

No. 869,396.

PATENTED OCT. 29, 1907.

J. H. SWEETLAND.

SPRING ROLLER.

APPLICATION FILED JUNE 3, 1907.

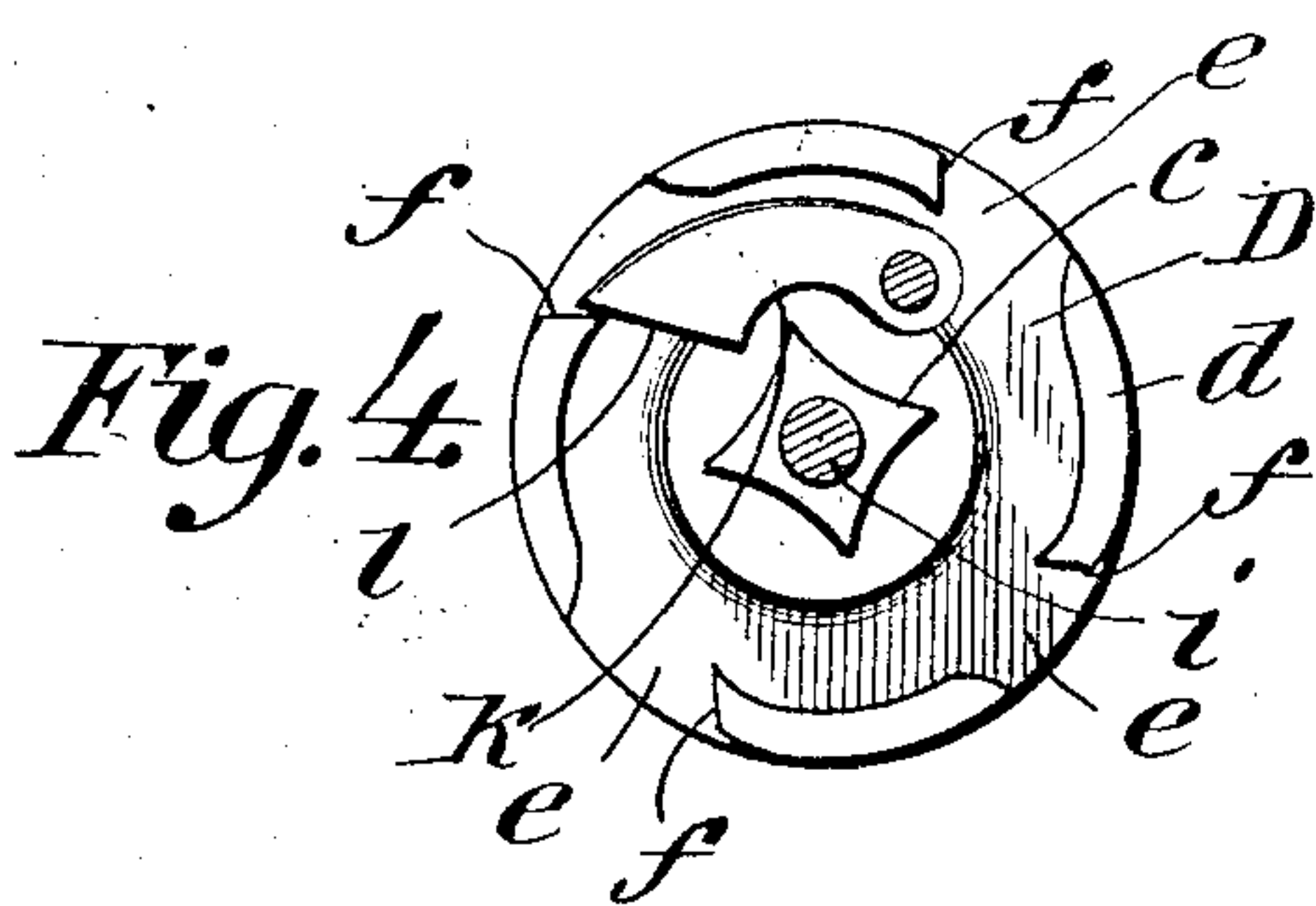
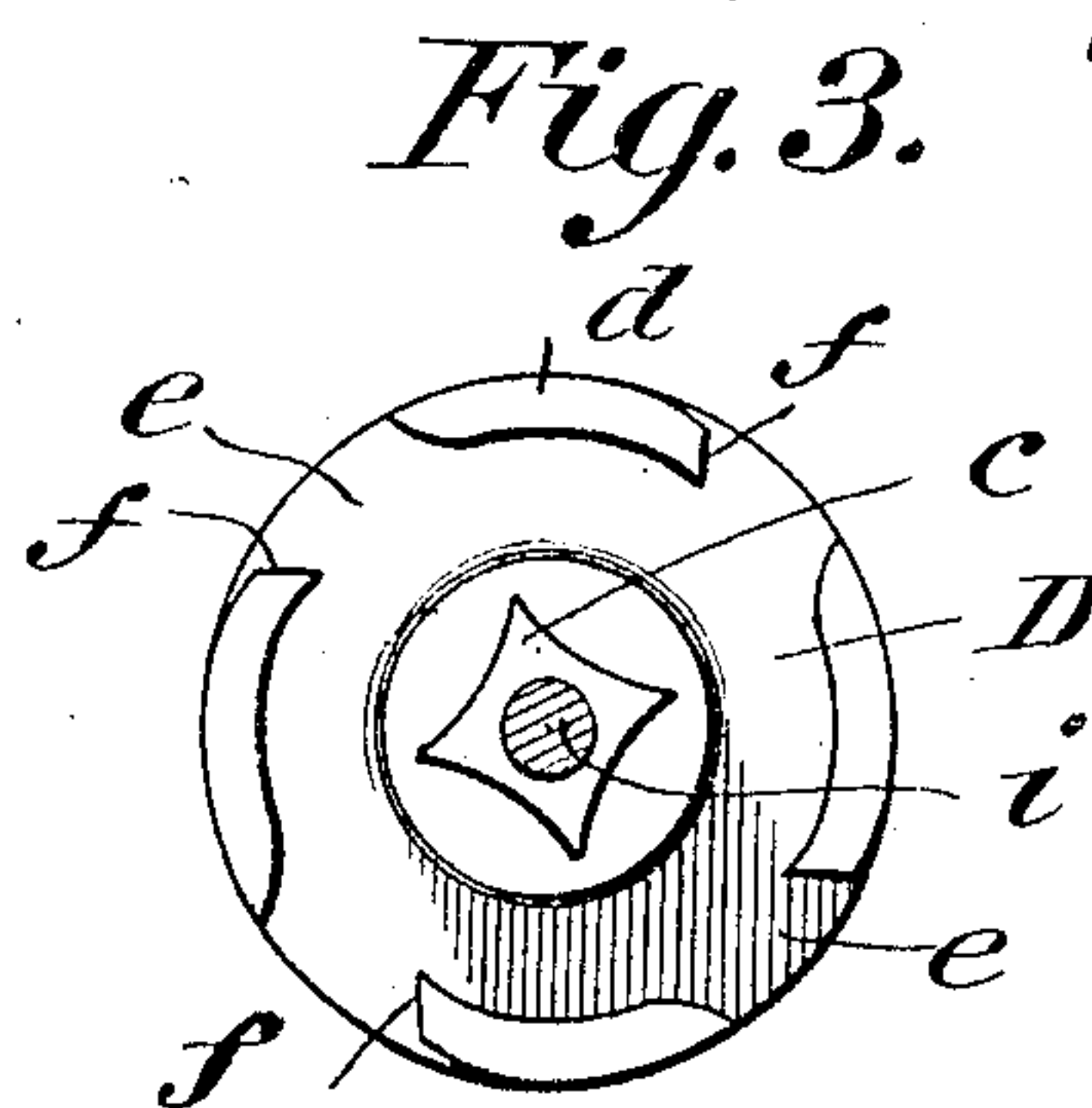
