

No. 778,571.

PATENTED DEC. 27, 1904.

A. M. DOOLITTLE.

PAWL MECHANISM FOR SPRING SHADE ROLLERS.

APPLICATION FILED NOV. 14, 1902.

Fig. 1

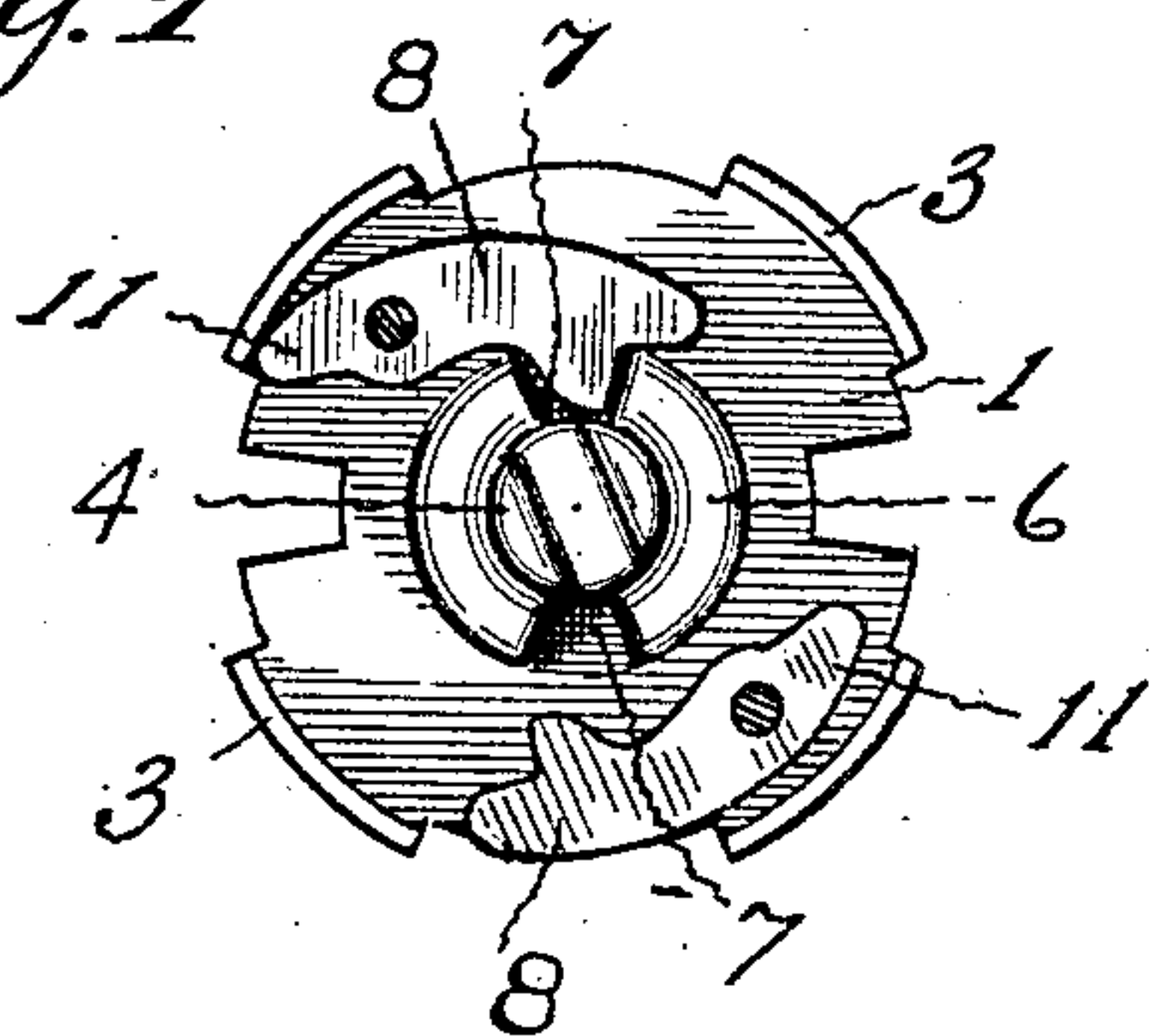


Fig. 2

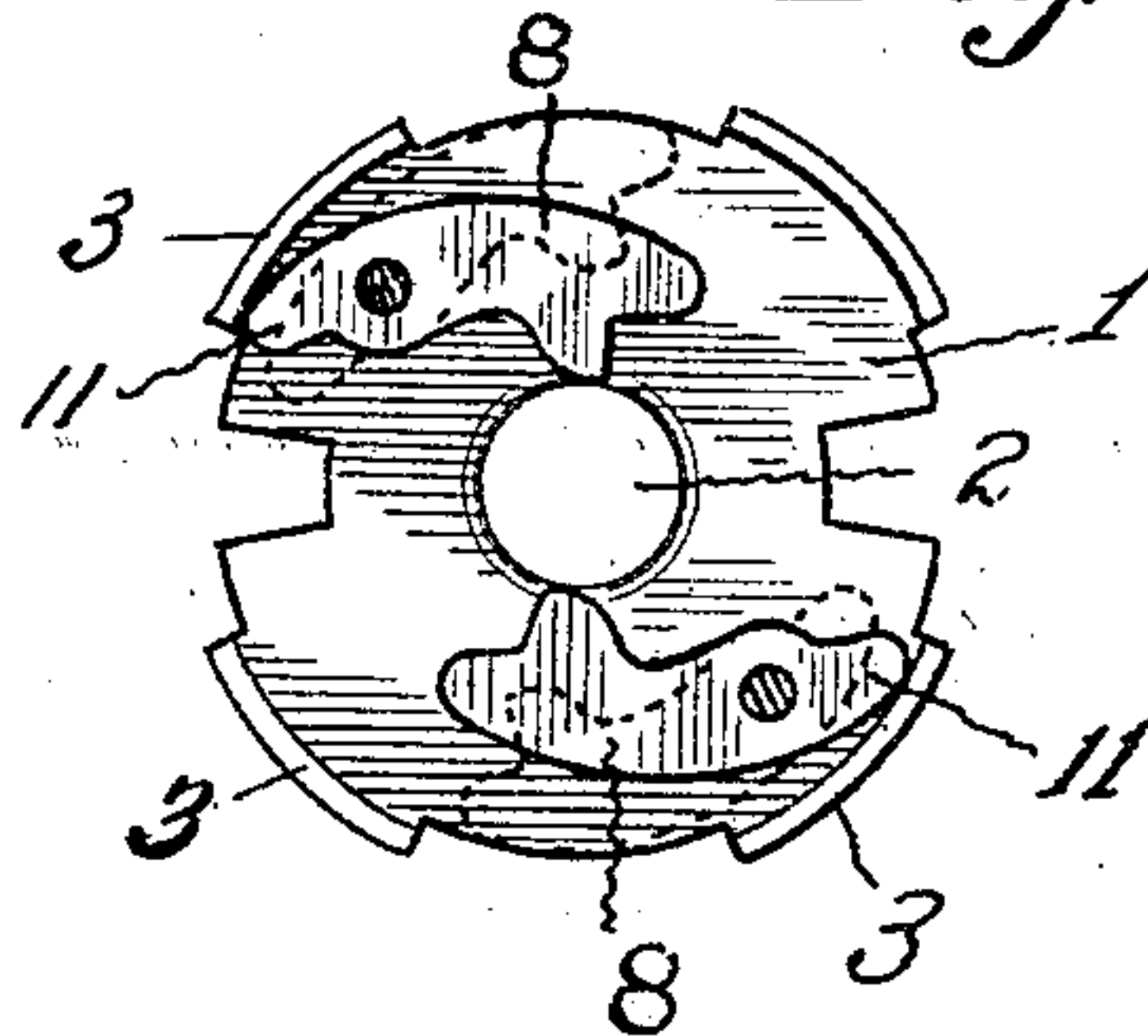


