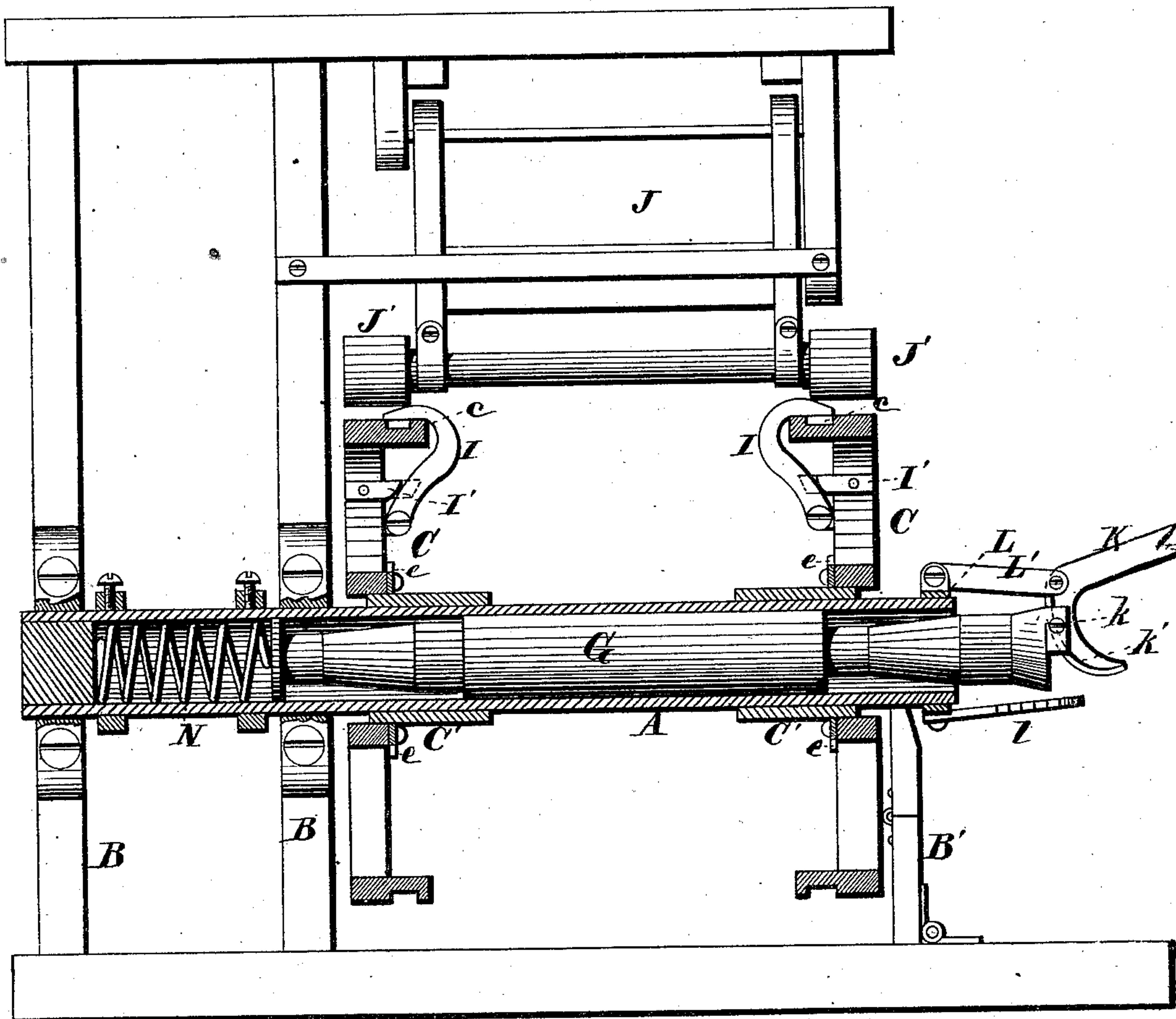


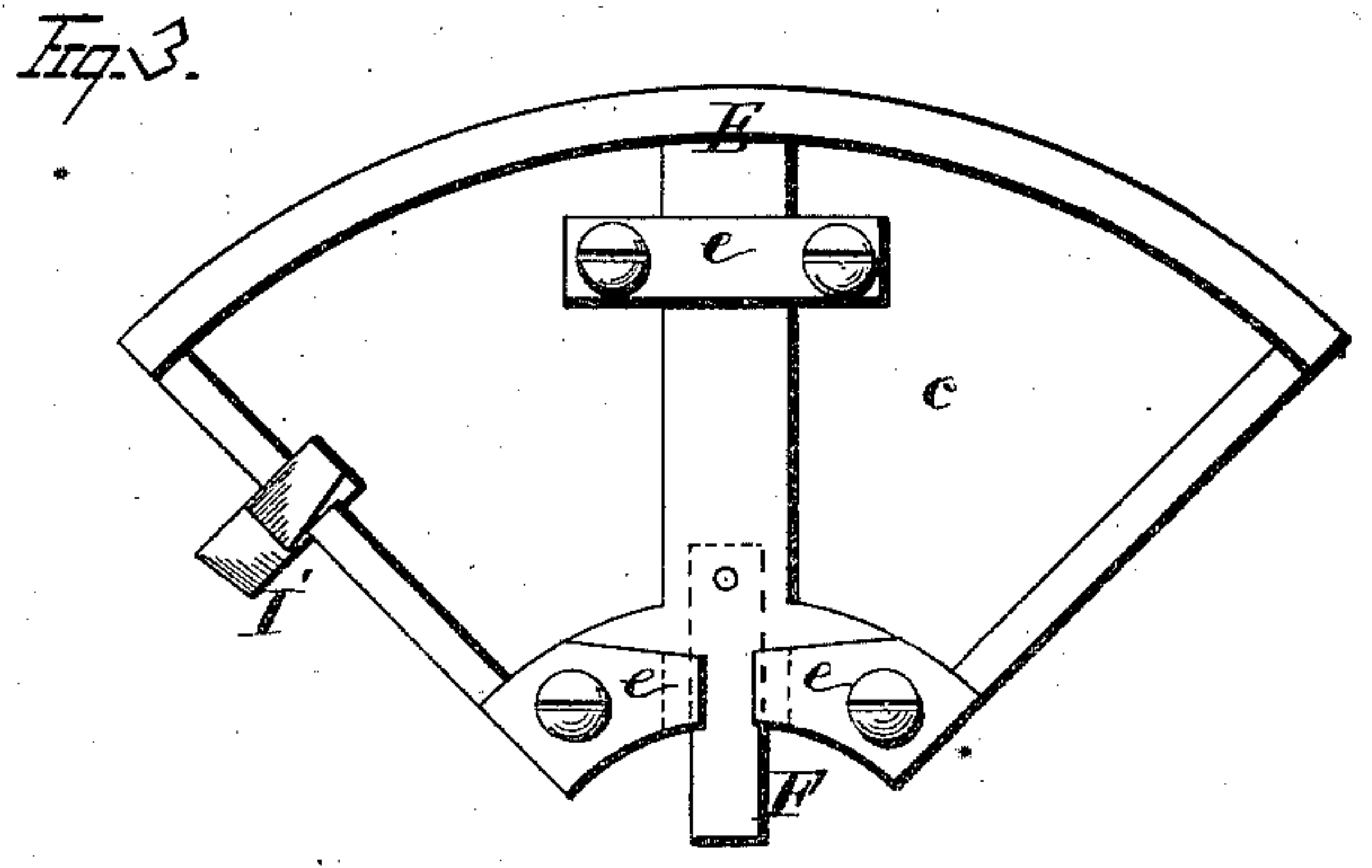
