2 Sheets—Sheet 1.

G. THOMPSON.

MACHINE FOR SAWING HOOP-POLES.

No. 188,829. Patented March 27, 1877.

Fig. 1

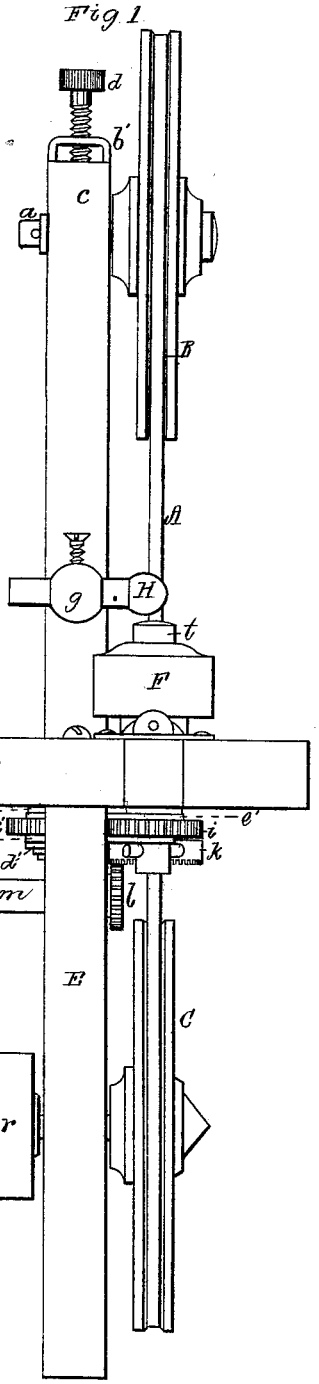

Fig. 4.

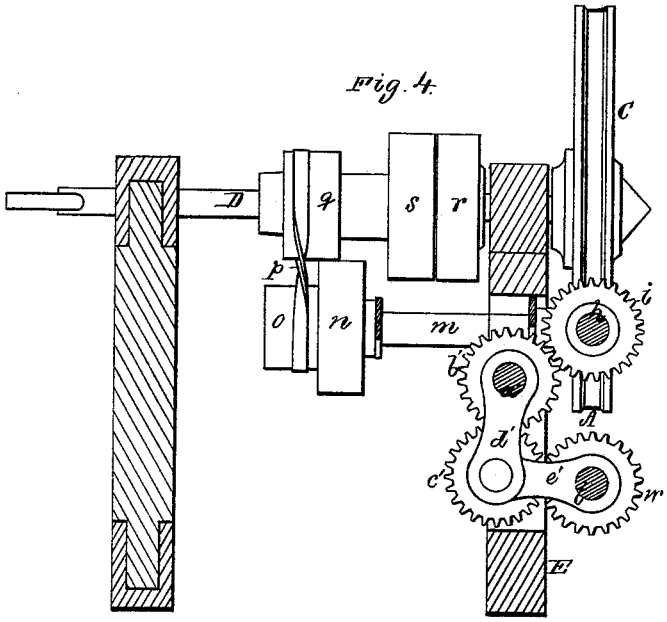

Fig. 5.

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L. M. Miller.

George Thompson
by his attorney
R. H. Eddy

2 Sheets—Sheet 2.

G. THOMPSON.

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No. 188,829. Patented March 27, 1877.

Fig. 3.

