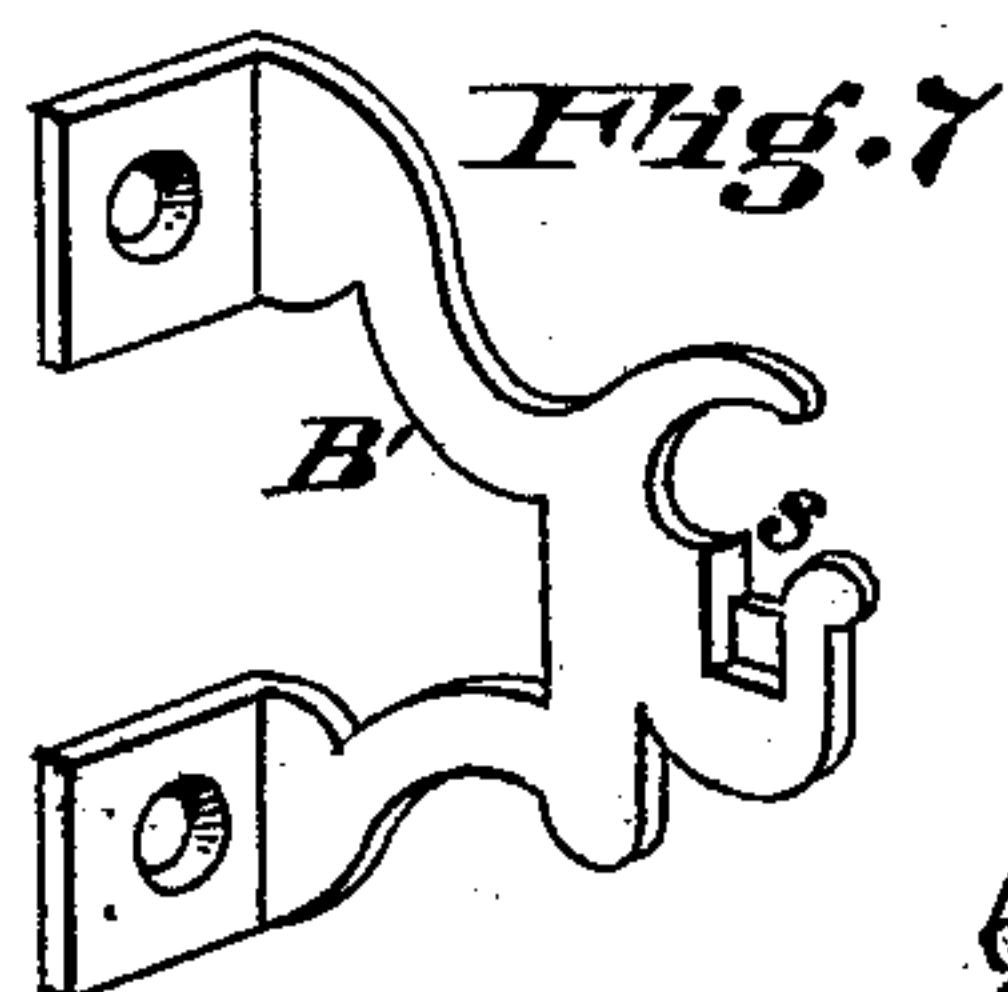
