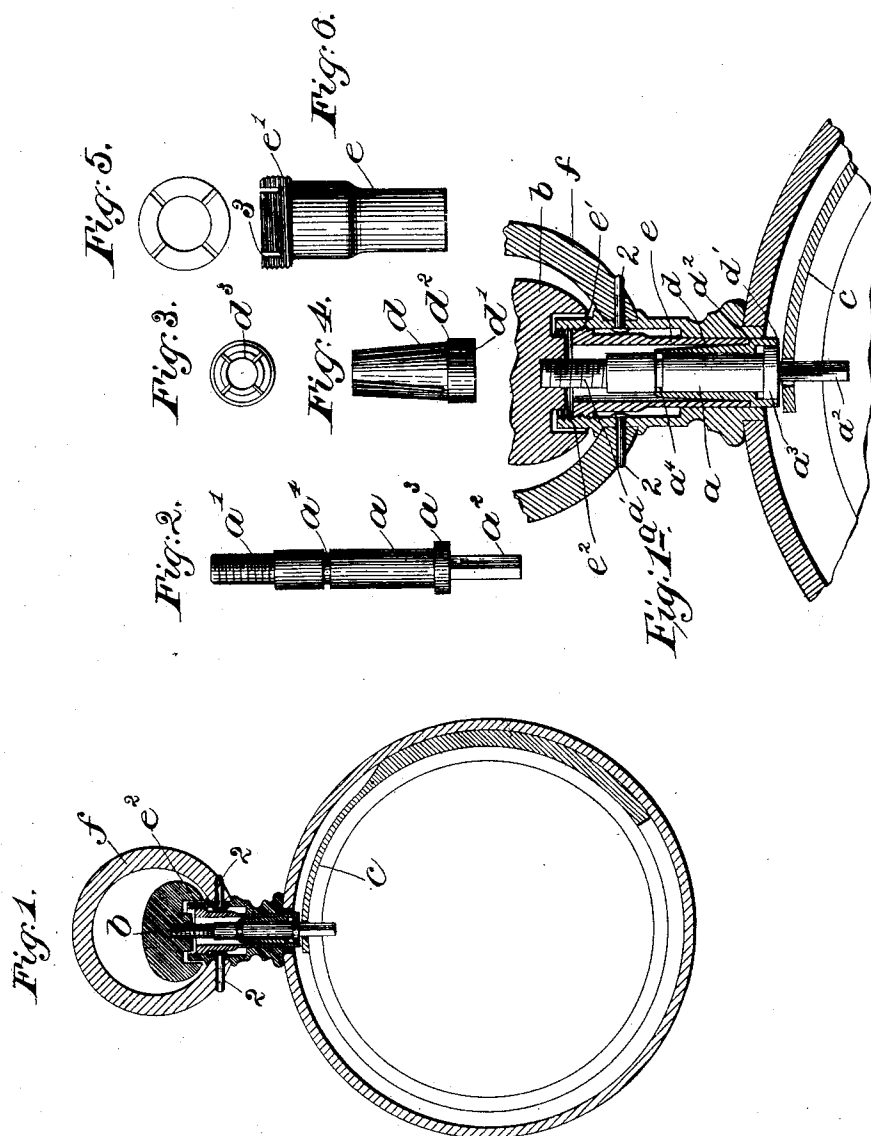


(No Model.)

N. T. MILLS.  
WATCH CASE PENDANT.

No. 475,064.

Patented May 17, 1892.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

NORMAN T. MILLS, OF BOSTON, MASSACHUSETTS.

## WATCH-CASE PENDANT.

SPECIFICATION forming part of Letters Patent No. 475,064, dated May 17, 1892.

Application filed November 16, 1891. Serial No. 411,984. (No model.)

