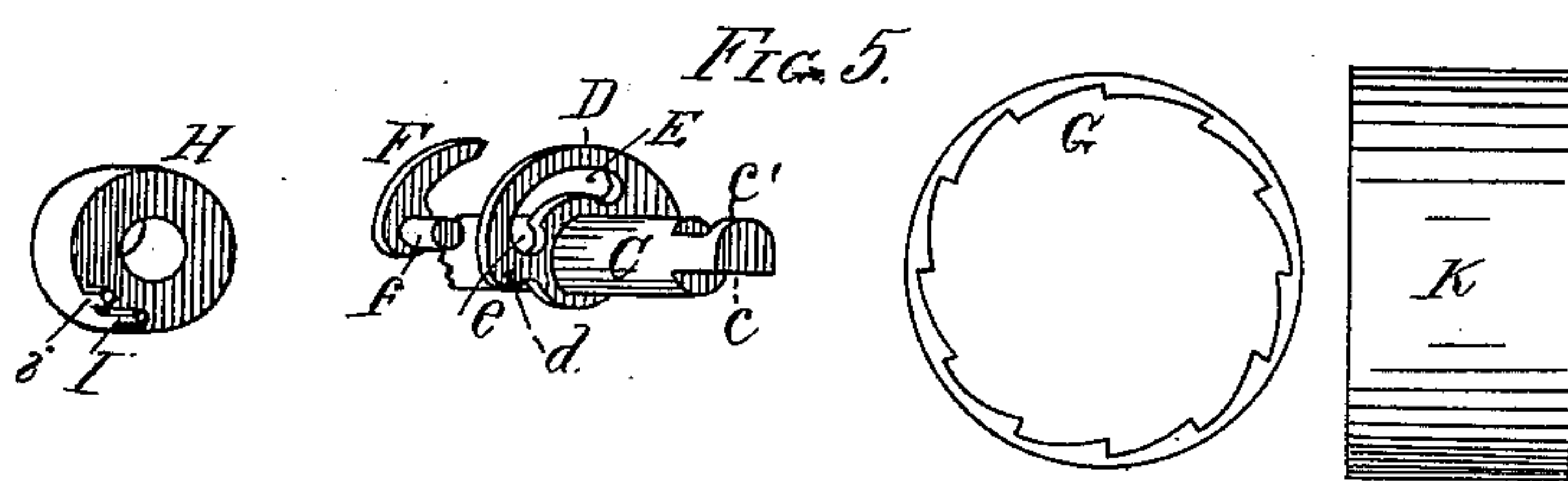
