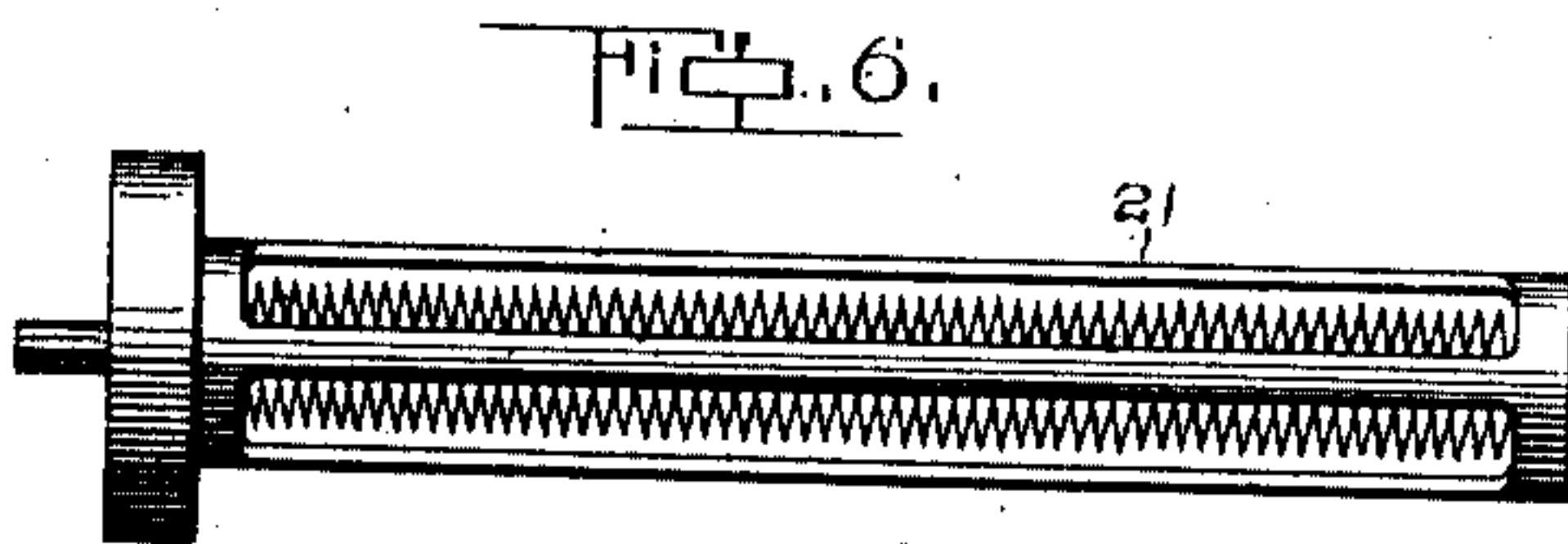
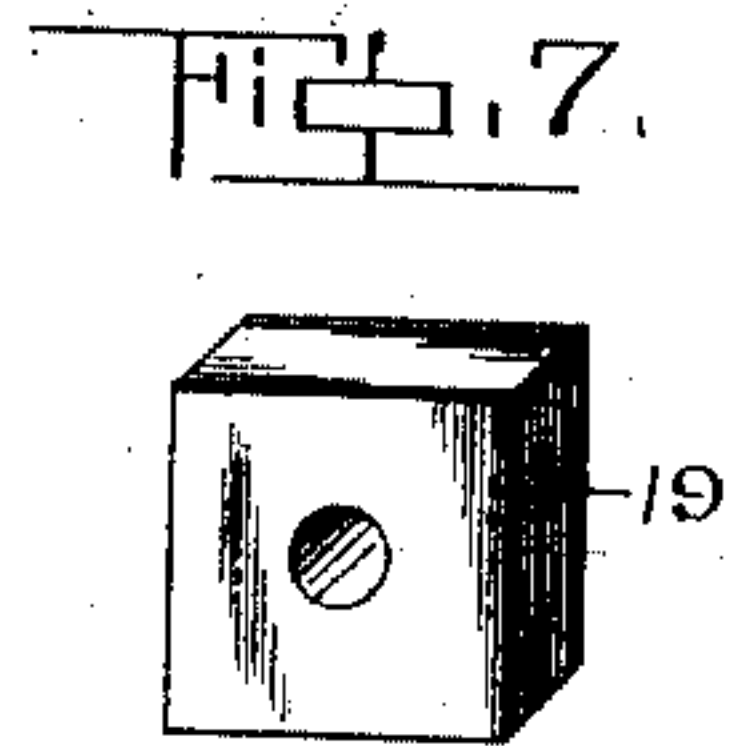
