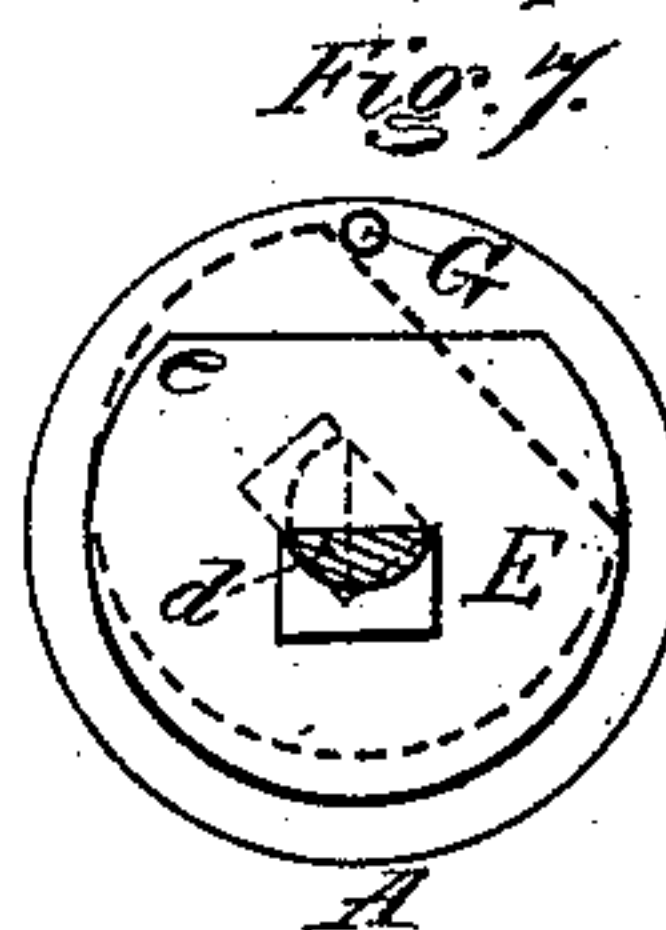
