(No Model.)

C. A. WHITNEY.

PENDANT FOR STEM WINDING WATCHES.

No. 543,566. Patented July 30, 1895.

FIG. 1.

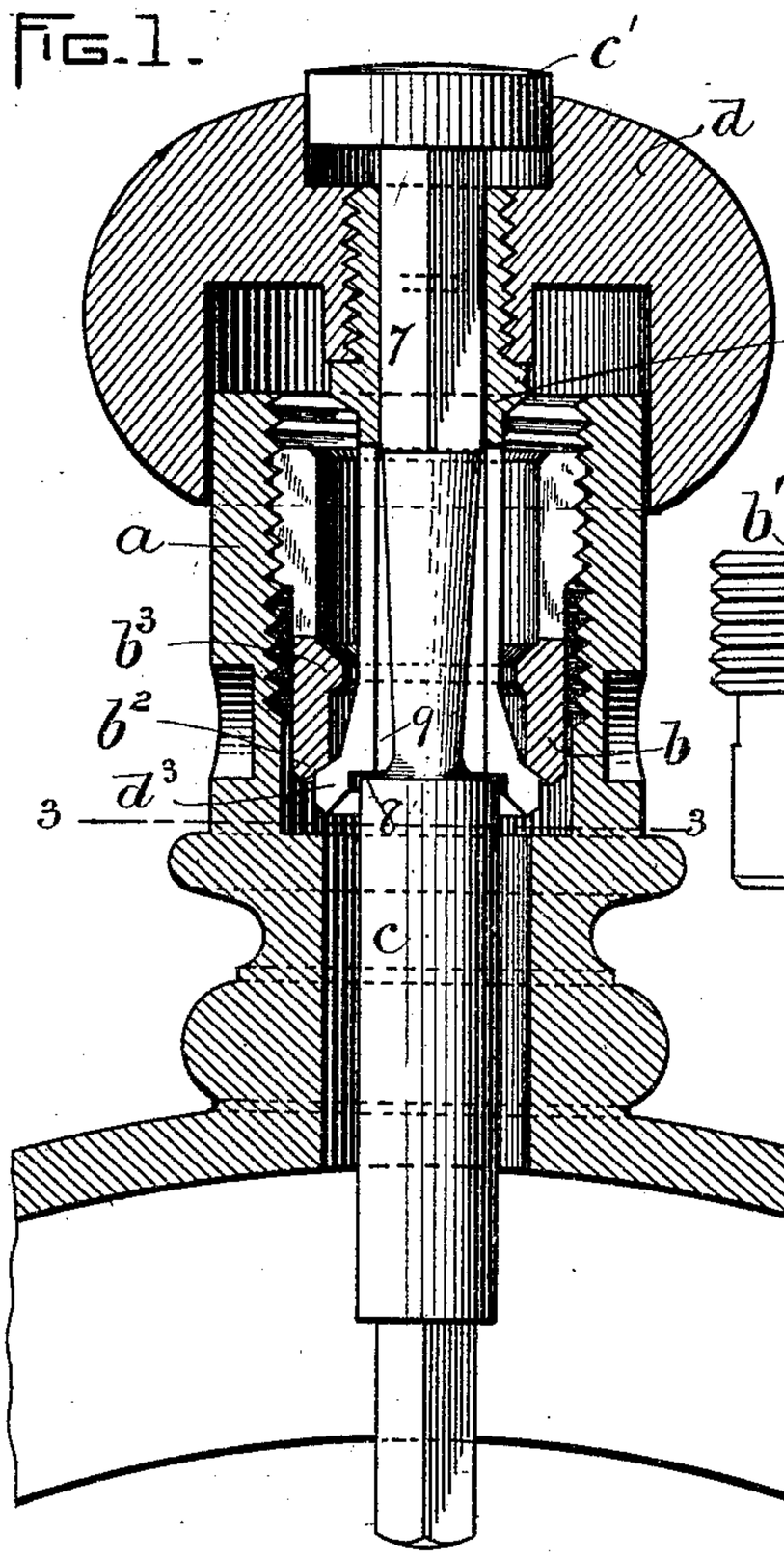


FIG. 4.

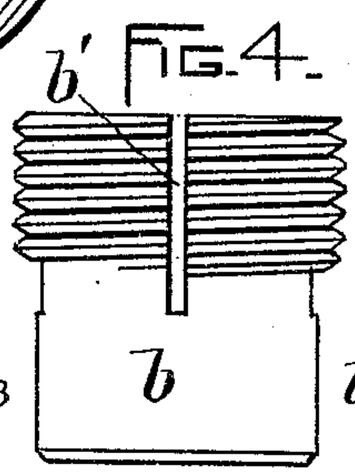


FIG. 2.

