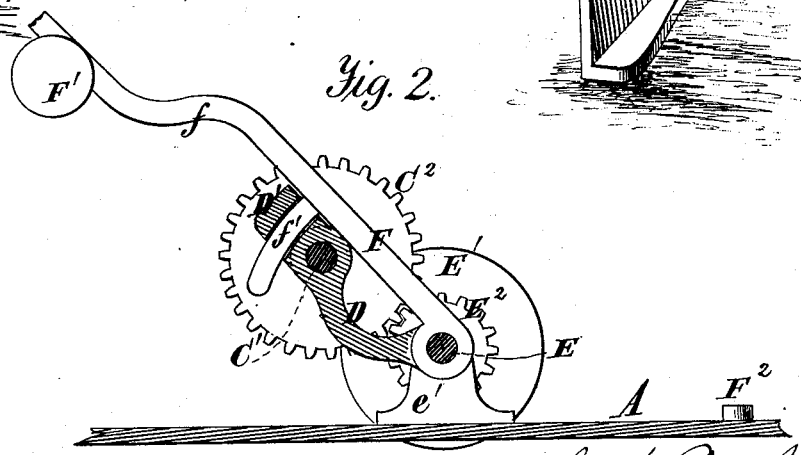
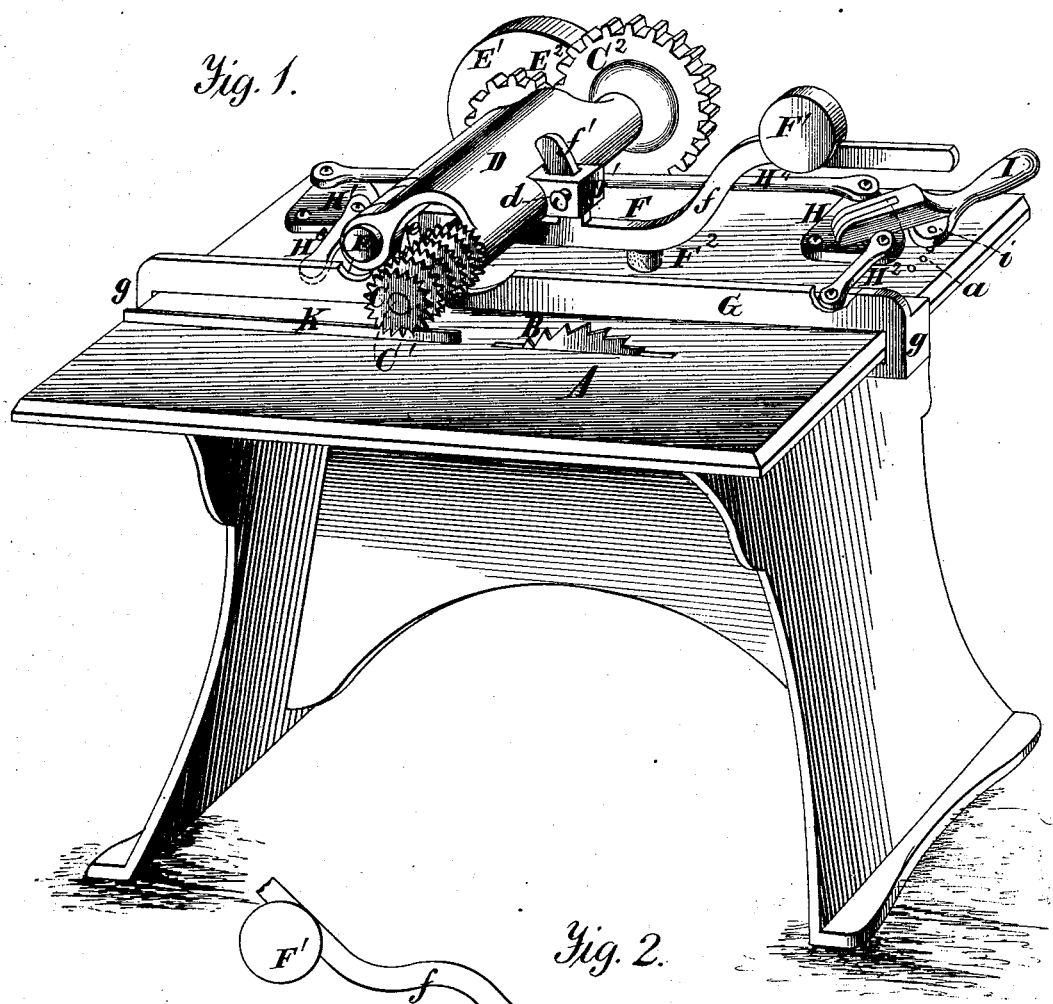


G. W. BUGBEE.  
Sawing-Machine.

No. 163,453.

Patented May 18, 1875.



*Witnesses:*  
A. Ruppert.  
W. G. Chaffee.

*Ges. W. Bugbee*  
*Inventor.*  
*per Geo. J. Cili*  
*his atty*

# UNITED STATES PATENT OFFICE.

GEORGE W. BUGBEE, OF CINCINNATI, OHIO, ASSIGNOR TO J. A. FAY & CO.,  
OF SAME PLACE.

## IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **163,453**, dated May 18, 1875; application filed  
April 1, 1875.