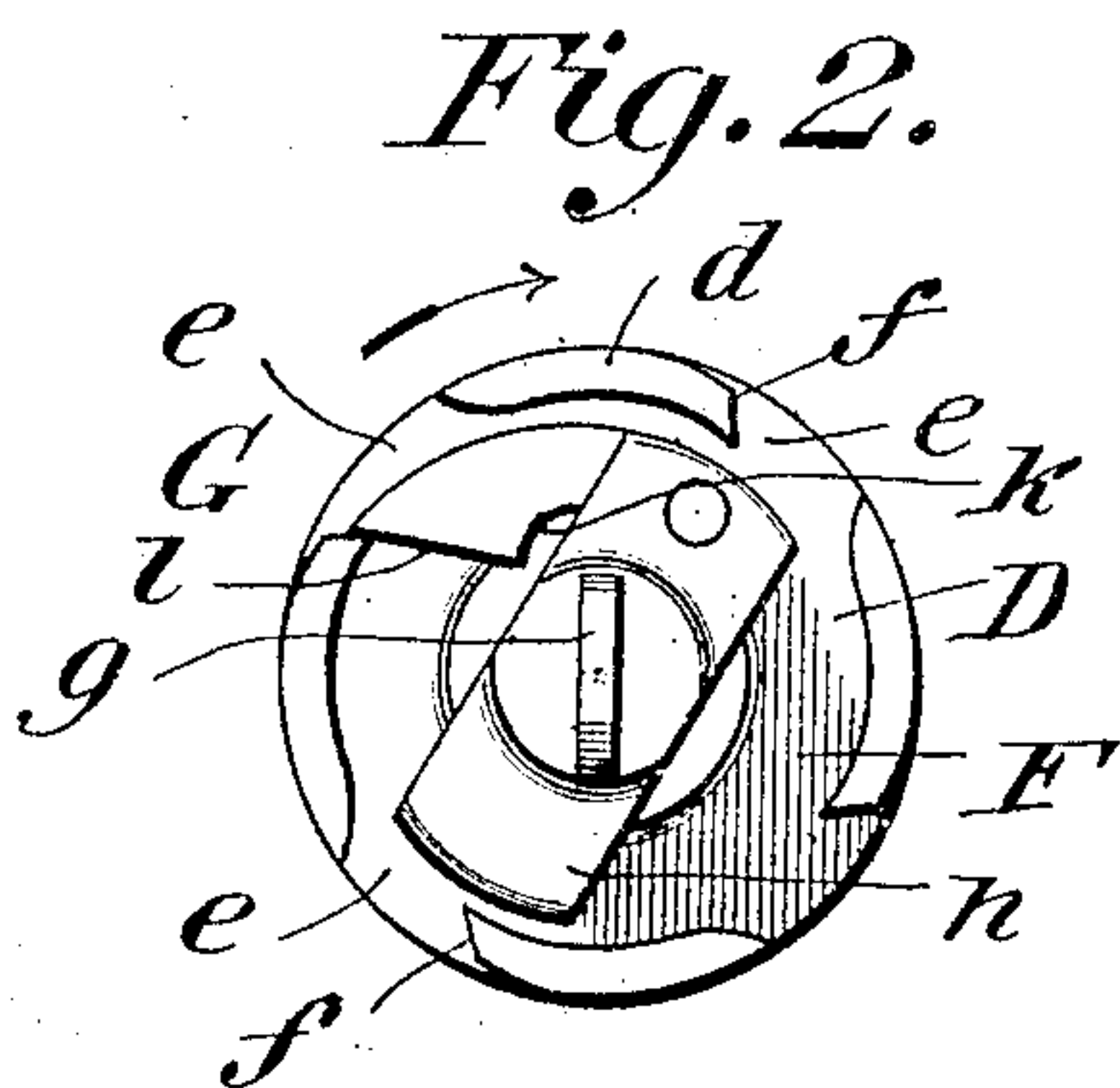
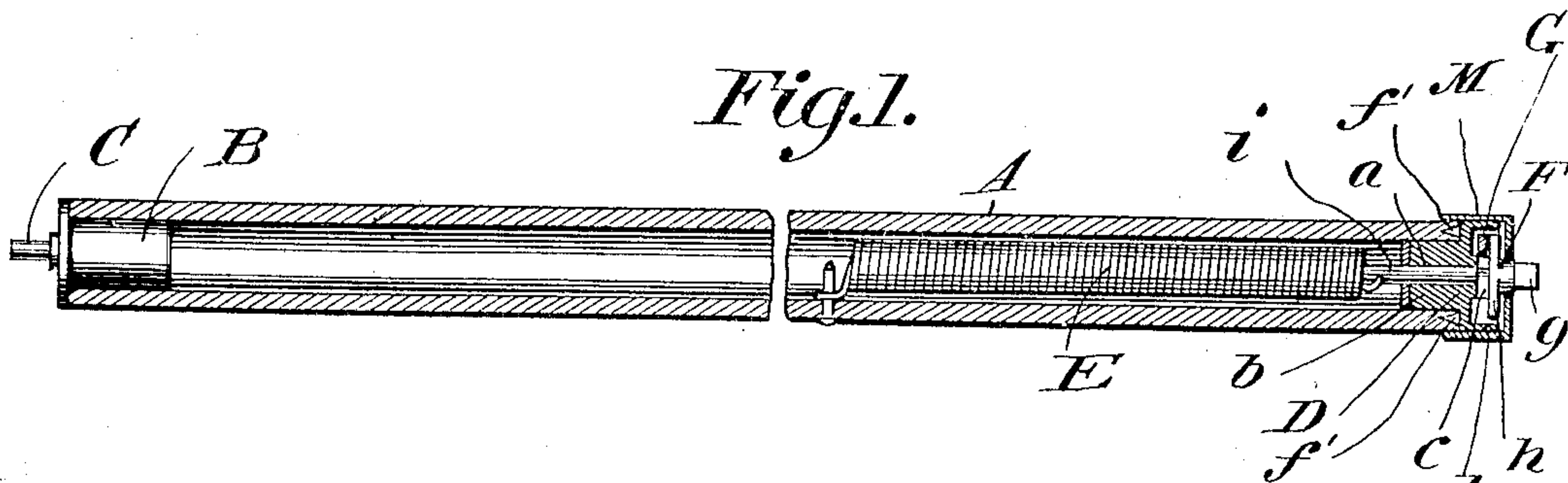