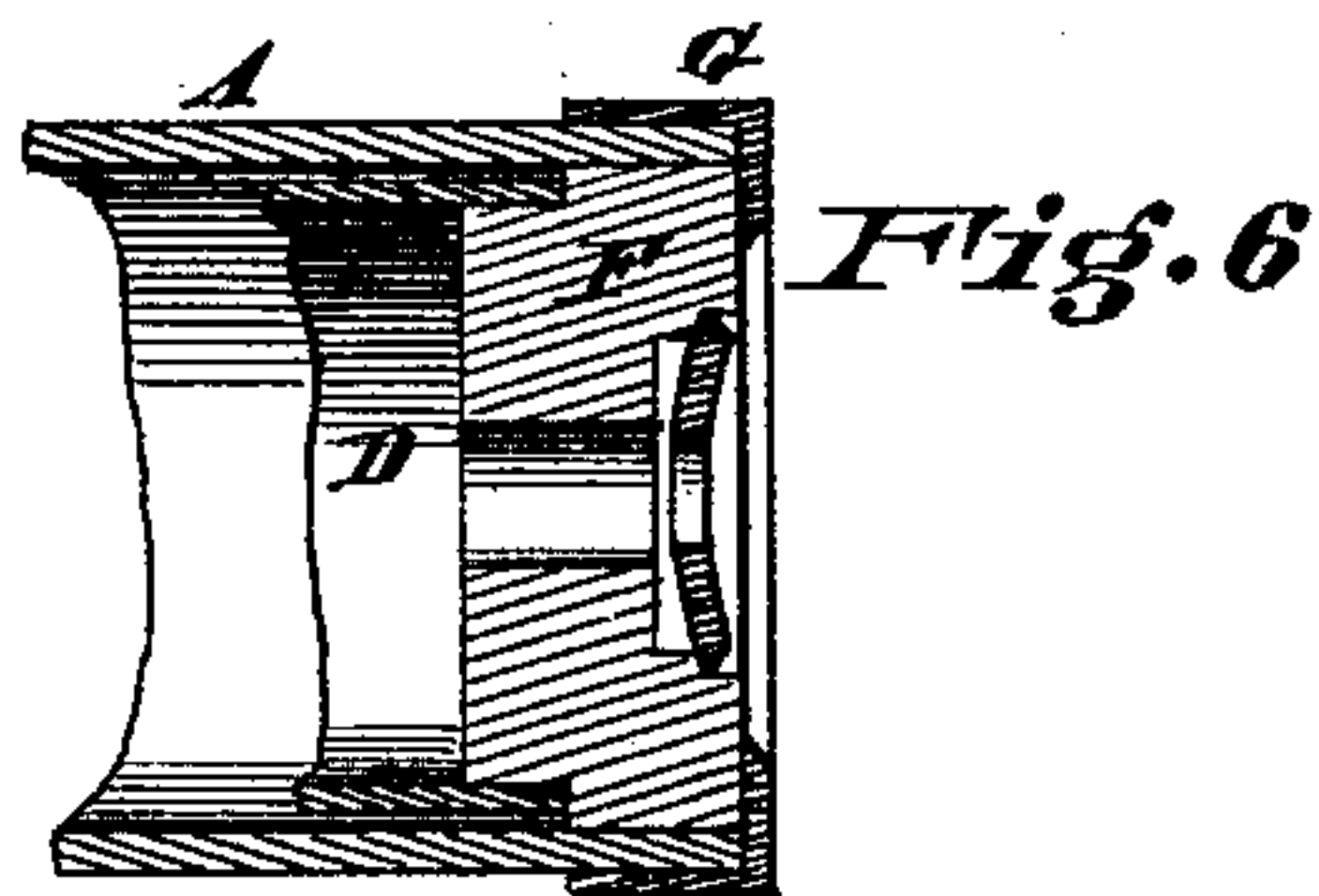
