

J. GREENWOOD.

Machines for Forcing Hoops on Barrels.

No. 145,942.

Patented Dec. 30, 1873.

Fig. 1.

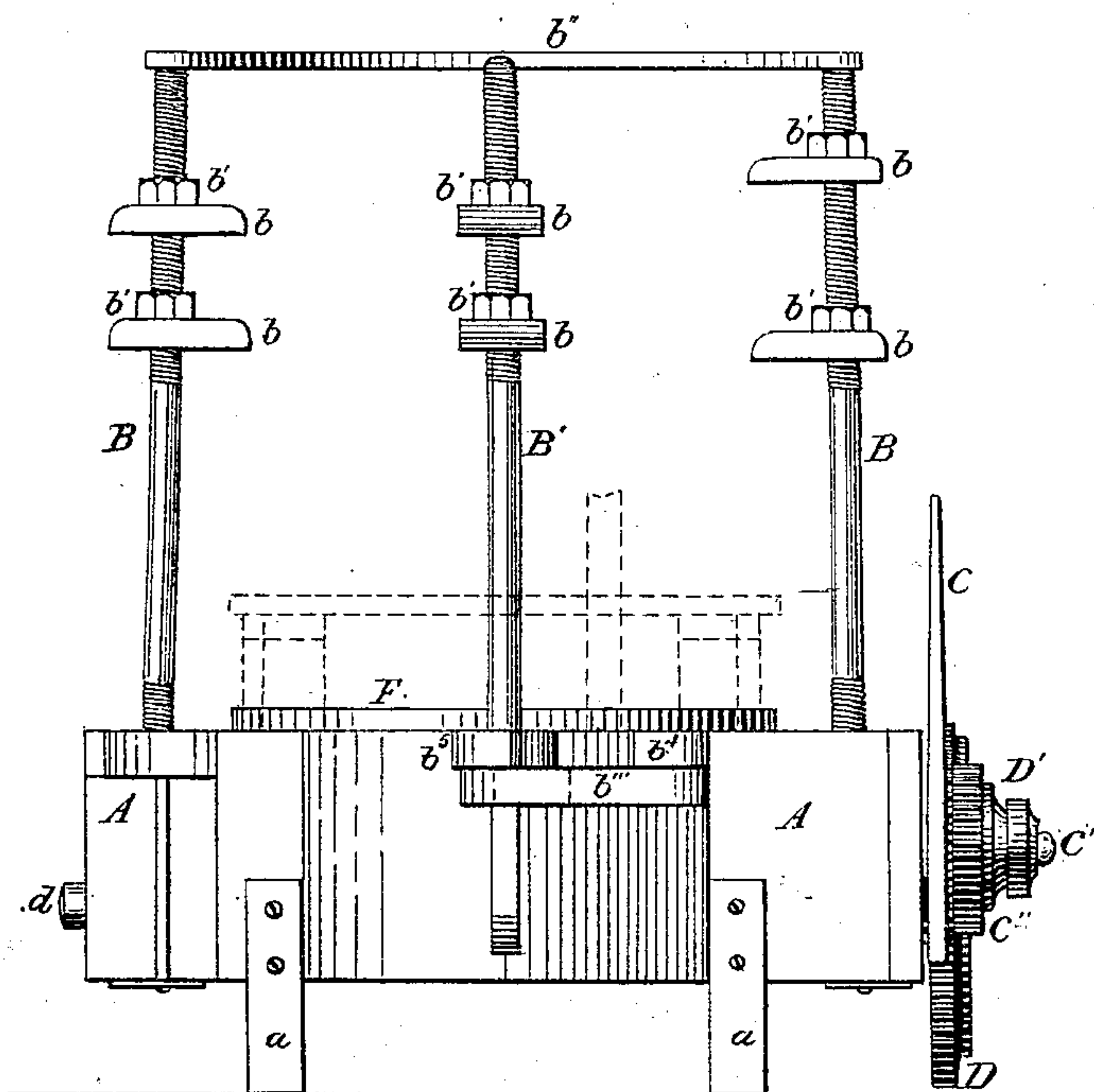
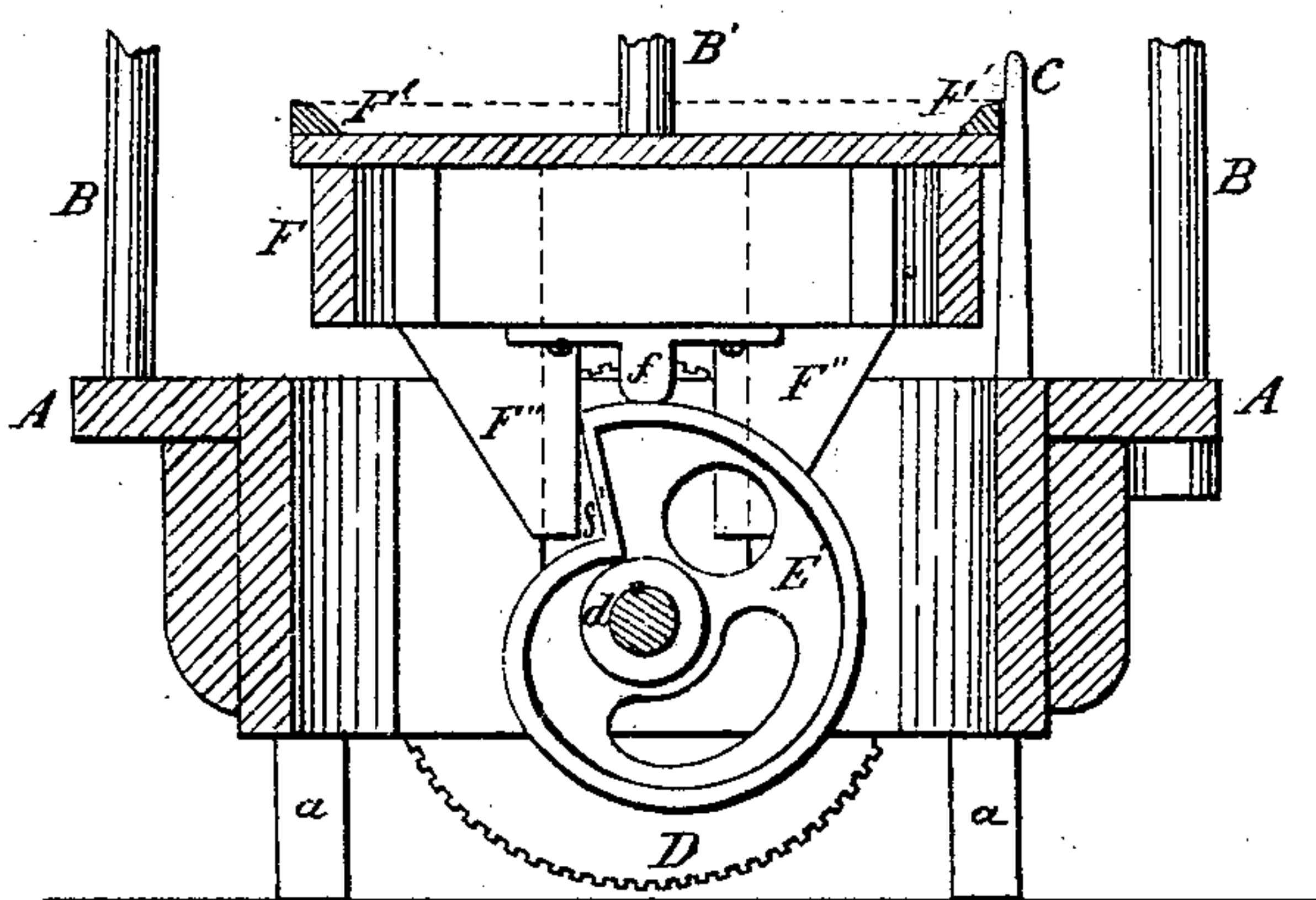


Fig. 2.

