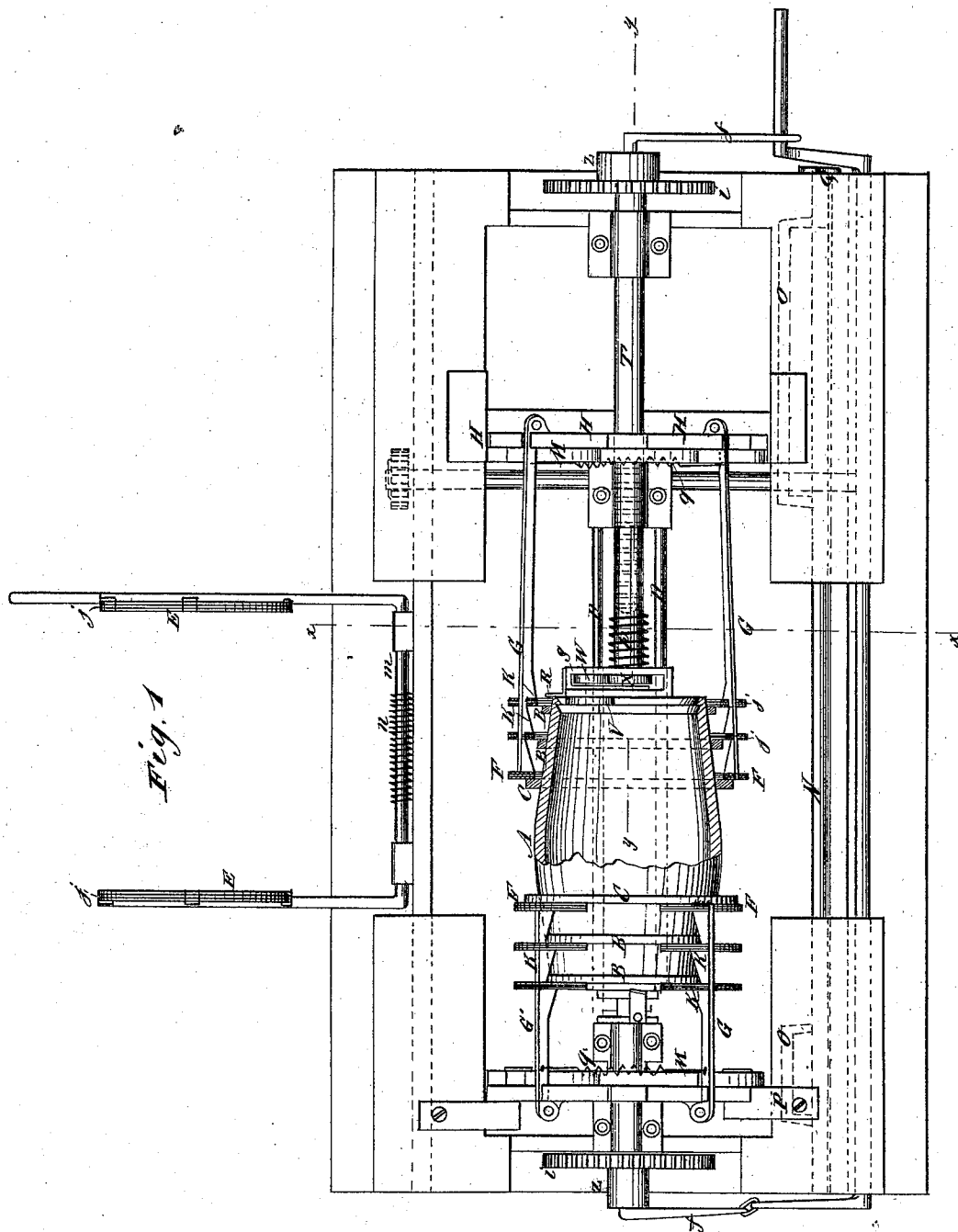


E. W. GILLMAN.

MACHINE FOR FINISHING BARRELS.

No. 174,228.

Patented Feb. 29, 1876.