Fig. 5.

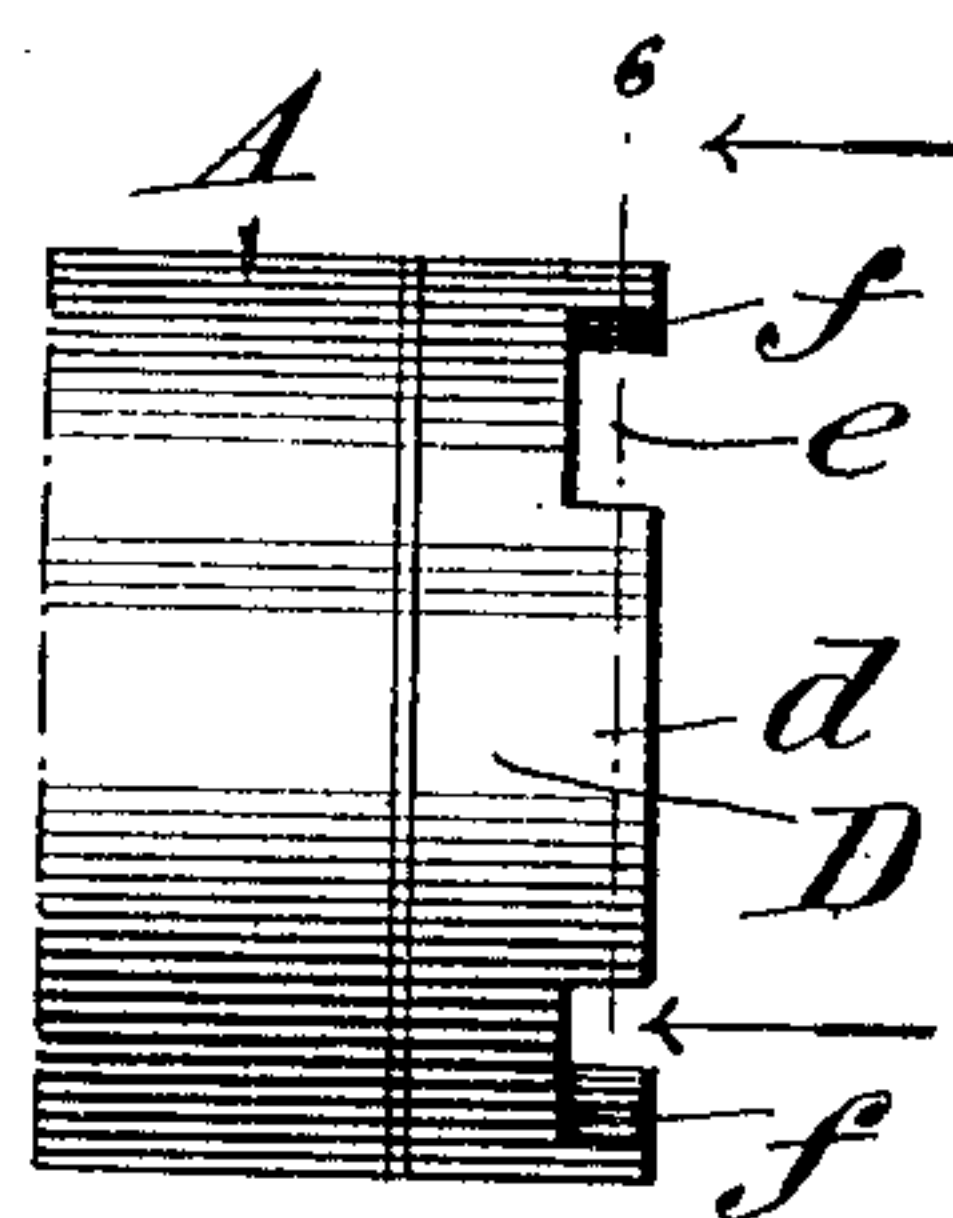