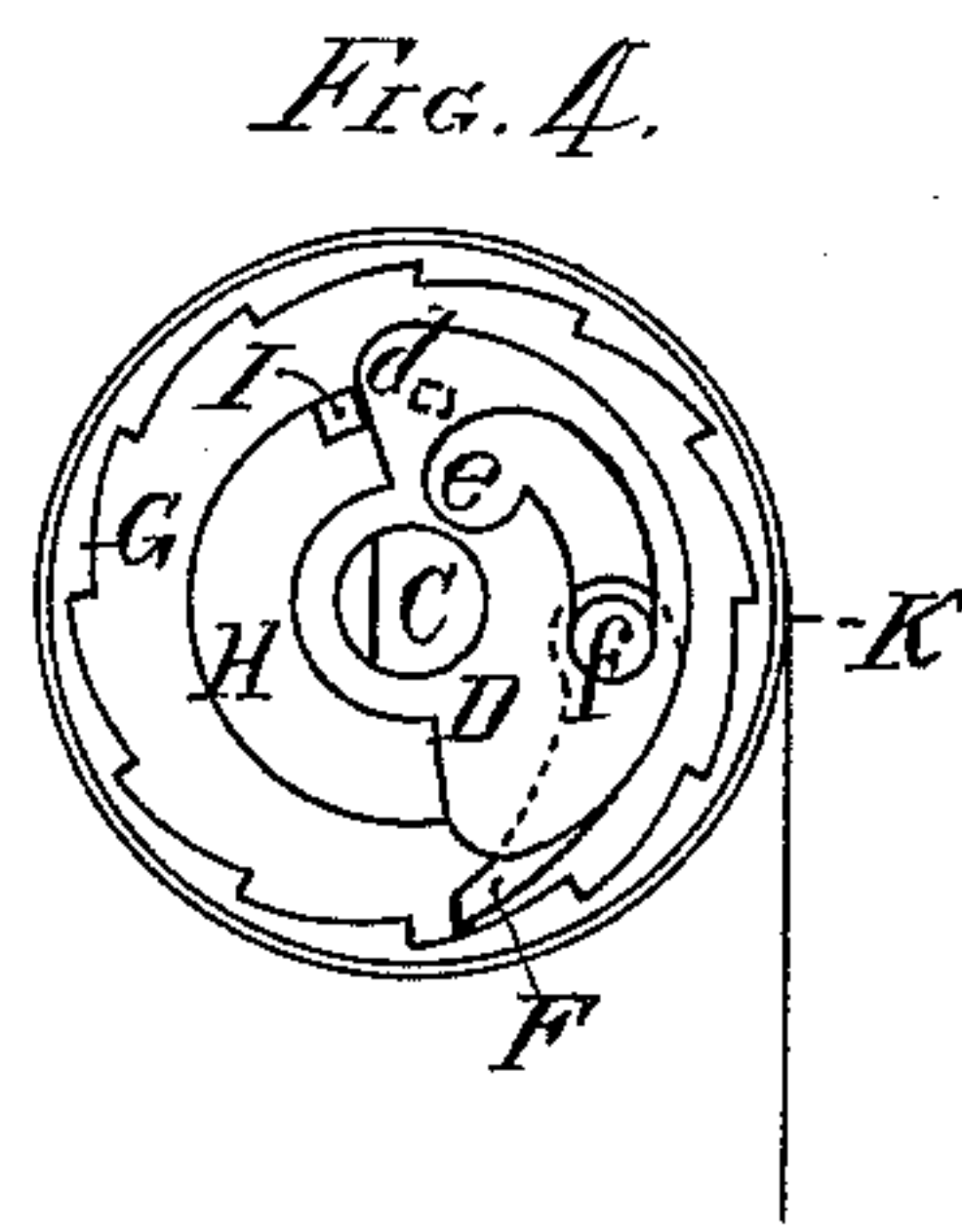
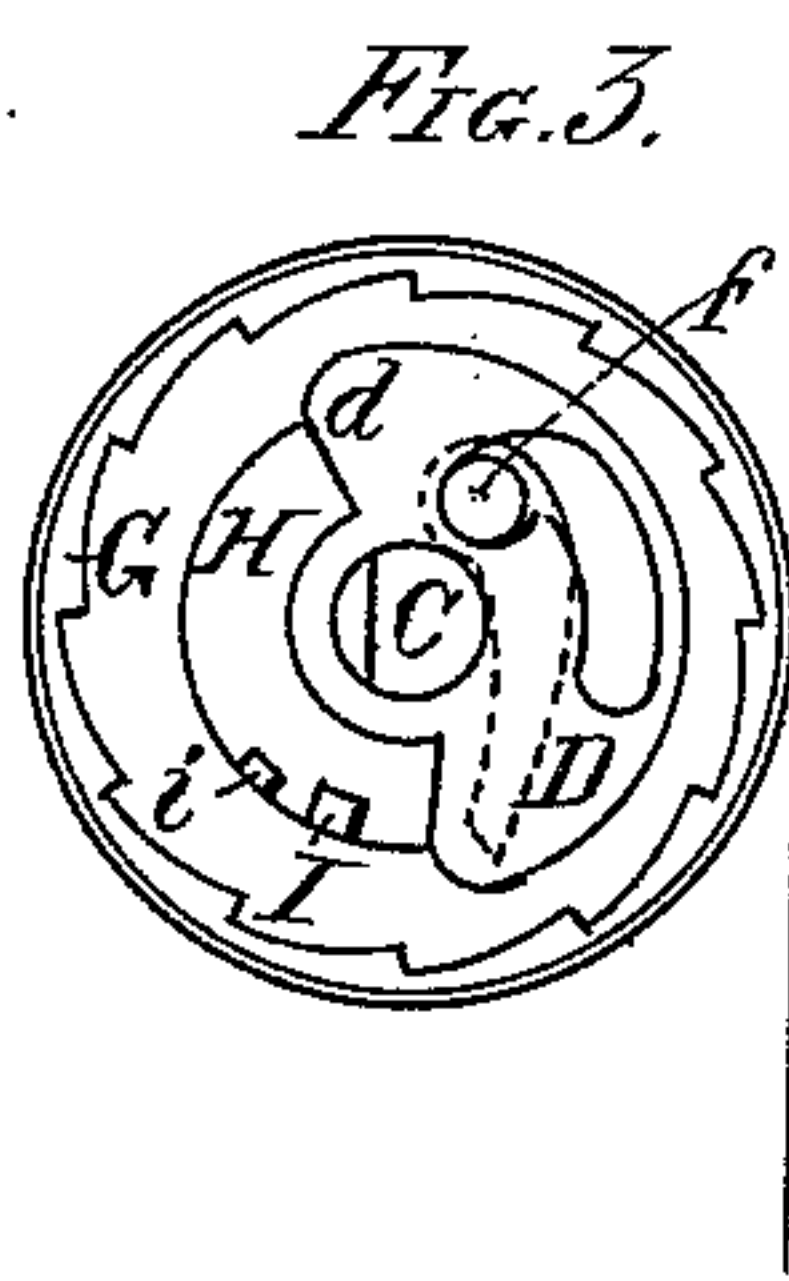
