No. 891,719. PATENTED JUNE 23, 1908.

C. L. NEWELL.

SWING SAW.

APPLICATION FILED APR. 25, 1907.

2 SHEETS—SHEET 1.

Fig. 1

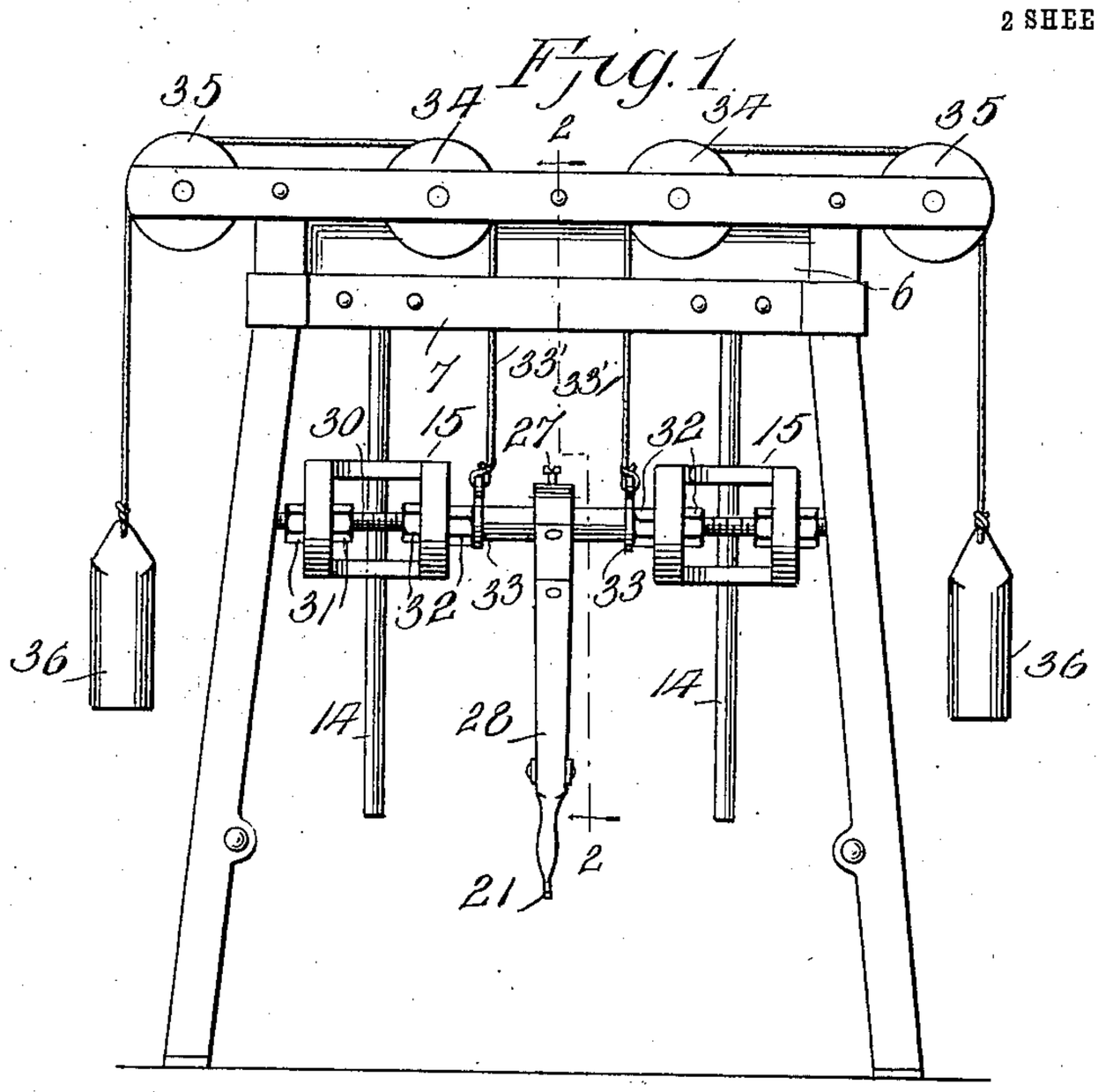

Fig. 5

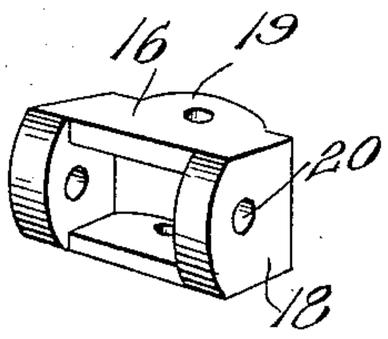