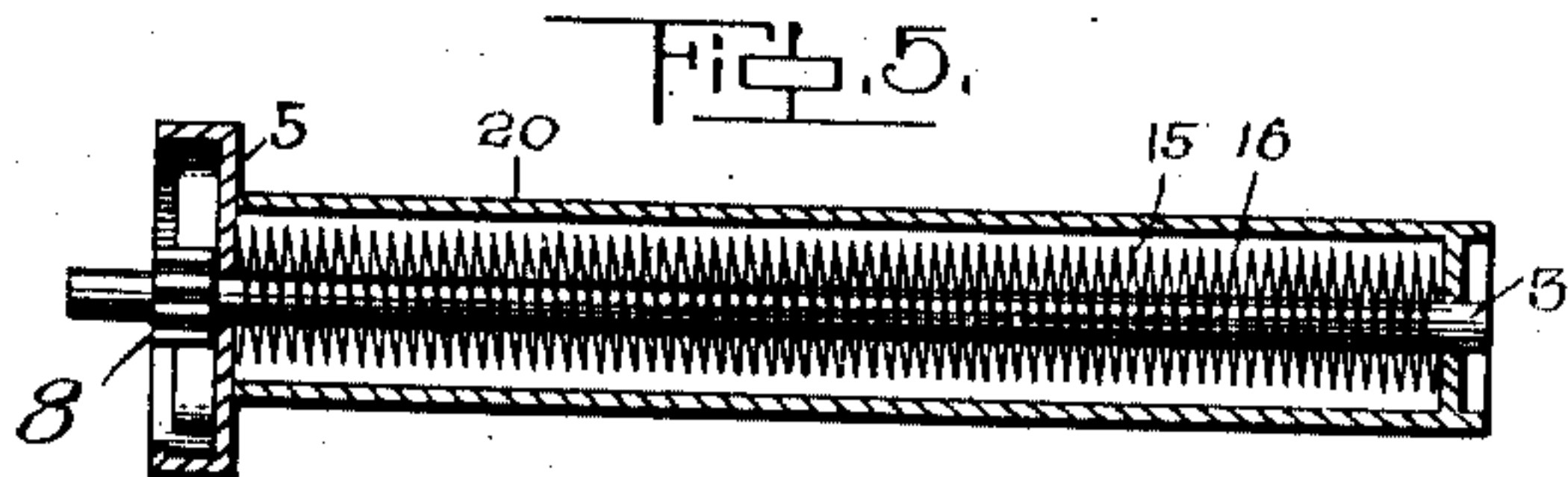
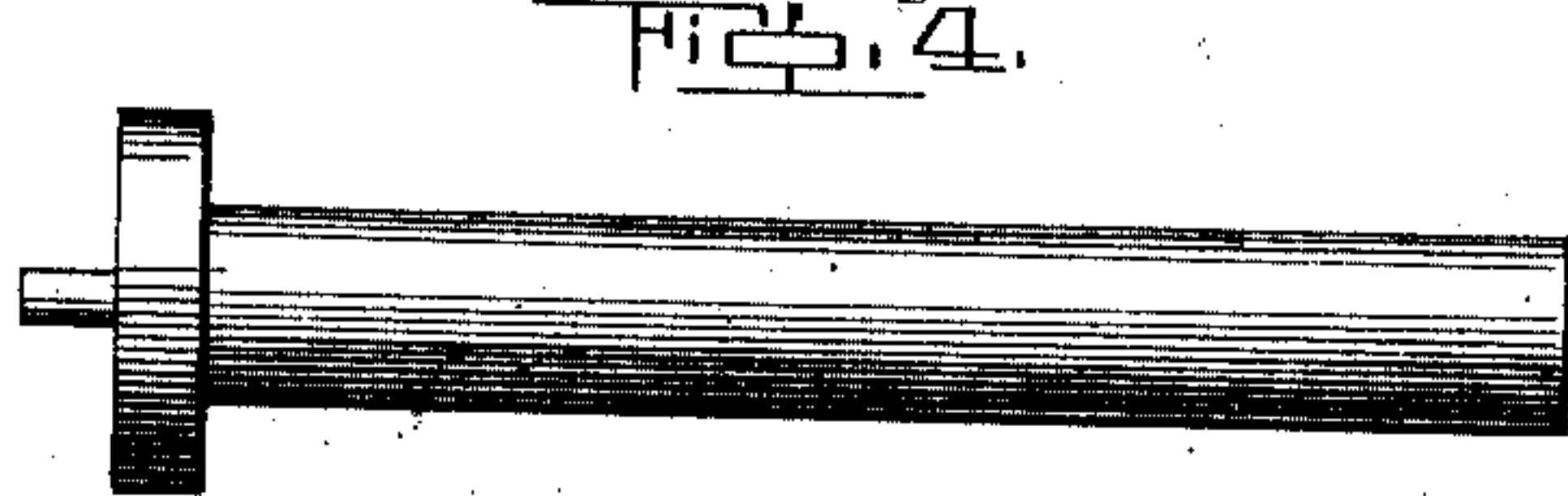
