W. BROWN.

Machines for Dressing and Crozing Barrels.

No. 141,317. Patented July 29, 1873

Fig. 1.

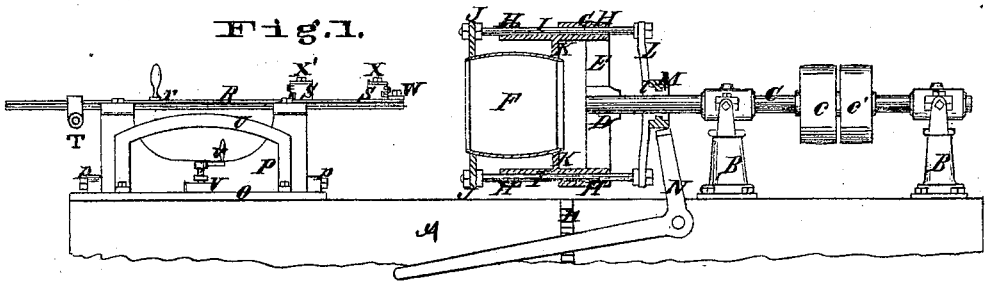


Fig. 2.

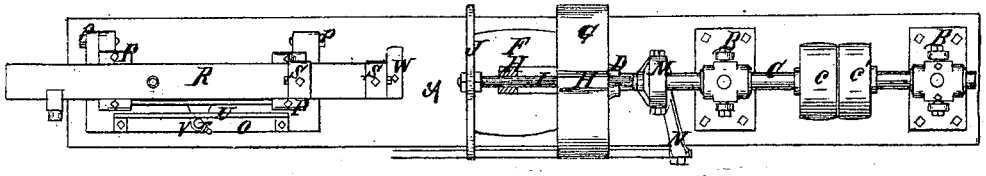


Fig. 3.

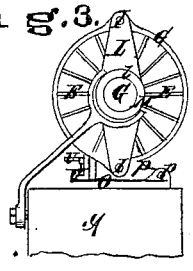


Fig. 4.

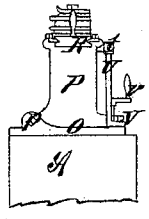


Fig. 5.

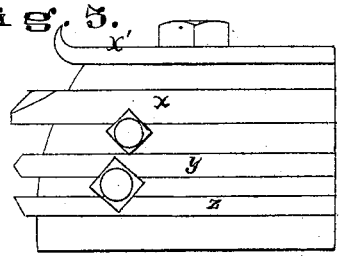
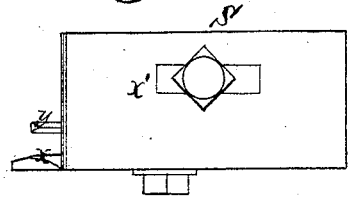


Fig. 6.



ATTEST.

Jac. L. Ewin

Walter Allen

INVENTOR.

William Brown

By Knight Bros Attys

UNITED STATES PATENT OFFICE.

WILLIAM BROWN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN MACHINES FOR DRESSING AND CROZING BARRELS.

Specification forming part of Letters Patent No. **141,317**, dated July 29, 1873; application filed June 4, 1872.

To all whom it may concern:

Be it known that I, WILLIAM BROWN, of the city and county of St. Louis and State of Missouri, have invented certain Improvements in Machines for Dressing and Crozing Barrels, of which the following is a specification:

The first part of my invention relates to the chuck by which the barrel is secured to the head-stock while its inside is being turned. This chuck consists of a frame connected to the mandrel by a number of flattened arms or spokes so inclined as to cause a current of air to pass through the barrel when in motion. The frame has a cylindrical part carrying an interior flange whose inner diameter is made to fit the outside diameter of the barrel at the end, the rear end of the barrel being held by the flange. At opposite sides of the frame are sockets, through which pass rods whose front ends are connected by a ring or collar having an aperture similar to the flange aforesaid, to admit and hold the outer end of the barrel. The rear ends of the rods are connected to a cross-head capable of a sliding movement on the mandrel, and to which said movement is given by a lever to chuck the barrel into position for turning. The second part of my invention relates to the tool-rest, which is pivoted so as to allow the tool to be advanced or retracted by the tilting of the rest; and consists in combining with such rest a slider carrying the tool-holder and tools, said slider having an arm, which, as the slide is moved, is raised by a fixed guide to tilt the tool-rest and advance the tool.