WITNESSES:

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Fig. 2

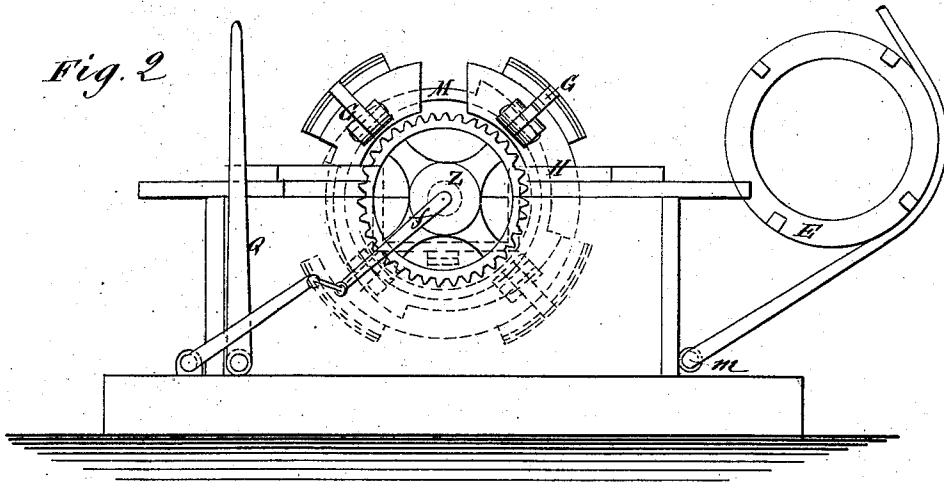


Fig. 3

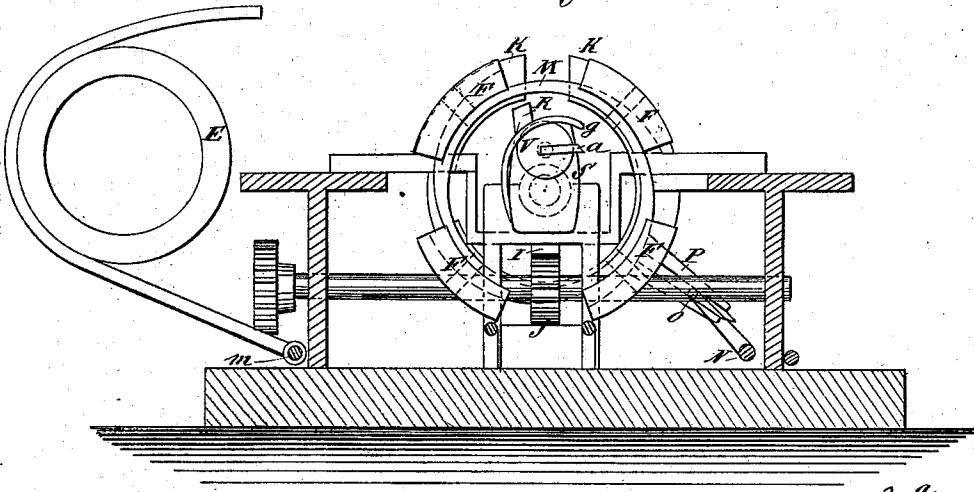
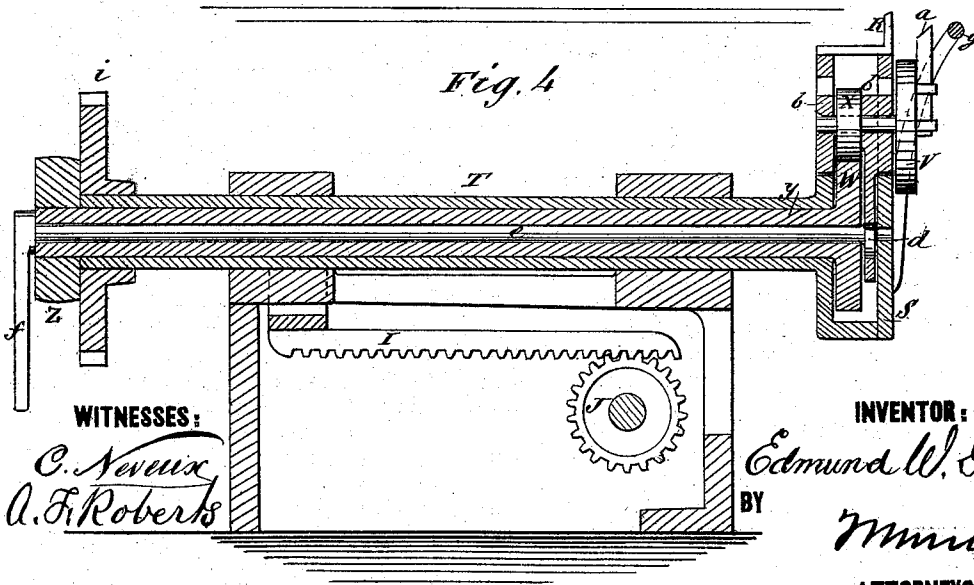


Fig. 4



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UNITED STATES PATENT OFFICE.

EDMUND W. GILLMAN, OF LONG ISLAND CITY, NEW YORK.

