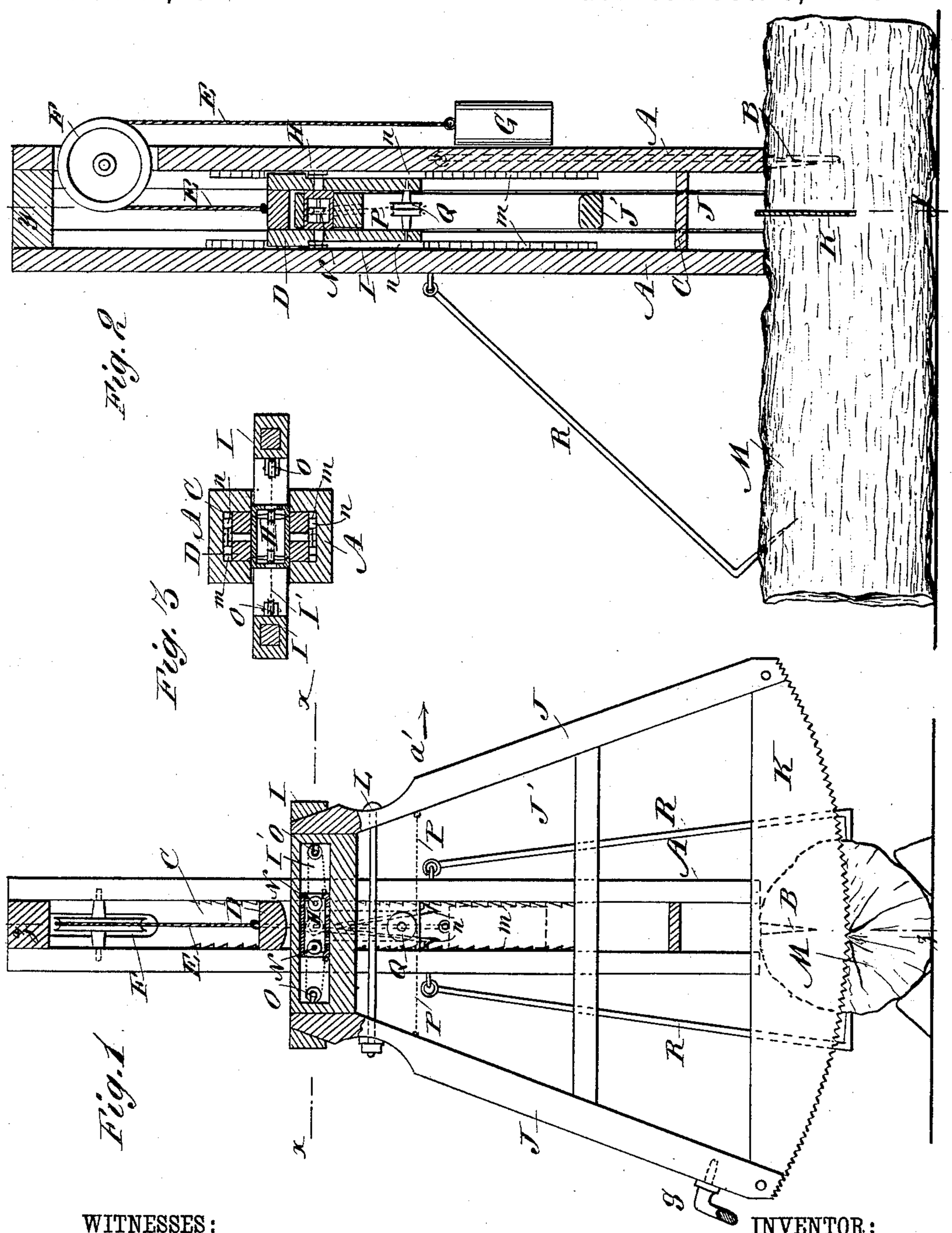
(No Model.)

F. C. STORRS.

DRAG SAW.

No. 327,736. Patented Oct. 6, 1885.



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DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 327,736, dated October 6, 1885.

Application filed February 20, 1885. Serial No. 156,562. (No model.)

To all whom it may concern:

Be it known that I, FRED C. STORRS, of Hudson, in the county of Steuben and State of Indiana, have invented a new and Improved Sawing-Machine, of which the following is a full, clear, and exact specification.

The object of my invention is to provide a new and improved sawing-machine, especially adapted for sawing beams, logs, &c., which machine can be transported and erected very easily and rapidly.

The invention consists of the combinations of parts and their construction, substantially as hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a side view of my improved sawing-machine, parts being shown in section on the line *y y*, Fig. 2. Fig. 2 is a cross-sectional view of the same on the line *z z*, Fig. 1. Fig. 3 is a sectional plan view on the line *x x*, Fig. 1.

