

PATENT SPECIFICATION

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(54) CALENDAR DEVICE

(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 calendar device and, although the invention is not so restricted, it is more particularly concerned with a calendar device for use in a timepiece such, for example, as an electronically operated wrist-watch.

According to the present invention, there is provided a calendar device comprising a rotatable stem which is axially movable into and out of a calendar adjusting position; a rotatable day member for indicating the day of the week; a rotatable date member for indicating the date of the month; a correcting wheel which is mounted on the stem for rotation thereby and which is directly engageable with the date member to adjust the latter; and an adjusting lever for effecting adjustment of the day member, the adjusting lever being directly engaged by the correcting wheel for pivotal movement thereby; rotation of the stem, when in the calendar adjusting position, in one angular direction adjusting the date member *via* the correcting wheel, and rotation of the stem, when in the calendar adjusting position, in the opposite angular direction causing pivotal movement of the adjusting lever *via* the correcting wheel and so adjusting the day member.

The arrangement may be such that, when the stem is in the calendar adjusting position and is rotated in the said one angular direction, the correcting wheel merely causes bending of the adjusting lever without causing pivotal movement thereof.

The adjusting lever may be a planar member, the said bending being normal to

the plane thereof.

Time indicating means may be provided, the stem being movable axially into and out of a time adjusting position in which rotation of the stem adjusts the time indicating means. Moreover, the stem may be movable axially into and out of a further position in which rotation of the stem does not affect either the time indication or the calendar indication.

A driving mechanism may be provided for driving the time indicating means, rotation of the stem, when in the said further position, simultaneously effecting winding of the driving mechanism.

A clutch lever may be provided which engages the correcting wheel to effect axial movement of the latter, the clutch lever being urged towards a predetermined position and being engaged or engageable by a setting lever which is pivotally connected to the stem so that axial movement of the latter effects movement of the clutch lever and hence axial movement of the correcting wheel.

The correcting wheel may be provided with teeth which drivingly engage teeth on the date member when the stem is in the calendar adjusting position and is rotated in the said one angular direction, the said correcting wheel teeth riding over the teeth of the date member when the stem is in the calendar adjusting position and is rotated in the said opposite angular direction.

Holding means may be provided for holding the date member stationary when the stem is in the calendar adjusting position and is rotated in the said opposite angular direction. Thus the said holding means may comprise a projecting portion of the adjusting lever, pivotal movement of the adjusting lever bringing the projecting portion into the path of the teeth of the date member.

The correcting wheel may moreover be provided with further teeth which drivingly engage those of a toothed member of the time indicating means when the stem is in the time adjusting position.

The invention also comprises a timepiece provided with a calendar device 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 plan view of a watch provided with a calendar device according to the present invention, the parts thereof being shown in a neutral or winding position,

Figures 2 and 3 are views similar to Figure 1, but showing the said parts respectively in a calendar adjusting position and in a time adjusting position.

Figures 4 and 5 are broken-away sectional views illustrating the operation of the calendar device when the parts thereof are in the calendar adjusting position shown in Figure 2,

Figure 6 is a view corresponding to Figure 2 but showing a modified calendar device the parts of which are in the calendar adjusting position,

Figure 7 is a schematic plan view showing a portion of another modified calendar device in the calendar adjusting position,

Figures 8 and 9 are respectively a side elevation and an end view of a clutch wheel forming part of a calendar device according to the present invention, and

Figures 10 and 11 are respectively a side elevation and an end view of a further such clutch wheel.

Terms such as "clockwise" and "counter-clockwise", as used in the description below, are to be understood to refer to directions as seen in the drawings.

Referring first to Figures 1 to 5, an electronically operated or other wristwatch 12 is provided with a rotatable stem 13 which is axially movable into three positions, namely a radially innermost position, which is illustrated in Figure 1, a middle position, which is illustrated in Figure 2, and a radially outermost position, which is illustrated in Figure 3. In an electronically operated watch, the Figure 1 position is a neutral position in which rotation of the stem 13 produces no effect. In a mechanically operated watch, the Figure 1 position is a winding position in which the mainspring of the watch may be wound. The Figure 2 position constitutes a calendar adjusting position in which calendar members of the watch, i.e. an annular date wheel 14 and a day star wheel 15, may be adjusted. The Figure 3 position constitutes a time adjusting position in which hour, minute and second hands (not shown) of

the watch may be adjusted.