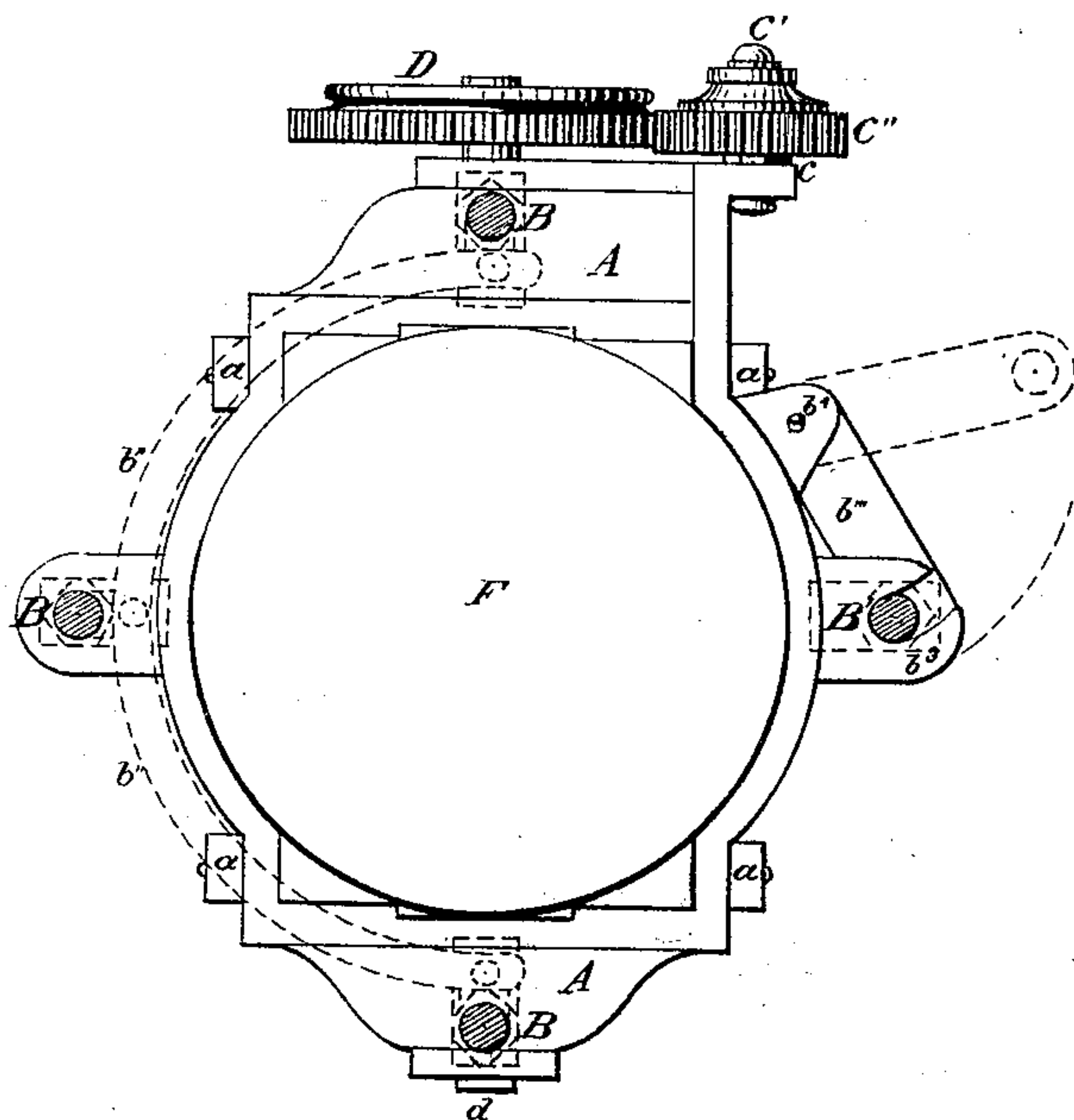


Attest:  
J. Mason  
A. Lacey

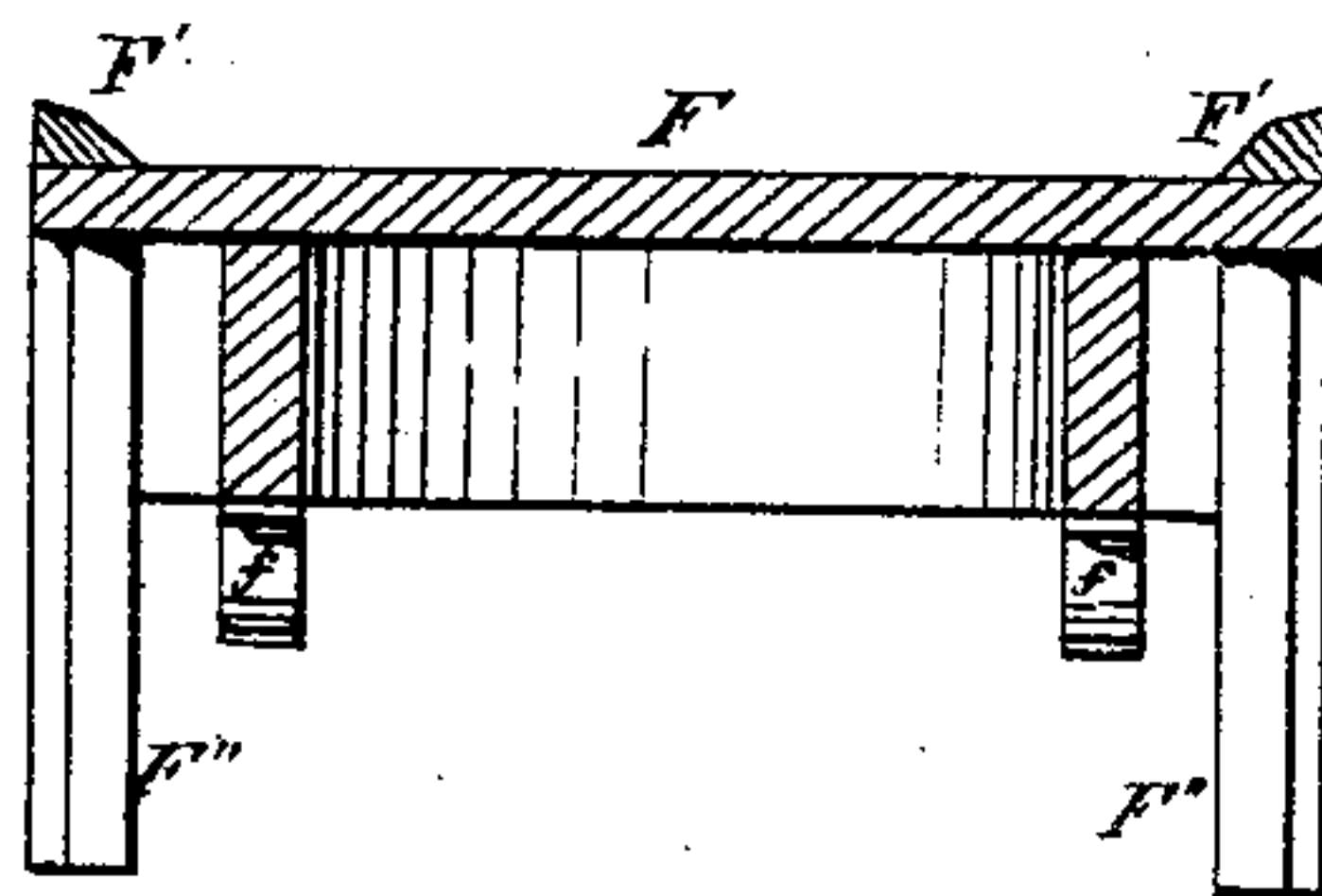
Inventor:  
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By N. Cramford  
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*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

JOHN GREENWOOD, OF ROCHESTER, NEW YORK.

## IMPROVEMENT IN MACHINES FOR FORCING HOOPS ON BARRELS.

Specification forming part of Letters Patent No. **145,942**, dated December 30, 1873; application filed April 21, 1873.