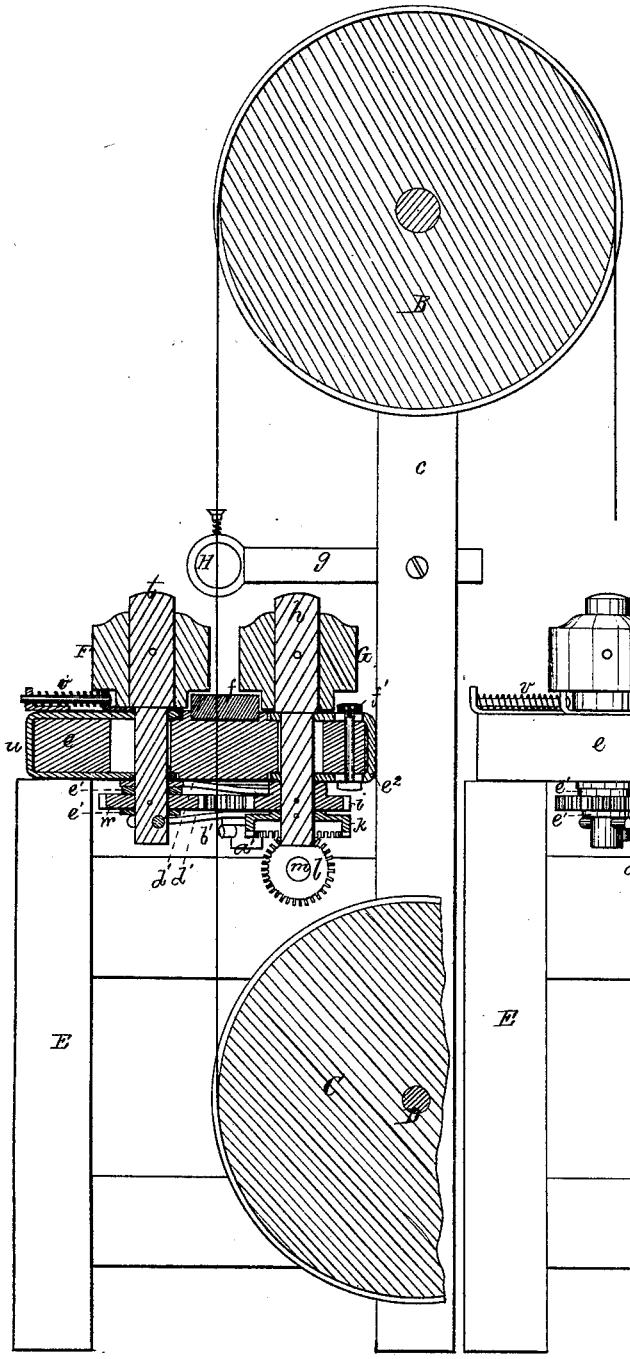
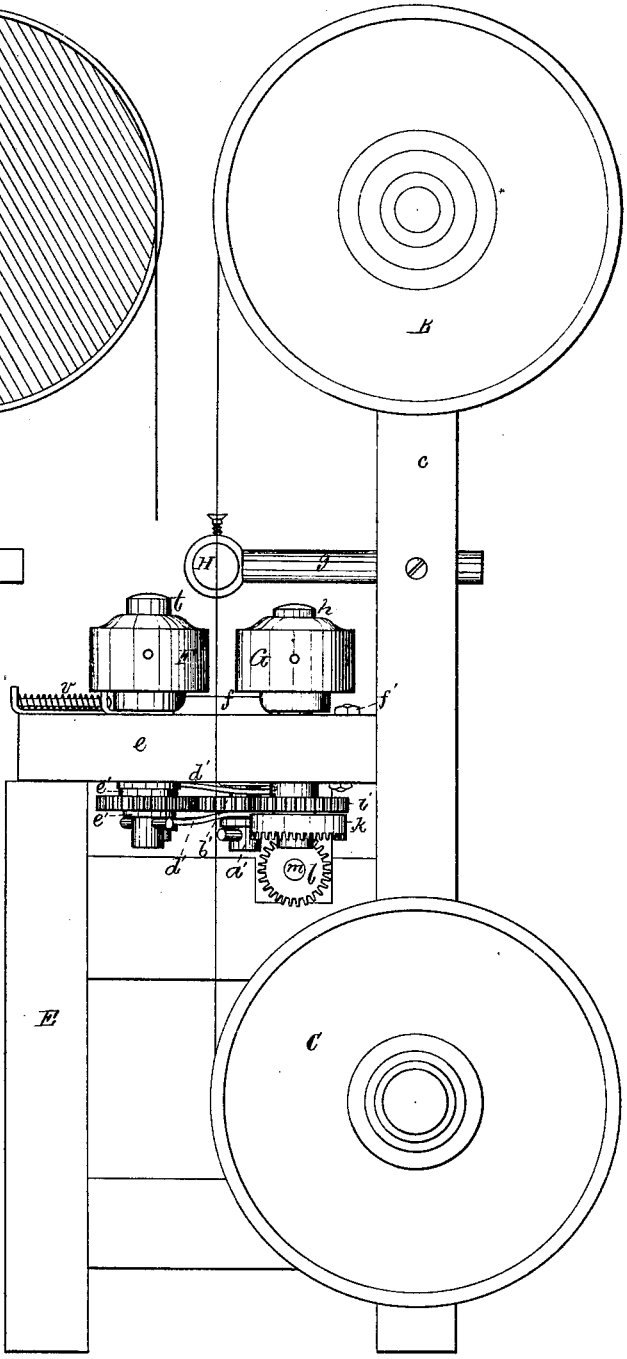


Fig. 2.



Witnesses.
S. W. Pipe
L. M. Müller.

George Thompson.
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

GEORGE THOMPSON, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR TO JOSEPH B. PROCTOR, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR SAWING HOOP-POLES.

Specification forming part of Letters Patent No. **188,829**, dated March 27, 1877; application filed October 25, 1876.

To all whom it may concern:

Be it known that I, GEORGE THOMPSON, of Nashua, of the county of Hillsborough and State of New Hampshire, have invented an Improvement in Machines for Sawing Hoop-Poles; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation; Fig. 2, an end view of it. Fig. 3 is a vertical section of its feed-rollers and their operative mechanism. Fig. 4 is a horizontal section of the said mechanism for actuating the feed-rollers. Fig. 5 is a transverse section of the curved rest placed between the feed-rollers.