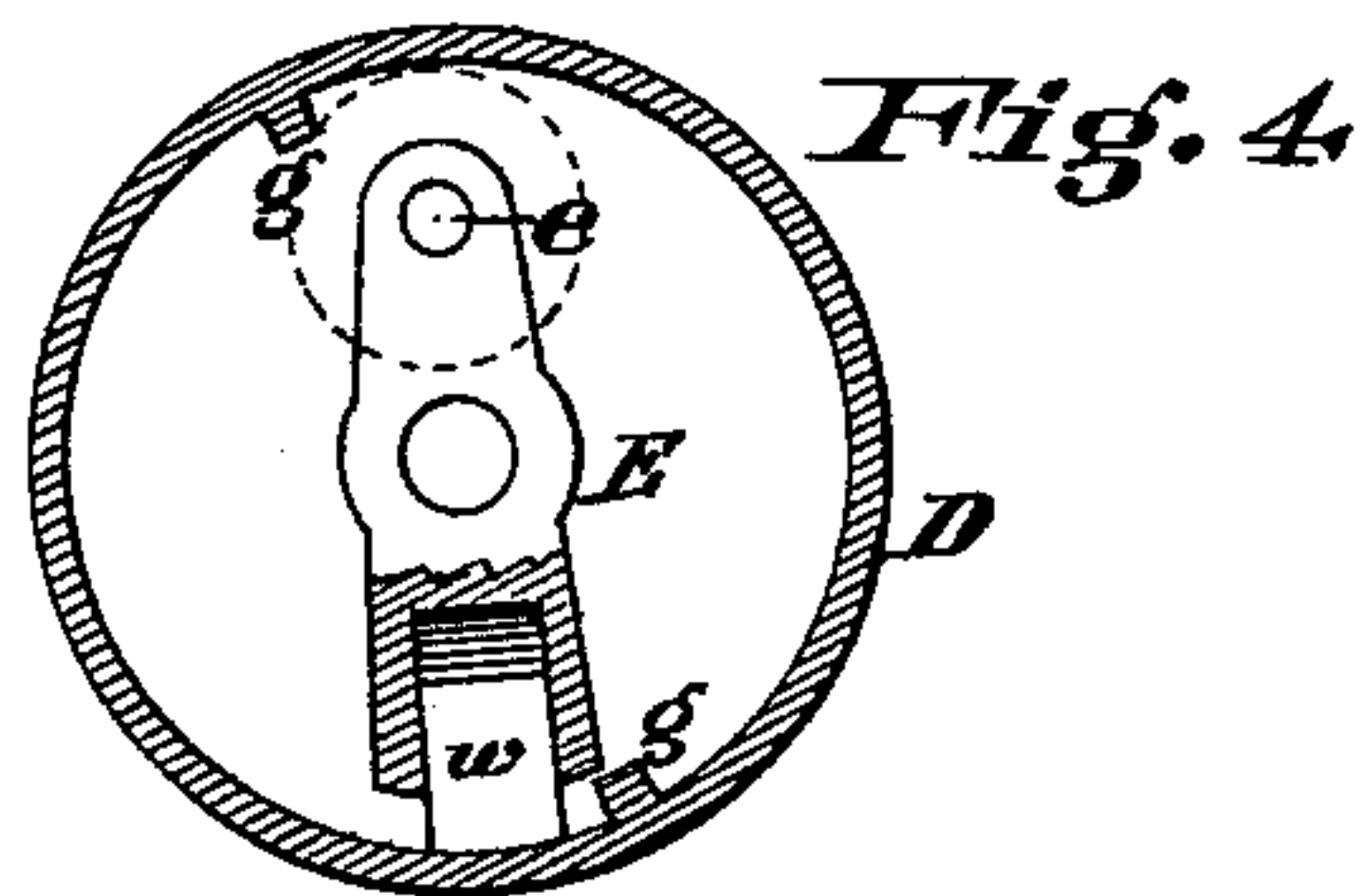
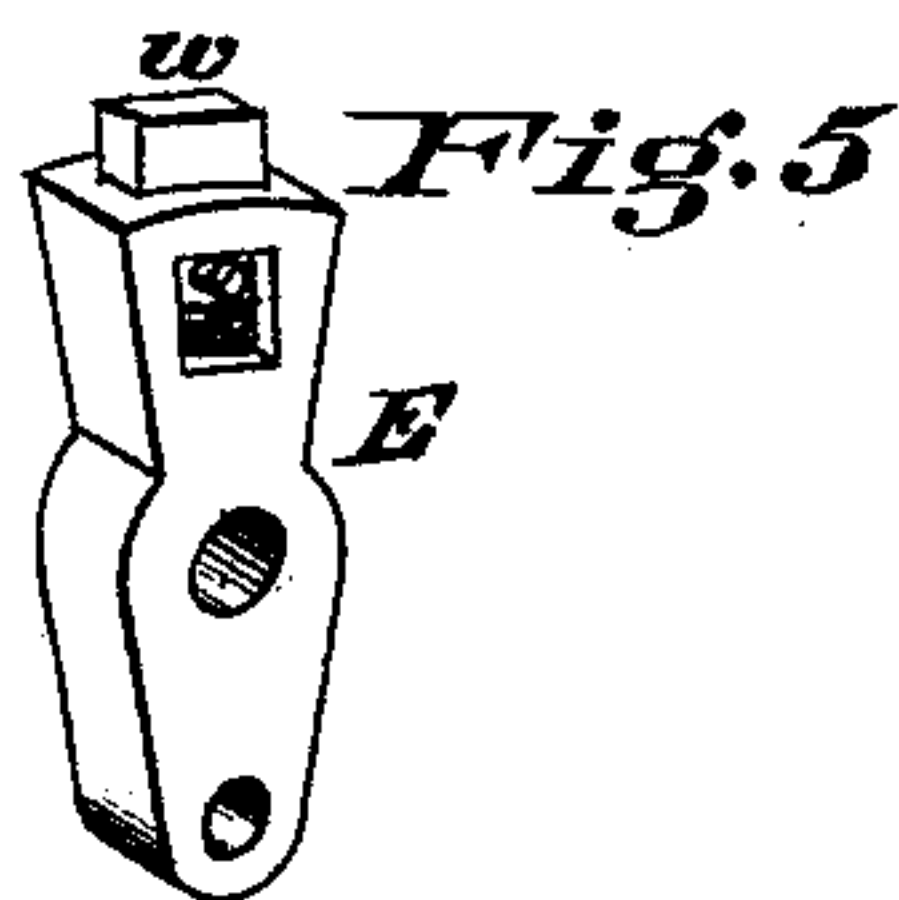
