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R. T. MCCARTHY

2,403,538

WINDING MECHANISM

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Fig. 2.

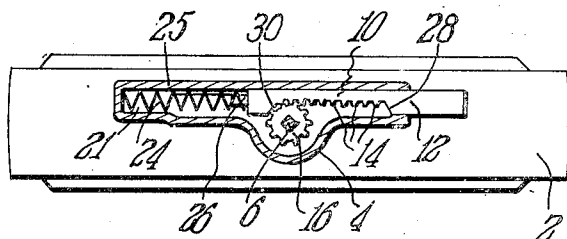


Fig. 1.

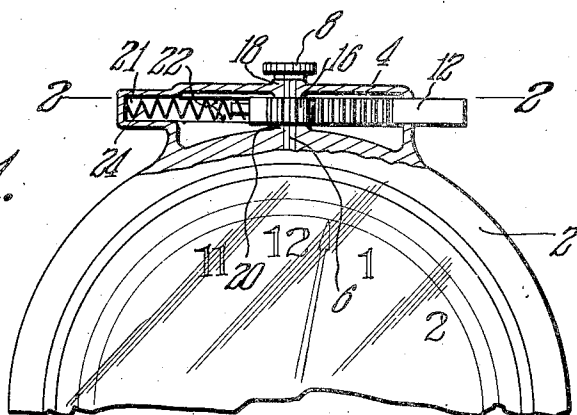
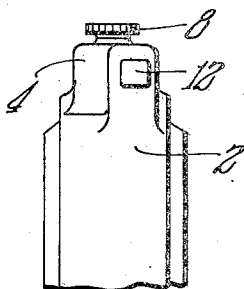


Fig. 3.



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WINDING MECHANISM

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1 Claim. (Cl. 58—80)

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This invention relates to improvements in watches and is directed more particularly to improvements in winding mechanism therefor.

The principal objects of the invention are directed to the provision of novel mechanism for winding a watch and the novel features thereof consist of a combination and arrangement of parts which is efficient in operation and simple in construction.

Various novel objects and advantages of the invention will be hereinafter referred to in connection with the accompanying description of the present preferred form of the invention with reference to the drawing wherein:

Fig. 1 is a plan view of a portion of a watch with a portion of the case in section to explain the invention;

Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1; and

Fig. 3 is a side elevational view of the upper portion of the case shown in Fig. 1.

Referring now to the drawing more in detail, the invention will be fully described.

A watch case is represented by 2 which according to one feature of the invention has a housing 4 on one side thereof. This housing may be integral with the case or may be secured thereto in some suitable manner.

A stem is shown at 6 which is connected to the watch winding and setting mechanism in the usual manner and is slidable in and out and rotatable in its outer position as is usual for setting the watch.

The stem is shown as being square in cross-section which is according to ordinary watch construction. Its upper end extends through the housing and carries a manually engageable member 8 for moving it in and out.

An actuator 10 is provided that has an outer end portion 12 slidable in the housing. The inner portion of the actuator is provided with teeth 14 which are in mesh with a pinion 16.

Said pinion 16 is held against axial movement by bosses 18 and 20 and has a bore in which the stem 6 is slidable for setting the watch.

The rear wall 25 of the housing has a groove or guideway 22 in which the inner portion of the actuator is slidable.

A spring 24 has one end seated in a boss 21 of the housing, as shown, and its other end is disposed around a pin 26 of the actuator.

To wind the watch the outer end of the actuator and the end of the housing opposite thereto are engaged between the thumb and finger and squeezed so that the actuator is moved inwardly to rotate the pinion thereby to rotate the stem 6.

The spring 24 moves the actuator in the op-

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posite direction when the actuator is released.

The stem may be pulled outwardly for setting the watch without disengaging the actuator and pinion.

The actuator is provided with inclined faces 28 and 30 which engage the pinion and thereby limit movements of the actuator in opposite directions.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claim rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claim are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

The combination of a watch case having a rotatable winding and setting stem extending from a side thereof and slidable relative thereto with operating means for said stem comprising, end, front and rear walls extending outwardly from said casing at opposite sides of said stem and an upper wall on said walls cooperating therewith and with said case to provide a housing separate from and outside said case, bosses extending upwardly and inwardly from said case and upper wall respectively in which said stem is rotatable and reciprocable and having spaced apart adjacent faces, a pinion rotatable between and held against axial movement by said faces in which said stem is slidable and relatively non-rotatable, a manually engageable member on said stem outside said upper wall, a guideway provided on the inner face of said rear wall disposed transversely to the axis of said stem, an actuator in said case having a rear side portion slidably guided in said guideway and provided with a set of teeth on its forward side in engagement with said pinion, said set of teeth terminating at opposite ends in inclined stops for abutting said pinion to limit movements of the actuator in opposite directions, a manually engageable member extending from one end of said actuator and slidable in one end wall of the housing for moving the actuator in one direction, the other end wall of the housing having a boss provided with a bore, and a compression spring having one end disposed in said bore and its other end in abutment with the other end of said actuator for moving the same in the opposite direction.

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