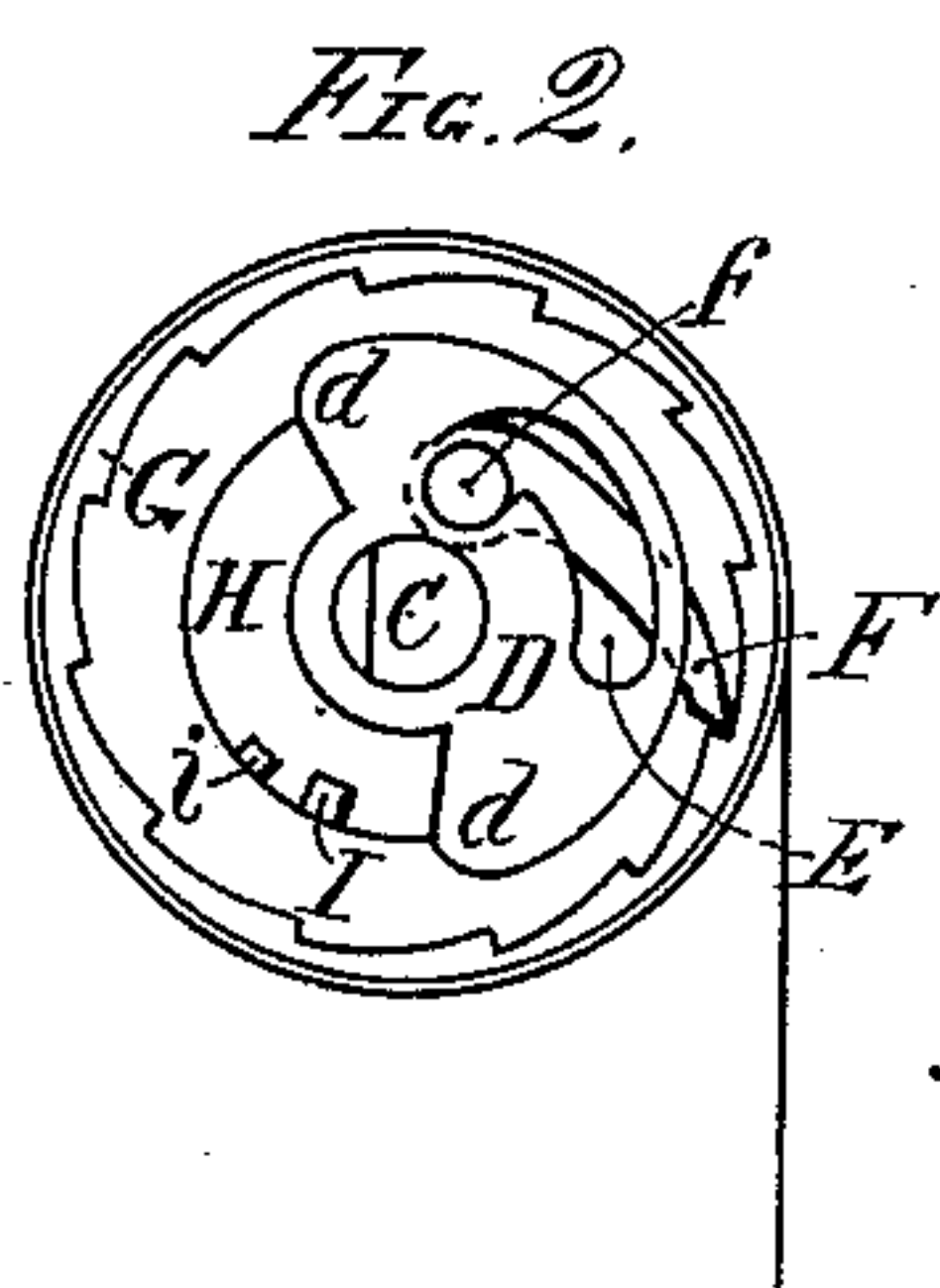
