Association of Mutual Savings Banks. To Realty the event was of uncommon interest, because in the hands of these solid and cautious citizens lay the control of a five billion dollar portfolio of realty mortgages, an aggregate holding second in size only to that of the life insurance companies, and one about equal to the total mortgage holdings of all building and loan associations.

In staid convention they listened to a succession of speeches mildly spiced with hell-fire from President Virgil Jordan of the National Industrial Conference Board, and with what sounded to many like economic heresy from Major L.L.B. Angas.

Trumpeted President Jordan "(The New Deal policy) is engineered out of error, forged out of falsehood, and driven by the power of mass delusion, mobilized by demagoguery . . . I can see . . . nothing that is now strong enough to wreck it, even war or widespread labor disorder."

Replied Major Angas: "Modern capitalism, if left to itself, without monetary guidance or interference contains in itself the germ of an economic disease which we call the business cycle . . . A cure for the business cycle is essential. Managed money has been instituted; for economic reasons, so as to make full use of national resources . . . for humane reasons, so as to reduce unemployment, and for political reasons, so as to stop Bolshevism."

Less spectacularly, President Carl M. Spencer of the National Association of Mutual Savings Banks (and of Boston's Home Savings Bank) gave sober warning against the mounting national debt, against stock speculation, against installment buying, against gambling—with particular reference to the Irish Sweepstakes.

In the regular succession the Association's Vice President Henry R. Kinsey was elevated to the Presidency to succeed Mr. Spencer. President of the Williamsburg Savings Bank of Brooklyn, fourth largest in the U.S. (deposits: $222,000,000), Mr. Kinsey has been a savings banker for 37 years, is one of the minority in his business with a real understanding of its basic problems. Typically, in addressing the convention, President-elect Kinsey scolded the Government for mounting expenditures, perorated: "I have always believed that the United States would again forge ahead to a measure of well-being unequaled in our history, and no one can doubt that this is the promised land."

The conveners listened for three days and nights to such exhortations. In between they sandwiched shop-talk about their new problems of investment, mutual congratulations on the fact that as of January 1 their deposits had risen to an all-time high of $10,101,000,000. Largest problem was how to invest this immense pot of gold in a market whose prime investments are not only less numerous, but more widely in demand than ever before.

Portfolio. Since 1929 deposits in mutual savings banks have risen by over one billion dollars, evidence of the noteworthy manner in which the savings banks have withstood the depression. In the same period railroad, municipal, and utility bonds (which comprise 20 per cent of their national portfolio), have become notoriously lacklustre as prime investments; and new construction (whose mortgages used to comprise better than 60 per cent of their investment) has been drastically curtailed.

Good mortgages are the backbone of a savings bank's portfolio. Conservatively appraised, they have revealed themselves during the last depression as a most acceptable risk; further, they yield a high return, higher than any other investments permitted to savings banks by law. For these reasons, the savings banker feels just about right when he has 60 per cent of his deposits invested in good first mortgages.

Just how much money savings banks have in mortgages today is a secret. However, there are several reliable indications that they have considerably less than they feel they should. For instance, the savings banks of New York State (which hold about 55 per cent of all savings banks deposits) have seen their realty mortgage holdings decline from 61.83 per cent in 1931 to 48.78 per cent as of the beginning of this year. Between 1930 and 1935 the percentage of mortgages held by savings banks in highly active Westchester County, N. Y. *dropped from 23 per cent of the total to 3 per cent.*

To extend this dilemma from New York to the rest of the country, it is necessary simply to remember that at no time since 1931 has the total value of construction in the U.S. been within 50 per cent of the 1925-1929 average. Thus, the close and painful correlation between construction and the investment problem of the savings bank is clear enough; but there have meanwhile arisen further aggravating factors.

Competition. Foremost among these, and excuse enough for the roasting accorded the Government at the annual convention, is the popularization of the FHA 80 per cent insured mortgage. Like all mutual organizations, the savings banks are pillars of conservatism, and they have operated

(Continued on page 68)

Acme *Acme* *Wide World* *Acme*

Progressive Presidents Mills (Drydock), Bruere (Bowery), Benson (Dime), Hoguet (Emigrant Industrial).

A VIRGIN RESIDENTIAL MARKET

for subdividers is discovered in the industrial South. How a New York builder works in Kingsport, Tenn.

