2 Sheets—Sheet 1.

J. A. ROBB.
Edger.

No. 227,926. **Patented May 25, 1880.**

Fig: 1.

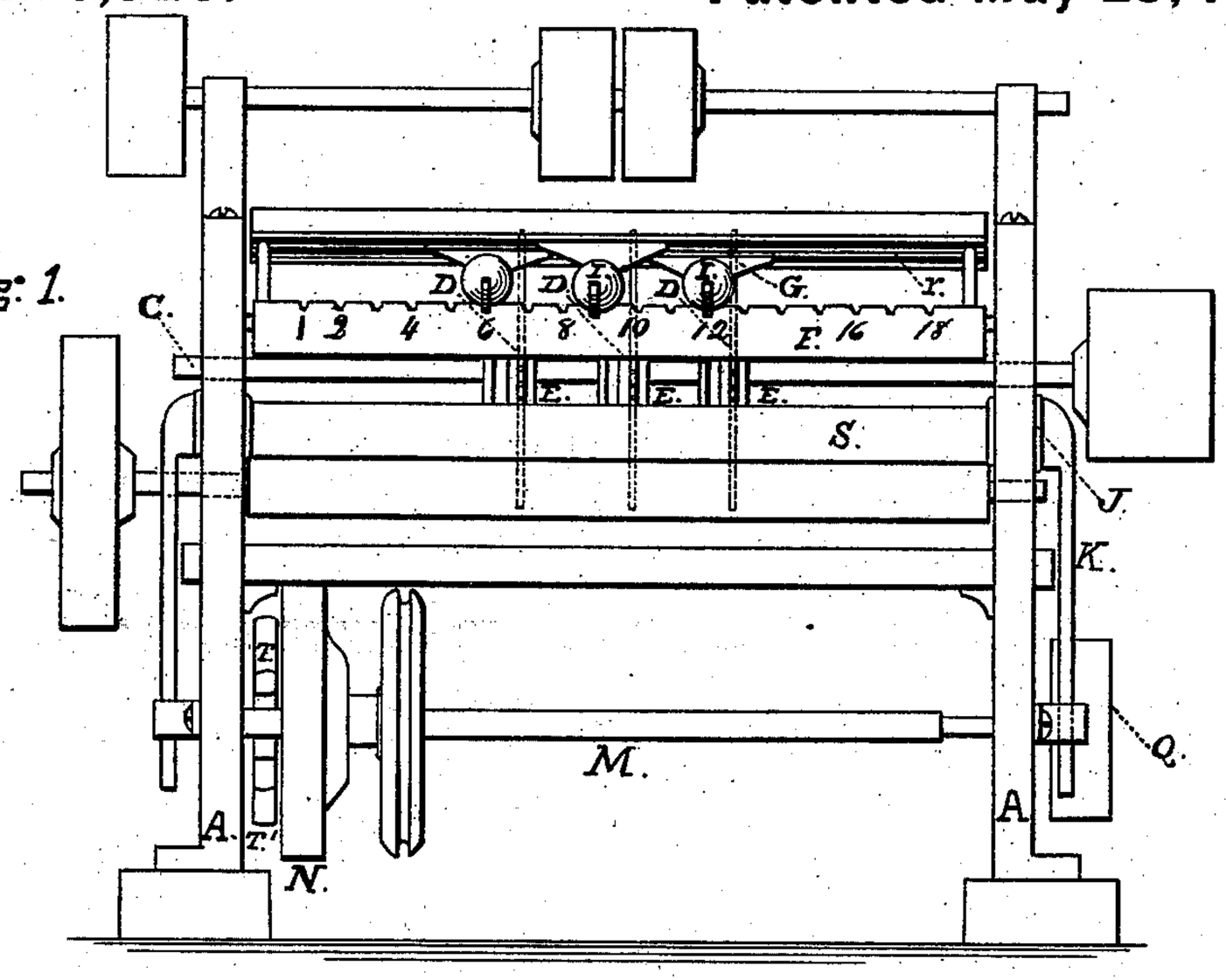


Fig: 2.

