

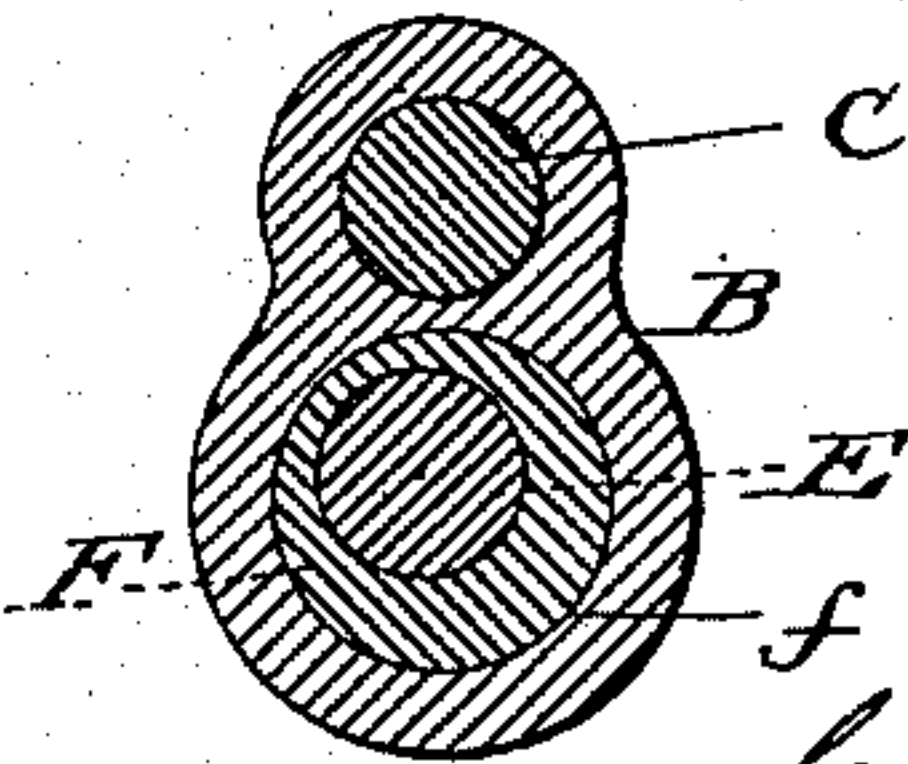
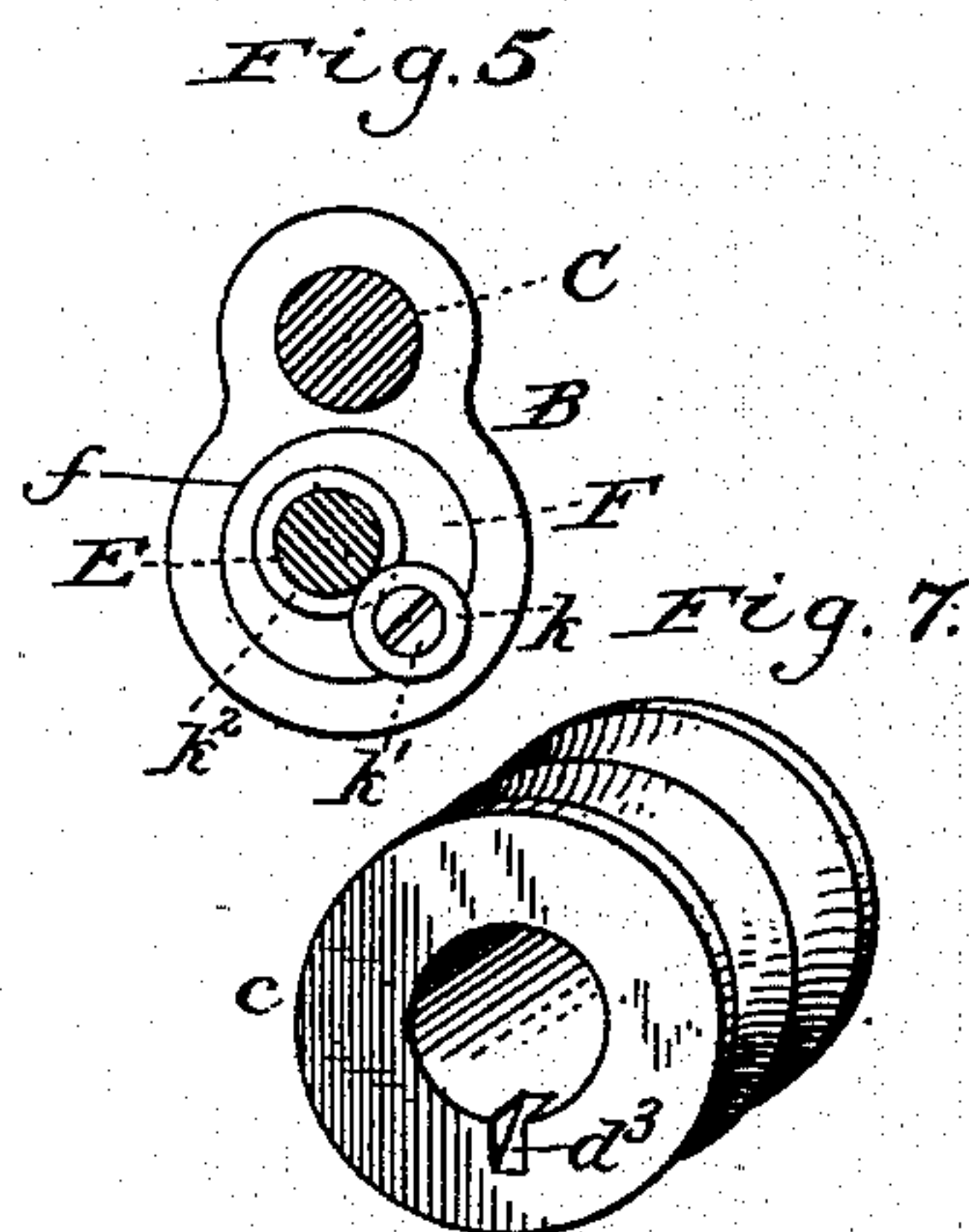
