

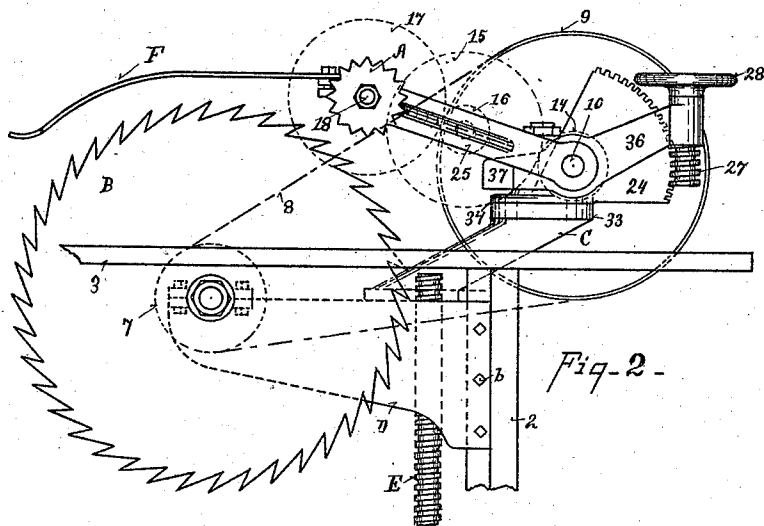
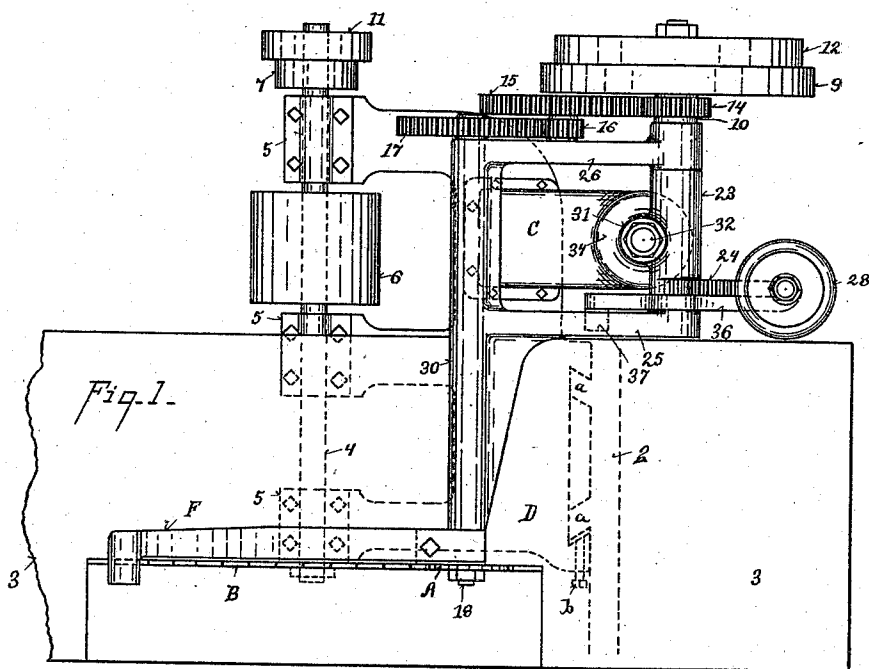
(No Model.)

2 Sheets—Sheet 1.

G. W. BUGBEE & F. DANNER.
RIP SAW MACHINE.

No. 470,357.

Patented Mar. 8, 1892.



Witnesses

C. M. Miles
P. Simmons

Inventors:

George W. Bugbee & Frederick Danner
By their Attorneys *Wood & Bond*

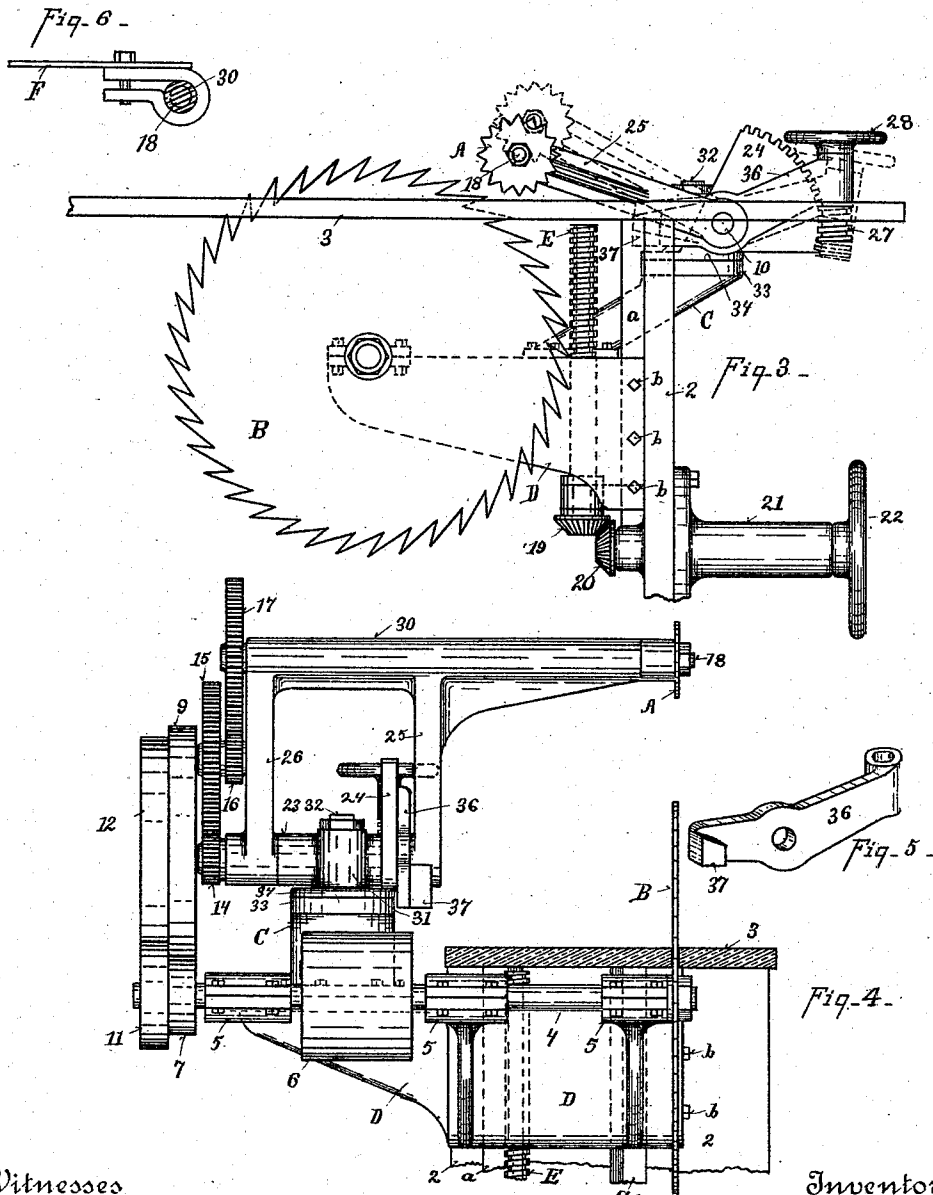
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UNITED STATES PATENT OFFICE.

GEORGE W. BUGBEE AND FREDERICK DANNER, OF CINCINNATI, OHIO,
ASSIGNORS TO THE EGAN COMPANY, OF SAME PLACE.

RIP-SAW MACHINE.

SPECIFICATION forming part of Letters Patent No. 470,357, dated March 8, 1892.

Application filed April 9, 1891. Serial No. 388,281. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. BUGBEE and FREDERICK DANNER, citizens of the United States, and residents of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Rip-Saw Machines, of which the following is a specification.

Our invention relates to that class of rip-saw machines which employ an automatic feed.

The object of our invention is to provide means for adjusting the saw and feed simultaneously and also to provide separate means for adjusting the feed independent of the saw adjustment.

The various features of our invention will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top plan view of our improvement. Fig. 2 is a side elevation of the head-block and feed-adjusting mechanism. Fig. 3 is a side elevation of the head-block with the saw-adjusting mechanism attached. Fig. 4 is an end elevation with the table shown in section. Fig. 5 is a detail view of the feed-adjusting arm. Fig. 6 is a detail view of the guard.

