June 30, 1931. M. BLOCH 1,812,581

TIMEPIECE WINDING MECHANISM

Filed July 12, 1929

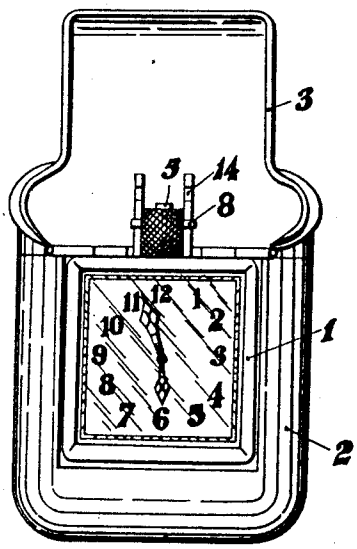


Fig. 1

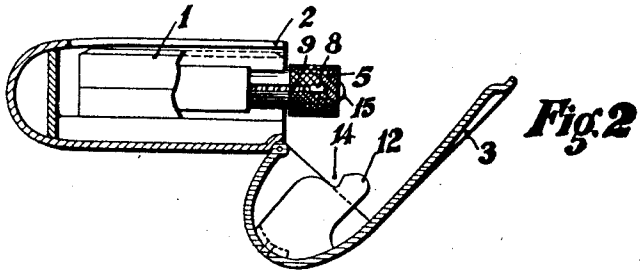


Fig. 2

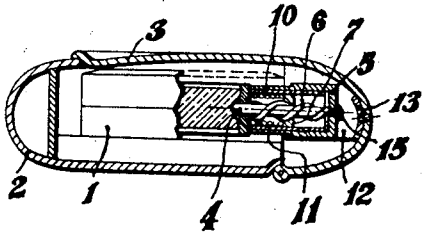


Fig. 3

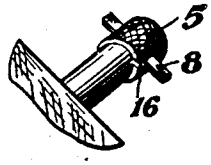


Fig. 4



Fig. 5

INVENTOR
Marcel Bloch
BY
Kings, Boyce & Bakelar
ATTORNEY

Patented June 30, 1931 1,812,581

UNITED STATES PATENT OFFICE

MARCEL BLOCH, OF PARIS, FRANCE

TIMEPIECE WINDING MECHANISM

Application filed July 12, 1929, Serial No. 377,743, and in Switzerland June 25, 1929.

This invention relates to a time-piece winding mechanism and its particular object is to provide a mechanism of this kind wherein the winding stem is rotated upon movement of a movable member of the time-piece, for instance a dial cover in which case, when the cover is opened to read the time and then again closed, means provided on this cover act upon the winding stem to impart a rotary motion thereto.

A specific construction embodying the present invention is illustrated in the accompanying drawings in which:

Fig. 1 is a top view of a watch of the so-called sport type with the dial cover in open position.

Fig. 2 is a side view of the watch, partly in section.

Fig. 3 is an axial section through the watch with the cover in closed position.

Fig. 4 shows a detail part in perspective view.

Fig. 5 is a modification of a detail part.

In the construction shown, the watch comprises a movement and case 1 provided with a dial and enclosed in a box 2 which can be closed by means of a cover 3 hingedly connected to the body of the box.

For the purpose of time setting and winding the watch movement is provided with a stem 4 to which is loosely fitted by means of a screw a cup-shaped crown 5. The stem 4 is provided over a portion of its length with a screw thread 6. A nut 7 having two laterally projecting wings 8 is slidably arranged on the stem 4, the two wings being engaged in two diametrically opposed slits 9 of a fixed tube 10 and also in two similar slits 16 of the crown 5. A spring 11 is provided in the interior of the tube 10 and tends to keep the nut 7 on the upper end of the stem 4. To the interior of the cover 3 is secured an abutment formed by two cams 12 which are united by a bridge 13 to form an integral member.

