

PATENT SPECIFICATION

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DRAWINGS ATTACHED

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(54) A FASTENER ADAPTED TO BE USED IN A TIMEPIECE

(71) We, KABUSHIKI KAISHA DAINI SEIKOSHA, a Japanese company, of 47, 6-chome, Kameido-cho, Koto-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 relates to a timepiece in which a fastener is used for securing together a dial having a dial foot and a dial supporting member which is provided with a fastener receiving aperture.

In conventional timepiece constructions the dial, which is to be secured to a plate or other dial supporting structure, is provided with a dial foot, and then there is provided a dial screw in a tapped hole drilled in the side of the plate to lock the dial foot to the plate.

However, this conventional construction suffers from the disadvantage that after a long period of use, or due to mechanical shocks, the dial screw may work loose, and thereby the dial itself may become loose and the dial screw may drop into the movement of the watch, thereby to stop it or to cause damage therein.

The present invention seeks to overcome these disadvantages.

According to the present invention, there is provided a timepiece including a dial having at least one dial foot, a dial supporting member provided or formed with means in which the at least one dial foot has been received, the said member having at least one fastener receiving aperture, and at least one fastener, the at least one fastener including an elastic cylindrical stem portion rotatably mounted as a tight fit in a said aperture, and a head portion the centre of which is eccentric with respect to the axis of rotation of the stem portion and which has been rotated into retaining engagement with a said dial foot.

The cylindrical stem portion may be hollow.

The head portion may have a frusto-

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conical collar which is in retaining engagement with the said dial foot.

The head portion may be formed with a recess adapted to be engaged by a screw-driver.

The invention will now be described, merely by way of example, with reference to the accompanying drawings, in which:—

Figure 1 is a schematic plan view of one embodiment of the present invention, and Figure 2 is a sectional view, taken along the line A—A' of Figure 1.

Referring to the drawings, there is shown a substantially circular plate 2 to which a dial 3 is to be secured.

The dial 3 is provided with a dial foot 4 which is received in an aperture within the plate 2. To secure the dial foot 4 and the plate 2 together, there is provided a dial pin 1 having a thin cylindrical stem portion 1a and a frusto-conical collar portion 1b which is adapted to engage the dial foot 4. Above the collar portion 1b, as seen in Figure 2, there is provided a substantially cylindrical head portion 1c in which is formed a substantially diametrical slot adapted to be engaged by e.g. a screw-driver. The dial pin 1 is formed with a substantially circular internal aperture 1d.

The longitudinal axis of the stem portion 1a (and of the aperture 1d) forms the axis of rotation of the dial pin 1, and it will be noted that the collar portion 1b and the head portion 1c are eccentric with regard to this longitudinal axis.

The dial pin 1 is a tight fit within the aperture of the plate in which it is received, but is mounted therein so as to be rotatable. Because the stem 1a is a substantially thin annulus, it will possess a degree of elasticity sufficient to ensure that, within reason, no matter how much the dial pin 1 is rotated, the stem portion 1a will remain a tight fit within the plate aperture.

Referring now more particularly to Figure 1, the chain-dotted lines show the position of the dial pin 1 before the dial 3 is secured to the plate 2. In this position, the outer

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periphery of the collar portion 1b is spaced from the dial foot 4.

5 However, on rotation of the dial pin 1, the collar portion 1b will retainingly engage the dial foot 4, and this position is illustrated in full lines in Figure 1 as well as in Figure 2. In this position, the pin 1 will counteract any tendency of the dial 3 to work loose, since any movement in a downward direction (as viewed in Figure 2) of the dial 3 will cause the pin 1 to be pulled in the same direction. Moreover, because of the elastic nature of the stem portion 1b of the dial pin 1, it is most unlikely that it will loosen.

15 It will therefore be appreciated that the illustrated embodiment of the present invention provides for a dial pin which enables the relatively easy fitting of a dial to a plate and which substantially reduces or eliminates the possibility of the dial and/or the dial pin becoming loose and falling out of place. Moreover, the dial pin is not threaded and therefore its manufacturing cost is reduced when compared to prior art dial screws which had threads cut into them.

WHAT WE CLAIM IS:—

30 1. A timepiece including a dial having at least one dial foot, a dial supporting member provided or formed with means in

which the at least one dial foot has been received, the said member having at least one fastener receiving aperture, and at least one fastener, the at least one fastener including an elastic cylindrical stem portion rotatably mounted as a tight fit in a said aperture, and a head portion the centre of which is eccentric with respect to the axis of rotation of the stem portion and which has been rotated into retaining engagement with a said dial foot.

2. A timepiece as claimed in claim 1 wherein the cylindrical stem portion is hollow.

3. A timepiece as claimed in claim 1 or 2 wherein the head portion has a frusto-conical collar which is in retaining engagement with the said dial foot.

4. A time piece as claimed in claim 1 or 2 or 3 wherein the head portion is formed with a recess adapted to be engaged by a screw-driver.

5. A timepiece substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

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