

R. N. Merriam,

Wood Plane Attachment.

No 70,592.

Patented Nov 5, 1867.

Fig. 2.

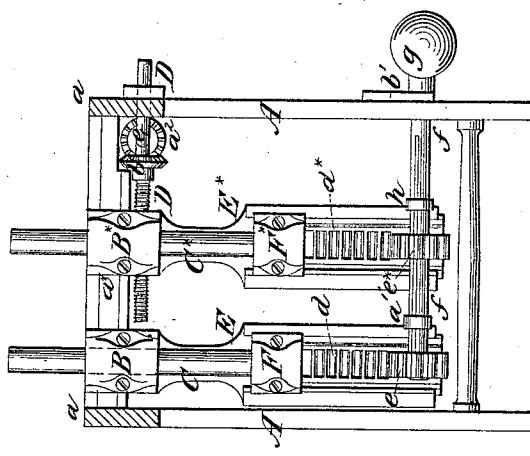
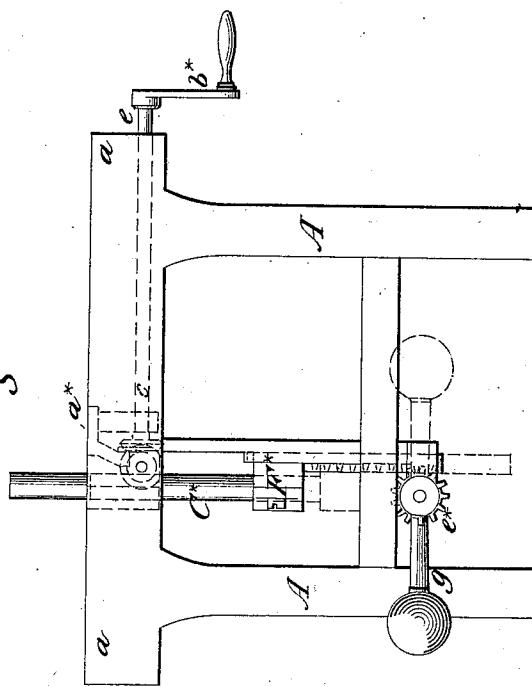


Fig. 1.



Witnesses:

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United States Patent Office.

RUFUS N. MERIAM, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 70,592, dated November 5, 1867.

IMPROVEMENT IN PLANING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, RUFUS N. MERIAM, of Worcester, in the county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Planing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a portion of this specification, in which—

Figure 1 is a side view of a planer constructed according to my invention.

Figure 2 is a vertical section of the same, taken at right angles to fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

In that variety of planing machines designed not only for planing the surfaces of lumber, but also for matching the edges thereof, much inconvenience has resulted from the necessity of lowering that portion of the bed of the machine which supports the upper ends of the vertical shafts which carry the matching-cutters whenever it is required to adjust the said cutters for matching lumber of different thicknesses, or to move the said shaft out of the way in using the planer for surface planing only. The object of this invention is to remedy this defect; and, to this end, it consists in a novel combination of parts, whereby the aforesaid shafts may be raised or lowered with reference to the bed without changing the position of the said bed, and whereby the operation of adjusting the edge or matching-cutter heads (over the screws used in other machines) is greatly facilitated. As the two shafts are operated simultaneously, and consequently maintain their relative position in range with each other at any elevation, they can be adjusted much more speedily than by screws; and by this arrangement they can be lowered beneath the surface of the bed, for surface planing only, without removing any portion of the bed, and in a moment of time.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

A represents the frame of the machine, and *a* the horizontal bed thereof, which supports the lumber during the operations of matching and planing. A portion of the bed is formed by a strong transverse bar, *a**, which has attached, in any suitable manner, and in a vertical position, upon one of its sides, two blocks *B* *B**, which are formed with vertical bearings, which receive the upper ends of the two shafts *C* *C**, hereinafter fully described. The block *B* is rigidly fixed upon the bar *a**, but the other block, *B**, is so attached to such bar that it may slide freely thereon, this sliding movement of the block *B** being obtained by means of a horizontal screw, *D*, one end of which works in a suitable bearing in one side of the frame *A*, and the other or threaded portion of which works in a female screw formed in the sliding block *B**, the said screw being furnished with a bevel-pinion, *b*, which gears into a similar pinion, *a**, secured to the inner end of a longitudinal shaft, *c*, the rear end of which is provided with a crank, *b**, so that, by turning the said crank, the screw *D* may be readily operated to bring the sliding block *B** to a greater or less distance from the other or fixed block *B*, as may be required. Extending downward from the fixed block *B* is a fixed vertical standard, *E*, in one side of which is formed a dove-tail groove, which receives the dove-tail inner portion of a slide, *F*, which is formed with a vertical bearing, which receives the lower end of a vertical shaft, *C*, which, together with the shaft *C**, hereinafter described, receives a rotary motion from belts, or by other suitable means. The upper end of the said shaft passes through the bearing in the fixed block *B*, and, when the machine is used for matching, is furnished with a suitable cutter-head. The slide *F* has formed upon it a downwardly-extending rack, *d*, which gears into a pinion, *e*, upon a transverse shaft, *f*, one end of which is supported in a bearing formed in an arm, *a*†, attached to the standard *E*, and the outer end of which works through a bearing, indicated at *b*†, at the side of the frame *A*, and is provided with a loaded operating-lever, *g*. The block *B** is furnished with a downwardly-extending standard, *E**, corresponding to that of the block *B*, the lower end of the said standard *E** being steadied by means of an arm, *h*, attached thereto, and having its outer end encircling the shaft *f*, as shown in fig. 2. This standard *E** is, like the standard *E*, furnished with a vertically-moving slide, marked *F**, to which is attached the vertical shaft *C**, corresponding to the shaft *C* of the other slide, and furnished, during the operation of matching, with a cutter-head in the same manner.

The rack *d** of the slide *F** gears into a pinion, *e**, upon the shaft *f*, so that, by turning the said shaft in one direction or the other, the pinions *e* *e** will operate the racks *d* *d** to raise or lower, as the case may be, the

slides F F*, and consequently the vertical shafts C C*, the end portions of the said shafts sliding freely through their bearings in the blocks B B*, so that, by this means, the shafts may be raised or lowered to adjust the cutters at their upper ends to match lumber of any desired thickness, or, when such cutters are removed, to bring the ends of the shafts wholly below the bed of the machine, as shown in red outline in fig. 1, without disturbing any portion of the said bed, at the same time that the shafts C C*, and consequently the cutters thereof, may be adjusted at any desired distance apart, in the operation of matching, by moving the block B*, and the parts attached thereto, by means of the screw D, as hereinbefore explained, any interference with the means whereby such adjustment is made, by the vertical movement of shafts, as when a portion of the bed is moved with the said shafts, being also effectually avoided.

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

The slides F F*, carrying the shafts C C*, and constructed with racks d d*, in combination with the blocks B B*, formed with standards E E*, and the pinions e e*, whereby the said shafts may be raised or lowered with reference to the bed α , constructed and operating substantially as herein set forth.

RUFUS N. MERIAM.

Witnesses:

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