R. Kittle,

Wood Planing Machine.

No. 7,024. Patented Jan. 15, 1850.

Fig. 3

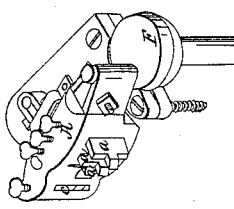


Fig. 2

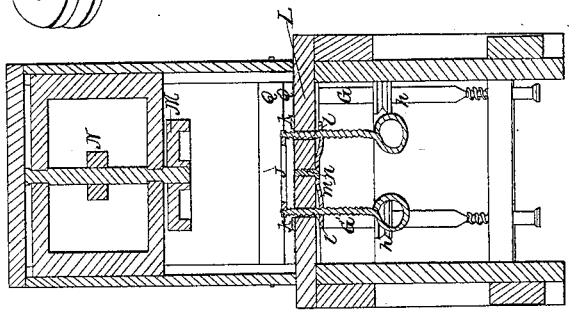
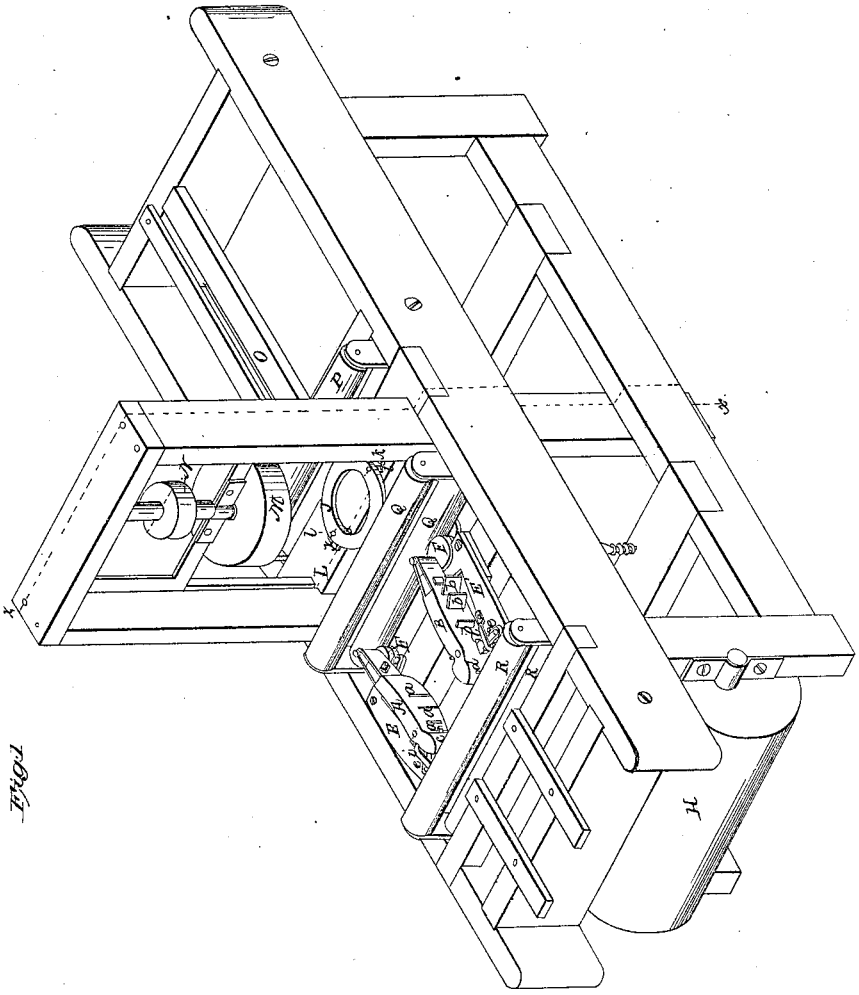


Fig. 1



UNITED STATES PATENT OFFICE.

ROBERT KITTLE, OF DANSVILLE, NEW YORK.

MACHINERY FOR TONGUING AND GROOVING.

Specification of Letters Patent No. 7,024, dated January 15, 1850.

To all whom it may concern:

Be it known that I, ROBERT KITTLE, of Dansville, in the county of Livingston and State of New York, have invented sundry new and useful Improvements in Planing-Machines; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a perspective view of a planing machine in which my improvements are introduced; Fig. 2, a transverse section thereof, in the line *x*, *x*, of Fig. 1; and Fig. 3 a perspective view of a portion of the machine detached.

