April 8, 1952 M. HUGUENIN 2,591,819

CALENDAR TIMEPIECE

Filed Feb. 13, 1951

FIG. 1

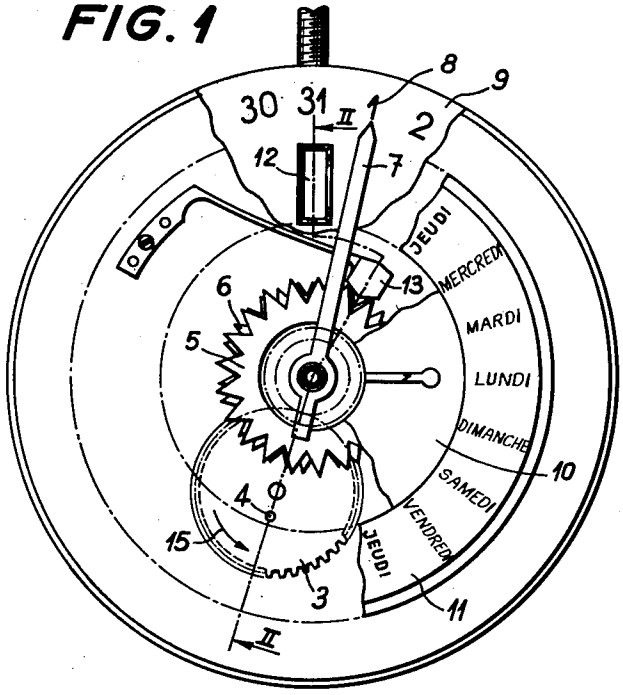
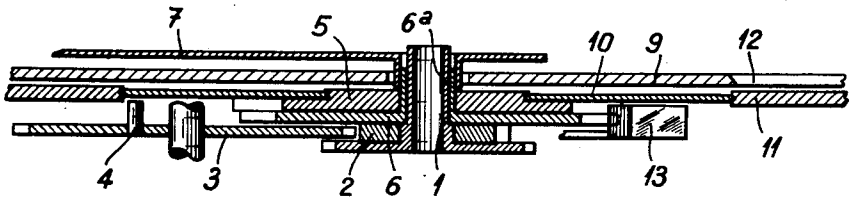


FIG. 2



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CALENDAR TIMEPIECE

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3 Claims. (Cl. 58—58)

1

The present invention relates to a calendar time-piece comprising two concentric star wheels, the one for the indicator of the days of the month and the other for the indicator of the days of the week, these two wheels being driven by at least one pin secured on a driving wheel and subjected to the action of at least one holding pawl intended to hold these wheels in their rest positions.

A feature of the invention is that, in these rest positions, one of said star wheels always has one tooth situated substantially on the line of centers of the star wheels and of the driving wheel, while the other star wheel always has one tooth situated slightly off of said line of centers, the arrangement further being such that the first star wheel is driven in both directions and the second star wheel is driven in only one direction by the displacements of the pin.

The annexed drawing shows, by way of example, one embodiment of the invention.

Figure 1 is a plane view of a time-piece, some parts being broken away and,

Figure 2 is a sectional view along line II—II of Figure 1.

In these figures, only the parts necessary for the understanding of the invention have been represented. The sleeve carrying the hour-hand, not shown, is designated by 1. It carries a toothed wheel 2 meshing with a wheel 3 carrying a pin 4. This pin cooperates with two concentric star wheels 5 and 6 which have respectively 21 and 31 teeth; these star wheels are situated one above the other at the center of the movement. The wheel 6 is rigidly connected to a sleeve 6a loosely mounted on the hour sleeve 1; the wheel 5 is in turn loosely mounted on the sleeve 6a. The latter carries a hand 7 indicating the days of the month on a graduated scale 8 situated at the periphery of the dial 9 of the watch. The wheel 5 carries a resilient washer 10 to which is secured an annular dial 11 on which are indicated the names of the days of the week. The names of the days of the week appear through an opening 12 provided in the dial 9. A holding pawl 13 cooperates with the star wheels 5 and 6 for holding them in a stable position after each of their displacements. In each of these stable positions, one tooth of the star wheel 6 has its center situated on the line of centers of said star wheels and of the driving wheel 3, while the star wheel 5 has a center of one tooth situated slightly off of this line of centers. This arrangement has for effect that, when the driving wheel 3 rotates in the direction of the arrow 15, which corresponds to its normal running direction when it is driven by

2

the watch movement, the pin 4 drives both star wheels and displaces them by one tooth per revolution. On the contrary, when the wheel 3 rotates in the other direction, only the star wheel 6 is driven.

This particularity makes it possible to set the calendar manually at the end of the months of 30 days. In fact, let it be assumed that a Tuesday is the 30th, and that the next day is a Wednesday 1st; the calendar will go to the Wednesday 31st. But, by driving manually the setting crown, not shown, in the direction opposite to the normal running direction of the watch, the wheel 3 is rotated in the direction opposite to the arrow 15. After the minute hand has passed over 12 (midnight), the calendar will indicate Wednesday 30th. At the proximity of number 12, a slight displacement in the running direction will bring Thursday 31st, then, inversely, Thursday 30th and so on, on the whole six times, until the calendar indicates Tuesday 31st. A last displacement of 24 hours in the running direction will bring the desired indication of Wednesday 1st. It is also possible to carry out this displacement of 24 hours at the beginning of the operation, when the indication of Thursday 1st is obtained, by proceeding from then on as previously described until the indication of Wednesday 1st appear in the opening 12.

This method is safer and avoids errors in the operation.

It is also possible to provide for the inverse arrangement in which the star wheel 5, operating the indicator for the days of the week, participates in the movement of the pin 4, in both directions, and in which the star wheel 6, operating the indicator for the days of the month, works only in the normal running direction. This arrangement permits a very rapid manual setting. Referring back to the previous example: It would then be sufficient, when the watch indicates the Wednesday 31st instead of the desired Wednesday 1st, to move once backwards, which would give Tuesday 31st, then once forwards, for obtaining immediately Wednesday 1st. However this latter operation is more delicate than the first, as it is easier to rotate in only one direction the star wheel operating the indicator for the days of the week, which has a smaller number of teeth than the star wheel operating the indicator for the days of the month, than to carry out reverse control. It is obviously possible to increase the number of teeth in wheel 5, by going from 21 to 28, possibly to 35 teeth; this overcomes another difficulty, i. e. the legible inscription on the dial

11, of four, and possibly five series of names of the days of the week.

What I claim is:

1. In a calendar time-piece comprising two concentric star wheels, the one for an indicator of the days of the month and the other for an indicator of the days of the week, a driving wheel for said star wheels, a pin on said driving wheel cooperating with the teeth of said star wheels, and a holding pawl cooperating with said star wheels for holding them in their rest positions, the arrangement being such that in these rest positions, one of said star wheels always has the center of one tooth situated on the line of centers of the star wheels and the driving wheel, while the other star wheel always has a center of one tooth situated slightly off of said line of centers, the arrangement further being such that the first star wheel is driven in both directions and the second star wheel is driven in only one direction by the displacements of the pin.

2. A calendar time-piece as claimed in claim 1, wherein the star wheel having all of the teeth located off of said line of centers when at rest, operates the indicator for the days of the month.

3. A calendar time-piece as claimed in claim 1, wherein the star wheel having all of the teeth located off of said line of centers when at rest, operates the indicator for the days of the week.

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REFERENCES CITED

The following references are of record in the file of this patent:

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