

(No Model.)

C. F. MORRILL.
PENDANT STEM FOR WATCHES.

No. 351,392.

Patented Oct. 26, 1886.

Fig. 1.

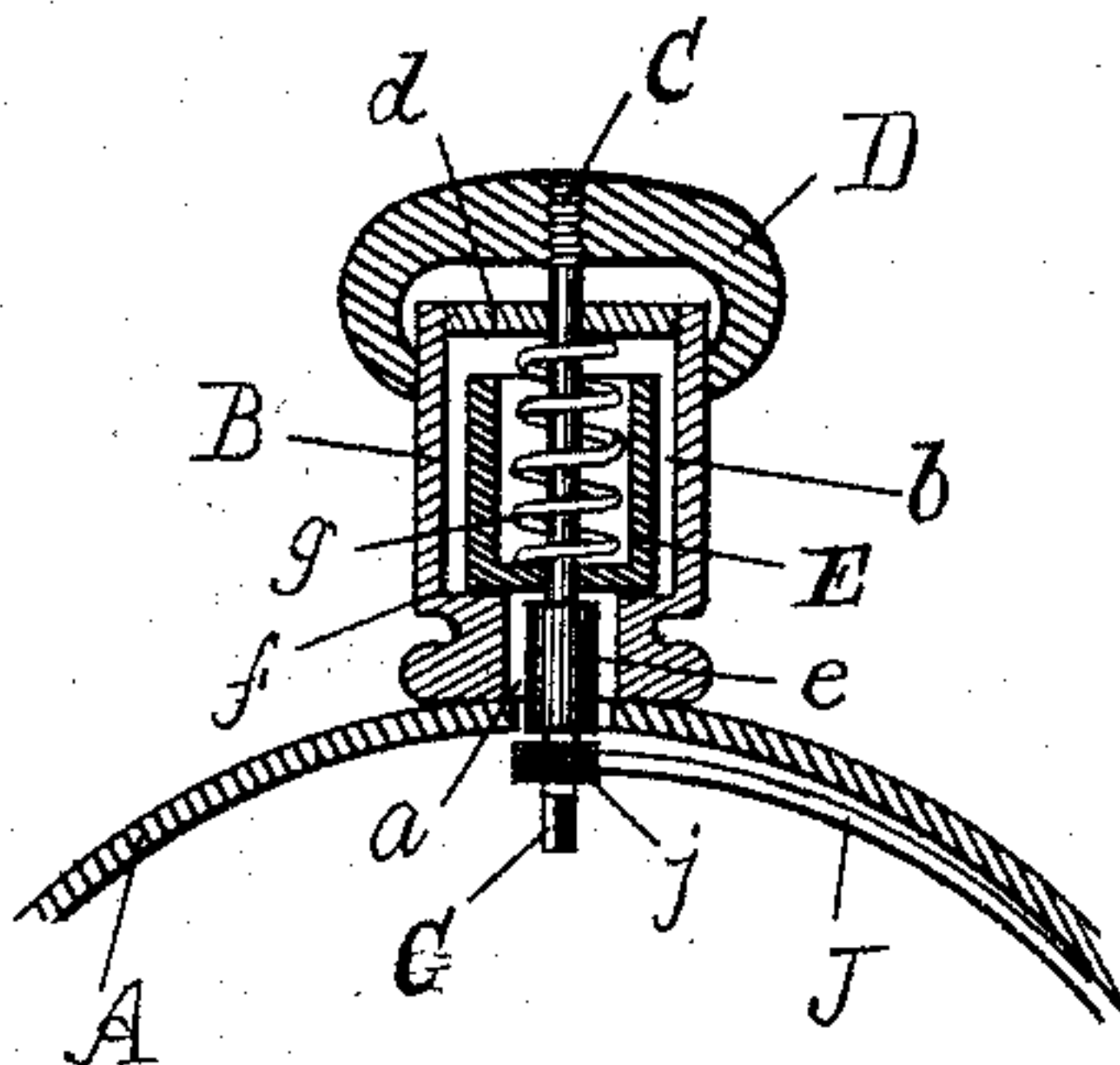


Fig. 2.

