H. B. CORNISH & C. P. HUNT.

MACHINES FOR SAWING STAVES.

No. 173,767. Patented Feb. 22, 1876.

Fig. 1.

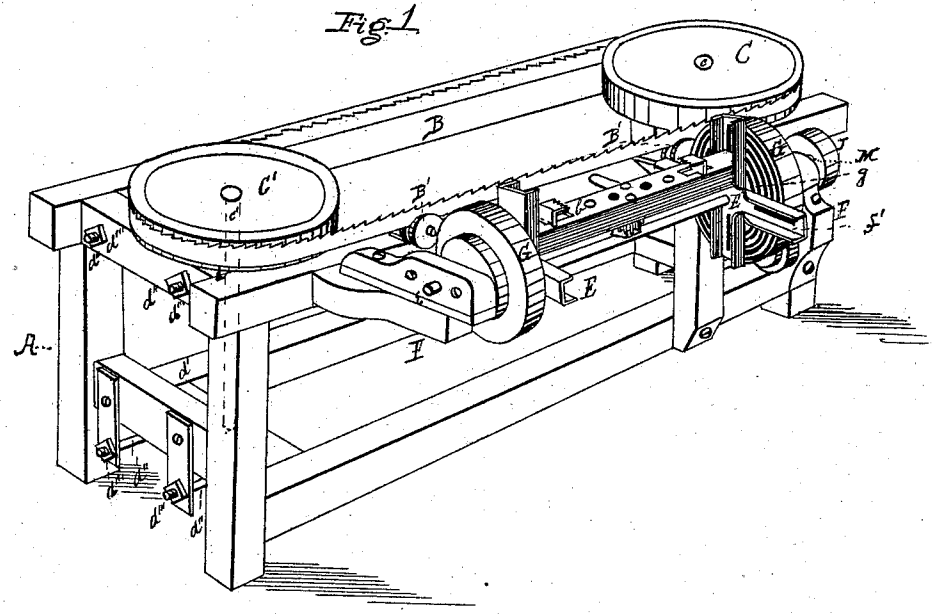


Fig. 2.

Fig. 3.

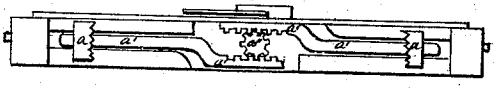


Fig. 4.

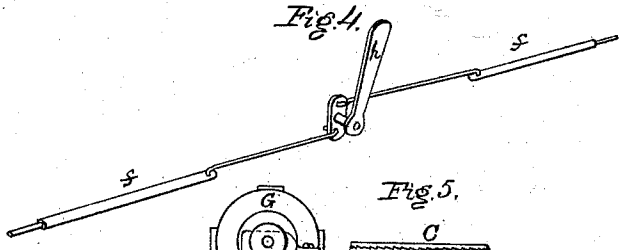
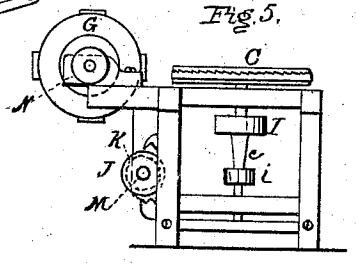


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARRY B. CORNISH AND CHARLES P. HUNT, OF MINNEAPOLIS, MINNESOTA, ASSIGNORS OF TWO-THIRDS THEIR RIGHT TO J. D. PUTNAM & CO., OF RIVER FALLS, AND ISRAEL GRAVES, OF HUDSON, WISCONSIN.

IMPROVEMENT IN MACHINES FOR SAWING STAVES.

Specification forming part of Letters Patent No. **173,767**, dated February 22, 1876; application filed December 4, 1875.

To all whom it may concern:

Be it known that we, HARRY BUTTON CORNISH and CHARLES PLAT HUNT, of Minneapolis, Hennepin county, State of Minnesota, have invented an Improvement in Machines for Sawing Staves, of which the following is a specification:

This invention relates to improvements in machines for sawing the ordinary stave-bolt into staves; and consists in the combination of devices, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawing, forming part of this specification, Figure 1 is a perspective view of the machine. Figs. 2, 3, and 4 are detached views. Fig. 5 is an end view.