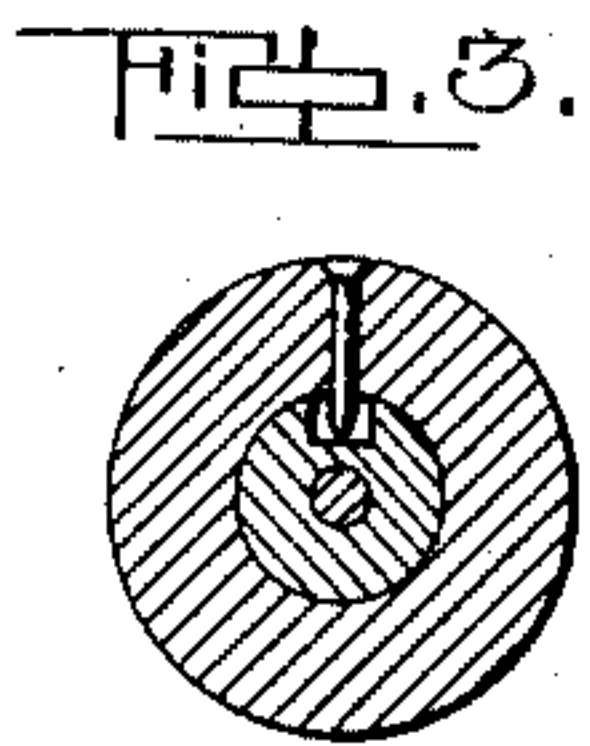