Two beams or uprights, A, are united at the top and bottom by cross-pieces, and are provided with spurs or spikes B in the lower ends, which spurs or spikes are to be driven into the log M on which the machine is placed. In the inner surfaces of the uprights longitudinal grooves C are cut, in which the vertically-sliding box D slides. A rope, E, is secured to the top of the box D, and passes over a grooved pulley, F, pivoted at the top of one upright, and to its outer end a weight, G, is secured, which may be guided by suitable cleats on the outside of the upright, or may hang loosely, and is used to counterbalance the box D and the parts connected to the same to a certain extent.

Between the downwardly-projecting prongs of the box D a box, H, is pivoted at its middle, the said box being passed through a slot, I′, in the top piece, I, of a saw-frame, the said saw-frame being held between the two uprights and being adapted to be moved to and fro between the two uprights. As the box H is pivoted the saw-frame can also be swung, the box H turning on its pivot in the box D.

The side bars, J, of the saw-frame extend down from the ends of the top beam, I, and are united by a bar, J′. At the lower ends of the bars J the saw-blade K is secured, the bottom cutting or toothed edge of which is made segmental. A rod, L, unites the side bars, J, of the frame near their upper ends, and is provided at one end with a nut. By turning the nut the saw can be tightened as the lower ends of the side bars are spread more or less by pulling their upper ends together.

In each end of the box H a roller, N, is pivoted, and a roller, O, is pivoted at each end of the slot I′ in the cross-piece I of the frame.

To the inner edge of each side bar, J, of the frame a cord, P, is secured, both cords being passed over a double pulley, Q, pivoted between the lower ends of the shanks of the box D. From the said pulley Q each cord is passed upward and over a pulley, N, in the end of the box H, then over a pulley, O, at the end of the slot I′, and the ends of the cord are then secured to the box H.

Brace-rods R, having hooks on their ends, are pivoted to the standards, and the pointed hooks are driven into the beam or log to hold the frame upright. A handle-piece, S, can be secured to the lower end of one or both side bars, J.

The operation is as follows: The machine is placed on the log or beam M in such a manner that the saw extends across the log, and the frame in which the saw is held is rocked on the pivot of the box H, or it is rocked and reciprocated at the same time. When the frame is reciprocated, the ends of the slot I are moved toward and from the ends of the box H. If the right-hand bar J is pulled in the direction of the arrow *a′* the lower end of the cord P is pulled in the direction of the arrow *a′*, and the upper end of the cord P pulls the top piece, I, of the frame in the same direction. The saw-frame is thus reciprocated at the top and bottom at the same time—at the bottom directly and at the top by means of the cords and pulleys. If the pressure of the saw on the beam is to be increased, the weight G is decreased.

As the blade is stretched in a frame, it cannot kink or bind, and always keeps the kerf clear. A thinner blade can be used than in the ordinary sawing-machine, and one man can easily operate the saw, whereas two men are generally required to operate the usual cross-

cut-saw. As the frame in which the saw is held can be reciprocated as well as rocked, either a crosscut-saw or a saw having a segmental toothed edge may be held in the frame.

If desired, a forced feed may be provided for feeding the saw downward. On the inner sides of the standards racks *m*, having downwardly-projecting teeth, are secured, and on the pivots of the box D two downwardly-projecting spring-dogs, *n*, are secured, which have heads on their lower ends. By swinging the saw to the right the right-hand dogs *n* catch on the teeth on the right-hand uprights, and the left-hand dogs swing down, and when the saw is then swung to the left the left-hand dogs catch on the teeth on the left-hand racks, and so on alternately, the dogs catching one tooth lower for each rocking motion, and thereby forcing the saw-frame and the saw downward.

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

1. In a sawing-machine, the combination, with uprights, of a vertically-sliding box between the same, a box pivoted in the vertically-movable box, and a saw-frame having a longitudinal slot in its top cross-piece, through which slot the above-mentioned pivoted box passes, substantially as herein shown and described.

2. In a sawing-machine, the combination, with the uprights A, of the sliding box D, the box H, pivoted in the sliding box, a saw-frame having a top cross-piece, I, provided with a longitudinal slot in which the box H is located, the pulley Q, pivoted in the box D, the pulleys N in the box H, the pulleys O at the ends of the slot in the top piece of the sawing-frame, and of the ropes P, secured to the side bars of the sawing-frame and passed over the pulleys Q, N, and O, and secured to the ends of the box H, substantially as herein shown and described.

3. In a sawing-machine, the combination, with the uprights A, of the vertically-sliding box D, the box H, pivoted in the box D, a saw-frame having its top piece, I, provided with a longitudinal slot, I′, in which the box H is placed, and of cords secured to the side bars of the sawing-frame passed over pulleys, and having their other ends secured to the ends of the box H, substantially as herein shown and described.

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Witnesses:
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