THE depression phenomenon which resulted in a migration of industry to the South (ARCH. FORUM, Mar. 1937, p. 165), caught that section totally unprepared to meet a rocketing demand for shelter for thousands of new workers in textile mills, foundries, small factories and branch plants. That overcrowding rather than new homes has been the immediate result serves to demonstrate only that no large builders have as yet grasped the potentialities of this vast new market. The conclusion to be drawn is obvious, especially to the real estate man of the crowded and industrial Northeast.

Last month a small, swart New Yorker, long and wise in real estate, was ably demonstrating that he knew a good thing when he saw it. Builder N. K. Winston, having listened to the advice of two FHA men, had transferred his chief interests from Queens, boneyard of subdividers (ARCH. FORUM, Sept. 1936, p. 234), to Kingsport, Tenn., and by last month he found himself possessor of contracts for 41 houses and he was hurrying construction on 21 more. It had taken him just three weeks to get his contracts. His potential market in Kingsport alone was about 5,000 big. He had no competition.

Kingsport was the ideal site for Builder Winston's first flier in this rich field. Planned as an industrial community before thoughtless development and building might interfere with the city's future growth, it shows the careful hand of the late Dr. John Nolen, famed city planner. Zoning of residential, commercial, and industrial areas, consideration for street and highway layouts, valid school and park systems have contributed to make a sound town. For the site of his Winston Terrace, Builder Winston bought a golf-course within the city limits, but safely far from commercial and industrial districts. He could afford to spot his development away from the center of town, for most of the workers for whom his houses are being built own cars.

Kingsport workers have plenty of money. Still characterized as a "model" industrial project, Kingsport is home for such companies as the Tennessee Eastman Corp., Borden Mills, Inc., the Blue Ridge Glass Corp., the Pennsylvania-Dixie Cement Corp., the mammoth Kingsport Press, a foundry, a belt factory, the Mead Corp., Holliston Mills. A cursory survey conducted by Winston indicated that the average salary earned by Kingsport workers is $130 per month, with costs of living, other than rents, lower than average. The same survey showed that 5,000 of the 11,000 industrial workers commuted daily to Kingsport from as far as fifteen miles away. Doubling up was standard practice: a single room brings fabulous rents. The questionnaire showed that 700 workers were ready to put cash down on a new house, that most of them were prepared to spend $35 a month for their homes.

And Builder Winston found unprecedented support from the factory owners. During the time the model houses were being built, the real estate section of the *Kingsport Times* was larded regularly with advertisements from nearly every store, shop, and industry, each proclaiming "CONGRATULATIONS to Kingsport Insured Homes for their contribution . . ." or "We are proud of Winston Terrace." Builder Winston was well able to appreciate this heart-warming reception, for he had previously surveyed 1,000 factory-owners in his native Long Island, had found that only one cared to have him build homes for its workmen. So complete was the welcome in Kingsport that a city-wide "Better Homes Week" was called when the six model homes were opened.

The six model homes brought the crowds. Obedient to the fanfare of publicity, 500 turned up on opening day, to look at houses which cost from $3,190 to $4,790, meant monthly payments of $26.35 to $37.55. When construction was well under way, Builder Winston imported skilled skeleton crews from Long Island to guide local mechanics who were plentiful, cheap, non-union. As soon as the first flush of opening day had worn off, Builder Winston realized that his 62 homes were not going to be adequate for the rush of early demands. He plans to break ground for 52 more by mid-June.

The houses were designed by Architect Lester Maxon, of New York. In effect, they are simple adaptations, usually in lumber, sometimes in brick veneer, of the houses which are going up in any speculative development. They would not look out of place on Long Island. Financed according to standard FHA practice, the homes incorporated such merchandising

The cheapest house a Kingsport worker can buy from Builder Winston is at left. It costs $3,190, or $26.35 per month on the FHA plan. On the facing page, see two other Winston gambits in a market which, without competition, runs into the thousands. The wood cottage (above, right) costs $3,990, $31.91 per month. The two-story house (below, right) costs $4,690, $36.74 per month.

tidbits as tiled bathrooms, domestic science kitchens complete with radios. The least expensive home, costing $3,190, has two bedrooms, a living room, a kitchen, bath, and finished attic which can be later converted into a fifth room. At the other end of the scale, the $4,790 house, with two floors, has a living room, dining room, kitchen, and foyer on the first floor; three bedrooms and a bathroom on the second floor. All the houses are equipped with full-size basements, with laundry rooms and coal-fired heating units.

