OPERATING MEANS FOR THE MECHANISM OF CHRONOGRAPHs

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OPERATING MEANS FOR THE MECHANISM OF CHRONOGRAPHS

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The present invention relates to operating means for the mechanism of a chronograph.

The object of the present invention is to allow the usual circular movements of chronographs and counters to be used in non-circular cases, watertight or not. The invention consists in the provision of operating means for the mechanism of chronographs in non-circular cases, said means comprising at least one push-button arranged in the wall of the case said button being adapted to operate a blade spring, adapted to move a push-member controlling the movement of the chronograph.

The annexed drawing represents, as an example, three embodiments of the invention.

Fig. 1 is a plan view of a first embodiment, with the bezel removed.

Fig. 2 is a side view of this embodiment, partly in section.

Fig. 3 is a plan view of a second embodiment and

Fig. 4 is a part of a section taken on line IV—IV of Fig. 3.

Fig. 5 is a part of a plan view of a third embodiment.

The three embodiments relate to a chronograph with two push buttons both independent of the stem, the square bottom 10 of the case having bent up edges, to which the bezel, not shown, of the chronograph is fixed.

In the first embodiment (Figs. 1 and 2) the circular movement 14 is fitted into a ring 12 and is, like most of the ordinary chronographs, provided with two push buttons 13 independent of the stem and acting, radially to the movement, on the levers and pivoted detents for starting, stopping and returning the watch to zero. A tube 14, receiving the stem, is provided on the case. Two outer push-buttons 15 independent of the movement are fitted into openings provided on one side of the square case band and are adapted to operate the radial push-buttons 13 by means of the free ends 16 of a split annular blade-spring 16, resting, along part of its length, in a peripheral groove of the ring 12. This spring is held on the ring 12 by means of the pins 17 fixed to the lugs 18 on the ring 12. With a view to preventing any sliding of the spring 16 on the ring 12 under the effect of either of the push-buttons 15 this spring carries two lateral projections 20 of ring 12. The radial push-buttons 13 are riveted on the free ends 16' of spring 16. These push-buttons could also be independent of said spring.

In the embodiment of Figs. 3 and 4 the ring carrying the movement of the chronograph is omitted. The movement 11 rests direct on the square bottom 10 whose bent up edges are provided with lugs 21 holding the movement in place. A split annular blade spring 16 surrounds the movement on part of its circumference and the two free ends 16' of the spring are turned towards the center of the movement to form the radial push-buttons. In order to prevent any circumferential displacement of spring 16 this spring possesses two lateral projections 19 cooperating with the shoulders formed by the lugs 21 of the bottom 10. The outer push-buttons 15 are here formed as tight push-buttons acting on the spring 16 by means of the loose washers 22 facilitating the cooperation between the push-button 15 and the spring 16.

The embodiment represented in Fig. 5 differs from the first embodiment only in that the split annular spring 16 is replaced by the two blade springs 23 attached, independently of each other, to the ring 30 by means of two screws 24. The radial push-buttons 13 are riveted on the free ends of the blade springs 23.

It is understood that other fastening and adjusting means of the annular springs could be used and the means according to the invention could just as well be applied to a chronograph with only one push-button and to other forms of cases where the push-buttons of the movement do not lie in a radial direction.

What I claim is:

1. In a chronograph, a case, a circular movement, a push-button arranged in the wall of said case, a blade spring adapted to act direct on and to be flexed direct by said push-button, and a push-member adapted to serve as a controlling means for said movement and to be controlled direct by said blade spring on said latter being flexed.

2. In a chronograph, a case, a circular movement, a blade spring, a push-member on said blade spring, said push member being adapted to serve as a controlling means for said movement, a push-button arranged in the wall of said case and adapted to be acted on direct by said blade spring and adapted to operate said push-member.

3. In a chronograph, a case, a circular movement, a ring adapted to receive said movement, a peripheral groove on said ring, a blade spring adapted to enter said groove, lugs on said ring, pins fixed to said lugs and adapted to fix said spring on said ring, a sinking on said ring, a lateral projection on said spring, adapted to en-
gage said sinking, two push-members, each on one end of said blade spring, said push-member being adapted to serve as a controlling means for said movement, two push-buttons arranged in the wall of said case and adapted to be acted on direct by said blade spring and adapted to operate said push-members.

4. In a chronograph, a case, a circular movement held by said lugs, a blade spring touching the circular movement on part of its circumference, a lateral projection on said spring, adapted to co-operate with one of said lugs for preventing a circumferential displacement of said spring, two push-members each on one end of said blade spring, said push-members being adapted to serve as a controlling means for said movement, two push-buttons arranged in the wall of said case and adapted to be acted on direct by said blade spring and adapted to operate said push-members.

5. In a chronograph, a case, a circular movement, a ring adapted to receive said movement, two blade springs fixed at one end to said ring, two push-members each on the free end of one of the blade springs, said push-members being adapted to serve as a controlling means for said movement, two push-buttons arranged in the wall of said case and adapted to be acted on direct by said blade springs and adapted to operate said push-members.

6. In a chronograph, a case, a circular movement, a blade spring, a push-member formed by a spring-end turned towards the center of said movement, said spring-end being adapted to serve as a controlling means for said movement, a push-button arranged in the wall of said case and adapted to be acted on direct by said blade spring and adapted to operate said push-member.

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