

No. 666,569.

Patented Jan. 22, 1901.

M. SPORLEDER.
WATCHCASE PENDANT.

(Application filed Apr. 14, 1900.)

(No Model.)

2 Sheets—Sheet 1.

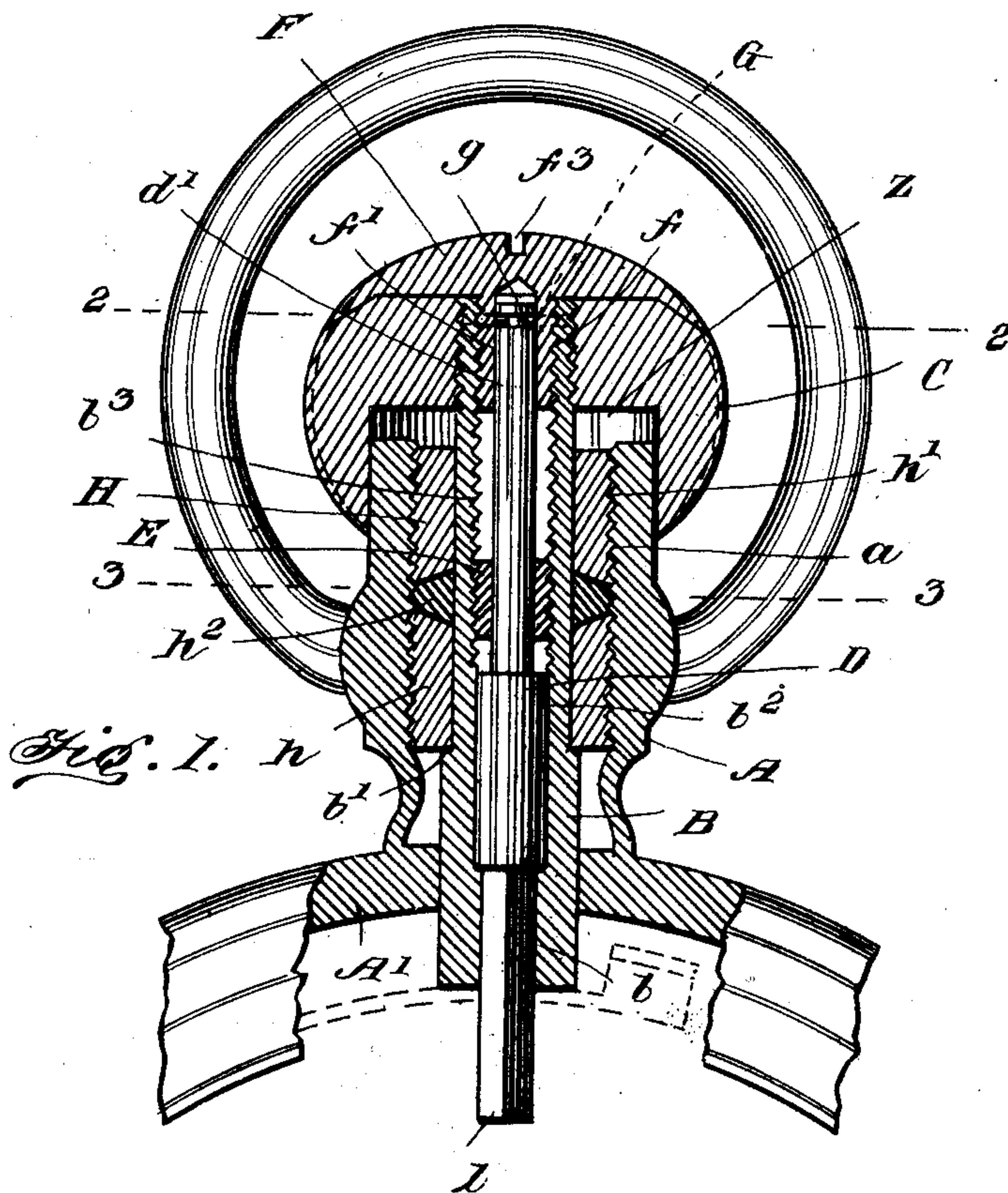


Fig. 2.