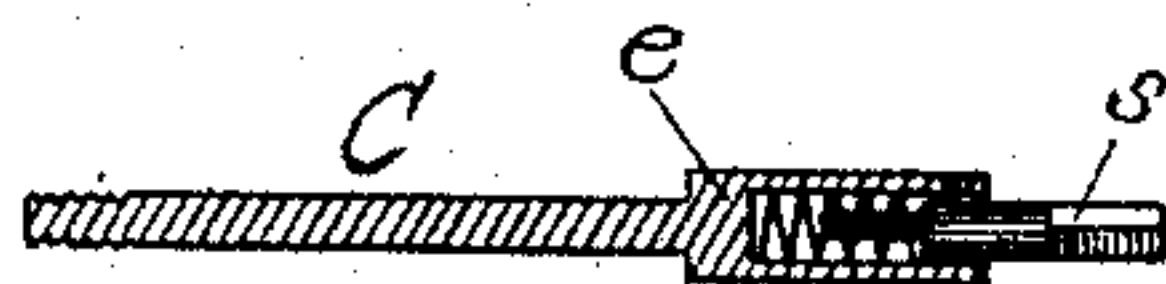
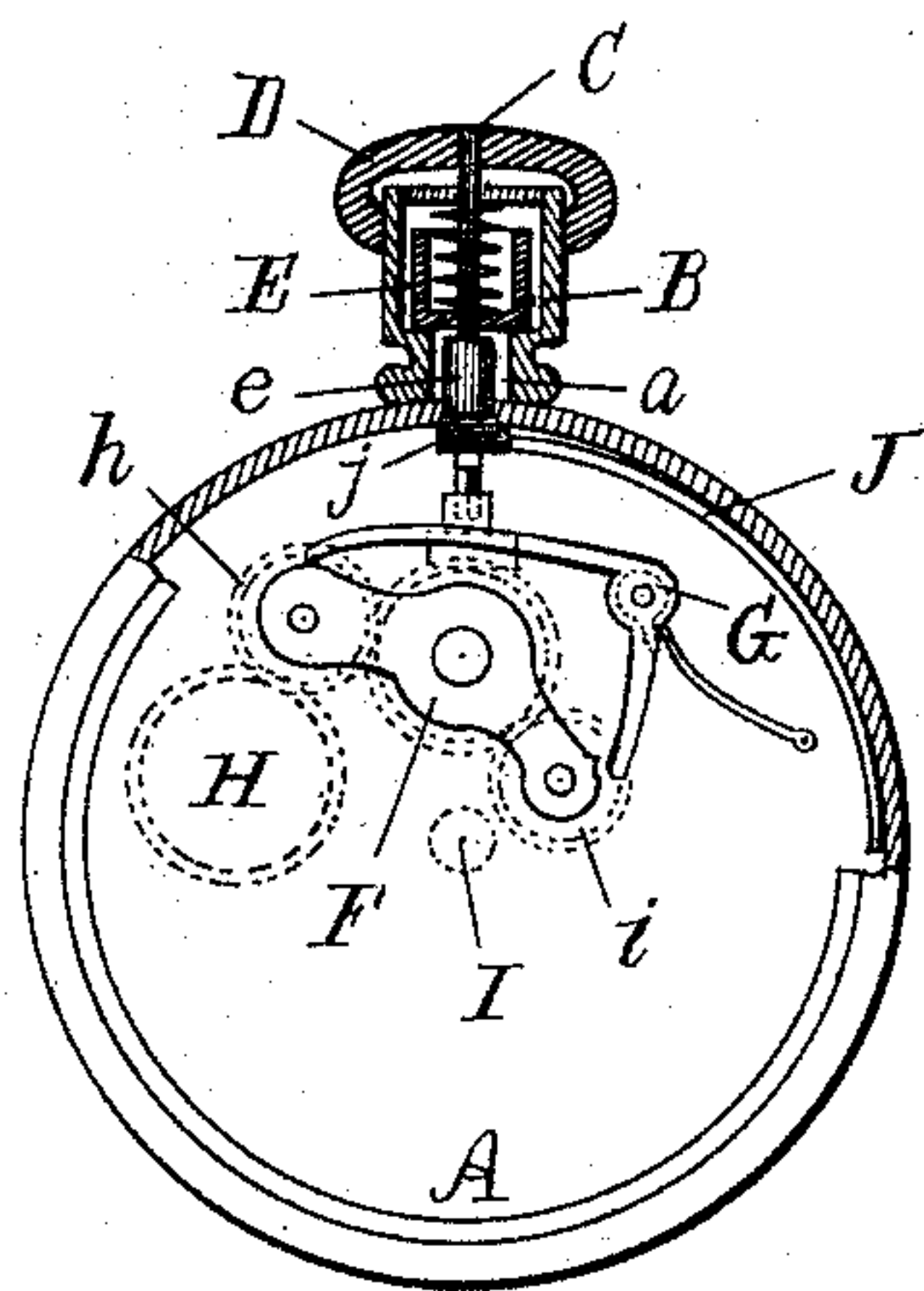


