

(No Model.)

G. W. PACKER.
HOOP DRIVING MACHINE.

No. 409,297.

Patented Aug. 20, 1889.

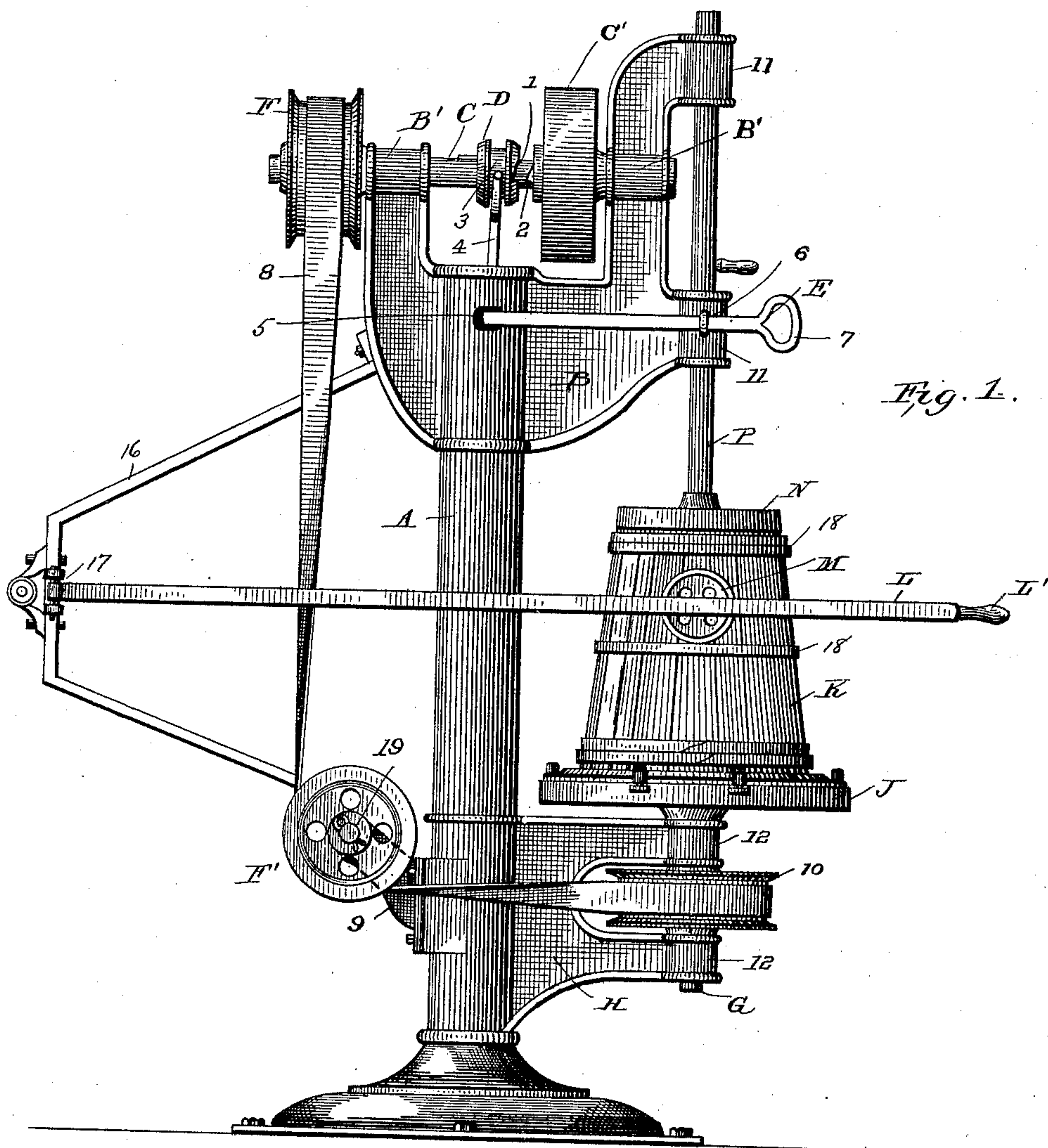


Fig. 1.

