No. 660,922.

Patented Oct. 30, 1900.

J. H. PERKINS.

DRAG SAW.

(Application filed June 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.

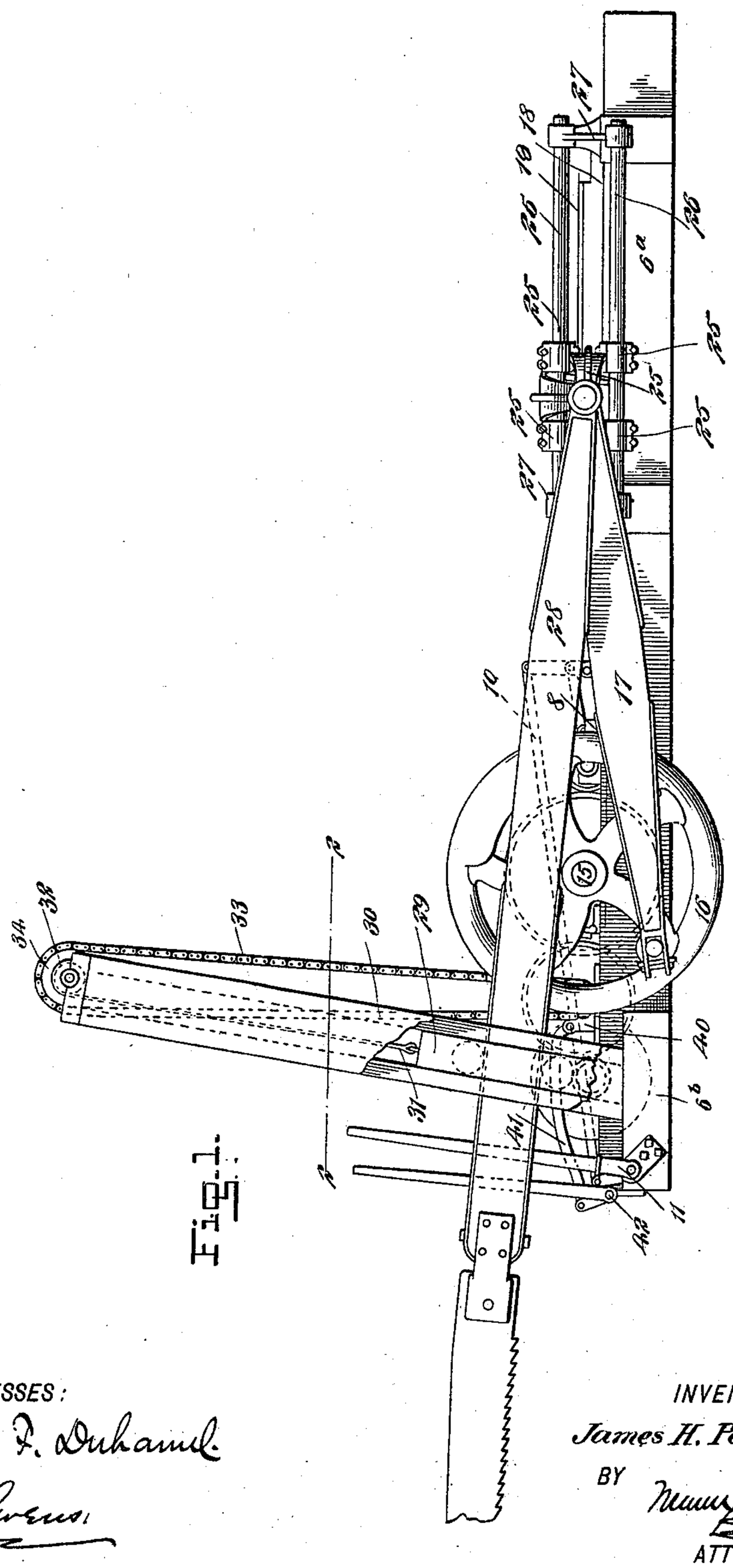

Fig. 1.

WITNESSES:

James F. Duhamel.

L. B. Owens.

INVENTOR

James H. Perkins.