Fig. 3.

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PENDANT-STEM FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 351,392, dated October 26, 1886.

Application filed January 11, 1886. Serial No. 188,160. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. MORRILL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pendant Winding and Setting Watches; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in "pendants" and "pendant-arbors," so-called, for watches, whereby the watch may be wound, the hands operated or set, and when the device is attached to a hunting-watch case the cover thereof may be opened.

My invention consists particularly in the method of maintaining the pendant or winding arbor normally in position to actuate the winding mechanism. Moreover, this arbor is spring-actuated when out of its usual normal position, and thus is compelled to return automatically to a fixed determinate place. An outward or endwise movement of said arbor serves to engage and operate the hand-setting devices, while an inward thrust of the pendant crown and arbor effects release of the case-spring to open the cover in the event of my device being attached to a hunting-case.

Briefly stated, the operation of setting the hands is accomplished by the pendant-arbor against the pressure of a spring-actuated loose annular sleeve, while release of the case cover is effected by said arbor against the case spring itself; hence by the arrangement of parts this loose sleeve compels the arbor to return to its normal position for winding the watch upon release of the pendant-crown, the latter, before such release, standing in its extreme outward movement in position for operating the hands. Thus it is evident that by no possibility, can the arbor be left in the wrong position, as now sometimes occurs by carelessness or oversight; otherwise it might be left on the hand-set connection, which would at once stop the watch.

In the drawings, Figure 1 represents a central vertical section of a pendant and pend-

ant-arbor much enlarged, which embody my invention, while Fig. 2 shows the same as attached to a watch-case containing the winding and hand-operating mechanism. Fig. 3 is a longitudinal sectional elevation of the pendant-arbor.

In said drawings, A represents a portion of a stem-winding hunting-watch case, to which is secured a pendant, B, of any ordinary construction, and provided with the bore *a* for admission of the arbor into and within the watch-case proper. Furthermore, this is hollow or chambered at *b*, which is interiorly screw-threaded for a short distance at its outer end, or otherwise adapted to engage and receive a solid plate or button, *d*. This plate is centrally perforated to admit of easy passage through it of the arbor C, which is threaded at its extremity, and thus attached to the pendant-crown D. The pendant-arbor is shown as provided within the neck or contracted portion *a* of the pendant B with a collar, *e*, or this may represent the size of the metal, which is reduced or turned down throughout its remaining portion.

Within the chamber *b* of the pendant B is placed a loosely-fitting tubular sleeve, E, which is somewhat shorter than the corresponding internal dimension of the said pendant. This loose sleeve is closed at the end adjacent to the watch-case, with the exception of a hole through which the pendant-arbor plays. The upper end is open, through which a coiled spring, *g*, is introduced into the sleeve, and this spring is then retained between the closed end of the latter and the plate *d*, before mentioned as affixed to the end of the pendant.

By reference to the drawings it will be seen that the loose sleeve is supported against the pressure of the spring *g* by the inner end of the pendant *f*, and thus no pressure is permitted upon the pendant-arbor when in its normal position.

In Fig. 2 is shown the mechanism which connects the pendant-arbor with the hand operating and winding parts. This consists of a yoke-plate, F, and spring-actuated lever G, the yoke-plate carrying a pair of gears or toothed-wheels, *h i*, the former of which is adapted to normally engage with a toothed-wheel, H, for winding the watch.