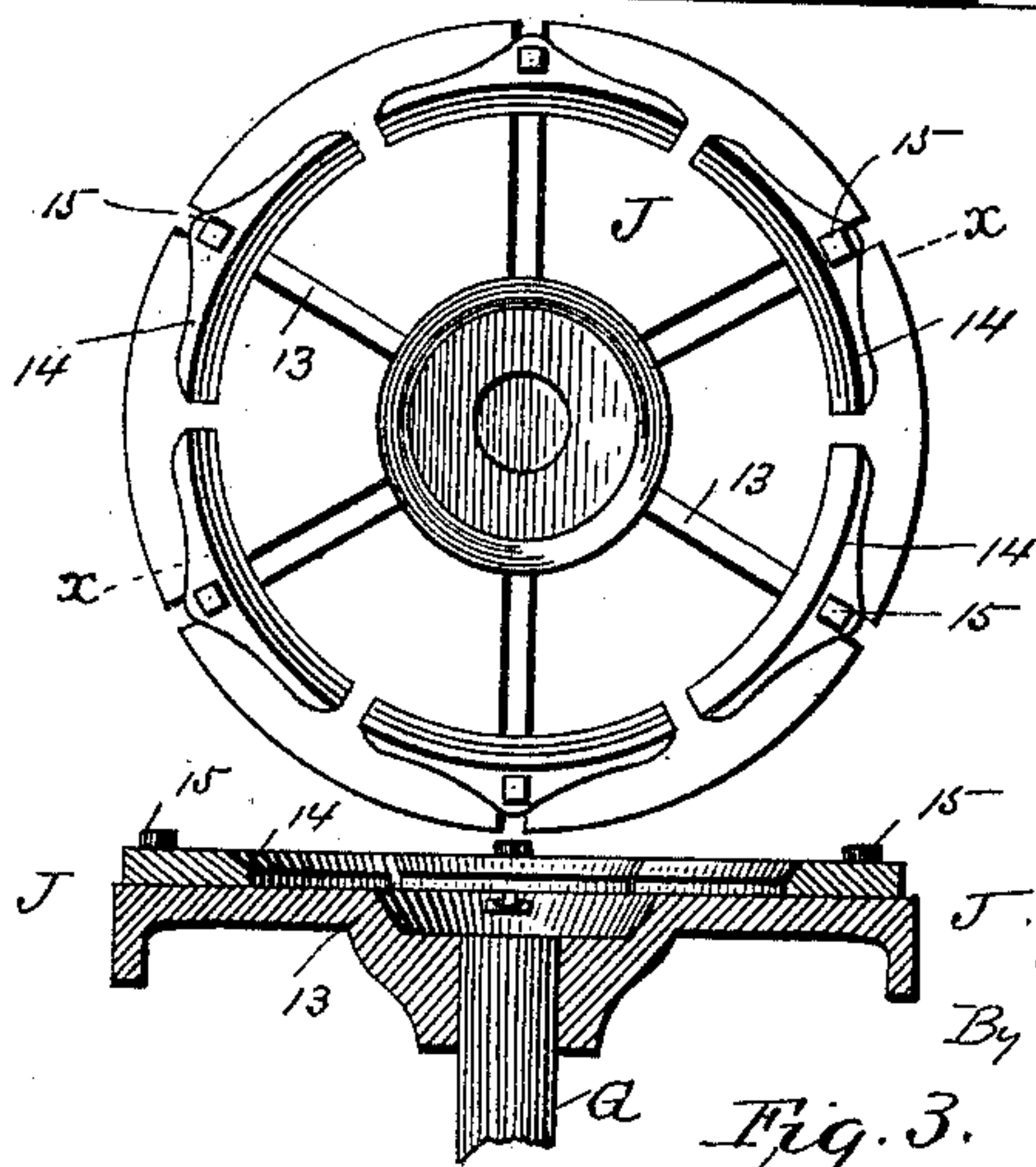


Fig. 2.

WITNESSES
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UNITED STATES PATENT OFFICE.

GEORGE W. PACKER, OF ROCK FALLS, ILLINOIS.

HOOP-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 409,297, dated August 20, 1889.

Application filed August 23, 1888. Serial No. 283,597. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PACKER, a citizen of the United States, residing at Rock Falls, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Hoop-Driving Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to a hoop-driving machine, and has for its objective point the rapid and convenient driving or forcing of the hoops upon the barrel or cask.

The essential elements of my invention are mechanism for rapidly rotating the cask in the process of finally driving the hoops thereon, and a lever suitably fulcrumed at one end, and provided intermediately with a wheel adapted to have its tread temporarily placed and held upon the upper edge of the hoops to be driven, said lever being provided at its free end with a handle, by the means of which the operator readily places and holds the forcing-wheel in position upon said hoops. As the cask revolves rapidly, the forcing-wheel exerts its downward pressure successively upon every part of the upper edge of the hoop, tending to force the latter uniformly upon the cask without the usual concussion resulting from driving the same with a hammer or maul. Again, much difficulty is experienced in placing the last hoop at the end or bottom of the cask, inasmuch as the opening of said hoop is designed to be substantially that of the size of the bottom of the cask when the latter is drawn down to its proper shape. To obviate the difficulty of seating this end hoop, I provide a head, the periphery of which has the same exterior taper as the cask, and whose greatest cross-diameter equals or is slightly less than that of the cask, and the end hoop is therefore forced over said head to its position on the end of the cask with the same facility that the other and larger hoops are forced to their places, respectively.

In the drawings, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a plan of the revolving table which carries the cask. Fig. 3 is a cross-section in the line xx of Fig. 2.

