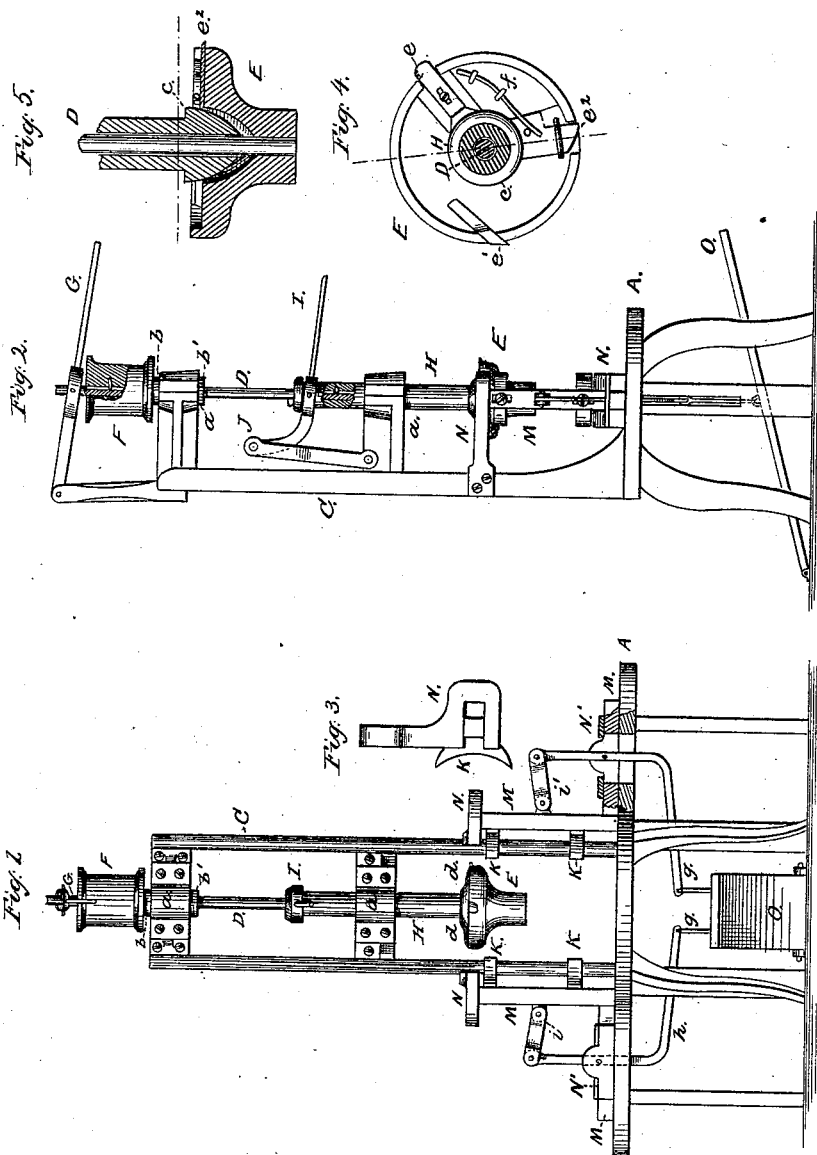


T. McKEEVER.
Machine for Crozing Barrels.

No. 215,646.

Patented May 20, 1879.



WITNESSES:

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THOMAS MCKEEVER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR CROZING BARRELS.

Specification forming part of Letters Patent No. **215,646**, dated May 20, 1879; application filed March 14, 1879.

To all whom it may concern:

Be it known that I, THOMAS MCKEEVER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Machine for Crozing Barrels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is a side elevation; Fig. 3, a detail view of the upper side of guide N. Figs. 4 and 5 are detail views of the cutter-head.

My invention is an improvement in machines for flinching, grooving, and beveling barrel-staves when set up in the shape of a barrel, and before being headed.

The invention consists, first, in the peculiar construction of a hollow cutter-head, in combination with the means for projecting the grooving or crozing knife.

The invention also consists in the peculiar mechanism for holding the barrel while these operations are being conducted, all as herein-after more fully described.