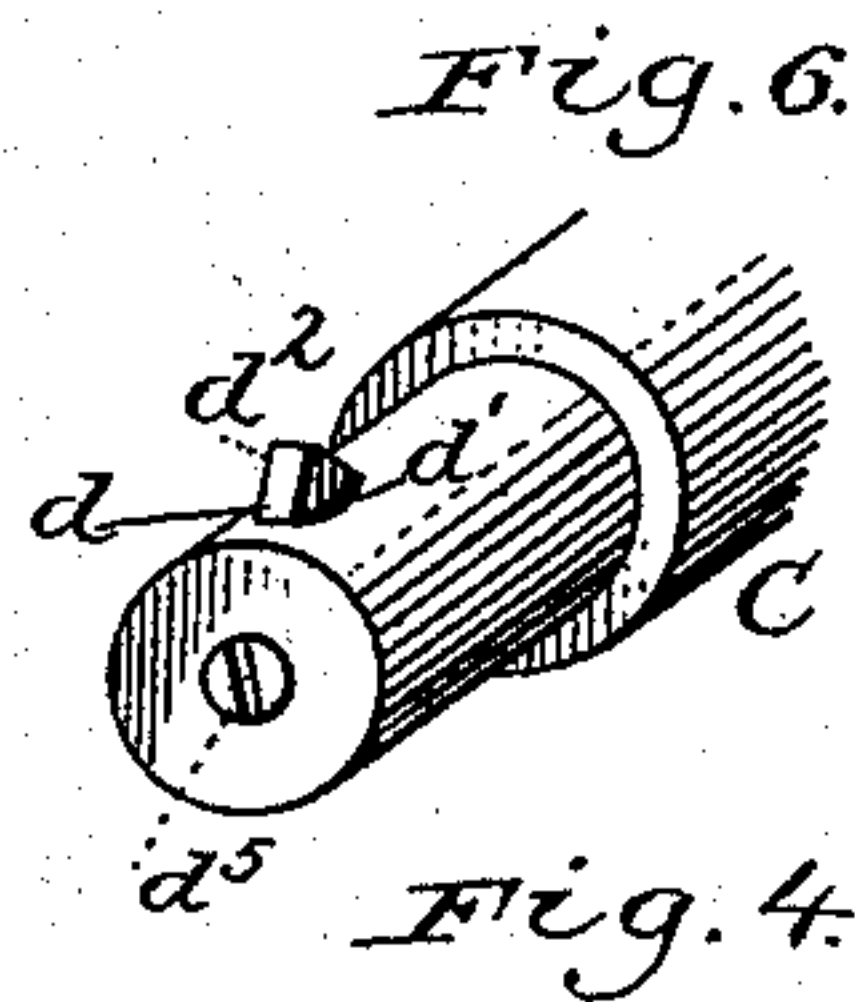