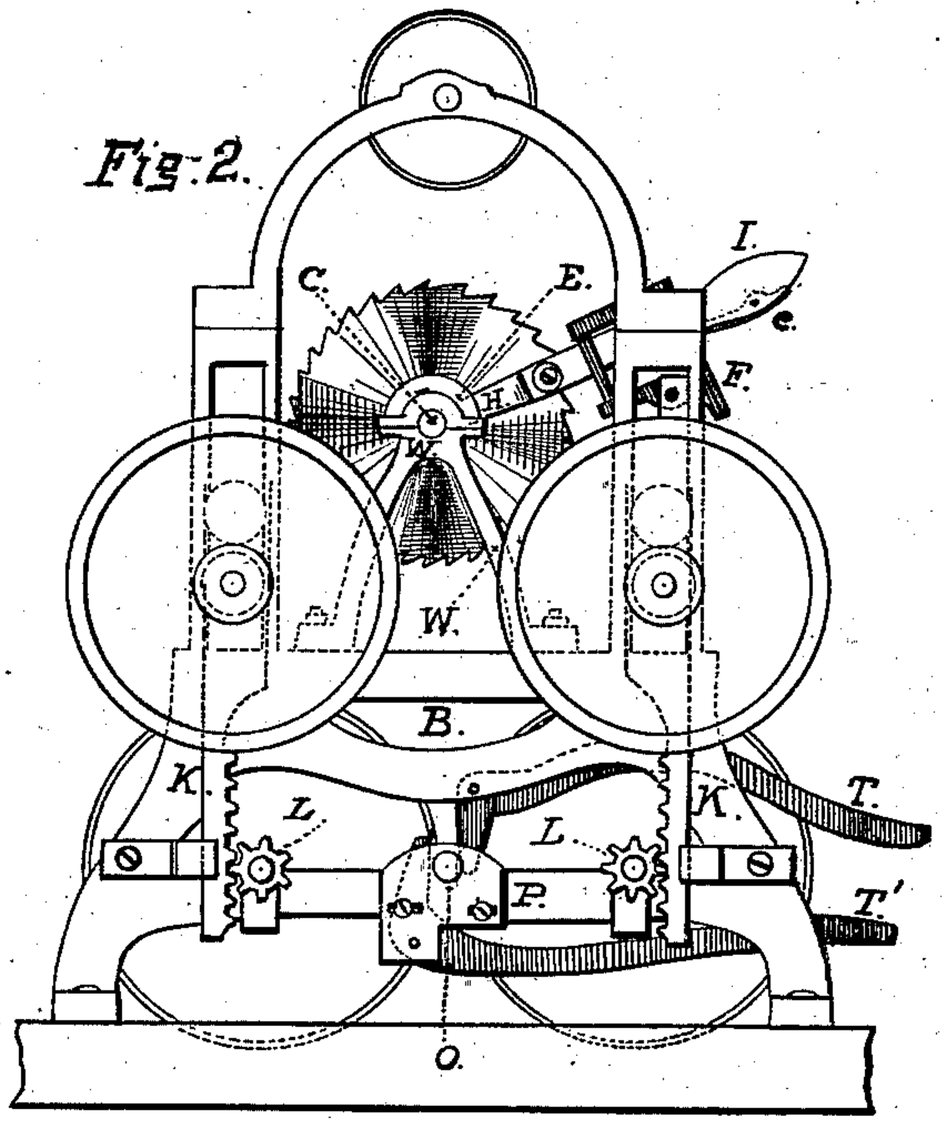
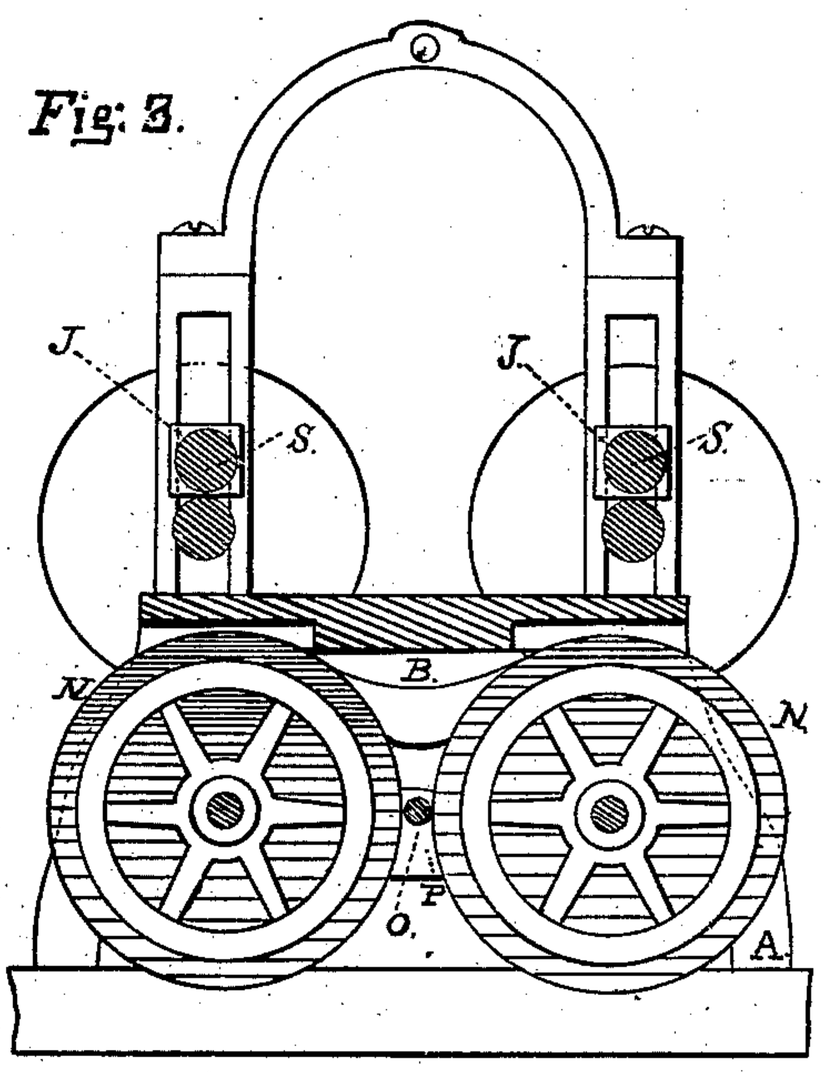


