Dec. 1, 1931. S. J. GREENWAY 1,834,152

WATCH STEM

Filed Sept. 14, 1929

Fig. 1.

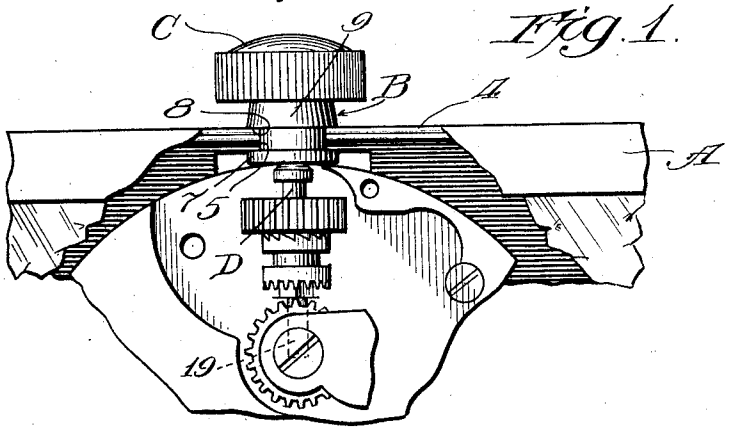


Fig. 2.

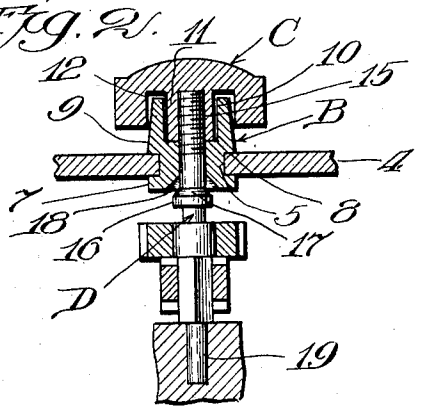
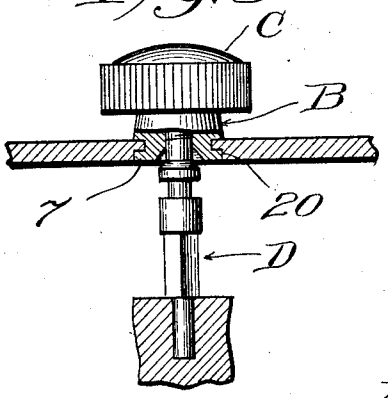


Fig. 3.



Inventor:
Samuel J. Greenway
By Banning & Banning
Attys

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SAMUEL J. GREENWAY, OF ELGIN, ILLINOIS, ASSIGNOR TO ILLINOIS WATCH CASE COMPANY, OF ELGIN, ILLINOIS, A CORPORATION OF ILLINOIS

WATCH STEM

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This invention which relates to a non-pull out watch stem assembly is concerned with various features of construction by which the stem is secured in position irrespective of any connection with parts of the watch movement, and by which the several components of the stem assembly are joined and retained in operative position in a special and advantageous manner. By way of exemplification, the accompanying drawings shows in Figure 1 a fragmentary view of a watch case partly broken away to exhibit a portion of the enclosed movement to which is connected the present stem assembly; Fig. 2 a central longitudinal section through the axis of the stem and associated parts, the stem being shown in elevation; and Fig. 3 a similar view modified in the respect that the wall of the watch case is recessed to receive the enlarged head at the inner bushing end.

The watch case A herein illustrated is provided with a side wall 4 (single, double, or otherwise) having an aperture 5 for receiving the neck of a bushing B whose head 7 is laterally extended to bear against the inner face of the case wall. Against the opposite face of this wall is presented a shoulder 8 forming one end of the bushing body 9 the surface of which is slightly tapered toward its outer end. A cylindrical chamber 10 extends into the bushing body from its outer end to communicate with its axial bore, and within this chamber is accommodated the post 11 of a crown C having formed in its inner face an annular recess 12 receiving the outer end of the bushing B. With the crown post bearing against the inner end of the chamber within the bushing, the tapered outer surface of the latter extends closely past the edge of the crown recess 12; and the outer end of the bushing, as well as its surface interiorly of the chamber 10, just clears the proximate faces of the crown so that the latter may rotate relative to the bushing free of friction except at the inner end of the chamber 10. This is the normal position of the crown in relation to the parts just described.

The crown is mounted upon the outer end of a stem D. Within the crown post is a threaded socket 15 wherein is tightly screwed the threaded outer end of the stem the extremity of which desirably abuts the bottom of the post socket. Formed on the stem is a collar 16 having a beveled outer edge 17 adapted, when the stem is shifted outwardly, to engage a beveled face 18 on the inner end of the bushing head. With the stem pushed in to the normal position already described, the collar is spaced slightly from the bushing head, but to the extent of the distance between the latter and the collar the stem may, upon occasion, be shifted outwardly when the crown is to be manipulated for setting the watch hands. Beyond the collar the stem cross section is varied to provide portions for engaging a winding pinion, etc., in accordance with usual practice, the stem extremity 19 which is circular being journaled within a suitable bearing carried by the movement. In the construction of Fig. 3 exactly the same construction is presented with the single exception that the length of the bushing is reduced to permit its head 7 to lie within a recess 20 provided on the inner face of the case wall 4.

The present stem assembly is advantageous in several particulars. The bushing which furnishes an outer bearing for the stem is itself locked securely to the case and in a manner which protects the parts interiorly thereof. Regardless of the endwise position of the stem, the bushing continues to closely surround the stem so as to maintain this protection for the watch movement. The out position of the stem is determined by the collar engaging the inner end of the bushing, and in this shift the collar provides a positive stop which is independent of the watch movement.

I claim:

1. In a watch case, a non-pull out watch stem assembly which comprises a bushing having a neck extended through a wall of the case, a head at the inner bushing end engaging the inner face of the case wall and a shoulder spaced from the head engaging the outer face of the case wall whereby the bushing is locked immovably in place, there being an axial bore through the bushing en-

larged at its outer end to provide a chamber, a stem extending through the bushing and into said chamber and freely shiftable lengthwise of itself within the bushing, a crown formed with a socketed post, there being an annular recess surrounding the post for receiving the bushing end, the post socket receiving the outer stem end, means for connecting the crown fixedly to the stem, and a stop carried by and affixed to the stem remote from its inner end normally spaced from the bushing adapted to engage the inner end thereof when the stem is shifted outwardly.

2. In a watch case, a non-pull out watch stem assembly which comprises a bushing extended through one wall thereof and secured immovably thereto, there being an axial socket formed in each bushing end, a crown having a socketed post extending into the outer bushing socket, a stem shiftably journaled in the bushing and extended into the socket of the crown post for connection therewith, and means carried by the stem remote from its inner end adapted when the stem is shifted outwardly to engage within the socket in the inner bushing end whereby to limit the endwise movement of the stem in one direction.

In testimony whereof, I have hereunto set my hand this 12th day of Sept., 1929.

SAMUEL J. GREENWAY.