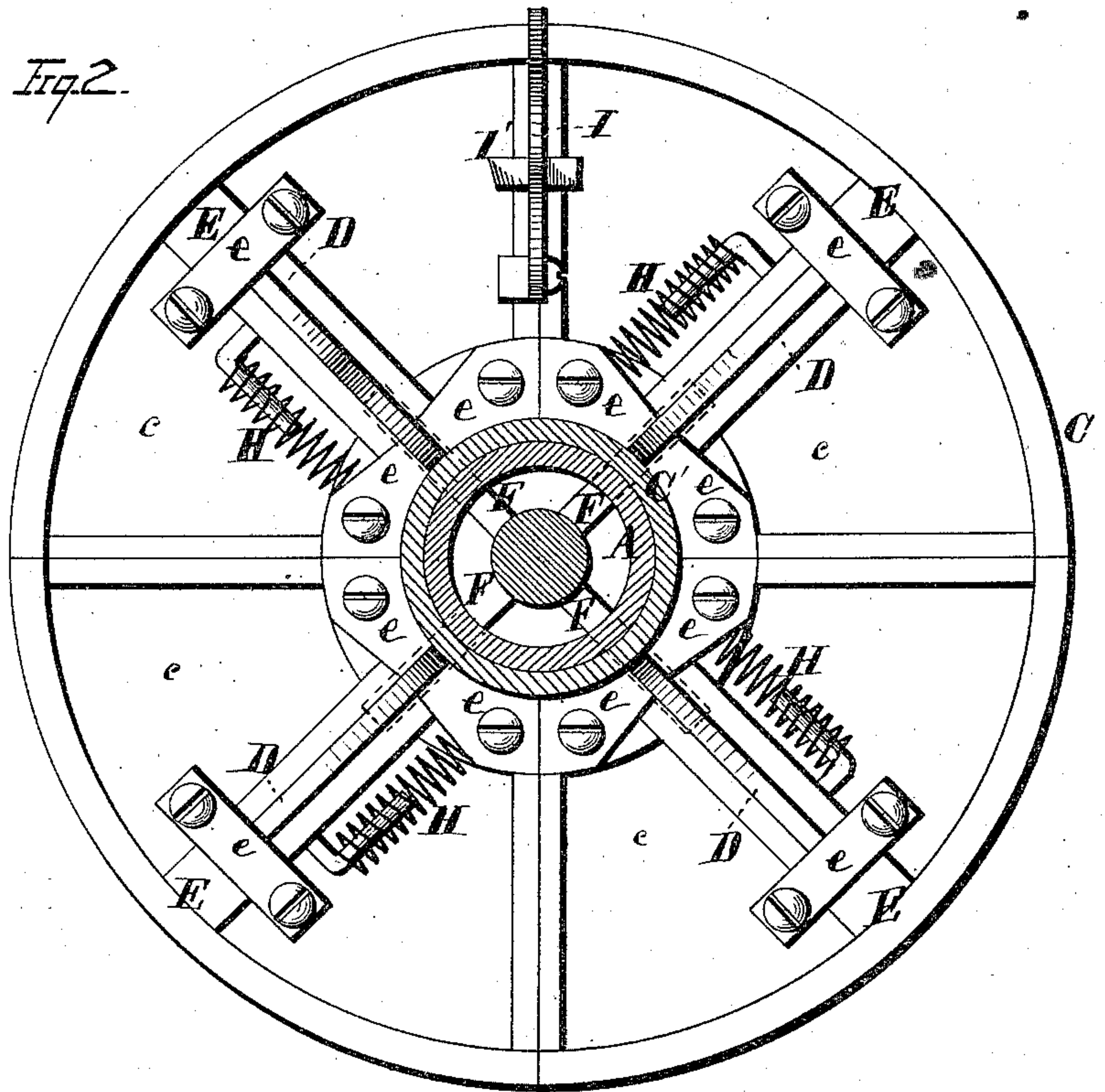
M. D. KEENEY.
Machine for Making Paper Barrels.
No. 163,319. Patented May 18, 1875.

