

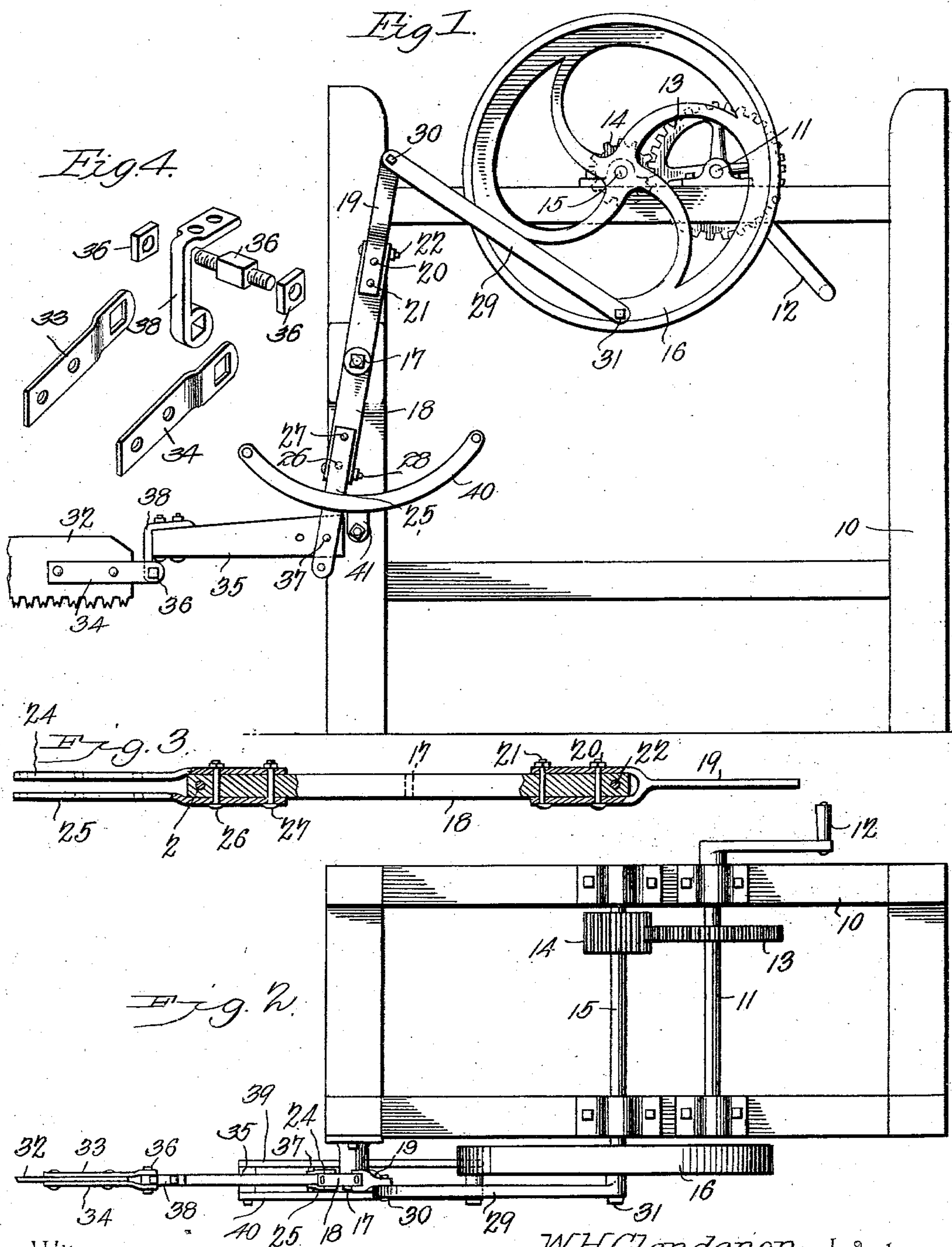
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W. H. CLENDENON.  
SAWING MACHINE.

APPLICATION FILED FEB. 27, 1903.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 740,535, dated October 6, 1903.

Application filed February 27, 1903. Serial No. 145,413. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. CLENDENON, a citizen of the United States, residing at Healdsburg, in the county of Sonoma and State of California, have invented a new and useful Sawing-Machine, of which the following is a specification.

This invention relates to sawing-machines, more particularly to machines of this character employed for cutting cord-wood into stove lengths, but which may be employed with slight modifications in the operating mechanism in connection with various forms of sawing-machines, and I do not, therefore, wish to be limited in the use of the device to any specific kind of machinery.

The object of the invention is to simplify and improve the construction and produce a device in which the saw will operate freely and properly engage the wood being severed without the necessity for employing weights, guides, or other extraneous appliances, but in which dependence is had entirely upon gravity for feeding and guiding the saw.

The invention consists in certain novel features of construction whereby the above-denoted objects are attained, as hereinafter shown and described, and specified in the claims.

In the drawings embodying the principles of the invention sought to be covered, in which corresponding parts are designated by like denoting characters, Figure 1 is a side elevation, and Fig. 2 is a plan view, of the device complete. Fig. 3 is an enlarged sectional detail of the operating-lever. Fig. 4 represents enlarged sectional details of the mechanism forming the joint between the saw and handle-link.

The supporting-framework is represented at 10 and will preferably be of relatively large size to secure the requisite stability and may be weighted if found necessary.