Similar letters indicate like parts in all the figures.

The planing cutter wheel M, made use of in the planing machine in which I introduce my improvements, is what is called the Bramah cutter wheel, and may be constructed, arranged, and adjusted in any known or usual manner.

My first improvement consists in the method—hereinafter set forth—of holding the plank firmly and securely upon the bed plate while it is being operated upon by the planing cutters. This is accomplished by means of the following described arrangement of parts: a bearing ring J, (or circular plate) of such a size that it will pass freely within the planing cutters secured to the wheel M, is placed immediately below the cutter wheel, above the bed piece L; a semi-annular bed plate *k*, is secured to the bed piece L, on the right side of J, the inner periphery of which corresponds with the outer periphery of J. Set screws *l*, *l*, pass up through screw apertures in the elastic plate *m*, (Fig. 2,) secured to the under side of the bed piece L, and thence through apertures in L, up to the ring J, in which their extremities are secured in such a manner that they can be freely turned for the purpose of regulating the position of the ring.

The plank to be operated upon is passed into the machine over the way O, between the roller P, P, and thence between the ring J, and the bed plate *k*, to the rollers Q, Q, and R, R. The ring J, is drawn down upon the plank by means of the set screws *l*, *l*, so as to firmly hold it upon the bed plate *k*, while the planing cutters are operating upon it immediately above the bed plate, and in close proximity to the periphery of the holding ring J. The holding ring J, also serves to prevent the ends of the plank from being injured during their passage under the cutter wheel, from the pair of feeding rollers P, P, to the rollers Q, Q.

My second improvement consists in the manner of arranging the tonguing and grooving cutters in their respective cutter heads, in combination with the manner of operating them.

The grooving and tonguing cutter heads A, B, are located between the pairs of feeding rollers Q, Q, and R, R: the front end of the cutter head A, rests upon the head F, of the vertical shaft G, to which it is secured by a crank pin; and near its rear end it is jointed to one end of the lever *e;* which lever (*e*,) passes under the loop cap *i*, rising from the plate E, and is jointed to a pin rising from said plate. The grooving cutters *a*, *a*, *a*, are let into and secured in the head A, in such positions as to form the groove in the edge of a plank during a portion the forward movement of the cutter head; and the cutter *c*, is placed in the rear end of the head (A) in such a position that it will cut into and finish the groove during a portion of the reverse movement of the head. The cutters *a*, *a*, *a*, perform their office during that portion of the forward movement of A, prior to the lever's (*e*) reaching a right angular position with the edge of the plank, when the cutters are thrown out by the further movement of the lever *e:* the cutter *c*, performs its office of finishing the groove during that portion of the return movement of the head A, prior to the lever's (*e*) reaching its central position at right angles with the machine, when it is thrown out of the groove by the further movement of the lever.

The front end of the cutter head B, rests upon the head F′, of the vertical shaft G′, to which it is connected by a crank pin; and near rear end it is jointed to one end of the lever *e′*, the opposite end of which is jointed to a fulcrum pin rising from the plate E′, and which lever passes under and is guided in its movements by the loop cap *i′*, rising from the plate E′. The tonguing cutters *b*, *b*, *b*, are let into and secured in the head B, in such positions that they will form the tongue upon the edge of the plank during the same portion of the forward movement of B that the grooving cutters *a*, *a*, *a*, are made to operate upon the

groove during the forward movement of A, as above described; and the finishing cutter *d*, is placed at the extreme rear end of the head B, in such a position that it will perform a finishing operation upon the tongue during the same portion of the return movement of B, that the cutter *c*, is caused to operate upon the groove during the return movement of A, as above described. The cutter wheel M, the series of feeding rollers, and the vertical shafts G, G′, may be connected together and driven by any usual and well known manner.

What I claim as my invention and desire to secure by Letters Patent, is—

The placing the finishing grooving and tonguing cutters *c*, *d*, in the same heads A, B, with the primary grooving and tonguing cutters *a*, *a*, *a*, and *b*, *b*, *b*, and in reversed positions thereto, when the said cutter heads are connected to operating cranks at one end and are jointed to working levers *e*, *e′*, at points between the primary grooving and tonguing cutters and the finishers substantially as above described, for the purpose of giving to the said cutters the movements and action herein set forth.

ROBERT KITTLE.

Witnesses:
Z. C. Robbins,
R. W. Wilcox.