

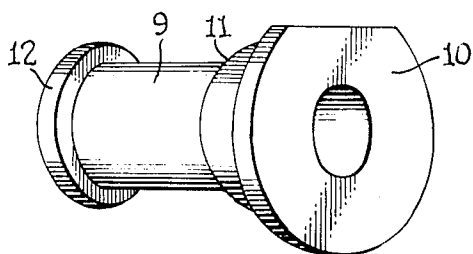
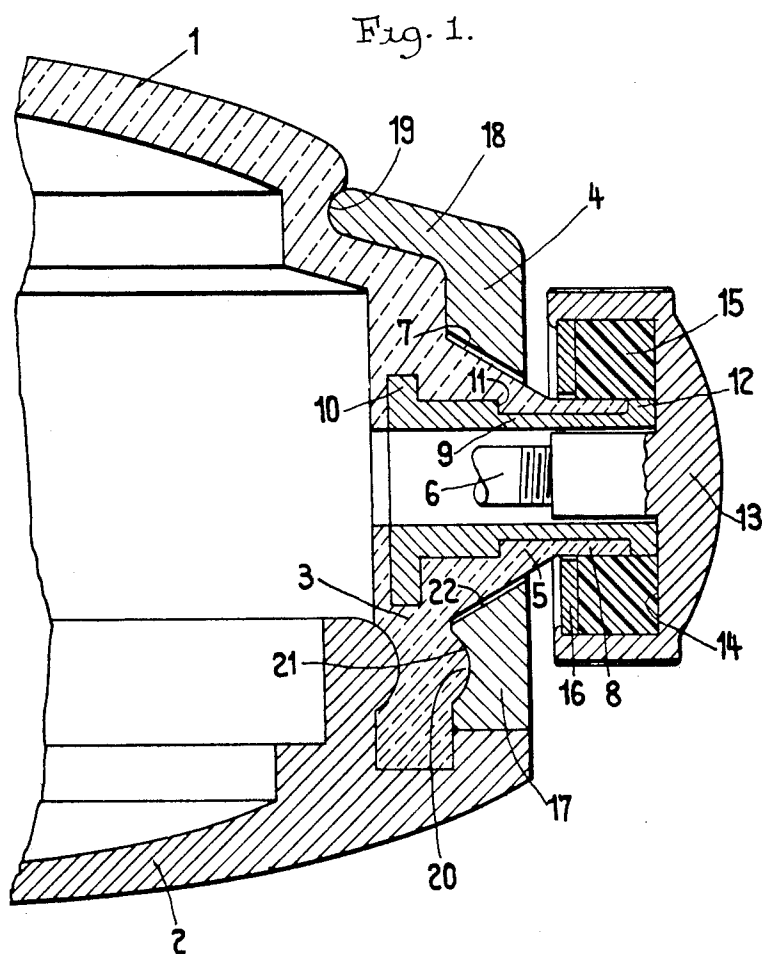
Feb. 21, 1956

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2,735,259

WATERTIGHT WATCHCASE

Filed Nov. 2, 1954



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1

2,735,259

WATERTIGHT WATCHCASE

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Application November 2, 1954, Serial No. 466,365

Claims priority, application Switzerland
December 17, 1953

5 Claims. (Cl. 58—90)

The present invention relates to a watertight watchcase, comprising a bell-shaped crystal, a back removably and tightly fixed to the crystal, and a centre surrounding the crystal wall.

In the known watch-cases of this type, different solutions have been proposed for guiding a control member, for instance the winding stem. Generally there is provided a tube projecting over the crystal wall and the centre. This tube may be integral with the crystal, the latter being preferably made of an injected synthetic material. This construction is however too breakable, as a slight shock on the winding crown provokes the rupture of the tube. In other constructions, there is provided a metallic tube anchored in the crystal wall, this tube being embedded in the crystal at the moment when the latter is obtained by injection. In this case, the tightness does not keep a long time, as after a certain lapse of time moisture can enter between the metallic tube and the crystal.