The frame-work of the machine comprises standards 2, on which the table 3 is supported.

4 represents the main shaft, supported in journal-boxes 5; 6, the main driving-pulley, which receives its motion from the counter-shaft and the ordinary binding-pulley, so as to allow the said driving-pulley 6 to be vertically adjusted. 7 represents a driving-pulley on said main shaft; 8, a belt passing over pulley 9, loosely mounted upon the shaft 10, for communicating motion to the feed-wheel. In order to vary the speed we provide an additional series of driving-pulleys 11 12, to which the belt may be shifted to decrease the speed, if desired.

We prefer to employ a small feed wheel or saw A, and in order to give it proper speed we provide a train of gears 14, 15, 16, and 17, the gear 14 rotating with pulley 9 to trans-

mit motion from the pulley 9 to the shaft 18, on the end of which the feed-saw is mounted. This feed runs vertically over and on a plane with the travel of the rip-saw B. The said gearing and shafting are mounted upon a bracket C, which is mounted upon the head-block D. This head-block D is gibbed to the standard 2 by dovetail grooves, the standard 2 being provided with tongues *a a* to fit the same.

b represents a series of set-screws which pass through the head-block D and engage against the backing between the same and the tongue *a*, so as to take up lost motion. Said head-block D is screw-threaded to receive shaft E, on the end of which is a bevel-gear 19.

20 represents another beveled gear keyed upon a shaft which journals in the sleeve 21. 22 represents a hand-wheel for turning the said shaft and bevel-gear 20, driving the bevel-gear 19, and raising and lowering the head-block D by the revolving of the threaded shaft E. As the feeding mechanism is mounted upon the bracket C, which is mounted upon the head-block D, the turning of the wheel 22 simultaneously raises the saw mounted on the head-block and the feed and its gearing also mounted on said head-block, so that the adjustment of the saw B and the feed A vertically are uniform.

It is desirable to adjust the feed independent of the saw, which is accomplished in the following manner: The shaft 10 is preferably stationary, and mounted in a sleeve 23 on the head 31, which swivels on the bracket C, being clamped in the desired position by bolt 32.

30 represents a sleeve, in which the feed-shaft 18 journals. This sleeve is swiveled upon shaft 10 by means of arms, 25 and 26, through which the shaft 10 passes. 36 represents a lever, also loosely pivoted upon the shaft 10 and having at one end a lug 37, which projects beneath the arm 25. The opposite end of the lever 36 is provided with a worm 27, driven by a hand-wheel 28. The worm 27 meshes with the teeth of a segment 24, which projects from the sleeve 23. As the worm is adjusted along the face of the segment the

lug 37 raises or lowers the outer end of arm 25, which turns upon its center 10, as indicated in Fig. 3.

It is sometimes desirable to move the feed 5 out of the way, and this is accomplished by turning the head 31 upon its center 32 until it is out of the way, the belt 8 being first removed. The upper end of bracket C is formed into a seat 33, on which the annular seat 34 10 of the head 31 rests.

It is preferred to employ the diagonal mechanism to hold the said feed in its proper lateral position by the mechanism shown in Letters Patent No. 307,601, granted to John R. Thomas November 4, 1884, but other means 15 of holding the feed in lateral position may be employed in lieu thereof, if desired.

It is preferred to have the feed A a supplemental saw, and for this means it is provided 20 with teeth, but other means of feed may be employed in lieu thereof.

In order to hold the stuff down upon the table or to prevent it from being raised up by the action of the saw we provide a finger-guard 25 F, which is mounted upon the forward end of the sleeve 30, projects backward past the saw and prevents the stuff from being thrown forward violently. In sawing stuff of different thicknesses it is desirable to adjust the 30 saw vertically, so that it will only a little more than reach through the stuff to be sawed. The adjustment of the saw to the feed is readily accomplished in one movement by turning the hand-wheel 28, as before explained. The feed may be adjusted independent 35 of the adjustment of the saw to accommodate different thicknesses of stuff, if desired, or for any other purpose. In Fig. 4 the feed A is shown thrown up until the arms 25 and 26 are vertical.