Fig: 3.



Witnesses:
William H. Osborn.
Lawrence Osborn

Inventor:
James A. Robb.
per Borne & Osborn Attys.

2 Sheets—Sheet 2.

J. A. ROBB.
Edger.

No. 227,926. Patented May 25, 1880.

Fig. 4.

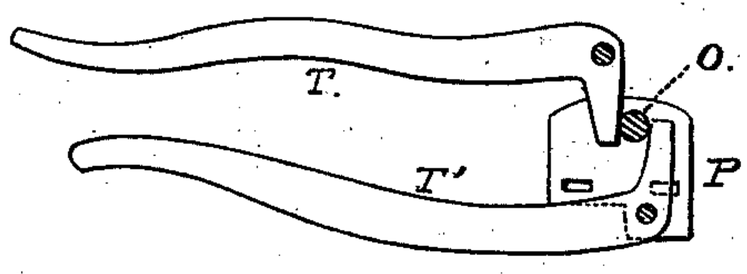


Fig. 5.

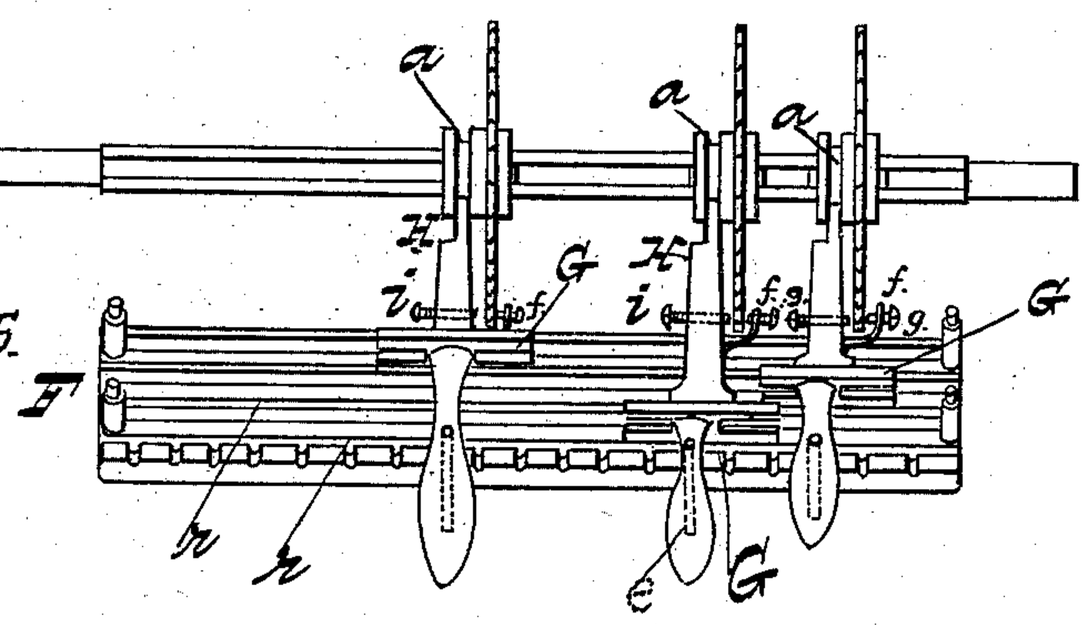
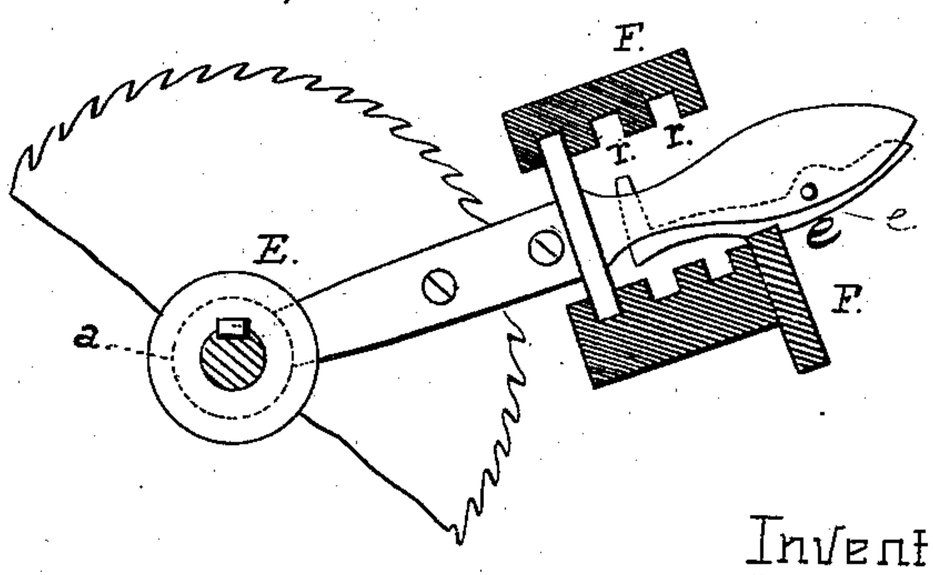