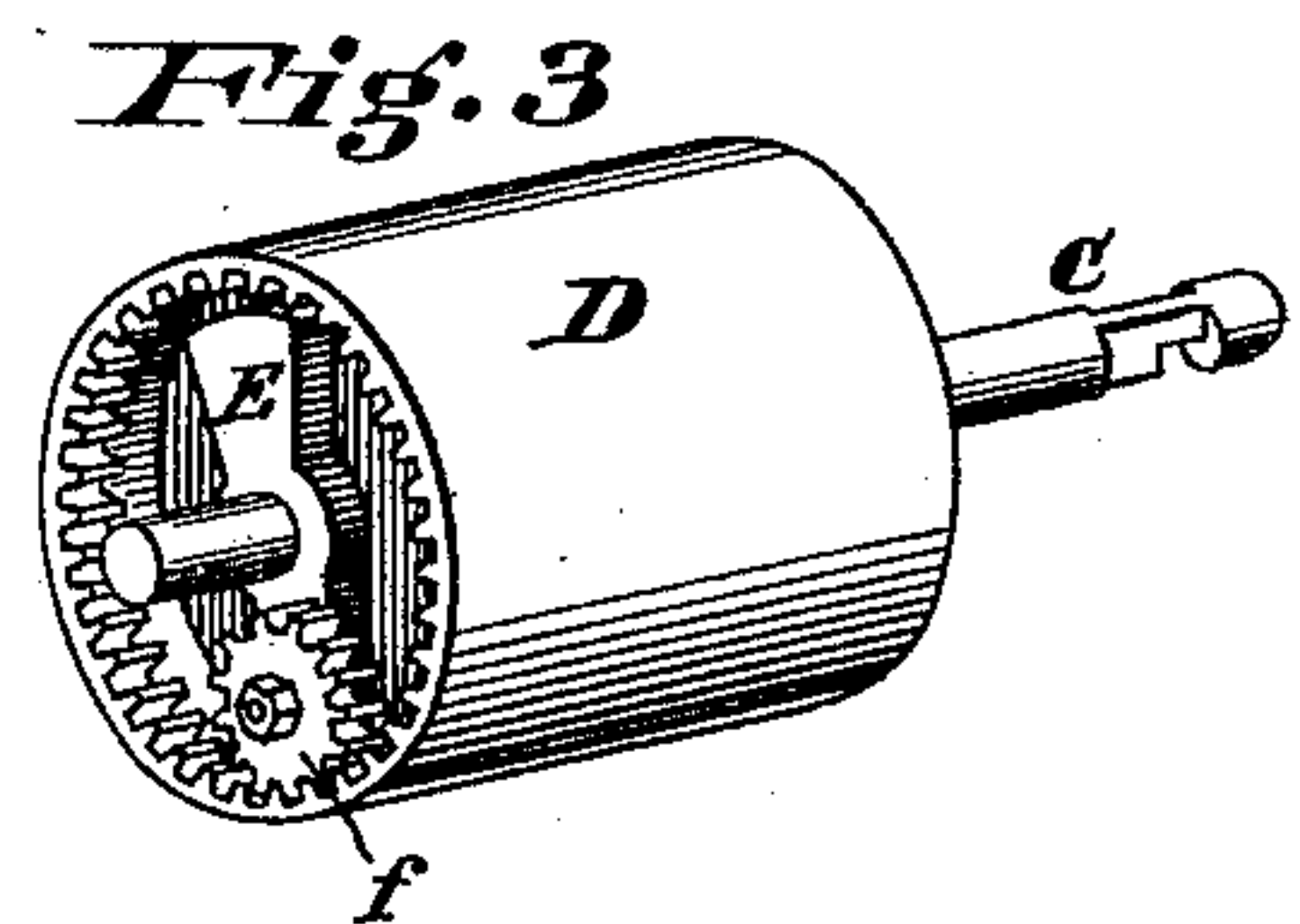