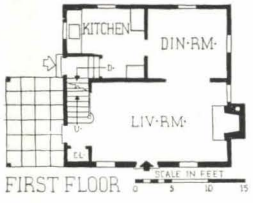
With the unprecedented hospitality and cooperation tendered him in Kingsport as a send-off, Builder Winston plans, before the year is out, to exercise options he has on sites in other industrial cities in the Southeast. He has been sparring for options on land in ten other cities, expects to start building in Washington, D. C., Knoxville and Nashville, Tenn., by July. He knows well the richness of the market which he is one of the first to tap. Behind him is a board of directors which includes Chairman Arde Bulova, watch tycoon; Gardner Patterson, president of Manhattan's Burns Brothers, coal dealers; Woolsey Shepard of Wise, Shepard, and Houghton; Ralph Baker of Amott, Baker & Co.; and C. Elliott Smith, professor of real estate at N. Y. U. Before him there are more opportunities than he can manage. In all of them the market is big, rich, without stiff competition.

FLOOR PLAN

SECOND FLOOR

CONSTRUCTION OUTLINE

FOUNDATION: Walls—poured concrete, continuous. Cellar floor—concrete, cement finish.
STRUCTURE: Exterior walls—studs, sheathing, building paper and siding. Interior—wood lath and plaster. Floor construction—oak sub- and finished flooring.
ROOF: Construction—2 x 6 in. rafters, roofers, felt and asphalt shingles, Certainteed Products Corp.
CHIMNEY: Terra cotta, 8 x 8 in. Fireplace—cast iron throat and damper, 4 in. fire brick lining.
SHEET METAL WORK: Flashing—copper. Gutters and leaders—galvanized iron.
WINDOWS: Sash—double hung, wood.
STAIRS: Treads—oak. Risers and stringers—pine.
FLOOR COVERINGS: Kitchen—covered with linoleum. Bathrooms—tile.
WOODWORK: Trim, shelving, cabinets and exterior doors—pine. Interior doors—fir.
PAINTING: Interior: walls—3 coats stipple. Floors—shellac. Exterior: walls and sash—3 coats paint.
ELECTRICAL INSTALLATION: Wiring system—BX. Fixtures—direct ceiling lights, except wall brackets in living room.
KITCHEN EQUIPMENT: Sink—flat rim, Duo strainer, Standard Sanitary Mfg. Co,
LAUNDRY EQUIPMENT: Sink—48 in., two-tray, enameled iron.
PLUMBING: All fixtures by Standard Sanitary Mfg. Co. Pipes: Soil—cast iron. Water—copper tubing.
HEATING AND AIR CONDITIONING: Filtering and humidifying, coal fired boiler, Montgomery Ward & Co. Hot water heater—pot-bellied stove.
SPECIAL EQUIPMENT: Kitchen cabinet equipped with radio.



FIRST FLOOR

SECOND FLOOR

SAVING OF MONEY AND LABOR

through the use of power equipment and coded charts. Mass production at Boston's Arlmont Village.

With the outset of the year, Boston subdividers applied pressure in a score of suburbs around the city, touched off such a burst of speculative building that one month this spring Boston's volume of permits filed was better than 1200 per cent higher than for the same month in 1936. Most of the names back of Boston's rash of speculative developments were familiar to the local field, but in Arlmont Village, planned as a community of some 400 houses, Boston had a newcomer. Arlmont Housing Corp.'s Builder Warren W. Rausch's previous experience in the industry has been primarily in heavy construction and large-scale housing projects.

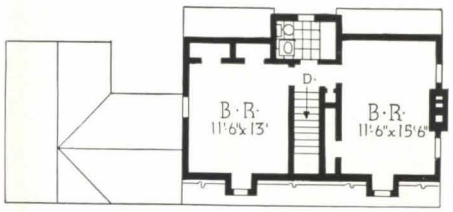
Last month in Arlmont Village Builder Rausch was grinning happily, for, after a series of delays, construction was going ahead on a lucky thirteen houses, and a lucky thirteen customers had appeared for the eighteen houses already completed. Most newsworthy feature of Arlmont Village after the two-month delay is still the fact that Builder Rausch is making a success of mass production by such power equipment as a bandsaw and a combination saw and woodworker, which, worked by two mechanics and two helpers, cuts practically all the lumber needed for his houses at the rate of one house per day.

