(No Model.) 2 Sheets—Sheet 1.

L. JOHNSON.

DRAG SAW.

No. 571,446. Patented Nov. 17, 1896.

Fig. 3.

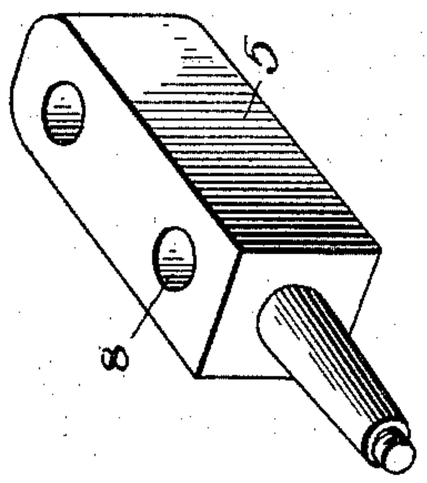

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

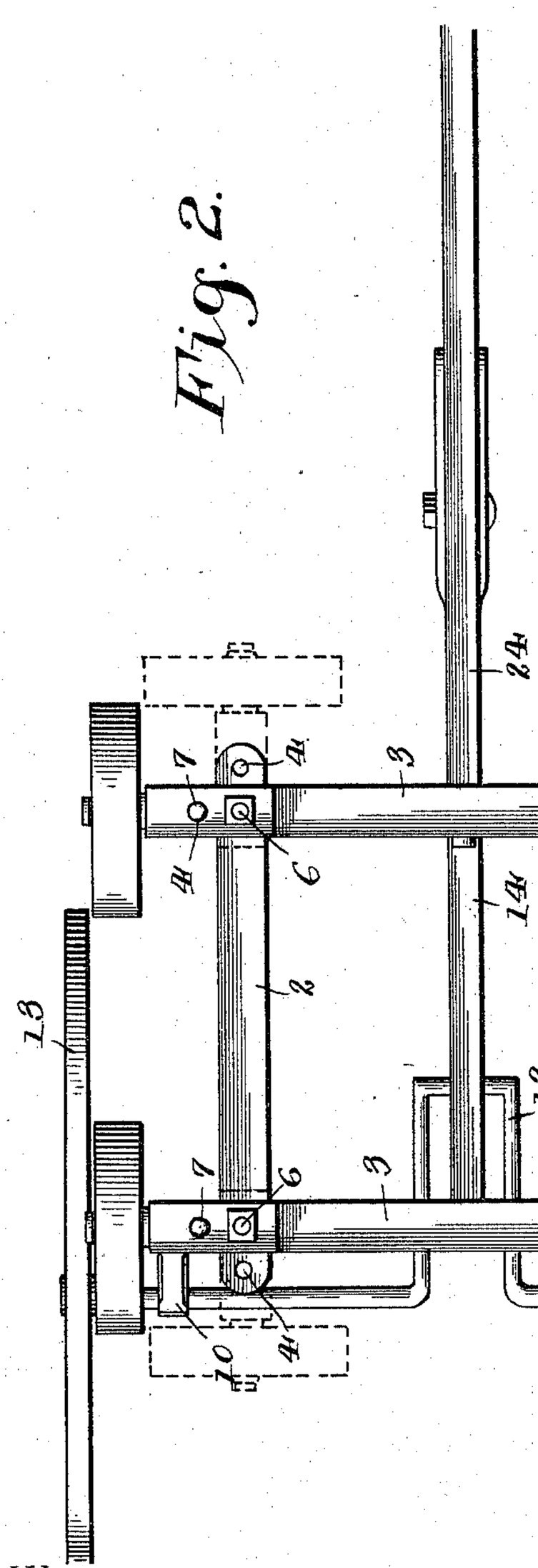


Fig. 5.

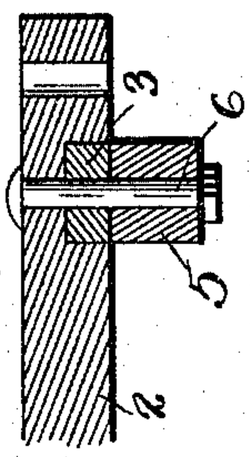


Fig. 4.