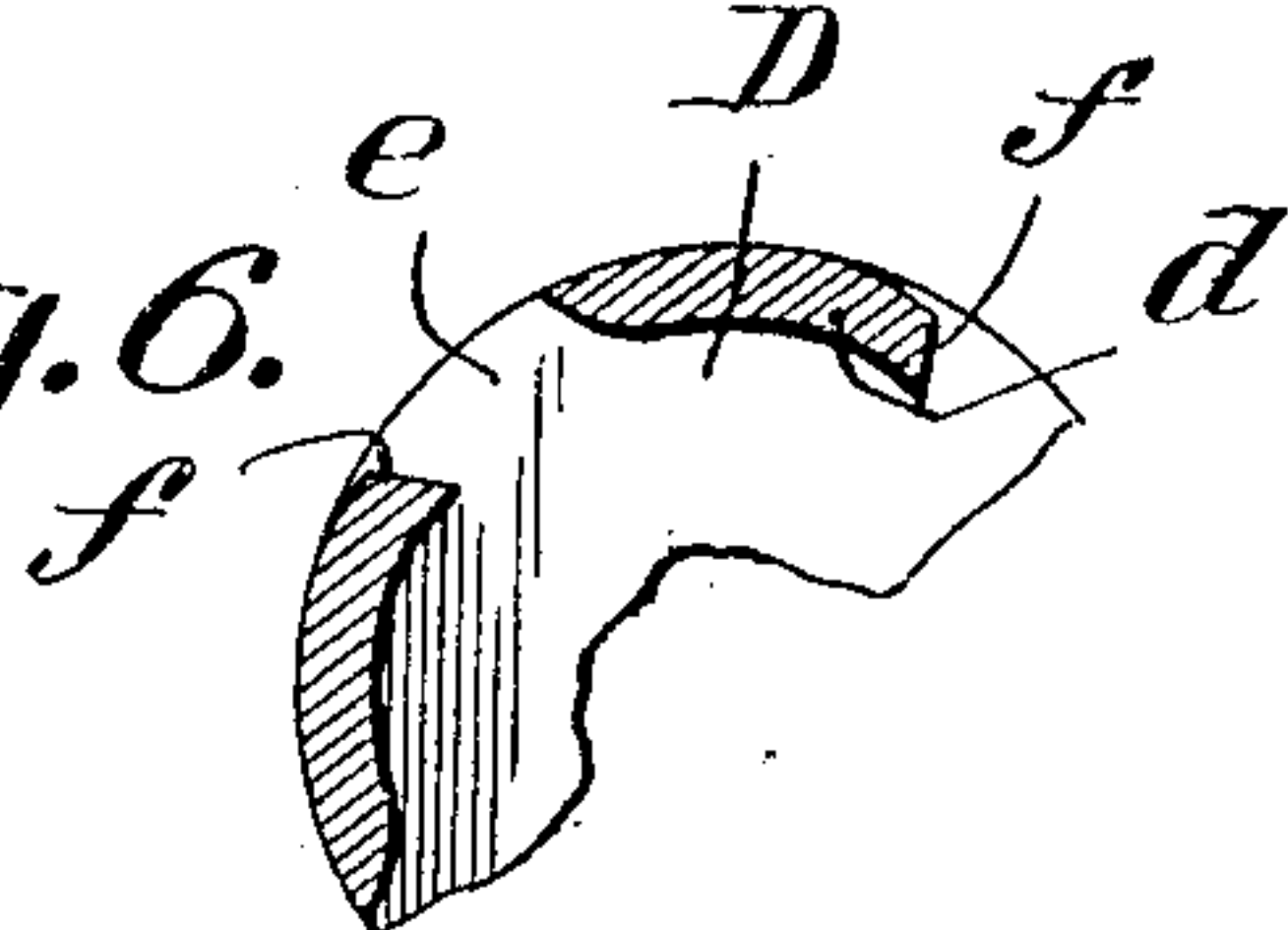