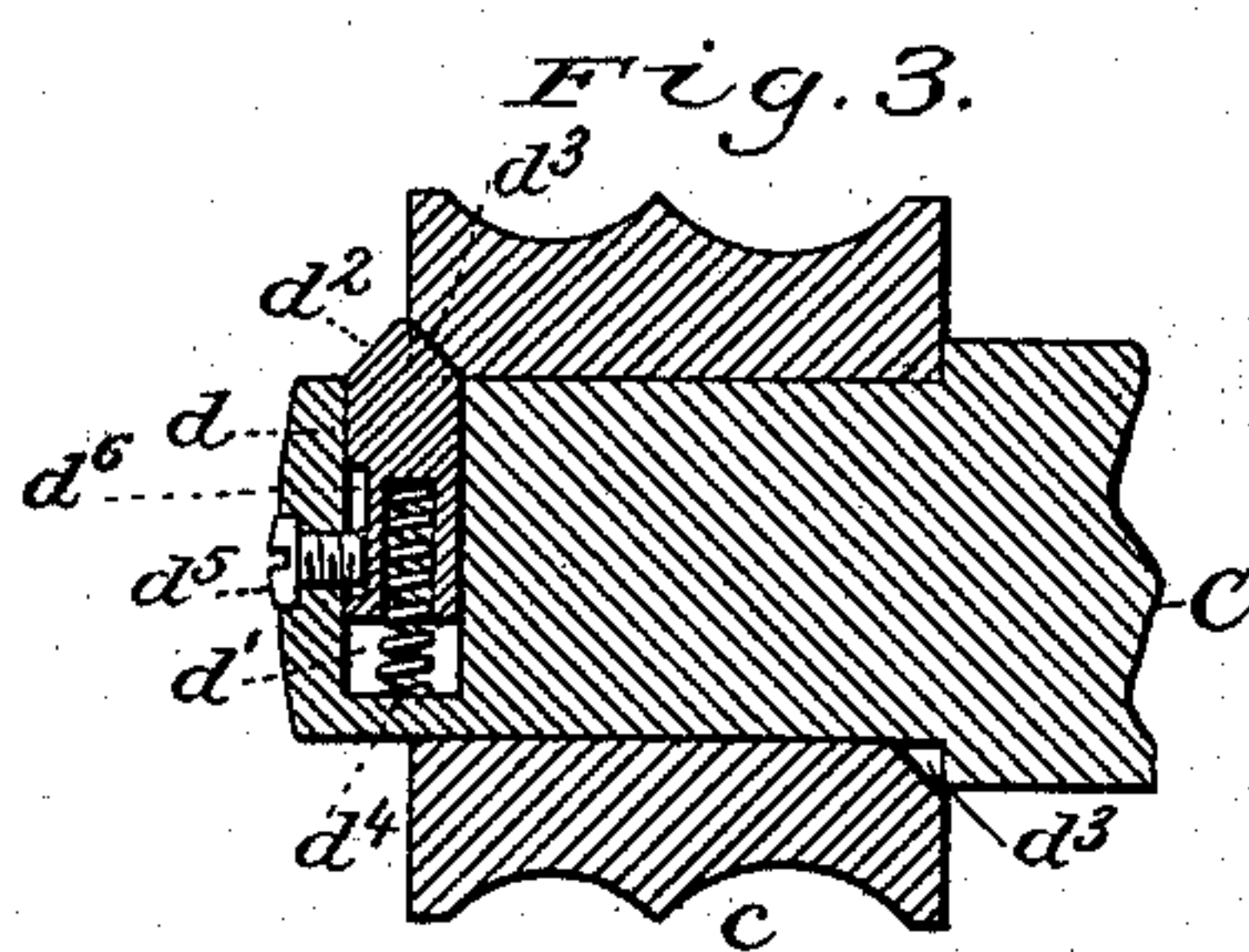
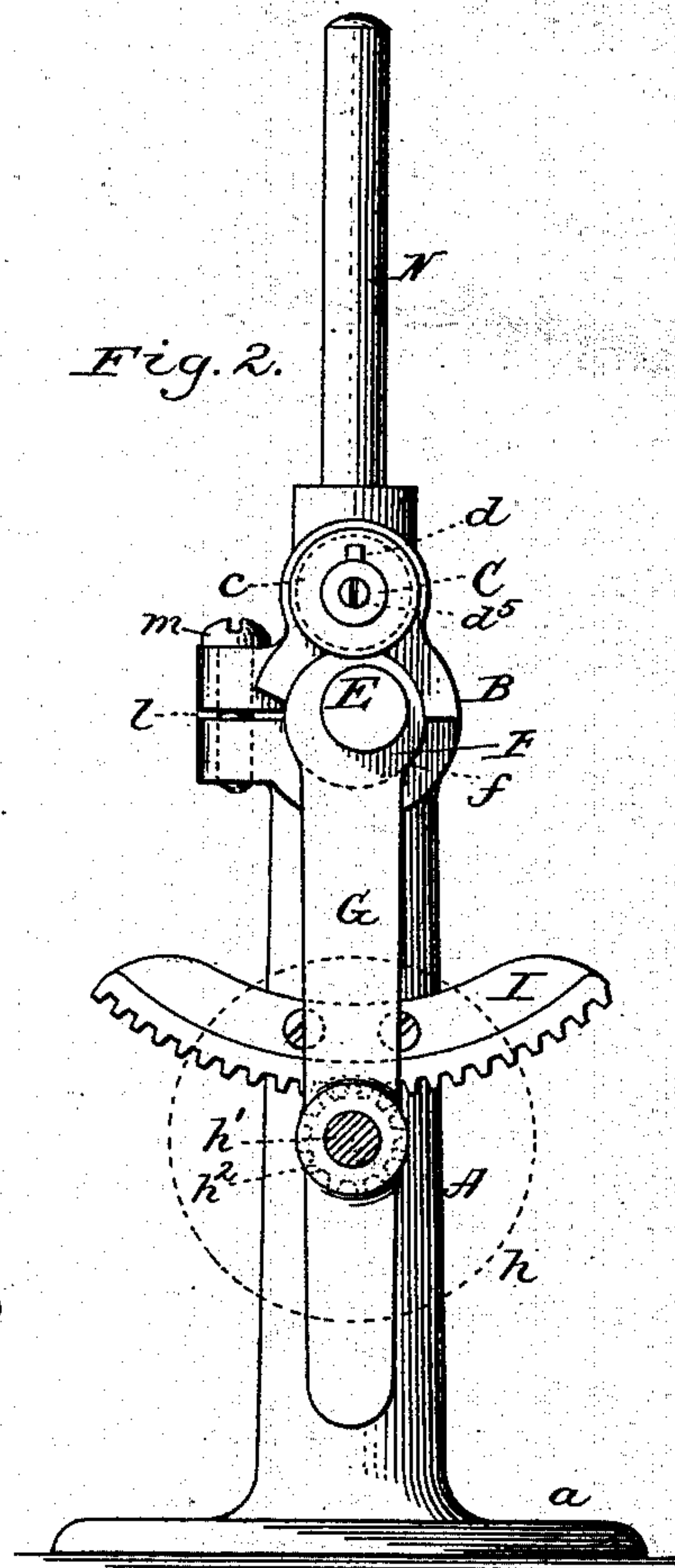