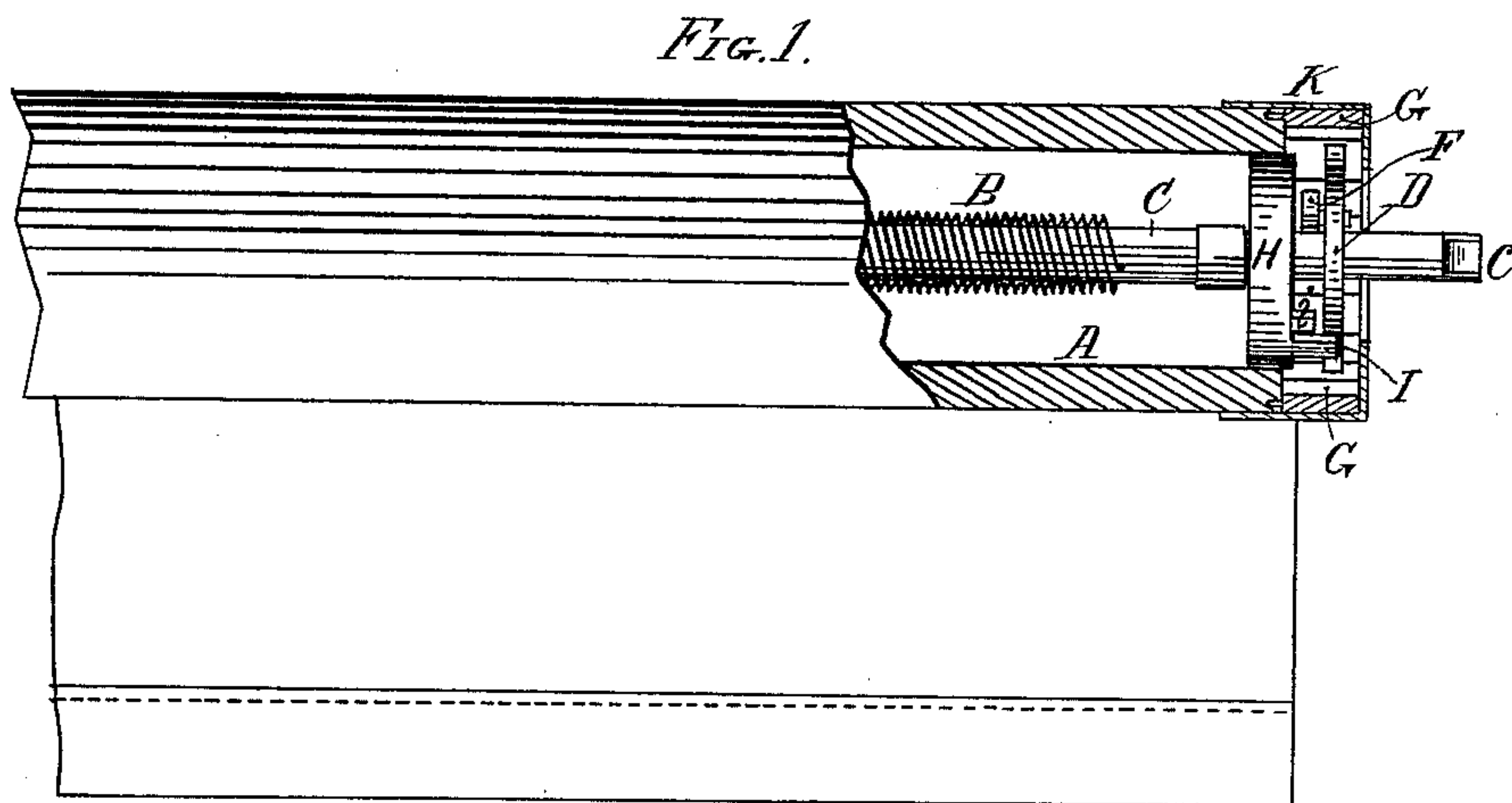