Fig. 6.



WITNESSES:

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SPRING-ROLLER.

No. 869,396.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed June 3, 1907. Serial No. 377,076.

To all whom it may concern:

Be it known that I, JOHN H. SWEETLAND, a citizen of the United States, residing at Vassar, in the county of Tuscola and State of Michigan, have invented new and useful Improvements in Spring-Rollers, of which the following is a specification.

My invention relates to spring rollers for window and other curtains; and it consists in the inexpensive, durable and reliable spring roller hereinafter described and particularly pointed out in the claim appended.

In the drawings accompanying and forming part of this specification: Figure 1 is a longitudinal central section of my novel spring roller. Fig. 2 is an enlarged end elevation of the roller, as the same appears when its cap is removed, illustrating the head that rotates with the roller body, the stationary part—i. e., the part adapted to be secured against rotation in a shade bracket, and the dog for engaging the circular flange of the head. Fig. 3 is a similar view with the stationary part and the dog omitted, and showing the cam on the head for throwing the dog outward. Fig. 4 is an enlarged detail section taken at the inner side of the stationary arm to which the dog is pivoted and showing the relative arrangement of the dog, the circular flange of the head and the cam on said head. Fig. 5 is a front elevation of the end of the roller body that is equipped with the rotary head. Fig. 6 is a detail section taken in the plane indicated by the line 6—6 of Fig. 5 and showing the shape of the notches or openings in the circular flange of the head.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is the body of my novel shade roller. The said body is hollow, and is preferably made of paper, cardboard or fiber pulp. At one end it is provided with a plug B, of wood, which is suitably fixed in it and serves for the connection of the usual journal C, and at its opposite end it is equipped with the head D, the spring E, the stationary part F and the dog G. A roller body formed in the manner described is susceptible of being quickly and cheaply produced and is at the same time light in weight and sufficiently stiff and strong to withstand the usage to which shade roller bodies are subjected. The head D is provided with a central aperture *a*, an inwardly extending protuberance *b* of a shape and size to snugly occupy the end of the body A, a cam *c* arranged on its outer side, around the aperture *a*, a circular, outwardly-extending flange *d* in which are notches or openings *e* having rear beveled walls *f*, and barbs *f'* arranged on its inner side and embedded in the end of the body, whereby the head is fixed to the body so as to rotate therewith. The stationary part F has the usual angular portion *g* to seat in a corresponding notch of a shade bracket, and also has an arm *h*, arranged