Figure 1 shows my improvement partly in side elevation and partly in longitudinal section. Fig. 2 is a top view. Fig. 3 is an end elevation of the head-stock. Fig. 4 is an end elevation of the tool-rest. Fig. 5 is a side elevation of the tool-holder enlarged. Fig. 6 is a top view of the same.

A is the shears; B, the head-stock, whose mandrel C carries a fast and loose pulley, *c* and *c'*, respectively. The chuck is constructed as follows: D is a hub attached to the mandrel. E are a number of flattened spokes or wings so inclined as to cause the air to pass through the barrel F when it is rotating, so as to carry the turnings from the inside of the barrel, and prevent them from choking the tool. G is the cylindrical part of the chuck connected to the hub by the spokes E. I are two rods sliding in two sockets, H, upon opposite sides of the chuck. J is a ring or collar attached to the outer ends of the rods I, and having an interior diameter equal to the outside diameter of the end of the barrel to be turned out so as to fit tightly over the same. K is a flange extending inward from the cylindrical part G of the chuck, and having an inside diameter suited to embrace the inner end of the barrel, which is received within the said flange. The rear ends of the rods I are secured to the ends of the cross-head L, which turns with the mandrel, but admits of being slid endwise thereon to draw inward the collar J in chucking the barrel in the collars J K. The neck *l* of the cross-head turns in a collar, M, pivoted to the shorter arm of a bell-crank lever, N, by which the cross-head and the collar J are moved. The lever N is held by a ratchet, *n*, when the barrel is chucked. The tool-rest has a base, O, clamped to the shears, and to this is connected by pivots *p* the tilting frame P, on which slides the tool bar or slider R, to which the tool-holders S are attached. T is an arm extending right out from the bar R, and carrying at its end an anti-friction roller, *t*, which travels a guide-bar, U, secured to the base-plate O of the tool-rest. The office of this guide-bar is to tilt the frame P as the turning-tool enters the barrel, to advance the tool as it approaches the bulge of the barrel, and allow its retreat after passing the bulge. The friction-roller *t* may be dispensed with. V is an arm extending from the tilting frame P in the same direction as the arm T, and carrying a hand-screw, *v*, which may be turned to tilt the frame irrespective of the guide U. The inside of the barrel is first turned out by a rounded chisel or gouge, W, which passes through the barrel in advance of the crozing and chamfering-tools. X X' are two tool-holders secured to the slider R at such distance asunder for the tools to operate simultaneously upon both ends of the barrel after the tool W has passed through, these tools in these holders being advanced by turning the hand-screw *v*, and tilting the frame P to bring them into action on the ends of the barrel. *x* are the chamfering-tools to turn off the chimes.

x' is a tool for facing the inner edge preparatory to making the croze or head-groove, which is done by two shouldering-tools, y, and a chisel-shaped clearing-tool, z.

The operation of my lathe is as follows: The barrel having been first turned off upon the outside, and being secured by two or more hoops, is placed in the chuck, its ends being held in the collars J K, which are drawn together (or rather the collar J drawn backward) to engage the barrel by raising the lever N. When the barrel is secured in the chuck the lathe is put in motion, and the slider R moved toward the head-stock by the handle r, and, as the tool W enters the barrel, the end of the arm T runs upon the guide U, and by tilting the rest P advances the tool until it reaches the center of the bilge, from which point the end of the arm or roller t travels over the descending part of the guide, and the tool is gradually retracted until it passes out at the inner end of the barrel. The hand-screw v is then turned to throw the tools x x' y z further in advance than when turning out the inside; and by these tools the chimes are chamfered, and the croze made at both ends of the barrel simultaneously. The hand-screw v is then turned back, the slider retracted to the position shown in the drawings; and after the lathe is stopped the lever N is allowed to descend, throwing the collar J outward, and releasing the barrel from the chuck.

I do not claim the devices described in Louis Wirthlin's patent of August 25, 1863.

I claim herein as new and of my invention—

1. The chuck, consisting essentially of the collars J K and draw-rods I, with device for operating the moving collar, substantially as set forth.

2. The combination of the tilting rest P, slider R, arm T, and guide U, substantially as and for the purpose set forth.

WILLIAM BROWN.

Witnesses:

SAML. KNIGHT,

CHARLES PICCINI.