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3

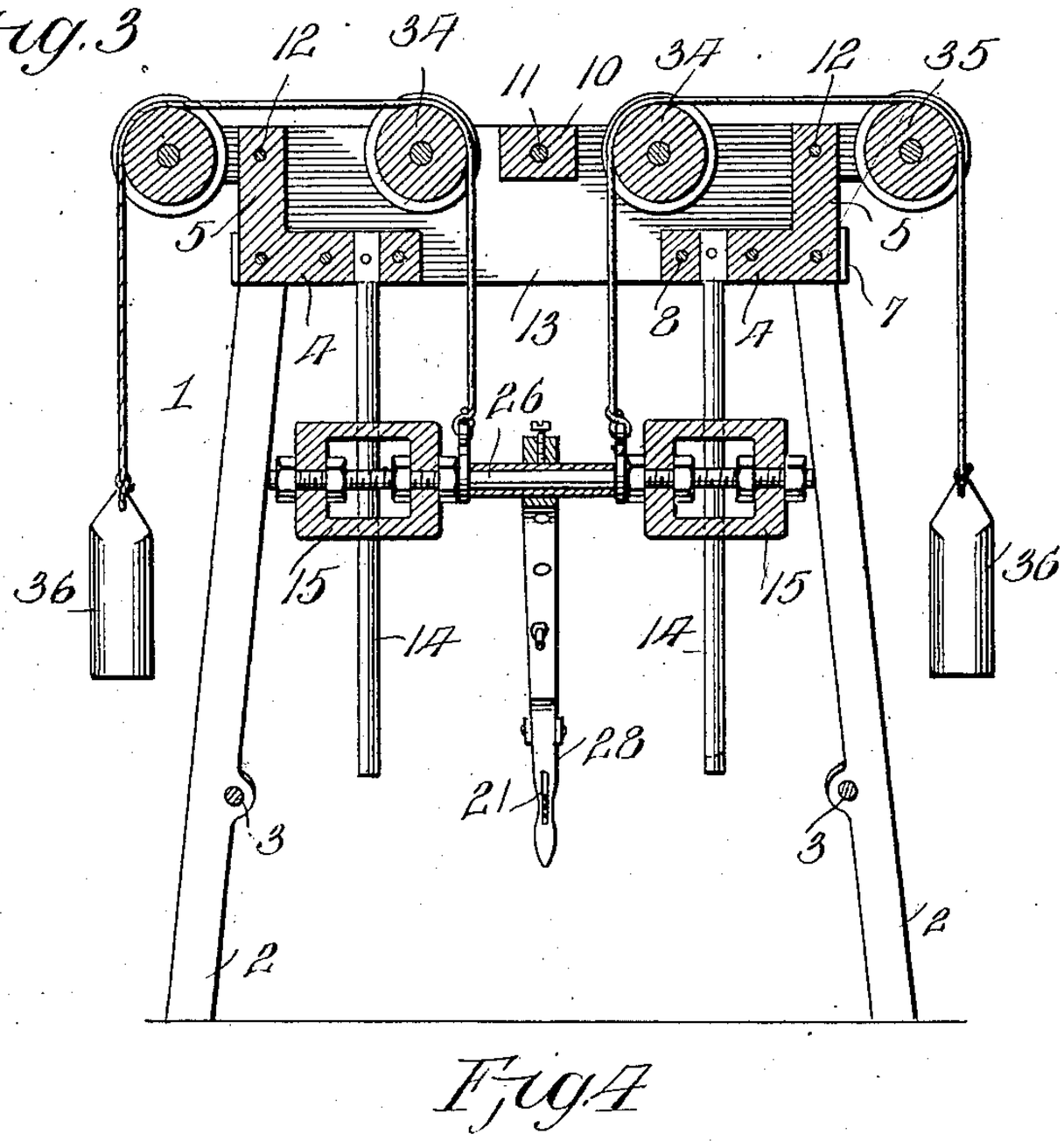
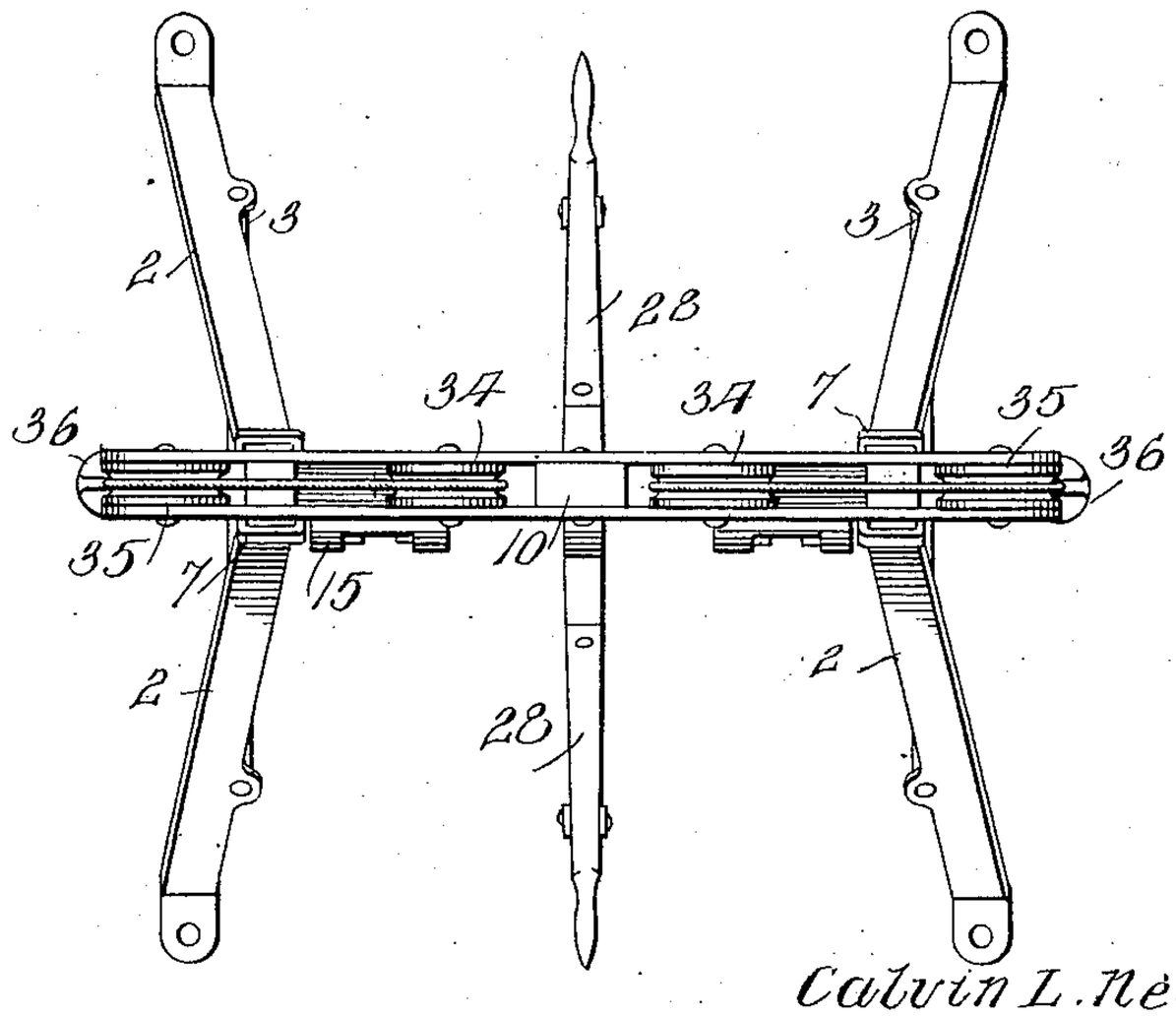