IMPROVEMENT IN MACHINES FOR FINISHING BARRELS.

Specification forming part of Letters Patent No. **174,228**, dated February 29, 1876; application filed December 18, 1875.

To all whom it may concern:

Be it known that I, EDMUND W. GILLMAN, of Long Island City, in the County of Queens and State of New York, have invented an Improvement in Machines for Finishing Barrels, of which the following is a specification:

My invention consists of the combinations and arrangements of apparatus, hereinafter described, for evening the staves, pressing on the hoops, dressing off the ends, and crozing and chamfering the barrels.

Figure 1 is partly a plan view and partly a horizontal section of my improved machine. Fig. 2 is an end elevation. Fig. 3 is a transverse section, and Fig. 4 is a detail in longitudinal section.

Similar letters of reference indicate corresponding parts.

To begin with, the barrel A, having the truss-hoops B B and C, is rolled into position on the rods D, and between the presser-rings or collars E, which at the time rest on the rods D between the heads F of the pushers G and G'. The pushers G, which are connected to the movable head H, are then pushed forward by the toothed bar I and wheel J, so as to press the ends of the staves strongly between the rings E, to even the staves lengthwise, or the pushers may be made to act directly on the ends of the staves for this purpose before the rings are brought down, their principal use being to gage the cutter for turning the ends of the staves. The pressure-rings E are then swung over out of the way and the pushers are opened and adjusted on the barrel against the inner truss-hoops C, and the heads K against the other hoops B. Pressure is again applied by the toothed rack and wheel, but this time against the hoops, for pressing them on and tightening up the joints of the staves. In order to continue pressing the hoop C further on after the others have been pushed as far as they can be, it is made wider than the others, so that, by opening the pressers a little, heads K will pass over hoops B, while heads F still bear against hoops C. In the same manner the inner hoops B may be continued after outer hoops B are pushed as far as they go. The pushers are opened in this way by the cam-wheels M, which are turned by the shaft N, cranks O and P, and lever Q.

As soon as the staves are pressed endwise and evened by the rings E, they are dressed off true by a rotary cutter (not shown) on the cutter-head V, running on the slowly-revolving carrying-head S of shaft T, said head V being turned by pulleys and a belt or gears, W X, connecting it with shaft Y, which is turned rapidly by a belt on its pulley Z. After the ends are thus dressed off true and the rings E are moved out of the way, a gage, R, also on the carrier-head, runs against the ends of the staves to gage the distance of the evening, crozing, and chamfering tools from the ends of the staves, said tools being also carried by the rotary cutter-head V, and one of which, say the crozing tool, is represented by a. This cutter-head V is fitted in bearings b, which slide out and in on the carrier-head S, as required, for entering the end of the barrel, cutting the croze, and then withdrawing again, and the cam d, shaft e, and crank f are provided for so working it. In order to prevent the tools of head V from cutting too deep in case the barrel is a little flat at one or more points, a strong pressure-gage, g, is mounted on the bearing of cutter-head V, to run around the barrel with the cutter-head and spring the cutters in and gage them to such flat places.

The shaft T is arranged to slide lengthwise in its bearings, to present the cutter-heads to the barrel properly, and it is provided with a spring, p, to push it along when the pushers G are moved up to their work. The shaft T is turned by suitable means connected with it by wheel i. The pressure-rings E and the pusher-heads F and K are made double, with rubber cushions or springs j between the two parts, to be more easy on the machine than solid metal contrivances would be. In practice the shaft m of the arms which carry the rings E will be made in two independent parts, to allow the rings to be moved toward and from each other, as required in evening the staves at the ends, and a spring, n, will be employed to push them apart to admit the barrels. The pushers will, in practice, be contrived in segments of a circle, so that they will close together on and support each other in the right position for pressing the ends of the staves at the beginning of the operation. They have springs q for closing them.

The machine is alike at both ends, except as to the endwise movements of the pushers.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination of the pressure-rings E with the pushers G, substantially as specified.

2. The bilge truss-hoops C and hoops B, in combination with pushers G and G', provided with pusher-heads F K, substantially as specified.

3. The pressure-gage *g*, in combination with cutter-head V and carrier-head S, substantially as specified.

4. The combination of sliding hollow shaft T, cutter carrier-head S, shaft Y, wheels W X, and rotary cutter-head V, substantially as specified.

5. The combination of an interposed rubber spring, *j*, with the two metal parts composing the pusher-heads and pressure-rings, as and for the purpose set forth.

EDMUND W. GILLMAN.

Witnesses:

T. B. MOSHER,

ALEX. F. ROBERTS.