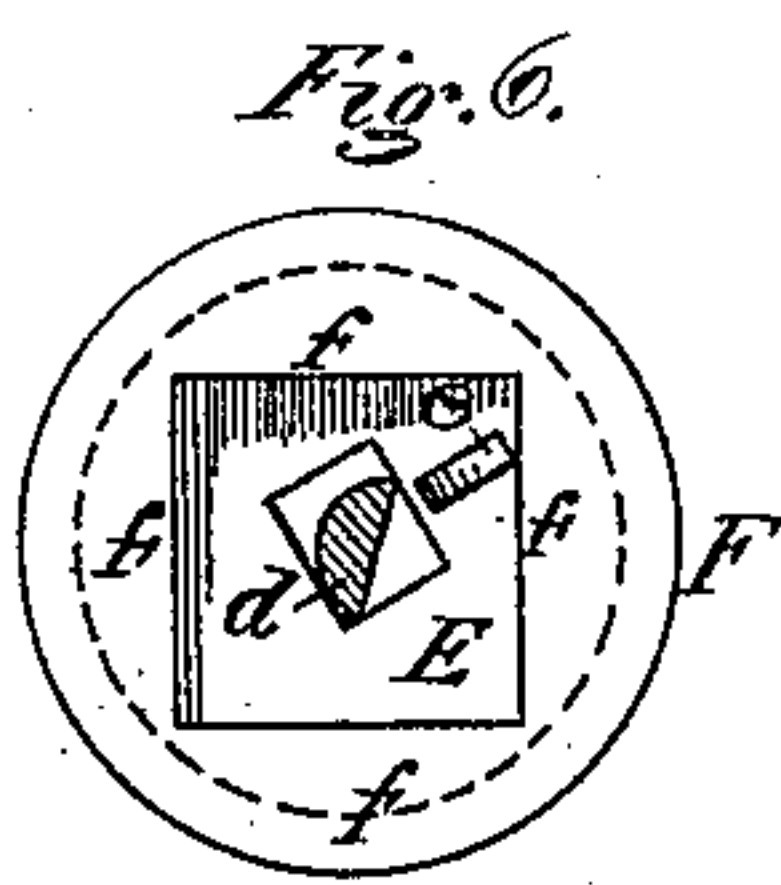
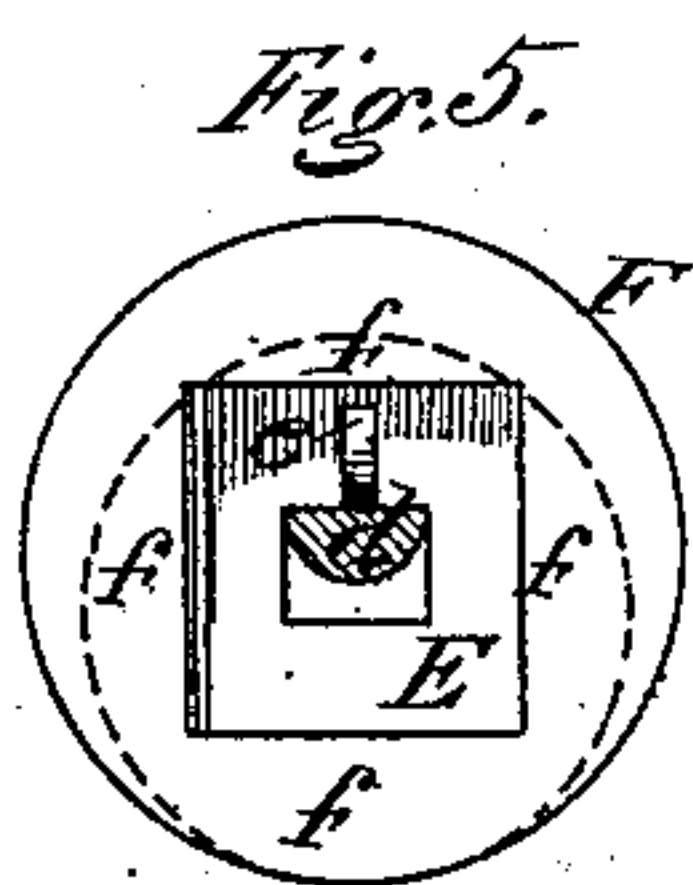