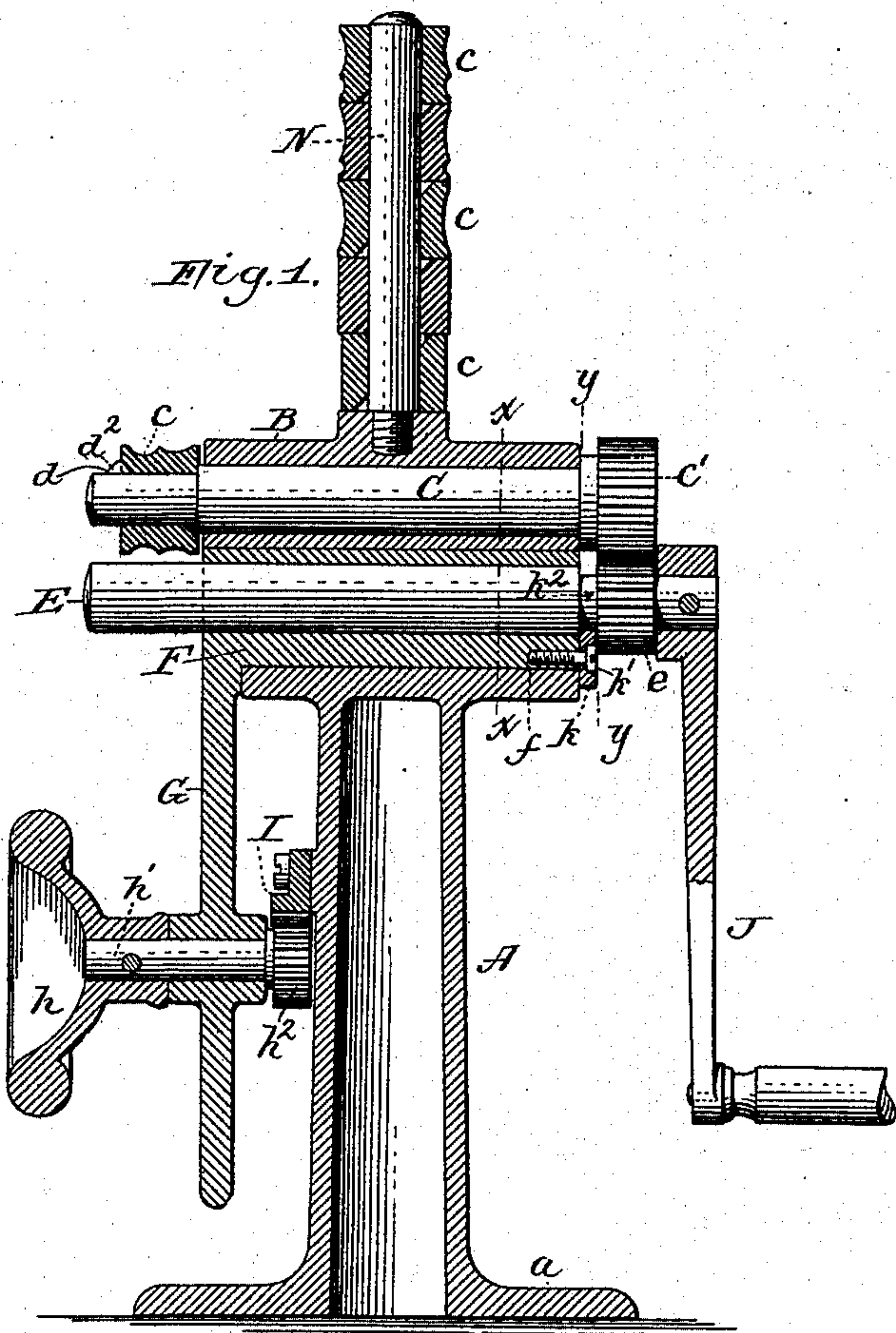
(No Model.)

