

armature, which is accomplished without the least shock, jar, or hesitation. The current generated by this action passes into the starting resistance, and then off as heat, the result accomplished being exactly the same as if some form of mechanical brake had been applied to motor to bring planer to a stop, with the difference, however, that the action is perfectly smooth, has no wearing or frictional surface to contend with, and needs no adjustment. The over-load on the motor at the instant of reversal is never over 50%. The entire drive of the planer is on the floor, or near the floor, where it is accessible. Owing to the absence of the usual belts, clutches, etc., the variable speed planer occupies a minimum floor space.

"The larger machines can be equipped on special order with a pendant switch, usually suspended from the arch, but which can be placed and operated from any point on the planer. With this feature the table can be advanced, reversed, or stopped from a position convenient to the cutting tool with the same ease and assurance as with the pilot switch. The pendant switch may be used regardless of position of the reversing dogs.

"Speed changes are made so easily, positively, and instantaneously that the operator can, if desired, slow down at any part of the stroke, returning at once to normal or increased speed. If a hard spot is encountered at one portion of the stroke, or if there is an extra depth of cut at any point, the operator can slow down to meet conditions. The most economical speed for different metals, such as steel, iron, bronze, or brass, is instantly available.

"The reversing is accomplished so positively that a stroke of 4½" can be taken on a 96" machine."