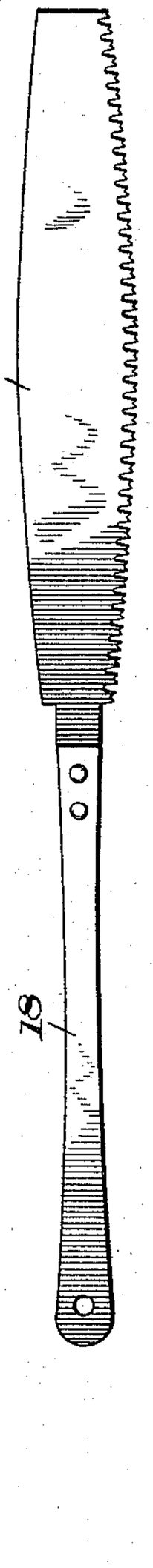
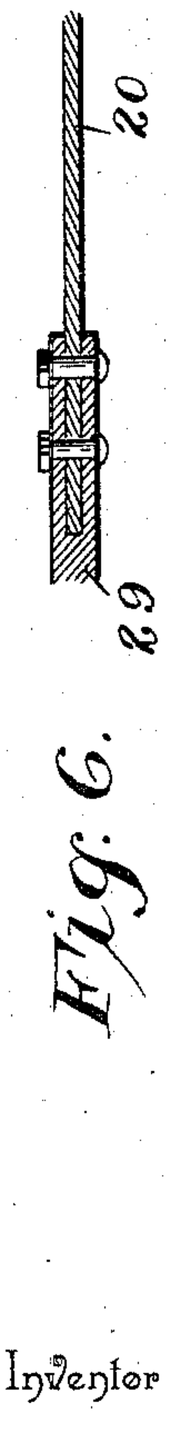


Fig. 6.



Witnesses

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R. M. Smith.

Inventor

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UNITED STATES PATENT OFFICE.

LEWIS JOHNSON, OF RUSTON, LOUISIANA, ASSIGNOR TO ROBERT J. RASBURY, OF SAME PLACE.

DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 571,446, dated November 17, 1896.

Application filed January 17, 1896. Serial No. 575,869. (No model.)

To all whom it may concern:

Be it known that I, LEWIS JOHNSON, a citizen of the United States, residing at Ruston, in the parish of Lincoln and State of Louisiana, have invented a new and useful Drag-Saw, of which the following is a specification.

This invention relates to an improvement in drag-saws, and has for its object to provide a simple, inexpensive, and easy-running saw of the class described, which may be mounted upon a truck for adapting the same to be carried from place to place, and in which provision is made for adjusting the height or angle of the saw-arm and the leverage exerted thereon.

A very important object of the invention is to so construct the truck and mount the carrying-wheels thereof that the latter may be changed as to their relation to the truck for enabling the latter to be moved longitudinally of the log being operated upon, or at right angles to their normal position when in use for transportation.

To this end the invention consists in an improved portable drag-saw embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a drag-saw embodying the present improvements. Fig. 2 is a bottom plan view of the truck. Fig. 3 is a detail perspective view of one of the pivoted stub-axles. Fig. 4 is an enlarged detail view of the saw-arm. Fig. 5 is a detail section showing the manner of mortising the frame-bars. Fig. 6 is a detail section showing the manner of securing the saw-blade to the saw-arm.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a suitable truck-frame, which is preferably constructed of four substantially equal and similar frame-bars crossing each other in parallel pairs, as shown. The longitudinal bars 2 of the frame are provided either in their upper or lower faces and at a slight distance from their opposite ends with stub-mortises, and the transverse bars 3 are correspondingly formed with reversely-disposed stub-mortises which enter the mortises in the longitudinal bars, thus bringing the upper and lower faces of all the bars into the same planes. By this arrangement the longitudinal and transverse truck-timbers intersect each other and project beyond the corners of the frame, where they are provided with vertical openings 4, the purpose of which will be explained.

5 designates a series of stub-axles which underlie the corners of the truck-frame and are coupled to said frame upon and by means of vertical pins 6, which pass upward through the inner ends of the axles and through the longitudinal and transverse timbers of the truck-frame at the point where said timbers intersect. By reason of this construction each of the axles may be swung around the pivot 6 as a center and changed from the full-line position to the dotted-line position shown in Fig. 2, or vice versa. The vertical openings 4 in the projecting ends of the frame-timbers are located at points equidistant from the pivot 6, whereby a retaining-pin 7 may be inserted through either one of the two openings at a given corner of the frame and into a common vertical opening 8 in the stub-axle. In this manner the wheels may be changed from their normal longitudinal disposition to a transverse position, or one at right angles to the normal, so that after the saw has been moved up to the log to be operated upon the truck and the mechanism mounted thereon may readily be moved longitudinally of said log, as required, while at the same time the wheels will serve to block any longitudinal movement of the apparatus.

