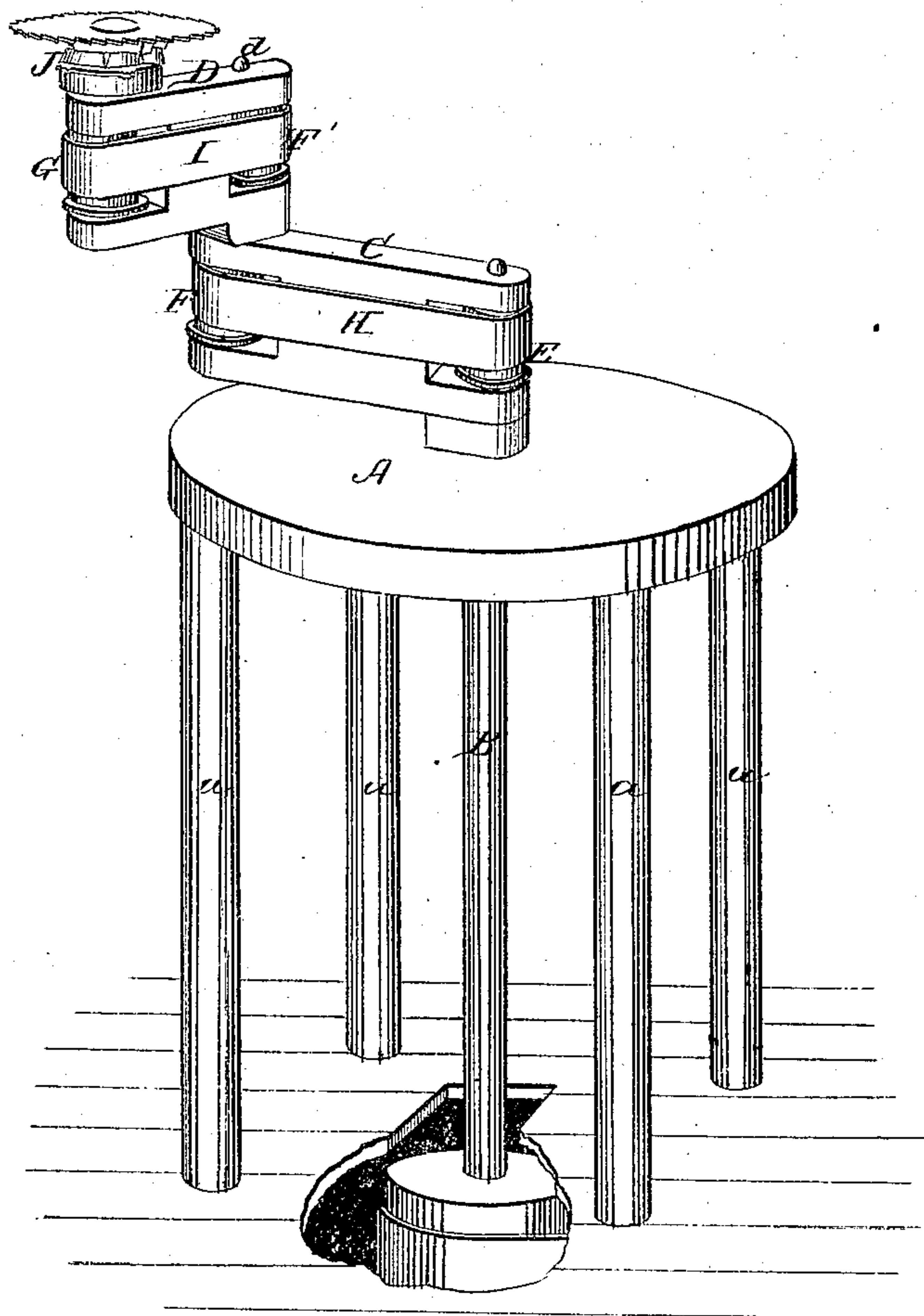


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Improvement in Machines for Crozing Barrels.

No. 128,955.

Patented July 16, 1872.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOSEPH ELLIS, OF SOUTH BROOKS, MAINE.

## IMPROVEMENT IN MACHINES FOR CROZING BARRELS.

Specification forming part of Letters Patent No. 128,955, dated July 16, 1872.

*To all whom it may concern:*

Be it known that I, JOSEPH ELLIS, of South Brooks, in the county of Waldo and State of Maine, have invented an Improvement in Machines for Crozing Barrels; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

The drawing represents a perspective view of my invention.

This invention consists in connecting a vertical shaft, on which a combination tool for finishing the ends of a barrel is located, with a central driving-shaft from which its power is derived by a double or jointed arm, thereby enabling the radius of the finishing-tool to be varied at will, and adapting it to use on barrels of any ordinary size.

In the adaptation of a combination tool, operated by machinery, for performing simultaneously the several operations of trimming, chamfering, howeling, and crozing, it has been usual heretofore to rotate the barrel around a cutter mounted on a fixed arbor, or to locate the cutter on a single arm at right angles with the driving-shaft, the barrel surrounding the cutter. In either of these cases it will be seen that there can be little or no facility of adjustment, and the apparatus must be confined to barrels of a definite size.

In carrying out my invention I employ a primary arm, which is articulated to the main vertical driving-shaft, and has a secondary arm articulated to its outer end, the former swinging freely in either direction on the driving-shaft, and the latter having the same motion on the end of the primary arm. In the outer end of the secondary arm is journaled a vertical arbor, carrying the combination cutting-tool, which is operated by a system of pulleys and belts passing through or around the arms to the driving-shaft.

The details of construction and method of applying will be more fully described hereinafter.

A represents a circular platform or table

supported by posts or legs *a*, and of suitable diameter to be inclosed in a barrel before the heads are inserted. Through the center of the table A passes a vertical driving-shaft, B, which is driven by suitable power, preferably applied below the floor, as shown. C represents an arm jointed at right angles to the driving-shaft above the platform A, and having a secondary arm, D, jointed to its outer end by means of a vertical shaft, *d*, and, if necessary, provided with a suitable handle for the convenience of the operator. The arms C D have recessed ends, in which the pulleys E, F, F', and G are located, the pulley E being attached to the driving-shaft, and connected by a belt, H, with the pulley F, which is mounted on the shaft *d*, and the pulley F', likewise mounted on the shaft *d*, being connected to the pulley G by means of a belt, I, thereby completing the connection of the driving-shaft B with the tool J, which is mounted on an arbor driven by the pulley G. Power from the driving-shaft is imparted through the belts and pulleys described, thereby revolving the tool J as effectually as if it were connected by a single belt, while the free lateral play of the arms C D enables them to be moved in either direction without slacking or tightening the belts, and without reference to the revolution of the driving-shaft. Thus, when a barrel is placed over the apparatus, its lower end resting on the floor or a platform of sufficient height to bring its upper end in the desired position with reference to the tool J, the latter is applied by the operator to the inner periphery of the barrel, thereby trimming, chamfering, howeling, and crozing the same, the tool being moved steadily around in either direction until the operation is completed, when the barrel may be inserted and its opposite end similarly treated.

It will be seen that this instrument can readily be applied to any barrel, the diameter of which is greater than that of the platform A, and equal to or less than twice the length of the arms C D when extended in line with each other.

Having thus described my invention, what I claim is—

The barrel-machine herein described, consisting of the supporting frame or table, the driving-shaft B, the jointed arms C D, the pulleys E F F' G, the belt H, and the tool J, all constructed, combined, and adapted for use substantially as herein described.

The above specification of my invention signed by me.

JOSEPH ELLIS.

Witnesses:

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