

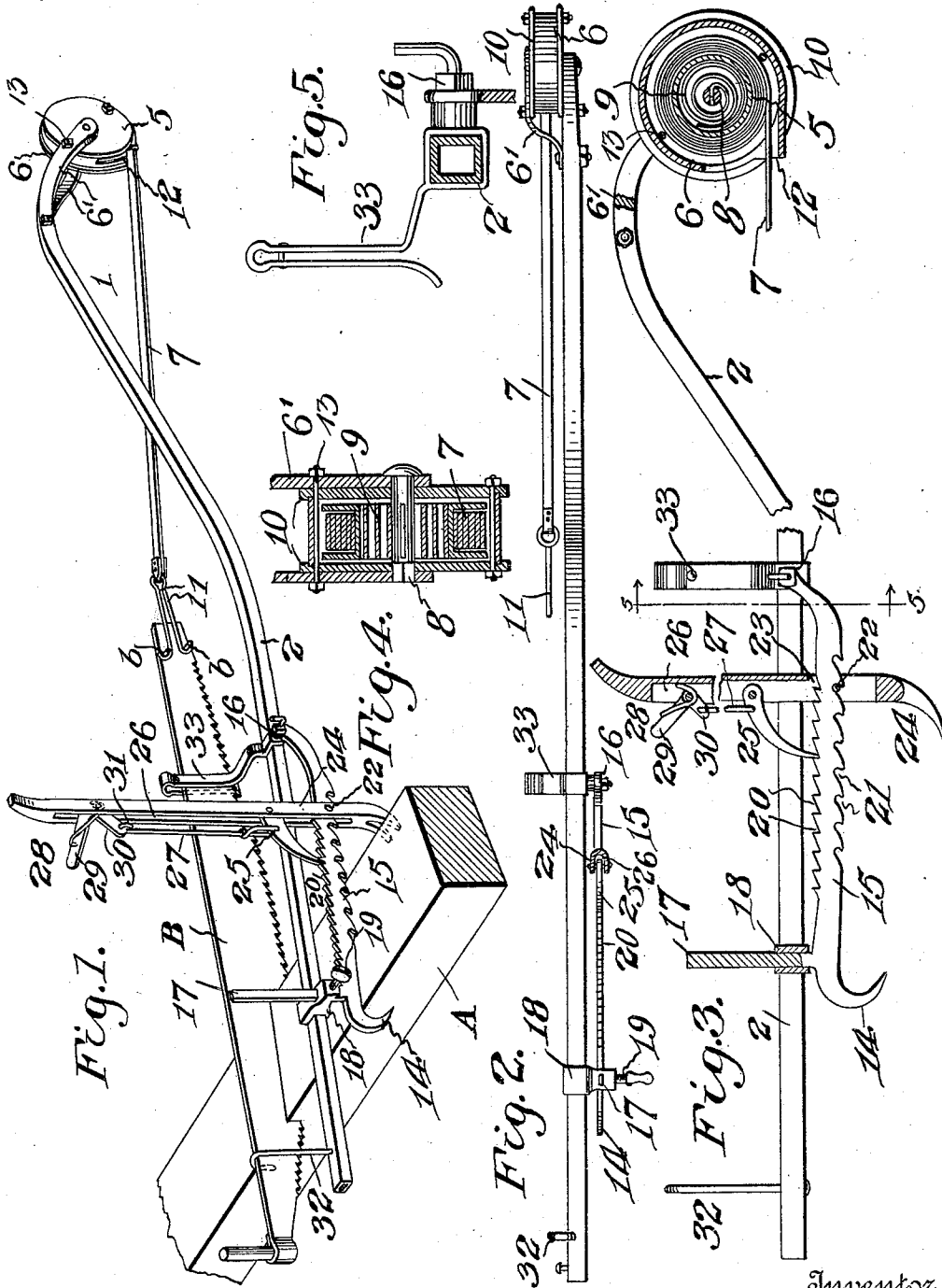
F. HORNQUIST.

DRAG SAW.

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940,876.

Patented Nov. 23, 1909.



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UNITED STATES PATENT OFFICE.

