

Amis & Luce,

Crossing Staves.

No. 110,106.

Patented Dec. 13. 1870.

Fig. 1

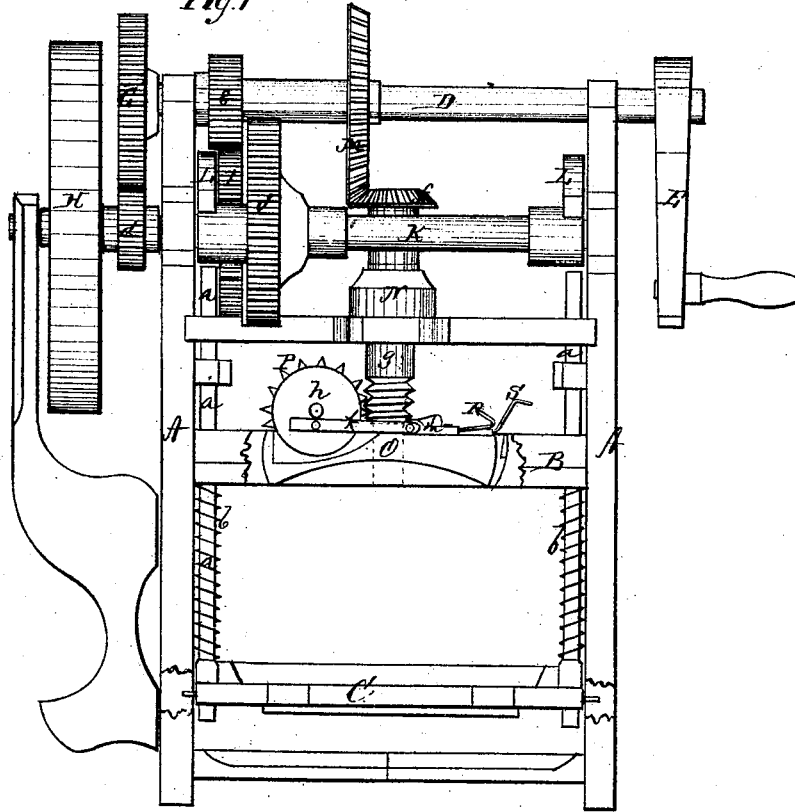
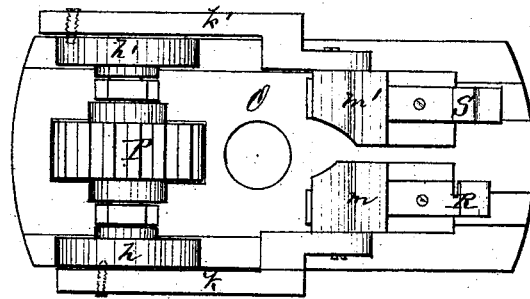


Fig. 2



Witnesses.
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United States Patent Office.

TRUMAN M. ANNIS AND THOMAS B. LUCE, OF LINDEN, MICHIGAN.

Letters Patent No. 110,106, dated December 13, 1870.

IMPROVEMENT IN BARREL CHAMFERING AND CROZING-MACHINE.

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

To all whom it may concern :

Be it known that we, TRUMAN M. ANNIS and THOMAS B. LUCE, of Linden, in the county of Genesee and in the State of Michigan, have invented certain new and useful Improvements in Barrel Chamfering and Crozing-Machine; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our invention consists in the construction and arrangement of a "machine for chamfering and crozing barrels," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front elevation of our machine; and

Figure 2 is an enlarged plan view of the revolving carriage upon which the chamfering and crozing-knives move.

A represents the frame of my machine, in which, at a suitable height, is placed the circular stationary guide B for the upper end of the barrel.

In the lower portion of the frame is a platform, C, upon which the barrel is placed.

This platform is on each side provided with a rod, *a*, which runs up in guides on the inner sides, and close to the frame A.

Around the rods *a a* are spiral springs, *b b*, which hold the platform up so that the knives may perform their work properly.

Across the upper end of the frame A is a shaft, D, turned by a crank, E, at one end, and at the other end provided with a cog-wheel, G, which gears with and communicates motion to a pinion, *d*, upon a short shaft which carries the fly-wheel H.

Upon the shaft D there is a pinion, *e*, which gears with a cog-wheel, I, upon another shaft, and on this shaft is still another pinion gearing with another cog-wheel, J, upon a shaft, K, thus communicating motion to the same.

On this shaft K are two cams, L L, which operate upon the rods *a a* to force the platform C down when the barrel on the same may be removed and another put in its place.

As soon as the cams cease to operate on the rods *a a* the springs *b b* draw the platform up again, so that the upper end of the barrel will project through the guide B.

It will be seen that in accordance with the construction of the gearing connecting the shafts D and

K, it becomes necessary for the former to perform a certain number of revolutions before the latter completes one revolution, for a purpose that will be presently described.

On the shaft D there is also a miter-wheel, M, which gears with a miter-pinion, *f*, upon the upper end of a vertical shaft, *g*, which passes through a hub, N, formed in the center of a cross-bar in the frame.

On the lower end of the shaft *g* is secured a horizontal carriage, O, which thus, through the wheel M and pinion *f*, obtains a rotary motion.

Above this carriage, on the shaft *g*, are cut screw-threads, in which meshes a toothed-wheel, P, having its journal-bearings on the carriage O.

Upon each journal of the wheel P (or on each end of the shaft upon which it is placed) is attached a crank-wheel, *h h'*.

The wheels *h h'* are, by pitmen *k k'*, connected with sliding blocks, *m m'*, which move in grooves on the carriage.

The block *m* has the chamfering-knife R attached to it, while the block *m'* carries the crozing-knife S.

When the machine is in operation the knives R S perform their work, the carriage O describing a series of revolutions and the knives moved by the screw-shaft *g* and toothed-wheel P.

The knives recede as soon as their work is performed, and then the cams L L operate upon the rods *a a* to lower the platform C with the barrel, as above mentioned.

The pitmen *k k'* may be shortened or extended, to suit large or small barrels.

Having thus fully described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the shaft D, crank E, cog-wheel G, pinion *d*, fly-wheel H, pinion *e*, cog-wheels I J, shaft K, and cams L L, all substantially as shown and described.

2. The arrangement of the platform C, rods *a a*, and spiral springs *b b*, in combination with the cams L L upon the shaft K, said shaft being revolved by means of the gearing herein described, as and for the purposes set forth.

In testimony that we claim the foregoing, we have hereunto set our hands this 5th day of October, 1870.

TRUMAN M. ANNIS.
THOS. B. LUCE.

Witnesses:

JAS. B. MOSHIER,
JOSEPH BREACH.