(No Model.)

J. W. FULCHER.

COMBINED PLANING AND SAWING MACHINE.

No. 418,118. Patented Dec. 24, 1889.

Fig. 1.

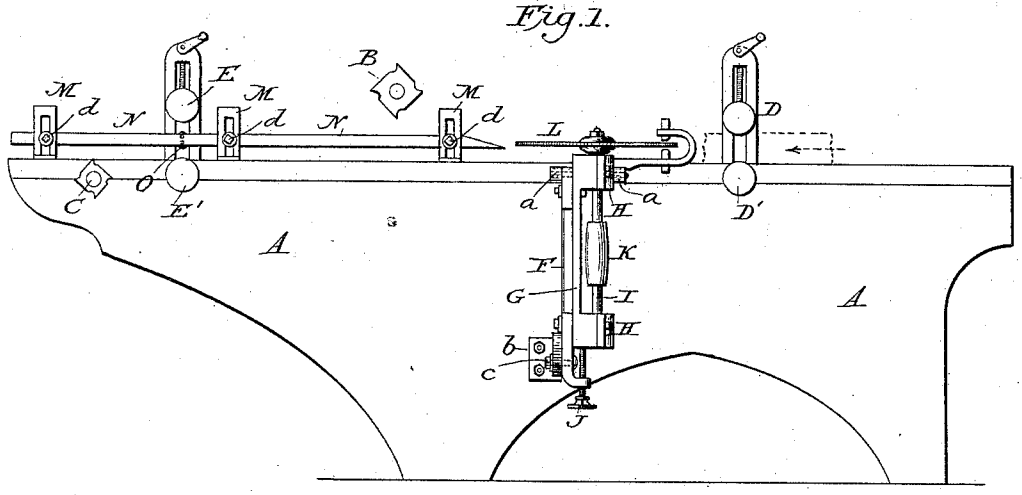


Fig. 2.

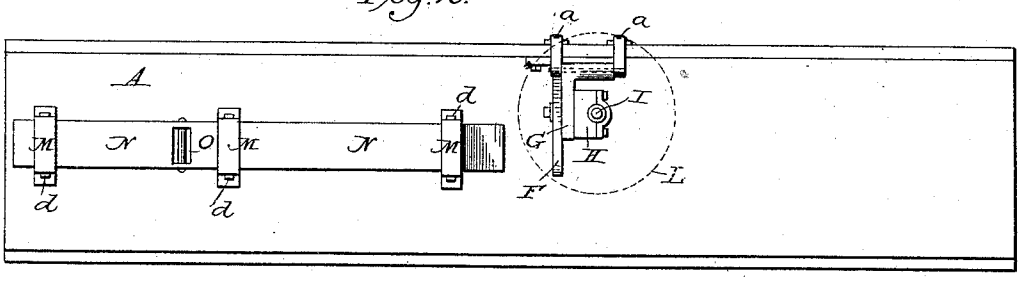


Fig. 3.

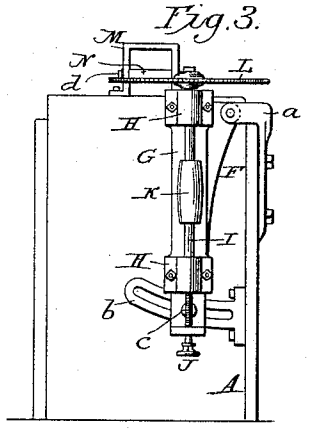


Fig. 4.

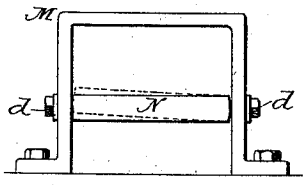


Fig. 5.

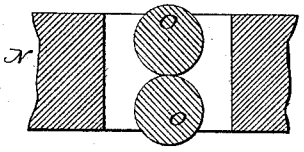
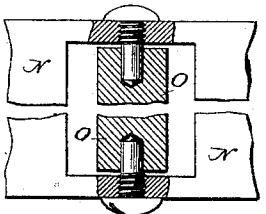


Fig. 6.



Attest:

Sidney P. Hollingsworth

Horace A. Dodge.

Inventor:

Joseph W. Fulcher,

Fulcher & Weaver, Attys.,

by Dodges Sons, Asso. Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH W. FULCHER, OF NASHVILLE, TENNESSEE, ASSIGNOR OF ONE-HALF TO JAMES STUART PILCHER, OF SAME PLACE.

COMBINED PLANING AND SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 418,118, dated December 24, 1889.

Application filed April 8, 1889. Serial No. 306,482. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. FULCHER, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Combined Planing and Sawing Machines, of which the following is a specification.

My invention relates to that class of combined planing and sawing machines in which are made at one operation two pieces of flooring, ceiling, or siding out of one board, dressing one side and both edges of each piece; and the invention consists in various features and details hereinafter set forth and claimed.