Fig. 6.



Witnesses:
William W. Osborn.
Lamartine Osborn

Inventor:
James A. Robb
per Bros. & Osborn.
Attys.

UNITED STATES PATENT OFFICE.

JAMES A. ROBB, OF SAN JOSÉ, CALIFORNIA.

EDGER.

SPECIFICATION forming part of Letters Patent No. 227,926, dated May 25, 1880.

Application filed February 9, 1880.

To all whom it may concern:

Be it known that I, JAMES A. ROBB, of San José, county of Santa Clara, in the State of California, have invented a certain new and useful Improvement in Edgers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention has reference to that class of machines for resawing lumber into scantlings, studding, &c., known as "edgers."

My first improvement relates to a novel device for shifting the saws on the saw-shaft and adjusting them to the desired distance apart.

My second improvement relates to a mechanism and arrangement for raising the upper feed-rolls to admit the ends of the boards between the rollers, as hereinafter described.

Referring to the accompanying drawings, Figure 1 is a front elevation of the machine. Fig. 2 is an end view taken from the left-hand side of Fig. 1. Fig. 3 is a transverse section through the feed-rolls and their operating-shafts. Fig. 4 is a detail view of the foot-levers throwing the feed-roll shafts into action. Fig. 5 is a detail view of the saw-arbor and setting-levers. Fig. 6 is an elevation in detail of a saw and its setting-lever.

A A are the two end frames of the machine, and B the longitudinal side bars which connect them together.

C is the saw-shaft, on which the saws D D are adjusted and by means of which they are driven. Each saw is secured on a sliding sleeve or collar, E, which moves in a feather on the shaft in the usual way, and each sleeve has a groove, *a*, extending entirely around it on one side of the saw.

F is a slotted beam, which, in the present instance, is made of two parallel plates bolted together at the proper distance apart. This beam I mount horizontally between the two front uprights of the end frame, A A, above the front feed-rollers, by means of gudgeons or journals which project from its ends and bear in the uprights of the end frames, so that the beams can turn or rotate on the journals. The upper face of the lower plate and the under face of the upper plate are provided with two or more parallel grooves, *r r*, which extend from end to end of the plates. The front edge of the lower plate is notched to a scale, as shown, and the scale is marked on the front of the plate.

Between the two plates I place as many slides G as there are saws on the saw-shaft, and to each slide I attach a lever, one end of which (marked H) projects toward the saw-shaft, while the opposite end (marked I) projects outside, so as to form a handle, which can be grasped to shift the slide and saw. The inner end of each lever is made to fit in the groove *a* of the saw-collar, so that when the slide is moved the saw is carried along by the lever. A rib, *e*, on the under side of each handle will drop in either of the notches in the edge of the lower plate, and thus hold the lever slide and saw in place, and as the notches correspond with the scale the saws are readily adjusted to the required position.