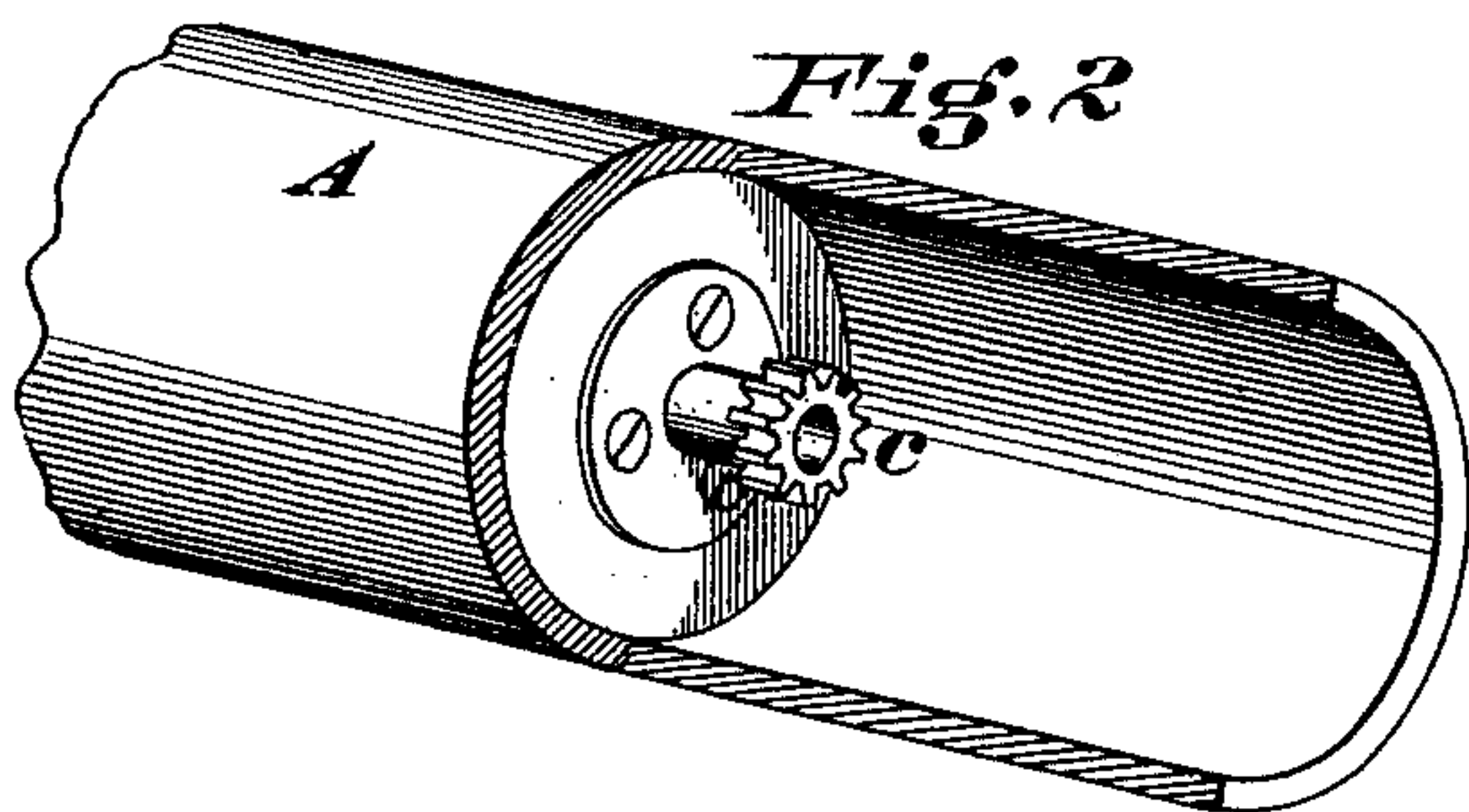