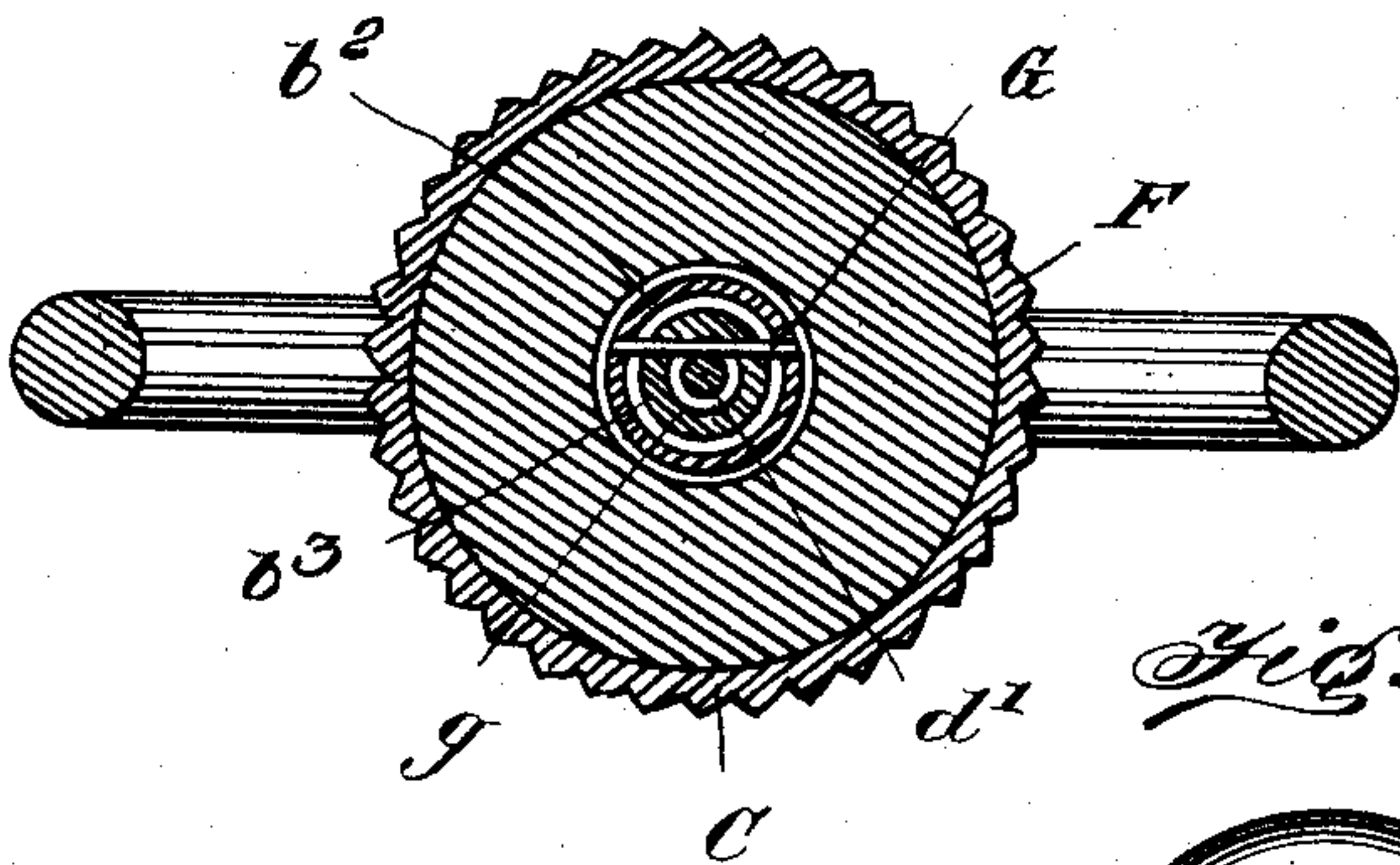


Fig. 3.