BY

Munn & Co.

ATTORNEYS.

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Fig. 3.

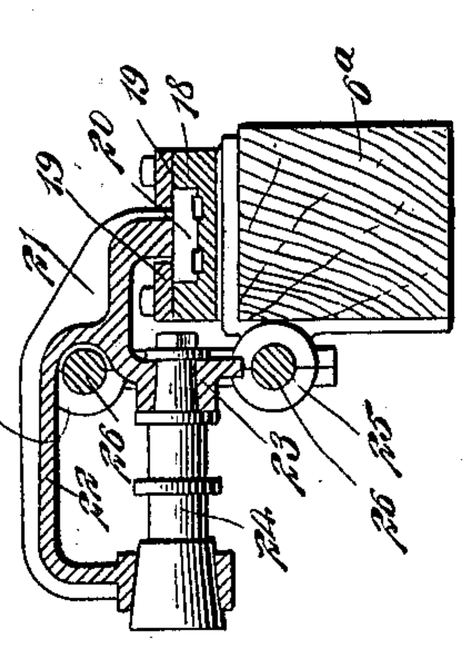

Fig. 2.

WITNESSES:

James F. Duhamel

L. B. Owens.

INVENTOR

James H. Perkins.

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES H. PERKINS, OF SEATTLE, WASHINGTON.

DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 660,922, dated October 30, 1900.

Application filed June 5, 1900. Serial No. 19,130. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. PERKINS, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented a new and Improved Drag-Saw, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide certain improvements in drag-saws by which to construct a very compact and serviceable machine in which all the parts will be carried snugly on the bed or framing of the apparatus in position to be easily reached for operation.

This specification is the disclosure of one form of the invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of the invention with parts broken away. Fig. 2 is a plan view with parts in section on the line 2 2 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 2.

The machine has a bed 6 of suitable construction and arranged to lie horizontally in the usual manner. On this bed a horizontal drive-shaft 7 is mounted to turn, the shaft being carried in bearings 8, which are slidable under the action of the rock-shaft 9, connecting-rod 10, and rock-shaft and hand-lever 11, all of which may be of any desired construction and by which the shaft 7 may be moved transversely to engage or disengage the friction-wheel 12, which is fast on the shaft 7, with a coacting wheel 14, which is carried fast on a crank-shaft 15, mounted to turn on the bed in parallelism with the shaft 7. The bearings 8 are adjustable relatively to each other to maintain proper parallelism of the shafts 7 and 15. The shaft 15 carries a balance-wheel 16, to which is attached a connecting-rod 17.

The bed 6 has a longitudinally-disposed extension 6^a at one side thereof, on the top of which is fastened a slideway 18, provided with guide-plates 19, adjustable transversely toward and from each other and removably fastened in place. In the slideway 18 and under the guide-plates 19 a slide 20 is arranged. This slide is provided with an upwardly and laterally turned bracket 21, which has two arms, (designated 22 and 23, respectively.) These arms project laterally, and the arm 22 is situated above the arm 23 and has its outer end turned downward, so that a wrist-pin 24 may be carried horizontally in the arms 22 and 23 in transverse position with respect to the longitudinal line of the machine. To this wrist-pin the connecting-rod 17 is attached. The arm 23 has extensions disposed transversely to the arm and longitudinally of the machine, on each of which extensions are carried two boxes 25. These boxes are arranged in pairs situated one above the other and on opposite sides of the wrist-pin 24. The pairs of boxes 25 respectively slide on guide-bars 26, which are arranged in parallelism and in vertical planes with each other at the side of the extension 6^a of the bed, the guide-bars 26 being held rigidly by arms 27, which are carried fast at the ends of the slideway 18. A brace 25^a passes from the rear pair of boxes 25 to the outer end of the arm 22 further to brace this latter part. It will thus be seen that the parts carrying the wrist-pin 24 are mounted to slide longitudinally of the extension 6^a and are provided with three guides, causing them to move true and preventing them from binding with the parts on which they move. These three guides are formed by the slideway 18 and the guide-bars 26, and it will further be seen that the three guides referred to are so placed that the movement imparted to the wrist-pin will be evenly distributed on the guides, which arrangement insures the true movement of the parts.

