

W. C. DANIEL.

Improvement in Sawing-Machines.

No. 132,563.

Patented Oct. 29, 1872.

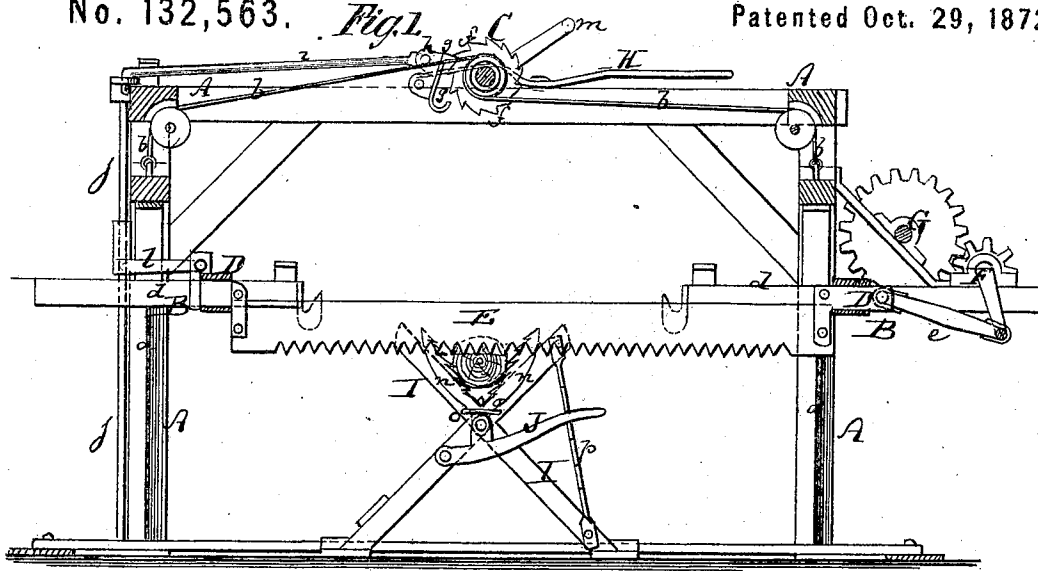


Fig. 2.

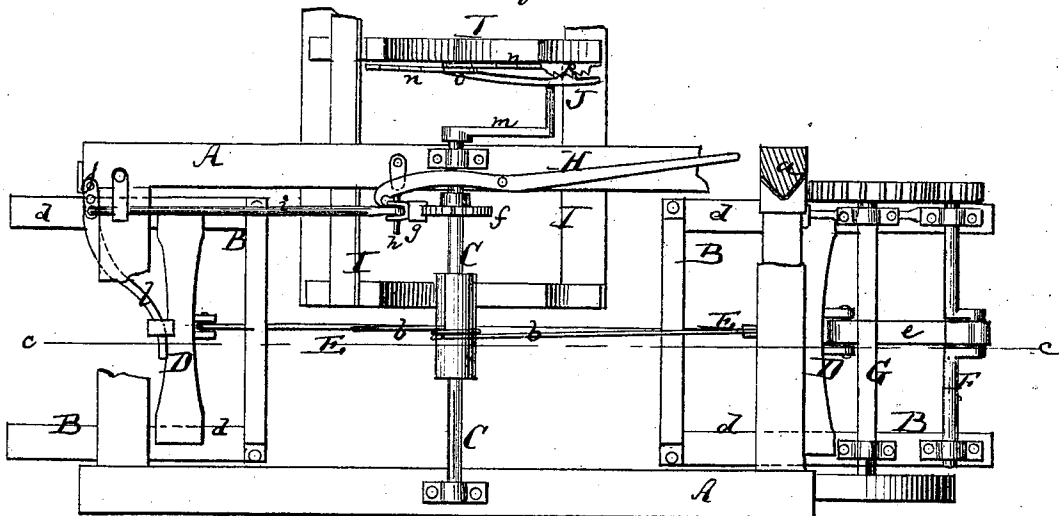
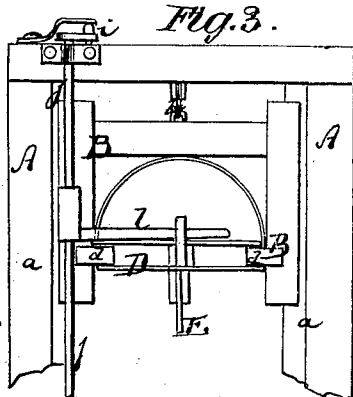


Fig. 3.