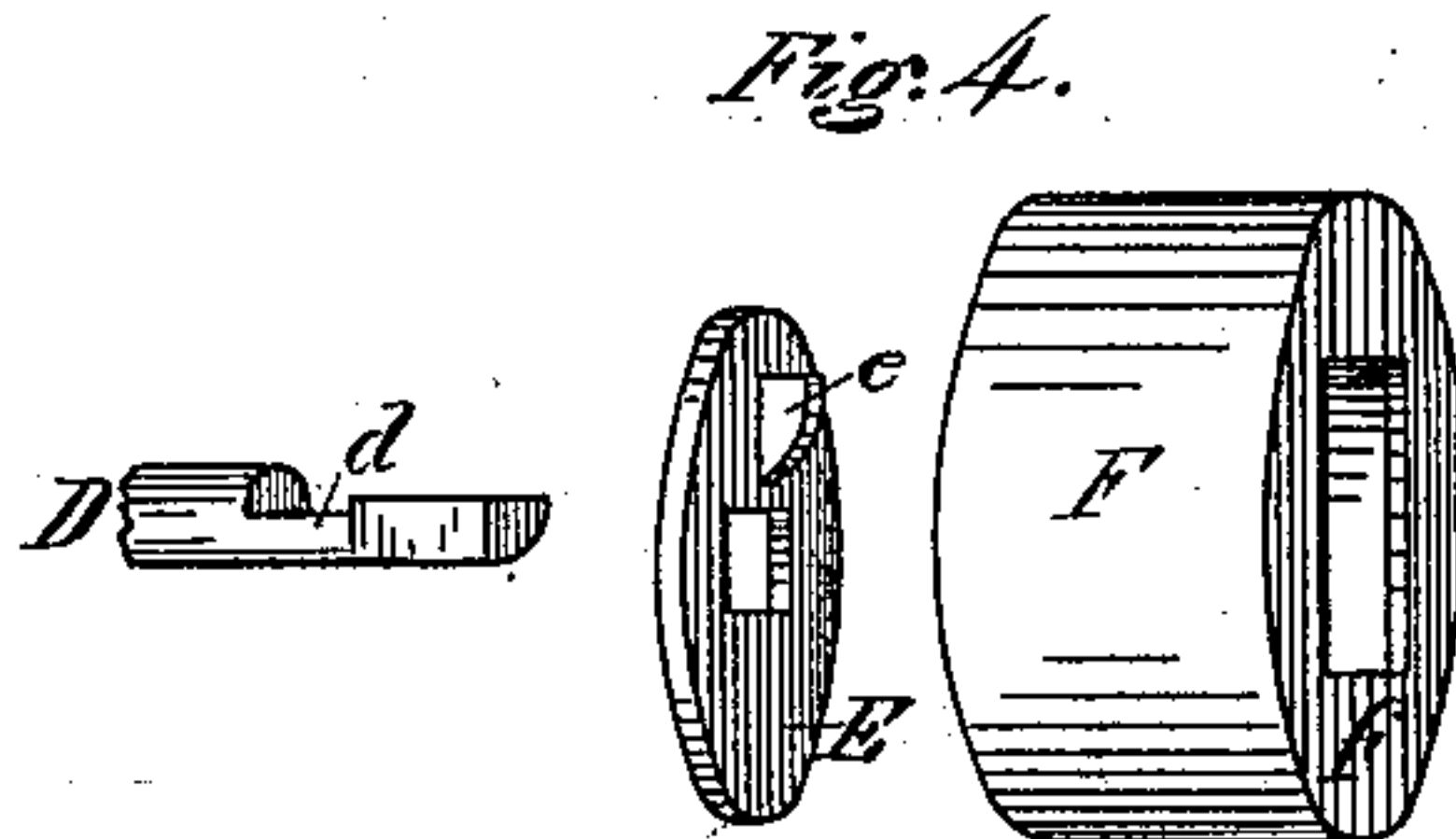
