May 23, 1933. H. WILSDORF 1,910,078

WINDING CROWN FOR WATCHES WITHOUT A PENDANT

Filed Sept. 22, 1930

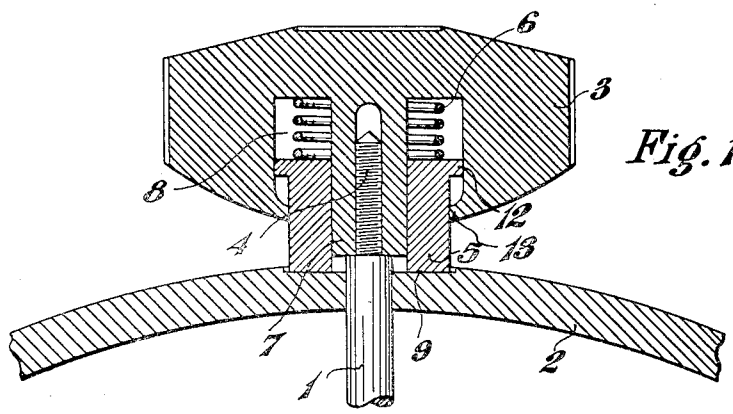


Fig. 1

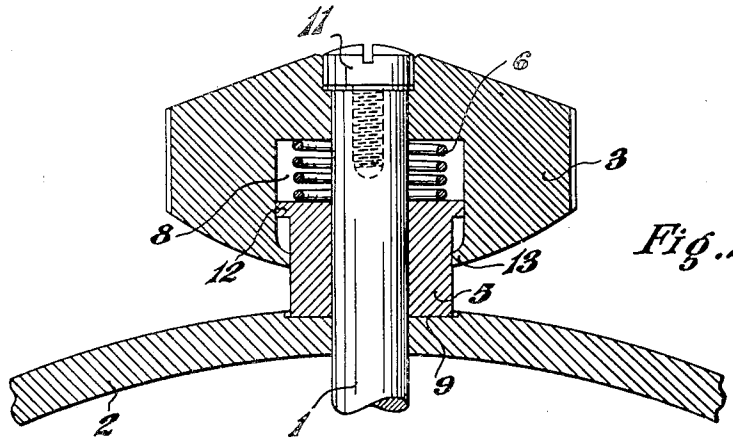


Fig. 2

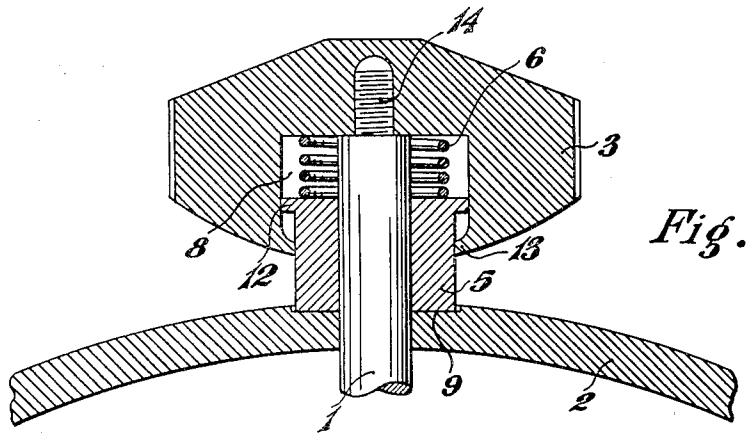


Fig. 3

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Patented May 23, 1933 1,910,078

UNITED STATES PATENT OFFICE

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WINDING CROWN FOR WATCHES WITHOUT A PENDANT

Application filed September 22, 1930, Serial No. 483,652, and in Great Britain September 4, 1930.

This invention relates to winding crowns for watches without a pendant,—Watches of this class, which includes for instance wrist watches, have the inconvenience that dust can easily enter into the movement at the point where the winding stem penetrates the watch case.