The present invention aims at overcoming these drawbacks. The watch-case according to the invention comprises a tube serving to guide a control member, for instance the winding stem, this tube being integral with the crystal and having in its interior a metallic reinforcing sleeve anchored in the crystal wall, the said tube being adapted to come at least partially into contact with a sealing packing of the control member.

The accompanying drawing shows, by way of example, an embodiment of the invention.

Fig. 1 is an axial section of a portion of a watch-case in accordance with the invention.

Fig. 2 shows a perspective view of a detail.

The watch-case shown in the drawing comprises a bell-shaped crystal 1, a back 2 removably fixed to the crystal wall 3 and a centre 4 surrounding the wall 3. There will not be explained in detail how the back 2 is fixed to the crystal 1, as this does not form a part of the invention. Let us only say that a tight joint is formed between the parts 1 and 2. Other connecting devices as that illustrated might be provided.

A tube 5 serving to guide the winding stem 6 is made integral with the crystal wall 3. The crystal 1, 3 is made of a transparent synthetic material such as Plexiglas and is obtained by injection. The tube 5 has a conical portion 7 followed by a cylindrical portion 8. It has in its interior a metallic reinforcing sleeve 9 which is anchored with its base 10 in the crystal wall 3. The base 10 is formed as a small perforated, non-circular plate, so as to prevent the sleeve 9 from rotating with respect to the crystal wall

2

3. For improving the anchorage, the sleeve 9 has in addition a shoulder 11 near the middle of its length. The outer end 12 of the sleeve 9 slightly projects beyond the cylindrical portion 8 of the tube 5 and its wall is somewhat thicker at this place. The outer face of this thicker portion is flush with the outer face of the cylindrical tube portion 8.

The winding crown 13 is rigidly fixed to the winding stem 6 by screwing or any other suitable means. It presents a recess 14 in which is arranged an annular sealing packing 15, maintained by a small plate 16. The packing 15 which is made of compressible material, for instance of rubber, is in contact over its major portion with the cylindrical tube portion 8, thus guaranteeing a perfect tightness.

The centre 4 has a wall 17 surrounding the crystal wall 3 and an upper frusto-conical portion 18 acting as a bezel and fitted with a snap action in a groove 19 of the crystal 1. A second snap action attachment is obtained by engaging a bead 20 of the crystal wall 3 into a groove 21 of the centre wall 17. The wall 17 has a conical opening 22 corresponding to the shape of the portion 7 of the tube 5, a small clearance being provided between the parts 7 and 17.

For placing the centre 4 in position, the same is first introduced aslant or obliquely with respect to the crystal 1, so that the tube 5 enters the opening 22. Then the wall 17 is brought nearer to the crystal wall 3 and the centre 4 is righted until its axis is parallel to that of the watch-case.

The watch-case as shown and described guarantees a very good tightness which keeps even after a long period. In addition, owing to the provision of the reinforcing metallic sleeve 9, the guiding tube for the control member withstands very well the shocks and the pressures which it is expected to undergo.

While a representative embodiment and details have been shown for the purpose of illustrating the invention, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit or scope of the invention.

What I claim is:

1. A watertight watch-case, comprising a bell-shaped crystal, a back removably and tightly fixed to the crystal, and a centre surrounding the crystal wall, characterized by a tube serving to guide a control member, this tube being integral with the crystal and having in its interior a metallic reinforcing sleeve anchored in the crystal wall, the said tube being adapted to come at least partially into contact with a sealing packing of the control member.

2. A watertight watch-case according to claim 1, characterized in that the base of the tube is conical.

3. A watertight watch-case according to claim 2, characterized in that the centre has a conical opening permitting its fitting onto the tube.

4. A watertight watch-case according to claim 1, characterized in that the metallic sleeve slightly projects beyond the tube.

5. A watertight watch-case according to claim 1, characterized in that the base of the metallic sleeve is formed by a small perforated, non-circular plate, so as to prevent the sleeve from rotating with respect to the crystal wall.

References Cited in the file of this patent

FOREIGN PATENTS

251,931 Switzerland ----- Sept. 1, 1948