

Patented Sept. 2, 1879.

Fig. 1.

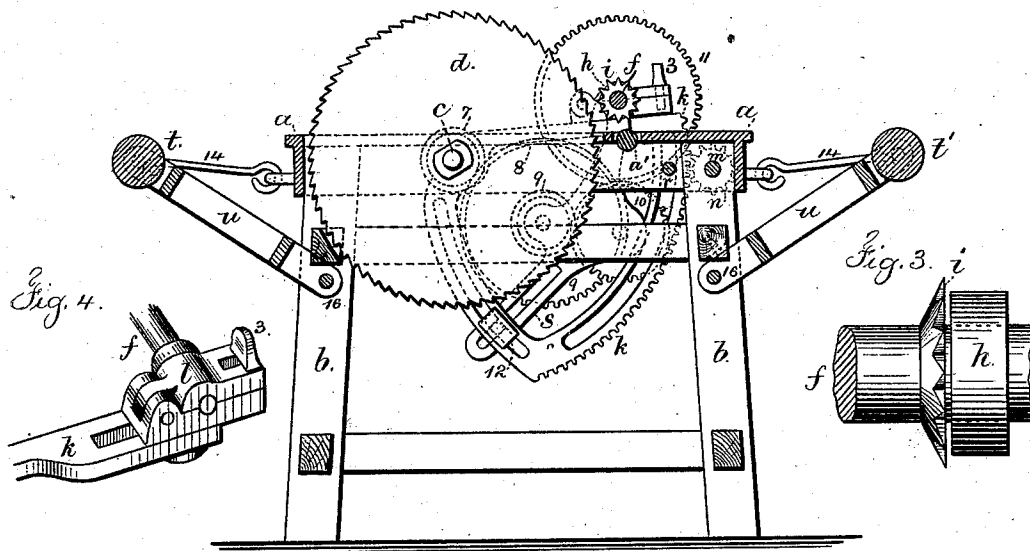
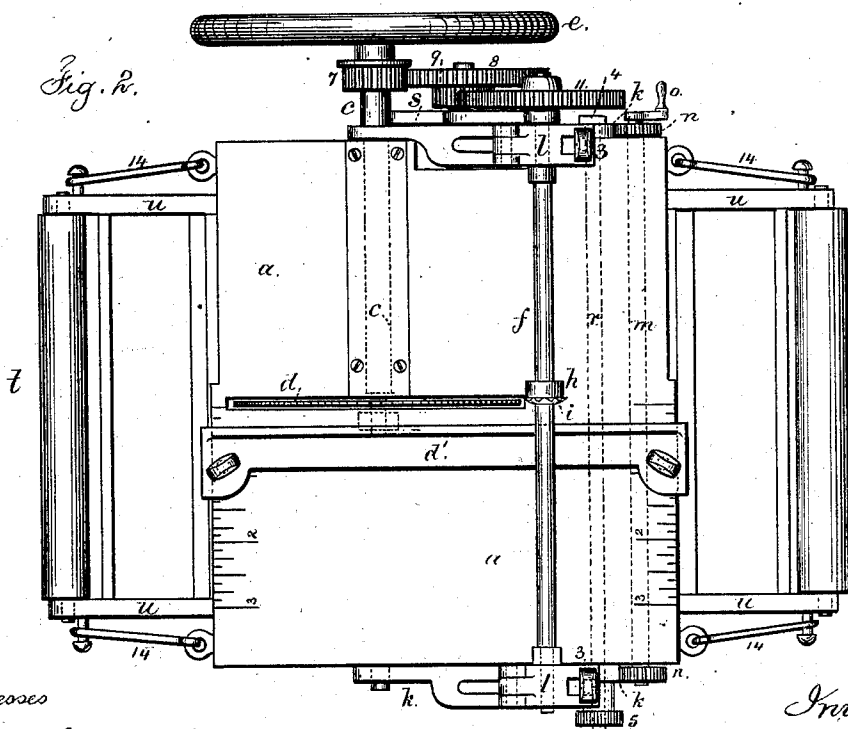


Fig. 2.



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IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 219,139, dated September 2, 1879; application filed June 7, 1879.

To all whom it may concern:

Be it known that I, ELBRIDGE F. BARNES, of Fair Haven, in the State of Connecticut, have invented an Improvement in Sawing-Machines, of which the following is a specification.