The saw-beam 28 is connected with the wrist-pin, to be driven thereby, and the saw-beam extends forwardly through a sling 29, which is mounted to slide vertically in a tower 30, erected on a transverse extension 6^b of the bed 6. The sling 29 has a flexible connection 31 with a drum 32, mounted at the head of the tower 30, and by the revolution of this drum in one direction or the other the inclination of the saw-beam 28 may be regulated. As the drum 32 is turned to unwind the flexible connection 31 the sling 29 is lowered and the saw is fed to its work, as will be understood. The drum 32 is driven to unwind the connection 31 by means of an endless chain

33, which passes over a sprocket-wheel 34 on the axis of the drum 32 and extends downward over a sprocket-wheel 35, fastened to a shaft 36, revolubly mounted horizontally on the bed 6. The shaft 36 carries a friction-wheel 37, which is arranged to engage with a similar wheel 38 on a revolving shaft 39. The shaft 36 has the end adjacent to the wheel 37 arranged in a slidable box 40, which may be adjusted my means of a link 41 and a rock-shaft and hand-lever 42, so that by shifting the shaft 36 the gears 37 and 38 may be caused to engage or disengage, as desired. When the gears 37 and 38 are engaged, the shaft 36 will be driven from the shaft 39, and this latter shaft is driven from the drive-shaft 7 by a belt 43 or other form of gearing. The movement transmitted from the drive-shaft 7 to the drum 32 is considerably reduced in speed by the gearing employed, so that the sling 29 will be slowly dropped. This movement of the sling may be regulated by the friction-gears 37 and 38. In connection with this feature of my invention it will be observed that the actuating mechanism for the drum 32 is arranged on the bed or base 6 of the machine, and is thus securely mounted and placed in position where access may be readily had thereto, as contradistinguished from the inconvenient arrangement of this driving-gear at the head of the tower 30, as has previously been done.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A drag-saw, having a slideway, a bracket mounted to move thereon, a wrist-pin carried by the bracket, one or more guide-bars arranged parallel with the slideway, a box or boxes carried by the bracket and arranged to slide on the guide bar or bars, a saw-beam connected with the wrist-pin, and means for driving the bracket on the slide.

2. A drag-saw, having a slideway, a slide arranged to work thereon, a bracket carried by the slide, two arms projecting from the bracket, a wrist-pin carried by the arms, two guide-bars arranged on opposite sides of the wrist-pin, boxes carried by and moving with the bracket and arranged on the guide-bars, a saw-beam connected with the wrist-pin, and means for driving the bracket on the slide.

3. A drag-saw, having a framing, a connecting-rod, means for driving the same, a bracket, a slide in which the bracket is mounted to move, a wrist-pin carried by the bracket and to which wrist-pin the connecting-rod is attached, a saw-beam also connected with the wrist-pin, one or more guide-rods mounted adjacent to and parallel with the slide, and one or more boxes carried on the bracket and working with the guide rod or rods.

4. A drag-saw having a framing, a slideway thereon, a bracket mounted to move in the slideway, one or more guide-rods mounted adjacent to and parallel with the slideway, a box or boxes carried on the bracket and working with the guide-rods, a wrist-pin carried by the bracket, a connecting-rod attached to the wrist-pin, means for driving the connecting-rod, a saw-beam also attached to the wrist-pin, and feed mechanism for the saw-beam, such mechanism being operated from the means for driving the connecting-rod.

5. A drag-saw, having a framing, a bracket mounted to slide thereon, a wrist-pin carried by the bracket, a connecting-rod attached to the wrist-pin, means for driving the connecting-rod, a saw-beam also attached to the wrist-pin, a tower mounted on the frame, a sling carried and movable in the tower and sustaining the free end of the saw-beam, winding devices at the top of the tower and connected with the sling to move the same, and gearing extending between the winding devices and the means for driving the connecting-rod, such gearing actuating the winding devices.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES H. PERKINS.

Witnesses:
H. R. HINSON,
THOMAS M. GREEN.