

TITLE OF INVENTIONWATCH CASE CAPABLE OF RECEIVING A CHOICE
OF TWO DIALS OF DIFFERENT SIZES

The present invention concerns a watch case comprising a middle part and a back, said case being intended to receive a watch movement upon which a dial and a set of hands are mounted.

Offering watch cases with dials which are different as regards their appearance is well known. These dials can be of different materials or have different designs in response to current fashion. It is in this way that during assembly, the SWATCH watch (registered trade mark) may be equipped with one of the many dials conceived from the designers imagination. These dials however are only of a single size, and are circular in the majority of cases. It has been shown to be useful to be able to offer not only dials with different designs, but also, for a same middle part of the case, dials of different sizes. In this way the alternatives offered to the buyer are increased.

In order to achieve this result, the present invention is characterised in that the middle part of the watch case has at least first and a second annular shoulders arranged in tiers to receive either respectively a first dial of a first size or a second dial of a second size larger than the first.

The invention will be understood upon reading the following description and illustrated by the drawing giving several embodiment examples, a drawing in which:

- figure 1 is a cross-section of the watch case of the invention where the dial which is shown has a first smaller size,

- figure 2 is a cross-section of the same watch case where the dial which is shown has a second size greater than the one shown in figure 1,

- figure 3 is a cross-section of the watch case of the invention, this cross-section showing a second embodiment of the invention, and

- figure 4 is a cross-section of the watch case of the invention, this cross-section showing a third embodiment of the invention.

The watch case shown in figures 1 and 2 comprises a middle part 1 and a back 2. Figure 1 is a cross-section at six o'clock or at 12 o'clock, as one can see shown in it a recess 26 which is used to secure a wristlet. Figure 2 is a cross-section at 3 o'clock showing a drilled hole 25 through which a time-setting stem is intended to be passed. The case is capable of receiving a movement which is not shown but which takes its position in the space referenced 27. The movement is surmounted by a dial 9 or 10 and a set of hands 6 or 5 respectively. The drawings show a back 2 integral with middle part 1, but it is clear that back 2 could be independent.

As is seen in figures 1 and 2, the invention is principally characterised in that middle part 1 has at least a first shoulder 7 and a second shoulder 8 arranged in tiers. In the case of figure 1, first shoulder 7 receives a first dial 9 of a first size. In the case of figure 2, second shoulder 8 receives a second dial 10 of a second size greater than that of the first, dial 10 being positioned on the upper tier. Thus during assembly, achieved for example by automatic assembly line, one can choose whether to provide the watch with small-sized dial 9, or with large-sized dial 10.

Figure 1 shows that a first type of watch-glass 11 also of small size is adapted to small dial 9. A bezel 13 has been arranged to fill the space created between watch-glass 11 and the edge of middle part 1. As well as hiding the unused free space of second shoulder 8, this bezel also enables an attractive aesthetic appearance to be added to the watch. It is snap fitted onto the watch-glass and may be fixed or rotatable. Dial 9 is surmounted by a set of short hands 6 adapted to the size of dial 9 and watch-glass 11.

Figure 2 shows that a second type of watch-glass 12 also of large size is adapted to large dial 10. Watch-

glass 12 reaches the edge of middle part 1 without it being necessary to provide a bezel. Dial 10 is surmounted by a set of larger-sized hands 5, adapted to the size of dial 10 and watch-glass 12.

It will be noted that, in both cases, sets of hands 6 and 5 are situated at an equal distance from watch-glasses 11 and 12, which enables a same type of movement with a similar hand axis to be used. As regards the movement, it will be noted that it may consist of an independent movement assembled from the top of the case or a movement assembled against back 2 as it is well known from the SWATCH watch cited above. Returning to the sets of hands, it will be noted that, in the case of figure 2, set 5 is situated closer to dial 10 and that, in the case of figure 1, set 6 is further away from dial 9.

Middle part 1 and the two types of watch-glass 11 and 12 shown in figure 1 and 2 are made in thermowelding thermoplastic materials. For example, middle part 1 is made in a material selected from the group comprising acrylbutadiene styrene (ABS) and watch-glasses 11 and 12 are made of a transparent acrylic resin (PMMA). Means are provided for assembling one or other of the watch-glasses and the middle part of the case, these means comprising a specific zone 14 or 15 formed by a mixture between said thermowelding materials. The two types of watch-glass 11 and 12 also have an annular gripping surface respectively 16 and 17 for holding selected dial 9 or 10 on its corresponding shoulder 7 or 8 when the watch-glass is assembled to the middle part. The interested reader will benefit from reading a description of this technique in patent EP-B-O 101 663 (US-A-4 558 957). It is not therefore necessary to expand any further here on this process.