The annular date wheel 14 is a rotatable wheel which is marked with numbers (not shown) from 1 to 31 to indicate the date of the month. The day star wheel 15 is a 70 rotatable wheel which is either itself marked with indicia (not shown) indicating the days of the week, or drives a member (not shown) which is so marked.

Slidably mounted on a substantially rectangular portion 17 of the stem 13 is a clutch wheel or correcting wheel 16 which can thus be moved axially of the stem 13 but cannot rotate with respect thereto. Thus rotation of the stem 13 effects corresponding rotation of the clutch wheel 16.

The clutch wheel 16 is provided midway along its length, with a reduced diameter portion 20 which defines a space into which extends one end of a clutch lever 21 whose opposite end is pivoted at 22 to a fixed plate 23. A substantially U-shaped spring 24 has one end portion 25 which is fixed in the plate 23 and an opposite end portion 26 which engages one side of the clutch lever 21 so as to urge the clutch wheel 16 radially outwardly of the watch.

The clutch lever 21 is engaged by a setting lever 30 which is pivoted on a fixed pivot 31, the setting lever 30 being pivotally connected to the stem 13 at a pivot 32. The setting lever 30 has an end portion 33 which is selectively engageable in notches 34, 35 and 36 in the clutch lever 21.

Thus when the stem 13 is pulled radially outwardly from the Figure 1 to the Figure 2 position, the setting lever 30 is moved clockwise about the pivot 31 so as to move its end portion 33 from engagement with the notch 34 to engagement with the notch 35. This will allow the clutch lever 21 to move clockwise about the pivot 22 under the action of the spring 24 and will thus move the clutch wheel 16 radially outwardly along the stem 13.

Further outward movement of the stem 13 into the Figure 3 position, will move the end portion 33 of the setting lever 30 into engagement with the notch 36 of the clutch lever 21. This will cause the clutch lever 21 to be moved counter-clockwise about the pivot 22 and against the action of the spring 24, whereby to move the clutch wheel 16 radially inwardly along the stem 13.

The plate 23 is provided with a spring portion 40 having notches 41, 42, 43, which are respectively engageable with a pin 44 on the setting lever 30 when the parts are respectively in the positions of Figures 1, 2 and 3. Thus the engagement of the pin 44 with one of the notches 41 to 43 serves releasably to hold the setting lever 30, and consequently the stem 13, in

any of the three positions in which it may be set.

The clutch wheel 16 is provided at its radially inner and outer ends with teeth 45, 46 respectively. When the stem 13 is pulled radially outwardly to the time adjusting position shown in Figure 3, the teeth 45 of the clutch wheel 16 are brought into driving contact with the teeth of a minute wheel 47, so that rotation of the stem 13 in this position adjusts the minute wheel 47 and consequently adjusts the hands (not shown) of the timepiece.

When, however, the stem 13 is placed in the calendar adjusting position shown in Figure 2, and the stem 13 is rotated in the angular direction indicated by the arrow 50, the teeth 46 effect driving engagement with internal teeth 53 of the date wheel 14, and thus adjust the date of the month indication provided by the latter. However, if the stem 13, when in the Figure 2 position, is rotated in the opposite direction as indicated by the arrow 51, the teeth 46 merely ride over the teeth 53 and no drive is therefore imparted to the date wheel 14. This construction is described in greater detail in British Patent No. 1,168,745.

As best seen in Figures 4 and 5, the clutch wheel 16 is provided with two diametrically oppositely disposed projecting portions 54 which, when the stem 13 is placed in the calendar adjusting position shown in Figure 2, are in alignment with 55 of an arm 56 of a planar adjusting lever 57. When, however, the stem 13 is in either of the positions shown in Figures 1 and 3, the projecting portions 54 are out of alignment with the end portion 55 of the adjusting lever 57.

The adjusting lever 57 is mounted upon a fixed pivot 60, the arm 56 being engaged by a U-shaped spring 61 which urges the arm 56 towards engagement with a fixed stop 62. The adjusting lever 57 also has a resilient arm 63 having an end portion 64 which is normally out of engagement with, but which is movable into engagement with, the teeth of the day star 15.

As indicated in Figure 4, when the clutch wheel 16 is in the calendar adjusting position shown in Figure 2, and is rotated counterclockwise as indicated by the arrow 51, the end portion 55 will be engaged by a projecting portion 54 of the clutch wheel 16 so as to cause pivotal movement of the lever 57. This brings the end portion 64 into engagement with a tooth of the day star 15 so as to move the latter through one pitch, and thus adjusts the day indication thereof.