Thus the operation of my device is as follows, with the parts shown in their normal positions. As before explained, the spring-actuated sleeve prevents endwise movement
 5 of the arbor, except when desired, and thus maintains it normally in action for winding the watch. In the event of a desire to actuate the hands, the pendant crown and arbor are drawn outwardly, the enlarged portion
 10 *e* of the arbor engaging with the under side of the closed end of the sleeve *E*, which is carried endwise against the tension of the spring *g* until it strikes the plate *d*. Simultaneously therewith the lever *G* is released by the end-
 15 thrust of the pendant-arbor, and the gear *i* is then meshed with the pinion *I*, carrying the post to which the hands are secured. Immediately upon the proper adjustment of the hands the crown is released and the tension
 20 of the spring *g* again returns all the parts to their normal position. Thus the watch is always in condition to be wound, and there can be no liability of the user operating the hands in lieu of the winding mechanism.

25 At *J* is shown the case-spring, and *j* is the catch thereof, since in the present instance I assume that the drawings represent a hunting-case.

One advantage derived from my present
 30 improvement is that the enlarged portion *e* of the pendant is retained between the catch *j* of the case-spring and the closed end of the movable sleeve, which latter removes all pressure from the pendant-arbor and the latter is
 35 easily turned by the crown *D*. The squared or socketed end of the arbor projects through a slot formed in the case-spring, as usual. Furthermore, the pendant-arbor is not only
 40 employed in its normal position to wind the watch, but by a slight outward pull can be changed into such position as to actuate the hand-setting mechanism; and, again, a third function of said pendant-arbor is to release
 45 the case-spring catch from the cover of a hunting-case. This is easily accomplished by pushing the crown and pendant arbor inwardly until the enlarged portion, *e*, of the
 50 arbor strikes against and advances the case-spring *J* inwardly, when the cover is released. The reaction of said spring returns the pendant-arbor to its normal position.

In the event of employing a pendant winding and setting arbor of the above description with a heavy watch-case, it will be found
 55 necessary to move the pendant-arbor a greater distance inward in order to actively induce the case-spring to release the cover; hence there is danger of advancing the extremity of the arbor, if formed of a single piece, too
 60 far within the movement. To obviate any such difficulty I have constructed the pendant-arbor of two parts, (see Fig. 3,) wherein the squared part *s* of the arbor is spring-actuated. Thus, when the arbor has advanced
 65 as far as is deemed expedient, this part *s*

yields and retreats within the arbor proper, and thus permits the enlarged portion *e* to advance a sufficient distance to compensate for the greater movement of the case-spring required by the additional thickness of the
 70 case.

The mechanism for retaining the piece *s* is a pin secured to the part *e*, and engaging with a longitudinal slot cut in said part *s*, thus end-
 75 wise movement of the latter is permitted, while its rotation is effected by the arbor proper secured to the crown *D*.

I claim—

1. The combination, with the pendant, pendant-arbor, and crown, of the loose spring-actuated sleeve operating within and supported
 80 by the pendant, whereby all pressure is removed from the arbor while the latter remains in its normal position for winding, substantially as herein described. 85

2. The crown and winding arbor, in combination with the pendant *B*, the sleeve *E* within said pendant and surrounding said arbor, and a spring forcing said sleeve against
 90 the bottom or inner end of the pendant, said spring and sleeve exerting normally no pressure on said arbor, but preventing the latter from being accidentally drawn back beyond a certain point, substantially as set forth.

3. In combination, the pendant, its loose
 95 spring-actuated sleeve, and the crown with its arbor, all operating, as herein described, to return the arbor automatically to its normal position after operating the hands, substantially as stated. 100

4. The combination, with a pendant inclosing a loose spring-actuated sleeve, a pendant winding and setting arbor, of the case spring
 105 catch adapted to be actuated by said arbor, substantially as herein described. 105

5. A pendant winding and setting arbor provided with an enlarged portion, which shall engage a loose spring-actuated sleeve in
 110 the act of setting the hands, substantially as explained. 110

6. A pendant winding and setting arbor provided with a collar or enlarged portion, which shall normally remain free from pressure between a loose spring-actuated sleeve
 115 and the case-spring, whereby it is compelled to return to its normal position in the event of endwise movement in either direction, substantially as explained.

7. A pendant-arbor composed of two parts, the inner extremity of one portion being enlarged and recessed to receive and permit retreat
 120 of the other, in combination with a spring in said recess for purposes explained.

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

CHARLES F. MORRILL.

Witnesses:

H. E. LODGE,
 F. CURTIS.