Witnesses:  
John Becker.  
C. Benquet

Inventor:  
W. C. Daniel  
Munn & Co.

Attorneys.

# UNITED STATES PATENT OFFICE.

WILLIAM C. DANIEL, OF POINT PLEASANT, MISSOURI.

## IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 132,563, dated October 29, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM C. DANIEL, of Point Pleasant, in the county of New Madrid and State of Missouri, have invented a new Improvement in Sawing-Machine, of which the following is a specification:

Figure 1 represents a vertical longitudinal section of my improved sawing-machine, the line *c c*, Fig. 2, indicating the plane of section; Fig. 2 is a top view of the same, and Fig. 3 an end elevation.

Similar letters of reference indicate corresponding parts.

This invention relates to a new reciprocating buck-saw, in which the saw-frame and carriage are vertically adjustable and suspended from a windlass which unwinds automatically by means of an escapement attachment, so that the downward feed of the saw will be regular and gradual.

In the accompanying drawing, the letter A represents the stationary frame, which serves as support for the machinery and devices constituting my invention. The four corner posts *a* of this frame serve as vertical guides for two vertically adjustable frames, B B, that are by cords *b* suspended from a windlass, C, which hangs in a horizontal position in the upper part of the frame A. The frames B have horizontal rails *d* attached to them, said rails serving as guides and supports for the cross-heads D, which are fastened to the ends of the saw E. A crank shaft, F, hung in one of the frames B, connects by a pitman, *e*, with one cross-head D, or end of the saw, so that when said shaft F is revolved, either directly or by gear, or other connection, with a driving-shaft, G, hung in the frame B, it will cause the saw to be moved back and forth along the rails *d*. The frames B are both always in line, at least their rails *d*, so that the cross-heads D will readily move thereon. The windlass C carries a ratchet-wheel, *f*, into which an anchor-shaped pawl *g*, similar to the anchor of a watch escapement, engages. This pawl is at *h* pivoted to the frame A and is by a rod, *i*, connected with a vertical rock-shaft, *j*, that hangs in one end of the frame A. A crank, *l*, of the shaft *j* connects with one of the cross-heads D, so that while the saw moves back and forth the rock-shaft *j* will be oscillated. Every oscillation, however, of the rock-shaft will produce a vibration of

the pawl *g*, which is thus caused to throw first one prong, then the other, against the ratchet-wheel *f*. As the entire weight of the frames B, cross-heads D, and saw E, and their respective appendages, hangs on the windlass, by ropes *b* wound thereon, it is evident that the said weight will descend as much as the release of one tooth of the ratchet-wheel by the pawl will permit at every stroke of the saw. The requisite gradual downward feed of the saw is thus produced automatically and with great regularity. The ropes are wound up and the frames B with the saw, &c., raised, previous to the commencement of the sawing operation. The windlass has a crank, *m*, to be readily revolved for winding up the ropes *b*. H is a lever, pivoted to the frame A and connected with the pawl *g*. By means of this lever the pawl can be slid on its pivot *h* in or out of gear with the ratchet-wheel, as may be desired. To support the log to be sawn I employ a buck, I, but do not here make it the subject of a claim: To one of its cross uprights is pivoted a lever, J, which connects by pivot with two jaws, *n n*, both of which pass through a fixed staple, *o*, so that they will be spread apart when the lever J is swung up, and contracted when the same is swung down. The jaws are spread before the log is put in the frame I, and are subsequently contracted against the log to firmly hold it in place. The lever J is locked in a notched bar, *p*, in the requisite position.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The vertically-sliding saw-carrying frames B suspended by cords from a windlass, C, which moves under the restriction of an escapement attachment, as set forth.
2. The double-acting pawl *g* connected by a rod, *i*, rock-shaft *j*, and crank *l*, with the reciprocating saw to regulate the descent of the same, substantially as and for the purpose herein shown and described.
3. The lever H, combined with the pawl *g* and ratchet-wheel *f*, substantially as and for the purpose herein shown and described.

WILLIAM C. DANIEL.

Witnesses:

JAS. I. STAYTON,  
WM. E. FAIRE.