My invention consists in the combination of an endless band-saw and a rotary adjustable feed-roller, provided with mechanism for operating them, as hereinafter described, with a feed and pressure roller furnished with mechanism for actuating it, as explained; also, in the combination of such devices and a convex rest applied to the platform of the machine, and arranged with the feed-rollers, as set forth.

In the drawings, A denotes the endless band-saw, supported on two grooved pulleys, B C, the lower, C, of which is fixed upon a driving-shaft, D, arranged, as shown, in a frame, E. The axle or pin *a*, for sustaining the upper pulley B, is supported by a movable carrier, *b*, applied to a post, *c*, and furnished with an adjusting-screw, *d*, such being for the purpose of effecting a suitable tension on the saw.

The saw, extended through and arranged, as shown, with a platform, *e*, also goes through a convex rest, *f*, projecting up from the platform, and disposed with reference to two feed-rollers, F and G, in manner as represented. The saw also extends through a vertical slit in an adjustable guide, H, supported by an arm, *g*, extending from the post *c*, such guide being to steady the saw when between the feed-rollers.

Though each of the rollers performs the function of feeding a pole to the saw, one of them performs another function—that is, it acts as a pressure-roller to keep the pole against the other roller while such pole may be in the act of moving along, however irregular the pole may be in shape, the said pole being supported at the time on the top of the convex rest.

Such convex rest is an important addition to the machine, as with it, owing to the usual irregular form of a hoop-pole, and it being bent more or less lengthwise, such pole can be sawed to much better advantage or results than it could by being supported directly on the top of the platform alone.

The rear feed-roller G is fixed on a vertical shaft, *h*, extending through the platform, and provided with gears *i k*, as shown. The lower, *k*, of such gears engages with a gear, *l*, fixed on a horizontal shaft, *m*, provided with one or more pulleys, *n o*, having a crossed band, *p*, that goes around a pulley, *q*, on the driving-shaft. Such shaft is furnished with a loose pulley, *r*, and a driving-pulley, *s*. On the saw being put in revolution, the feed-roller G will be revolved.

The shaft *t* of the feed-roller F is supported in a slide or carrier, *u*, furnished with a spring, *v*, for pressing it toward the shaft of the other feed-roller, such causing the roller F to serve as a pressure-roller to keep the pole up to the roller G, and to give back and move forward, as the diameter of the pole may increase or diminish. On the shaft *t* is a gear, *w*. Furthermore, on a stationary arbor, *a'*, is a gear, *b'*, that engages with the gear *i*. An intermediate gear, *c'*, whose arbor is supported by two sets of links, *d' d' e¹ e¹*, arranged as shown, engages with the gears *w* and *b'*. The set of links admit of the lateral movements of the pressure-roller shaft, which derives rotary motion from the train of gears *i b' c' w*.

From the above it will be seen that while both rollers will act simultaneously as feed-rollers, one is caused to operate as a pressure-roller, the same causing the slit made by the saw in going through a pole to be parallel with that side or edge which may be next the stationary feed-roller G. The hoop cut off is thus made of an even thickness at its medial line throughout its length.

The arbor of the roller G is supported in a slide or carrier, e^2, adjustable transversely of the platform and relatively to the saw, and

provided with clamp-screws *f'*, such being for regulating the thickness of the hoop or piece to be sawed from a pole by the machine.

A circular saw in the place of an endless band-saw will not answer for sawing hoops from poles, as it causes the pole to traverse in a straight line or path, and does not allow it to play or vibrate laterally to properly accommodate itself to the feed-rollers. Hoop-poles are usually knotty and irregular in shape, and consequently, while being fed along to the saw by the feed-rollers, they require a free lateral play or vibration, that a regular-tapered or prismatic or cylindrical pole does not need for being sawed.

I do not claim an endless band-saw and two fixed feed-rollers, arranged and combined, and provided with operative mechanism, as represented and described in the United States Patent No. 166,355, dated August 3, 1875, as one of the feed-rollers of my machine operates both as a feed and a pressure roller.

I claim as my invention in the above-described machine as follows, viz:

1. The combination of the endless or band saw A and the feed-roller G, provided with mechanism for operating them, as described, with the movable feed and pressure roller F, and mechanism for actuating it, as specified, such consisting in the arbor *a'*, gears *i b' c' w*, links *d' d' e' e'*, carrier *u*, and spring *v*, all being substantially as set forth.

2. The combination of the convex rest *f* with the platform *e* and the endless band-saw A, the feed-roller G, and the pressure-roller F, provided with mechanism for operating them, as explained.

GEORGE THOMPSON.

Witnesses:
R. H. EDDY,
J. R. SNOW.