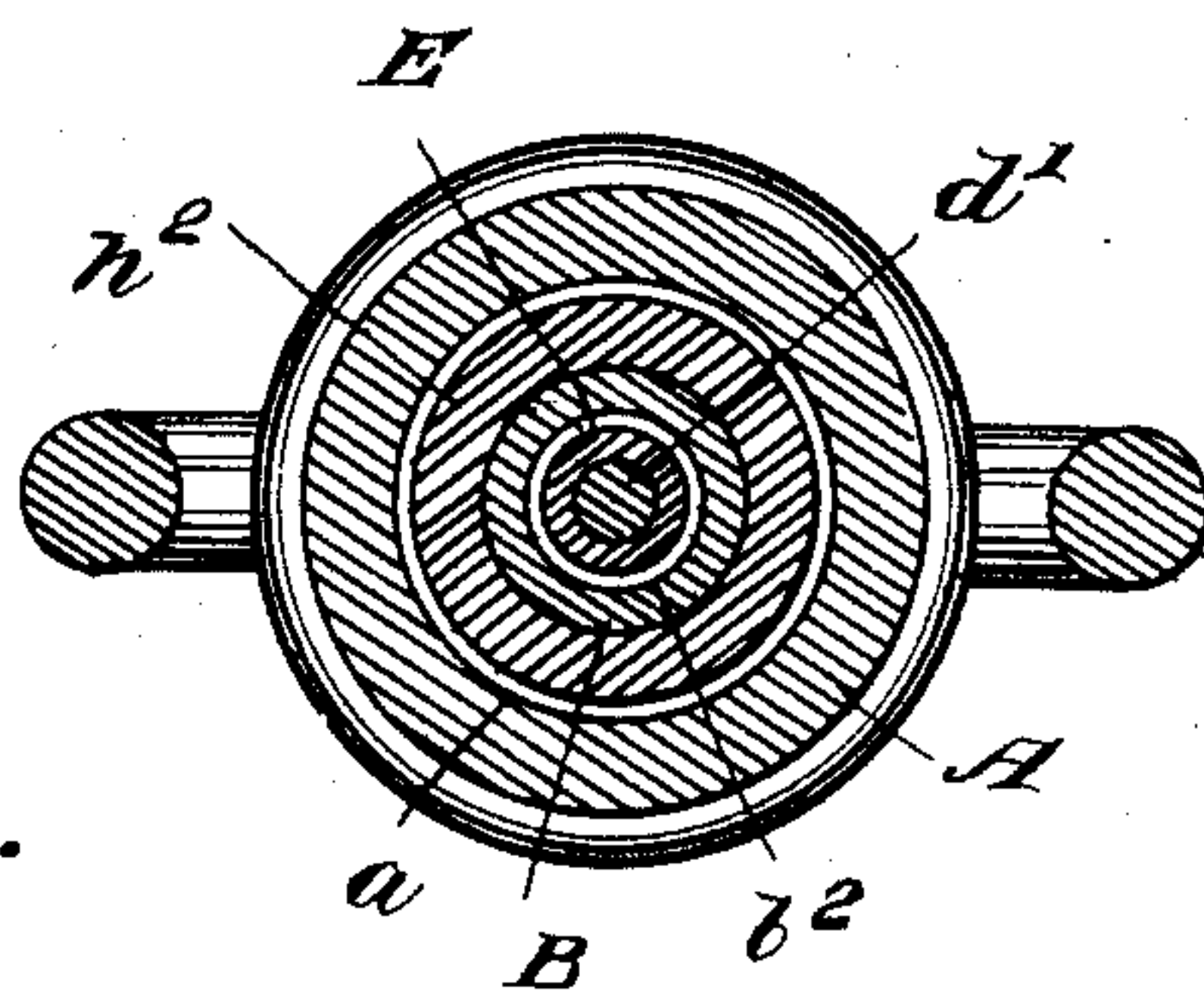
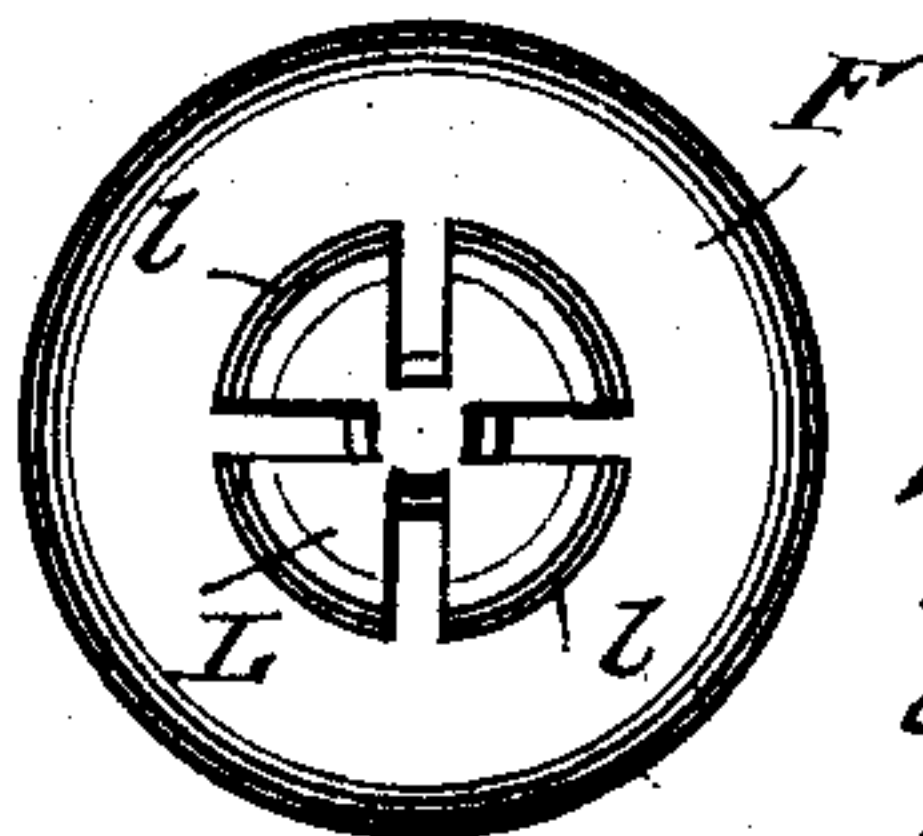


Fig. 4.



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2 Sheets—Sheet 2.

Fig. 4.

