

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.

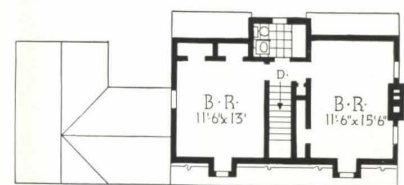
President Rausch's abilities were trained chiefly on the problem of saving time and labor. To this end he brought into use the power-driven saws, the steam shovels, and the tractors. Also to this end he worked out a system of coded charts (see p. 549). These start by instructing the power-saw operators 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

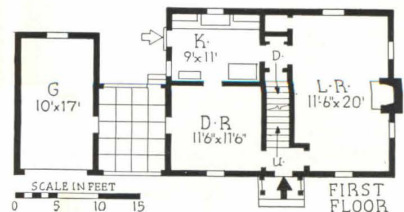


Arlmont Village's Model House and Floorplans.

Benjamin Morse



SECOND FLOOR



FIRST FLOOR

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 skipping 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.

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.

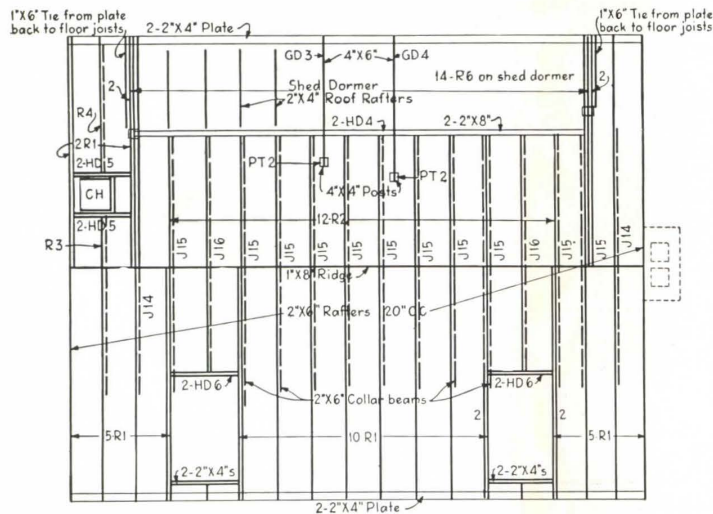
PAINTING: Interior: Walls, trim and sash—3 coats paint. Ceilings—tinted. Floors—stained. Exterior walls and sash—3 coats paint. All paints by Sherwin-Williams Co.

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

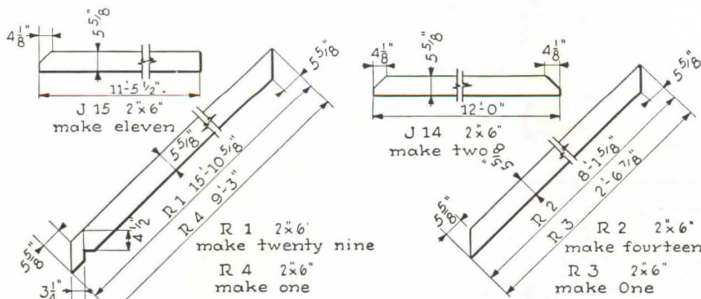
KITCHEN EQUIPMENT: Range—Glenwood Range Co. Sink—enameled iron, Kohler Co.

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.



"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.