

*J. S. Foster,
Felling Trees.*

No 32,688,

Patented July 2, 1861.

Fig 1

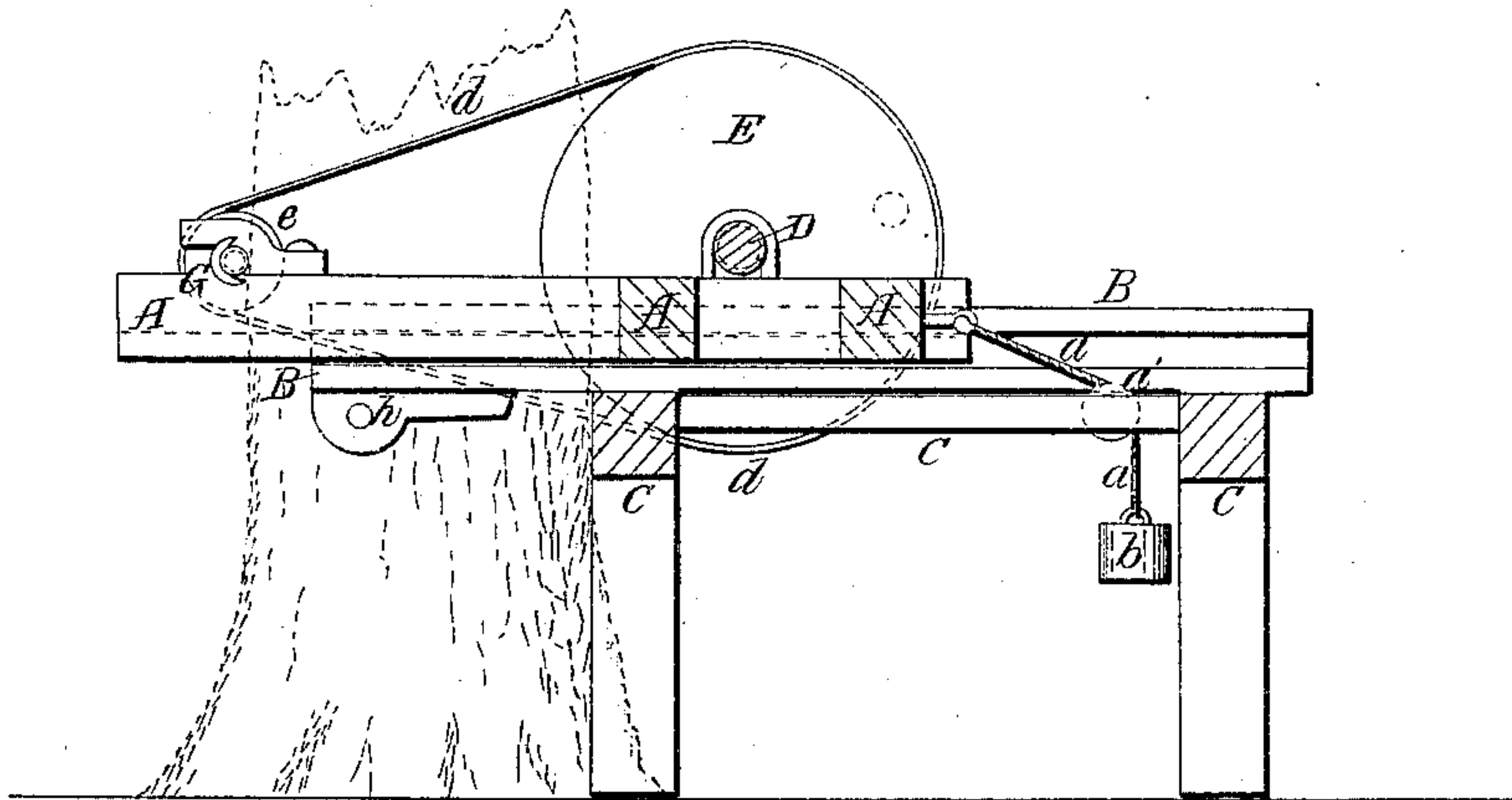


Fig 2

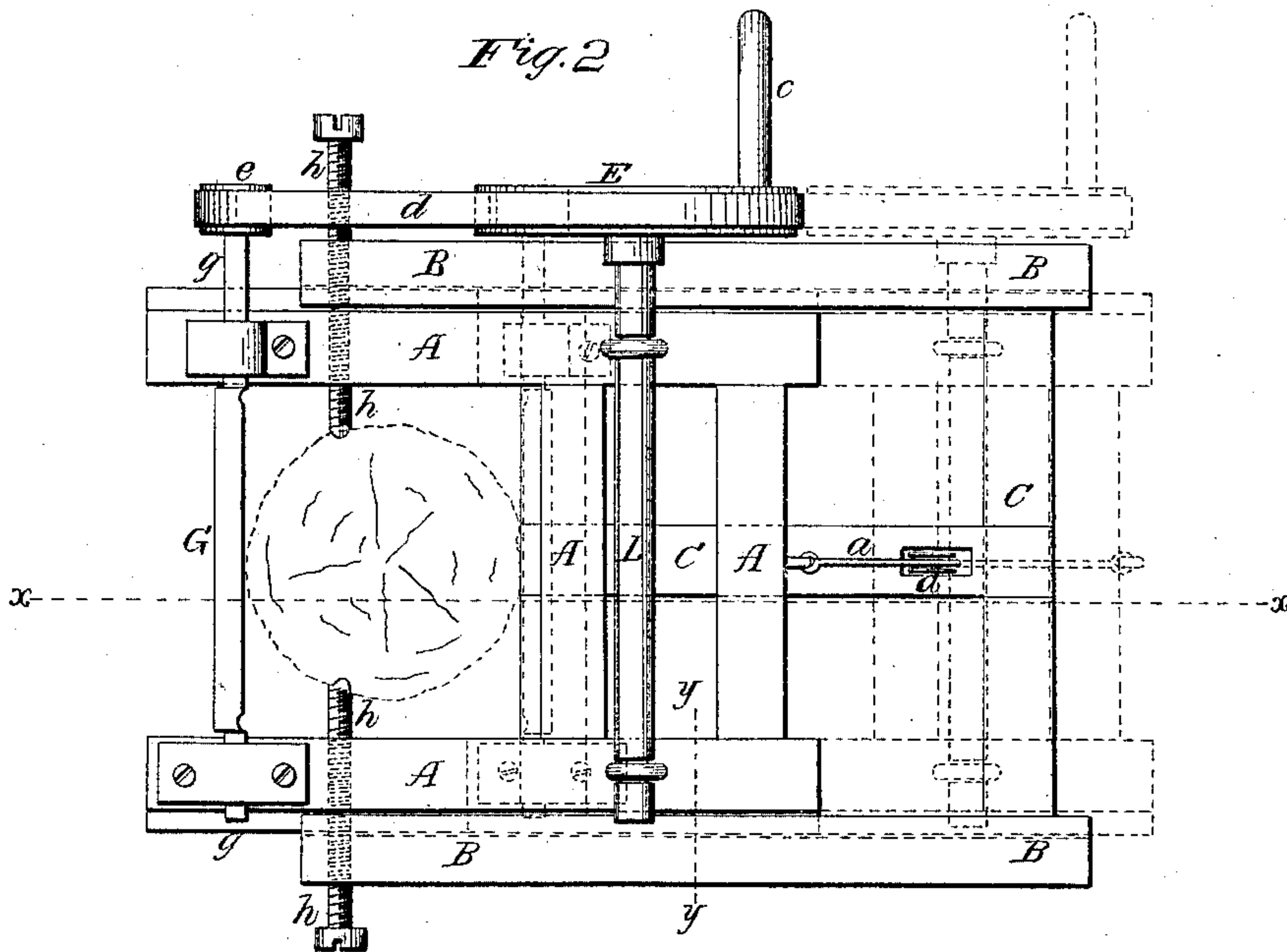


Fig 3



Witnesses:

*J. W. Coombs
R. S. Spencer*

Inventor:

*Jos S. Foster
per Munroe & Co
Attorneys*

UNITED STATES PATENT OFFICE.

JOSEPH S. FOSTER, OF VALLICITA, CALIFORNIA.

MACHINE FOR FELLING TREES.

Specification of Letters Patent No. 32,688, dated July 2, 1861.

To all whom it may concern:

Be it known that I, JOSEPH S. FOSTER, of Vallicita, in the county of Calaveras and State of California, have invented a new and
5 Improved Machine for Cutting Trees; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specifica-
10 tion, in which—

Figure 1. represents a longitudinal sectional elevation through the improved tree cutter taken in the vertical plane indicated by the red line *x, x*, in Fig. 2. Fig. 2. is a
15 plan view of the improved machine representing the parts in a position to operate upon a tree. Fig. 3. is a cross section taken in the vertical plane indicated by the red line *y, y*, in Fig. 2.

