

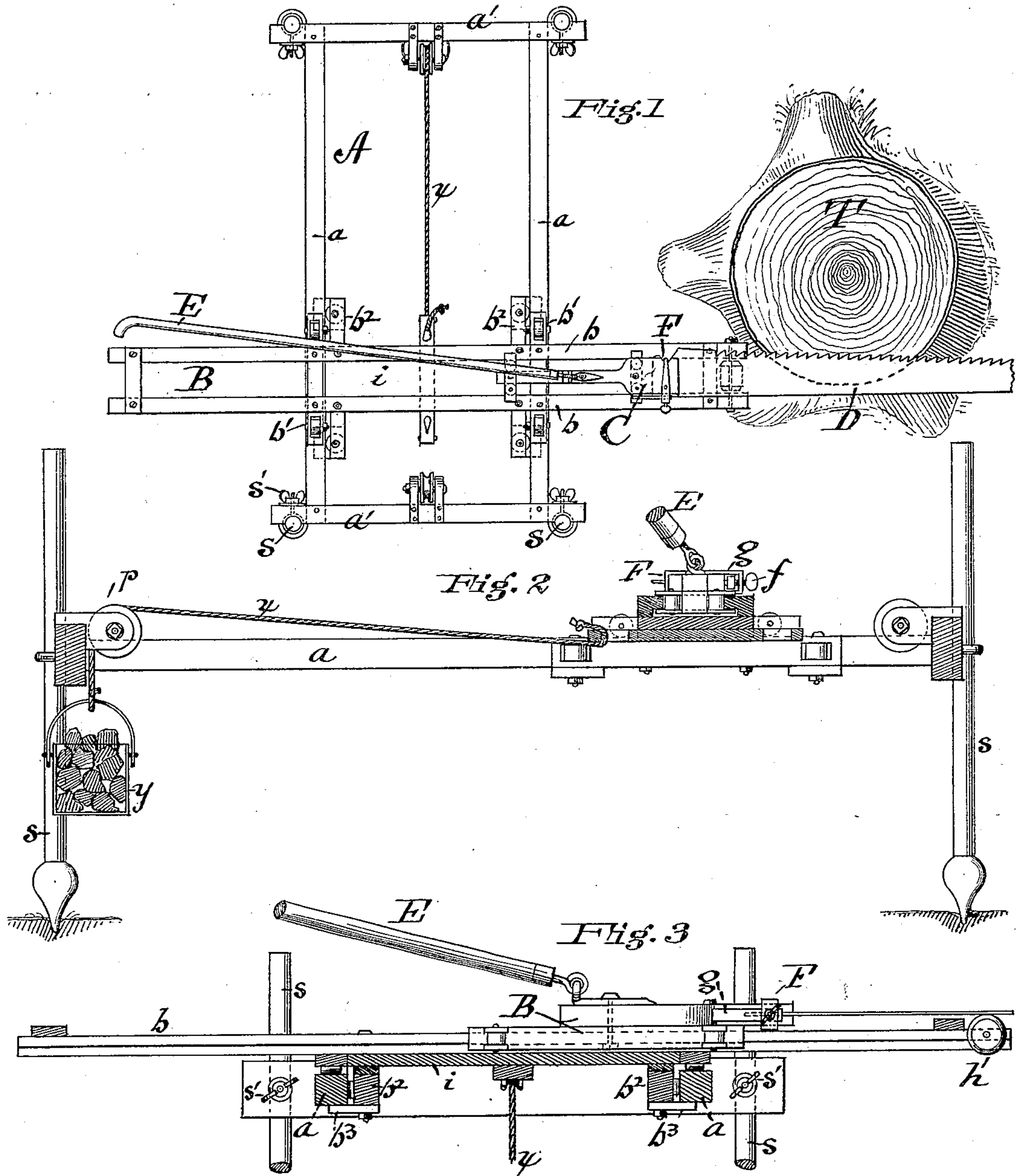
(No Model.)

J. AUGSPURGER.

SAWING MACHINE FOR CUTTING DOWN STANDING TIMBER.

No. 246,447.

Patented Aug. 30, 1881.



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UNITED STATES PATENT OFFICE.

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SAWING-MACHINE FOR CUTTING DOWN STANDING TIMBER.

SPECIFICATION forming part of Letters Patent No. 246,447, dated August 30, 1881.

Application filed November 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN AUGSPURGER, a citizen of the United States, residing at Trenton, Butler county, Ohio, have invented new and useful Improvements in Sawing-Machines for Cutting Down Standing Timber, of which the following is a specification.

My invention relates to machines for sawing standing timber, in which a crosscut-saw is driven by the manual power of a single operator; and its object is to improve and render such machines more practicable and generally useful.

To this end my invention consists, first, in the combination, with a suitable support, of a movable guideway for the cross-head and saw, automatically adjustable to the varying depth of cut, whereby the saw is maintained always in the same relation to the work to be performed as the kerf deepens; second, in the combination, with said movable guideway, of a supporting-frame constructed to form a guide on which said saw-guideway has a lateral movement, and means for regulating said movement to accommodate the working of the saw; third, in the combination of a supporting guide-frame, a saw-guideway automatically adjustable thereon in either direction, and a saw-pitman, with means for holding the saw to the tree interchangeably in either direction; fourth, in the combination of a vertically-adjustable supporting-frame and a saw-guideway movable horizontally thereon; fifth, in the details of construction, as hereinafter more fully pointed out.

