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WATCH MOVEMENT HAVING AN AUTOMATIC WINDING MECHANISM

Filed Dec. 2, 1950

Fig. 1

Fig. 2

Fig. 3

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2,661,591

WATCH MOVEMENT HAVING AN AUTOMATIC WINDING MECHANISM

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Application December 2, 1950, Serial No. 198,817

1. Claim. (Cl. 58—82)

This invention relates to watch movements having an automatic winding mechanism for the spring motor of the type comprising an oscillatory weight which is pivotally mounted in the center of a non-circular movement plate.

In watches having such non-circular or oblong movement plates, the various watch movement elements usually are arranged within a circular circumference so as to allow the oscillatory weight to turn along a circular path surrounding the movement elements. Automatic winding mechanism is also known in which the oscillatory weight moves like a pendulum between two buffers, and in this case is it is known to locate certain parts of the watch movement between the buffers, but such parts did not project beyond a circular boundary line corresponding to the outer periphery of the oscillatory weight.

The use of a non-circular or oblong movement plate for watch movements offers certain advantages when it is possible to utilize the entire available space on such plates for arranging the wheels or other members of the watch movement.

It is an object of the present invention to provide a watch movement having an automatic winding mechanism in which movable parts of the watch movement arranged underneath the oscillatory weight pass beyond the circular path described by the point of the weight having the greatest radial distance from its axis of oscillation.

It is a further object of the invention to dispose the main spring drum, the escapement wheel or the balance wheel underneath the oscillatory weight so that these members project outwardly beyond the periphery of the outer rim of the oscillatory weight. This arrangement allows in a watch movement of comparatively small dimensions to use comparatively large wheels or a large spring drum and affords a maximum increase of the adjustment accuracy of the watch, while at the same time to reduce the manufacturing cost of the watch.

A preferred example of a watch movement according to the invention is illustrated by way of example in the accompanying drawings, in which

Fig. 1 is a diagrammatic plan view of the watch movement;

Fig. 2 is a section along the broken line II—II of Fig. 1;

Fig. 3 is a fragmentary plan view of the winding train drawn to a larger scale.

The represented watch movement comprises a non-circular, oblong movement plate 1 and an oscillatory weight 2 the kinetic energy of which is transmitted to the arbor 3 of the main spring drum by a train of reducing and idler wheels 7 and 8. The provision of an oblong movement plate 1 is advantageous for creating such a type of movement when the entire...
available space offered by the plate can be utilised for disposing the movable members of the watch movement. This is rendered possible according to the invention owing to the fact that the main spring barrel 15, the escapement wheel 22 and the balance wheel 16, which are countersunk in the depth of the movement plate 1 as shown in Fig. 2, pass underneath the peripheral rim 2' of the oscillatory weight 2 which is pivotally mounted in the center of the movement, and extend beyond the circular path described by the point of the rim 2' having the greatest radial distance from the center of the movement. This arrangement of the said three members of the movement allows to make full utilization of the space available on the movement plate for mounting the various elements of the watch movement, to increase the size of those elements passing beyond the rim of the oscillatory weight, and consequently to diminish the production cost while at the same time increasing the quality of the watch. In other words, the oblong movement plate is larger at the ends than the periphery path travelled by the oscillating weight and this greater length of the movement plate is utilized to mount the spring barrel and the regulating mechanism, which includes the escapement wheel and the balance wheel; particularly, the barrel and the escapement wheel extend into the end portions of the movement plate which lie outside of and beyond the periphery of the path of movement of the weight.

While I have shown and described a certain preferred embodiment which my invention may assume in practice, it will be understood that variations may be made in the arrangement and disposition of the various parts of the watch movement without departing from the spirit of the invention or the scope of the appended claims:

I claim:

In a watch movement having an automatic winding mechanism, an oblong movement plate, an oscillating weight pivotally mounted in the center of the movement plate, said weight being substantially semicircular in outline and having a flat upper surface on the central portion thereof and a peripheral rim portion substantially thicker than the central portion which rim depends to a plane below the plane of the central portion, said weight having a path of oscillation which at its periphery substantially coincides with the outer edges of the movement plate at the narrow dimension thereof but is substantially within the outer edges of the movement plate at its greater dimension, a main spring barrel mounted in the movement plate in a plane beneath the path of oscillation of the peripheral rim portion of the weight, a train of wheels interconnecting the oscillating weight and the main spring barrel, said wheels disposed within the path of movement of said oscillating weight and regulating means including an escapement wheel and a balance wheel mounted in the movement plate in a plane beneath the path of oscillation of the peripheral rim portion of the weight, said main spring barrel and said escapement wheel each having a portion extending into the end portions of the movement plate which are beyond the path of oscillation of the weight.

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