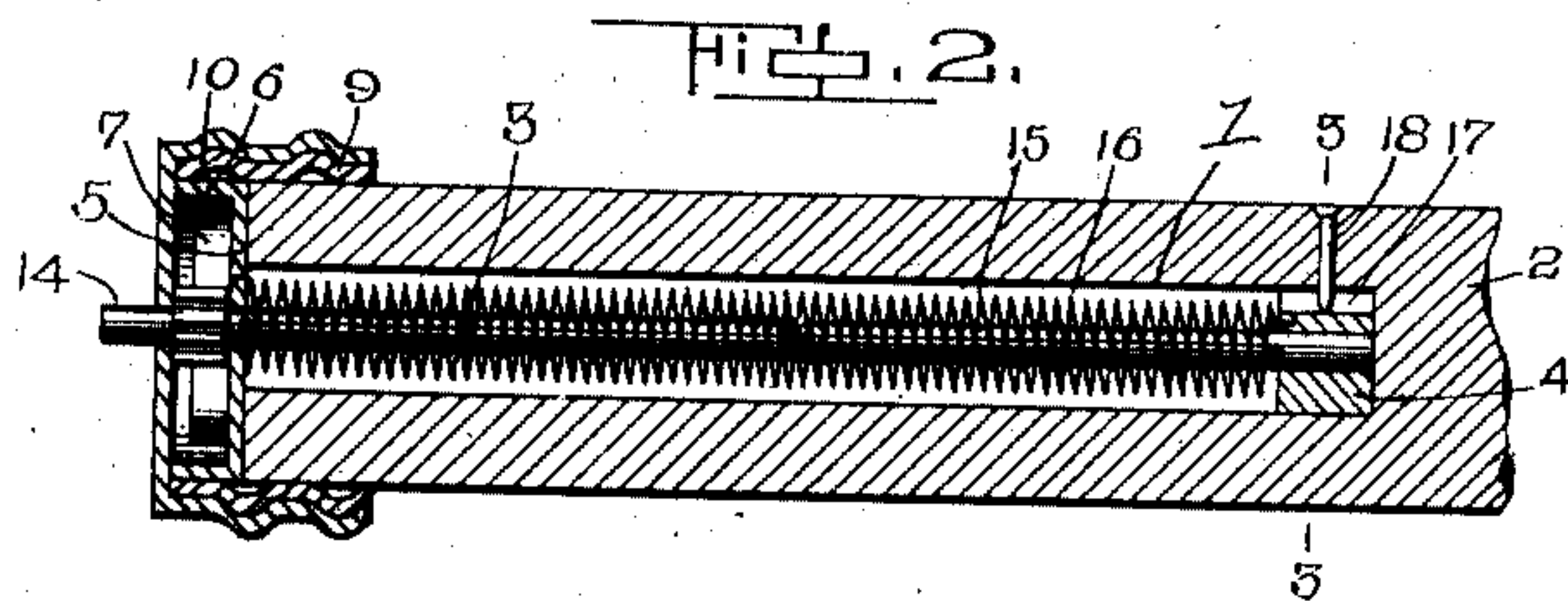
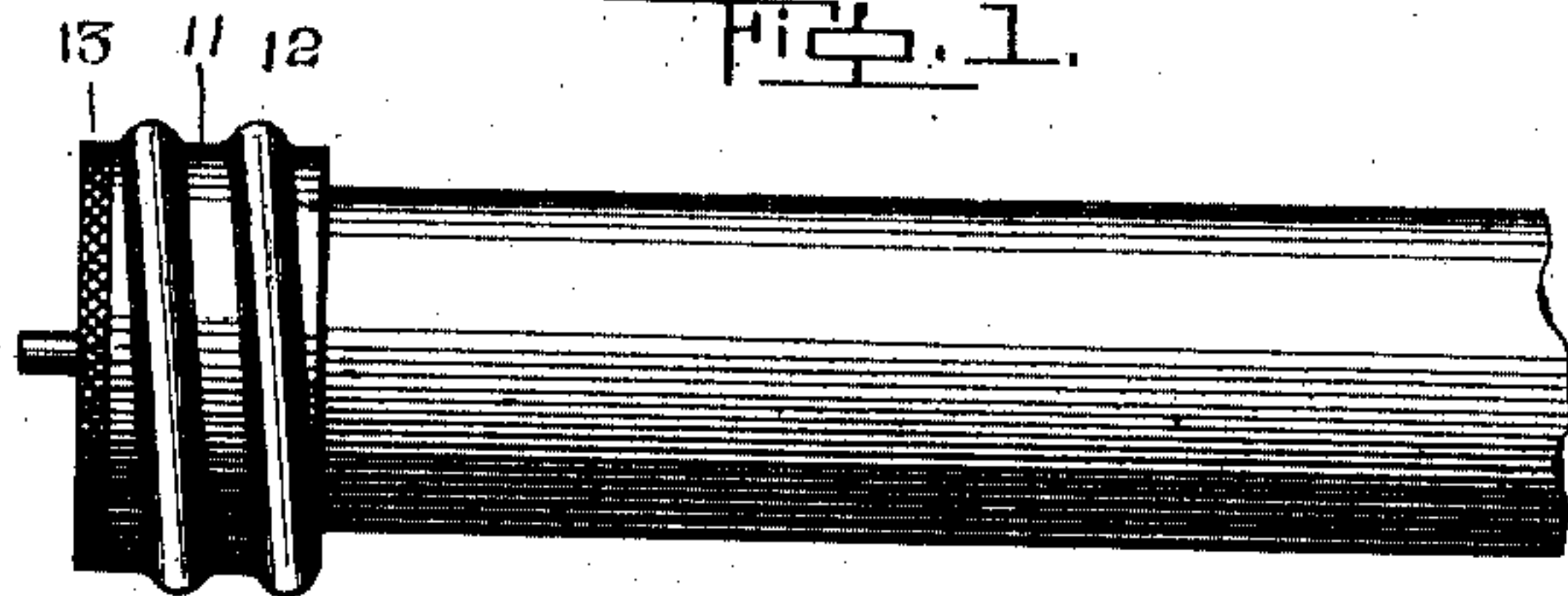