Having described our invention, what we claim is—

1. In a rip-sawing machine, the combination of a frame, a head-block, a saw-arbor to which 45 the saw is secured carried thereby, means for raising and lowering the head-block on the frame, a bracket extending from and moving with the head-block, and a feed-wheel carried by the same, substantially as and for the purpose specified.

2. In a rip-sawing machine, the combination of a frame, a head-block, a saw-arbor carried thereby, means for raising and lowering the head-block on the frame, a bracket extending 55 from and moving with the head-block, an arm pivoted on and extending from the bracket, a feed-wheel carried by the arm, and adjusting mechanism for adjusting the arm on its pivot independent of the bracket, substantially as 60 specified.

3. In a rip-sawing machine, the combination of a frame, a head-block, a saw-arbor carried thereby, means for raising and lowering the head-block in the frame, a bracket extending

from and moving with the head-block, a shaft 65 mounted in the bracket, an arm pivoted on the shaft, a feed-wheel carried by the arm, a lever pivoted on the shaft, a lug on the lever engaging with the arm, and adjusting mechanism for operating the lever whereby the 70 parts are simultaneously and independently adjusted, substantially as specified.

4. In a rip-sawing machine, the combination of a frame, a head-block, a saw-arbor carried thereby, means for raising and lowering the 75 head-block in the frame, a bracket extending from the head-block and adjustable therewith, a head swiveling on the bracket, an arm extending from the head, and a feed-wheel carried by the arm, substantially as specified. 80

5. In a rip-sawing machine, the combination of a frame, a head-block, a saw-arbor carried thereby, means for raising and lowering the head-block in the frame, a bracket extending 85 from the head-block and adjustable therewith, a head swiveling on the bracket, a shaft mounted in the head, an arm pivoted on the shaft, a feed-wheel carried by the arm, a lever pivoted on the shaft, a lug on the lever engaging 90 with the arm, and adjusting mechanism for operating the lever, substantially as specified.

6. In a rip-sawing machine, the combination of the table 3, the vertically-adjustable head-block D, the bracket C, mounted on said head-block, the saw B, carried by the head-block, 95 the main driving-shaft 4, the shaft 10, mounted on the bracket C, the pulley 9, revolving on the shaft, the arms 25 26, mounted on the shaft 10, the sleeve 30, carried by said arms, the feed-shaft 18, journaled in said sleeve 100 and carrying at one end the feed-wheel A, and the gears 14, 15, 16, and 17 for transmitting motion from the pulley 9 to the feed-wheel shaft, substantially as described. 105

7. In a rip-sawing machine, the combination of the vertically-adjustable head-block D, the saw B, carried by said head-block, the bracket C, mounted on the head-block, the head 31, swiveled on said bracket, the sleeve 110 23, carried by the swiveled head, the shaft 10, the pulley 9, revolving on said shaft, the arms 25 and 26 on the shaft 10, the feed-wheel shaft 18, mounted in a sleeve at the end of said arms, the feed-wheel A, gearing that connects 115 the pulley 9 and feed-shaft 18, the lever 36, loosely pivoted upon the shaft 10 and having at one end a worm 27 and at its other end a lug 37, projecting beneath the arm 25, the toothed segment 24 on the sleeve 23, and the 120 hand-wheel 28, substantially as described.

8. In a rip-sawing machine, the combination of the table 3, the vertically-adjustable head-block D, carrying the saw B, the bracket C, mounted on said head-block, the screw-shaft 125 E, bevel-gearing 19 20, hand-wheel 22, the feed-wheel A, the feed-wheel shafting and gearing adjustably mounted on the bracket

C, and means for adjusting said feed-wheel independent of the saw, substantially as described.

5 9. In a rip-sawing machine, the combination of the vertically-adjustable head-block D, the bracket C, mounted on the head-block, the saw B, carried by the head-block, the feed-wheel A, the swiveled rock-frame mounted on the bracket C, and the feed-wheel shaft-

ing and gearing supported by said swiveled rock-frame, substantially as described.

In testimony whereof we have hereunto set our hands.

GEORGE W. BUGBEE.
FREDERICK DANNER.

Witnesses:

C. W. MILES,
T. SIMMONS.