*To all whom it may concern:*

Be it known that I, JOHN GREENWOOD, of Rochester, in the county of Monroe, in the State of New York, have made certain Improvements in Machines for Forcing Hoops upon Casks or Barrels, of which the following is a specification:

In the drawings, Figure 1 is an upright side view of the machine, and Fig. 2 is a section of same. Fig. 3 is a top view, and Fig. 4 detail.

A represents the frame and bed of the machine, supported on legs *a*. B B B are nearly upright screw-rods, supported and held in position at their top ends by the curved plate *b''*, and are firmly seated in and fast to the body A at their bottom ends. B' is another screw-rod, like the others; it is not fast in the body A at its lower end, but is fast to a swinging arm, *b'''*, that is pivoted to stud *b<sup>4</sup>*, that is securely attached to body A, and so that the said screw-rod can be swung around out of the way and allow a barrel or cask to be put in position between the rods, or be taken from such position after being operated upon, and when in position for operation is held by the projecting lugs *b<sup>5</sup>*. Upon each of these screw-rods are projecting hook-nuts *b b*, that can be adjusted to any desired position upon the rods by simply turning them upon the screw-threads cut on the rods B and B', and when they are in the required position are securely held in that place by the jam-nuts *b'*, that screw on the rods above the hooks-nuts *b*, as seen in Fig. 1. These hook-nuts project more on one side of the rods B and B' than on the other, so that different diameters of casks or barrels can be acted upon to force the hoops thereon. C is a pivoted hand-lever, to which is secured the horizontal shaft C', fast on which is the gear-wheel C'' and pulley D'. Gear-wheel C'' is made to be moved nearly in a horizontal direction by the pivoted lever C, and gears into gear-wheel D on horizontal shaft *d*, that goes centrally and longitudinally through the body A. E E are eccentrics or cams fast upon shaft *d*, and are caused to revolve in the proper direction by applying power to pulley D', revolving gear-wheel C'', that gears into wheel

D on shaft *d*, on which the cams E are made fast. F is a table or carriage supporting a platen, which has an upward-projecting flange, F', that tapers on its inner side outward as it rises, and has downward-projecting guide-legs F'' F'' at each side, and between which are bearing-blocks *f*, that bear at all times upon the cams or eccentrics E, as seen in Fig. 2. Table or carriage F will slide freely up or down on guideways on the carriage, working in the body A of the machine.

The cask being set up in the usual way, and a hoop placed upon the top of the table, the set-up cask is placed in a perpendicular position, and so that the end of the cask will enter the hoop on the table, which is down, as seen in Fig. 1. Hoops are now placed upon the upper portion of the barrel or cask, and the hook-nuts in proper position to take hold of them, when the operator, by the hand-lever C, throws gear-wheel C'' into gear with gear-wheel D, which revolves the eccentrics or cams E, which are in contact with the bearing *f* at point *f'*, and, as they revolve, the eccentrics will cause the carriage F to rise, and with it the barrel. The hook-nuts, being stationary and taking hold of the hoops, force the hoops upon the barrel as it is lifted upward, and at the same time the bottom hoop is driven or forced upon the bottom end of the barrel. One revolution of the cams, and the table or carriage, with the barrel thereon, will have been lifted to the utmost range of the increased diameter of the eccentric. When it arrives at that point, the table and barrel will fall of their own weight, when the operator, by reversing the movement of the lever, throws the gear-wheel C'' out of gear with wheel D, and the carriage is at rest, when the cask can be set the other end up, and the hoops, by a repetition of the movement of putting the machine in motion, will be driven upon the end.

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

1. In a machine for hooping barrels, the combination of the revolving eccentrics or cams E and table or carriage F with the hook-

nuts *b* on screw-rods B and B', in the manner substantially as and for the purposes described.

2. In a machine for hooping barrels, the combination of the vibrating driving-gear wheel C'', wheel D on shaft *d*, cams E, vertically-reciprocating carriage F, and hook-nuts

*b* on rods B and B', constructed and operating substantially as and for the purposes described.

JOHN GREENWOOD.

Witnesses:

D. L. JOHNSTON,  
PATRICK MCINTYRE.