A. B. SHAW.  
Curtain-Fixture.

No. 222,204.

Patented Dec. 2, 1879.



Witnesses:  
C. L. Hayes  
E. A. Phelps.

Inventor:  
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# UNITED STATES PATENT OFFICE.

AI B. SHAW, OF MEDFORD, MASSACHUSETTS.

## IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. 222,204, dated December 2, 1879; application filed April 26, 1879.

*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 I hereby declare that the following specification is a full and exact description of the same, and the accompanying drawings are an illustration.

The object of this invention is to furnish a spring curtain-roller with a stop to hold the shade at any desired height and permit its free upward movement regardless of its rate of speed.

My invention consists in a flange or collar formed upon the spindle, slotted to permit the pivot of a pawl to traverse it, in combination with an oscillating collar, a ratchet-ring, and a pawl traversing said slot, and adapted to engage with and disengage from said ring.

It also consists in said devices in combination with a recess or enlargement of the slot, forming a seat for the pawl-pivot.

It also consists in an oscillating collar adapted to carry the pawl from its seat into position to engage with the ratchet-ring, and in the several devices recited in the claims.

In the drawings, Figure 1 is a side view, partly in section, of my improved fixture locked to resist the recoil of the spring; Fig. 2, an end view of the parts under the same conditions; Fig. 3, a similar view of the device unlocked as during ascent of shade; Fig. 4, end view during downward movement. Fig. 5 represents the parts detached.

A is the tubular roller; B, the operating-spring, and C the spindle, to which one end of the spring is secured, while the other end is made fast to the roller in the usual manner, in order that the tension of the spring may increase or diminish as the roller revolves.

The spindle is kept from turning by having its end flattened, as at *c*, for insertion in the bracket, and a lip, *c'*, is formed upon it, as shown, which, owing to the shape of the bracket-opening, insures its reception with a given side up. In all these respects my fixture is similar to devices now in ordinary use.

D is a flange formed upon the spindle in a plane at right angles to its axis, and having a slot, E, preferably curved, as shown, and extending concentrically from about the hori-

zontal plane of the axis up to, or nearly to, a point vertically above the spindle, and terminating in an enlargement or recess, *e*. This slot forms a bearing or support for the projecting pivot *f* of a pawl, F, which is adapted to engage, on the upward movement of the shade, with the teeth of a ratchet-ring, G, secured to the roller, so as to check its movement under the action of the spring, and lock the roller and spindle together. During this operation the position of the parts changes from that shown in Fig. 4 to that in Fig. 2, because the power of the spring which tends to wind up the shade lifts the pawl, its pivot sliding upward along the slot until it reaches the recess *e* at the upper end. The pivot can retreat no farther, and as the spring continues to press the teeth of the ratchet against the toe of the pawl the latter is carried to the position shown in Fig. 2, and there retained, completely locking the parts.

To release the shade or permit it to rise any desired distance at any rate of speed, first draw it slightly downward until the supporting-tooth of the ratchet-ring is, by rotation of the roller, withdrawn from its position directly beneath the toe of the pawl, permitting it to drop out of engagement therewith and to hang dormant, as in Fig. 3, having gravitated toward the axis, owing to the fact that its pivot remains in the recess *e*.