Last January work was being pushed as fast as New England's zero weather would permit. Hundreds upon hundreds of people had driven out to see Arlmont Village's model house, and some 50 per cent of them had left their names signed to applications for houses. But just as the stockholders of the corporation began to catch a glimpse of the pot of gold, up popped a nasty snag in the shape of an Arlington town meeting. The vote of Arlington's citizens at that meeting forbade connecting links for sewage disposal and water mains to Arlmont Village. Not until mid-April were the connecting links for those utilities granted the development, and it is possible that permission came then only because of the weight of some influential Boston names.

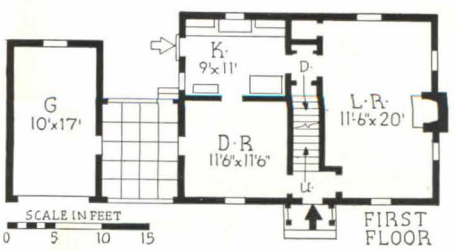
For Builder Rausch, president of the Arlmont Housing Corp., was once Massachusetts' director of PWA's Housing Division, in charge of the $3,000,000 Cambridge project and the $6,000,000 South Boston project, and his friends have considerable faith in his abilities. Stockholders in the corporation include Charles Francis Adams, Jr., son of the former Secretary of the Navy; Carl P. Dennett, chairman of the National Economy League and a director of Boston's First National Bank; William A. Coolidge, special partner of Brokers Jackson and Curtis, and brother of former Assistant Secretary of the Treasury T. Jefferson Coolidge; Attorney Samuel Hoar.

President Rausch's abilities were trained chiefly on the problem of saving time and labor. To this end he brought into use the power-driven saws, the steam shovels, and the tractors. Also to this end he worked out a system of coded charts (see p. 549). These start by instructing the power-saw operators as to angles and lengths. Following a further step in the coded charts, the lumber is trucked from the saws to the site, where a crew of two carpenters and a helper, specialized in this type of work, assembles its share of the pieces. Thus the operations take on the character of those on an assembly line, with the mechanics, like those in a factory, becoming steadily swifter and more efficient at their jobs. Another result of the elaborate but economical technique is that there is surprisingly little waste material. Ends and scraps are used for blocking and bracing. The waste and sawdust from the lumber used in a single house is negligible, would not fill a waste-basket. It was in the interests of waste reduction that President Rausch decided against diagonal sheathing, which, he points out, is obviated in any case by his well-braced framing.

A further advantage to accrue from the policy of planning everything before building is that, since the carpenters know exactly where warm-air ducts and soil pipes



SECOND FLOOR



FIRST FLOOR

Arlmont Village's Model House and Floorplans. *Benjamin Morse*

are to be run, they can put in headers, thus eliminate the usual practice of having plumbers or heaters do this job later.

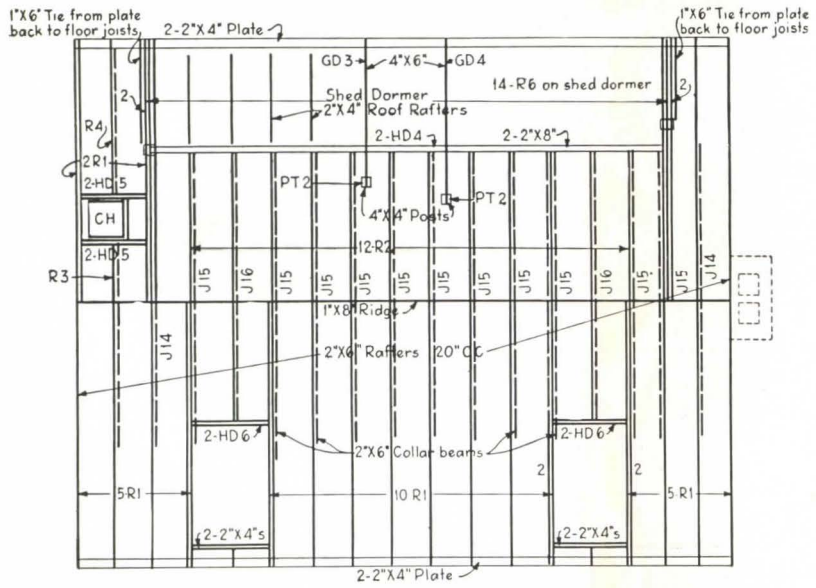
In planning Arlmont's houses, President Rausch put pencil to paper, figured out how much money he would be able to save by skimping or using inferior materials. His answer: $700 per house. Feeling that his customers would be readier to pay the $700 for value received than to save it in inferior construction, he got a number of well-known material manufacturers to cooperate on advertising. The price tags on his small houses range from $6,500 to $7,250, including a lot averaging 5,500 sq. ft. Originally these prices were $6,200 to $6,800, the increase reflecting the rise in material and labor costs.

