

ciple of making parts first is called "prefabrication": it depends on the fact that it is quicker and more efficient to have a thousand identical parts made by one shop than to have them made in ten lots of a hundred each by ten different shops as they are required. If a man knows that he will be called upon to produce thousands of identical parts, he will think out ways and means of doing the job more efficiently, of saving labour, and so on. Probably he will think out, or procure, machinery to speed up and simplify the routine work.

Here is the story of how this principle is applied to houses. Let us follow the timber as it goes through the factory.

Rough-sawn timber is put through a machine known as a "four-sider." This is an affair of whirling knives, on the same principle as the buzzer, which turns out four-by-twos, dressed smooth and squared on all sides, and does it at the rate of up to 25,000 feet per day.

The timber then comes, in random lengths, to the first saw. The complete house requires a certain definite number of boards of certain definite lengths. The exact lengths have been worked out, and numbered patterns of each hang on the wall before this saw. The operator casts a skilled eye over each "stick" as it comes to him, decides what lengths he can get out of it, and cuts it accordingly, so that the waste is negligible. The lengths range from 2 in. to 8 ft., and each goes eventually into a bin marked with the same code number as that on the pattern. Some, however,

have to be slotted, or have recesses, called "checks," cut in them—these go through another process first.

Have you ever stood in several inches of mud, cutting out "checks" with a hammer and chisel, while the southerly wind cuts you to the bone, and your hands grow too numb to grip the tools properly? As a next step you generally hit yourself on the knuckles—hard. Cutting checks is a slow and laborious job, and when done on the site can be very unpleasant, but the man with the utility saw does it in seconds. This saw takes out a bite an inch wide, to any depth required, and at any angle: six bites, and there is the recess for a six-by-one brace. This operator, also, has a set of specimen pieces hanging on the wall, and can tell at a glance what is required. From this step timbers go on to the bins.

The first and longest job in painting a finished house is applying the priming coat and letting it dry. All outside timbers, weather-boarding, or "rusticating," come direct from the first saw to the painters, who prime them with the usual red lead and oil mixture. When dry they also go into the bins, so that the house is built ready primed.

The bins stand in a long row across the factory. Into them flow all the cut and treated timbers from the first section of the work, and from them, usually from the other side, are drawn such timbers as are necessary for the panel being made.

You can't put a complete house on the back of a truck and deliver it, so

