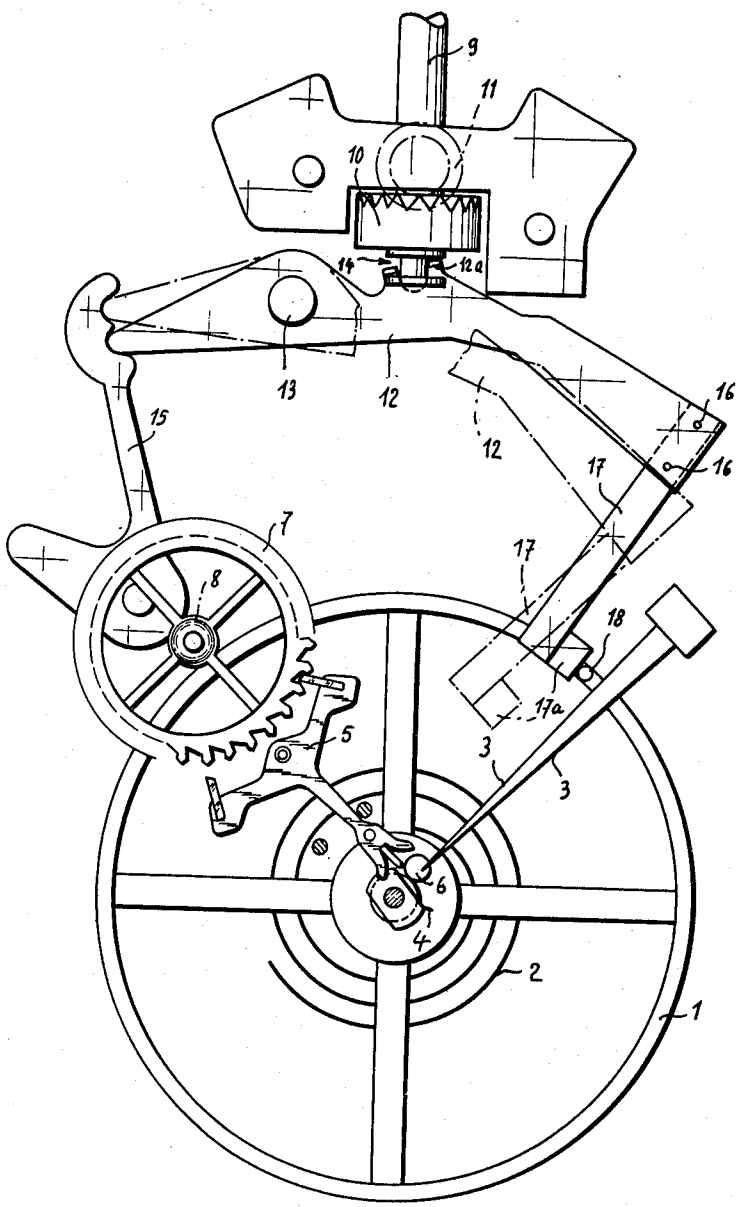
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ELECTRIC CLOCK OR WATCH HAVING AN OSCILLATORY REGULATOR

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1

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ELECTRIC CLOCK OR WATCH HAVING AN OSCILLATORY REGULATOR

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1 Claim. (Cl. 58—28)

This invention relates to an electric clock or watch having an oscillatory balance, comprising a yoke for stopping the said balance, controlled by the setting stem, and adapted to occupy two positions, an inoperative position and an operative position respectively corresponding to two positions of the setting stem.

Said watch or clock is characterized in that the said yoke has a resilient arm, and when the yoke is in its operative position the end of said resilient arm is situated on the path of a stop stud carried by the balance, said resilient arm operating like a pawl so that in one direction of movement of the balance the said stud is able to clear the said arm, which then undergoes elastic deformation, while on the return of the balance the said stud abuts the said arm and is kept applied against it under the action of the resilient device to which the balance is subjected, the whole in such manner that the said balance is held stopped outside its position of balance.