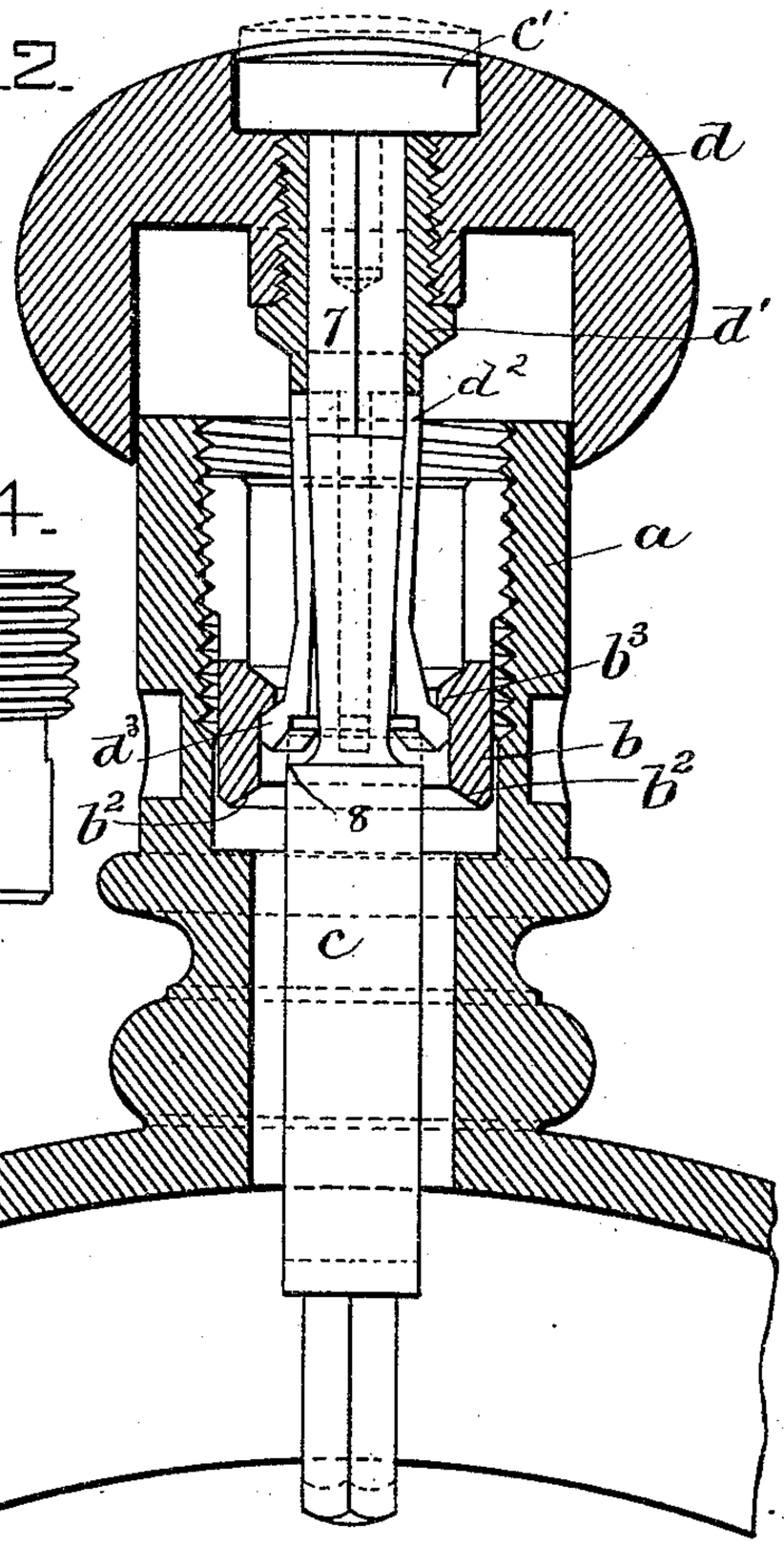
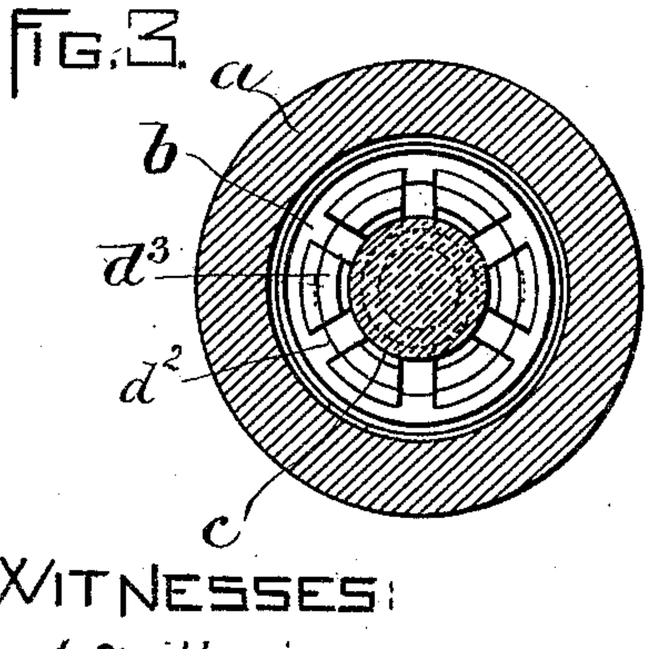