Fig. 3

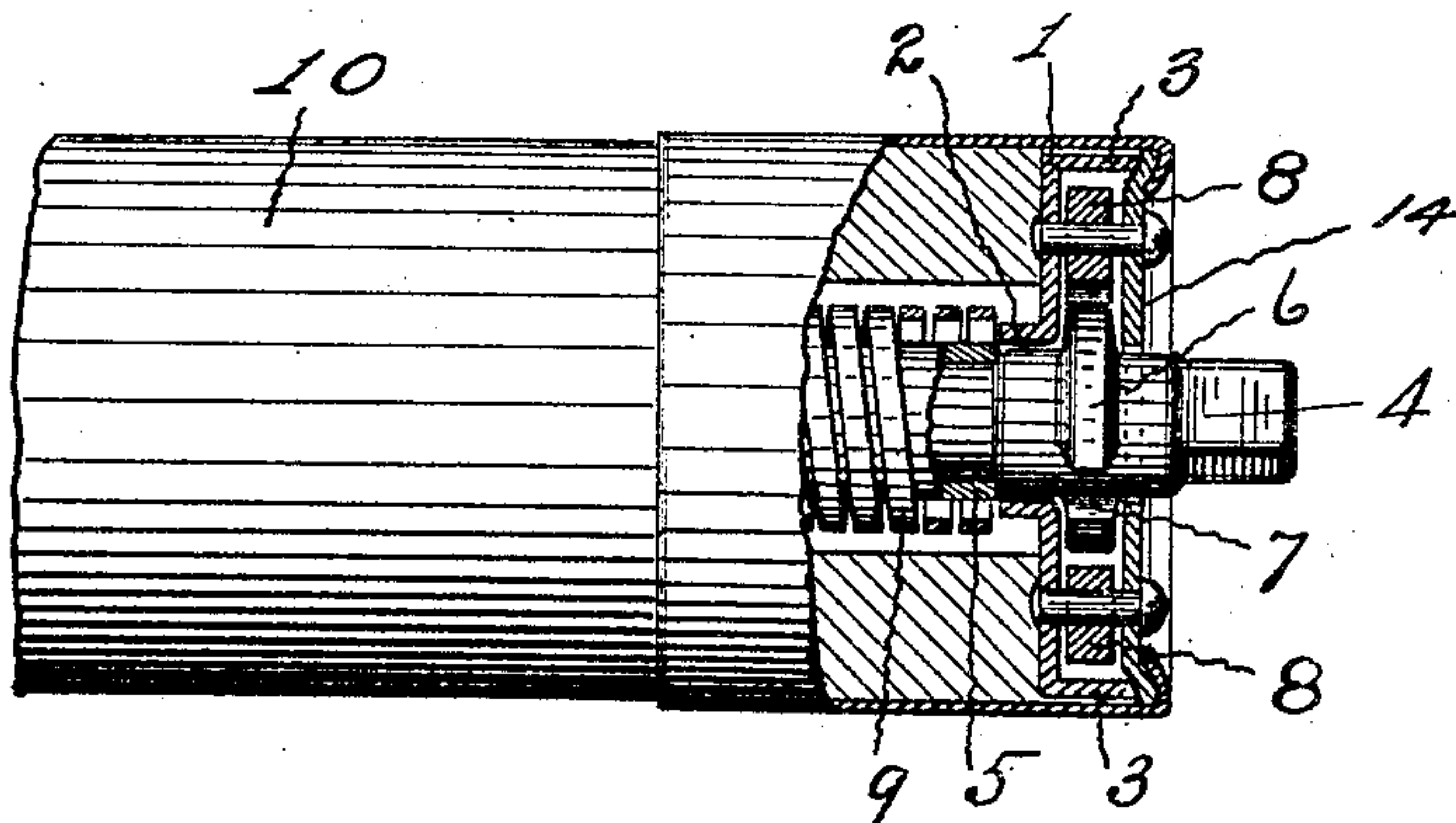


Fig. 4