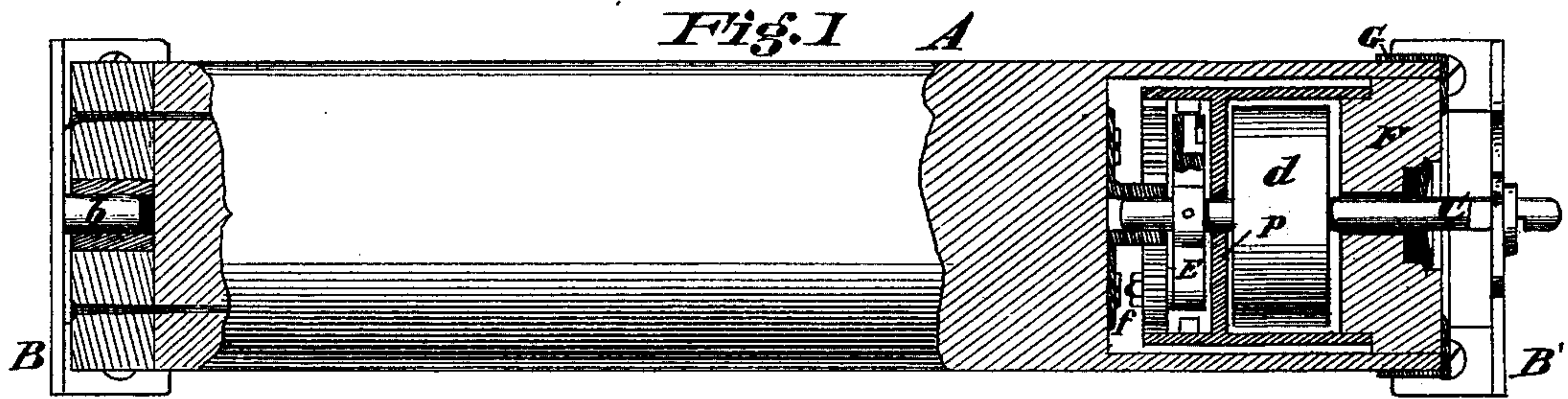


