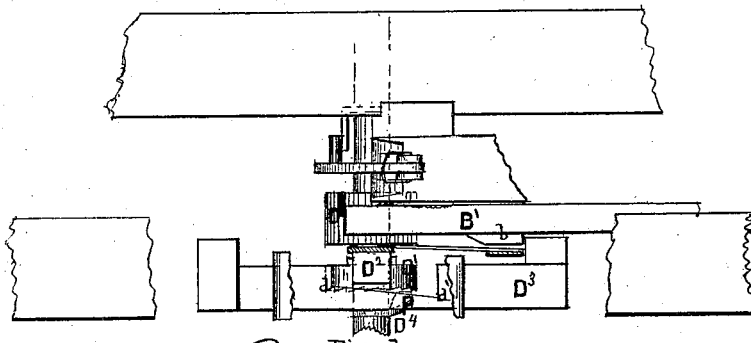
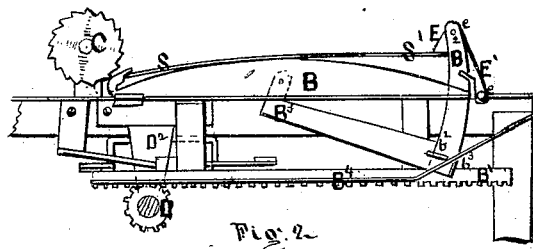
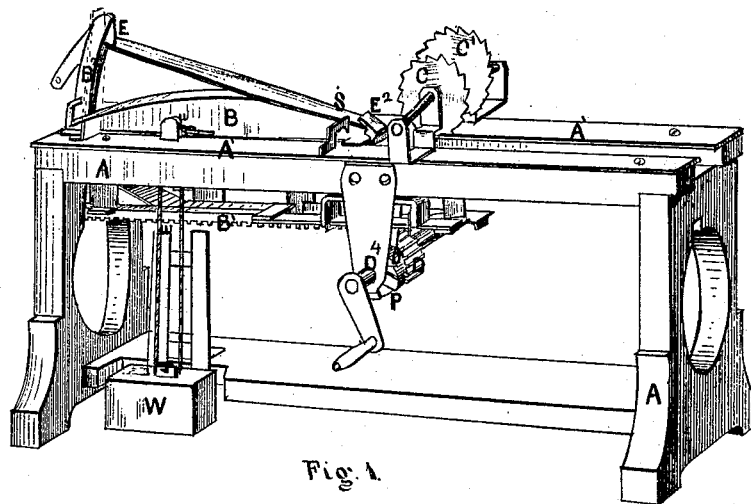


*Patented Mar. 28. 1871.*



Witnesses { Frank G. Parker & Charles E. Rogers

Inventor  
Robert W. George

# United States Patent Office.

ROBERT W. GEORGE, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 113,043, dated March 28, 1871; antedated March 23, 1871.

## IMPROVEMENT IN STAVE-SAWING MACHINES.

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

*To all whom it may concern:*

I, ROBERT W. GEORGE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Stave-Sawing Machines, of which the following is a complete specification.

### *Nature and Object of the Invention.*

The nature of my invention consists—

First, in combining with the carriage of a stave-jointing machine an automatic device for drawing down the stave, holding it until jointed, and then releasing the same.

Second, in a number of mechanical devices, which can be best understood by reference to the specification and drawing.

### *Description of the Drawing.*

Figure 1 is a perspective view of my invention.  
Figure 2 is an elevation, partly in section.  
Figure 3 is a horizontal section, showing details.

### *General Description.*

A A' is a frame, to which the working parts of the machine are attached.

B is a carriage having a curved bed, as shown in figs. 1 and 2, and is carried forward by the rack B<sup>1</sup>, which in its turn is actuated by the pinion D.

When the carriage B has passed forward so as to carry the stave entirely past the edging-saws C C', the pinion D is automatically released from the driving-shaft D<sup>1</sup>, and the carriage is drawn back to its starting point, as shown in fig. 1, by the cord *w w* and weight W.

At its arrival at this point the pinion D is again automatically clutched to the shaft D<sup>1</sup>, and the whole action is repeated.

B<sup>2</sup> is an arc connected by a radial arm, B<sup>3</sup>, to a pivot on the carriage B, near B<sup>3</sup>, so that it may pass up through the carriage B.

This arm carrying with it the arc B<sup>2</sup>, is moved by the action of the fixed guide B<sup>4</sup>, fig. 2, upon the starts *b<sup>2</sup> b<sup>3</sup>*. Thus, when the carriage B is at its starting point, as shown at fig. 1, then the arc B<sup>2</sup> will extend above the table, as shown; but after the carriage has started, the guide, acting upon the starts *b<sup>2</sup> b<sup>3</sup>*, will draw down this arc, as shown in fig. 2.

That part of the guide shown at B<sup>4</sup>, fig. 2, being

level, it will be seen that the arc will be held down during the movement of the carriage forward.

E is a latch, pivoted to the arc B<sup>2</sup>, as shown, so that it may hold the end of the stave S.

The latch E has a start, *e*, fig. 2, which, coming in contact with a stop near the saws, throws the latch back and releases the stave as soon as it has passed the edging-saws.

In fig. 3 I have shown the device that I use for releasing the pinion D from the driving-shaft D<sup>1</sup>, which is accomplished as follows:

A side-ratchet, D<sup>1</sup>, is fixed permanently to the pinion D, so that if one revolves the other must, but both are free to slide on the shaft.

P is a pawl fixed to the driving-shaft D<sup>1</sup>.

*d d'* is an incline, acted upon by the boss *b* attached to the ratchet D<sup>1</sup>. This incline acting through the hanger D<sup>2</sup>, causes it and the ratchet D<sup>1</sup> to be thrown up to or off from the pawl P.

The action of my machine is as follows:

The stave to be edged is placed by hand, as shown in fig. 1. Thus, as the carriage moves forward the arc B<sup>2</sup> is drawn down, which action draws the stave out to the bed B and holds it firmly until it has been acted upon by the saws C C'; then the latch E thrown out by coming in contact with the stop, and the stave, by its own elasticity, springs entirely out of the machine.

The ratchet is released from the clutch and the carriage returns to its starting point, where it receives another stave, and the operation is repeated.

### *Claims.*

I claim as my invention—

1. The combination of the arc B<sup>2</sup>, the carriage B, and the guide B<sup>4</sup>, substantially as described, and for the purpose set forth.

2. The combination of the latch E with the arc B<sup>2</sup>, operating substantially as described, and for the purpose set forth.

3. The combination of the carriage B, rack B<sup>1</sup>, pinion D, ratchet-wheel D<sup>1</sup>, and pawl P with the incline *d d'* and hanger D<sup>2</sup>, operating automatically, substantially as described, and for the purpose set forth.

ROBERT W. GEORGE.

Witnesses:

E. A. NICKERSON;

FRANK G. PARKER.