20 Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to a novel machine for felling trees, and cutting the trees into logs.

25 It consists in a rotary cutter, sliding weighted carriage, or frame, and a driving wheel, for operating said cutter, the whole being combined with and mounted on a portable frame or table furnished with suitable
30 clamps for securing it to the trunk of a tree as will be hereinafter described.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

35 A. represents a frame which has a longitudinal sliding movement between two longitudinal bars B. B. of a frame or table C. The sides of the sliding frame A. have tenons projecting from them, which tenons fit into
40 corresponding grooves in the longitudinal bars B. B. At the rear end of sliding frame A. a cord *a*, is attached, which passes over a pulley *a'*, and carries on its end a weight *b*, the gravity of which is sufficient to move the
45 frame A. back, as will be hereinafter described.

D. is a shaft which extends transversely across the rear part of the sliding frame A. and which has its bearings on top of this
50 frame A.; shaft D. projects out from one side of the bar B. and carries on this projecting end a large belt wheel E. from the outside of which projects a crank arm *c*. The belt *d*, which passes over the wheel E. also passes

over a small wheel *e*, on the projecting end 55 of a knife stock or shaft *g*, and gives a rapid rotary motion to the knife G.

The knife G. extends transversely across the front ends of the sliding frame A. and has its bearings in this frame. The bearings 60 of knife G. are made in such a manner that the knife can be readily removed from the frame A. by slipping off the belt *d*, from its wheel *e*.

The knife G. is made with two cutting 65 edges, though only one edge will perform the cutting while the knife is rotated in one direction. The shape of this cutter or knife G. is that of a tube split lengthwise, having both edges sharpened, and as both edges are 70 sharpened the cutter will perform its work when rotated in either direction. In cross section the knife G. is crescent shaped as represented in Fig. 1.

The longitudinal bars B. B. project out 75 from one end of the frame C. a suitable distance and on the under side of these bars B. B. are placed adjusting clamp screws *h, h*, which are used to clamp the frame C. to the tree preparatory to the cutting opera- 80 tion, as represented in Fig. 2.

The distance between the longitudinal bars of the sliding frame or carriage A. should be such that these bars will pass on each side of the trunk of a large tree, and 85 the ends of longitudinal bars B. B. should project out from the frame C. a suitable distance to allow clamping screws *h, h*, to grasp the tree firmly and hold the frame C. to the tree during the operation of knife G. 90 upon it.

The operation of my improved machine is as follows. The band *d*, is removed from cutter pulley *e*, and this cutter is removed from its carriage A. the machine is then 95 brought up close to the tree it is desired to fell and the projecting ends of bars B. B. are placed on each side of the trunk of the tree. The screws *h, h*, are now set up so as to clamp the frame C. and bars B. B. se- 100 curely in place to the tree. The cutter G. is now put in its bearings in carriage A. on the opposite side of the tree and the belt *d*, is again slipped over pulley *e*. The weight *b*, now operates upon the carriage A. to keep 105 the cutter G. up against the tree, to its work. The knife G. is now rotated until the tree is cut half through, when the cutter G. is again

removed and the machine is turned around so that the cutter can be presented to the tree opposite to the first cut. The cutter G. is again replaced and the tree is cut until it
5 is ready to fall when the screws *h, h*, are loosened and as the tree falls the machine is drawn out of the way. The weight *b*, moves the horizontal cutter G. toward the center of the tree from either direction, the ma-
10 chine may be placed and this weight may be increased or diminished according to circumstances. For cutting the fallen tree up into lengths, the weight *b*, is removed and the machine, which is made very portable, is
15 placed over the log. The screws *h, h*, are now set up to the log and the frame clamped

to it as before described, and the work of cutting is performed as before described.

Having thus described my invention what I claim as new and desire to secure by Let- 20
ters Patent is,

The carriage C. carrying the cutter G. and the pulleys E. *e*, for operating this cutter, in combination with the weight *b*, frame C. and clamps *h, h*, all arranged and oper- 25
ating substantially as and for the purposes herein specified.

JOSEPH S. FOSTER.

Witnesses:

G. B. OGILVIE,

WM. D. KELLY.