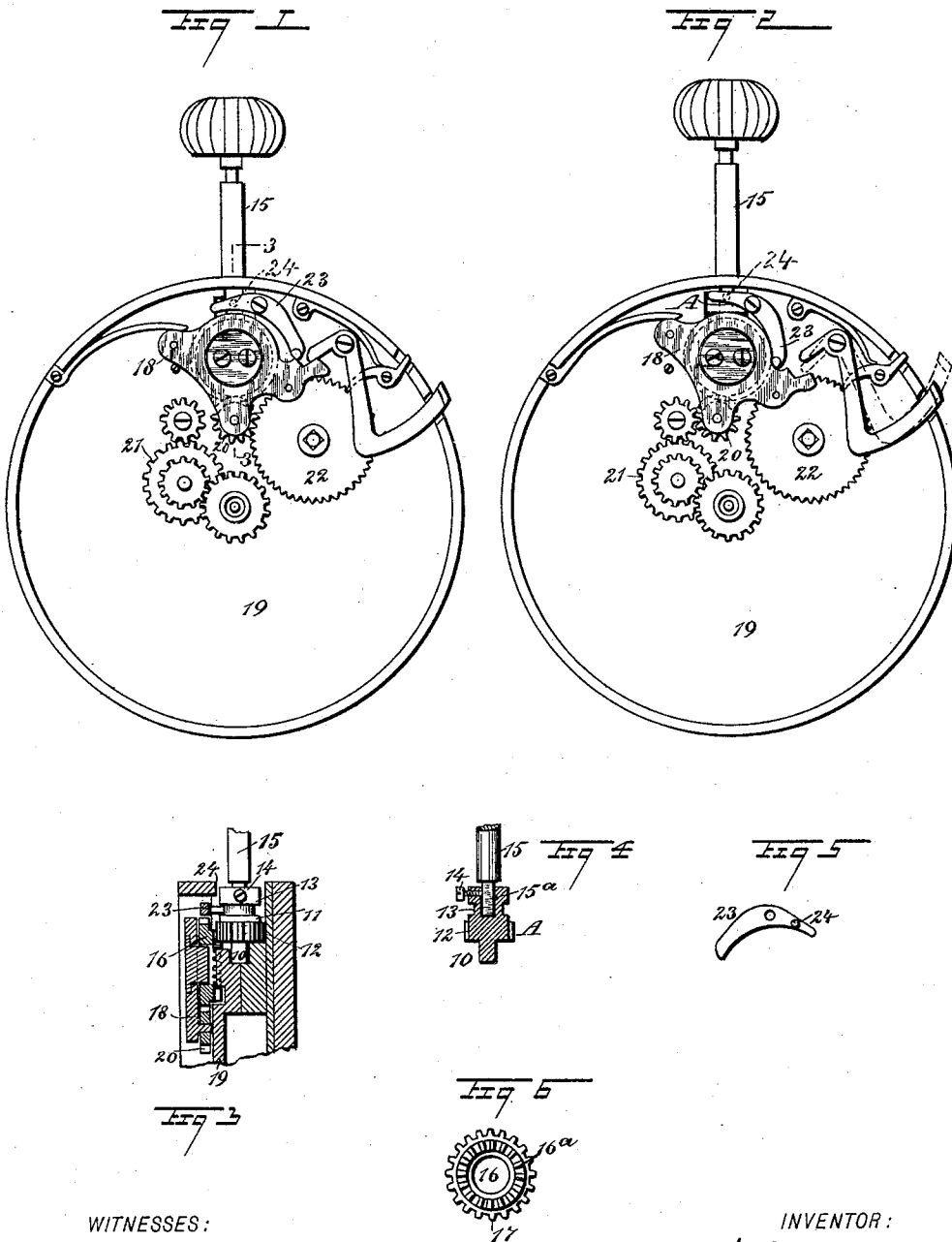


(No Model.)

R. E. MORELAND.
STEM WINDING AND SETTING MECHANISM.

No. 468,204.

Patented Feb. 2, 1892.



WITNESSES:

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ROSWELL E. MORELAND, OF TRENTON, NEW JERSEY.

STEM WINDING AND SETTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 468,204, dated February 2, 1892.

Application filed April 14, 1891. Serial No. 388,856. (No model.)

To all whom it may concern:

Be it known that I, ROSWELL E. MORELAND, of Trenton, in the county of Mercer and State of New Jersey, have invented a new and Improved Pendant-Setting Attachment for Watches, of which the following is a full, clear, and exact description.

My invention relates to an improved pendant-setting attachment for watches, and has for its object to provide a winding-pinion capable of both a rotary and end movement and so constructed as to remain in gear with the crown-wheel in any position; also, to provide a means whereby the winding stem or arbor may be expeditiously and conveniently attached to the winding-pinion and to so construct the entire mechanism that the pendant-setting is operated independent of any attachment in the case and can be attached to any ordinary winding stem or arbor, such as commonly used in stem-winding watch-cases.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the front plate of a movement illustrating the application of the invention and showing the winding-pinion in a position to cause movement of the winding-drum. Fig. 2 is a similar view to that illustrated in Fig. 1, the winding-pinion, however, being in position to cause movement of the hands. Fig. 3 is a vertical section taken practically on the line 3 3 of Fig. 1. Fig. 4 is a vertical section taken through the winding-pinion and illustrating the attachment thereto of the winding stem or arbor. Fig. 5 is a bottom plan view of the shifting-lever, and Fig. 6 is a bottom plan view of the crown-wheel.

