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ESCAPEMENT LEVER FOR WATCHES, TIMEPIECES AND THE LIKE

Filed Sept. 29, 1960

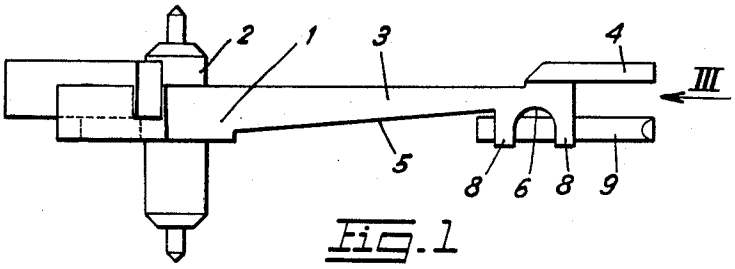


Fig. 1

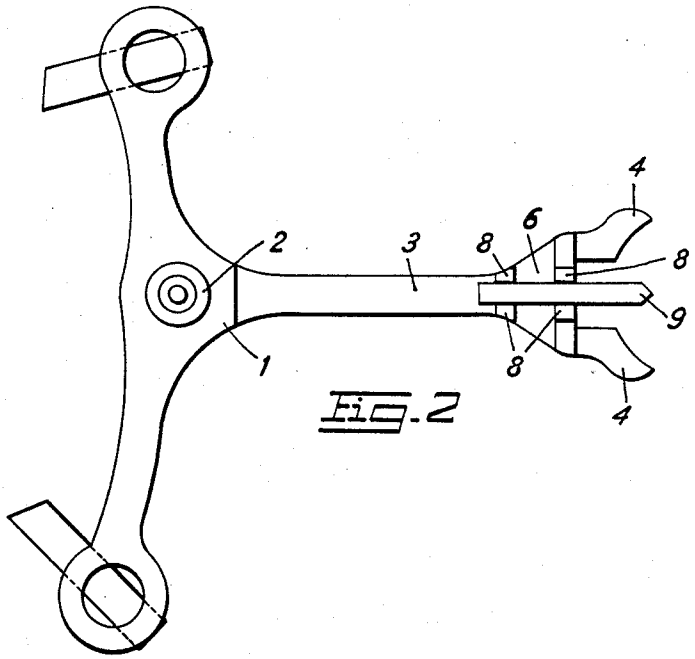


Fig. 2

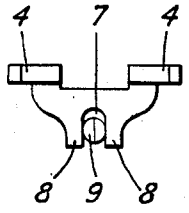


Fig. 3

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ESCAPEMENT LEVER FOR WATCHES, TIMEPIECES AND THE LIKE

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3 Claims. (Cl. 58—121)

This invention relates to escapement levers for watches, timepieces and the like, and in particular to a fixing arrangement of the safety fingers of such levers.

The escapement levers known in the art and used in the best watches are usually provided with a heavy portion at the end of their forked arm. This heavy portion is extending below the lever arm and a bore is provided therein in a direction parallel to the arm carrying said portion to serve as lodging for the safety pin or finger.

The lever portion carrying the safety finger substantially increases, however, the moment of inertia of the lever and it also causes the latter to be considerably out of poise.

Since an escapement lever disturbs the running rate of the watch the more the greater its moment of inertia is, an escapement lever as for commoner watches provided with a safety pin merely riveted to a thin lever plate and then bent at right angle below said plate appears to be better in this respect than the escapement levers of the best watches, because it is substantially lighter and better in poise.

It is therefore an object of this invention to provide a fixing arrangement for a substantially cylindrical safety pin or finger of an escapement lever, which enables a substantial reduction of the weight and of the moment of inertia of the lever, while ensuring an absolutely reliable fixation and adjusting possibilities of the length of the safety pin or finger as good as with the known escapement levers of the same type.

Another object of the invention is to provide the forked lever arm with at least a pair of upright projections extending from its lower face underneath the forked end forming the horns of the lever, so as to enable resiliently clamping a substantially cylindrical safety pin or finger between said projections.

Still further objects of the invention will become apparent in the course of the following description.

One embodiment of the escapement lever according to the invention is represented by way of example in the drawings annexed to this specification.

In the drawings:

FIG. 1 is an elevational view of said embodiment;

FIG. 2 is a view from the bottom of the lever of FIG. 1, and

FIG. 3 is a part elevational view in the direction of arrow III in FIG. 1.

With reference to the drawings the escapement lever **1** is rigidly fixed to a usual staff **2** and it comprises an arm **3** slendered towards the forked lever end forming the horns **4** so as to reduce the weight and above all the moment of inertia of the lever part considered.

The slendered lever arm **3** is obtained by milling as at **5** the lower face of said arm. The milled portion **5** does however not extend to the end of arm **3**. It leaves a heavy portion at said arm end, which is extending below the lever horns. A transverse slot **6** is provided across said heavy portion so as to form two projecting wall

portions below the lever arm and a channel **7** (FIG. 3) is provided in a direction parallel to arm **3** across said wall portions so as to form two pairs of projections **8**.

The width of channel **7** is a trifle smaller than the diameter of the cylindrical safety pin of finger **9** so that the latter may be set between projections **8** while urging the latter away from one another and producing a resident deformation thereof. The projections **8** thus firmly grip the safety pin **9** so that the latter cannot move by itself with respect to the lever. The projections **8** are very light and they do not substantially increase the moment of inertia of the lever. Their length can even be reduced to such an extent that the ends of these projections are flush with the safety pin.

The weight of the lever is already substantially reduced even without providing slot **6** across the heavy portion of the forked lever arm and when the latter is accordingly provided with only one pair of safety pin clamping projections.

With respect to the fixing arrangements of the safety pin, which are known in the art, the arrangement described has still the advantage to permit using a safety pin with a diameter substantially smaller than that of the usual cylindrical safety pins set with force fit into a bore of a bulky lever portion, since it is indeed easier to provide a very narrow slot or channel as **7** than to provide a small cylindrical bore. This possibility of using a safety pin smaller than with known levers of the same type has again the advantage to permit reducing the moment of inertia of the lever.

Since the lever according to the invention clamps the safety pin at two different points being relatively far away from one another, it will be observed that the safety pin is held in a more precise position than with levers holding said safety pin between two parallel and relatively long surface portions.

While one embodiment of the invention has been described in detail with reference to the drawings, various changes in the shape, sizes and arrangement of parts will appear obvious to those skilled in the art.

I claim:

1. In an escapement lever comprising an arm carrying two horns and a safety finger on said arm, a safety finger fixing arrangement comprising upright projections on said arm near said horns thereof to clamp said safety finger resiliently, said safety finger being cylindrical and said projections having a length substantially equal to the diameter of said safety finger.

2. In an escapement lever comprising an arm carrying two horns and a safety finger on said arm, a safety finger fixing arrangement comprising two pairs of upright projections on said arm near said horns thereof to clamp said safety finger resiliently in two points longitudinally spaced apart along said finger.

3. The fixing arrangement of claim 2, said projections being flush with said safety finger.

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