FIG. 3.



WITNESSES:

A. D. Harrison.
Rollin Abell.

INVENTOR:

C. A. Whitney
by
Wright Brown & Quinby
Attys.

UNITED STATES PATENT OFFICE.

CHARLES A. WHITNEY, OF WALTHAM, MASSACHUSETTS.

PENDANT FOR STEM-WINDING WATCHES.

SPECIFICATION forming part of Letters Patent No. 543,566, dated July 30, 1895.

Application filed October 24, 1894. Serial No. 526,815. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WHITNEY, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Winding and Setting Mechanism for Watches, of which the following is a specification.

This invention relates to watches in which the winding and hands-setting mechanism are operated by a rotatable bar extending through the pendant, said bar being shiftable longitudinally and adapted to operate the winding mechanism when moved inwardly and the hands-setting mechanism when moved outwardly.

The invention has for its object to provide effective and convenient means for normally locking the winding-bar and its crown when in their winding positions, thus preventing an accidental shifting of said bar and crown to their hands-setting position and for conveniently unlocking the bar and crown, so that they can be readily shifted from the winding to the hands-setting position.

The invention consists in the improved mechanism which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of a watchcase-pendant provided with winding and hands-setting devices embodying my invention, the winding-bar and crown being shown in their inner or winding position. Fig. 2 represents a similar view, showing the winding-bar and crown shifted to their hands-setting position. Fig. 3 represents a section on line 3 3 of Fig. 1, looking toward the left. Fig. 4 represents a side view of the fixed locking member in the pendant.

The same letters and numerals of reference indicate the same parts in all the figures.

In the drawings, *a* represents a watchcase-pendant which contains a fixed locking member, here shown as a sleeve *b*, shown in side elevation in Fig. 4, provided at one end with an external screw-thread, formed to engage an internal thread on the interior of the pendant. Said sleeve is preferably provided with longitudinal slots *b'* extending from its threaded end, partially to the opposite end, for the purpose of making the threaded portion resilient and enabling said portion to press firmly against the threaded portion of the pendant and thus prevent liability of accidental rotation and displacement of the sleeve after it has been adjusted to place. I prefer to make four slots *b'* in the sleeve *b* for this purpose. The inner end of the sleeve *b* is provided with a beveled face b^2, which constitutes the acting surface or portion of the fixed locking member.

c represents the winding-bar, which is rotatable and longitudinally movable in the pendant, as usual in watches of this class, and *d* represents the crown, which is connected with the bar at the outer end of the pendant, and, as usual, is the means for imparting rotation from the operator's fingers to the winding-bar.

In the embodiment of the invention shown in the drawings the winding-bar and crown are made in separate pieces, the bar being rotatively engaged at all times with the crown, but adapted to move lengthwise to a limited extent independently of the crown.

The crown is provided with a sleeve *d'*, one end of which is screwed to the crown, as shown in Figs. 1 and 2, while its main portion is provided with slots d^2, extending from the opposite end of the sleeve nearly to the screw-threaded base thereof, said slots subdividing the sleeve into a series of spring-tongues having protuberances or projections d^3 on their outer ends, which collectively form a contractible shoulder adapted to bear on the beveled face b^2 of the sleeve or locking member *b*, said projections d^3 having beveled rear faces corresponding with the bevel of the face b^2, so that when outward pressure is exerted upon the crown the spring-fingers will yield and spring inwardly, and thus permit the compressible shoulder d^3 to pass into the sleeve *b*, if permitted so to do by the movable locking member hereinafter referred to, the sleeve *b* having an internal shoulder or stop b^3, which arrests the compressible shoulder d^3 when the crown and bar reach the position shown in Fig. 2.

