J. H. Mattison,

Crozing Staves.

No. 18,549. Patented Nov. 3, 1857.

Fig 1.

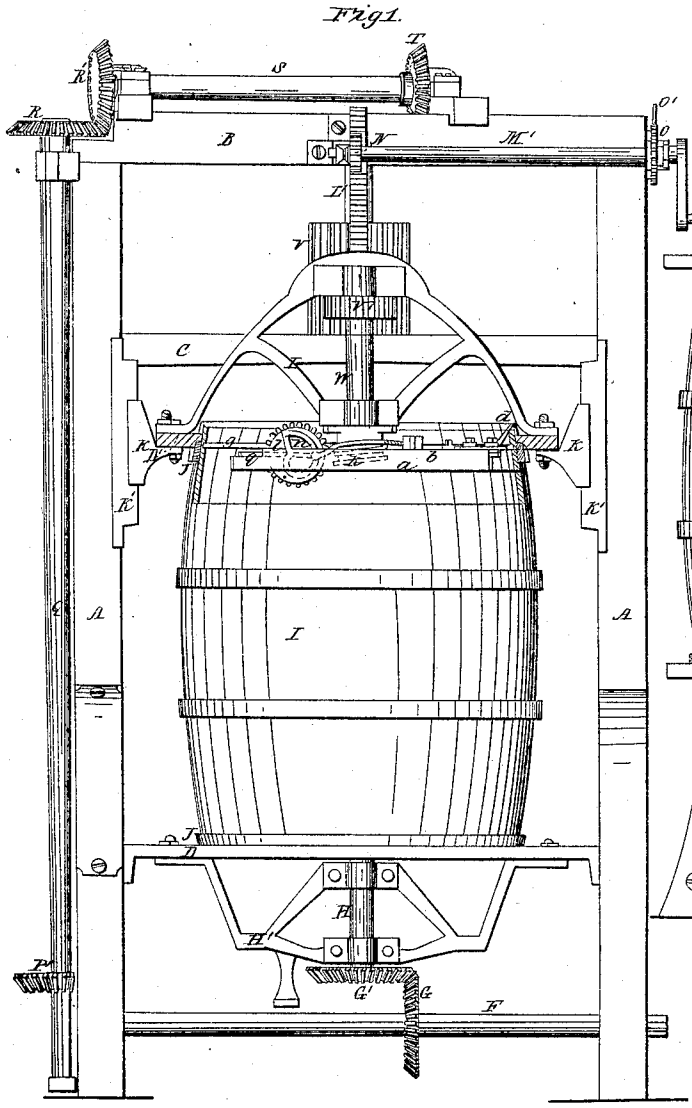


Fig 2.

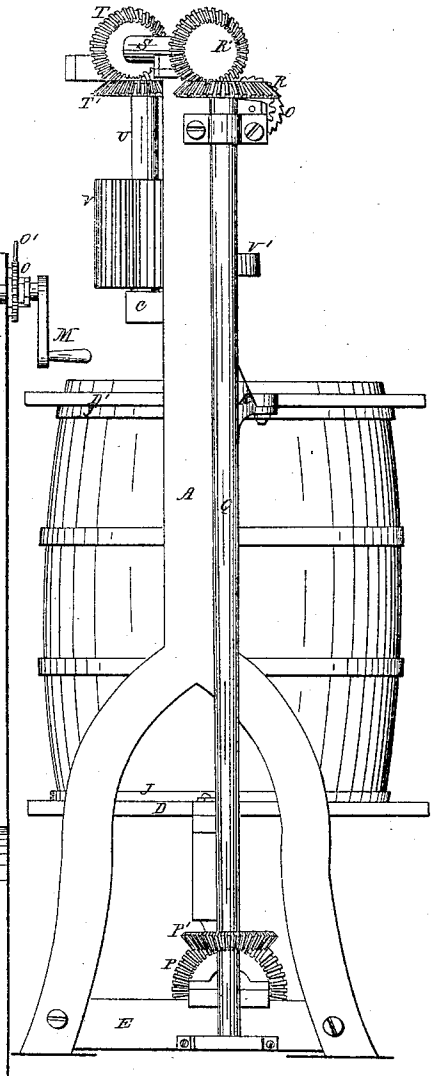
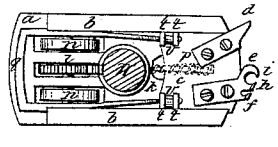


Fig 3.



UNITED STATES PATENT OFFICE.

JAS. H. MATTISON, OF SCRIBA, NEW YORK.

CHAMFERING AND CROZING BARRELS.

Specification of Letters Patent No. 18,549, dated November 3, 1857.

To all whom it may concern:

Be it known that I, JAMES H. MATTISON, of Scriba, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Machines for Chamfering and Crozing Barrels; and I do hereby declare that the same are described and represented in the following specifications and drawings.

To enable others skilled in the art to make and use my improvements I will proceed to describe their construction and operation referring to the drawings in which the same letters indicate like parts in each of the figures.

Figure 1, is an elevation of my machine represented as acting upon the barrel, a portion of which is broken off, to show the chamfering and crozing apparatus, in its working position. Fig. 2, is a side elevation and Fig. 3, a top view of the crozing apparatus.