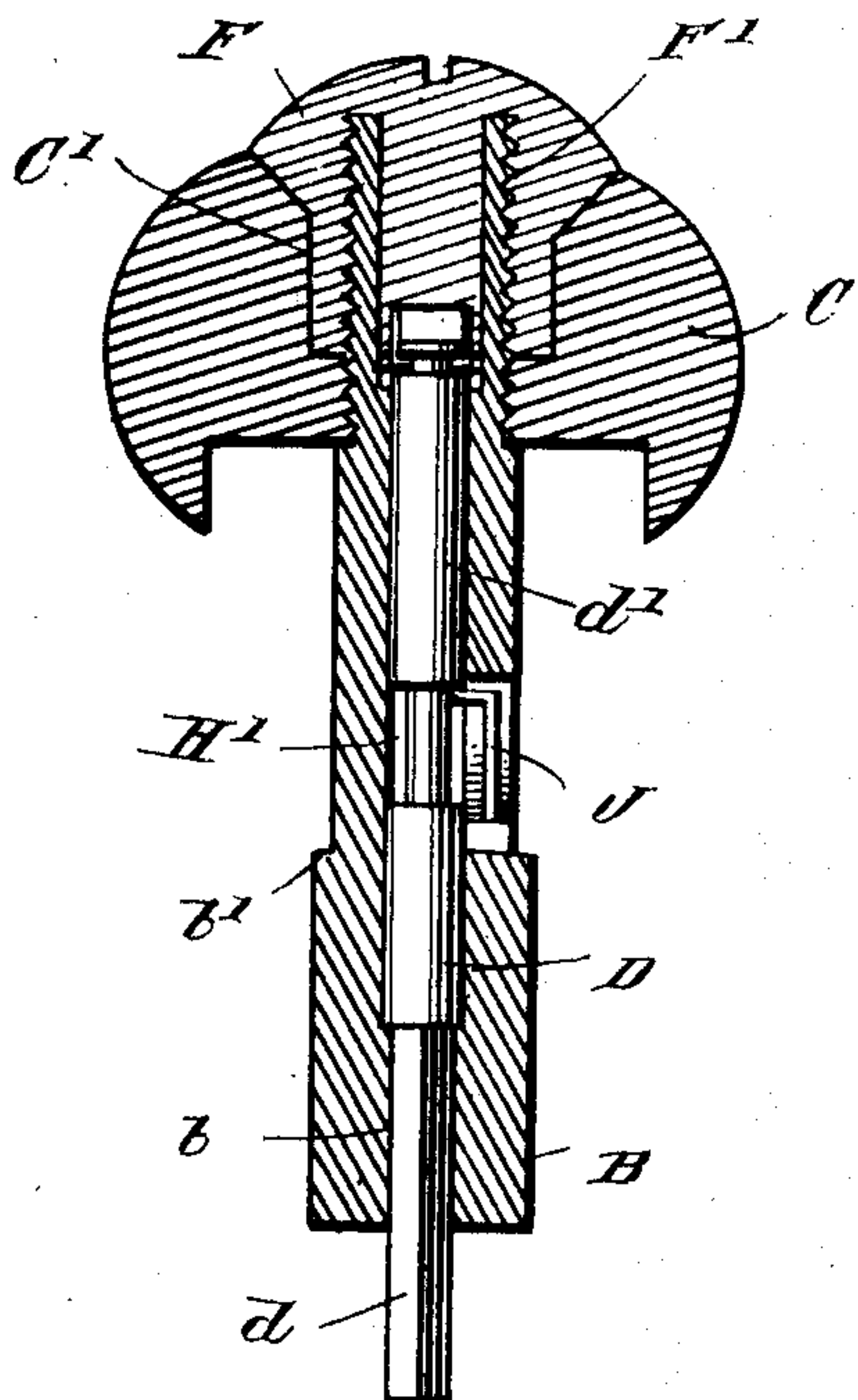


Fig. 6.