Fig. 4



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UNITED STATES PATENT OFFICE.

CALVIN L. NEWELL, OF DUNN, WASHINGTON, ASSIGNOR OF ONE-HALF TO LEWIS H. BROWN, OF DAISY, WASHINGTON.

SWING-SAW.

No. 891,719. Specification of Letters Patent. Patented June 23, 1908.

Application filed April 25, 1907. Serial No. 370,309.

To all whom it may concern:

Be it known that I, CALVIN L. NEWELL, a citizen of the United States of America, residing at Dunn, in the county of Stevens and State of Washington, have invented new and useful Improvements in Swing-Saws, of which the following is a specification.

This invention relates to saws of the cross cut type adapted for use in sawing logs and other similar objects, and particularly to a novel construction of saw and means for mounting the same to permit the saw to swing in an arcuate path and to be adjusted to operate upon logs of different thicknesses and suspended to secure an easy and powerful action and automatic return movement thereof.

The object of the invention is to provide a saw of this character which is simple of construction, durable and efficient in use and adapted to be conveniently operated.

In the accompanying drawings,—Figure 1 is a side elevation of a sawing apparatus embodying the invention. Fig. 2 is a vertical front to rear section therethrough on line 2—2 of Fig. 1. Fig. 3 is a central vertical longitudinal section. Fig. 4 is a top plan view. Fig. 5 is a detail view of one of the slide blocks or carriers.

Referring now more particularly to the drawings, the numeral 1 represents a supporting frame, which may be of any suitable size and construction, but in the form shown comprises opposite pairs of inclined standards 2, the standards of each pair being connected adjacent their lower ends by brace rods 3. At their upper ends the standards are bolted or otherwise fastened to horizontal longitudinal blocks or bars 4, each provided with an upright arm 5, which arms are connected at one side by a longitudinal board or metallic strip 6. A metallic bracing strap 7 extends continuously in the form of a band around the base of the head portion of the frame thus formed, and the parts referred to are united by bolts or other fastenings 8.

Arranged on opposite sides of the arms 5 are longitudinal bars or supporting plates 9, which extend at their ends beyond the standards 2. One of these bars or plates may be integral with the board 6, and arranged between said bars or plates at the center of the frame is a spacing block 10, secured thereto by a bolt or other fastening 11. Bolts 12 secure the ends of the bars or strips to the upper ends of the upright arms 5, the construction and arrangement of the parts described forming a hollow or chambered head frame, open at the top, closed at one side by the board 6 and adjacent bar 9, partially closed at its opposite side by the other bar 9 and formed in its bottom with an opening or passage 13 provided by the spaced arrangement of the bars or blocks 4.

Fixed to and depending from the bars or blocks 4 are guide rods 14 which are located on opposite sides of the center of the frame 1, and on which are slidably mounted blocks or carriers 15 of the construction shown in detail in Fig. 5. Each of said blocks or carriers is of hollow form and comprises top and bottom plates 16 and 17 and end plates 18. The top and bottom plates are formed at one side with apertured ears 19, while the end plates 18 are formed with alining openings 20. The ears 19 slidably engage the rods 14 which pass vertically through the openings therein, thus slidably mounting the blocks or carriers at one side of their transverse center on the rods 14.