*To all whom it may concern:*

Be it known that I, GEORGE W. BUGBEE, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain Improvement in Sawing-Machines, of which the following is a specification:

The several features of this invention are more especially designed for use upon circular-saw mills; and consist, first, in combining with the platen and saw a gravitating feed-roll, arranged behind the saw, so as to act upon the top surface of the stuff, and driven by gearing from the counter-shaft of the machine. This feed-roll is supported in a frame swinging in vertical planes, and adjustably connected to a lever carrying a shiftable weight, by means of which the pressure of the roll on the stuff can be conveniently varied to regulate the feed. Second, in the combination, with the mechanism for giving a parallel motion to the saw-gage, of a hand-lever and a graduated rack in the platen, providing for a rapid, convenient, and accurate adjustment of the gage.

In the annexed drawings, Figure 1 is a perspective view of my improvements in sawing-machines. Fig. 2 is a transverse section of the feed-roll frame, with its lever and gearing, showing it turned up.

The same letters of reference are used in both figures in the designation of identical parts.

A refers to the platen of the stand, and B to the saw, which operates through a slit in the platen. These two elements may sustain unchangeable relations to each other, as in circular-saw mills of the ordinary construction, or they may be adjustable with reference to each other, in the manner as shown, for instance, in Letters Patent of the United States granted to W. H. Doane and G. W. Passel, January 27, 1874, and numbered 146,866.

The feed-roll C is carried on the overhung end of shaft C<sup>1</sup>, extending horizontally across the plane of the saw, directly in rear thereof when in working position. The feed-roll shown consists of a central core, encircled by a number of circumferential flanges, serrated to afford a better hold on the board; it may,

however, be a smooth-surfaced roll, or it may be constructed in any other preferred known manner. The shaft C<sup>1</sup> turns in the tubular outer end of the swinging frame D, which is pivoted upon the shaft E, supported in bearings *e e'*, mounted on the platen. The shaft E carries a pulley, E<sup>1</sup>, to be driven from the counter-shaft of the machine, and a spur-wheel, E<sup>2</sup>, meshing into the spur-wheel C<sup>2</sup> on the shaft C<sup>1</sup>, thus driving the feed-roll. A lever, F, pivoted on shaft E, extends underneath frame D, toward the front end of the stand, carrying on its tail end a shiftable weight, F<sup>1</sup>. It has a crook at *f*, for the twofold purpose of elevating the tail end, so as not to interfere in its lowest position with the gage mechanism, and of forming a stop to prevent the weight from sliding down too far when the lever is turned, as shown in Fig. 2. This lever has an upwardly-projecting horn, *f'*, passing through a corresponding aperture in the lug D' of frame D.

A set-screw, *d*, is used to secure the frame at any desired point on the horn of the lever, according as it may be necessary to adjust the feed-roll to boards of varying thicknesses. This adjustment is provided for in order that the lever may always assume the same position, whether the feed-roll be operating upon thick or thin stuff—namely, having its tail extended horizontally, or nearly so, and the depressed end just slightly elevated above an elastic, preferably rubber, cushion or buffer, F<sup>2</sup>, fixed on the platen. Thus the weight F<sup>1</sup>, while it may be readily slid on the tail of the lever to vary the pressure of the feed-roll on the board for the purpose of regulating the feed, will remain in any position in which it may be placed thereon; and the buffer will always uphold the feed-roll and adjuncts in proper position for continued operation upon successive boards.

The feed apparatus may be swung back and up into the position shown in Fig. 2 whenever it is desired to feed by hand.

The fence or saw gage G, provided with hooks *g* at the ends, to embrace the edges of the platen, is connected, by links H<sup>2</sup> H<sup>3</sup>, to quadrants or bell-cranks H and H<sup>1</sup>, pivoted upon the platen A, and united by a connect-

ing-rod, H<sup>4</sup>. The quadrant H at the front end of the platen is operated by a hand-lever, I, which is pivoted thereto, so as to be capable of swinging in vertical planes independently of the quadrant. The hand-lever has a downwardly-projecting stud, *i*, for engaging any one of a series of holes, *a*, in the platen. These holes are accurately spaced and indexed, indicating the various distances between the saw and the gage in inches and fractions, according as the pin *i* engages one or another. The hooks *g* will, of course, prevent any motion of the gage and links independent of the quadrants or bell-cranks. K refers to a low guide-bar secured upon the platen directly behind the saw-slit and in line therewith. By reason of its long bearing on the slitted ends of the board it insures a straight cut, and whenever the gage is used it is materially assisted by this guide in cutting the boards with parallel sides. In these respects it is broadly distinguishable from a mere divider, although the function of the latter is also performed by the guide. The gage is cut away in the line of the feed-roll, so as not to obstruct the free play of the latter.

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

1. The combination of the feed-roll-carrying frame D and the weighted lever F F<sup>1</sup>, adjustable on each other, substantially as specified.

2. The feed-roll-carrying frame D and weighted lever F F<sup>1</sup>, adjustable on each other, in combination with the buffer F<sup>2</sup>, substantially as and for the purpose specified.

3. The combination of the gage G *g g*, links H<sup>2</sup> H<sup>3</sup>, and connected quadrants H H<sup>1</sup> H<sup>4</sup> with the platen A, substantially as specified.

4. The combination of the gage G *g g*, links H<sup>2</sup> H<sup>3</sup>, connected quadrants H H<sup>1</sup> H<sup>4</sup>, and lever I *i* with the platen A, having a graduated rack or series of holes, *a*, substantially as specified.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

GEO. W. BUGBEE.

Witnesses:

W. H. DOANE,

GEO. F. MEYERS.