April 15, 1952 R. FEURER 2,592,881

DUSTPROOF WATCH CROWN

Filed May 5, 1950

Fig. 1.

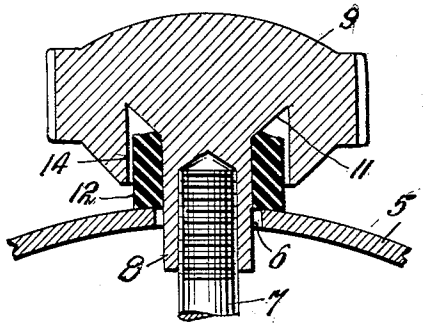


Fig. 2.

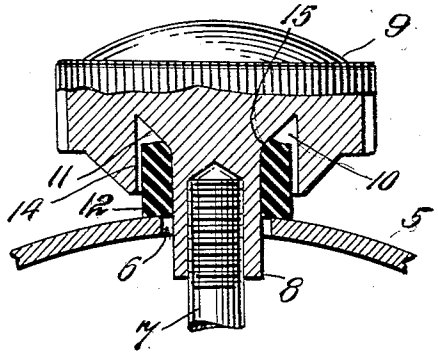


Fig. 3.

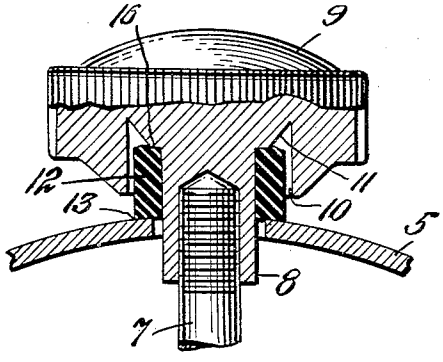
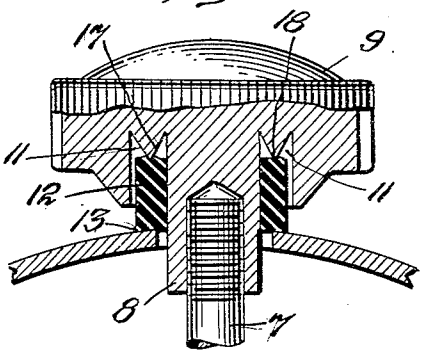


Fig. 4.



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DUSTPROOF WATCH CROWN

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1 Claim. (Cl. 58—90)

1

The invention disclosed in this patent application is a watch crown of dust-tight construction.

Objects of the invention have been to provide a practical, reliable dustproof crown of the simplest form and lowest possible cost of construction.

In accomplishing these desired results, parts have been reduced to a minimum by using a watch case without a pendant tube and by fitting a short length of compressible tubing over the tubular post of the crown and directly pressing at its inner end against the shell of the watch case.

This compressible tubing is sufficiently elastic to permit the setting movements of the stem without breaking contact with the case, and a beveled incline or shoulder in the crown assures complete sealing of the outer end of the compressible sleeve or tubing.

Other detail features of the invention and further desirable results attained are set forth or will appear in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates certain present preferred embodiments of the invention but structure may be otherwise modified and changed within the true scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawing is a broken vertical sectional view of a watch case and crown having the invention incorporated therein;

Figs. 2, 3 and 4 are similar views of other, modified forms of the invention.

In the several views a watch case of the tubeless type is indicated at 5, having an opening 6 for free and clear passage of the winding and setting stem 7 and the tubular post 8 of the crown which is screwed thereon.

The crown, designated 9, is of any usual or preferred form but differs from the ordinary in that it has a relatively deep annular cavity or well 10 therein surrounding the root portion of the tubular post 8.

Further, this deep annular cavity in the inner face of the crown is formed at the back with an inwardly convergent slope, incline or bevel 11 to form a valve-like sealing face for engagement with the inner end of a compressible sealing sleeve or tube 12 of rubber, plastic or other such suitable material.

This compressible tube is long enough to reach from the back of the cavity in the crown into

2

rotary sealing engagement at 13 with the surface of the case, about the stem opening 6.

Also, it is to be noted that the packing sleeve 12 does not touch the outer cylindrical wall 14 of the crown cavity but does fit closely over the tube or post 8 of the crown.

With this construction it is only required that the packing sleeve have a reasonably tight fit on the crown tube because this tube is sealed at the inner end by pressure against the wall of the case and sealed at the outer end by engagement with the beveled, valve-like surface 11 in the back of the crown.

Fig. 2 illustrates a variation over Fig. 1 in that the outer end of the packing sleeve has a correspondingly inclined bevel seat 15 formed in the outer end to fit the incline of the crown.

In the Fig. 3 form of construction a slight, abrupt angular shoulder 16 is provided at the lower, smaller end of the convergent valve or sealing wall 11 to provide a more solid shoulder for forcing the packing sleeve firmly against the shell of the watch case.

Fig. 4 illustrates a further development, in which the convergent sealing surface 11 is terminated with a reversely sloping, upwardly convergent wall 17 which provides a sharp intermediate lip 18 in biting engagement with the mid-portion of the packing sleeve.

In all forms of the invention the endwise compressible packing sleeve makes sealing engagement at the outer end with the crown and at the inner end directly with the case of the watch and is free intermediate the ends to expand laterally away from the screw post portion of the crown, if that be required by the longitudinal compressive force applied to the sleeve.

The construction is particularly simple and inexpensive and provides a practical, low cost dustproof construction adaptable to all forms of crowns and cases.

The inclined sealing surface at the back of the cavity may in some instances have a spreading or wedging effect on the outer end of the packing sleeve, particularly in the forms shown in Figs. 1, 2 and 3.

What is claimed is:

A dustproof watch case crown construction comprising, in combination, a tubeless case having a stem opening in the side of the same, a crown having a tubular screw post of less diameter than said opening and extending freely therethrough and out of contact with the case, said crown having a relatively deep, annular cavity therein about the post and an elongated

cylindrical packing sleeve of compressible elastic material in close fitting engagement about the post and extending continuously from the case into said annular cavity in the crown and forming the only connection between the case and crown, said sleeve bearing at its inner end against the shell of the watch case about said stem opening therein and closing and sealing the space between the case and the screw post extending therethrough, the outer end portion of the sleeve extending into the annular cavity in the crown being free of the surrounding enclosing outer wall of the cavity and the outer end of the sleeve being in abutting engagement with the back wall of the cavity and said back wall of the cavity being inclined from one side to the opposite side wall of the cavity and forming an annular inclined bevel surface extending over and in sealing engagement with the outer end of the sleeve.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
343,576	Evans	June 15, 1886
2,237,860	Bolle	Apr. 8, 1941
2,482,583	Greenberg	Sept. 20, 1949

FOREIGN PATENTS

Number	Country	Date
2,203	Great Britain	Jan. 26, 1884
274,788	Great Britain	July 28, 1927
160,210	Switzerland	May 1, 1933
194,226	Switzerland	Feb. 16, 1938
229,461	Switzerland	Feb. 1, 1944