If, however, when the clutch wheel 16 is in the Figure 2 position, the clutch wheel 16 is rotated clockwise in the direction of

the arrow 50, pivotal movement of the lever 57 will not be effected, since the projecting portions 54 will merely cause bending of the adjusting lever 57 normal to the plane thereof. The adjusting lever 57 is capable of being bent by the projecting portions 54 without damage when the stem 13 is rotated in the direction of the arrow 50, so as to absorb a force which may be several times larger than that required to effect a calendar correction.

When the clutch wheel 16 is in the Figure 1 position, the teeth 45, 46 are out of contact with the teeth of the minute wheel 47 and date wheel 14 respectively, while the projecting portions 54 are out of alignment with the end portion 55 so that rotation of the clutch wheel 16 does not affect either the time indication or the calendar indication.

When the clutch wheel 16 is in the Figure 2 position, the teeth 45 are spaced from the teeth of the minute wheel 47 and hence the latter will not be driven when the stem 13 is rotated.

When the clutch wheel 16 is in the Figure 3 position, the teeth 46 are spaced from the teeth 53, and the projecting portions 54 are out of alignment with the end portion 55, so that rotation of the stem 13 does not affect the positions of the date wheel 14 or day star wheel 15.

The clutch wheel 16, instead of being directly engageable with the minute wheel 47 when in the Figure 3 position, may drive the latter by way of a setting wheel (not shown).

The arm 56 of the adjusting lever 57 is provided with a projecting portion 65. As indicated by chain dotted lines in Figure 2, when the adjusting lever 57 is moved by a projecting portion 54 of the clutch wheel 16 so as to effect rotation of the day star 15 through one tooth pitch, the projecting portion 65, which is normally outside the addendum circle of the date wheel 14, enters the addendum circle and is thus brought into the path of the teeth 53 of the date wheel 14, whereby to hold the latter stationary. Thus when the stem 13 is placed in the calendar adjusting position shown in Figure 2 and is rotated in the direction of the arrow 51, although the day star 15 will be rotated through one tooth pitch, the date wheel 14 will be held stationary so that there will be no adjustment of the indication of the date of the month. If this were not done, there would be some danger of the date wheel 14 being rotated at this time.

For example, if the timepiece is an electrically operated timepiece, the jumper spring (not shown) which engages the date wheel 14 has a weak spring force since otherwise it would be necessary to provide

a powerful battery to drive the timepiece. Consequently, but for the provision of the projecting portion 65, there would be some danger of the date wheel 14 moving during adjustment of the day star 15. Such a danger could also arise if the spring 24 were unduly strong.

The provision of the projecting portion 65 enables the date wheel 14 to be held without increasing the number of parts.

The construction described above with reference to Figures 1 to 3 enables quick correction of the indications of day of the week and of the date of the month. Moreover, if the stem 13 is accidentally pushed or pulled, this does not of itself adjust either the calendar indication or the time indication. The construction shown in Figures 1 to 3 is thus preferable to known arrangements in which calendar adjustment is effected by means of axial movement of a member. Moreover, if the stem 13 is accidentally moved, this is likely to be in a radially inward direction, and even if the stem 13 is rotated when in the innermost axial position (i.e. that of Figure 1) there will either be no effect or (if Figure 1 is a winding position) a little winding of the watch may occur. Such winding would also be obvious to the user. Thus the construction of Figures 1 to 3 considerably reduces the risk of accidental mis-operation.

In the construction of Figures 1 to 3, moreover, there is a positive drive to the date wheel 14 and to the day star 15 when the parts are in the Figure 2 position and the stem 13 is respectively rotated in the directions of the arrows 50, 51. There are thus no times during the use of the watch when an attempt to adjust the date or day indication can cause problems, whereas in some watch constructions calendar adjustment can cause problems if it is effected when the watch is indicating midnight.

In Figure 6 there is shown a construction which is generally similar to that of Figures 1 to 3, and which for this reason will not be described in detail, like reference numerals being used for like parts. In the Figure 6 construction, however, the spring 61 is omitted and the adjusting lever 57 is replaced by an adjusting lever 66. The adjusting lever 66, which is mounted on a fixed pivot 67, has end portions 70, 71. The end portion 70 extends into a space between flanges 72, 73 on the clutch wheel 16 so that axial movement of the clutch wheel 16 is accompanied by pivotal movement of the adjusting lever 66. The end portion 71 of the adjusting lever 66 is forked and engages an arm 74 of a lever 75. The lever 75 has an arm 76 which is normally out of engagement with the teeth of the day star 15 but which can be brought into en-

agement therewith so as to advance the day star 15 through one tooth pitch.