This invention is an improvement on the slitting-saw machine patented by Joseph A. Talpey, July 1, 1862, No. 35,790.

I have modified and improved the said machine in the particulars hereinafter set forth, so as to obviate the objections that have been found in the practical use of the said machine.

In the drawings, Figure 1 is a vertical section of the said machine transversely to the saw-shaft. Fig. 2 is a plan of the machine. Fig. 3 is an elevation, in larger size, of the check-roller and part of its shaft; and Fig. 4 is a perspective view of one of the boxes for the check-roller shaft.

The bed *a* is supported upon the frame *b*. The saw-shaft *c*, saw *d*, and fly-wheel *e* are similar to those in aforesaid machine.

The check-roller *i* is upon the shaft *f*, and serves to hold down the material and feed it along as the saw rips the same. The cutting action is upwardly, as in said machine, and there is an anti-friction roller, *a'*, in the bed below the check-roller *i*.

The check-roller *i* has teeth that penetrate the surface of the wood, and before my invention both sides were conical. In practice, the said check-roller was liable to follow the grain of the wood, and in some cases draw the same away from the gage *d'*. I have obviated this by making the side that is away from the gage flat, or nearly so, in order that the teeth may penetrate the surface of the wood vertically, and the side of the check-roller next to the gage *d'* is slightly conical, and hence it tends to crowd the wood toward the gage, so that it will run through the machine without being guided by hand.

I make use of a loose collar or rollers, *h*, upon the shaft *f*. These rest upon the surface of the board that is being slit up, and they not only hold down the wood upon the bed *a*, but they also determine the distance that the teeth of the check-roller *i* may penetrate into the wood. These loose rollers or collar *h* may

be removed and others substituted to vary the amount of penetration of the teeth of the check-roller *i*.

Before my invention the shaft *f* was in fixed journal-boxes upon the adjusting-segments *k*, and to remove said shaft and replace it with a different feed or check roller was tedious and difficult.

I make use of the hinged boxes *l* upon the segments *k*, that are retained, when closed upon the shaft *f*, by the T-heads of the screws 3, the boxes *l* being slotted to allow them to be opened when the T-heads are in line with the slots. By this device the shaft can be removed and changed in a few moments.

The hinged journal-boxes rest upon the slotted upper surfaces of the segments *k*, so that they can be adjusted to bring the check-roller *i* close to the saw.

I make use of the shaft *m*, pinions *n*, and crank *o* to act upon the sectors or segments *k*, and raise and lower the same to suit different thicknesses of wood. By this device the shaft is kept parallel with the bed, and the attendant does not have to lift the said shaft *f* by hand, as heretofore.

The clamping-rod *r* has a head, 4, at one end, and a thumb-nut, 5, at the other end. It passes through the slots of the segments *k*, so that they are both clamped after the shaft *f* has been adjusted by turning the nut 5.

The gear-wheels 7, 8, 9, 10, and 11 communicate motion from the saw-shaft *c* to the shaft *f* of the check-roller.

The gears 9 and 10 are changeable, so as to vary the speed. They are upon the swinging link *s*, and said link is clamped by the bolt-nut 12 after the parts have been adjusted, the bolt of 12 going through the segmental slot in the frame of the segment *k*.

In ordinary cases the bed *a* is large enough to support the wood to be slit up; but with long material it is preferable to use the rollers *t t'*, that are sustained in the frames *u*, and can be swung up level with the bed *a*, and held by the hooks 14, or else they can be turned down out of the way by swinging them upon the pivot 16.

I claim as my invention—

1. The check-roller *i*, having teeth at its edge, and flat at one side and conical at the

other side, in combination with the gage *d'* and the slitting-saw, substantially as set forth.

2. The shaft *f* and check-roller *i*, with teeth upon its edge, and secured to the shaft, in combination with the loose removable collar upon the shaft and the gage *d'*, substantially as set forth.

3. The combination, in a slitting-machine, of the bed *a*, circular saw *d*, shaft *f*, check-roller

i, movable rollers *t t'*, frames *n*, and hooks 14, substantially as set forth.

Signed by me this 31st day of May, A. D. 1879.

ELBRIDGE F. BARNES.

Witnesses:

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WILLIAM G. MOTT.