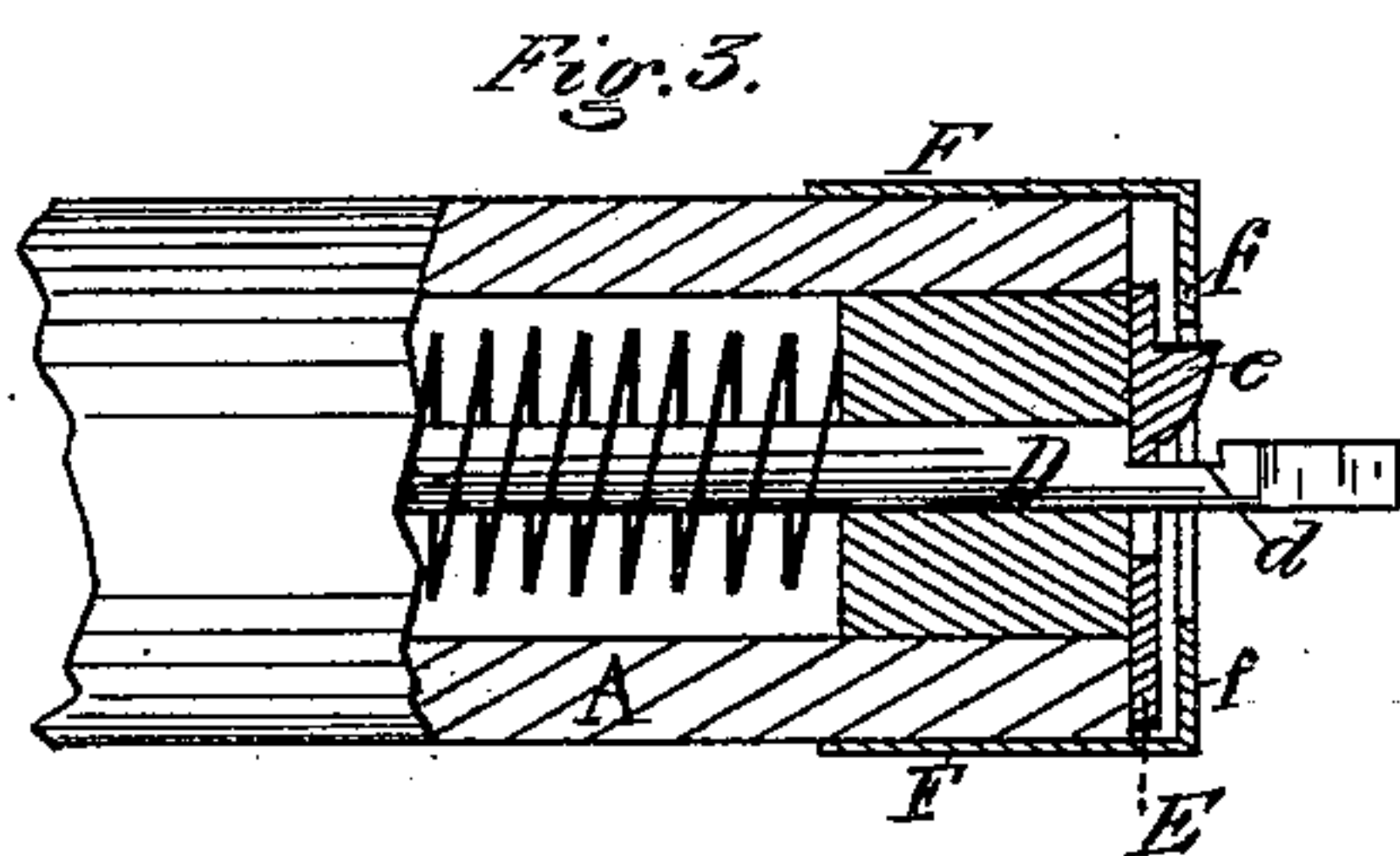
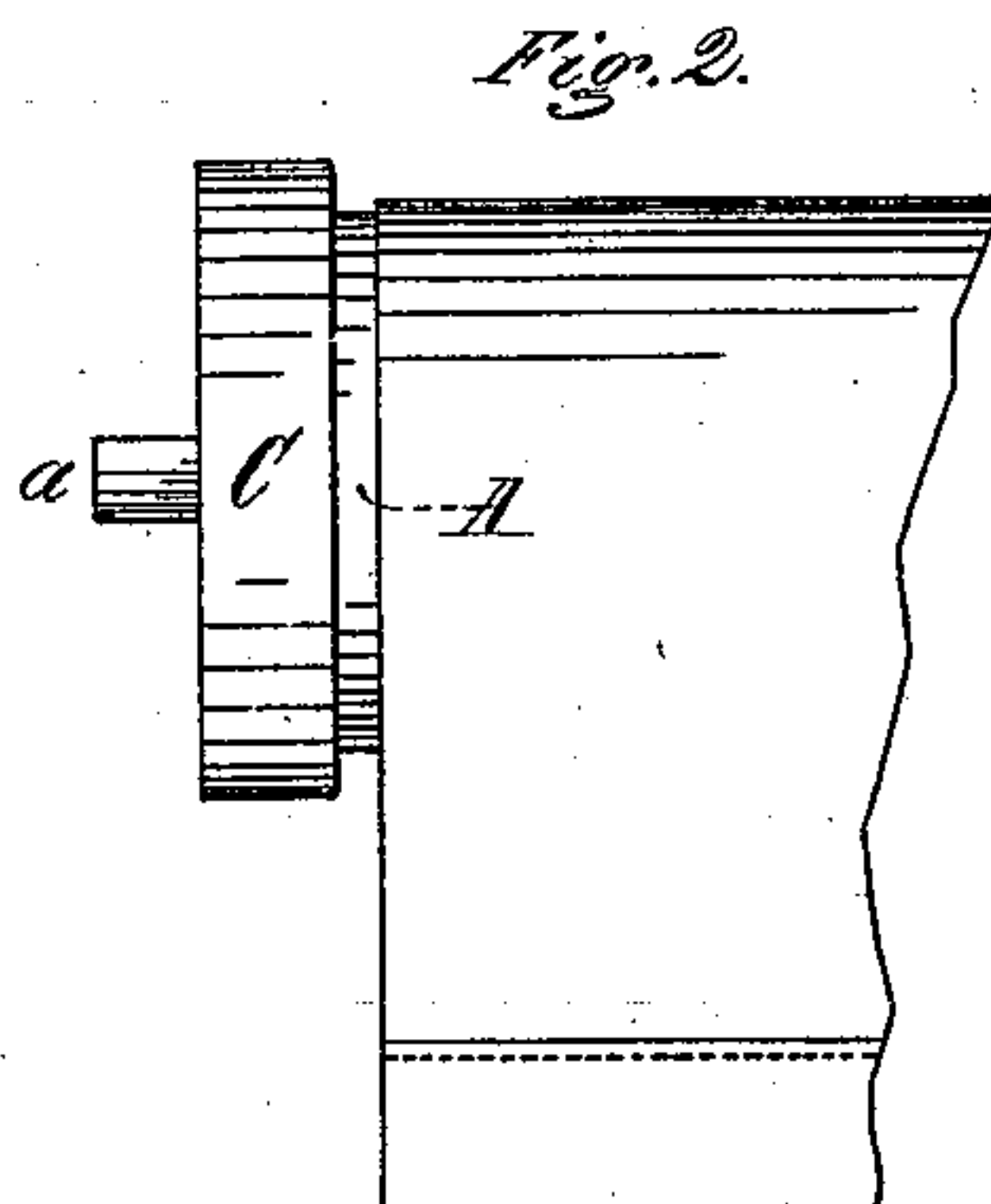