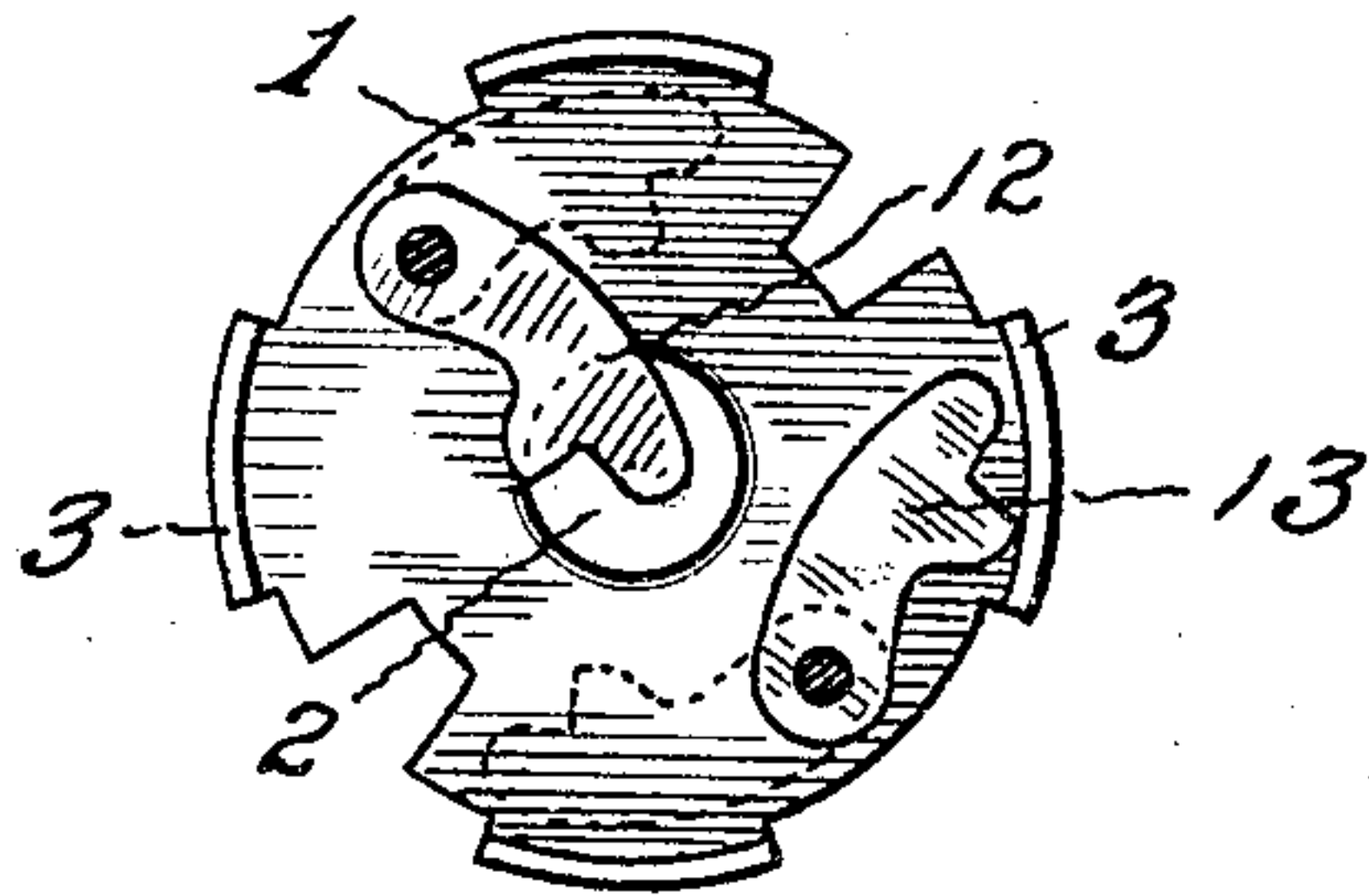
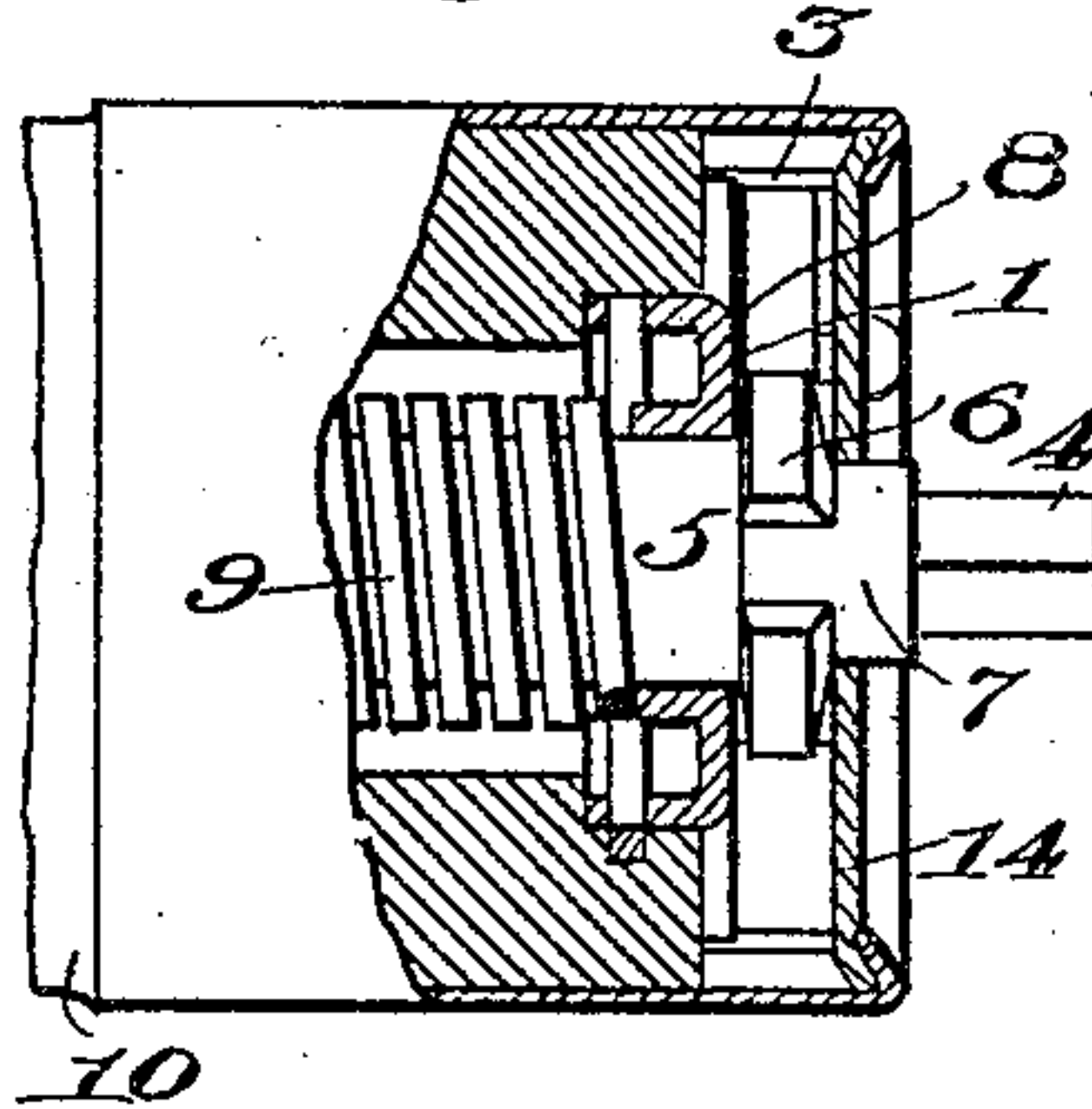