My invention is embodied in mechanism illustrated in the accompanying drawings, in which Figure 1 is a plan view of my invention complete; Fig. 2, a vertical sectional elevation of the same, taken lengthwise of the supporting-frame; and Fig. 3 is a vertical section crosswise of the main frame.

Similar letters indicate corresponding parts throughout the drawings.

In the drawings, A designates the main or supporting frame; B, the saw-guideway; C, the saw-pitman or cross-head; D, the saw; E, the handle for operating the saw, and T the tree undergoing the action of the machine.

The supporting-frame A is rectangular, being composed of parallel side bars, *a a*, (which serve also as guide-bars for the movable guide-

way B,) and end bars, *a' a'*. The frame is upheld from the ground by corner supports, *s*, upon which the height of the frame is regulated by set-screws *s'* or clamps of any suitable description, by which means the saw may be adjusted to cut at any height within a range of movement governed by the length of the supports *s*.

Upon the supporting-frame A the guideway B is carried. The latter consists of two parallel guide-bars, *b b*, secured by end pieces forming a rectangular frame, and provided with devices enabling it to move sidewise upon the bars *a a* of the supporting-frame. These consist of cleats *b' b' b' b'*, secured to the under side of the guideway, as shown, and carrying, suitably journaled in slots at or near the ends thereof, friction-rollers, riding on the upper and inner sides, respectively, of the main guide-rails *a a* of the supporting-frame. By these devices the guideway B is enabled to move with very little friction, and all tendency to bind when subjected to diagonal strains is prevented. It is held down by cleats *b³*, projecting outward beneath the guide-rails *a*.

It will be obvious that the friction-rollers and their immediate connections are designed merely to enable the guideway B to move freely on the frame A. They may be dispensed with, or other means substituted for accomplishing the same result.

In the guideway B is arranged to move a cross-head, C, one end of which is horizontally slotted to receive the saw-blade, and provided with means to hold the saw securely with its teeth facing in either direction, rigidly in the cross-head. The cross-head is guided upon and between the bars *b* by cross-cleats *c c c c*, secured to each end of the cross-head proper and extending over the guide-bars *b* above and below, having friction-rollers journaled vertically between the cleats on both sides of the cross-head proper, thus rolling against the inner sides of the guide-bars *b b*. The cross-head is of some length—say, twelve to eighteen inches for a five and a half foot saw—in order to preserve a proper degree of stiffness in the alignment of the parts, inasmuch as the strain of weight or other force applied to the saw to hold it to its work is transmitted through the guideway B and cross-head C to the saw. The

means shown in the drawings are a cord, *x*, and weight *y*, the cord passing over a pulley, *p*, suitably pivoted at the end of the frame A, and adjustably connected to the movable guideway B by a suitable hook or eye piece. A duplicate pulley and fastening device at the other end enable the cord and weight to be transferred to either side and act upon the guideway B in either direction. Any other means—
 10 such, for example, as a spring—may be employed as a substitute for the cord and weight.

The cross-head C is moved back and forth by a handle, E, fastened thereto by a hook-and-eye connection, permitting the necessary
 15 freedom of movement as manipulated by the operator.

The saw is secured in a yoke, F, attached to the cross-head, and held adjustably by a set-screw, *f*, acting upon a dog, *g*, the end bar of
 20 the yoke and the head of the dog entering notches on opposite sides of the saw, and thus clamping the saw securely in either position. Journaled horizontally between the bars *b b* of the guideway B is a roller, *h*, upon which the
 25 saw rides flatwise and is supported in its reciprocation. To secure a proper degree of stiffness in the frame of the guideway B, I insert a brace, *i*, centrally between the rails *b b*.

The operation is as follows: The frame A
 30 being properly adjusted as to height and position in relation to the tree or stump T, the saw is placed against the trunk and moved back and forth a few times to start the kerf, and the cord and weight adjusted to draw
 35 against the movable guideway B, by which means the saw is held to its work. The operation is then continued by means of the handle E, by which the operator moves the cross-

head C and saw back and forth, the weight acting automatically to keep the saw in position for cutting. When the weight has descended to the ground and fails to act it is again drawn up by shortening the cord. When it is desired to cut in the opposite direction the saw is released from the yoke F, turned over
 40 and readjusted, and the cord and weight transferred to the opposite side of the guideway B, and the machine operated as before.

Having described my invention, I claim and desire to secure by Letters Patent—
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1. In a sawing-machine for cutting standing timber, the combination of a portable and vertically-adjustable supporting-frame, A, an independent guideway, B, movable laterally thereon in guides, a cross-head, C, carrying a crosscut-saw, D, and operated manually by a
 55 handle, E, in the guideway B, and a weight, *y*, for regulating the work of the saw in the kerf, substantially as specified.

2. The cross-head C, constructed with cross-cleats overlapping the guide-bars *b b* above and below, and carrying friction-rollers vertically journaled between the cleats and operating on the inner faces of the guide-bars, in combination with the movable guideway B,
 60 saw D, and means for the automatic adjustment of the guideway to the work of the saw, as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing
 70 witnesses.

JOHN AUGSPURGER.

Witnesses:

L. M. HOSEA,
 C. P. DOOLITTLE.