C. A. SVENSSON.

MACHINE FOR ENLARGING FINGER RINGS.

No. 413,465.

Patented Oct. 22, 1889.



Chas. J. Buchheit.
Emil Newhart } witnesses.

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UNITED STATES PATENT OFFICE.

CLAES A. SVENSSON, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO
WILLIAM W. OLIVER, OF SAME PLACE.

MACHINE FOR ENLARGING FINGER-RINGS.

SPECIFICATION forming part of Letters Patent No. 413,465, dated October 22, 1889.

Application filed August 9, 1889. Serial No. 320,217. (No model.)

To all whom it may concern:

Be it known that I, CLAES A. SVENSSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Machines for Enlarging Finger-Rings, of which the following is a specification.

This invention relates to a machine for enlarging finger-rings, which is provided with two rotating rolls, upon one of which the ring is placed and pressed against the other roll, so that the ring is stretched by their rotation.

The object of my invention is to produce a compact, simple, and inexpensive machine of this character, which is easily manipulated and adjusted for rings of different sizes; and my invention consists of the novel features of construction, which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of my improved machine. Fig. 2 is an end elevation of the same at right angles to Fig. 1. Fig. 3 is a fragmentary sectional elevation, on an enlarged scale, showing the mechanism whereby the detachable rollers are secured to the roller-shaft. Figs. 4 and 5 are cross-sections in lines xx and yy , Fig. 1, respectively. Fig. 6 is a perspective view of the end of the roller-shaft on an enlarged scale. Fig. 7 is a perspective view of one of the rollers on an enlarged scale.