In order to properly adjust the saws it is necessary to take out the width of the saw-kerf in addition to the scale adjustment, so that the next adjoining scantling will be of the proper width. To do this I offset the handle I sufficiently to one side of the lever H to allow for the width of the saw-cut, so that when the rib *e* drops into a notch the saw-mill stands on one side of the direct line a distance equal to the offset. This is a very simple and efficient arrangement, and provides a ready means of adjusting the screws.

To each lever H, I secure a bent arm, *f*, which extends across and around the edge of the saw. In the end of this rim is a screw, *g*, which can be set in or out, as desired, and another set-screw, *i*, passes through the lever opposite it, thus forming a saw-guide which can be adjusted as desired, and which is a part of the lever.

The journaled beam F is locked in position when the machine is set for work by a button at one end, or by some other convenient device, and when it is desired to remove the saws or repair any part of the mechanism the button can be released and the beam turned over toward the front, so as to raise the levers and guides clear of the saws. This renders the adjustment of the saws simple and complete.

My next improvement relates to the upper feed-rolls, S. Each of these rolls is journaled in

a sliding block, J, at each end, and these sliding blocks move in slots in the upright corner standards of the machine. Each sliding block has a vertical rack-bar, K, projecting downward from it on the outside of the standards, and this rack-bar engages with a pinion, L, on the end of a shaft, M, which passes from end to end of the frame below each pair of rollers. Both ends of each upper roll are thus connected with a pinion on opposite ends of the same shaft, so that when the shaft is rotated both ends of the roll will be raised simultaneously by the pinions and racks. A large friction-wheel, N, is secured on each shaft M, near one end, so that the two wheels will be opposite each other.

O is a shaft which passes across the machine midway between the two shafts M, its ends bearing on the lower cross-beam of the end frames. The end of this shaft which is nearest the friction-wheels N is mounted in a shifting box, P, on the lower cross-bar of the end frame, while the box which supports the opposite end is stationary. A pulley, Q, is secured to the projecting end of the shaft which bears in the stationary box, and the shaft O is driven continuously by a belt passing around this pulley.

Two foot-levers, T T′, are pivoted near their middles to the end of the frame, to which the shifting box P, which carries one end of the shaft, is attached. One of these levers, T, is placed above, and the other, T′, below, the shaft M. The inner end of the upper lever is bent downward on one side of the shaft O, while the inner end of the lower lever is bent upward on the opposite side of the shaft. The outer ends of these levers project outward, so as to form treadles. By pressing down upon the lower treadle the bent end of the lever will force the shifting end of the rotating shaft O against the face of the friction-wheel N on the front shaft, M, thus causing the friction-wheel and shaft to rotate, so that its pinions will raise the racks and blocks at both ends simultaneously, and thus lift the front roller. Pressure upon the upper treadle forces the shifting end of the shaft O in the opposite direction against the rear friction-wheel, and raises the rear upper feed-roll in the same manner. This is a very important improvement in edgers, as it is frequently difficult to insert the end of a board between the two rollers, and it often happens that a board is thicker on one edge than on the other. When this is the case the rolls are strained by the unequal pressure; but with the present arrangement the upper rolls will always maintain a horizontal position, because the least elevation of one end also causes the opposite end to be raised correspondingly. The treadles enable the workman to raise and drop the rolls at will, thus rendering the machine more convenient and greatly improving its efficiency.

The frame of the machine has the bearings W for the saw-arbor so arranged and located between the uprights that access can be had to them unobstructed by any of the other working parts by simply detaching either one of the standards W from its place in the frame. The saw-arbor can be readily withdrawn from the machine and the saws removed or placed thereon without disturbing any of the other working parts.

Having thus described my improvements, what I claim, and desire to secure by Letters Patent, is—

1. The slotted beam F, notched and graduated, as described, and having the slides G, with their levers H I, arranged to be adjusted therein, in combination with the saw-collars E, with their grooves *a*, substantially as above specified.

2. The combination of the upper feed-rolls, S, journaled in the sliding blocks J, the depending rack-bars K, the shaft M, with its pinions L L and friction-wheel N, the driving-shaft O, having one end mounted in a shifting box, P, and the treadles or foot-levers T T′, arranged to force the driving-shaft into contact with either friction-wheel, all combined and arranged to operate substantially as and for the purpose above described.

In witness whereof I have hereunto set my hand and seal.

JAMES A. ROBB. [L. S.]

Witnesses:

EZRA COLEMAN,

W. F. CLARK.