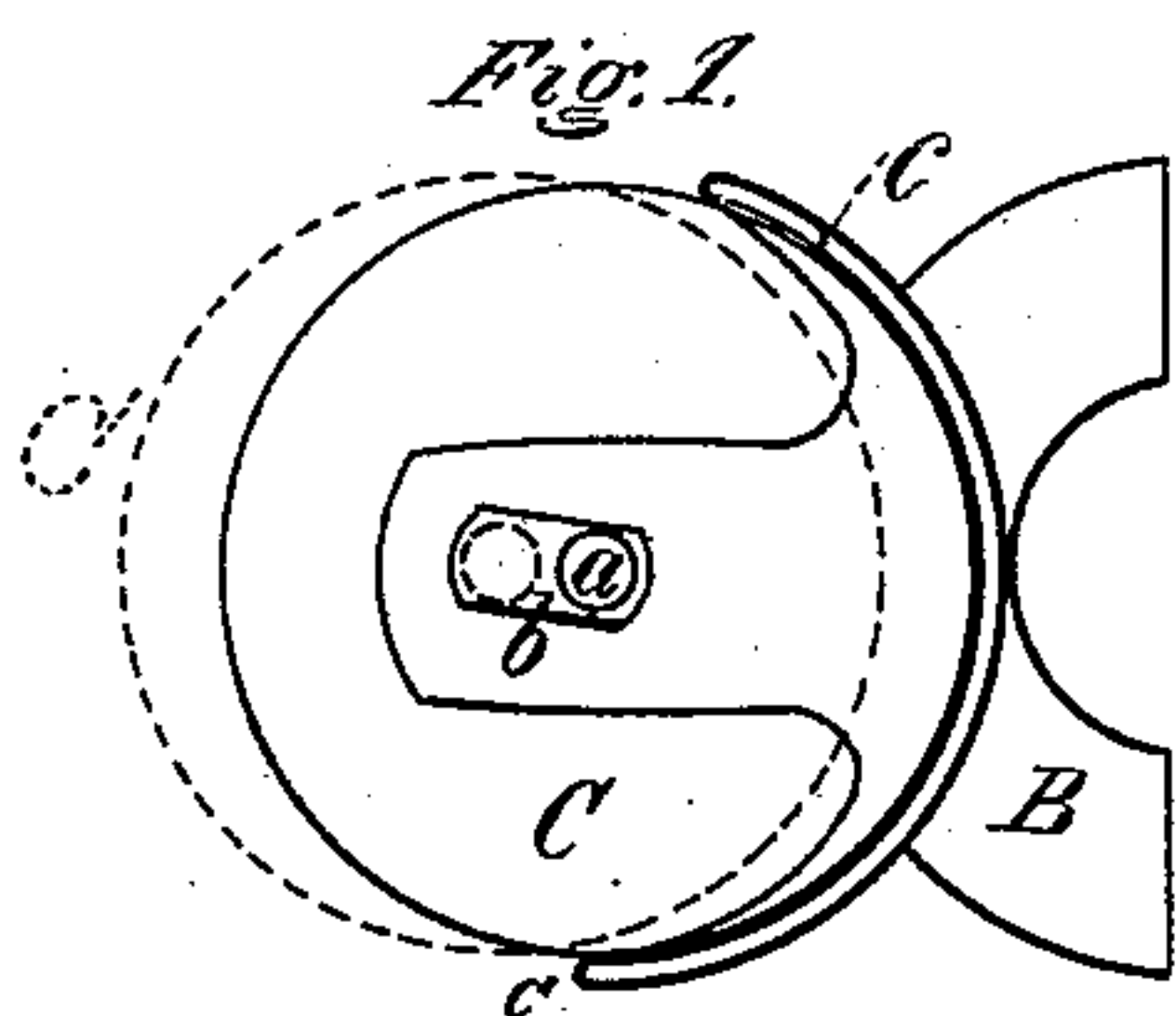