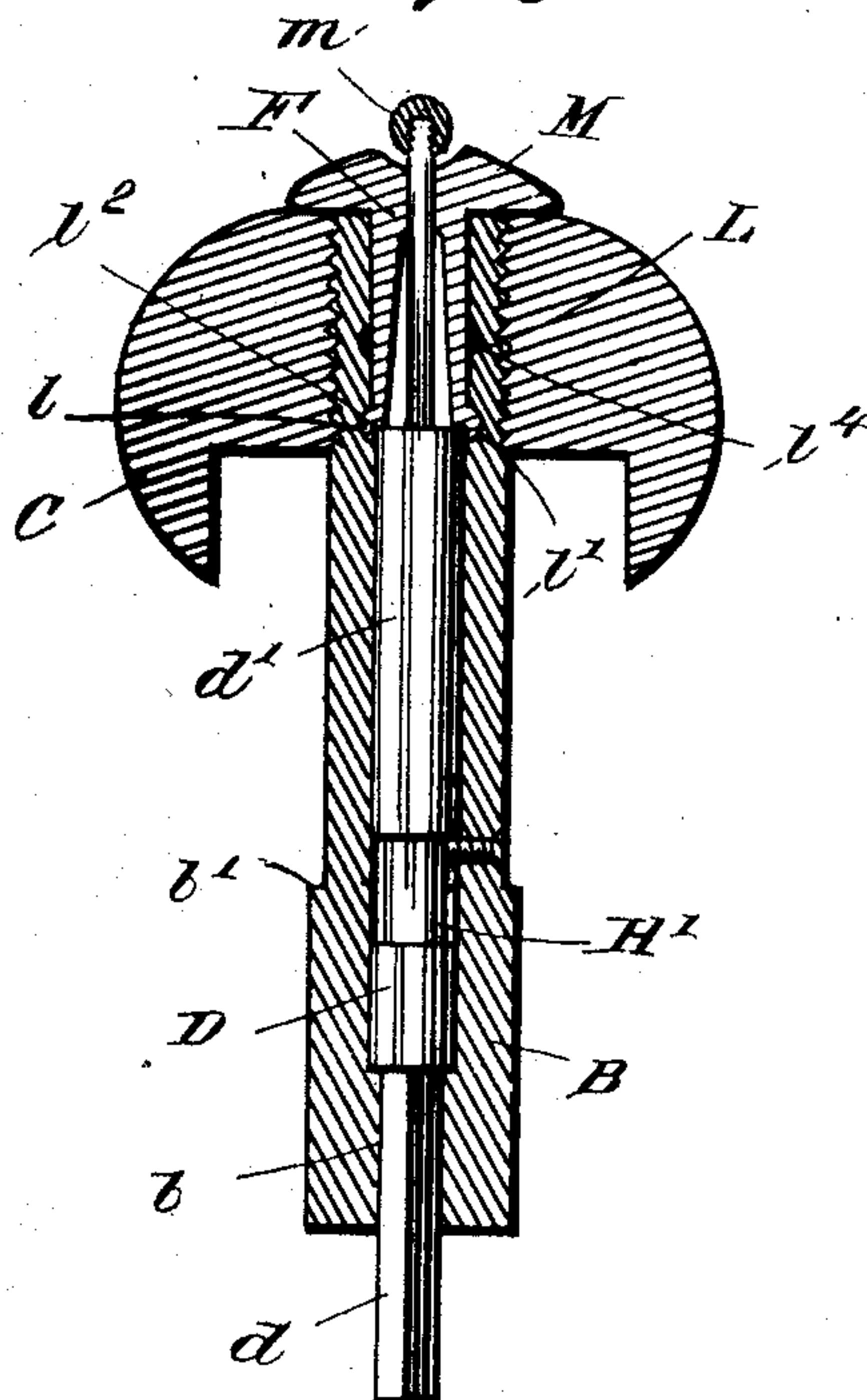


Fig. 5.

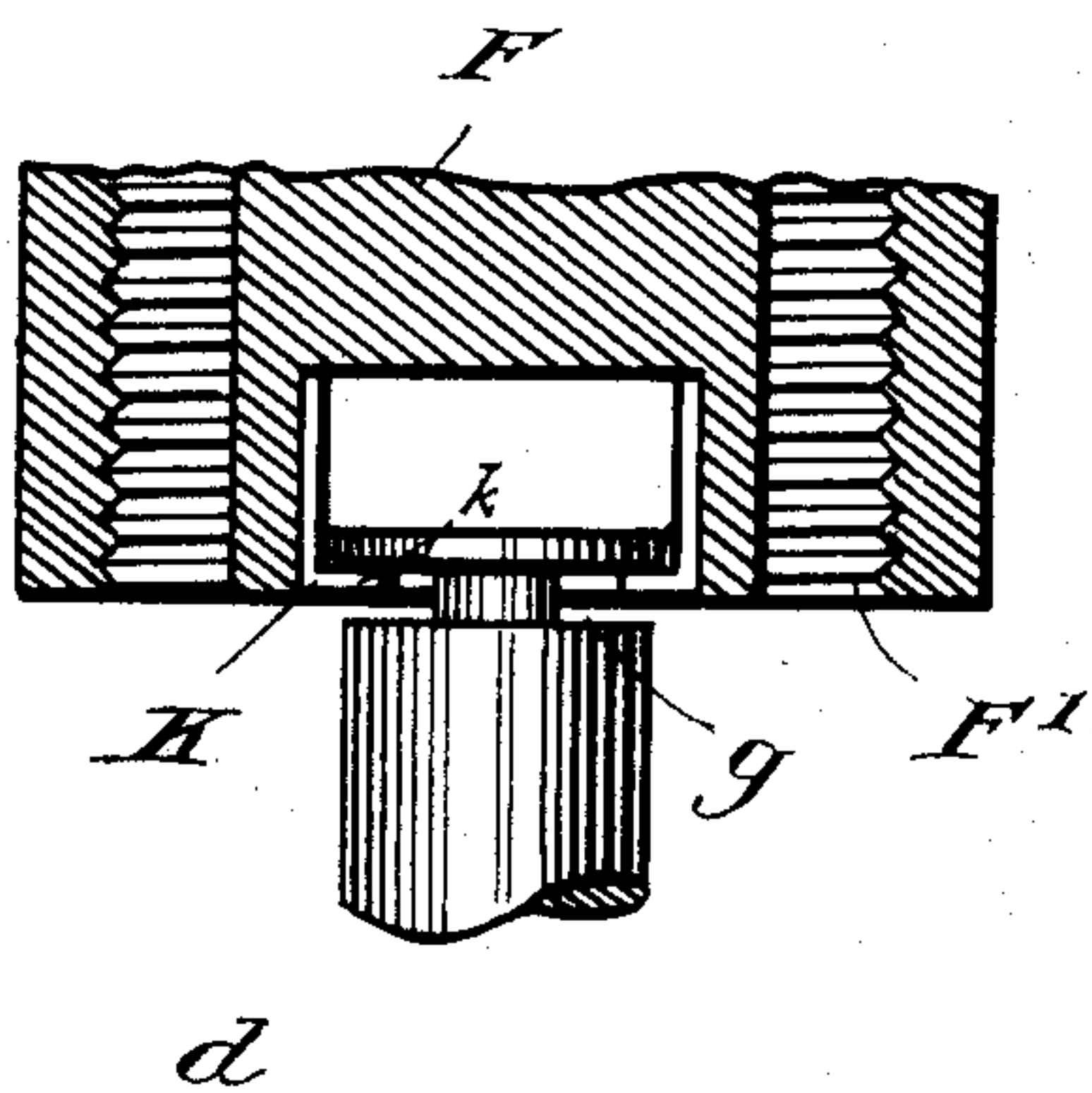
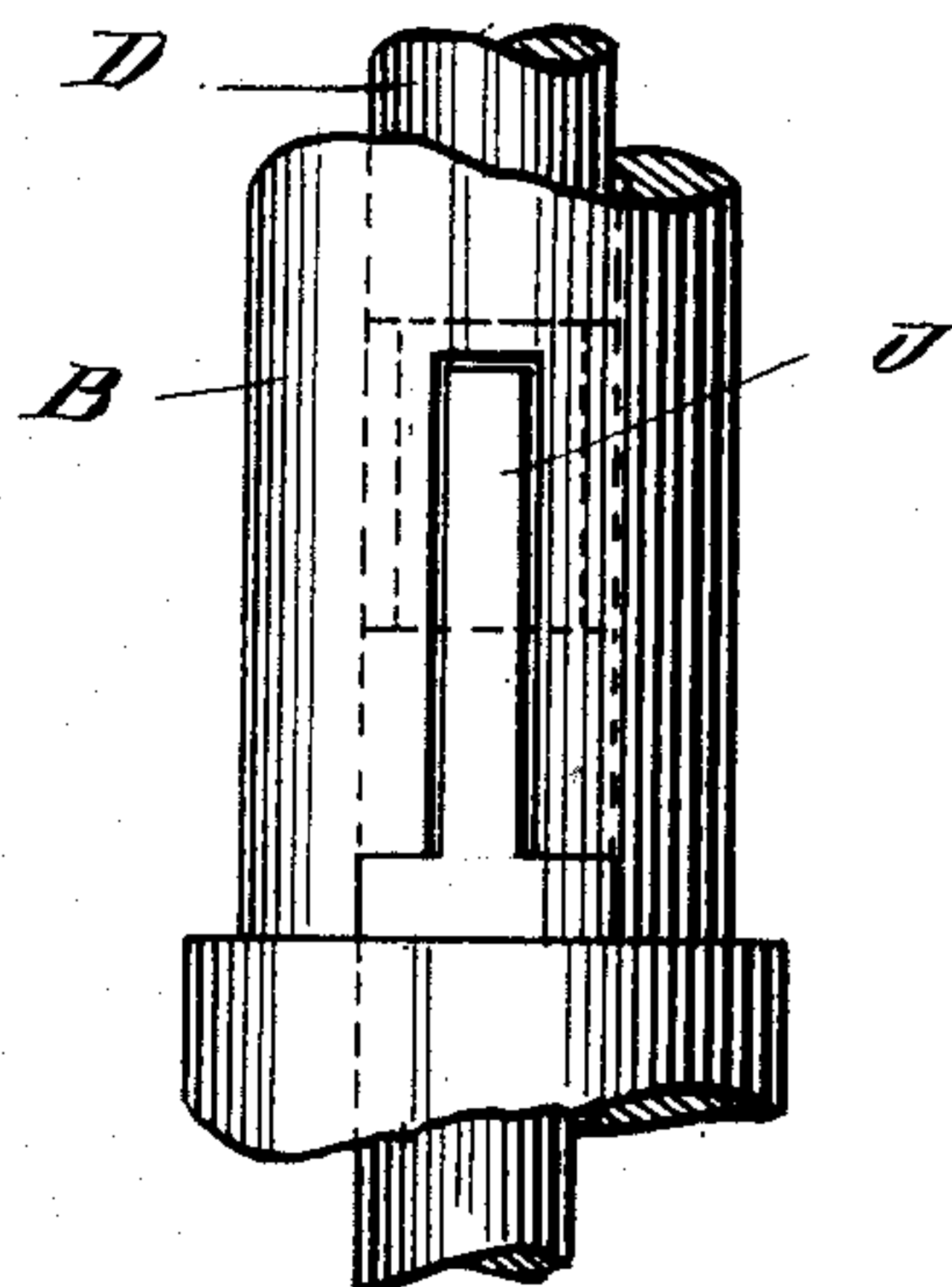


