

PATENT SPECIFICATION

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(54) WATCH CASE FOR AN ALARM WRIST WATCH

(71) We, KABUSHIKI KAISHA DAINI SEIKOSHA, a Japanese Company of 6—31—1, Kameido, Koto-ku, Japan, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method to which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns a watch case for an alarm wrist watch.

According to the present invention, there is provided a watch case for an alarm wrist watch having a case back provided with a plurality of holes through which the alarm sound may be transmitted, the watch case having means for attaching a watch band thereto, the angle between the longitudinal centre line of the watch band, when attached, and a line joining the centre of each hole and the centre of the case back not exceeding 45°.

Each said hole is preferably disposed in a bevelled portion of the case back which, in use, is out of contact with the arm of the user.

The case back may be provided with two pairs of said holes which are disposed on longitudinally opposite sides of the watch case, each pair of holes comprising holes disposed on opposite sides of the said longitudinal centre line.

The said holes are preferably disposed adjacent the periphery of the case back.

The invention also comprises an alarm wrist watch, e.g. an electronic alarm wrist watch, provided with a watch case as set forth above.

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

Figure 1 is a rear view of a watch case for an alarm wrist watch according to the present invention,

Figure 2 is a diagrammatic view showing the rear of the case back and indicating the disposition of holes therein, and

Figure 3 is a side view of an alarm wrist watch provided with a watch case according

to the present invention and mounted on the arm of the user.

Referring to the drawings, an electronic alarm wrist watch has a watch case 1 provided with lugs 1a to which are attached, e.g. by spring rods (not shown), the ends of a watch band 2.

The watch case 1 is provided with a case back 3 having bevelled side portions 3a, and with a stem member 5 for adjusting the time indication. In the bevelled side portions 3a there are provided holes 4 which pass through the case back 3 and through which the alarm sound may be transmitted. The angle between the longitudinal centre line 2a of the watch band 2 and a line (not shown) joining the centre of each hole 4 and the centre 6 of the case back 3 does not exceed 45°. In other words, each of the holes 4 is disposed in a region bounded by the longitudinal centre-line 2a and a line 7 which passes through the centre 6 and is disposed at an angle of 45° to the longitudinal centre line 2a.

The holes 4 are thus disposed in the shaded area indicated in Figure 2 i.e. in the sectors corresponding to time indications between 10.30 and 1.30 and between 4.30 and 7.30.

The holes 4 are disposed adjacent the periphery of the case back 3 and, as clearly indicated in Figure 3, they are so disposed as to communicate with a space 9 which is defined between the watch case 1 and the arm 8 of the user when the watch is in use. Thus the holes 4 are not occluded by the arm 8 of the user and consequently the alarm sound can be readily transmitted therethrough. This is in contrast to the prior art in which the holes through which the alarm sound was transmitted were almost closed by the surface of the arm, with the result that the intensity of the alarm sound was correspondingly reduced.

The construction of the present invention thus allows the alarm to be readily heard without the need to provide large numbers of holes 4.

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Since the alarm sound is easily transmitted, it is not necessary to provide an especially powerful alarm and consequently the size of a battery needed to power the alarm, and thus the size of the watch itself, can be kept small.

The volume of alarm sound which can be transmitted can be varied by variation of the disposition, and/or the number of the holes 4 and the size of the space 9.

WHAT WE CLAIM IS:—

1. A watch case for an alarm wrist watch having a case back provided with a plurality of holes through which the alarm sound may be transmitted, the watch case having means for attaching a watch band thereto, the angle between the longitudinal centre line of the watch band, when attached, and a line joining the centre of each hole and the centre of the case back not exceeding 45°.
2. A watch case as claimed in claim 1 in which each said hole is disposed in a bevelled portion of the case back which, in use, is out of contact with the arm of the user.

3. A watch case as claimed in claim 1 or 2 in which the case back is provided with two pairs of the said holes which are disposed on longitudinally opposite sides of the watch case, each pair of holes comprising holes disposed on opposite sides of the said longitudinal centre line.

4. A watch case as claimed in any preceding claim in which the said holes are disposed adjacent the periphery of the case back.

5. A watch case for an alarm wrist watch substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

6. An alarm wrist watch provided with a watch case as claimed in any preceding claim.

7. An alarm wrist watch as claimed in claim 6 in which the watch is an electronic watch.

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2. A watch case as claimed in claim 1 in which each said hole is disposed in a bevelled portion of the case back which, in use, is out of contact with the arm of the user.

3. A watch case as claimed in claim 1 or 2 in which the case back is provided with two pairs of the said holes which are disposed on longitudinally opposite sides of the watch case, each pair of holes comprising holes disposed on opposite sides of the said longitudinal centre line.

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