Architects for Arlmont Village were the partners in the famed Boston firm of Leland and Larsen. Members of the American Society of Civil Engineers as well as of the A.I.A., Partners Joseph D. Leland and Niels H. Larsen have been engaged to design all the proposed 400-odd houses. Previous Leland-Larsen work: PWA's $6,000,000 South Boston project; the Cambridge Post Office; the $1,000,000 Pittsfield High School; many and many a Boston home.

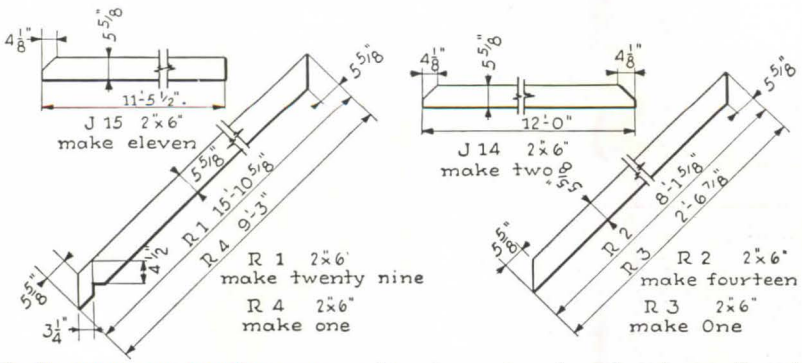
Besides getting the cooperation of such material manufacturers as Sherwin-Williams for advertising campaigns, President Rausch was able to get assistance in financing as well. The first eighteen houses in Arlmont Village were financed by a mortgage placed with the General Home Financing Corp., a subsidiary of the Weyerhaeuser Corp., manufacturers of much of the lumber used. This mortgage represented 80 per cent of the cost of each unit, and carries FHA insurance. The remaining 20 per cent represents the equity of the stockholders of the Arlmont Housing Corp. Financing for the later Arlmont houses was arranged along similar lines, and President Rausch expects his future houses to be built with the same aid.

Construction is sound, probably of a higher quality than would be found in most speculative building. Complete fire-stopping with bricks set in mortar has been specified at the floor lines and around partitions and stair openings. There is 16 oz. copper flashing above windows and doors, around dormers, at the chimney. Other evidence of good building practice: the floor beams rest on steel lally columns, do not touch the chimney; plaster is brought up tight against the window frame; 2 in. furring strips have been nailed on the ceiling joists.

The delay caused by the unfavorable decision of the Arlington town meeting has punctured to a marked extent the original plans for Arlmont Village's progress. Last fall, Warren Rausch figured on having 30 houses roofed in by now and hoped to start one hundred more this spring. With this obstacle now removed, the Arlmont Housing Corp. is planning to take full advantage of the summer market, following the original idea: five-room, six-room, and seven-room houses, with five variations of the basic Colonial design to be incorporated in every ten houses.



"Correct your mistakes on paper," says Builder Rausch. This roof framing plan was devised to indicate the number and type of framing members. On typewritten sheets the necessary members are detailed for each house, giving their code number for the framing plan, their size, number required.



To the power-saw operator go typewritten instructions (see above) as well as this lumber detail chart. From such drawings the workman sees the angle of saw cut required. The framing members are detailed to a 1 in. scale.

CONSTRUCTION OUTLINE

FOUNDATION: Walls—12 in. concrete. Cellar floor—concrete. Waterproofing—surface application on cellar floor and 4 ft. up on walls, Shrigley Co.

STRUCTURE: Exterior walls—clapboards or shingles, T. & G. boarding, 2 x 4 in. studs. Inside—Nuwood plaster base, Wood Conversion Co., 2-coats gypsum plaster, Certainteed Production Corp. Interior partitions—wood lath on 2 x 4 in. studs. Floor construction—oak finish floor, 2 x 8 in. joists. Ceilings—2-coats gypsum plaster on wood lath.