In the drawings, Figure 1 is a vertical longitudinal sectional view of the improved machine; Fig. 2, a top plan view with certain parts removed; Fig. 3, an end view, and Figs. 4, 5, and 6 views illustrating certain details.

A represents the outline of the frame of the machine; B, the upper cutter-head; C, the lower cutter-head; D D′, the first set of feed-rolls, and E E′ the second set of rolls, the upper rolls D and E of each set being capable of adjustment toward and from its companion. A bent arm (or arms) *a* is bolted rigidly to the side of the frame A, and to the overhanging part of the arm is hinged or pivoted a frame F, upon which is adjustably secured a saw-carrying frame G, as shown in Figs. 1, 2, and 3. The frame F moves over the face of a bracket *b*, bolted to the inside of the main frame, and the bracket is provided with a slot curved concentric with the pivot of frame F, to receive a bolt *c*, carried by the frame and passing through the slot, so that the said frame may be inclined and held in its inclined position.

The frame G, which carries the boxes or bearings H for the saw-shaft I, is designed to be adjusted vertically by means of a screw J, carried at the lower end of the frame F, as shown in Figs. 1 and 3.

The saw-shaft I is provided with a belt-pulley K and a saw L.

M M indicate yokes or brackets secured to the upper face of the bed or table A, and slotted in their upright portions, as shown in Fig. 1, to receive bolts *d*, which project from the sides of a dividing-board N, designed to be in the same plane with the saw. The slotted brackets M permit this board to be inclined and raised and lowered to suit the various adjustments of the saw.

Projecting from the upper and lower sides of the board are rollers O, which turn or rotate in recesses therein, these rollers being applied to that part of the board which passes between the feed-rolls E E′, as in Fig. 1, and designed to relieve the board of the friction due to the pressure of the rolls upon the lumber.

By hinging or pivoting the saw-frame F G on the inside face or side of the main frame economy in room is secured, and at the same time the operator is enabled to get close to the side of the machine.

The machine herein shown differs from those in which the saw is located at the end of the frame, in that the sawing is done prior to the finishing, which I consider a material advance in the art over those machines that saw the lumber subsequently to the finishing, as I find that in the latter class of machines any irregularities in the finishing of the lumber are apt to be enlarged in the subsequent sawing. By sawing first, one piece of lumber goes above and the other below the dividing-board, and, owing to the arrangement of the feed-rolls and the rollers in the board, each piece of lumber is pressed against the dividing-board at a point close to the cutter-heads, and while thus pressed its sides and edges are dressed, thereby producing two perfect pieces of lumber of uniform thickness throughout their length.

The means herein shown for adjusting the saw and the dividing-board so as to cut and finish the two pieces of lumber on a bevel are also of considerable importance in a machine of this character, and are broadly new with me, so far as I am aware.

Having thus described my invention, what I claim is—

1. In a combined planing and sawing machine, the combination, with a main frame, of a horizontally-arranged saw, two cutter-heads, and a horizontal guide-board arranged between the two cutter-heads in line with the saw, all substantially as shown.

2. In a combined planing and sawing ma-

chine, the combination, with a main frame, of a saw, a support for the saw hinged or pivoted to the main frame, means for adjusting the frame, two cutter-heads, and an adjustable guide-board interposed between the cutter-heads in line with the saw.

3. In a combined planing and sawing machine, the combination, with a main frame, of a saw and its supporting-frame hinged or pivoted to the inner face of one of the sides of the main frame, the horizontal cutter-heads, and the horizontal guide-board arranged between the cutter-heads and in line with the saw.

4. In a combined planer and sawer, the guide-board provided with rollers projecting from its opposite faces, as shown, in combination with the presser-rolls, the saw, and the cutters.

5. In a combined planer and sawer, the combination, with a main frame, of a saw, and cutter-heads, presser-rolls, and an intermediate guide-board provided with rollers in both faces, the said rollers being applied to the board at a point above and below the respective feed-rolls.

6. In a combined planer and sawer, the combination, with a main frame, of slotted brackets secured thereto, a guide-board mounted in the brackets, cutter-heads above and below the board, a saw in line with the board, and presser-rolls, all arranged substantially as shown.

7. In a combined planer and sawer, the combination, with a main frame, of an arm or bracket *a*, secured thereto, a frame F, hinged at its upper end to the bracket, a second frame G, mounted upon the frame F and provided with boxes or bearings for the saw-shaft, a screw J, for adjusting the frame G vertically upon the frame F, a slotted bracket secured to the main frame, and a bolt carried by the lower end of frame F and adapted to work in the slot in the bracket, all substantially as described.

In witness whereof I have hereunto set my hand.

JOSEPH W. FULCHER.

Witnesses:
LEMUEL R. CAMPBELL,
E. B. DUVAL.