L. S. WOODBURY.

Planing-Machine.

No. 166,444. Patented Aug. 3, 1875.

Fig. 1.

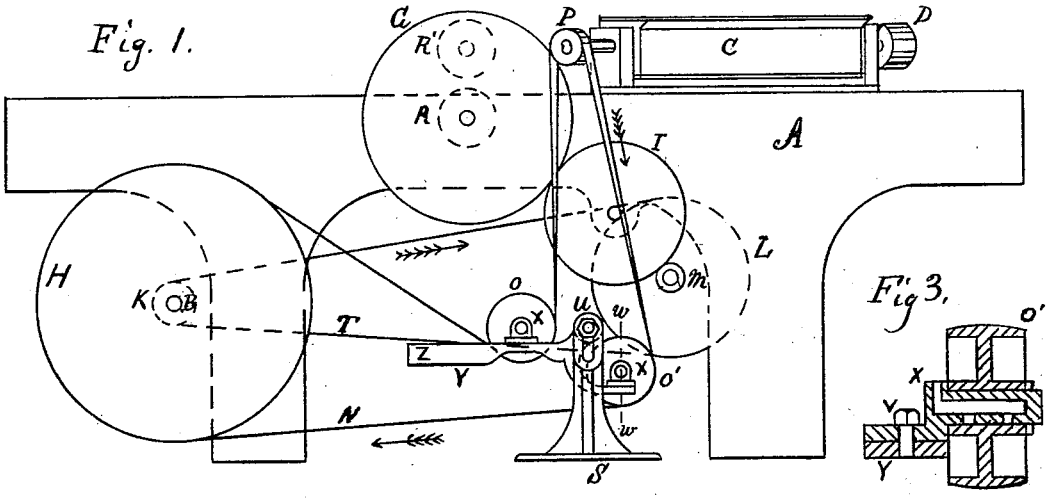
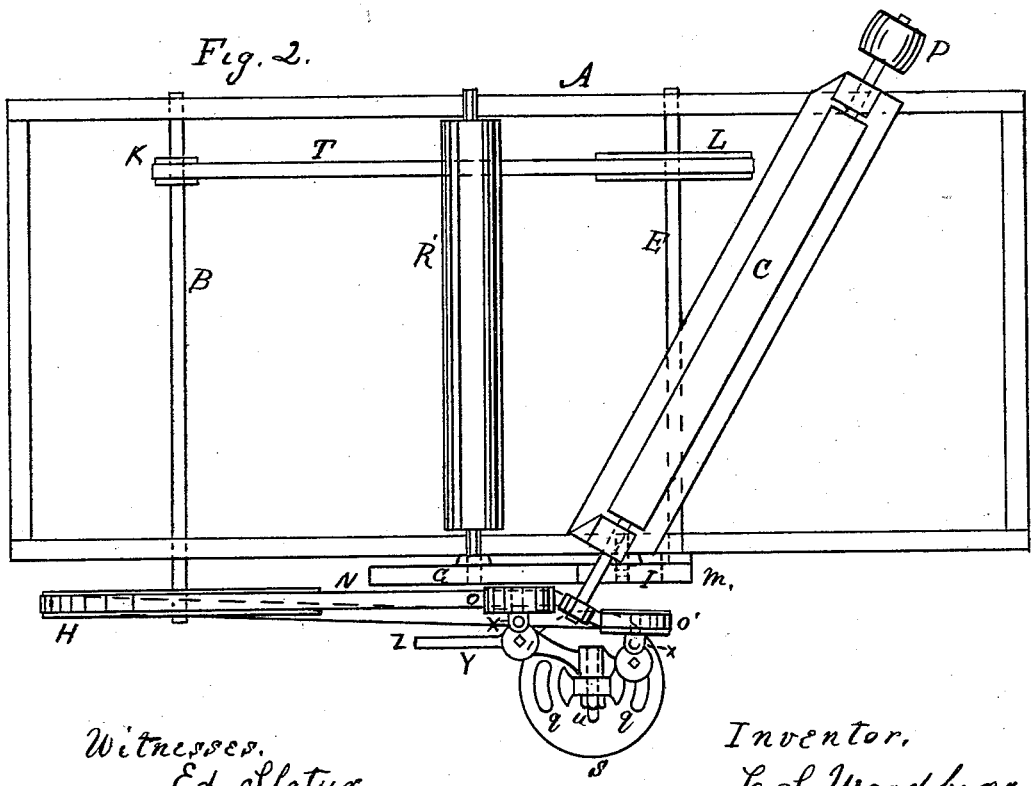


Fig 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

LEANDER S. WOODBURY, OF BURLINGTON, VERMONT, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO B. S. NICHOLS AND F. G. COGGIN, OF SAME PLACE.

IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. **166,444**, dated August 3, 1875; application filed March 29, 1875.

To all whom it may concern:

Be it known that I, LEANDER S. WOODBURY, of Burlington, in the county of Chittenden and State of Vermont, have invented a new and useful Improvement in Door and Sash Planing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, of which—

Figure 1 is a side elevation, Fig. 2 is a plan of the same, and Fig. 3 is a vertical section, of the pulley O′ and stud *x*, on line *w w*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to transmit the motion of a shaft, B, Fig. 2, that is parallel with the feed-rods of a planing-machine to the cutter-head C, when it sets at any angle with the machine other than a right angle; or to transmit the motion of the cutter-head C to the shaft B under the same conditions of position, by a device that will at the same time allow of a vertical adjustment of the cutter-head, as well as a change of angle. To accomplish this I make use of the two carrier-pulleys, O O′. These pulleys run on the studs *x x*, made hollow, as shown in Fig. 3, so that they can be oiled while running from the inside—the feed-rolls being filled with felt or other substance that will admit oil as required. The studs *x x* are fastened to the yoke Y by the bolts V, Fig. 3, around which they can be swung from right to left, and easily adjusted to the position required by the carrier-pulleys O O′ to give the proper direction to the belt N. The yoke Y swings in a vertical plane on the stud *u*, which has a vertical adjustment, its position being determined by the length of the belt N. The swinging motion of the yoke Y allows a vertical adjustment of the cutter-head C for planing different thicknesses, while at the same time the carrier-pulley O, being at a greater horizontal distance from the stud *u* than the pulley O′, acts as a tightener upon the belt N—the tightening being increased, if desired, by adding a weight to the arm *z* of the yoke Y. The stand S has slots *q q* in its base, allowing it to be adjusted from or toward the machine, or turned on a point in the center of the base. With the various adjustments in this combination of carrying and tightening pulleys the motion may be transmitted either way between the cutter-head C and a shaft, B, with the cutter-head set at any desired angle, or in any position vertically within the limit of adjustment.

When the cutter-head is driven directly from the counter overhead the machine has to be set at an angle with that wanted, making it oftentimes inconvenient to locate the machine.

The motion of the shaft B is transmitted to the shaft E by the belt T. On the end of the shaft E is the pinion M, which transmits its motion through the gear I to the gear G on the end of the roll R, the two rolls R R′ being connected in the usual way with a train of gears not shown. The belt N may be either flat, round, or angular.

The object in setting the cutter-head at an angle is so that in planing the rail of a door, the grain of which is parallel with the rolls, the back edge of the rail will not split off as it passes the cutter-head, as it surely would if the cutter-head was parallel with the grain. I make no claim, however, upon the cutter-head simply set on an angle.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the cutter-head C, stand S, yoke Y, studs *x x*, pulleys O O′, and shaft B, all constructed and arranged substantially as and for the purpose described.

L. S. WOODBURY.

Witnesses:
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