No. 864,746.

PATENTED AUG. 27, 1907.

J. TANNER.
SPRING LEVER FOR SHADES.
APPLICATION FILED JAN. 26, 1907.



Inventor

John Tanner

Witnesses

J. W. Angus
K. Allen

By *Victor J. Evans*

Attorney

UNITED STATES PATENT OFFICE.

JOHN TANNER, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-HALF TO JOHN MUTH, OF NEWARK, NEW JERSEY.

SPRING-LEVER FOR SHADES.

No. 864,746.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed January 26, 1907. Serial No. 354,343.

To all whom it may concern:

Be it known that I, JOHN TANNER, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented new and useful Improvements in Spring-Levers for Shades, of which the following is a specification.

The invention relates to an improvement in spring levers for shades, the particular construction being directed to a means for securing the operating spring in place to permit its ready removal or insertion.

The main object of the present invention is to so arrange the spring and coöperating parts that they may be readily assembled with or removed from the roller, whereby to permit a convenient changing or renewal of the spring when desired.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a view in elevation of the spring end of a shade roller constructed in accordance with my invention, Fig. 2 is a longitudinal central section of the same, the spring and shaft being shown in elevation, Fig. 3 is a transverse section on line 3—3 of Fig. 2, Fig. 4 is a view in elevation of a modified form of spring securing means, Fig. 5 is a longitudinal central section of the same, the spring and shaft being shown in elevation, Fig. 6 is a view in elevation of another form of spring securing means. Fig. 7 is a perspective view of a modified form of holding block.

Referring particularly to the drawings my invention relates to an improvement in the means whereby the spring is secured in the spring recess 1 of an ordinary spring roller 2.

In detailed structure the invention comprises a spring shaft 3 movably mounted at one end in a block 4 corresponding in size and contour with the spring recess 1. The opposite or forward end of the shaft 3 is centrally mounted in a cap plate 5, proximately equal in diameter to the similar dimension of the spring end of the roller, said cap plate being designed to overlie and be secured to said roller end. The peripheral edge of the plate 5 is formed with an annular forwardly extending flange 6 designed to provide with the plate 5 a housing in which are mounted dogs 7 of the usual type adapted for coöperation with the notched disk 8 fixed on the spring shaft 3. Overlying the flange 6, and the proximate outer surface of the roller in rear of said flange is a bearing plate 9 formed with a screw thread 10, the forward edge of the plate terminating in alinement with the forward edge of the flange 6 and its rear edge overlying the roller proper and being secured thereto by any preferred means. A cap 11 is designed to close the housing referred to, the annular wall of the cap being threaded at 12 for coöperation with the threads 10 of

the bearing plate 9, whereby said cap is secured in place. The surface of the cap in advance of the threads 12 is milled at 13 to provide for convenient operation of the cap, it being understood that the face plate of the cap is centrally formed with an opening to permit the passage of the spring shaft 3, which shaft is extended beyond the cap and formed to provide the usual bracket engaging pintle 14. Between the cap 5 and the block 4 I arrange duplicate springs 15 and 16, both encircling the shaft 3 and adapted to be simultaneously distended or compressed in the revolution of the shaft. The terminal of one spring, as 15, is secured at its relatively rear or inner end to the block 4, and at its outer end to the shaft 3, while the inner end of the spring 16 is secured to the shaft 3 and the outer end to the plate 5.

