

(No Model.)

J. BIRRELL.
PORTABLE DRAG SAW.

No. 578,072.

Patented Mar. 2, 1897.

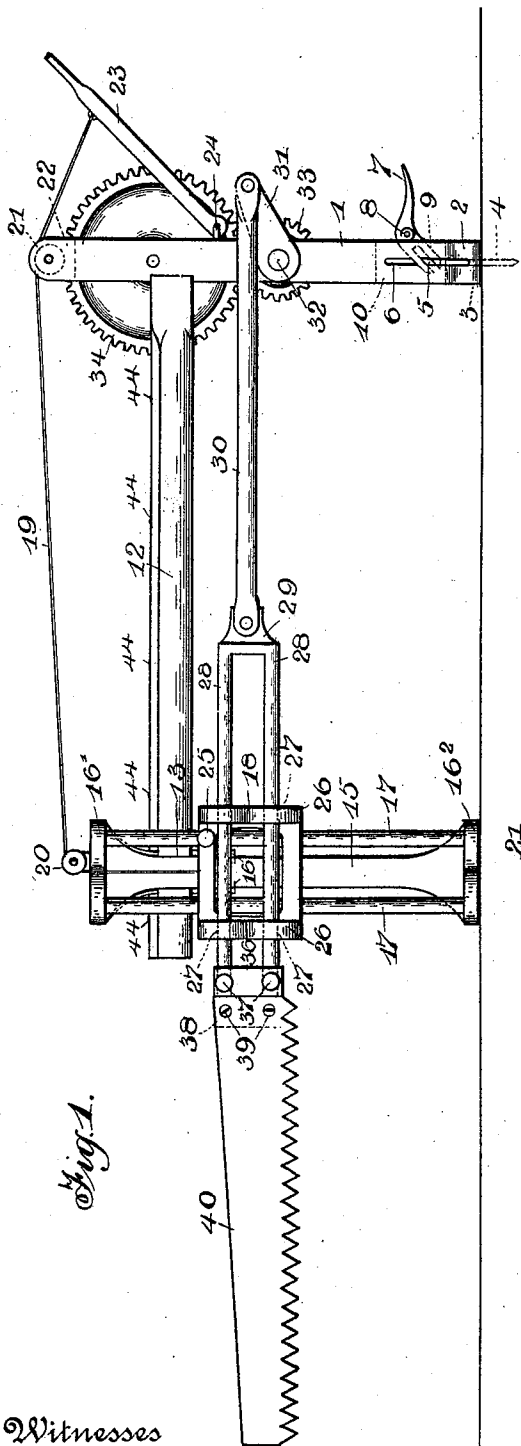


Fig. 1.

Witnesses

Wm F. Doyle.
J. A. Hillson,

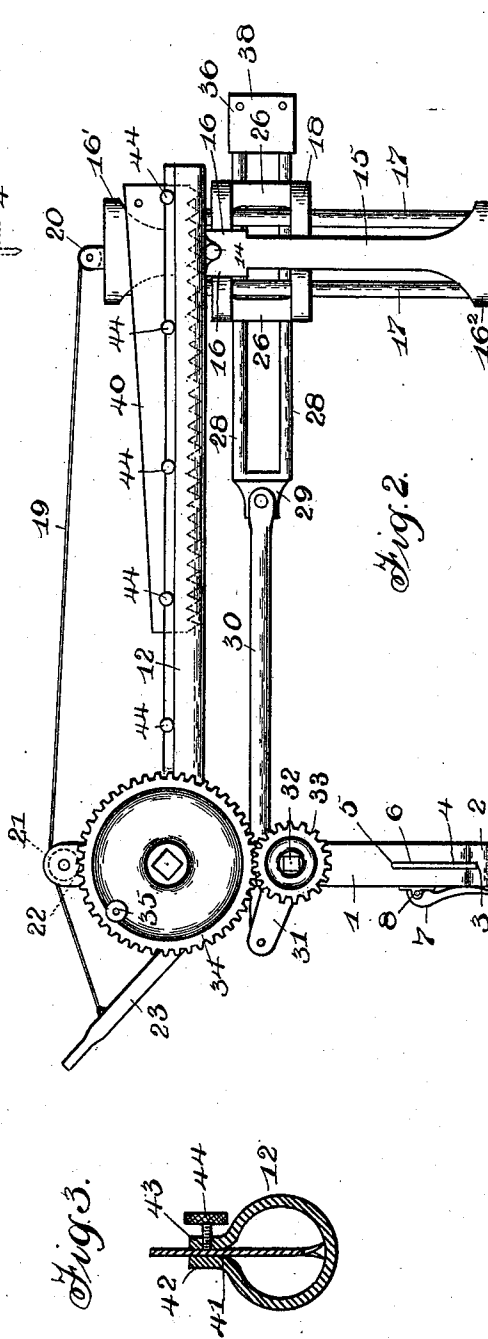


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES BIRRELL, OF GAYLORD, MICHIGAN.