A is the main framing of the machine, upon which the operating mechanism is mounted. B is an endless-band saw, traveling around horizontal pulleys C C′. The pulley C′ is mounted upon a vertical spindle, *c′*, supported in adjustable transverse bars *d d′*, sliding in guides or ways in the frame A. To these bars screw attachments *d″* are affixed in such manner that, by turning the screw-nuts *d‴*, the bars *d d′*, carrying the spindle and pulley *c′* C′, may be drawn nearer to or forced farther from the pulley C, for the purpose of tightening the band-saw when required. The band-saw runs over two circular revolving rests or guides, B′ B′, secured to the frame of the machine, for keeping the saw in a straight horizontal position with the reel carrying the stave-bolt, and revolving at right angles with the movement of the saw. F F are brackets, secured to one side of the frame of the machine, for supporting the revolving shaft *e*, carrying the reel-heads E E. The reel-heads are arranged to receive four or more beams, *b*, and each beam is provided with two sliding jaws, *a a*, between which the stave-bolt is secured. The jaws *a a* are provided with racks *a′ a′*, in which works a pinion, *a″*, mounted upon a square-headed bolt, *a‴*, having a ratchet, *b′*, engaging with a pawl, *b″*, on the beam *b*.

When the stave-bolt is placed between the jaws *a a* the bolt *a‴* is turned with a wrench, whereby the pinion *a″*, working in the racks *a′ a′* of the jaws *a a*, draws them toward each other, confining the stave-bolt therein, the jaws being securely held in place by the ratchet and pawl *b′ b″*.

To each of the beams is also secured a lever, *h*, which operates two rods, *f f*, connected therewith, and which, when depressed, extends the rods through the radial slots *f′* in the reel-heads into grooves *g* on the inner faces of two stationary disks, G G, secured to the brackets F F. The grooves *g*, instead of meeting or making a complete circle, run into the next groove outside or toward the circumference of the disks. By this means the rods *f f*, resting in the interior grooves of the disks while the reel is revolving, will cause the beam carrying the stave-bolt to be sawed to move outward toward the band-saw the thickness of a stave at each revolution of the reel, thus automatically feeding the stave-bolt to the saw until the rods have reached the outer circle of the grooves, (which is a complete circle,) where the beam will revolve freely, but advance no farther. The reel is then stopped and a new stave-bolt secured to the beam, which is accomplished by bringing the beam *b* over or on top of the shaft, raising the pawl *b″*, and turning back the bolt *a‴*, which releases the unsawed portion of the stave-bolt or timber, which is removed and a new stave-bolt secured therein, as before described. The lever *h* is then raised, which withdraws the rods *f f* from the grooves *g* in the disks, when the beam falls down upon the shaft *e*. The lever *h* is again depressed, forcing the rods into the inner groove of the series on the disks. The reel is then revolved, causing the stave-bolt to be fed automatically to the band-saw.

Power is applied to the large pulley I on the vertical shaft *c* for driving the band-saw. A short belt from the small pulley *i* on the vertical shaft *c* to the pulley J on the short horizontal shaft M, and another belt from the pul-

ley K on the horizontal shaft M to the pulley N on the reel-shaft, communicate motion to the reel-shaft.

The operation of the machine is deemed obvious from the foregoing description.

We claim as our invention—

1. The combination, with an endless-band saw, B, of the revolving reel-heads E E and mechanism, substantially as described, whereby the stave-bolt is fed automatically to the endless-band saw, for the purpose specified.

2. The combination, with the beam *b*, of the sliding jaws *a a*, racks *a' a'*, pinion *a''*, square-headed bolt *a'''*, ratchet *b'*, and pawl *b''*, for the purpose specified.

3. The combination, with the stationary grooved disks G G, of the rods *f f*, lever *h*, and beam *b*, substantially as and for the purpose specified.

In testimony that we claim the foregoing we have hereunto set our hands.

HARRY BUTTON CORNISH.
CHARLES PLAT HUNT.

Witnesses:

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JOHN DAY PUTNAM.