The block 4 is formed in the peripheral surface with a longitudinally arranged channel 17, designed to receive a pin 18 passed through the wall of the spring recess 1, whereby to prevent independent rotation of the block in the operation of the device.

In Fig. 7 is illustrated a slightly modified form of block 19, wherein the block is of rectangular outline and designed to seat in a similarly formed recess, so that the walls of the recess prevent independent movement of the block.

In Figs. 4 and 5 is illustrated a slightly modified form of the invention, wherein the shaft 3 and springs 15 and 16 are mounted in a cylindrical housing 20, secured to or provided at its forward end with the cap 5. The housing 20 fits within the recess 1, and the rear end of one spring is secured directly to the rear wall of the housing. The use of the block is thus dispensed with and at the same time the metallic wall of the housing prevents the curtain securing tacks from being subjected into the path of the springs to interfere with their proper operation. Fig. 6 represents a slightly different form in that the housing is of skeleton form comprising a series of longitudinally arranged spaced bars 21.

The use of the invention when the parts are assembled as described is obvious, the independent revolution of the roller serving to wind the springs in the usual manner to insure a reverse revolution of the roller when desired. The main feature of the present invention, however, is the provision of means by which the springs are rendered accessible when desired for renewal or the like.

With the parts constructed as described it is obvious that by removing the cap 11 the cap plate 5 with the springs, shaft 3 and block 4 may be readily removed from the recess for any purpose desired. This is equally true of the forms of the invention shown in Figs. 4 and 6, it being understood that the casing 20 and 21 is so con-

nected to the cap plate 5 as to permit the separation of the cap plate from the casing when desired to afford access to the springs.

Having thus described the invention what is claimed
5 as new, is:—

1. A shade roller formed with a spring receiving recess, a block freely movable longitudinally of the recess, means for securing the block against rotation in the recess, and a spring shaft supported in the block, a cap plate closing
10 the end of the recess and supporting the spring shaft, and duplicate springs encircling said shaft and operative to similarly influence the shaft.

2. A shade roller formed with a spring receiving recess, a block freely movable longitudinally of the recess, means
15 for securing the block against rotation in the recess, a spring shaft supported in the block, a cap plate closing the end of the recess and supporting the spring shaft, duplicate springs encircling said shaft and operative to similarly influence the shaft, and a cap for covering the
20 cap plate.

3. A shade roller formed with a spring receiving recess, a block freely movable longitudinally of the recess, means for securing the block against rotation in the recess, a spring shaft supported in the block, a cap plate closing

the end of the recess and supporting the spring shaft, 25 duplicate springs encircling said shaft and operative to similarly influence the shaft, a cap for covering the cap plate, said cap being spaced from the cap plate to provide a housing, and ratchet mechanism mounted in the housing.

4. A shade roller formed with a spring receiving recess, 30 of a spring shaft extending longitudinally of the recess, a cap plate closing the end of the recess, a spring supported within the recess for operating the shaft and means for connecting the respective ends of the spring to permit relatively independent movement thereof, said spring be- 35 ing freely movable longitudinally of the recess.

5. A shade roller formed with a spring receiving recess, of a spring shaft extending longitudinally of the recess, a cap plate closing the end of the recess, and a spring sup- 40 ported within the recess for operating the shaft, said spring being freely movable longitudinally of the recess, and means to secure one end of the spring against independent rotative movement in the recess.

In testimony whereof, I affix my signature in presence of two witnesses.

JOHN TANNER.

Witnesses:

JACOB LANG,

PAUL FROMMETT.