The winding-pinion A is provided with a pivot 10 at one end, whereby it is journaled in its seat in the movement, and in the opposite or outer end of the pinion a socket is produced, preferably rectangular or polygonal in cross-section. Upon the outer surface of

the pinion at or near its lower end longitudinal teeth 12 are formed, and at or near the center of the periphery an annular groove 13 is produced. The pinion is further provided between its groove 13 and its upper end with a threaded aperture leading into the socket and adapted for the reception of a set or binding screw 14. The socket of the pinion is adapted for the reception of the squared end 15^a of the usual form of winding arbor or stem 15, and the inserted end of the stem or arbor is provided with a recess, into which the binding-screw 14 enters. Through the medium of the screw the pinion may be revolved by turning the stem or moved endwise by manipulating the stem in that direction. The pivot of the pinion is of sufficient length to remain in its bearing, even when the pinion is carried outward to its full extent, and consequently when the pinion is in this position it may be revolved with as much steadiness as when in its innermost position.

The crown-wheel 16, which meshes with the teeth of the winding-pinion, is, in addition to the usual teeth 16^a, provided with peripheral horizontally-disposed teeth 17. The crown-wheel is held to revolve in a spring-pressed yoke 18, pivoted at one end upon the front plate 19 of the movement, which yoke also carries a shifting pinion 20. The shifting pinion is in constant engagement with the teeth 17 of the crown-wheel, and the regular teeth 16^a of said wheel, as heretofore stated, constantly mesh with the teeth upon the winding-pinion, whether said pinion is in its outer or in its inner position.

The shifting pinion 20 is located between a train of gearing 21, adapted to convey movement to the hand staff or spindle of the watch and the gear 22 of the winding-drum, and is in engagement either with one or the other, according to the position of the winding-pinion.

A shifting-lever 23 is pivoted upon the front plate over the yoke and engages at one end with the free extremity of the yoke, and near its opposite end the lever is provided with a pin 24, adapted to pass through an aperture in the front plate of the movement and enter the groove 13 of the winding-pinion.

The inner position of the winding-pinion is

the normal one, and when the pinion is in this position the lever 23 bears loosely upon the yoke, as shown in Fig. 1, and the shifting pinion 20 is in engagement with the gear 22 of the winding-drum. When the winding arbor or stem is drawn outward, the winding-pin-
 5 ion is carried to its outer position, and the upper end of the lever 23 is carried with it, and the upper extremity of the lever, engag-
 10 ing with the flange of the front plate, limits the outward movement of the pinion, while the inner end of the lever, which acts as a dog, forces the yoke downward and enters the recess in the yoke, holding the latter in posi-
 15 tion to cause the shifting pinion to mesh with the train of gearing 21, whereby when the arbor 15 is revolved the hands will be turned. By pushing the arbor inward the yoke is re-
 20 stored to its normal position and the shifting pinion is brought in mesh with the drum-gear and the watch is in condition to be wound.

The lever illustrated at the right of the stem-winding mechanism constitutes no portion of the invention, and is merely intended
 25 to show that the watch can be used as a "lever-set," if desired.

It is evident that one of the main features of the improved pendant-setting is that it is interchangeable and can be used on either an
 30 open-face or hunting-case watch-movement without any change in the construction of its parts.

Having thus described my invention, I claim as new and desire to secure by Letters
 35 Patent—

1. In a pendant-setting attachment for watches, the combination, with a crown-wheel and shifting pinion, of a winding-pin-
 40 ion having a rotary and endwise movement and meshing at all times with the crown-wheel, substantially as described.

2. In a pendant-setting attachment for watches, the combination, with a crown-wheel and a shifting pinion meshing with the crown-
 45 wheel, of a winding-pin- ion having a rotary and endwise movement and meshing at all times with the crown-wheel, and mechanism

for moving the shifting pinion from the wind- ing-pin- ion, substantially as described.

3. In a pendant-setting attachment for 50 watches, the combination, with a crown-wheel, a pivoted yoke, and a shifting pinion mesh- ing with the crown-wheel, of a winding-pin- ion having a rotary and endwise movement and meshing at all times with the crown-wheel, 55 and a shifting-lever engaging the yoke and winding-pin- ion, substantially as and for the purpose set forth.

4. In a pendant-setting attachment for watches, the combination, with the setting 60 and winding gear, of a pivoted yoke, a shift- ing pinion mounted in the yoke, a crown- wheel with which the shifting pinion meshes, a winding-pin- ion having a rotary and end- 65 wise movement and meshing with the crown- wheel at all times, and mechanism for mov- ing the yoke by the endwise movement of the winding-pin- ion, substantially as described.

5. In a pendant-setting attachment for watches, a winding-pin- ion provided with a 70 socket at one end, a binding-screw at its socket end, a pivot at its opposite end, peripheral teeth near the trunnion, and a groove be- tween the teeth and the binding-screw, as and for the purpose set forth. 75

6. In a pendant-setting for watches, the com- 80 bination, with a winding-pin- ion provided with a pivot at one end, a socket at the opposite end, peripheral teeth near the trunnion, a binding-screw at the socket end, an annular groove between the binding-screw and teeth, 85 and a winding arbor or stem, one end of which is inserted in the pinion-socket, the said inserted end being recessed to receive the binding-screw, of a spring-pressed yoke 85 carrying a shifting pinion, and a shifting-le- ver provided with a pin entering the groove of the winding-pin- ion, the said shifting-lever being in engagement with the yoke, as and for the purpose specified.

ROSWELL E. MORELAND.

Witnesses:

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 GEO. W. MACPHERSON.