Like letters of reference refer to like parts in the several figures.

A represents the frame or standard of the machine, provided with a base-plate a , whereby the machine is secured to a bench or table, and B represents a transverse head formed at the upper end of the standard A.

C represents the horizontal roller-shaft, journaled in the upper portion of the head B and provided at one end with a detachable roller c and at its opposite end with a gear-wheel c' . The roller c is detachably secured to the shaft C by a radial bolt or pin d , arranged in a radial or transverse recess d' , formed in the shaft C. The bolt d is provided with a beveled or V-shaped head d^2 ,

which projects beyond the surface of the roller-shaft and rests against an inclined notch or recess d^3 , formed in the adjacent end of the roller c , whereby the latter is held in place upon the roller-shaft and compelled to rotate with the same. The bolt is made beveled in the longitudinal direction of the shaft, and has parallel abrupt faces in the direction of rotation, and the notch in the roller has a beveled front resting against the beveled rear face of the roller and square or abrupt faces in the direction of rotation, so that the bolt operates as an automatic locking-bolt in the longitudinal direction of the shaft and as a key or feather in the direction of rotation. By placing the detached roller upon the end of the shaft and pressing the roller inwardly the rear end of the roller pressing against the beveled front side of the locking-bolt depresses the latter into its recess and enables the roller to be slipped upon the shaft. Upon turning the roller on the shaft until its notch coincides with the bolt the latter enters the notch and locks the roller on the shaft. Upon pressing the roller outwardly on the shaft the inclined front side of the notch presses against the inclined rear face of the bolt and depresses the latter into its recess, when the roller can be removed from the shaft. The roller may be provided with such a notch in both ends.

The bolt d is held outwardly by a spring d^4 , seated in the recess d' and bearing against the inner end of the bolt. The latter is held from turning in the opening d' by means of a set-screw d^5 , arranged in the end of the shaft C and engaging in a slot or recess d^6 , formed in the side of the bolt d . The set-screw d^5 also prevents the withdrawal of the bolt d from the opening d' .

E represents the ring-supporting shaft arranged parallel with the roller-shaft C and below the same. This shaft is journaled eccentrically in a cylindrical sleeve F, arranged in the head B. One end of the ring-supporting shaft projects below the roller c for the reception of the ring to be expanded or enlarged. The opposite end of the ring-supporting shaft is provided with a gear-wheel e , which meshes with the gear-wheel c' of the

roller-shaft C. The sleeve F is seated in a cylindrical opening or bearing f , formed in the head B and arranged parallel with and below the shaft C.

5 G represents a depending lever or arm formed on one end of the sleeve F, and whereby the latter is turned in its bearing so as to move the ring-supporting shaft E, by reason of its eccentric arrangement, toward and from
10 the roller-shaft C. Upon turning the sleeve F in its bearing the shaft E is moved vertically toward and from the shaft C, the axial lines of the two shafts remaining at all times parallel with each other, whereby a uniform
15 pressure is brought to bear upon the ring, and buckling or bending of the same is prevented.

h represents a hand-wheel secured to a short transverse shaft h' , journaled in the lever G
20 about midway of its length and provided at its inner end with a pinion h^2 . The latter engages with a segmental gear-rack I, secured to the standard A adjacent to the lever G. Upon turning the hand-wheel in one or the
25 other direction the lever G is moved so as to increase or reduce the pressure upon the ring.

J represents a hand-crank secured to the end of the driving-shaft E adjacent to the
30 gear-wheel e , and whereby the shaft E is rotated.

The sleeve F is held against longitudinal displacement at one end by means of the lever G and at its opposite end by means of a
35 washer k , secured to the end of the sleeve F by a screw k' and bearing against the adjacent end of the head B. This washer engages with its upper portion in an annular groove or recess k^2 , formed in the ring-supporting
40 shaft D, and whereby the latter is held in the sleeve F against longitudinal displacement. The roller-shaft C is in turn held against longitudinal displacement by the gear-wheel c' bearing on one side against the head B and
45 at the opposite side against the inner side of the hub portion of the hand-crank J. It will thus be seen that when it is desired to take the machine apart it is only necessary to remove the screw k' and washer k , when the
50 parts can be readily withdrawn.