In the construction shown in Figure 6, the end portion 70 of the adjusting lever 66 will always be in substantial alignment with the projections 54 so that as the stem 13 is rotated in any position thereof there will be limited pivotal movement of the adjusting lever 66, such pivotal movement being limited by the size of the space between the flanges 72, 73. When, however, the stem 13 is either in the neutral or winding position corresponding to that of Figure 1, or is in the time adjusting position corresponding to that of Figure 3, any pivotal movement of the adjusting lever 66 which occurs on rotation of the stem 13 does not affect the day star 15 since such pivotal movement will not at that time bring the end portion 76 of the lever 75 into engagement with a tooth of the day star 15. However, when the parts are in the Figure 6 position, rotation of the stem 13 in the direction indicated by the arrow 51 will cause the end portion 76 of the lever 75 to engage a tooth of the day star 15 so as to rotate the latter through one tooth pitch.

As will be appreciated, in the Figure 6 construction, the provision of the lever 75 means that the day star 15 is rotated in the the opposite angular direction to that in which it is rotated in the construction of Figures 1 to 3.

In Figure 7 there is shown a portion of a construction which is generally similar to that of Figures 1 and 3 and which for this reason will not be described in detail, like reference numerals indicating like parts.

In the Figure 7 construction, however, use is made of a clutch wheel 80. Means (not shown) are provided such that when the parts are in the Figure 7 position and the stem 13 is rotated in the direction of the arrow 50, the projecting portions 54 of the clutch wheel 80 are in the full line position shown, in which they are out of alignment with an end portion 81 of an adjusting lever 82. The end portion 81 of the adjusting lever 82 has a width which is substantially smaller than that of the end portion 55 of the adjusting lever 56. The adjusting lever 82, moreover, is provided, remote from its end portion 81, with an arm 83 which is engageable with a stop 84, the arm 83 having an end portion 85 which is normally out of engagement with the teeth of the day star 15 but which can be brought into engagement therewith so as to advance the day star 15 angularly through one tooth pitch.

When, however, the parts are in the positions shown in Figure 7 and the stem 13 is rotated in the direction of the arrow 51, the clutch wheel 80 is moved radially

inwardly by the said means (not shown) so as to bring the projections 54 into alignment with the end portion 81. Thus pivotal movement is imparted to the adjusting lever 82 to bring the end portion 85 into engagement with a tooth of the day star 15. Accordingly, in the Figure 7 construction, rotation of the stem 13 in the direction of the arrow 50 will not cause the projections 54 to ride over the end portion 81 and effect bending thereof.

The clutch wheel 16 may be of integral construction. The clutch wheel 16 may, however, be replaced by a clutch wheel 86, as shown in Figures 8 and 9. The clutch wheel 86 is provided with teeth 45, 46 at its opposite ends corresponding to those of the clutch wheel 16. However, instead of being provided with integral projecting portions 54, the clutch wheel 86 has a cam ring 87 mounted thereon and in frictional engagement therewith, the cam ring 87 having projecting portions 88 corresponding to the projections 54 of the clutch wheel 16. In this case, if there is some resistance in the adjusting mechanism (e.g. at the lever 57) and a strong force is applied to the stem 13, the cam ring 87 will merely slip over the clutch wheel 86.

In the construction of Figures 10 and 11, the clutch wheel 86 is shown as being replaced by a clutch wheel 90 in which, instead of providing integral projecting portions 54, use is made of four equi-angularly spaced apart pegs 91 which project radially outwardly.

Means (not shown) may be provided such that if force is applied to the stem 13 substantially larger than that necessary to effect a calendar operation when the parts are in the Figure 2 position, this force will merely result in relative slipping of the parts so that damage does not occur.

Means (not shown) may also be provided to ensure that when the stem 13 is pulled radially outwardly from the Figure 1 to the Figure 2 position, engagement does not occur between the teeth 46, 53 so as to adjust the date wheel 14, or between a projecting portion 54 and the end portion 55 of the adjusting lever 57 so as to adjust the day star 15. The provision of the clutch lever spring 24, however, will in any case tend to position the clutch wheel 16 such that this engagement will not occur.

