

edge of the board to be operated upon. These cutters are attached to the shafts in the manner already described with relation to the cutters E, E.

The shafts N, O, are provided with pulleys *g, g*, and rotation is communicated to them by belts *h, h*, from pulleys *i, i*, on the main shaft; rotation being given in the direction of the arrow to the driving pulley.

The lumber to be planed is introduced from the end of the machine, which is shown at the right hand in figures 1 and 2, and being grasped by the rollers I, I, is by them drawn forward to the cutters E, E, which being rapidly revolved towards the advancing lumber, plane it to the proper thickness; and as the lumber continues to advance it is grasped by the rollers J, J, which aid in the feeding motion, and discharges the board after it has passed the cutters. The upper rollers I, J, being hung in spring bearings, always exert a pressure on the top of the board, and thus prevent it being raised up by the action of the cutters E, E.

When the lumber is designed for floors or ceilings, or other purposes for which it is required to be matched, a tongue is formed on one edge of it and a groove on the other by the cutters L, M, which both revolve toward the advancing board; and these operations are performed at the same time that the upper surface of the board is planed, the whole being done at a single operation.

When the lumber is required to be matched, it should be first reduced to a uniform width, and guided in its introduction into the machine by a gauge, P, attached to the bed, Q, of the machine.

When the lumber is not to be matched, this gauge and the cutters L, M, should be taken off and dispensed with.

I make no claim to the mode in which the cutters are secured upon their shaft, nor to the adjustable bearings, which permit of the elevation or depression of the shaft, for I am aware that these are not new; but what I claim as my invention, and desire to secure by Patent, is:

1. The combination of the cutters E, E, and the feeding rollers I, I, J, J, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the cutters E, E, and the feeding rollers I, I, J, J, of the cutters L, M, substantially as and for the purpose hereinbefore set forth.

WILLIAM WOODWORTH.

POUGHKEEPSIE, 1st September, 1887.

Signed in the presence of
JETHRO WOOD,
OLIVER EVANS. }