The end of the head B which incloses the sleeve E adjacent to the lever G is split, as shown at l , Fig. 2, and is provided with an adjusting-screw m , whereby the sleeve F can be
55 clamped against too free movement in its seat, and whereby binding of the ring between the roller c and the shaft E, when the latter is turned, is avoided.

N represents a vertical spindle secured centrally to the upper portion of the head B, and upon which are placed the roller c of different patterns which are not in use. As shown in Fig. 1, some of the rollers are provided with
60 concaved grooves of different width and depth to operate upon rings of different cross-section, while others are provided with plain flat faces for flat band-rings, &c.; but these

forms or patterns are immaterial, and may be changed from time to time, as may be required.

I claim as my invention—

1. The combination, with the supporting-frame and a roller-shaft journaled in said frame, of a rotary bearing arranged in said frame and a ring-supporting shaft journaled
75 eccentrically in said bearing, substantially as set forth.

2. The combination, with the supporting-frame and a roller-shaft journaled in said frame and provided with a detachable roller,
80 of a rotary bearing arranged in said frame parallel with the roller-shaft and a ring-supporting shaft journaled eccentrically in said bearing, substantially as set forth.

3. The combination, with the supporting-
85 frame and a roller-shaft journaled in said frame, of a rotary bearing arranged in said frame parallel with the roller-shaft, a ring-supporting shaft journaled eccentrically in said bearing, and an arm or lever secured to
90 said bearing, whereby the ring-supporting shaft is adjusted toward and from the roller-shaft, substantially as set forth.

4. The combination, with the supporting-frame and a roller-shaft journaled in said
95 frame, of a roller detachably secured to one end of said shaft, a rotary bearing arranged in said frame parallel with the roller-shaft, a ring-supporting shaft journaled eccentrically in said bearing and having one of its ends
100 arranged below the roller, and an arm secured to the bearing, whereby the ring-supporting shaft is adjusted toward and from the roller, substantially as set forth.

5. The combination, with the stationary
105 frame, the roller-shaft and its roller, and the ring-supporting shaft, of the rotary bearing in which the ring-supporting shaft is eccentrically journaled, an arm secured to said
110 bearing, a shaft and pinion mounted in said arm, and a gear-segment in which said pinion meshes, and which is secured to the stationary frame, substantially as set forth.

6. The combination, with the supporting-frame and a roller-shaft journaled in said
115 frame, provided at one end with a detachable roller and at its opposite end with a gear-wheel, of a rotary bearing arranged in said frame parallel with the roller-shaft, a ring-supporting shaft journaled eccentrically in
120 said bearing, a gear-wheel secured to said ring-supporting shaft and meshing with the gear-wheel on the roller-shaft, and a hand-crank secured to one of said shafts, substantially as set forth.

7. The combination, with the supporting-frame, the ring-supporting shaft, and the roller-shaft, of a detachable roller and an automatic locking-bolt, whereby the roller is
125 attached to its shaft, substantially as set forth.

8. The combination, with the roller-shaft provided with a spring-bolt arranged in a radial opening formed in said shaft, of a detachable roller mounted loosely on said shaft

and provided with a notch, in which the head of the spring-bolt engages, substantially as set forth.

9. The combination, with the roller-shaft 5 having a radial opening formed near one of its ends, of a spring-bolt seated in said opening and having its head beveled in the longitudinal direction of the shaft and a detachable roller mounted on said shaft and provided with a notch or recess, in which the 10 head of the bolt engages, substantially as set forth.

10. The combination, with the stationary frame and the rotary bearing arranged therein, of a shaft journaled in said bearing and 15 a detachable washer secured to the end of the bearing and projecting into a groove in the

ring-supporting shaft, substantially as set forth.

11. The combination, with the stationary 20 frame and the rotary bearing arranged therein and provided at one end with a stop bearing against one side of the stationary frame, of a detachable washer secured to the opposite end of the bearing and bearing against the 25 opposite side of the frame and a shaft journaled in said bearing, substantially as set forth.

Witness my hand this 30th day of July, 1889.

CLAES A. SVENSSON.

Witnesses:

F. C. GEYER,
ALICE G. CONNELLY.