ROOF: Rafters and T. & G. boarding covered with Keystone asphalt shingles, Keystone Roofing Mfg. Co.

SHEET METAL WORK: Flashing—16 oz. copper. Gutters—stock wood. Leaders—galvanized iron.

INSULATION: Outside walls—Nuwood, Wood Conversion Co. Roof—balsam wool pads, double thick.

WINDOWS: Double hung, Brockway-Smith-Haigh-Lovell Co. Glass—single thickness, Ultra-violet, American Window Glass Co.

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

FLOOR COVERINGS: Kitchen and bathrooms—linoleum covered, Sloane-Blabon Corp.

WALL COVERINGS: Living room, bedrooms and halls—wallpaper, Richard E. Thibaut Co.

WOODWORK: Trim—detailed pine. Shelving, cabinets and doors—stock, Morgan Sash & Door Co. Garage doors—Brockway-Smith-Haigh-Lovell Co.

HARDWARE: Interior and exterior—Lockwood Co.

PAINTING: Interior: Walls, trim and sash—3 coats paint. Ceilings—tinted. Floors—stained. Exterior walls and sash—3 coats paint. All paints by Sherwin-Williams Co.

ELECTRICAL INSTALLATION: Wiring system—BX cable. Switches—toggle, safety type, Murray Co. Fixtures—Lightolier Co.

KITCHEN EQUIPMENT: Range—Glenwood Range Co. Sink—enameled iron, Kohler Co.

PLUMBING: All fixtures by Kohler Co. Pipes: Soil—extra heavy cast iron. Water supply—brass, iron sized.

HEATING AND AIR CONDITIONING: Filtered and humidified warm air. Boiler—Superfex, with oil burning unit, Perfection Stove Co. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—Whitehead Metal Products Co.

SMALL HOUSE COSTS UP

to a record high in the 15-month old index of the Federal Home Loan Bank Board.

FIFTEEN months ago the Federal Home Loan Bank Board began collecting monthly cost data on a standard six-room house according to identical specifications submitted by a trained staff to contractors in 67 cities. The month-by-month trend thus established made news last month by showing the greatest rise in small house construction costs yet to be registered, ranging up to 16 per cent in Detroit, scene of severe building labor troubles this month (Building Reporter, May).

Below are shown the cost data from the 26 cities reporting for April, together with similar data for the past five quarters. The remaining 41 cities report in the intervening months. Similarly collected data are given on the cubic foot cost in the 26 cities reporting this month. Beside the table is given a detailed description of the standard house upon which the bids have been made.

The value of such a compilation lies obviously in the relative trends revealed rather than in the absolute values quoted. Thus, the returns are more valuable as indices of rising costs in an individual city than as a means of comparing costs in one city with those in another; more valuable for such inter-city cost comparisons than for determining actual costs in any one city.

The general increase in construction costs registered in April can be attributed in greater measure to the rise in material costs than to any advance in labor wages, a fact corroborated by the rise in the material price index of the Department of Labor. Wholesale prices of building materials were higher for March than for anytime since 1929 (see p. 64). Meanwhile, there has been manifested a widespread tendency on the part of contractors to hedge heavily against a further rise in prices of both labor and material by upping their bids far above current price levels, in the face of official deprecation from local FHA offices. Present indications are that a widespread increase in labor wages will soon go into effect, following sporadic strikes and the customary Spring negotiations for union contracts.

The highest price reported for the FHLBB standard house since its first bids 15 months ago came last month from Great Falls, Montana, with a quoted price of $7,125, representing a rise over its previous bid last January of 9 per cent. Only other time that the bid on the FHLBB house has ever broken through the $7,000 level was last February in Chicago.

Sole decrease in costs was revealed in White Plains, N. Y., where the house price dropped 1 per cent. Lowest cost reported from any city was Grand Rapids, Mich., with $5,547, a differential of $1,578 as compared with the Great Falls' record.

Reported the FHLBB: "Although the national trend toward higher costs is unmistakable, local variations are considerable. The fluctuation is obviously not a sectional one. The greatest increases in cost for the period of April, 1936, to April, 1937, were reported by four cities, one of which is located in each of the four Bank Districts represented."

Greatest increase over the preceding year was shown by St. Paul with 22 per cent. Next greatest annual increases came from Detroit with 20 per cent; Seattle with 19 per cent; and Albany, N. Y., with 17 per cent.