PORTABLE DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 578,072, dated March 2, 1897.

Application filed July 29, 1896. Serial No. 600,916. (No model.)

To all whom it may concern:

Be it known that I, JAMES BIRRELL, a citizen of the United States, residing at Gaylord, in the county of Otsego and State of Michigan, have invented certain new and useful Improvements in Portable Drag-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.

My invention has relation to improvements in portable drag-saws; and the object is to provide a simple, cheap, and efficient device of this class adapted for use by one person.

To this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same figures of reference indicate the same parts of the invention.

Figure 1 is a side elevation of my improved drag-saw as it appears set up ready for use.

Fig. 2 is a similar view showing the position of the saw in the frame, and Fig. 3 is a cross-section of the main brace of the frame.

1 represents the main standard, provided with a horizontal transverse foot 2, the outer ends of which are provided with vertical guide-holes 3 3, through which project the pointed depending prongs 4 4 of a cross-bar 5, sliding vertically in a transverse slot 6 in the lower part of the standard 1.

7 is a hand-lever fulcrumed in a bracket 8, its bifurcated arm 9 projecting into a longitudinal slot 10 in the standard communicating with and at a right angle to the transverse slot 6 and engaging the cross-bar 5 to raise and lower the prongs 4 4.

12 is the longitudinal main brace, and it is secured at one end to the standard 1, and near its opposite end it is formed with a vertical dovetail guide-slot 13, and the back of this brace immediately in the rear of said slot is provided with a set-screw 14.

15 is the adjustable standard, and its central portion is formed with integral dovetail jaws 16, which slide freely in the guide-slot 13 in the main brace, and by means of the set-screw 14 the standard 15 is adjustably secured in said brace. The standard 15 is formed

with upper and lower angular lugs 16' 16², in which are secured the removable guide-rods 17 17, upon which the carriage 18 vertically slides. One end of a flexible cord 19 is secured to said carriage and passes upwardly over a pulley 20, mounted in the upper end of the standard 15, and it extends backward over a pulley 21, secured in a recess 22 in the upper end of the main standard 1. Its end is connected to a lever 23, fulcrumed in a staple 24, secured to said standard, and by means of this lever the weight of the carriage may be counterbalanced at will during the operation.

25 is a set-screw secured to the carriage in line with one of the guide-rods 17, by means of which the carriage can be secured against movement during transportation. This carriage is formed with lateral flanges 26 26, provided with longitudinal guide-orifices 27, which receive the reciprocating parallel arms 28 28 of the cross-head 29, to which is pivoted one end of the connecting-rod 30, the opposite end of which is pivoted to the outer end of a crank 31, secured to one end of a shaft 32, journaled in the main standard 1 and having its opposite end provided with a pinion 33, meshing with a gear-wheel 34, mounted on a stud on one side of the standard 1. This gear-wheel 34 is provided with an operating crank-handle 35, by means of which a reciprocating motion is communicated to the cross-head and its arms 28 in the guide-carriage.

36 is a saw-block, and it is provided with longitudinal orifices, in which the free ends of the arms 28 28 are secured by means of set-screws 37. A longitudinally-projecting flange 38 on the saw-block 36 is provided with flat-head screws 39, by means of which the saw-blade 40 is secured thereto.

41 is a longitudinal recess in the main brace 12, having jaws 42 43, the latter of which are provided with set-screws 44, as shown.

The operation of the machine will readily be understood from the drawings.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

A drag-saw, comprising the main standard 1, having a horizontal transverse foot 2 formed with vertical guide-holes 3 3 and the slots 6

and 10, the cross-bar 5 mounted in the slot 6
and provided with prongs 4 4 projecting into
the guide-holes 3 3, the lever 7 fulcrumed in
a bracket secured to said standard and hav-
5 ing its bifurcated arm 9 projecting into the
slot 10 to engage the bar 5, the main brace 12
formed with the longitudinal recess 41, the
jaw 43 of which is provided with set-screws
44 and having the dovetail guide-slot 13 and
10 set-screw 14, the adjustable standard 15 pro-
vided with the removable guide-rods 17 17, in
combination with the carriage 18, the cross-
head 29, having parallel arms 28 28 and saw-
block 36 and the connecting-rod 30, pivoted

at one end to the cross-head and at the other 15
to the crank 31 secured on one end of the
shaft 32, journaled in the standard 1, and
provided with the pinion 33, meshing with
the gear-wheel 34, provided with a crank-han-
dle, substantially as and for the purpose set 20
forth.

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

JAMES BIRRELL.

Witnesses:

A. W. BATES,
O. A. PHELPS.