The nature of my improvements in machines for chamfering and crozing barrels consists, in the arrangement of certain devices to traverse the chamfering and crozing tools out slowly or gradually, and draw them in suddenly, to remove the barrel and save the time of the attendant operating the machine. Also in making the edges of the rims, which hold the barrels thin, by making a rabbet or otherwise, so as to hold the ends of the barrels without removing the truss hoops.

In the accompanying drawings A, A, are posts connected by the top bar B, back bar C, and bottom hoop or rim D, to form a strong frame the bottom of each post having two legs which are connected to each other by bars at the bottom one of which is shown at E, Fig. 2.

F, is a shaft turning in boxes fastened to the bars E, which shaft may be provided with a pulley for the belt which is to operate the machine. The shaft F, carries the gear G, to drive the gear G′ and turn the shaft H, in the frame H′ fastened to the rim D. The shaft H, carries an apparatus for chamfering and crozing the barrel I, such as is shown in Fig. 3. The staves of the barrel I, are held together by the truss hoops J, J, and the lower end is set into the rim D, and the rim D′, is brought down, so as to surround the upper end and hold the barrel firmly in its place while it is crozed and beveled at each end. The rims D, and D′, are made with a rabbet so as to hold the ends of the barrel without removing the truss hoops J, J, which is a very great advantage. The rim D′, is connected to brackets K, K, which are arranged to traverse on the ways K′, K′, fastened to the posts A, A. This rim D′ has the frame L, fastened to it and connected to the rack L′, by which the rim is raised and lowered as the crank M, is turned which rotates the shaft M′, which turns in boxes fastened to the post A, and top bar B, and carries the pinion N, which moves the rack L′. The shaft M′, has the ratchet wheel O, fastened to it and is caught by the pawl O′, to hold up the rim D′, while the finished barrel is removed, and another put in. The gear P, on the shaft F, drives the gear P′, and shaft Q, which turns in boxes fastened to the post A, and carries the gear R, which drives the gear R′, and the shaft S, which turns in boxes fastened to the top bar B, and carries the gear T, which drives the gear T′, and shaft U, which turns in boxes fastened to the top bar B, and back bar C, and carries the long gear V, which drives the gear V′ and shaft W′ which turns in the frame L, and carries the chamfering and grooving apparatus for the upper end of the barrel.

The grooving apparatus is shown by a side elevation in Fig. 1, (where the barrel is represented as cut away for that purpose) and in plan in Fig. 3. It consists of a bar *a*, fastened to the end of the shaft W, and provided with dovetailing ledges *b*, *b*, on the top at each edge between which ledges the carriage *c*, is fitted to traverse and carry the chamfering knife *d*, which is made in the form shown and fastened to said carriage; which also carries the crozing tool *e*, which is also fastened to it, which is made with a spur *f*, to cut the under side of the score *g*, and a spur *h*, to cut the upper side a little distance behind the spur *f*, (so as to work free and not crowd the wood against each other) and also the hooked chisel *i*, which removes the wood cut off by the spurs, and completes the groove or croze I, to receive the edge of the head. To traverse the carriage I fasten the male screw *k*, to the frame L, so that the shaft W, will turn freely in it, and carrying the gear *l*, around the screw *k*, so as to be rotated by it, and turn the cams *n*, *n*, on the same shaft with the gear, which shaft turns in bearings in the bar *a*. The form of the grooves in the cams is shown

in Fig. 1. It is so constructed as to move the carriage out fast at first and gradually slower until it finishes the croze, and then pass in suddenly being drawn back by the helical spring p, see Fig. 3 so that the crozing apparatus can be drawn up out of the barrel as the rim D′ and frame L, are raised as heretofore described. The carriage c, is traversed by the bridle q, which is made so that its edges traverse under ledges b, b, and a projection from each arm of the bridle enters the grooves in the cams to give it motion, the ends of the arms pass through two lugs (l, t,) each on the carriage with a screw nut v, between the lugs to adjust the bridle as desired.

It is a great advantage to operate the crozing tools with a cam, which traverses them out gradually and brings them in suddenly, as it makes the work both smooth and neat, and enables the operator to do double the number of barrels in a given time. It is also a great advantage to make the edges of the rims thin, so as to croze the barrels without removing the truss hoops. By arranging the spurs on the crozing tool one before the other so as not to crowd the wood against each other they are far less likely to heat and draw the temper, and are less likely to be broken in cutting through knots in the staves.

I believe I have described and represented my improvements in machines for chamfering and crozing barrels so as to enable any person skilled in the art to make and use it.

I will now state what I desire to secure by Letters Patent to wit.

1. I claim the cams n, n, in combination with the spring p, and the chamfering and crozing tools so constructed as to traverse them out gradually to cut the score and chamfer a barrel and draw them in suddenly to remove the barrel and save the time of the operator attending the machine.

2. I claim making the edges of the rims D, and D′, which hold the end of the barrel, by making a rabbet or otherwise, so as to hold the barrel properly the machine without removing the truss hooks substantially as described.

JAS. H. MATTISON.

Witnesses:
ROBN. I. SIMPSON,
THOMAS WELCH.