9 represents a transverse bar which is superposed above the rear pair of wheels and connected rigidly with the truck-frame by means of a pair of short standards or posts, as shown. From the transverse bar 9 two standards 10 project upwardly, said standards being arranged at the opposite ends of the bar 9 and provided at their upper extremities with bearings for a transversely-disposed crank-shaft 11 having a central open crank-arm 12. To the opposite extremities of the crank-shaft 11 are secured fly-wheels 13, which serve to

steady the motion of said shaft and to equalize the movements of the saw. From the center of the transverse bar 9 an upwardly-inclining fulcrum-beam 14 extends forward, the same being attached rigidly at its rear end to the bar 9 and supported at a point intermediate its ends by a pair of parallel vertical posts 15, between which the fulcrum-beam is mounted. Pivotally mounted in the bifurcated forward extremity of the beam 14 is a lever 16, which is provided adjacent to its middle portion with two or more transverse perforations for the reception of the fulcrum-pin, thus enabling said lever to be adjusted as to its fulcrum for increasing or diminishing the power of the saw-driving mechanism, according to whether soft or hard wood is being operated upon. A connecting-rod 17 is interposed between the upper end of said lever and the crank-arm of the shaft 11, and the lower end of said lever is bifurcated to receive pivotally the inner end of the saw-arm 18. The saw-arm 18 may be made of any desired length and is slotted at its outer end to receive the inner end of the saw-blade 20, which is held therein by bolts or rivets. The saw may be operated by means of a crank-handle 22 on one of the fly-wheels, or by a forwardly-projecting handle 23, connected with the centrally-arranged lever 16.

In order to prevent the saw from dragging upon the ground while wheeling the machine from place to place, I provide a removable tongue 24, the inner end of which may be inserted into a socket in the forward transverse bar of the truck-frame, the outer end thereof being formed with a vertical opening for the shank portion of a fork 25, projecting upwardly from said tongue and carrying a roller 26, upon which the edge of the saw may rest when not in use. The lower shank portion of the fork beneath the tongue may be used as a handle for wheeling the saw to and from the field of operation.

27 designates a gravity-arm, which is made substantially in elbow shape and provided in one of its arm portions with several transverse perforations for the reception of a pivot, also passing through the forward extremity of the bifurcated beam 14. To the free or pendent end of the elbow-arm is attached a weight 28, which rests upon the upper edge of the saw-arm and, if desired, may be grooved in its under side to partially embrace said saw-arm and prevent lateral displacement of the weight while the said saw-arm is reciprocating. By this construction the required weight or pressure may be applied to the saw-arm and transmitted to the saw for enabling the latter to cut with the desired speed.

By means of the construction above described a very simple, inexpensive, and efficient drag-saw is provided, which is capable of being easily moved from place to place, and after being adjusted into the desired proximal relation to a log may have its truck-wheels adjusted in such manner that the truck may be moved progressively to the desired point longitudinally of said log. Several means for operating the saw are also shown and described, and this will effect a saving in the labor required to run the machine, as the operator may readily change his position and rest one set of muscles while bringing another set into use.

It will be apparent that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a portable drag-saw, the combination with a truck-frame carrying the saw mechanism, of the carrying-wheels mounted on reversible stub-axles capable of being adjusted longitudinally or transversely of the truck-frame, and a detachable tongue for supporting the saw when not in use, said tongue being provided at its outer end with a supporting-roller and having its inner end removably fitted in the truck-frame whereby it may be removed while the saw is in operation, substantially as described.

2. In a portable drag-saw, a rectangular truck-frame comprising parallel longitudinal and transverse bars intersecting and crossing each other at the corners of the frame and projecting beyond such corners, each bar having vertical openings in said projecting portions, in combination with stub-axles extending horizontally under the projecting ends of said bars and fulcrumed on vertical axes at the intersection of said bars, carrying-wheels on said axles, and stay-pins removably inserted through said vertical openings in the projecting ends of the bars, said pins also interchangeably engaging the stub-axles for holding the same either longitudinally or transversely of the truck-frame, substantially as described.

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

his
LEWIS × JOHNSON.
mark.

Witnesses:
J. W. WILLIAMS,
S. M. LEWIS.