Fig. 1.



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UNITED STATES PATENT OFFICE.

MARBLE D. KEENEY, OF ROCKTON, ILLINOIS.

IMPROVEMENT IN MACHINES FOR MAKING PAPER BARRELS.

Specification forming part of Letters Patent No. 163,319, dated May 18, 1875; application filed February 17, 1875.

To all whom it may concern:

Be it known that I, MARBLE D. KEENEY, of Rockton, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Machines for Making Paper Barrels; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to certain new and useful improvements in machinery for making paper barrels.

In the drawings, Figure 1 represents a vertical longitudinal section of the machine; Fig. 2, a transverse section through the axle, showing the wheel as expanded; Fig. 3, a detached view of one of the quarters or sections of the wheel.

My invention has for its object the construction of a simple and effective machine for putting on and securing the hoops to the inside and outside of paper barrels; and consists of two wheels, made in sections or quarters, mounted on a hollow axle, said quarters constructed so as to be expanded or contracted by a wedge or cone in the interior of the hollow axle, operating against arms of the quarters, which penetrate into and against the wedge in the hollow axle, whereby the hoops of paper barrels are quickly and securely placed and secured in position, as hereinafter more fully set forth and claimed.

A represents a hollow axle, mounted at one end in a frame, B, and supported at the other end on a hinged removable support or brace, B'. Upon the axle A is mounted two wheels, C C, which are constructed as follows: C' is the hub, from which project four arms or spokes, D. E are four quarters or sections, which constitute the entire wheel, attached to and sliding on the arms D by the plates e. A portion, F, of these sections projects through the hub C' and hollow axle A, and comes in contact with a wedge or cone shaped rod, G, in the inside of the axle. H are coiled springs, secured to the arms D of the wheels, and operating against the lower part of the sections E, the tendency of which springs is to keep

the section closed inward toward the hub. On one or more of the sections E are loosely secured swinging hooks I, of a length sufficient to reach over and a little beyond the periphery of the wheel, when the sections are closed. These hooks, as the sections are expanded, come in contact with bevel pieces or cams I' on the adjacent sections, the action of which cams is to throw off or unhook the hooks I. J is a swinging frame, slightly adjustable vertically, within the lower ends of which is journaled rollers J', which are suspended above, and a slight distance from, the wheels C C.

The device for operating the wedge or cone shaped rod G in the hollow axle A, to expand or contract the sections of the wheels C C, consists of a cam-lever, K, secured to the end of the rod G by a set-screw, k, which enters a slot, k', in the curved edge of the cam-lever, and to the hollow axle by a band, L, and link L'. l is a rack or catch, for holding the lever down, when the wheels C C are expanded to their full extent. A coil-spring, N, may be placed in the hollow axle to assist in throwing the rod G out after it has been driven in by the cam-lever.

The operation of this machine is as follows: A number of different-sized wheels C C, for different-sized barrels, may be placed on the same axle, if desired, the smaller pair coming first, and so on. The hinged brace or support B is folded down, the hoops are then placed over the wheels C C, lying in a groove or recess, c, made therein to receive them, and held in this position by the hooks I, which engage over the top thereof. The cylinder or barrel is then placed over the wheels and hoops. The wheels C C are then expanded by the lever K pressing in the wedge-rod G, which, coming in contact with the ends F of the sections E, drives them outward and expands the wheels. As the sections are being expanded, the cam I' coming in contact with the hooks I, they are thrown off from the hoops, as they are no longer needed. The hoops are thus expanded and held up tight against the inside of the barrel. The outside hoops are then placed over the barrel at each end, over the wheels C C, and under the roller J', and the ends secured in place by nails, which pass through the outside hoops, barrel-cylinder, and

inside hoops. The nails coming in contact with the iron wheel C, the nails are clinched, and the parts firmly secured together. The frame J is then swung forward on top of the outside hoops, and by the rollers J' the hoops are held firmly to the cylinder. The wheels C C are then revolved, which causes the hoops to be pressed and adjusted in place. The hoops are thus quickly and accurately secured in place. The barrel is withdrawn by releasing the cam-lever K, which allows the sections to collapse by the action of the springs H, when the barrel may be withdrawn from off the wheels C C. Sectional gears are employed to drive the wheels C C, so that a slight interval or pause may occur in the revolution of the barrel, to allow time for nailing.

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

1. The wheels C, composed of hub C', arms or spokes D, and quarters or sections E F, said sections secured to and sliding on the spokes D, and adapted to be operated and expanded by a wedge or cone working in the interior of the hollow axle, substantially as and for the purposes described.

2. In combination with the sectional wheels C C, the rod G, mounted within the hollow axle A, and constructed with enlarged cone or wedge shaped portions, cam-lever K, and coil-spring X, for operating said rod, substantially as described.

3. In combination with the expansible and collapsible wheels C C, the swinging frame J and roller J', as and for the purposes described.

4. In combination with the sections E F, of the wheel C, the retracting-springs H, as and for the purpose described.

5. In combination with the sections E F, of the wheel C, the hooks I and lugs I', as and for the purposes described.

6. The hollow axle A, supported only at one end, perforated to receive the projecting ends F of the sections E of the wheels C, which are secured thereon, and receiving within its interior a wedge or cone shaped rod, G, as and for the purposes described.

7. The combination and arrangement of segmental wheels C C, hollow shaft A, rod G, and cam-lever K, as and for the purposes described.

8. The sections or quarters E, constructed with a projecting portion, F, secured to and sliding on projecting arms or spokes D of the hub C', substantially as and for the purposes described.

9. In combination with the sections or quarters E, the hub C', permanently secured to the hollow axle A, and constructed with several projecting arms or spokes, D, as and for the purposes described.

10. The sectional wheels C, constructed or provided around its periphery with a recess or groove, c, as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of February, 1875.

MARBLE D. KEENEY.

Witnesses:

J. B. TAYLOR,
C. H. TRASK.