W. E. PORTER.

STEM WINDING AND STEM SETTING WATCH.

APPLICATION FILED DEC. 15, 1908.

927,596. Patented July 13, 1909.

Fig 1.

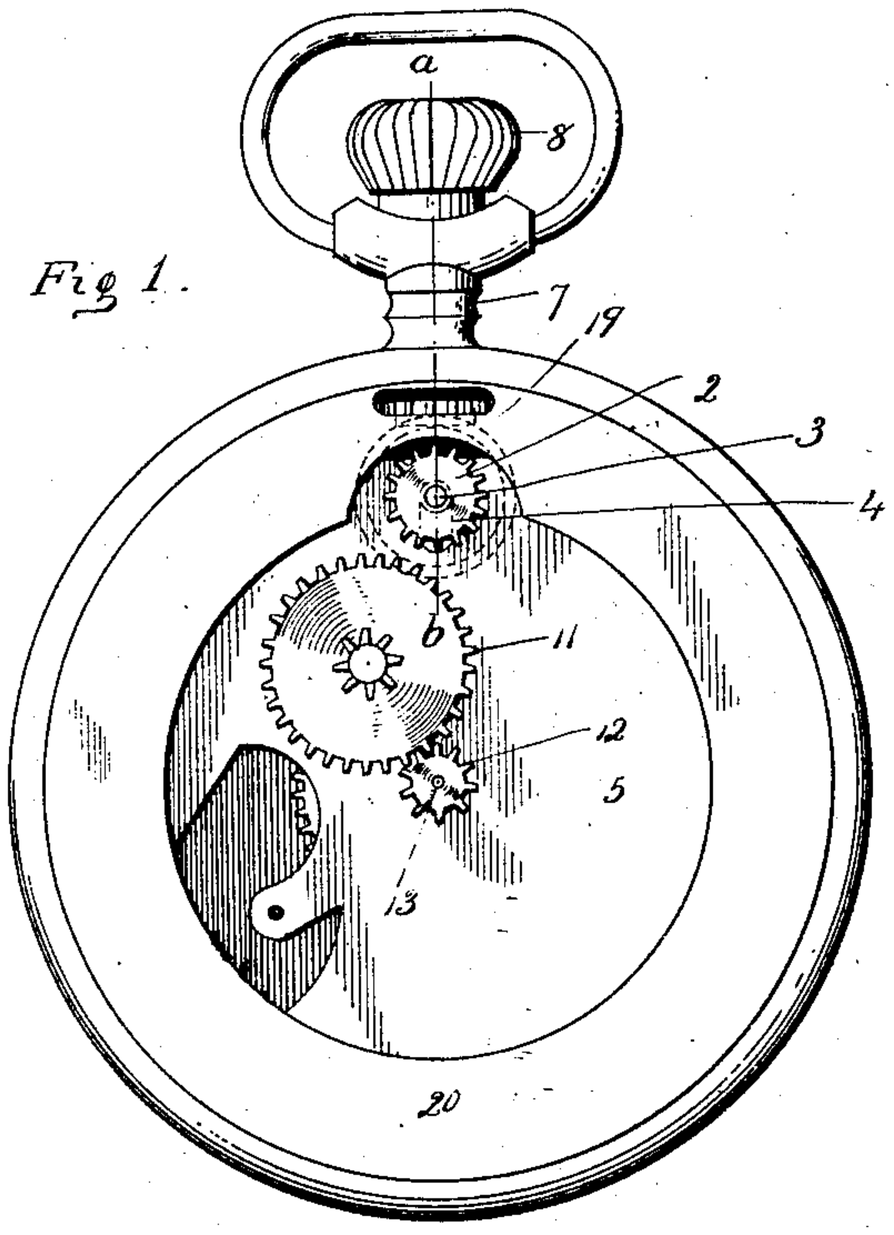


Fig 2

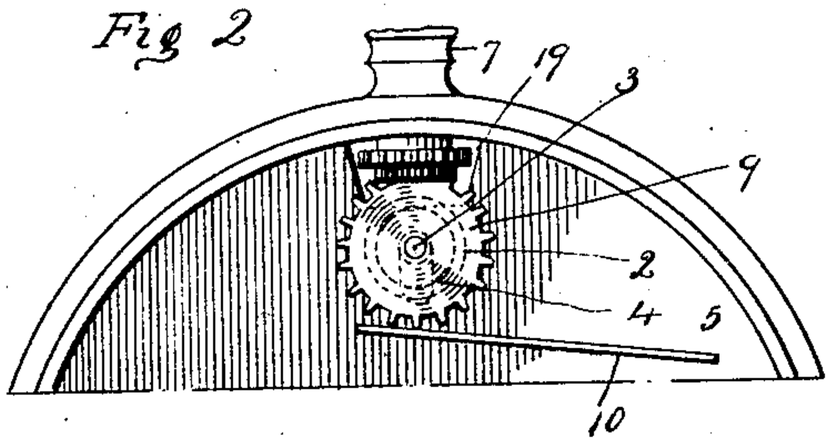


Fig 3.

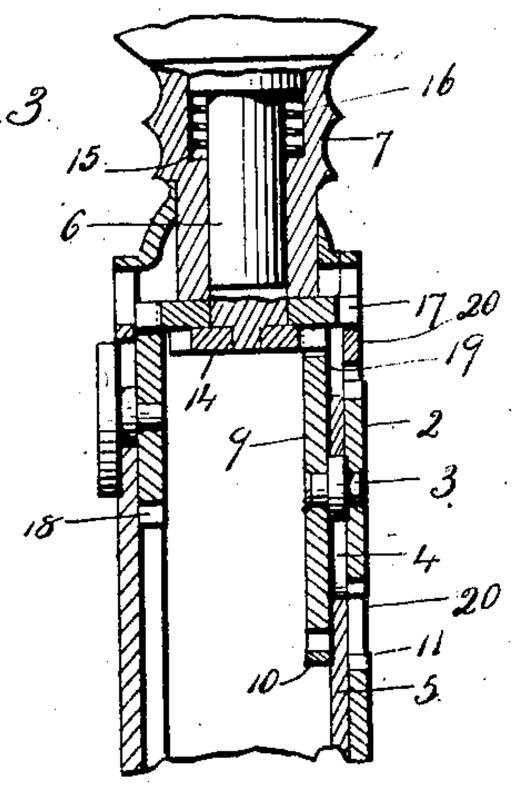
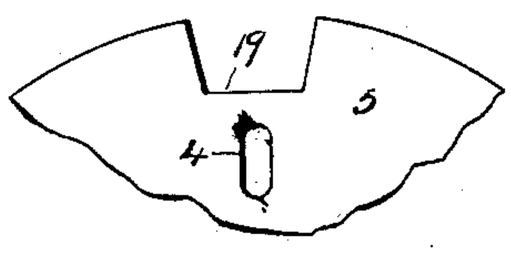


Fig 4.



Witnesses
C. J. Reed.
C. L. Reed

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UNITED STATES PATENT OFFICE.

WILSON E. PORTER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO NEW HAVEN CLOCK CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

STEM-WINDING AND STEM-SETTING WATCH.

No. 927,596. Specification of Letters Patent. Patented July 13, 1909.

Application filed December 15, 1908. Serial No. 467,603.

To all whom it may concern:

Be it known that I, WILSON E. PORTER, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Stem-Winding and Stem-Setting Watches; and I do hereby declare the following, when taken in connection with the accompanying drawings and the figures of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view in front elevation of a watch constructed in accordance with my invention, with the dial removed. Fig. 2 a broken view looking toward the inner face of the front movement-plate. Fig. 3 a broken sectional view on the line *a*—*b* of Fig. 1. Fig 4 a broken view of the front movement-plate to show the clearance-notch and radial slot formed therein.

