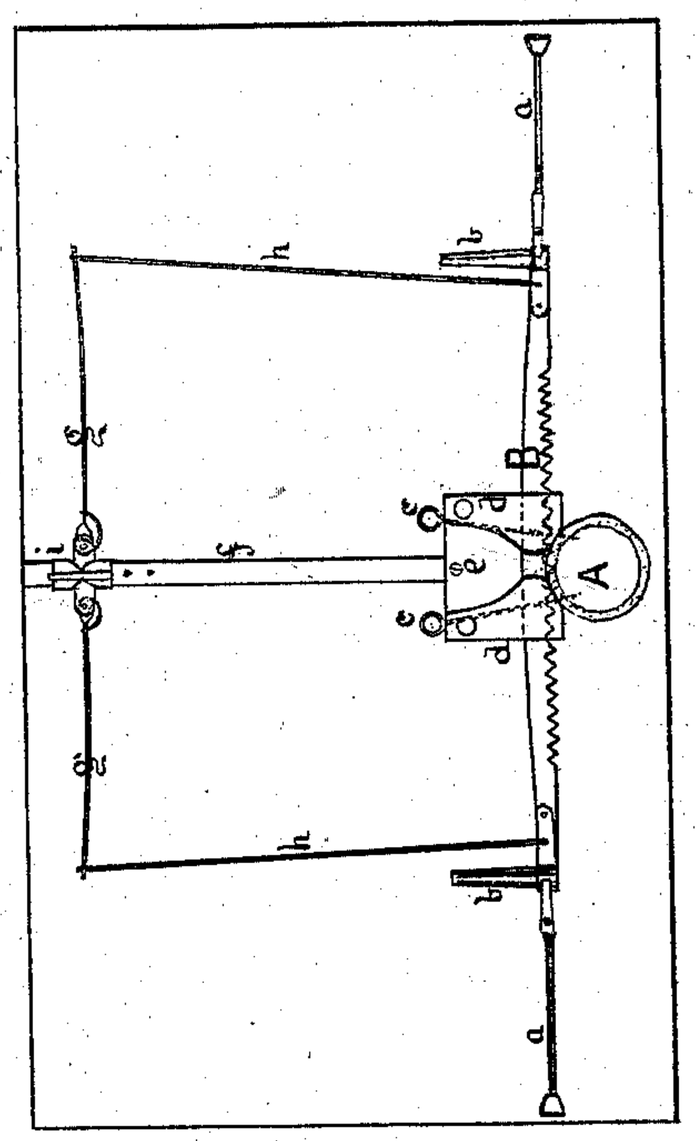
S. Fletcher,

Drag Saw.

No. 97,621. Patented Dec. 7. 1869.



Witnesses { Frankl. Parker. / J. L. Nicholson }

Samuel Fletcher Inventor

United States Patent Office.

SAMUEL FLETCHER, OF HOLLIS, NEW HAMPSHIRE.

Letters Patent No. 97,621, *dated December* 7, 1869.

IMPROVEMENT IN SAWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same

To whom it may concern:

Be it known that I, SAMUEL FLETCHER, of Hollis, in the county of Hillsborough, and State of New Hampshire, have invented a Sawing-Machine for Felling Trees; and I hereby declare that the following is a full and exact description of the same, and I refer to the accompanying drawing, and to the letters of reference thereon, as parts of the specification, of which—

The drawing gives a perspective view of the machine, when applied to the tree and ready for operating, and showing, also, the various parts of the machine.

The letter A represents the tree to be felled.

B, the saw.

a a, the movable shovel-handles.

b b, the ordinary saw-handles.

c c, the screws, fastening into the tree.

d d, the buttons or plates, to keep the saw in place.

e, the guide-plate.

f, the bar, sustaining slide and springs at one end, and connected with the plate *f* at the other.

g g, springs, having extended arms, connected with the arms *h h;* and

i, a slide and frame, holding the spiral parts of the springs *g g*, and sliding on the bar *f*.

The device is a cross-cut saw, so applied and operated, by means of movable handles, and other appliances, as to facilitate the felling of standing trees; and in order that others may be able to manufacture and use the device, I will explain its several parts and mode of operating.

The saw B is, without the extra handles *a a*, an ordinary cross-cut saw, and, by removing the extra handles, can be used for sawing logs, &c.

The handles *a a*, as will be seen by the drawing, are made like shovel-handles, with pivotal pins entering the opposite sides of the sockets and handles *b b*.

The handles *a a* turn laterally, in either direction, so that the workmen may change their position, in regard to the tree, when falling, or when the ground is uneven, or other trees in the way. And being made in this form, and so attached that lateral movement is thereby obtained, the operator can work as in sawing logs, and more easily than with the handles *b b*.

The handles *a a*, also, are so fastened by screws, near the pivots, that they can be easily taken off, when the saw can be used as an ordinary saw.

The buttons, or movable plates *d d*, in connection with the plate *e*, keep the saw between them, and in a horizontal position, the plates *d d* turning outward when the saw is to be put in position or removed. They are made of wood or metal.

The screws *c c*, seen in the dotted lines in the drawing, pass under the plate *e*, and into the tree, keeping the whole frame-work of the machine steadily in position. Dogs or staples may be used in their place.

The bar *f* supports the slide or frame *i*. It is made of wood or metal, having pin-holes for the spring-pin in the slide *i*, and is fastened at one end, next to the tree, to the plate *e*.

The slide *i* is a metallic or wooden frame, having its lower side, like the upper, in construction, as seen in the drawing.

Dots in the slide, on the right and left, seen in the drawing, represent spiral springs. They are between the arms of the frame of the slide, and at the upper part are fastened to the straight arms of the springs *g g*, seen in the drawing. The straight parts may be continuations of the spirals, or joined, as in the drawing.

The slide has a pin, represented in the drawing as a band, passing over one end of the slide. This is made in the form of a spring, to fit into holes in the bar *f*, so that the slide can be moved down toward the tree, as the saw penetrates the tree.

At the extremities of the arms of the springs *g g* are fitted, through holes in the same, arms *h h*, and these arms are fastened into the plate of the saw, as represented in the drawing. They are free to move, both in the saw-plate and spring-arms, as the saw is drawn in either direction. They are made of wood or metal.

The advantages of the spiral springs, and their straight arms, are this, they have a steady and constant bearing upon the saw, pressing it up to its work, as it is drawn back and forth, and an equal pressure, whether the middle or either extremity of the saw is doing its work. The pressure also causes the saw to run through easier.

To put the machine in position for operating, push up horizontally the plate *e*, with its parts *d d* and *f* to the tree; turn the screws into the tree; adjust the saw between the plates, and fit in the arms *h h*, adjusted to the spring-arms *g g*, the slide *i* being adjusted to the bar.

The device is not expensive or difficult in construction, and operates with great advantage in practice. The saw, of course, can be used without the spring-arms *h h*, *g g*, &c.

I am aware that handles, similar to the within device, have been used heretofore with cross-cut saws. I disclaim the arrangement and use, as heretofore applied.

Claim.

But what I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the several parts of the device, viz, the handles *a a*, the arms *h h*, operated by springs *g g*, the shaft *f*, the plates *d d* and *e*, the screws *c c*, all constructed and operating in the manner and for the purpose herein shown and described.

SAMUEL FLETCHER.

Witnesses:

FRANK G. PARKER,

J. L. NEWTON.