The object of this invention is the provision of a winding crown which prevents the penetration of dust along the winding stem into the interior of the watch case.

According to the invention the winding crown comprises a sleeve engaged coaxially with the winding stem, freely and partially in an axial recess of the crown and adapted to slide axially relatively to the crown, said sleeve being acted upon by a spring so as to urge the sleeve out of the recess in the crown and to maintain the sleeve in contact with the watch case in all positions of the crown, means being provided for limiting the axial outward movement of the sleeve in the recess of the crown.

The accompanying drawing shows by way of example three forms of construction of winding crowns according to the invention.

Figure 1 shows a winding crown in section through the axis of the winding stem.

Figure 2 is an analogous sectional view of another embodiment of a winding crown.

Figure 3 is a sectional view of a third embodiment.

In Figure 1 the axially movable winding stem 1 penetrates the watch case 2 and is adapted to occupy two positions, one for winding and the other for setting the watch. The winding crown 3 is screwed to the threaded portions 4 of the winding stem and is provided with an annular axially extending recess 8 in which is engaged a sleeve 5 resting on an annular seating 9 provided on the watch case. This sleeve 5 stays in contact with the seating in both positions of the winding stem. For this purpose a weak spring 6 is housed in the recess 8 of the crown between the sleeve 5 and the bottom of the recess. This spring exerts therefore a traction on the stem 1 but this traction is not so strong as to pull the stem into its outer or setting position and results only in keeping the sleeve 5 in tight contact with the watch case. The sleeve 5 is provided at its outer end with a collar 12 while the crown presents a flange 13 formed by flanging the edge of the recess in the crown after insertion of the sleeve. The collar 12 and flange 13 prevent the sleeve and crown from being separated when the stem is pulled outwardly to be brought in setting position but they do not limit the stroke of the crown to below the length which is necessary that the sleeve stays in contact with the watch case when the crown is in its outer or setting position.

In the construction shown in Figure 1 the sleeve is guided exteriorly by the collar 12 and the flange 13 and interiorly by the central tube 7 of the crown into which the stem is screwed and which is for this reason of annular cross-section.

In the construction according to Figure 2, the sleeve 5 is guided exteriorly in the same manner as before but the crown 3 is not provided with a central tube and the sleeve is in sliding engagement with the stem 1 to which the crown is secured by means of a screw 11. The recess 8 is in this case of cylindrical shape.

The construction shown in Figure 3 is similar to the one of Figure 2 with the exception that the stem 1 is provided with a screw threaded portion 14 screwing into the body of the crown 3.

The sleeve 5 could be guided only by its engagement upon the winding stem 1 or upon the tube 7 and could have a non-cylindrical outer surface engaging in a corresponding recess in the crown in which case the sleeve would turn with the crown.

I claim: —

1. In a watch, in combination with a case and a stem winding mechanism including an axially movable winding stem, a winding crown rigid with the stem and provided with an axial cylindrical recess, a sleeve coaxially surrounding the winding stem and extending into the recess in the crown, said sleeve being slidable relative to the stem and to the crown, a spring urging the sleeve out of the recess in the crown an external rim formed

on that end of the sleeve extending into the recess in the crown, and an inturned flange integral with the crown and extending along the edge of the recess therein for coacting with the rim on said sleeve to limit the axial movement of the sleeve relative to the crown.

2. In a watch, in combination with a case and a stem winding mechanism including an axially movable winding stem penetrating the case, a winding crown rigid with the stem and provided with an axially extending recess traversed by the stem, a sleeve surrounding the winding stem and extending into said recess in the crown, said sleeve being slidable relative to the stem and to the crown, a spring urging the sleeve out of recess in the crown and against said case, an external rim formed on that end of the sleeve extending into the recess in the crown, and an inturned flange integral with the crown and extending along the outer edge of said recess for cooperation with said external rim on the sleeve to limit the axial movement of the sleeve relative to the crown.

In testimony whereof I affix my signature.

HANS WILSDORF.