My invention relates to an improvement in stem-winding and stem-setting watches, the object being to provide simple, compact and reliable means for relieving the dial work of as much load as possible in its normal operation.

With these ends in view, my invention consists in the construction and combination of parts to be hereinafter described and pointed out in the claim.

In carrying out my invention as herein shown, I employ a radially movable setting pinion 2 fixed upon the outer end of a stud 3 passing through a radially arranged slot 4 formed in the front movement-plate 5 and located in line with a longitudinally movable and rotatable winding-and-setting stem 6 which is mounted in a pendant 7 and furnished at its outer end with a crown 8 of the usual form. The said setting pinion 2 bears upon and rides over the outer face of the front movement-plate 5 and is operated and held in place by means of a setting-wheel 9 fixed upon the inner end of the said stud 3 and hence having the same axis as the pinion 2, and bearing upon and riding over the inner face of the said plate 5 as shown in Figs. 2 and 3. A spring 10 secured to the inner face of the plate 5 engages with the teeth of the setting-wheel 9 and exerts a constant effort to push the same, and hence the pinion 2, outward whereby the teeth of the pinion 2 are normally demeshed from the teeth of the dial-wheel 11 which is in constant mesh with the cannon pinion 12 on the center arbor 13. The dial work of the watch is therefore relieved of the burden of idly operating the setting pinion 2 and the setting wheel 3. The spring 10 by pushing outward on the setting wheel 9, as described, keeps the teeth of the same in constant mesh with the stem setting pinion 14 which is mounted in the usual manner upon the inner end of the stem 6.

A pendant spring 15 located in the socket 16 in the pendant 7 and encircling the stem 6, exerts a constant effort to move the stem longitudinally outward so that the same does not rely for this movement alone upon the spring 10. The outward movement of the stem 6 is limited by the engagement of the pinion 14 with the stem-winding pinion 17 through which the stem 6 passes, and with which it is coupled for rotation. The said pinion 17 bears upon the inner end of the pendant 7 and meshes into the intermediate winding wheel 18 which in turn meshes into the winding wheel, not shown, because this present invention is not concerned with the stem-winding mechanism of the watch. The front movement plate 5 is formed with a clearance notch 19 located in line with the radial slot 4 for the reception and play of the pinion 17. The ring 20 partly covering the front movement plate, forms a portion of the watch case which, however, has nothing to do with my present invention.

When it is desired to set the watch, the stem 6 is pushed inward by its crown 8 against the tension of the springs 10 and 15, whereby the setting pinion 2 and setting wheel 9 are forced radially inward, and the pinion 2 intermeshed with the dial wheel 11, the inward thrust upon the stem 6 being maintained during the setting of the watch. This thrust being relieved, the spring 10 reasserts itself and moves the pinion 2 and wheel 9 outward into their normal positions in which the pinion 2 is demeshed from the dial wheel 9 as shown in Fig. 1, the said wheel 9 being constantly in mesh with the stem-setting pinion 14.

I claim:—

In a stem-setting and stem-winding watch, the combination with the front movement-plate thereof, of a dial wheel located upon the outer face of the said plate, a radially movable stud passing through the said plate,

a setting pinion located upon the outer face of the said plate and fixed upon the outer end of the said stud, a setting-wheel located upon the inner face of the said plate and fixed upon the inner end of the said stud, a longitudinally movable and rotatable stem, a stem-setting pinion carried thereby and normally intermeshed with the setting-wheel upon the inner face of the said plate, and a spring located within the said plate and engaged with the said setting-wheel for normally maintaining the same in engagement with the stem-setting pinion and normally maintaining the setting pinion fixed upon the outer end of the said stud demeshed from the dial wheel.

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

WILSON E. PORTER.

Witnesses:
CLARA L. WEED,
GEORGE D. SEYMOUR.