Thus, to summarise what has been explained above, it is easily possible, during assembly of the watch, to select a small dial 9 or a larger dial 10, these dials adapting to the same middle part 1 due to the fact that said middle part possesses two different shoulders

arranged in tiers. For each of these dials there is a corresponding suitable watch-glass, one provided with a bezel and the other without a bezel. This corresponds to a first embodiment of the invention. One can imagine other embodiments of the invention, two of which will be reviewed below.

Figures 3 and 4 illustrate respectively second and third embodiments of the invention. These embodiments have points in common. In both cases, middle part 1 is formed to receive a single type of watch-glass, namely watch-glass 18 of figure 3 or watch-glass 19 of figure 4. These watch-glasses 18 and 19 are adapted either to large second dial 10 when the latter is positioned on second shoulder 8, or to a ring 20 positioned on said second shoulder 8, this ring holding first dial 9 in place when the latter is positioned on first shoulder 7.

In figure 3, large watch-glass 18 has an annular gripping surface 17 which holds in place a ring 20 positioned on second shoulder 8, this ring in turn holding in place a small dial 9 positioned on first shoulder 7. In this case and without the necessity of this being shown, if large dial 10 was selected, it would be positioned on shoulder 8 and held by gripping surface 17, ring 20 then being absent. Set of short hands 6 corresponds to dial 9 and set of long hands 5 corresponds to dial 10. In this second embodiment, middle part 1 and watch-glass 18 are made, as in the first embodiment, of thermowelding plastic materials, means being provided for assembling the watch-glass and the middle part, these means consisting of a specific zone 21 formed of a mixture between the thermowelding materials.

In figure 4 watch-glass 19 and middle part 1 are assembled by means of a compressible packing 22 inserted between these elements. In this case, middle part 1 is preferably metallic and watch-glass 19 is made of glass. A flange 23 is situated under watch-glass 19 and this flange has an annular gripping surface 24 which holds in place a large dial 10 positioned on its shoulder 8. Here also, and

without the necessity of showing this, if a small dial 9 was selected, it would be positioned on shoulder 7 and held in place by a ring 20 (see figure 3) which would itself be held in place by gripping surface 24 of flange 23. A set of long hands 5 preferably corresponds to dial 10 and a set of short hands 6 to dial 9.

Ring 20 provided for the second and third embodiments, superposed in a tier on small dial 9, gives a particular appearance to the watch and may be covered with an original or personalised design.

Finally, it will be noted that no mention has been made above, in relation to any of the embodiments selected, of the peripheral shape of the dials and watch-glasses. These may be circular or any other shape.

CLAIMS

1. Watch-case comprising a middle part (1) and a back (2), said watch-case being intended to receive a movement surmounted by a dial (9, 10) and a set of hands (5, 6), characterised in that the middle part (1) has at least first (7) and second (8) annular shoulders arranged in tiers to receive a choice of respectively a first dial (9) of a first size or a second dial (10) of a second size larger than the first.

2. Watch-case according to claim 1, characterised in that the middle part (1) is formed to receive a first type of watch-glass (11) of a first size adapted to the first dial (9) or a second type of watch-glass (10) of a second size, larger than the first, adapted to the second dial (10).

3. Watch-case according to claim 2, characterised in that the first type of watch-glass (11) is arranged to receive a fixed or rotatable bezel (13).

4. Watch-case according to claim 2, characterised in that the middle part of the case (1) and the two types of watch-glass (11, 12) are made in thermowelding plastic materials and that means are provided for assembling one (11) or the other (12) watch-glass and the middle part of the case (1), these means comprising a specific zone (14, 15) formed of a mixture between said thermowelding materials, the two types of watch-glass (11, 12) also having an annular gripping surface (16, 17) to hold the selected dial (9, 10) on its corresponding shoulder (7, 8) when the watch glass is assembled to the middle part.

5. Watch-case according to claim 1, characterised in that the middle part (1) is formed to receive a single type of watch-glass (18, 19) adapted either to the second dial (10) when the latter is positioned on the second shoulder (8), or to a ring (20) positioned on the second shoulder (8), said ring (20) holding in place the first dial (9) positioned on the first shoulder (7).



6. Watch-case according to claim 5, characterised in that the middle part (1) and the watch-glass (18) are made in thermowelding plastic materials and that means are provided for assembling the watch-glass (18) and the middle part (1), these means comprising a specific zone (21) formed of a mixture between the thermowelding materials, the watch-glass (18) also having an annular gripping surface (17) to hold either said second dial (10) or said ring (20) on its second shoulder (8) when the watch-glass (18) is assembled to the middle part (8).

7. Watch-case according to claim 5, characterised in that the watch-glass (19) and the middle part (1) are assembled by means of a compressible packing (22) and that a flange (23) is situated under the watch-glass (19), said flange (23) also having an annular gripping surface (24) for holding either said second dial (10) or said ring (20) on its second shoulder (8) when the watch-glass (19) is assembled to the middle part (1).