In the drawings, A is the table, and C an elevated frame-work rising from the table, and carrying, in connection with the latter, the operating parts of the machine. D is a vertical shaft, arranged in bearings *a a*, projecting horizontally from the elevated frame C, and carrying at its lower end the rigidly-attached and circular cutter-head E. This shaft at its upper bearing is arranged concentrically within the sleeve *b* of a driving-pulley, F, which sleeve of the driving-pulley has a flange or collar, *b'*, beneath the bearing *a*, which prevents any vertical displacement of the pulley, and holds it always in proper position to receive the driving-belt. The shaft D, however, is made vertically adjustable, so as to be raised and lowered to permit the barrel to be inserted or removed from beneath the cutter-head, and to permit this action the vertical shaft D is connected to the drive-pulley by a groove and spline, or other equivalent means, which causes them to rotate together but be independent of each other for vertical movement.

For giving the desired vertical movement

to the shaft D and the attached cutter-head, a lever, G, is fulcrumed to the elevated frame at the top, and is connected by a swiveling collar to said shaft. Surrounding the shaft D at its lower bearing is a sleeve, H, which is connected with the shaft by a groove and spline, so as to revolve with said shaft, but be vertically adjustable thereon. This sleeve is also provided with a lever, I, at its top, which lever is connected with it by a swivel-ring, and is fulcrumed in the rear to a swinging standard, J, which compensates for any lateral strains which the lever may have upon the shaft. The lower end of this sleeve H enters the cutter-head and terminates in a cone, *c*, the cutter-head being made hollow with removable upper plates, *d d*. In said cutter-head are arranged three knives, *e e' e''*, the edges of which project horizontally from the periphery of said cutter-head, and of which knives *e* is stationary and has a horizontal cutting-edge, which serves to level the ends of the staves, while *e'* has a nearly vertical but inclined edge, which gives the bevel cut to the upper edges of the stave known as "flinching."

The third knife, *e''*, is employed for cutting the groove or croze in the staves which receives the barrel-head. For this purpose this knife must be made individually adjustable, so as to prevent it from acting on the staves until the cutter is adjusted to its proper plane, and to permit the knife to be drawn in after the groove is cut, so that the cutter-head can be lifted out. This knife *e''*, it will be seen, is horizontal, and in giving it the desired adjustment its inner end is brought in close proximity to the cone *c* on the adjustable sleeve, so that when the cone is depressed the knife is projected for action. When the cone is raised a spring, *f*, serves to draw the knife into the cutter-head again.

For firmly holding the barrel upon the table while the cutting is being done, clamps K K are arranged upon L-shaped sliding bars M M on each side of the cutter-head. These bars M slide in guides N, fixed to the elevated frame, and guides N', arranged upon the table, being actuated by treadle O through the links *g*, elbow-lever *h*, and links *i*.

The elbow-levers *h*, it will be seen, extend

through slots in the base portion of slides M, and are pivoted in the same boxes which constitute guides for said slides.

In operating this machine, the barrel is placed upon the table beneath the cutter-head, and the clamps are then tightly closed upon the same by the action of the foot upon the treadle. The cutter-head is then brought down to its place on the edges of the barrel-staves by the upper lever, G, and the grooving-knife is then thrown out by the lower lever, I. As soon as the cutting is finished the lever I is released and the grooving-knife withdrawn into the cutter-head by the spring *f*. The upper lever, G, is then raised to withdraw the cutter-head from the barrel, pressure relaxed on the treadle, and the barrel removed.

What I claim is—

1. The cutter-head E, made hollow, and pro-

vided with knives *e e¹ e²*, and a removable cover, *d*, in combination with the rigidly-attached shaft D and the adjustable sleeve H, having at its lower end a conical projection, *c*, located within the hollow cutter-head and below its removable cover, substantially as shown and described.

2. The combination, with the revolving cutter-head, of the L-shaped slides having clamps K K, links *i i*, elbow-levers *h h*, links *g g*, and treadle O, substantially as and for the purpose described.

The above specification of my invention signed by me this 10th day of March, 1879.

THOMAS MCKEEVER.

Witnesses:

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SOLON C. KEMON.