### *To all whom it may concern:*

Be it known that I, NORMAN T. MILLS, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Watch-Case Pendants, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

10 This invention has for its object to improve the construction of stem-winding watches of the class wherein the actuating-spindle, to which is attached the crown engaged by the fingers to rotate the spindle, may be moved  
15 longitudinally to put the actuating-spindle into position to co-operate with the winding or setting trains. In watches of this class, as heretofore made, the pendant has contained a spiral spring, which acts normally to keep  
20 the spindle with its inner end in winding position, and the said spindle has been provided with an annular groove and said groove has been entered by springs when the actuating-spindle was pulled outwardly into hand-  
25 setting position. This class of watches is in my judgment objectionable, inasmuch as the spindle, not being locked in winding position, is liable to move longitudinally and thus get out of place, and it is also a great desideratum  
30 to get along with the fewest number or parts, and it is also desirable to make the pendant of the minimum diameter and thus adapt it to small watches. One part of my invention comprehends such a construction of the pendant and spring-armed locking-sleeve that the  
35 actuating-spindle is locked in winding position by the springs entering an annular groove in the spindle, and when the spindle is drawn outwardly to put it into hand-setting position  
40 the force of the spring-arms of the locking device have first to be overcome and then the said spring-arms act frictionally against a large part of the actuating-spindle, thus supporting the actuating-spindle at all times  
45 firmly within the pendant. I have located the base end of the locking device in the lower end of the pendant, and have extended into and nearly through the pendant an adjusting-  
50 sleeve threaded externally to engage internal screw-threads of the pendant, the inner end of the adjusting-sleeve acting as a stop against

the outward movement of the locking device with the spindle, and I have so shaped this adjusting-sleeve that its outer portion acts as an abutment for the inner headed ends of  
55 the pivot-pins which connect the bow with the pendant, the said adjusting-sleeve thus serving, also, as a lock for the said pivot-pins.

In my invention the inner end of the locking device is so located in the pendant that it  
60 may be made to act directly against the spring which is employed to keep the hinged front cover of a hunting-case watch closed and depress said spring to enable the front cover to  
65 fly open, as in common hunting-case watches.

Figure 1 shows in vertical section a watch-case provided with a winding-spindle for the stem-winding and stem-setting mechanism and co-operating parts embodying this invention. Fig. 1<sup>a</sup> is an enlarged view of a portion of  
70 Fig. 1; Fig. 2, an enlarged view of the winding-spindle removed; Figs. 3 and 4, plan and side views, respectively, enlarged, of the locking-sleeve, which locks the winding-spindle in position for winding; and Figs. 5 and 6,  
75 plan and side views, respectively, enlarged, of the adjusting-sleeve.

The winding-spindle *a* is screw-threaded at one end, as at *a'*, to receive upon it the usual crown *b* and has a squared portion *a*<sup>2</sup> at the  
80 opposite end to engage any usual winding or setting mechanism and has an annular flange *a*<sup>3</sup> at the junction of the squared end portion *a*<sup>2</sup> and shank or body of the spindle, and also has about midway its length an annular  
85 groove *a*<sup>4</sup>. The flange *a*<sup>3</sup> is adapted to bear upon a spring *c* of a so-called "hunting-case" watch when the spindle is in position represented in Fig. 1.

The locking-sleeve *d* is shown as a tapering  
90 tube split nearly from end to end and having at its lower end a ring or collar *d'*, the internal diameter of which is substantially the same as the external diameter of the annular flange *a*<sup>3</sup>. This ring or collar *d'* has straight or parallel  
95 sides, and the tube tapers from the ring, yet leaves a shoulder *d*<sup>2</sup> on the end of said ring at the junction of the ring and tapering portion. At the interior of the split tapering  
100 portion of the tube, at or near the extreme upper end, an inwardly-extended projection *d*<sup>3</sup> is formed on each slit portion. This lock-

ing-sleeve is placed on and partially incloses the winding-spindle, the lower end of the ring or collar  $d'$  resting on the spring  $c$  when the parts are in the position shown in Fig. 1, and the projection  $d^3$  at the upper end of each of the split tapering portions of the tube enters the annular groove  $a^4$ .

