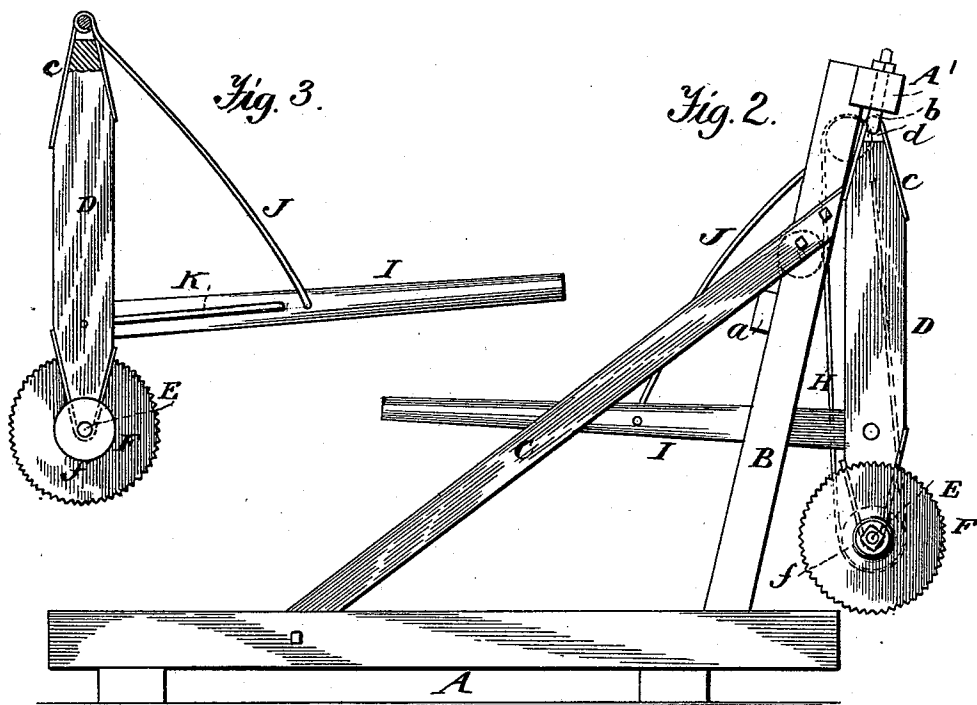
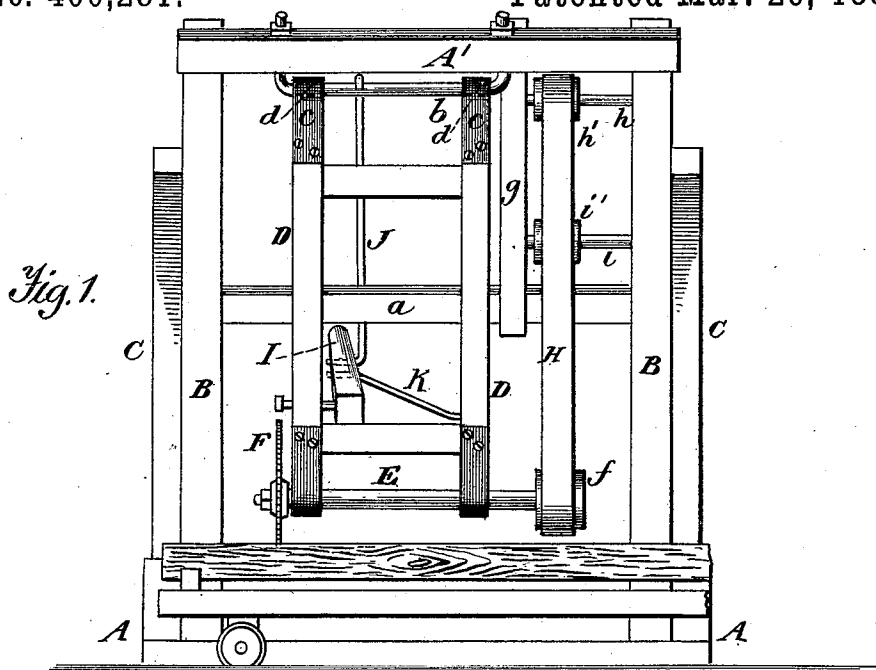


(No Model.)

E. E. WILLIAMS.
SWINGING SAW.

No. 400,281.

Patented Mar. 26, 1889.



Witnesses.
A. Ruppert,
C. H. Law.

Inventor:
Edward C. Williams
by Franklin H. Hough
attorney

UNITED STATES PATENT OFFICE.

EDWARD E. WILLIAMS, OF MOUNT VICTORY, OHIO.