A. B. SHAW.
Curtain-Roller and Bracket.

No. 202,592.

Patented April 16, 1878.



Witnesses:
E. A. Phelps.
D. N. Luce.

Inventor:
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by A. K. Jewett
his atty.

UNITED STATES PATENT OFFICE.

AI B. SHAW, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN CURTAIN-ROLLERS AND BRACKETS.

Specification forming part of Letters Patent No. **202,592**, dated April 16, 1878; application filed December 7, 1877.

To all whom it may concern:

Be it known that I, AI B. SHAW, of Medford, Massachusetts, have invented certain Improvements in Curtain-Fixtures; and that the same are fully described in the following specification and illustrated in the accompanying drawing.

My improvements are twofold, relating to a friction device aiding to balance the shade at any desired point while the roller is in position in the brackets, and also to a locking device, serving to prevent uncoiling the spring when the roller is removed from the brackets.

The first part of my invention consists in a roller having a suitable cap formed upon or secured to its solid end, and a cylindrical journal projecting centrally therefrom, in combination with a bracket having a changeable bearing for the journal and roller-cap, as described.

The second part of my invention consists in the combination of a recessed or cam-bearing spindle, and a locking-plate adapted to engage with the flange of the ferrule, or with some part fixed to the roller, when the quick rotation of the spindle lifts the locking-plate.

In the drawing, Figure 1 is a side view of a bracket, showing the changeable bearings. Fig. 2 is an end view of the roller, cap, and shade. Fig. 3 is a longitudinal section of the spring end of the roller; Fig. 4, a view of the locking parts detached. Figs. 5 and 6 show the relative positions of the locking parts before and after the locking operation; and Fig. 7 is a similar view of a modified device, omitting the ferrule.