An adjusting-sleeve  $e$  is provided, which also partially incloses the winding-spindle and also partially incloses the locking-sleeve  $d$ , said sleeve having an externally-screw-threaded portion  $e'$  at its upper end, which engages the internally-screw-threaded portion  $e^2$  on the interior of the pendant containing the winding-spindle and sleeves.

When the parts are in the position shown in Fig. 1, the lower end of the adjusting-sleeve  $e$  bears upon the shoulder  $d^2$  of the locking-sleeve  $d$ , and when in such position entirely incloses the tapering portion of said locking-sleeve. The upper end portion of the adjusting-sleeve  $e$  substantially fills the interior of the case, so as to prevent the removal of the pivot-pins 2 2 of the pendant  $f$ .

I have herein provided the upper end of the adjusting-sleeve  $e$  with a series of notches, as at 3, so that by means of a suitable key adapted to enter said notches the said sleeve may be rotated either for its removal or for adjustment.

In the position shown in Fig. 1 the parts are in position for winding, which may be accomplished, as usual, by turning the crown  $b$  and thereby turning the winding-spindle. By pressing upon the crown  $b$  the winding-spindle  $a$ , and also the locking-sleeve  $d$ , will be moved bodily inward to contact with and move the spring  $c$  and release a catch (not shown) that may be held thereby; but it is understood that in case an open-face watch is used such spring is not employed, and hence the annular flange  $a^3$  and the collar  $d'$  of the locking-sleeve will bear against a fixed point.

To place the parts in position for setting, the winding-spindle is withdrawn by pulling upon the crown  $b$ , and at such time the adjusting-sleeve will hold the locking-sleeve in fixed position, as its lower end bears upon the shoulder  $d^2$  of said sleeve and the slitted tapering portion will be expanded, the series of projections  $d^3$  leaving the annular groove  $a^4$  and bearing upon the body of the spindle below said groove.

To remove the actuating-spindle, the crown  $d$  is first removed. Then the adjusting-sleeve  $e$  and the actuating-spindle and locking-sleeve may be taken out. To adjust the spindle, the crown  $b$  is removed and the adjusting-sleeve  $e$  turned in one or the other direction, as re-

quired, which moves the locking-sleeve  $d$  in one or the other direction.

By the employment of the devices described I am enabled to do away with spiral springs inside the pendant and between it and the actuating-spindle, and I am also enabled to positively lock the actuating-spindle in winding position, and yet leave it, together with the locking device, free to be moved longitudinally for a distance sufficient to remove the catch-spring  $c$  from engagement with the front face of a hunting-case watch in case the device is used with that class of watches.

The devices described are very simple in construction and durable, and they occupy the minimum of space and cost but little to produce.

I claim—

1. In a watch, a case having a pendant, a winding-spindle having a collar  $a^3$  near its inner end, an enlarged part  $a$ , having an annular groove, a crown attached to the spindle, a tapered locking-sleeve having a shoulder and a series of springs and located at the inner end of the pendant, said springs engaging said groove and locking the spindle in winding position, and an adjusting-sleeve screwed into said pendant and having a contracted inner end extended nearly through the said pendant and acting as a fixed stop for the said locking-sleeve, the spring-arms of the locking-sleeve supporting the spindle firmly when drawn outwardly into hand-setting position, substantially as described.

2. In a watch, a case having a pendant, a winding-spindle having a collar  $a^3$  near its inner end, an enlarged part  $a$ , having an annular groove, a crown attached to the spindle, a tapered locking-sleeve having a shoulder and a series of springs and located at the inner end of the pendant, said springs engaging said groove and locking the spindle in winding position, and an adjusting-sleeve screwed into said pendant and having a contracted inner end extended nearly through the said pendant and acting as a fixed stop for the said locking-sleeve, the spring-arms of the locking-sleeve supporting the spindle firmly when drawn outwardly into hand-setting position, and headed pivot-pins held in place by the outer sides of the said adjusting-sleeve, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NORMAN T. MILLS.

Witnesses:

BERNICE J. NOYES,  
FRANCES M. NOBLE.