FRANK HORNQUIST, OF JOHNSONBURG, PENNSYLVANIA.

DRAG-SAW.

940,876.

Specification of Letters Patent.

Patented Nov. 23, 1909.

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To all whom it may concern:

Be it known that I, FRANK HORNQUIST, a citizen of the United States, residing at Johnsonburg, in the county of Elk and State of Pennsylvania, have invented certain new and useful Improvements in 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.

This invention relates to improvements in wood sawing machines and more particularly to an attachment for use in connection with a double handled drag saw or the like whereby the saw may be operated by one man instead of two as is now required and it is designed as an improvement on my Patent No. 825,836, issued July 10, 1906.

The object of the invention is to provide a simple, durable, inexpensive and efficient device or attachment of this character which will hold and feed one end of a saw while a single person may operate its other end to cut logs, standing trees and other timber.

With this and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings; Figure 1 is a perspective view of this improved saw attachment showing the same applied. Fig. 2 is a top plan view with parts broken away; Fig. 3 is a longitudinal sectional view on an enlarged scale; Figs. 4 and 5 are detail transverse sectional views taken respectively on the line 4-4 and 5-5 of Fig. 1.

In the embodiment illustrated a log A is shown with this improved device applied with a saw B of any desired or suitable form in operation by the machine. This machine or attachment 1 which is designed to yieldably support one end of the saw B to permit it to be operated by one man comprises a bar or lever 2 having log engaging means at one end, and a yieldable saw supporting means at its other end. This bar 2 is preferably constructed of any suitable material the saw engaging portion being made straight and the outer or free end curved as shown in Fig. 1.

The saw supporting means is preferably of the form shown which comprises a spring

actuated drum 5 mounted within a casing 6 supported at the outer or free end of the bar 2 preferably by means of a bracket 6'. This drum 5 has wound upon its periphery a strap or other flexible connection 7 which has one of its ends detachably connected to one end of the saw B. The drum 5 is hollow and is loosely mounted upon a shaft 8 which extends through bearings formed in the opposite sides of the casing 6 and entrance bearings in the free end of the bracket 6' and the end of bar 2, the end of shaft 8 which enters the bracket 6' being angular and fit in an angular aperture in said bracket to hold the shaft stationary during the turning of a casing to wind or unwind a spring. Arranged within the hollow portion of the drum 5 is an actuating spring 9 which is coiled about the shaft 8 and has one of its ends secured thereto and its opposite end to the drum 5 as shown in Fig. 3. The periphery of the drum is preferably flanged at its sides as shown at 10 to provide guides for the strap or cord 7 which has one of its ends secured to the periphery of the drum and its other end attached preferably by double hooks 11 to headed studs b upon the end of the saw B. This strap or cord 7 passes through an opening 12 formed in the periphery of the casing 6 preferably at the lower portion thereof and passes directly to the end of the saw and is connected as above described. To wind up the double acting coiled spring 9 to give the strap sufficient tension to properly support and feed the saw a bolt 13 which passes through the spring casing 6 is removed and the casing is then turned to wind the spring to adapt it to suit the operator and the bolt is then replaced to hold the spring in adjusted position. The log engaging means at the other end of the bar 2 preferably consists of a hook or claw 14 which is formed at the free end of a ratchet bar 15 secured at its opposite end to one side of the bar 2 by a bolt 16 which also secures one member of a saw guide hereinafter to be described.

An arm 17 extends laterally from the upper face of the bar 15 and an apertured lug 18 which extends laterally from one side of the bar 2 is adjustably mounted on this arm 17 and is held in adjusted position by means of a set screw 19. The ratchet bar 15 is formed on its opposite edges with ratchet teeth 20 and 21 the former being small and