Fig. 7.



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UNITED STATES PATENT OFFICE.

MICHAEL SPORLEDER, OF BRISTOW, INDIAN TERRITORY.

WATCHCASE-PENDANT.

SPECIFICATION forming part of Letters Patent No. 666,569, dated January 22, 1901.

Application filed April 14, 1900. Serial No. 12,841. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL SPORLEDER, a citizen of the United States, residing at Bristow, in the Creek Nation, Indian Territory, have invented certain new and useful Improvements in Stem Winding and Setting Watches or Clocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in stem winding and setting watches or clocks and is embodied in the novel parts, arrangement, and combinations of parts hereinafter described, and particularly set forth in the claims.

Heretofore stem winding and setting watches, which are well known and in general use, had, so far as I am aware, in all previous constructions the setting train or mechanism thrown into operation by a longitudinal movement—that is, outward or inward movement—of the winding-stem and crown carried thereby. Such constructions are exceedingly undesirable in that it often happens that the crown is accidentally moved and the setting mechanism or train thrown into gear and the hands of the watch set to indicate a time other than the true time, resulting in many instances in serious results. Also, so far as I am aware, stem winding and setting watches heretofore have been so constructed that water, dust, and the like gains access to the works of the watch through the winding and setting stem.

It is one object of the present invention to provide a construction for stem winding and setting watches whereby it is rendered impossible to accidentally throw into gear the setting mechanism or train.

A further object is to provide a construction wherein the winding-stem and crown are not longitudinally movable for the purpose of throwing into gear the setting mechanism or train, so that it is impossible to accidentally move longitudinally the crown.

A further object is to provide a construction of winding-stem and associated parts whereby it will be impossible for dust or water to gain admittance to the works of the

watch through the pendant or winding and setting mechanism.

A further object is to provide a stem held from longitudinal movement, except for the purpose of operating the case-spring, where a hunting-case is employed, and to secure the crown from longitudinal movement on the stem, providing independent means for throwing into gear the setting train or mechanism, which means cannot be accidentally operated.

A further object of the invention is to provide a generally improved and simplified construction for obviating the difficulties and disadvantages above mentioned.