Fig. 5.



Witnesses

L. F. Kilgore

E. A. Sherman

Inventor

Amos M. Doolittle, by

Harry P. Williams

Attorney

UNITED STATES PATENT OFFICE.

AMOS M. DOOLITTLE, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE MERIDEN CURTAIN FIXTURE CO., OF MERIDEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

PAWL MECHANISM FOR SPRING SHADE-ROLLERS.

SPECIFICATION forming part of Letters Patent No. 778,571, dated December 27, 1904.

Application filed November 14, 1902. Serial No. 131,436.

To all whom it may concern:

Be it known that I, AMOS M. DOOLITTLE, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Pawl Mechanism for Spring Shade-Rollers, of which the following is a specification.

This invention relates to a mechanism for holding the spring of a shade-roller under tension.

The object of the invention is to so construct the plate and the pawls which engage the spindle end and hold the spring under tension that the pawls cannot obstruct the quick assembling of the parts.

The mechanism shown as embodying the invention has a plate, stamped from a piece of sheet metal, with a central perforation for the spindle end, outwardly-projecting lugs, and pawls adapted to engage notches in the collar on the spindle end and so constructed and attached that they cannot swing across the central perforation to the wrong side of the plate in position to prevent the ready insertion of the spindle end in the opening through the plate.

Figure 1 of the accompanying drawings is a view on enlarged scale looking at the outer face of one of the pawl-plates and a spindle end engaged by one of the pawls. Fig. 2 is a view of the same plate without the spindle end and with the pawls drawn together as close as possible. Fig. 3 is a sectional view of a complete spring-roller mechanism that embodies the invention. Fig. 4 is a view of the outer face of a prior form of pawl-plate, showing the pawls on the wrong side of the central opening. Fig. 5 is a sectional view showing the location of the parts and the manner of connecting the spring with the plate.

The plate 1 is stamped to shape from a piece of sheet metal, preferably steel, with a central perforation 2 and outwardly-turned peripheral lugs 3, also inwardly-turned lugs, to which one end of the spring is attached.

The spindle end 4 has its outer end flattened to fit the socket of a bracket and has its inner

end secured to a spindle 5. The spindle end outside of the plate has a collar 6 larger in diameter than the opening through the plate. In the periphery of the collar are notches 7, that are adapted to receive the toothed ends of the pawls 8, that are pivoted to the outer face of the plate.

The spring 9 has one end attached to the spindle and its other end attached to the plate in any common manner.

The pawls are pivoted to the plate in such manner that their toothed ends allow the spindle end to be turned freely in the direction which puts the spring under tension and to engage the notches in the collar and prevent the spindle end from turning under the pull of the spring without turning the plate, which is attached to the shade-roller 10. The end of each pawl opposite the tooth has a finger 11, which engages a lug 3 and prevents the pawl from swinging across the central opening into such position that its tooth cannot engage the notches in the spindle-end collar.

In the prior constructions the pawls have been free to swing over the central opening, as shown by the pawl 12 in Fig. 4. This prevents the insertion of the spindle end through the plate until the pawls are moved off the opening. Sometimes the pawls swing clear beyond the central opening, as shown by the pawl 13 in Fig. 4, so that after the spindle end is introduced the toothed ends of the pawls will be on the outside in such position that they cannot engage the notches in the spindle-end collar. When the pawls are thus located, the spindle end has to be removed and the pawls returned to their proper positions before the spindle end is replaced.

It is particularly desirable that the pawls be held so that they cannot swing into wrong positions when a cover-washer 14 is used. When one of these washers is fastened in place, it is a difficult time-consuming operation to shake and push the pawls from an improper to a proper position, so that the spindle end when inserted will be engaged by the pawls.

Pawls shaped and secured as herein shown and described overcome this difficulty, for the

engagement of the fingers with the lugs prevents the pawls from swinging over or across the opening for the spindle end. This materially reduces the time occupied in assembling these parts, and this is of considerable importance, for the labor of assembling is a large factor in the cost of manufacture of these mechanisms.

I claim as my invention—

- 10 A pawl mechanism for a spring shade-roller having an annular plate with a central perforation and integral lugs bent forwardly at intervals from the periphery of the plate, a concaved cover with its edges resting against the
15 ends of the lugs and having a central perforation substantially the same size as and in axial alinement with the perforation through the plate, a spindle end extending through the perforations in the plate and the cover and having
20 a collar that is larger in diameter than both the perforations and has ratchet-notches in its periphery, located between the plate and

the cover, a spring with one end connected with the spindle end and the other end connected with the plate, pawls located between 25 the plate and the cover, each pawl having at one end a tooth adapted to engage a ratchet-notch and at the other end an arm adapted to engage one of the lugs extending from the plate so as to prevent the pawl from swinging 30 across the central perforations through the plate and the cover, and studs extending through the cover and pawls and the plate for fastening the plate and cover together and providing pivots for the pawls, said studs being 35 so located that the toothed ends of the pawls may swing outwardly between the lugs on the periphery of the plate, substantially as specified.

AMOS M. DOOLITTLE.

Witnesses:

EDGAR J. PERKINS,
W. D. HARNED.