Thus when the stem 13 is pulled radially outwardly from the Figure 1 position to the Figure 2 position, the clutch wheel 16 will move rapidly to the upper portion of the drawing by the operations of the setting lever 30, the clutch lever 21 and the spring 24. At this time, there is a possibility that the teeth of the date wheel 14 will push against the teeth 46 of the clutch

wheel 16 or that the projecting portion 54 of the clutch wheel 16 which is liable to be at any angular position may push against the end portion 55 of the adjusting lever 57. If a resistance such as thrust is applied when the clutch lever 21 is going to move to the upper portion of the drawing, the spring 24 for moving the clutch lever 21 to the upper portion will be kept bent, and the clutch wheel 16 will be prevented from moving to the upper portion. Therefore, it is possible to prevent the thrust between the teeth 46 of the clutch wheel 16 and the teeth of the date wheel 14, and between the projecting portion 54 of the clutch wheel 16 and the end portion 55 of the adjusting lever 57 by the use of the spring 24.

In British Patent No. 1,234,004, in the name of our associate company Kabushiki Kaisha Daini Seikosha, there is disclosed and claimed a calendar timepiece including date indicating means and day indicating means, a date and day indication correcting mechanism, a rotary stem, coupling means associated with said stem for selectively coupling the stem either to the hands-setting mechanism of the timepiece, or to said correcting mechanism so as to permit a direct date or day indication correction to be effected by rotation of said stem, the arrangement being such that when the stem is coupled to the said correcting mechanism, rotation of the stem in one angular sense effects correction of the date indication only, while rotation of the stem in the opposite angular sense effects correction of the day indication only.

WHAT WE CLAIM IS:—

1. A calendar device comprising a rotatable stem which is axially movable into and out of a calendar adjusting position; a rotatable day member for indicating the day of the week; a rotatable date member for indicating the date of the month; a correcting wheel which is mounted on the stem for rotation thereby and which is directly engageable with the date member to adjust the latter; and an adjusting lever for effecting adjustment of the day member, the adjusting lever being directly engaged by the correcting wheel for pivotal movement thereby; rotation of the stem, when in the calendar adjusting position, in one angular direction adjusting the date member *via* the correcting wheel, and rotation of the stem, when in the calendar adjusting position, in the opposite angular direction causing pivotal movement of the adjusting lever *via* the correcting wheel and so adjusting the day member.

2. A calendar device as claimed in claim 1 in which, when the stem is in the calendar adjusting position and is rotated in the said one angular direction, the cor-



inwardly by the said means (not shown) so as to bring the projections 54 into alignment with the end portion 81. Thus pivotal movement is imparted to the adjusting lever 82 to bring the end portion 85 into engagement with a tooth of the day star 15. Accordingly, in the Figure 7 construction, rotation of the stem 13 in the direction of the arrow 50 will not cause the projections 54 to ride over the end portion 81 and effect bending thereof.

The clutch wheel 16 may be of integral construction. The clutch wheel 16 may, however, be replaced by a clutch wheel 86, as shown in Figures 8 and 9. The clutch wheel 86 is provided with teeth 45, 46 at its opposite ends corresponding to those of the clutch wheel 16. However, instead of being provided with integral projecting portions 54, the clutch wheel 86 has a cam ring 87 mounted thereon and in frictional engagement therewith, the cam ring 87 having projecting portions 88 corresponding to the projections 54 of the clutch wheel 16. In this case, if there is some resistance in the adjusting mechanism (e.g. at the lever 57) and a strong force is applied to the stem 13, the cam ring 87 will merely slip over the clutch wheel 86.

In the construction of Figures 10 and 11, the clutch wheel 86 is shown as being replaced by a clutch wheel 90 in which, instead of providing integral projecting portions 54, use is made of four equi-angularly spaced apart pegs 91 which project radially outwardly.

Means (not shown) may be provided such that if force is applied to the stem 13 substantially larger than that necessary to effect a calendar operation when the parts are in the Figure 2 position, this force will merely result in relative slipping of the parts so that damage does not occur.

Means (not shown) may also be provided to ensure that when the stem 13 is pulled radially outwardly from the Figure 1 to the Figure 2 position, engagement does not occur between the teeth 46, 53 so as to adjust the date wheel 14, or between a projecting portion 54 and the end portion 55 of the adjusting lever 57 so as to adjust the day star 15. The provision of the clutch lever spring 24, however, will in any case tend to position the clutch wheel 16 such that this engagement will not occur.