The first part of my invention, especially applicable to the solid end of the roller, is illustrated in Figs. 1 and 2.

A is the roller, having upon its end the cap C, and, projecting centrally therefrom, the journal *a*. The bracket B has two separate bearings for the roller—one a traversing slot, *b*, slightly inclined downward and backward, about as shown, in which the journal *a* rolls back and forth, or rotates freely, and the other a broad flange, *c*, preferably semicircular in form, projecting inwardly toward the opposite bracket, and shaped generally to fit the periphery of the cap C upon the roller A. When the shade is drawn downward the roller re-

volves, which causes the journal *a* to travel backward in its slotted bearing until the cap C is brought into frictional contact with the flanged bearing *c* and the central bearing is relieved from contact with the journal *a*. The frictional contact of the parts C and *c* maintains a balance of power between the weight and spring. When the counterpoise is lifted the spring reasserts itself, rolling up the curtain, and this rotation causes the journal *a* to roll forward in its slotted bearing, thus freeing itself from the bearing *c*, and revolving with greatly diminished friction in the bearing *b*.

The tendency of the inclined bearing *b* is, when rotation ceases, to cause the journal to move backward in the slot until the parts C and *c* come into contact. These varying relations of the journal, cap, and bearings are illustrated in dotted and full lines in Fig. 1.

The locking device which I have invented is applied to the spring end of the ordinary spring-fixture. It combines in its action a cam-movement to effect the locking of the spindle to the roller and the principle of gravitation to unlock them.

The best mode of applying these principles which I have contemplated is illustrated in the drawing, and may be described as follows: The spindle D enters its bracket with a particular side uppermost, and is held by the bracket so as not to rotate with the roller. The spindle is recessed upon the upper side, or built up upon some of the other sides, so as to form a cam, *d*, the outlines of which on one side approach, and on the other recede from, the axis of the spindle. The recessed side, or the side having the shortest radius, is upward. Upon this recessed side a locking-plate, E, having a rectangular central aperture, is suspended, so that the cam may turn partially, but not make a complete rotation, in the aperture.

I cover the end of the roller with a ferrule, F, having a square opening in the end flange *f*, which incloses the plate E, and I form upon the locking-plate a lug, *e*, which projects through the opening in the flange *f*. So long as the spindle is held in the bracket, the recessed surface upon which the plate E rests being upward, the locking-plate is depressed,

so as to bring the lug *e* into proximity with the axis of the spindle, as shown in Figs. 3 and 5, and the ferrule revolves with the roller without the flanges *f* coming in contact with the lug *e*. When the roller is removed from the bracket the recoil of the spring gives a quick rotary movement to the spindle, causing the cam formed thereon to turn partially in the rectangular aperture, and thus to lift the inert locking-plate by the cam-action before the plate itself begins to revolve. When the plate so lifted does revolve, the lug *e* is brought into contact with the flange *f*, as shown in Fig. 6, thus locking the parts, since the cam prevents the complete rotation of the spindle in the locking-plate.

The ferrule *F f* may be dispensed with, and also the lug *e* on the locking-plate, by inserting a stop-pin, *G*, in the end of the roller, for the edge of the locking-plate to engage with, as illustrated in Fig. 7.

I claim as of my invention—

1. In a spring curtain-fixture, the roller *A*, operated by the curtain and by the internal spring, in combination with the bracket *B*, provided with a nearly horizontal traversing slot, as a bearing for the roller-journal when the shade is being rolled up by the recoil of the spring, and having also a flanged frictional bearing for the roller-head during the downward movement of the shade, substantially as set forth.

2. A roller-spindle, suitably recessed on its upper side, or having a cam formed upon it, as described, in combination with a locking-plate adapted to be raised into engagement with the ferrule, or some other fixed part of the roller, by the action of the cam in the quick rotation of the spindle, substantially as set forth.

AI B. SHAW.

Witnesses:

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C. G. KEYES.