I have sometimes omitted the recess *e* and carried the slot up past the axis of the spindle, so that the weight of the pawl alone would tend to keep its pivot in such prolongation of the slot when the point was disengaged from the ratchet; but its action, when so constructed, was not so positive or reliable, and hence I prefer the construction above described, and illustrated in the drawings.

H is an oscillating collar forming an enlarged bearing for the tubular end of the roller and mounted loosely upon the spindle adjacent to the slotted flange D, from which it is separated by a space just sufficient to permit the pawl F to play freely. The uniform width of this space is insured by a hub formed either on the collar or the flange, or as a distinct ring placed between them.

On one side of the collar H is a notched projection or two adjacent lugs, I *i*, extending to-



ward the end of the spindle, the longer one, I, intersecting the plane of the flange and striking the shoulders *d d* at its extremes of oscillation on the spindle, and thereby forming a stop determining the extent of oscillation. The short lug, *i*, does not reach to the plane of the flange, but only far enough to come in contact with the heel of the pawl, while its pivot *f* occupies its seat in the recess *e*. This contact occurs on the downward movement of the shade, before the roller has made a half-revolution, and its effect is to dislodge the pivot from its seat *e*, and allow the pawl to slide from the position shown in Fig. 3 to that indicated in Fig. 4. By this movement the toe of the pawl, which had gravitated toward the spindle while the pivot was in the recess *e*, gravitates away from the axis and into contact with the ratchet-ring, in readiness to engage with its teeth when the upward movement of the shade begins. The collar H, with its projection I *i*, has therefore three distinct functions—viz., first, to furnish a bearing-surface for the tubular end of the roller to revolve on; second, to hold the pawl in proper working position, close to the flange D, so that its pivot shall remain in the slot E; and, third, to turn with the roller upon the spindle sufficiently, when the shade is drawn downward, to carry the pawl into position to engage with the ratchet-ring, and during the upward movement to turn backward sufficiently to permit the pawl to again occupy the upper end of the slot E.

The bearings of the collar H upon the spindle and of the roller A upon the collar are both loose and free; but there being more surface contact and less leverage in the latter case than in the former, the collar will oscillate in either direction till checked by the shoulders *d d* before the roller end will slip upon the periphery of the collar.

As a modification of my invention, I sometimes make the flange D to oscillate or partially rotate upon the spindle—the movement limited by stops on the spindle—and omit the slot E, pivoting the pawl to the flange at a point corresponding to the recess *e*. With this construction the lugs I *i* on the collar H oscillate the flange to effect the engagement

and disengagement of the pawl, as set forth. In either case I inclose the roller end by a broad ferrule, K.

The operation of my fixture will be obvious. It is a stop-fixture possessing the advantages of the best balance-fixtures, since it may be drawn down any distance, and, without any manipulation, will lock as soon as the spring begins to wind up the shade. When locked, a trifling downward movement will release the toe of the pawl from the ratchet, after which the shade may rise unimpeded any distance, either slowly or quickly, since the rate of speed is immaterial, the operation being entirely independent thereof.

I claim as my improvement in spring curtain-fixtures—

1. A spindle provided with a slotted flange, in combination with a pawl having a pivot traversing the slot, a collar adapted to oscillate upon the spindle, and a ratchet-ring secured to the roller, substantially as set forth.

2. A spindle provided with a slotted flange, having a recess or seat for the pivot of a pawl, and an oscillating collar, in combination with a pawl traversing said slot, and adapted to engage with and disengage from a ratchet, substantially as set forth.

3. An oscillating collar, in combination with a pivoted pawl so supported from the spindle that its toe will, in one position, gravitate toward the ratchet-teeth, and in another position it will gravitate away from said teeth, substantially as and for the purpose set forth.

4. An oscillating collar adapted, when the shade is moving downward, to dislodge the pivoted pawl from its seat, so that it will engage with the ratchet on the upward movement of the shade, substantially as set forth.

5. The combination of the spindle having a pawl-supporting flange and the ratchet-ring secured to the roller with the traversing pawl and the oscillating collar with lugs, adapted to operate substantially as and for the purpose set forth.

AI B. SHAW.

Witnesses:

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