

PATENT SPECIFICATION

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DRAWINGS ATTACHED

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(54) CALENDAR TIMEPIECE

(71) We, KABUSHIKI KAISHA DAINI SEIKOSHA, a Japanese company, of 31-1, 6-chome, Kameido, 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 concerns calendar timepieces such as calendar watches.

According to the present invention there is provided a calendar timepiece having day indicator means and date indicator means, a day lever and a date lever which respectively arranged to control the operation of the day indicator means and the date indicator means, a jumper spring which engages both the day lever and the date lever so as to urge both said levers towards predetermined positions, and means for periodically moving the said levers away from said predetermined positions.

The jumper spring is preferably a V-shaped spring having spaced apart limbs whose outer end portions respectively engage the day lever and the date lever, the inner end portions of the two limbs of the jumper spring being received within a recess in a plate.

Preferably, for assembly purposes, one of the said levers may be temporarily pivoted to a position in which the jumper spring may be introduced into the said recess without the need to force the said limbs towards each other. The construction is, moreover, preferably such that, during assembly, the day lever may be pivoted into a position in which it bears against a cylindrical portion of an hour wheel, the day lever, after the timepiece is fully assembled, being engaged by a day star wheel which causes the day lever to bear against the jumper spring to urge the limbs thereof towards each other.

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

Figure 1 is a plan view of a known calendar watch,

Figure 2 is a plan view of a calendar watch in accordance with the present invention, and Figure 3 is a view of the construction shown in Figure 2, but during the assembly of the latter.

Figure 1 illustrates a known calendar watch 10 having a day lever 11, which controls a day star wheel 12, and a date lever 13 which controls an annular date dial 14. A day dial (not shown) indicating the days of the week is fixed to the day star wheel 12. The day lever 11 and the date lever 13 are respectively engaged by substantially V-shaped jumper springs 16, 17 which urge these levers towards predetermined positions. Means (not shown) are provided for periodically moving the levers 11, 13 away from the predetermined positions so as to alter the day and the date.

The springs 16, 17 are respectively housed within recesses 20, 21 in a plate 22.

The region inwardly of the dial 14 is covered by a date dial guard 23.

As will be appreciated, during the assembly of the known calendar watch 10 it is necessary to force the limbs of each of the jumper springs 16, 17 towards each other if they are to be placed in the respective recesses 20, 21 and this makes assembly difficult.

Moreover, even when the jumper springs 16, 17 are set in the recesses 20, 21, it is difficult to fit the date dial guard 23 without disturbing the positions of the jumper springs.

In Figures 2 and 3, there is shown a calendar watch 24 according to the present invention, the parts of this watch corresponding to those of the known watch 10 being given the same reference numerals.

In the case of the watch 24 of the present invention, however, a single V-shaped jumper spring 25 is provided which has spaced apart limbs 26, 27 whose outer end portions 30, 31 respectively engage the day lever 11 and the date lever 13, the inner end portions 32, 33 of the limbs 26, 27 being received within a recess 34 in the plate 22. The jumper

spring 25 is thus a common spring engaging both the day lever 11 and the date lever 13 so as to urge both these levers towards the said predetermined positions.

5 For assembly purposes, the day lever 11 may be temporarily pivoted to the position shown in Figure 3 in which the jumper spring 25 may be introduced into the recess 34 without the need to force the limbs 26, 27 of the
10 jumper spring 25 towards each other. Thus, as will be seen in Figure 3, before the day star wheel 12 is placed in position, the day lever 11 may be pivoted into the position shown in Figure 3 in which it bears against a
15 cylindrical portion 35 of an hour wheel 36. In this position, the jumper spring 25 may be easily introduced into the recess 34 without any need to force the limbs 26, 27 towards each other.

20 The day star wheel 12 is placed in position after the date dial guard 23 has been fitted, so that the day star wheel 12 then bears against the jumper spring 25 so as to urge the limbs 26, 27 thereof towards each
25 other, and so as to force the jumper spring 25 into a position in which it will not spring out of the plate 22.

The construction shown in Figures 2 and 3 is particularly suitable for use in a small
30 watch, because a single jumper spring acts on the day and date levers so that there is a reduction in the number of parts employed. Moreover, assembly does not involve bending the said spring initially and assembly is there-
35 fore easier.

WHAT WE CLAIM IS:—

1. A calendar timepiece having day indi-
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indicator means and the date indicator means, a jumper spring which engages both the day lever and the date lever so as to urge both said levers towards predetermined positions, and means for periodically moving the said
45 levers away from said predetermined positions.

2. A calendar timepiece as claimed in claim 1 in which the jumper spring is a V-shaped spring having spaced apart limbs whose outer end portions respectively engage the day lever and the date lever, the inner end portions of the two limbs of the jumper spring being received within a recess in a plate.

3. A calendar timepiece as claimed in claim 2 in which, for assembly purposes, one of the said levers may be temporarily pivoted to a position in which the jumper spring may be introduced into the said recess without the need to force the said limbs towards each other.

4. A calendar timepiece as claimed in claim 3 in which the construction is such that, during assembly, the day lever may be pivoted into a position in which it bears against a cylindrical portion of an hour wheel, the day
65 lever, after the timepiece is fully assembled, being engaged by a day star wheel which causes the day lever to bear against the jumper spring to urge the limbs thereof towards each other.

5. A calendar timepiece substantially as hereinbefore described with reference to and as shown in Figures 2 and 3 of the accompanying drawings.

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