parallel to the outer side of the head D, and a spindle *i* which extends through the aperture *a* so as to serve as a bearing for the head D. The said spindle *i* also serves for the connection of one end of the spring E the opposite end of which is fastened to the roller body A in the ordinary or any other suitable manner. The dog G is pivoted to the arm *h* of the stationary part F so as to swing between said arm *h* and the head D; and it is provided with a curved recess *k* in its inner edge for the engagement of the corners of the cam *c* and is also provided with a beveled end *l* to engage the rear beveled walls *f* of the flange on the head D.

When the spring E is wound or placed under tension and the roller is suitably mounted in brackets or the like, the roller body A and the head D are assumed to rotate in the direction indicated by arrow in Fig. 2 to wind a curtain on the roller. In this connection it will be noticed that when the curtain (not shown) is drawn downward, and the head D and roller body A are rotated in the direction opposite to that indicated by the arrow, the dog G will in no way interfere with the rotation of the body A and head D. It will also be noticed that when the curtain is drawn downward to a slight extent to rotate the roller in the direction opposite the arrow and to thereby disengage one of the beveled walls *f* from the dog G, and is then permitted to slowly move upward, the spring E will slowly rotate the roller in the direction of the arrow so as to take up the curtain on the roller, and the dog G will rest within the flange on the head D and hence will not engage the beveled walls *f* or otherwise interfere with the rotation of the roller body A and head D. When, however, the curtain is drawn downward or is caused to move upward to the extent desired and is then suddenly released, it will be seen that one of the corners of the quickly turning cam *c* will act against the dog G and throw said dog outward so that the latter will engage the first beveled wall *f* that it encounters and thereby stop the head D and the roller body A.

It will be gathered from the foregoing that my novel mechanism for controlling rotation of the roller is at once compact and substantial and is therefore well adapted to withstand the usage to which shade-roller mechanism is ordinarily subjected.

With a view of excluding dust and dirt from the working parts at the end of the roller body A I prefer to employ the cap M shown in Fig. 1. This cap M is preferably of spun metal and is slipped and held by frictional contact on the end of the roller body A and is provided with a central aperture for the passage of the stationary part of the roller mechanism.

The construction herein shown and described constitutes the preferred embodiment of my invention, but it is obvious that in practice various changes in the

form, construction and relative arrangement of the parts may be made within the scope of my invention as defined in the claims appended.

Having described my invention, what I claim and
5 desire to secure by Letters-Patent, is:

10 A spring roller comprising a tubular body, a head having an inwardly extending protuberance snugly occupying one end of the tubular body and also having barbs embedded in the end of the body, a central cam, and an outwardly extending circular flange in which are equi-distant openings the rear walls of which are beveled, a stationary part extending through a central aperture in the head and the inwardly extending protuberance thereof and having

an arm disposed at the outer side of the head, a coiled spring contained in the body and connected at one end thereto and at its opposite end to the stationary part at the inner end of said part, and a dog arranged between the head and the arm of the stationary part and pivoted to said arm and having its free end beveled and arranged to engage the beveled rear walls of the openings in the outwardly extending circular flange of the head. 15 20

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN H. SWEETLAND.

Witnesses:

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FREDERICK WALZ.