The saw 21 is fixed to the diverging ends of the arms or bars of an inverted V-shaped frame 22, the converging ends of which arms or bars are united by an inverted V-shaped bracket 23, bolted or otherwise secured thereto, the converging ends of the arms of the bracket being connected by an eye 24 encompassing a sleeve 25 arranged on the saw shaft 26 between the two blocks or carriers 15. The sleeve is mounted to swing loosely on the shaft, and the saw frame is fixed thereto by a set screw 27, thus adapting it to swing in the arc of a circle on said shaft. The saw frame is provided with handles 28, whereby it may be swung in opposite directions by operators standing at opposite sides of the frame 1, and the arms thereof are connected by a brace rod 29.

The ends of the shaft 26 are threaded, as indicated at 30, and pass through the openings 20 in the ends 18 of the carrier blocks 15. Outer and inner sets of clamping nuts 31 and 32 are mounted on each threaded end of the shaft and bear against the inner and outer faces of the walls 18 to clamp the shaft to the carrier. By the described arrangement of the ears 19, the ends of the shaft extend longitudinally and centrally through the carrier

blocks, thereby allowing the saw to be supported in an effective manner.

Eyes or links 33 engage the shaft between the sleeve 26 and inner clamping nuts 32 and have connected therewith the lower ends of a pair of suspending cords or cables 33′. These cords or cables extend upwardly through the passage 13 into the hollow head frame and thence pass outwardly over supporting pulleys or sheaves 34 journaled upon the plates 9 on opposite sides of the block 10, and extend from said pulleys 34 beyond the ends of the frame and pass over outer supporting pulleys 35 journaled in the end extensions of the bars 9. The outer depending ends of the ropes or cables carry weights 36 which may be of any preferred type. These weights counterbalance the saw and its supporting blocks or carriers and are adapted to hold the same at any set elevation on the guide rods 14. This mode of mounting permits the saw to be easily and freely oscillated, and as the saw frame is turned in one direction or the other, the links 33 act as cranks to draw down upon the cords or cables and elevate the weights attached thereto, the latter serving to partially automatically swing the saw frame in the reverse direction. As the saw frame swings the blocks or carriers 15 move upon the rods 14 to compensate for movement of the cables and weights, and by varying the size of the weights the resistance to the movement of the saw frame may be regulated according to the strength of the operators. By also regulating the weights the height of the saw above the surface of the ground may be regulated.

The parts of the frame may be bolted or otherwise detachably fastened so that the apparatus may be conveniently taken down for transportation and as conveniently set up, thus enabling the device to be transported from point to point in the woods for cutting the trunks of trees into logs at the points where they are felled.

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

1. In a sawing apparatus, the combination with a supporting frame, of guide rods fixed to and depending from the frame, blocks adjustably mounted upon the guide rods, each of said blocks being of hollow form and comprising top, bottom and perforated end plates, said top and bottom plates being formed at one side with apertured ears adapted to engage the guide rods, a shaft having its ends passing through the openings in the plates of the blocks, a sleeve mounted upon the shaft between the blocks, a V-shaped bracket mounted upon the sleeve, arms secured to the bracket, and a saw secured to the diverging ends of the arms.

2. In a sawing apparatus, the combination with a supporting frame, of guide rods fixed to and depending from the frame, blocks adjustably mounted upon the guide rods, each of said blocks being of hollow form and comprising top, bottom and perforated end plates, said top and bottom plates being formed at one side with apertured ears adapted to engage the guide rods, a shaft having its ends passing through the openings in the plates of the blocks, a sleeve mounted upon the shaft between the blocks, a V-shaped bracket mounted upon the sleeve, arms secured to the bracket, a saw secured to the diverging ends of the arms, pulleys mounted upon the supporting frame, suspension cords secured to the shaft, and weights secured to the cords.

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

CALVIN L. NEWELL.

Witnesses:
A. W. ANDERSON,
H. B. PURCELL.