One embodiment of the subject of the invention is illustrated by way of example in the drawing.

The FIGURE is a plan view from below of part of a clock or watch and diagrammatically illustrates only those parts necessary to an understanding of the invention.

The clock or watch illustrated comprises a regulating balance 1 subject to the action of a hair spring 2. The mechanism for maintaining the oscillations of the balance has not been shown except for an electric contact comprising two resilient blades 3 with which a stud 4 carried by the balance comes into contact on each half-oscillation. Said contact forms part of an electric circuit for driving the balance.

The indicator means of the clock or watch, i.e. hour and minute hands, are not shown, and are driven by the balance through the medium of a counting mechanism comprising a pallet fork 5 actuated by the balance pin 6, cooperating with a counting wheel 7 having the shape of an escape wheel. The wheel 7 is connected to a pinion 8 which drives a gear train (not shown) leading to a centre wheel carrying the cannon pinion.

The hands of the clock or watch are set by means of a stem 9 bearing a pinion 10; said stem is adapted to occupy two axial positions: one (shown in the drawing), in which the pinion 10 engages the setting wheel 11 of the clockwork mechanism, and the other in which said pinion 10 is disengaged from the setting wheel 11, in which case the stem 9 can turn freely. The minute wheel, wheel and pinion respectively meshing with the cannon pinion and the hour wheel, have not been shown.

The clock illustrated also comprises a yoke 12 pivoted at 13 on the frame of the movement and having a fork 12*a* bent at a right-angle and engaging in an annular groove 14 formed in the end of the setting stem 9. A jumper spring 15 acts on the yoke 12 which acts like a

2

setting lever to ensure the stability of the two positions of the stem 9. Riveted on the yoke 12 at 16 is a resilient arm 17, and when the yoke occupies the position shown in solid lines in the drawing the end 17*a* of said arm is situated beneath the rim of the balance wheel 1; said end 17*a* of the resilient arm 17 is bent slightly in the direction of the balance rim so as to form a resilient pawl cooperating with a stop stud 18 carried by the balance rim. When the balance moves in the clockwise direction, the stud 18 can pass above the end 17*a* of the arm 17, which then is pulled down resiliently, while when the balance moves in the opposite direction the stud 18 strikes against the end 17*a* and is kept applied thereto under the action of the hair spring 2. When the yoke 12 occupies its inoperative position shown in chain-dotted lines in the drawing, the end 17*a* of the arm 17 is no longer in the path of the stop stud 18 so that the balance can move freely.

It should be noted that the stoppage of the balance takes place in a position such that the electrical contact between the blades 3 and the stud 4 is open, and this avoids any unnecessary current consumption when the clock is stopped. Moreover, the balance stops outside its position of equilibrium so that the balance automatically restarts when the clock is unlocked.

Finally, the position in which the balance stops corresponds to a position of the pallet fork 5 in which one of its arms has engaged in the counting wheel 7, thus locking the driving train for the hands, and the driving train cannot be driven when the hands are re-set manually.

What I claim is:

In an electric watch or clock comprising a resiliently urged oscillating balance, a yoke for stopping the said yoke, a setting stem controlling the said yoke, which is adapted to occupy two positions, an inoperative position and an operative position respectively corresponding to two positions of the said setting stem, and a counting device comprising a pallet fork and a counting wheel, in such a watch or clock: a resilient arm of the said yoke, a stop stud carried by the said balance, in the path of which the end of the said resilient arm is situated when the said yoke is in its operative position, said resilient arm operating like a pawl so that in one direction of movement of the said balance the said stud is able to clear the said arm, which then undergoes elastic deformation, while on the return of the balance the said stud abuts the said arm and is kept applied against it under the action of the said resilient device to which the said balance is subjected, the whole in such manner that the said balance is held stopped outside its balance position, the relative position between the said yoke and balance stud being such that the balance stops in a position in which one of the arms of the said pallet fork is engaged in the said counting wheel so as to lock the latter.

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