The bar *c* has at its outer end a squared portion 7, which fits a squared orifice extending through the crown, so that the bar is rotatively engaged with the crown and is adapted to move lengthwise independently thereof.

The inner end of the bar *c* is squared, as usual, to engage the usual parts of the winding and hands-setting mechanism of the watch-movement. The bar is provided at an intermediate point with a shoulder 8, which is formed to occupy a position within the compressible shoulder d^3 and to prevent the compression of said shoulder, and thus prevent the above-described outward movement of said shoulder and of the crown. When the crown and bar are in their winding position (shown in Fig. 1) the shoulder 8 of the bar *c* is held by the outward spring-pressure exerted upon the bar by a spring in the watch-movement, in the usual manner, in position to prevent the contraction of the shoulder d^3, so that when the crown and bar are in their winding position the crown cannot be pulled outwardly. The outer end or head *c'* of the bar *c* is exposed at the outer surface of the crown and enables the operator to displace the locking member 8, and thus force the latter out of the contractible shoulder d^3, so that by exerting an outward pull on the crown said shoulder will pass into the sleeve *b* until it reaches the stop b^3, as shown in Fig. 2, this movement of the crown causing it to bear against the inner side of the head *c'*, and through the latter move the bar *c* outwardly far enough to effect the shifting of the connection from the winding to the hands-setting mechanism, the stop b^3 arresting the crown and bar in their hands-setting position. The bar *c* is provided with a peripheral recess 9 adjacent to the movable locking member or shoulder 8, said recess being formed to receive the spring-tongues of the sleeve *d'*, as shown in Fig. 2, when the crown and bar are moved outwardly.

The full-line position of the bar *c* (shown in full lines in Fig. 2) is the position occupied while the operator's thumb is pressed against the bar. When the pressure is released the bar *c* moves outwardly until the shoulder 8 on the bar abuts against the beveled face of the compressible shoulder d^3, as shown in dotted lines in Fig. 2.

It will be seen from the foregoing that when the crown and bar are in their winding position they are securely locked in said position and cannot be moved outwardly without an inward movement of the movable locking member 8, so that there is no liability of the operator accidentally pulling out the crown and shifting the connection from the winding to the hands-setting while winding the watch.

I claim—

1. In a watch having a winding and hands-setting bar and a crown adapted to rotate said bar and to move it endwise, the improved mechanism for locking the bar in its winding position, the same comprising a fixed locking member attached to the pendant, a contractible sleeve attached to the crown and engaged by said fixed locking member when the crown and bar are in their winding position, and a movable locking member adapted to normally hold the sleeve in engagement with the fixed locking member and movable inwardly from its normal position to permit the separation of the sleeve from the fixed locking member and the outward movement of the crown, sleeve, and bar.

2. The combination of a watch-case pendant having a fixed locking member, a crown having a contractible sleeve adapted to yieldingly engage said locking member when the crown is in its inner position, and a winding and hands-setting bar rotatively engaged with the crown and provided with a shoulder or movable locking member adapted to normally hold the sleeve in engagement with the fixed locking member, said bar having a limited independent endwise movement so that it may be moved inwardly to displace the said movable locking member and permit the outward movement of the crown, sleeve, and bar.

3. The combination of a watch-case pendant, a crown having a contractible sleeve projecting into the pendant, a winding and hands-setting bar rotatively engaged with the crown and having a shoulder or movable locking member, a screw threaded sleeve engaged with the pendant and provided with a fixed locking member to hold the contractible sleeve, crown, and bar in position for winding and with a stop or shoulder to limit the outward movement of the contractible sleeve, crown, and bar, the bar having a limited independent endwise movement so that it may be moved inwardly to displace its shoulder or locking member and permit the outward movement of the crown, sleeve, and bar.

4. The combination of a watch-case pendant internally screw-threaded, a threaded sleeve screwed into the pendant and terminating in a locking face, a crown having a contractible split sleeve projecting into the pendant and having projections or enlargements on the ends of its arms, said projections collectively forming a contractible shoulder adapted to engage the locking face in the pendant and prevent outward movement of the crown, and a winding and hands-setting bar rotatively engaged with the crown and movable endwise independently thereof, said bar having a shoulder which normally prevents the contraction of the shoulder on the crown, and a recess which permits such contraction when the bar is moved inwardly.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 16th day of October, A. D. 1894.

CHARLES A. WHITNEY.

Witnesses:
A. D. HARRISON,
ROLLIN ABELL.