

PATENT SPECIFICATION

(11) 1 256 687

DRAWINGS ATTACHED

- (21) Application No. 12246/70 (22) Filed 13 March 1970
(31) Convention Application No. 27092 (32) Filed 28 March 1969 in
(33) Japan (JA)
(45) Complete Specification published 15 Dec. 1971
(51) International Classification G 04 b 37/00
(52) Index at acceptance
G3T A2C



(54) WATERPROOF WATCH CASE

(71) We, KABUSHIKI KAISHA SUWA SEIKOSHA, a Japanese company, of 3-4, 4-chome, Ginza, Chuo-ku, Tokyo, Japan, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns a waterproof watch case.

According to the present invention, there is provided a waterproof watch case having an annular casing to whose internal surface there is secured an internally threaded ring member, and a back casing having an externally threaded portion which is screwed into the ring member, the ring member and externally threaded portion having substantially the same hardness.

A gasket may be provided which contacts the ring member and which is located between the annular casing and the back casing, the gasket being compressed as a result of the screwing of the back casing into the ring member.

Alternatively there is provided a waterproof watch case having an internally threaded annular casing, and a back casing to which there is secured an externally threaded ring member, the ring member being screwed into, and having substantially the same hardness as that of, the annular casing.

The invention also comprises a waterproof watch provided with a case as set forth above.

The invention is illustrated, merely by way of example, in the accompanying drawings, in which:—

Figure 1 is a broken-away cross-sectional view of a conventional waterproof watch case, and

Figure 2 is a broken-away cross-sectional view of a waterproof watch case according to the present invention.

The known watch case which is shown

in Figure 1 comprises an annular casing 1 having internal threads 2. A back casing 3 has an externally threaded portion having threads 4, the back casing 3 being screwed into the annular casing 1 so that the threads 2, 4 interengage. A gasket 5 is located between the annular casing 1 and the back casing 3. Waterproofness is maintained by virtue of the fact that the gasket 5 is compressed as a result of the back casing 3 being screwed tightly into the annular casing 1. In the construction shown in Figure 1, if the annular casing 1 and the back casing 3 are made of materials of different hardness, then when the back casing 3 is screwed into the annular casing 1 burring may occur on the softer material which may be scraped off and dropped into the watch case so as either to cause the watch to stop or to impair its performance. Furthermore if the annular casing 1 is made of a hard material it may be impossible to cut the threads 2 thereon.

As a result of the difficulties mentioned above, complicated structures have in the past been devised so as to avoid the use of threads, or the back casing 3 has been made integral with the annular casing 1 with resulting low productivity and high cost.

In Figure 2 there is shown a waterproof watch case according to the present invention in which the case comprises an annular casing 6 to whose internal surface there is secured, e.g. by welding or adhesives, an internally threaded ring member 7 having threads 8. A back casing 9 has, at its outer surface, an externally threaded portion having threads 10, the back casing 9 being screwed into the ring member 7 so that the threads 10 engage with the threads 8. A gasket 11 is located between the annular casing 6 and the back casing 9 to ensure water-tightness, the gasket 11 contacting the ring member 7. The ring member 7 is made of a material having the same hardness as that of the threaded portion of the

back casing 9, whatever may be the material of the casing 6. Waterproofness is maintained by reason of the fact that the threads 10 on the back casing 9 engage the threads 8 on the ring member 7 so as to cause the gasket 11 to be compressed on closing the back casing 9.

Thus whether the material of the casing 6 is softer or harder than that of the back casing 9, no burr will be produced on the threads 8, 10 when tightening the back casing 9. As a result, trouble due to the burr is eliminated, and the quality of the watch is improved.

When making a casing 6 from hard material in order to produce a scratchproof watch, the conventional back casing 9 can be used, and it is sufficient to fix the ring member 7 to the inner surface of the casing 6 without requiring a complicated structure. As a result, productivity is greatly increased and cost is reduced.

If desired, the ring member, instead of being internally threaded and fixed to the annular casing, may be externally threaded and fixed to the back casing, and in this case the annular casing will be internally threaded so that the ring member may be screwed thereinto.

WHAT WE CLAIM IS:—

1. A waterproof watch case having an annular casing to whose internal surface

there is secured an internally threaded ring member, and a back casing having an externally threaded portion which is screwed into the ring member, the ring member and externally threaded portion having substantially the same hardness.

2. A watch case as claimed in claim 1 in which a gasket, which contacts the ring member, is located between the annular casing and the back casing, the gasket being compressed as a result of the screwing of the back casing into the ring member.

3. A waterproof watch case substantially as hereinbefore described with reference to and as shown in Figure 2 of the accompanying drawings.

4. A waterproof watch case having an internally threaded annular casing, and a back casing to which there is secured an externally threaded ring member, the ring member being screwed into, and having substantially the same hardness as that of, the annular casing.

5. A waterproof watch provided with a case as claimed in any preceding claim.

J. MILLER & CO.,
Agents for the Applicants,
Chartered Patent Agents,
262 High Holborn,
London, W.C.1.

back casing 9, whatever may be the material of the casing 6. Waterproofness is maintained by reason of the fact that the threads 10 on the back casing 9 engage the threads 8 on the ring member 7 so as to cause the gasket 11 to be compressed on closing the back casing 9.

Thus whether the material of the casing 6 is softer or harder than that of the back casing 9, no burr will be produced on the threads 8, 10 when tightening the back casing 9. As a result, trouble due to the burr is eliminated, and the quality of the watch is improved.

When making a casing 6 from hard material in order to produce a scratchproof watch, the conventional back casing 9 can be used, and it is sufficient to fix the ring member 7 to the inner surface of the casing 6 without requiring a complicated structure. As a result, productivity is greatly increased and cost is reduced.

If desired, the ring member, instead of being internally threaded and fixed to the annular casing, may be externally threaded and fixed to the back casing, and in this case the annular casing will be internally threaded so that the ring member may be screwed thereinto.

WHAT WE CLAIM IS:—

1. A waterproof watch case having an annular casing to whose internal surface

there is secured an internally threaded ring member, and a back casing having an externally threaded portion which is screwed into the ring member, the ring member and externally threaded portion having substantially the same hardness.

2. A watch case as claimed in claim 1 in which a gasket, which contacts the ring member, is located between the annular casing and the back casing, the gasket being compressed as a result of the screwing of the back casing into the ring member.

3. A waterproof watch case substantially as hereinbefore described with reference to and as shown in Figure 2 of the accompanying drawings.

4. A waterproof watch case having an internally threaded annular casing, and a back casing to which there is secured an externally threaded ring member, the ring member being screwed into, and having substantially the same hardness as that of, the annular casing.

5. A waterproof watch provided with a case as claimed in any preceding claim.

J. MILLER & CO.,
Agents for the Applicants,
Chartered Patent Agents,
262 High Holborn,
London, W.C.1.