SWINGING SAW.

SPECIFICATION forming part of Letters Patent No. 400,281, dated March 26, 1889.

Application filed July 17, 1888. Serial No. 280,190. (No model.)

To all whom it may concern:

Be it known that I, EDWARD E. WILLIAMS, a citizen of the United States, residing at Mount Victory, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Swinging Saws; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in swing-saws of that class which are supported by a hanging frame pivoted at its upper end.

The object of the invention is to improve upon previous constructions of this character, to simplify and cheapen the same, to reduce the number of parts, and to otherwise increase the durability and efficiency of this class of devices. The novelty in the present instance resides in the peculiarities of construction, and in the combinations, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an end view of my improved swing-saw in position for use, parts being broken away to better disclose other parts. Fig. 2 is a side elevation of the same. Fig. 3 is a side view of the lever detached.

Reference now being had to the details of the drawings by letter, A designates the platform, floor, or base, upon which the device is supported; or it may be supported from above, as is common in devices of this character. The vertical frame or supports B are firmly secured to the base, or, if the device be supported from above, from the overhead support.

C C are braces for the vertical frame. The said vertical frame is preferably braced by a cross-bar, *a*, located near the middle of its height.

To the upper cross-bar, A', of the vertical frame is a rod or bail, *b*, preferably made by running the ends of a piece of stout wire or rod upward through said cross-bar, and then bending said ends at right angles to the length of the rod, leaving a space between the rod and the under side of the cross-bar, and on this rod is suspended and pivoted the saw-frame D, preferably in the following manner: Attached to the upper ends of the side bars of the saw-frame are the metal bands *c*, the ends of which are secured to the sides of the said side bars, leaving an eye, *d*, which embraces the rod, thus forming a pivot on which the saw-frame swings, as will be readily understood. The lower ends of the side bars of the saw-frame are provided with similar bands, forming bearings, in which is journaled the saw-arbor E, carrying at one end the saw F and at the other end a band-pulley, *f*.

To one side of the swinging saw-frame is secured, to the upright frame, a vertical brace, *g*, in which and the adjacent side bar of the upright frame are the two shafts *h i*, each of which carries a pulley, *h' i'*, respectively, and to one of these shafts motion is imparted by an engine or any other suitable source of power. (Not shown.)

H designates an endless belt, which runs over the pulley *h'* and over the pulley *f* on the saw-arbor, the pulley *i'* serving as a guide for said belt.

I is the operating-lever. It is attached at one end to the cross-bar of the saw-frame, and extends to the rear within easy reach of the operator.

J is a wire rod or brace attached at one end to the said lever and at the other to the bail *b* in such a manner as to greatly strengthen and stiffen the lever and its connection to the frame.

K is a similar brace attached at one end to the lever and at its other end to the side bar of the saw-frame, as clearly shown in the drawings. By this means a very strong connection is made between the lever and the saw-frame, and in practice the strain is removed from the end of the lever at its attachment to the saw-frame, and much more power can be applied without danger of breakage.

The device is simple, cheap, and not easily

got out of order, and in practice it will be found very efficient.

The operation is apparent. It is similar to other devices of this character, and, as the novelty in the present case resides in the details of construction, the operation being like that of the previous swing-saws of this nature, a detailed description of the operation is not deemed necessary.

It will be noticed on reference to Fig. 1 that the shaft *h*, instead of being arranged in line with bail, is set out of line or eccentric to the line of said bail, upon which the saw-frame is journaled, and the belt is made of such a length that when the saw is at rest the belt will be loose, but the distance between the pulleys *h'* and *f* will be varied as the saw-frame swings, and thus the belt will be tightened as the saw is pushed to its work.

What I claim as new is—

1. The combination, with the upright frame, the bail *b*, and the saw-frame pivotally supported at its upper end on said bail and carrying the saw, of the lever attached at one end to the cross-bar of the saw-frame, the in-

clined brace-rod *J*, attached at one end to said lever and at its other end to the said bail, and the horizontal brace-rod *K*, extending at substantially right angles to the brace-rod *J* and attached at one end to the lever and at its other end to one of the side bars of the saw-frame, substantially as and for the purpose specified.

2. The combination, with the upright frame, the bail *b* on the under side of the top cross-bar of said frame, and the saw-frame pivotally supported at its upper end on said bail, of the shaft *h*, arranged eccentric to the line of said bail, the saw-arbor carried by the saw-frame, the pulley *f* thereon, the pulley *h'* on the shaft *h*, and the belt connecting and passing over said pulleys, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD E. WILLIAMS.

Witnesses:

RENA ALLYN,
NOLLIE EDSON.