A is a hollow standard sustaining the several parts involved in my invention, and which is adapted to be fastened in any suitable way to the floor of the factory. To the upper end of the standard A is suitably attached bracket B, which projects slightly above said standard A at opposite sides thereof, and is provided at an altitude slightly above the upper end of said standard with horizontal boxes B', within which is suitably journaled the driving-shaft C. As the boxes B are located on each side of the standard A and with their surfaces perpendicular thereto, the shaft C extends across the line of the standard A a short distance above the upper end of the latter. On the shaft C is loosely seated the driving-pulley C', and on the shaft C, also, directly over the standard A, is feathered the sliding clutch D. On the side of the clutch D adjacent to the driving-pulley C is formed the recess 1, adapted to receive and be engaged by a lug 2, formed on the adjacent face of the hub of said driving-pulley C'. The clutch D has formed on its periphery the usual annular recess 3, into which is projected the upper end of the vertical lever 4, the lower end of which is pivoted within the standard A, and the upper end of which is bifurcated, so as to bestride the clutch D within the recess 3. The horizontal rod E has its inner end bent laterally and projected through the slot 5 in the standard A, and suitably attached to the arm 4 above the pivoted end of the latter. The rod E is carried near its opposite end in a sleeve 6, formed on the bracket B, and is provided at its outer or free end with a handle 7, and by means of the rod E the clutch D is optionally thrown into and out of engagement with the pulley C', and thereby rotation imparted as desired to the shaft C.

On the end of the shaft C, opposite to the driving-pulley C', and outside of the boxes B', is rigidly seated the belt-pulley F, from which a belt 8 descends and is passed under an idler-pulley F', suitably seated on the

stem 9, formed externally on the standard A, and from this said belt 8 is passed horizontally around the belt-pulley 10, rigidly seated horizontally upon the vertical shaft G. From
 5 thence said belt 8 is passed under another idle pulley (not shown) identical with F', and seated loosely on the other or opposite end of the horizontal pin or axle 19, upon which pulley F' revolves, and from thence returned to
 10 pulley F.

The vertical shaft G is loosely seated in boxes 12 12, formed in the bracket H, which latter is attached to the standard A, near the bottom thereof, in any suitable manner. Ro-
 15 tation is imparted to the shaft G, through the medium of the belt 8 and pulley 10, whenever the clutch D is thrown into engagement with the driving-pulley C'.

On the shaft G, directly above the upper
 20 box 12, is rigidly seated a circular table adapted to carry the cask K. In the table J are formed radial slots 13, Fig. 2, in which are suitably seated adjustably the segmental clamps 14, by means of vertical screw-bolts
 25 15, which pass through said clamps and the slots 13. The clamps 14 are adapted in the aggregate to substantially encircle the lower end of the cask K and hold the same in position to be rotated with table J. The radial
 30 slots 13 are designed to render the clamps 14 adjustable to casks of different diameters. The substantially horizontal lever L is pivoted at one end to a knuckle 17, the latter being pivoted in a vertical plane to the brace
 35 16, attached to the adjacent side of the standard A, and the lever L being pivoted to said knuckle in a horizontal plane. The lever L extends from its pivotal or fulcrumed end past the standard A and the cask K and is
 40 provided at its free end with the handle L'.

Intermediate on the lever L, at a location opposite the shaft G, there is pivotally seated on said lever L, at the side thereof next the cask K, the hoop-driving wheel M.

45 The fulcrumed or pivoted end of the lever L, by reason of the double joint aforesaid, permits the necessary lateral and vertical movements of the wheel M by the operator, so that the latter can at his discretion place
 50 the wheel M on or remove it from any of the hoops upon the cask K.

The driving of the hoops is effected as follows: The cask K being carried in rapid rotation by the table J, the hoops 18 are suc-
 55 cessively dropped loosely on the cask K. Be-

ginning with the largest hoop, the operator places the tread of the wheel M upon the upper edge of each hoop as the latter is placed on the cask, and by bearing downward on the lever L exerts a downward force, and by the
 60 rotation of the cask K the pressure of the wheel M is rapidly communicated to the entire upper edge of each hoop, driving the latter downward into position. On the lower end of the vertical shaft P, in position to be
 65 loosely dropped upon the cask K, is centrally rigidly seated the circular head N, being in diameter and peripheral taper a substantial prolongation of the cask K. The shaft P is
 70 journaled vertically over the center of table J in boxes 11 11, formed on bracket B, and is adapted to be raised vertically to permit the insertion and removal of the cask K, and the hoops slipping for that purpose in the
 75 boxes 11. The weight of the shaft P and head N, resting on the upper end of cask K, causes the rotations of the latter to be communicated to said shaft P and head N. The head N affords a seat from which the smaller
 80 hoops, and particularly the end hoop 18, can be readily shifted over upon the cask K. Differently-sized heads N will be used with casks of variant end diameters, and said head N may rotate loosely on shaft P, if desired,
 85 and may be used as a temporary hoop-seat separately from the residue of the machine.

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

1. The combination of the standard A, provided with brackets H and B, vertical shaft
 90 G, suitably journaled to said standard, driving-shaft C, driving-pulley C', belt 8, table J, lever L, and wheel M, substantially as shown, and for the purpose described. 95

2. The combination of the circular head N, provided with an upward and inward sloping periphery in substantial prolongation of the cask K, the standard A, vertical shaft G,
 100 journaled to said standard, driving-shaft C, driving-pulley C', belt 8, table J, lever L, and wheel M, substantially as shown, and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. PACKER.

Witnesses:

JOHN G. MANAHAN,
 JOHN F. BARRETT.