The frame is provided with a main drive-shaft 11, journaled thereon and having an operating means, such as a crank 12 and a gear 13, as shown. The gear 13 meshes with a pinion 14 upon a shaft 15, likewise journaled upon the frame 10 and carrying a fly-wheel 16 of suitable size and weight.

Pivotally supported upon the frame 10, as by a bolt 17, is a lever 18, the upper end of

the lever having a bar 19 connected thereto by spaced bolts 20 21, the end of the bar being forked and embracing the lever upon opposite sides, with the holding-bolts passing through both parts of the bar and the lever, as shown more clearly in Fig. 3.

The bolt 20 is spaced from the end of the lever 18, and through the end of the lever, outside this bolt, a binding-bolt 22 is passed reversely to the bolts 20 21 and serving to firmly bind the lever and prevent rupture thereto under the severe strains to which it will be subjected. The opposite end of the lever 18 is provided with spaced straps 24 25, disposed upon opposite sides of the lever and secured in place by spaced bolts 26 27, similar to the bolts 20 21, and with the bolt 26 spaced from the end of the lever like the bolt 20 to provide space for the insertion of a binding-bolt 28, similar to the bolt 22 in the other end of the lever and for a like purpose.

Between the outer end of the bar 19 and the fly-wheel 16 a rod 29 is movably connected by pivot-bolts 30 31, so that an oscillating movement will be imparted to the lever by the rotary motion of the fly-wheel.

The saw is represented at 32 and is provided with spaced straps 33 34, secured by transverse bolts or rivets, and between these latter straps and the straps 24 25 a link 35 is connected at its ends, as by bolts 36 37. The outer end of the link 35 is preferably turned at right angles thereto and provided with a clip 38, which contains the square aperture for the clamp-bolt 36, as shown in Fig. 4, the clip supporting the link in position above the cutting edge of the saw and in the same relative position as the usual handle to the saw occupies, so that the action closely resembles the hand motion of the saw.

The bolt 37 is a pivot-bolt and is adapted to adjustably connect the link member 35 between the straps 24 25 by means of graduated apertures in both the straps and link, as indicated.

The bolt 36 is a square bolt, as shown in Fig. 4, fitting corresponding square apertures in the straps 33 34 and clip 38, as indicated, so that when the nuts are "set up" upon the bolt 36 the link, clip, straps, and the saw held thereby will all be rigidly bound together, while at the same time easily detachable when



required. This makes a very conveniently-arranged and easily-constructed joint between the parts easily adjusted both vertically and longitudinally relative to the lever not only to regulate the "throw," but likewise regulate the position of the throw relative to the material being acted on, as will be obvious, by means of the plurality of the apertures in the straps 24 25 and the link-bar 35.

10 The lower portion of the lever 18 will be arranged to vibrate between guide-straps 39 40, spaced apart upon opposite sides of the lever and connected to the frame 10, as indicated at 41, to resist any tendency to lateral movement of the lever and maintain it in operative position. By this means any side strains to which the lever may be subjected will be effectually resisted and the lever and other parts prevented from displacement from that cause. This is an important feature of the invention and adds materially to the value and efficiency of the device. By this construction it will be obvious that the severe leverage strains exerted between the bar 19 and the lever proper, 18, and between the straps 24 25 and the lever and which tend to split the lever when constructed of wood will be effectually resisted by the binding-bolts 22 23 and all danger of rupture at these points thereby obviated. By this construction the stiffness and lightness of the wooden central portion is efficiently combined with the strength and lightness of the end portions 19 24 25 and the whole firmly bound together and all tendency to rupture resisted without material increase of expense or weight. By this construction also the saw remains in operative engagement with the wood being acted upon, as the saw rests by gravity only upon the work, and by reason of the flexible connection between the lever and saw the saw is free to move vertically and will not be "forced" in its action by the movement of the lever, but will freely "float" at the end of the lever. By this arrangement all "jumping" of the saw is prevented and a uniform action secured and the strongest action near the "heel," where it should be, rather than near the outer end,

which is commonly the case with most sawing-machines as heretofore constructed. 50

The action closely resembles the "hand" action, wherein the operator is able to guide the saw so that it acts uniformly from end to end. The action being thus uniform offers much less resistance to the operating mechanism upon the frame, consequently requires less power to operate it, and entirely avoids the "jerky" intermittent action so common in sawing-machines as heretofore constructed. 55

The device may be applied to all sizes of reciprocating saws and will be found very useful for the purposes designated. 60

While the lever 18 will preferably be of wood, it may be constructed of metal, if preferred. 65

Having thus described my invention, what I claim is—

1. In a sawing-machine, a supporting-frame, a lever mounted for oscillation upon said frame, a freely-movable saw, a link movably connected at one end to said lever, a clip connected to the free end of said link and having an angular opening therein, straps connected to said saw and provided with angular apertures to register with the angular opening in said clip, and an angular bolt having threaded ends and adapted to engage said registering angular apertures, and nuts operating upon said threaded ends. 70 75

2. In a sawing-machine, a supporting-frame, a saw-operating lever consisting of a central portion pivotally supported upon said frame and provided with spaced straps attached by spaced bolts upon the sides of the lever, and with transverse tie-bolts passing through said lever between its ends and said spaced bolts, and serving to prevent the longitudinal rupture of the lever, substantially as described. 80 85

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 90

WILLIAM H. CLENDENON.

Witnesses:

J. C. INGALLS,  
H. M. KEYES.