WILLIAM R. MIDDLETON.

Improvement in Crozing Machines.

No. 115,974. Patented June 13, 1871.

Fig. 1.

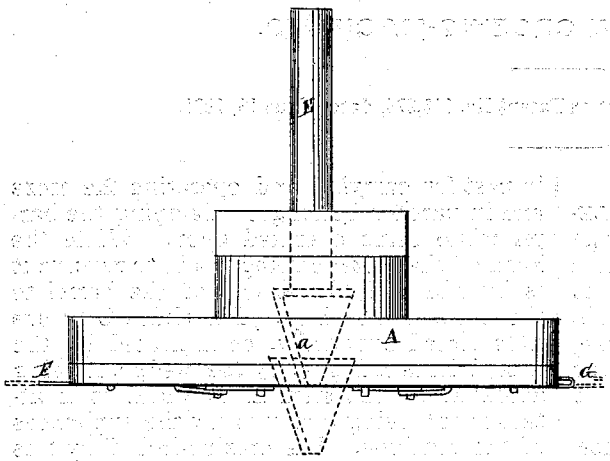


Fig. 2.

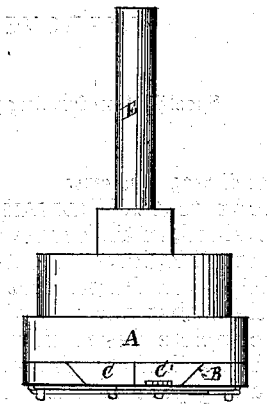


Fig. 3.

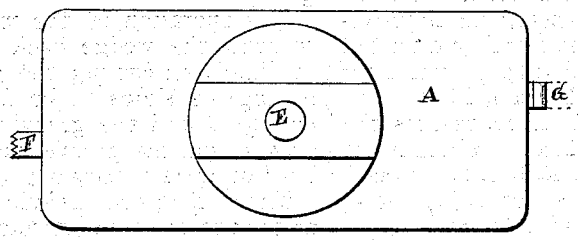
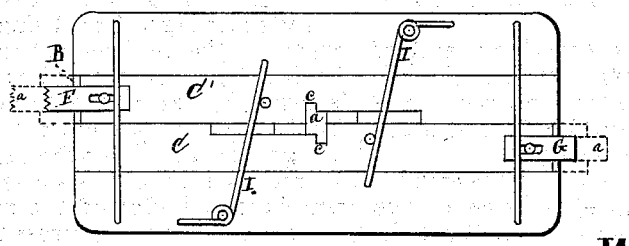


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM R. MIDDLETON, OF CLEVELAND, OHIO.

IMPROVEMENT IN CROZING-MACHINES.

Specification forming part of Letters Patent No. 115,974, dated June 13, 1871.

To all whom it may concern:

Be it known that I, WILLIAM R. MIDDLETON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Barrel-Croze; and I do hereby declare that the following is a full, clear, and complete description of the same, reference being had to the accompanying drawing making part of this specification, in which—

Figures 1 and 2 are edge views of the croze. Figs. 3 and 4 are side views.

Like letters of reference denote like parts in the different views.

The nature of this invention relates to a device for cutting the groove in the chine of barrels for the reception and retention of the heads thereof, the same being an improvement of a former invention, forming a part of a barrel-machine, for which an application for Letters Patent was filed March 9, 1871.

In the drawing, Fig. 1, A represents the head of the croze, in the face of which is cut a deep dovetailed groove, B, Fig. 2. In said groove is fitted a pair of slides, C C′, Fig. 4, and which are made to slide therein in opposite directions in respect to each other by means of a wedge, indicated by the dotted lines *a*, Fig. 1, an end view of which is shown in Fig. 4, in which it will be seen that from one edge of each of the sides of the wedge projects a flange or rib, *c*, which is made to fit and slide in corresponding notches cut in the edge of the slides, as shown in said Fig. 4.

It will be observed that one side of each of the notches is much wider than the other, so that it reaches back upon the inclined planes of the wedge, and whereby said slides are operated, as presently shown.

On the outer end of the slide C′ is secured the crozing-iron F, Fig. 4, whereas on the outer end of the slide C is secured the trimmer G.

The practical operation of this croze is as follows: It is attached to the machine above referred to, said machine being constructed in part for carrying and operating the croze and in part for holding or clamping the barrel while being operated upon. While the head of the croze is being made to revolve it is introduced into the end of the barrel to the base of the chine. The slides C C′ are then forced outwardly, as indicated by the dotted lines *c*, Fig. 4, by the wedge, it being actuated by the stem H, to which it is attached for being operated by the appliances of the machine. The crozing-iron F by this means cuts into the end of the barrel, forming a groove for the heads. The edges of the groove are trimmed and slightly rounded by the trimmer G, which follows immediately after the crozing-iron, thereby finishing the groove.

The operation of the machine is such as to draw the wedge back into the head immediately on cutting the groove, thereby allowing the slides to be drawn back by the springs I and the grooving-iron to be withdrawn from the groove, thereby allowing the head or croze to pass out from the barrel.

The crozing-head used in the machine above alluded to is so constructed that each of the slides reaches only to the center of the head, from which is made to project a wedge for forcing them outwardly—that is to say, the wedge is between the two inner ends of the slides. The objection to this way of constructing the head and slides is that the slides are not readily brought back after being projected for cutting the grooves, in consequence of the centrifugal force being so great as to overcome the resiliency of the springs used for drawing back the slides; hence the head is found, by experience, to be impracticable, for the crozing-irons are not withdrawn from the groove, and, therefore, the head cannot be removed from the barrel. In order to remedy this defect of the machine, I have made slides to extend across the entire diameter of the head, so that the weight of the slide on one side of the axial center will counterbalance that on the other; hence the centrifugal force exerted upon the slides will

be at each end as in opposite directions, which will, therefore, not prevent them from being drawn back by the springs used in connection therewith for that purpose.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The wedge *a*, when constructed with a flange or rib, *c*, as arranged to operate in combination with the slides C C′, in the manner and for the purpose set forth.

WILLIAM R. MIDDLETON.

Witnesses:

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