the latter large as is clearly shown in Fig. 3 of the drawing. The large teeth 21 are adapted to be engaged by a pin 22 formed in a slot 23 of a claw lever 24. The bar 15 extends through the slot 23 in the lever 24 and owing to this connection it will be seen that the lever 24 is adjustably mounted on said bar the adjustment being effected by engaging the pin 22 with any one of the notches or teeth 21 of the bar 15. The lever is held in adjusted position by means of a dog or pawl 25 which is pivoted at one end within a groove 26 which extends longitudinally throughout the greater portion of the length of said lever 24 and which terminates at its lower end in the slot 23. An operating wire or rod 27 is connected at one end with the dog 25 and at its other end with the free end of one arm of a bell crank lever 28 which is pivotally mounted in the outer end of the groove 26. The free outer end of the lever 24 is preferably curved to form a hand grip 29 and the free arm 30 of the bell crank lever 28 is arranged in position adjacent to the hand grip 29 to be operated by the forefinger of the hand which moves the lever for adjusting the lever 24 relatively to the log to be sawed. At the lower end opposite the hand grip 29 the lever 24 is provided with a hook or claw 31 adapted to clamp the bar 2 securely upon the log or timber to be sawed, said claw 31 co-acting with the claw or hook 14 at the free end of the bar 15. By mounting the claw lever 24 in the manner shown it will be evident that it may be engaged with a log or piece of timber of any desired size or shape and that it may be arranged either vertically or horizontally to saw either logs or standing trees. Arranged on the straight portion of the bar 2 and longitudinally spaced from each other are two saw guides 32 and 33 which are preferably made in the form of a downturned hooks to receive the back edge of the saw blade.

The operation of the invention will be readily understood upon reference to Fig. 1 of the drawing where it will be seen that the bar 2 is clamped at one of its ends upon the log A and the strap or cord 7 is attached to one end of the saw B whereby the latter may be readily operated by a person standing adjacent to the log and grasping the handle of the saw. The use of this attachment dispenses with the necessity of two men and permits one person to operate the saw equally as well as two and it is much more convenient when there is brush or logs in the way. By adjusting the tension of the spring 9 which actuates the winding drum 5 the device may be adjusted to saws of any size and for either weak or stronger persons and it will hold and feed the saw so that it will cut a straight kerf and may be used upon any kind of a saw.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

I claim as my invention:

1. In an operating attachment for drag saws, the combination of a bar having one end inclined upwardly and provided with a spring controlled flexible member, longitudinally spaced saw guides arranged on one side of said bar, log engaging clamps arranged on the other side of said bar, said bar being vertically adjustable relative to said clamps to provide for variation of the angle of the saw guides, and means for connecting said flexible member with the saw.

2. In an operating attachment for drag saws, the combination of a bar, means for yieldably supporting a saw arranged at one end of said bar, a ratchet bar pivotally connected at one end to one side of said first mentioned bar and provided at its free end with a fixed log engaging hook or jaw, a movable clamping jaw mounted on said ratchet bar and provided at one end with a claw or hook and at its other end with a hand grip, teeth arranged on opposite edges of said ratchet bar, a dog pivotally mounted on said movable jaw and adapted to engage the teeth on one edge of said ratchet bar, a pin for engaging the teeth on the other side of said bar, a bell crank lever pivoted near the hand grip end of said movable jaw, and an operating rod connecting said bell crank lever with said pawl.

3. In an operating attachment for drag saws, the combination of a bar, means for yieldably supporting a saw at one end of said bar, a ratchet bar pivotally connected at one end to one end of said first mentioned bar and having a downturned claw or hook at the free end thereof, teeth of different sizes on the opposite edges of said ratchet bar, the free end of said ratchet bar being provided on its upper edge with a lateral arm, a member on said first mentioned bar adjustably engaged with said arm, a movable jaw or claw lever straddling said ratchet bar and provided with a pin for engaging the teeth on one edge thereof and with a dog for engaging the teeth on the other edge thereof to lock said lever in adjusted position, and means for disengaging said dog from said teeth when desired.

4. A drag saw operating mechanism comprising a log clamping member, a bar pivoted intermediately of its ends to the inner end of said clamping member, means adjustably connecting one end of said bar to the

other end of said log clamping member, a saw guide mounted on said bar and a spring controlled flexible element having one end mounted on the free end of said bar, and means on its other end for engagement with a saw.

In testimony whereof I have hereunto set

my hand in presence of two subscribing witnesses.

FRANK HORNQUIST.

Witnesses:

JOHN NELSON,
GILBERT LOVING.