Thus when the stem 13 is pulled radially outwardly from the Figure 1 position to the Figure 2 position, the clutch wheel 16 will move rapidly to the upper portion of the drawing by the operations of the setting lever 30, the clutch lever 21 and the spring 24. At this time, there is a possibility that the teeth of the date wheel 14 will push against the teeth 46 of the clutch

wheel 16 or that the projecting portion 54 of the clutch wheel 16 which is liable to be at any angular position may push against the end portion 55 of the adjusting lever 57. If a resistance such as thrust is applied when the clutch lever 21 is going to move to the upper portion of the drawing, the spring 24 for moving the clutch lever 21 to the upper portion will be kept bent, and the clutch wheel 16 will be prevented from moving to the upper portion. Therefore, it is possible to prevent the thrust between the teeth 46 of the clutch wheel 16 and the teeth of the date wheel 14, and between the projecting portion 54 of the clutch wheel 16 and the end portion 55 of the adjusting lever 57 by the use of the spring 24.

In British Patent No. 1,234,004, in the name of our associate company Kabushiki Kaisha Daini Seikosha, there is disclosed and claimed a calendar timepiece including date indicating means and day indicating means, a date and day indication correcting mechanism, a rotary stem, coupling means associated with said stem for selectively coupling the stem either to the hands-setting mechanism of the timepiece, or to said correcting mechanism so as to permit a direct date or day indication correction to be effected by rotation of said stem, the arrangement being such that when the stem is coupled to the said correcting mechanism, rotation of the stem in one angular sense effects correction of the date indication only, while rotation of the stem in the opposite angular sense effects correction of the day indication only.

WHAT WE CLAIM IS:—

1. A calendar device comprising a rotatable stem which is axially movable into and out of a calendar adjusting position; a rotatable day member for indicating the day of the week; a rotatable date member for indicating the date of the month; a correcting wheel which is mounted on the stem for rotation thereby and which is directly engageable with the date member to adjust the latter; and an adjusting lever for effecting adjustment of the day member, the adjusting lever being directly engaged by the correcting wheel for pivotal movement thereby; rotation of the stem, when in the calendar adjusting position, in one angular direction adjusting the date member *via* the correcting wheel, and rotation of the stem, when in the calendar adjusting position, in the opposite angular direction causing pivotal movement of the adjusting lever *via* the correcting wheel and so adjusting the day member.

2. A calendar device as claimed in claim 1 in which, when the stem is in the calendar adjusting position and is rotated in the said one angular direction, the cor-

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recting wheel merely causes bending of the adjusting lever without causing pivotal movement thereof.

3. A calendar device as claimed in claim 2 in which the adjusting lever is a planar member, the said bending being normal to the plane thereof.

4. A calendar device as claimed in any preceding claim in which the device is provided with time indicating means, the stem being movable axially into and out of a time adjusting position in which rotation of the stem adjusts the time indicating means.

5. A calendar device as claimed in claim 4 in which the stem is movable axially into and out of a further position in which rotation of the stem does not affect either the time indication or the calendar indication.

6. A calendar device as claimed in claim 5 in which the device comprises a driving mechanism for driving the time indicating means, rotation of the stem, when in the said further position, simultaneously effecting winding of the driving mechanism.

7. A calendar device as claimed in any preceding claim in which there is a clutch lever which engages the correcting wheel to effect axial movement of the latter, the clutch lever being urged towards a predetermined position and being engaged or engageable by a setting lever which is pivotally connected to the stem so that axial movement of the latter effects movement of the clutch lever and hence axial movement of the correcting wheel.

8. A calendar device as claimed in claim 2 and in claim 7 in which the correcting wheel is provided with teeth which drivingly engage teeth on the date member

when the stem is in the calendar adjusting position and is rotated in the said one angular direction, the said correcting wheel teeth riding over the teeth of the date member when the stem is in the calendar adjusting position and is rotated in the said opposite angular direction.

9. A calendar device as claimed in claim 8 in which holding means are provided for holding the date member stationary when the stem is in the calendar adjusting position and is rotated in the said opposite angular direction.

10. A calendar device as claimed in claim 9 in which the said holding means comprise a projecting portion of the adjusting lever, pivotal movement of the adjusting lever bringing the projecting portion into the path of the teeth of the date member.

11. A calendar device as claimed in claim 4 and in any of claims 8 to 10 in which the correcting wheel is provided with further teeth which drivingly engage those of a toothed member of the time indicating means when the stem is in the time adjusting position.

12. A calendar device substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

13. A timepiece provided with a calendar device as claimed in any preceding claim.

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