The House On Which Costs Are Reported is a detached six-room home of 24,000 cu. ft. volume. Living room, dining room, kitchen, and lavatory on first floor, three bedrooms and bath on second floor. Exterior is wideboard siding with brick and stucco as features of design. Best quality materials and workmanship are used throughout.

It includes all fundamental structural elements, an attached one-car garage, an unfinished cellar, an unfinished attic, a fireplace, essential heating, plumbing, and electric wiring equipment, and complete insulation. The house is *not* completed ready for occupancy. It does not include wall paper nor paint on interior plastered surfaces, lighting fixtures, refrigerators, water heaters, ranges, screens, weather stripping, nor window shades.

Reported costs include, in addition to material and labor costs, compensation insurance, an allowance for contractor's overhead and transportation of materials, plus 10 per cent for builder's profit.

Reported costs do *not* include the cost of land, land surveying, planting, walks, nor driveways; they do *not* include architect's fee, cost of building permit, financing charges, nor sales costs.

In figuring costs, current prices on the same building materials list are obtained every three months from the same dealers, and current wage rates are obtained from the same reputable contractors and operative builders.

FEDERAL HOME LOAN BANK DISTRICTS, STATES, AND CITIES	CUBIC-FOOT COST		TOTAL BUILDING COST					
	APRIL 1937	APRIL 1936	APRIL 1937	JAN. 1937	OCT. 1936	JULY 1936	APRIL 1936	JAN. 1936
NO. 2—NEW YORK:								
NEW JERSEY:								
ATLANTIC CITY	$0.279	$0.240	$6,702	$6,107	$5,641	$5,725	$5,768	$5,860
CAMDEN	.244	.215	5,864	5,489	5,183	5,073	5,170	5,101
NEWARK	.267	.241	6,400	6,071	5,811	5,794	5,787	5,771
NEW YORK:								
ALBANY	.254	.216	6,098	5,569	5,302	5,341	5,198	5,218
BUFFALO	.255	.228	6,108	5,820	5,661	5,680	5,483	5,487
SYRACUSE	.245	.232	5,890	5,575	5,567	5,580	5,580	5,628
WHITE PLAINS	.254	.238	6,100	6,137	5,777	5,779	5,718	5,652
NO. 6—INDIANAPOLIS:								
INDIANA:								
EVANSVILLE	.242	.232	5,816	5,518	5,586	5,585	5,570	....
INDIANAPOLIS	.247	.240	5,921	5,540	5,558	5,802	5,755	5,739
SOUTH BEND	.265	.243	6,349	6,180	5,906	5,849	5,844	5,894
MICHIGAN:								
DETROIT	.262	.219	6,278	5,398	5,297	5,293	5,265	5,136
GRAND RAPIDS	.231	.216	5,547	5,294	5,138	5,174	5,174	....
NO. 8—DES MOINES:								
IOWA:								
DES MOINES	.269	.253	6,444	6,090	6,246	6,130	6,072	6,003
MINNESOTA:								
DULUTH	.250	.234	5,990	5,697	5,765	5,671	5,616	....
ST. PAUL	.268	.220	6,442	6,049	5,628	5,523	5,284	5,287
MISSOURI:								
KANSAS CITY	.239	.221	5,731	5,387	5,240	5,311	5,304	5,229
ST. LOUIS	.275	.249	6,590	6,227	5,918	5,915	5,976	5,997
NORTH DAKOTA:								
FARGO	.250	.230	6,002	5,743	5,524	5,614	5,529	5,491
SOUTH DAKOTA:								
SIOUX FALLS	.250	.237	5,999	5,839	5,716	5,711	5,688	5,655
NO. 11—PORTLAND:								
IDAHO:								
BOISE	.259	.241	6,214	6,045	5,691	5,604	5,784	5,750
MONTANA:								
GREAT FALLS	.297	.270	7,125	6,548	6,540	6,598	6,474	6,457
OREGON:								
PORTLAND	.248	.220	5,951	5,591	5,561	5,307	5,277	5,278
UTAH:								
SALT LAKE CITY	.257	.241	6,166	5,820	5,915	5,793	5,793	5,778
WASHINGTON:								
SEATTLE	.277	.233	6,659	6,045	5,977	5,690	5,587	5,575
SPOKANE	.273	.238	6,543	6,375	6,173	5,712	5,712	....
WYOMING:								
CASPER	.266	...	6,381	6,253	6,445	6,255	....	....

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