J. W. MACY.  
Curtain-Fixture.

No. 219,747.

Patented Sept. 16, 1879.



Attest  
Edgar J. Gross  
O. Kilian

Inventor  
J. Warren Macy  
by L. H. Storer  
Attorney



# UNITED STATES PATENT OFFICE.

J. WARREN MACY, OF TROY, OHIO, ASSIGNOR TO T. KINCAID AND M. E. BAIRD, OF SAME PLACE, ONE-THIRD TO EACH.

## IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. 219,747, dated September 16, 1879; application filed June 26, 1879.

*To all whom it may concern:*

Be it known that I, J. WARREN MACY, of Troy, Miami county, Ohio, have invented a new and useful Improvement in Curtain-Fixtures, of which the following is a specification, reference being had to the accompanying drawings and the letters of reference marked thereon.

The object of my invention is to provide operating devices for curtain-rollers which shall be simple, cheap, and durable in construction and efficient in operation, whereby the act of drawing down the curtain winds up a spring, whose reaction again elevates the curtain to its original position; and consists in the devices hereinafter described.

In the drawings herewith, Figure 1 represents a side sectional elevation of my invention; Fig. 2, the end portion of the roller proper, in perspective, with part broken away, showing the inner bearing of the stationary axis and the operating-pinion; Fig. 3, a perspective view of the drum containing the spring and the operating mechanism; Fig. 4, an end sectional view of the drum between the line of gear-teeth and partition, showing the carrying-arm partly in section. Fig. 5 is a perspective view of the carrying-arm and wedge brake device. Fig. 6 is a side section of the end of roller, showing the retaining plug and cap; and Fig. 7, a perspective view of the supporting-bracket.

A is the curtain-roller, mounted upon and revolving between brackets B B', secured to the window-casing. A pin, *b*, projecting from the bracket B, enters a central aperture at one end of the roller A, and forms a pivot for its revolution, resting in a bushing of felt or similar material, by which noise is prevented and friction decreased. The opposite bracket, B', is provided with a socket, *s*, for the reception and retention of a short stationary axis, C, at the corresponding end of the roller, as will be more fully described hereinafter.

The end of the roller A adjacent to the bracket B' is hollow for a short distance inward, and at the bottom of such depression is rigidly secured a small pinion, *c*, with a hollow center, which forms a bearing for the stationary axis C. Attached loosely to the station-

ary axis C is a hollow open-ended drum, D, divided by a partition, *p*, into two parts, one of which contains the operating-spring *d*, secured both to the axis C and to the interior periphery of the drum, and the other an arm, E, rigidly secured to the axis C. The arm E extends outward on opposite sides of the axis C nearly to the interior periphery of the drum, and is provided near one end with a lateral pin, *e*, which carries an idler-pinion, *f*, meshing with a line of gear-teeth upon the inner periphery of the drum D, and also (when the parts are together in position) with the pinion *c* before described.

The axis C, with its drum, being placed in position in the hollow end of the roller A, a plug, F, perforated for the passage of the axis C, is then inserted in the opening of the roller, and the whole secured by a cap, G.

The plug F has a supplemental head, which fits within the end of the drum and forms a bearing for the latter at that point. The other bearing of the drum is at the center of the dividing-partition through which the axis passes, and, the drum being of smaller diameter than the recess of the roller, it may revolve freely therein.

The outer end of the axis C is squared to fit the socket *s* in the bracket B', and its under side is recessed to fit over the lower side of the socket, and thus hold it securely in its proper position and prevent it from turning. The recess also serves as a guide to prevent the axis from being placed in position upside down.

It will be seen that the rotation of the roller A operates by means of its pinion *c*, through the idler *f* and the interior gear-teeth of the drum, to rotate the drum in the opposite direction, and thus wind the spring *d*, and that the reaction of the spring operates in the opposite direction to revolve the roller.

When the parts are in position the spring is wound to a tension just sufficient to sustain the weight of the curtain, when, as the curtain is drawn down, the spring is further wound up, and when released, draws the curtain up. Any brake mechanism or other devices may be employed to retain the curtain in its intermediate positions.

To avoid the danger which would ensue



from the sudden release of the spring in lifting the roller from its bearings, I provide a brake constructed as follows: The arm E, at the end opposite to that which carries the idler-pinion, is slotted at its end to receive a wedge, *w*, loosely fitting therein and having a radial play. When the parts are in proper position, this end of the arm is upward, and the wedge is held inward by its weight. Should the axis C be removed from its bearing *s* while the spring *d* is under tension, the arm E would be immediately rotated and the wedge *w* be thrown outward by its own weight and by centrifugal force, and engage stops *g* projecting from the inner periphery of the drum, which arrest its movement.

Having described my invention, I claim—

1. In combination with a roller having a recessed end, the stationary axis C, spring

*d*, drum D, provided with interior gear-teeth, and pinions *e* and *f*, substantially as and for the purpose specified.

2. In combination with the stationary axis C and revolving drum D, the arm E, attached rigidly to said axis and provided with a slot adapted to receive a wedge or equivalent brake device, substantially as and for the purpose specified.

3. In combination with the recessed roller A, axis C, and drum D, the perforated head F and cap G, substantially as specified.

In testimony whereof I have hereunto set my hand this 19th day of June, 1879.

J. W. MACY.

Witnesses:

JAMES KNIGHT,

CALVIN D. WRIGHT.