In the drawings I have shown for the purpose of illustration practical embodiments of the invention, but desire it particularly understood that I do not wish to be limited to the particular constructions there shown, as many minor changes may be made without departing from the scope of my invention.

In the drawings, Figure 1 is a longitudinal sectional view through a portion of a watchcase and pendant, showing my improvements applied thereto. Fig. 2 is a transverse sectional view on the line 2 2 of Fig. 1. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1. Fig. 4 is a longitudinal sectional view of a slightly-modified construction. Fig. 5 is a detail view of a slightly-modified construction of the connecting means between the plug G and the setting staff. Fig. 6 is a longitudinal sectional view of a modified construction.

Referring to the drawings, wherein similar characters refer to similar parts throughout the several views, A indicates the pendant, which, as shown, is secured to or formed with the watchcase-base (indicated at A') in the usual manner and is provided, as shown in Fig. 1, with an internal screw-thread, (indicated at a.) Passing longitudinally through the pendant A and extending into the watchcase and beyond the other or upper end of the pendant, is a hollow winding-stem B. This stem is preferably circular in outer cross-section and is provided, conveniently at its lower end, with an angular longitudinal opening or socket b. For the purpose of packing the winding-stem in the pendant and holding the

same from longitudinal movement therein, I have shown the stem plug or nut, (indicated at H.) If desired, this stem plug or nut may be formed in two sections h and h' , as indicated in Fig. 1, having between the sections and surrounding the winding-stem a suitable packing or washer, (indicated at h^2 .) This nut and packing, when a reasonably close joint is made between the nut and the stem and a little lubricant is provided, will prevent the entrance of water or dust to the works through the pendant.

Secured to the upper end of the winding-stem B is a crown C, which may be of the usual construction and secured to the stem in any convenient manner, as by the screw-threaded engagement shown. Where a hunting-case watch is provided with my attachment, the crown is secured to the stem sufficiently far above the end of the pendant to permit sufficient inward movement of the stem to operate the case-spring. The latter is indicated at Z. The stem is held from outward longitudinal movement by the engagement of the shoulder (indicated at b') with the under side of the stem-nut H. It will therefore be seen that the crown and stem are secured together and permitted to rotate for the purpose of winding the watch, as usual, but are prevented from longitudinal movement except for the purpose of operating the case-spring.

The winding-stem B above the angular opening b is provided with a cylindrical opening or bore b^2 and at the upper end of this bore is provided with an internal screw-thread, (indicated at b^3 .) Passing through the openings b^2 and b is the longitudinally-movable setting-staff, (indicated at D.) This staff is provided at its lower portion with an angular or square portion d and is at its upper portion or end preferably cylindrical and reduced in size, as indicated at d' . Suitable means is provided for limiting the longitudinal outward movement of the staff D in the stem, and this may consist, as shown in Fig. 1, of the hollow nut E, which is screwed into the internal screw-thread b^3 in the winding-stem and can be by adjusting the nut up and down by means of a suitable tool adjusted to limit the longitudinal movement of the staff which operates the setting train or mechanism to throw the same into and out of gear. It is not believed necessary to illustrate the winding or setting mechanism, inasmuch as any preferred or common type may be employed which can be thrown into and out of operation by the longitudinal movement of the setting-staff. Movably secured to the upper or outer end of the winding-stem is an operating part or piece F for effecting the longitudinal movement of the setting-staff D. This piece F may be secured in various manners to the winding-stem, so as to be moved longitudinally in relation thereto and to the setting-staff, so as to permit the rotation of the same with the winding-stem about the setting-staff and to cause longitudinal

movement of the setting-staff when the part F is moved longitudinally of the winding-stem. In Fig. 1 I have shown the part F provided with a hollow shank f , provided with an inner cylindrical bore f' and an outer screw-thread, by which it is screwed into the internal thread b^3 of the winding-stem. It will be seen that by turning the part F it can be moved by reason of its threaded engagement with the stem in or out. It is evident that the part F can be secured to the winding-stem in other manners—for instance, as shown in Fig. 4, wherein the part F is provided with an inner thread F' , adapted to co-act with the outer thread on the winding-stem, the crown C being provided with a socket or depression C' for the part F. The staff D is secured to the part F to permit the rotation of the latter about the same, as by having a pin (indicated at G) passing through the hole in the part F and engaging in a circumferential notch or groove g in the upper end of the staff D. The part F may be secured to the staff D in various other manners, as hereinafter described. If desired, the upper end of the part F may be provided with a transverse groove or channel f^3 for the insertion of a tool to screw the part F tightly against the crown C. I prefer to make the upper or gripping end of the operating part F relatively large and of a shape similar to the upper end of the ordinary crown, providing it with external corrugations similar to the corrugations in the crown C, so as to present the usual and accepted form of crown.

In Fig. 4 I have shown another slightly-modified means for limiting the longitudinal movement of the setting-staff D in the stem. This consists in providing the stem with a reduced portion (indicated at H') and securing to the winding-stem a part projecting into said reduced portion and adapted to engage the opposite ends or shoulders thereof, and thus limit the movement of the staff. This projection is preferably in the form of a spring-finger (indicated at J) of such a construction as to permit the removal of the staff D from the stem when desired without removing the works from the case. In Fig. 4 I have also shown a modified means of attachment for the staff D to the operating part F, which consists in providing angle fingers or pieces K, which, as shown, are forced into a socket in the lower end of the part F and have their angular or laterally-projecting portions k engaging in a circumferential groove g in the upper end of the setting-staff.

In Fig. 6 I have shown a still further construction of means for securing the operating part F in the stem B and permitting the longitudinal movement of the same therein. In this case the part F is provided with a split hollow shank L, having at the lower ends of the portions or legs thereof a rounded shoulder l , adapted to enter a corresponding groove l' in the inner face of the winding-stem, said

lower ends of the portions of the shank L having an internal shoulder l^2 , adapted to engage a complementary shoulder on the setting-staff. The setting-staff in this construction is normally held outward, causing the said shoulder to engage the shoulder l^2 by the constant-pressure spring of the watch-setting mechanism, which is not herein shown. Extending from the staff upward through a central opening in the part F is a stem extension, (indicated at M,) preferably provided at its outer end with a knob or finger-piece m . In this construction when it is desired to move the setting-staff longitudinally to throw into gear the setting train or mechanism the extension-piece is forced inward to throw the shoulder on the staff out of engagement with the shoulder l^2 at the end of the shank L, when by pulling outward on the part F the shank portions L will spring inward, permitting the disengagement of the shoulder on the lower ends thereof from the groove l' in the stem and will permit the movement of the part F until the shoulder l engages in a groove (indicated at l^4) above the said groove l' . This groove l^4 is not as deep as the groove l' and will not permit the shank L to spring outwardly sufficiently far to permit the setting-staff to enter between the shoulders l^2 and lock the shank portions in said groove l^4 .

The operation of the construction illustrated in Fig. 1 is substantially as follows: The crown C being secured to the winding-stem B will permit the rotation thereof to wind the watch, as usual. When it is desired to throw the setting mechanism into gear, the part F is turned to cause the same to move outwardly and while the same rotates about the setting-staff D, yet its engagement therewith causes the staff to move outwardly with the part F until limited by the limiting device or nut E. Then by simply turning the crown as usual the winding-stem is rotated and by reason of the squared portion of the setting-staff engaging in the square or angular hole b in the lower portion of the stem the staff also is caused to rotate with the stem and operate the setting mechanism.

The operation of the construction disclosed in Fig. 4 is similar.

It is believed that the operation of the construction disclosed in Fig. 6 will be readily understood from the above description of said construction.

It will be observed that in the construction herein disclosed the several parts of the mechanism can be removed without removing the works from the case, as by moving the part F with the staff outwardly until the pin G is brought above the top of the crown C, when the pin can be taken out, disengaging the part F from the staff and permitting the part F to be removed from the stem. After the part F has been removed from the winding-stem the limiting device E can be unscrewed and removed by a suitable tool, when the

staff D is free to be taken longitudinally out of the hollow stem.

HAVING thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a pendant, of a winding-stem rotatably mounted therein, a crown secured to said stem, a setting-staff longitudinally movable independently of the winding-stem and held from rotation independently of the winding-stem, an operating part for the setting-staff movable independently of the winding-stem and setting-staff, and connected to the latter so as to move the same longitudinally, substantially as described.

2. The combination with a pendant, of a winding-stem rotatably mounted therein and held from outward movement, a crown secured thereto, a setting-staff movable longitudinally outward for the purpose of setting and rotatable with said stem, and means movable independently of the winding-stem for moving said setting-staff, substantially as described.

3. The combination with a pendant, of a hollow winding-stem rotatably mounted therein, a crown secured to said stem, a setting-staff longitudinally movable independently of the winding-stem and held from rotation independently of the winding-stem, an operating part for the setting-staff movable independently of the stem and rotatable about said setting-staff, and connected to the latter so as to move the same longitudinally, substantially as described.

4. The combination with a pendant, of a hollow winding-stem rotatably mounted therein, a crown secured to said winding-stem, a setting-staff mounted in said stem and movable longitudinally independently of the stem but held from rotation independently of the stem, an operating part for the setting-staff having a screw-thread engagement with the stem and rotatable independently of the same, and a connection between said setting-staff and operating part, whereby upon the rotation of said operating part, said setting-staff is moved longitudinally, substantially as described.

5. The combination with a pendant, of a hollow winding-stem rotatably mounted therein and held from outward longitudinal movement, a crown secured to said stem, a setting-staff longitudinally movable in said winding-stem and connected to said stem to rotate therewith, an operating part F for said setting-staff screw-threaded onto said stem and movable independently thereof, and a connection between the operating part F and said setting-staff permitting the rotation of said part F about the setting-staff and causing the longitudinal movement of the setting-staff upon the rotation of the part F, substantially as described.

6. The combination with a pendant having an internal screw-thread, of a winding-stem located in said pendant, packing-nuts be-

tween the stem and said pendant and screwed
into said internal screw-thread, a crown se-
cured to said stem, a staff having angular
portions seated in the angular opening in said
5 stem and having an upper cylindrical portion,
a limiting-nut sleeved on the cylindrical por-
tion of said staff and having screw engage-
ment with an internal thread on said wind-
ing-stem, a part having a screw-thread en-
10 gaging said internal screw-thread on said
stem, and means connecting the said staff

and part to permit the rotation of said part
about said staff and longitudinal movement
of said staff with said part, substantially as
described.

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

MICHAEL SPORLEDER.

Witnesses:

E. W. SIMS,
A. C. SMITH.