The described mechanism functions in the following manner: When the cover 3 is brought from open into closed position the two cams 12 come to bear upon the wings 8 of the nut 7. When the cover is moved further, the wings are progressively pushed downwards entering the identations 14 of the cams. The nut 7, owing to the wings being engaged in the slits 9 of the tube 10, can only slide in the direction of the slits, that means rectilinearly, so that the stem 4 is rotated by the movement of the nut, in a direction depending from the kind of screw thread 6 provided on the stem, which rotation of the stem results in winding the main spring of the time-piece. When the cover 3 is opened the nut 7 is brought back to the top end of the stem 4 by means of the spring 11 which had been compressed during the winding operation.

To set the watch it is sufficient to pull the crown 5 outwardly. The wings 8 of the nut 7 which is moved with the stem abandon the slits 9 of the tube 10 but stay engaged in the slits 16 of the crown so that the stem can freely turn in both directions upon turning the crown. After a time setting operation the crown and the nut have to be pushed downwards as is usual in all watches and the wings 8 are reengaged in the slits of the tube.

Figure 5 shows a modification of the cam arrangement in the interior of the cover 3. The two cams 18 are provided with slits 17 engaging the wings 8 of the nut 7. The slits 18 have such a shape that by closing the cover 3 the nut 7 is pushed downwards by one of the walls of the slit, while by opening the cover the wings 8 are engaged by the opposite wall of the slit 17 and the nut is brought back to the top end of the winding stem. The use of this arrangement permits to dispense with the spring 11.

It is to be understood that the invention is not limited to the embodiment shown and described, particularly the winding mechanism could be used in connection with another kind of time-piece than that shown, or with the watch as represented the winding could be effected by opening instead of by closing the cover 3.

I claim:

1. A time-piece comprising a movement and a rotatable winding stem having a portion thereof provided with a screw thread, and a casing within which said movement is mounted, said casing comprising a relatively

stationary member and a relatively movable member, a nut engaged on said screw threaded portion of the winding stem, means preventing the nut from turning on the screw thread but permitting the nut to move axially therealong, and means provided on said relatively movable member of the casing and arranged to act on the nut to cause rotation of the winding stem when the member is moved.

2. A time-piece comprising a movement and a rotatable winding stem having a portion thereof provided with a screw thread, and a casing within which said movement is mounted, said casing comprising a relatively stationary member and a relatively movable member, a nut engaged on said screw threaded portion of the winding stem, lateral wings on said nut, a guiding tube surrounding the winding stem and the nut and being provided with slits adapted to receive said wings thereby preventing the nut from turning on the screw thread but permitting the nut to move axially therealong, and means provided on said relatively movable member of the casing and arranged to act on the wings of the nut to cause rotation of the winding stem when said member is moved.

3. A time-piece comprising a movement and a rotatable winding stem having a portion thereof provided with a screw thread, and a casing within which said movement is mounted, said casing comprising a relatively stationary member and a relatively movable member, a nut engaged on said threaded portion of the winding stem, lateral wings on said nut, a guiding tube surrounding the winding stem and the nut and being provided with slits adapted to receive said wings thereby preventing the nut from turning on the screw thread but permitting the nut to move axially therealong, spring means tending to push said nut axially towards one end of the winding stem, and means provided on said relatively movable member of the casing and arranged to act on said wings to push the nut axially towards the outer end of the winding stem when said member is moved.

4. A time-piece comprising a movement and a rotatable winding stem having a portion thereof provided with a screw thread, and a casing within which said movement is mounted, said casing comprising a relatively stationary member and a relatively movable member, a nut engaged on said screw threaded portion of the winding stem, lateral wings on said nut, a guiding tube surrounding the winding stem and the nut and being provided with slits adapted to receive said wings thereby preventing the nut from turning on the screw-thread but permitting the nut to move axially therealong, a crown rotatably mounted on the winding stem and also provided with longitudinal slits adapted to receive said wings, spring means tending to push said nut axially towards one end of the winding stem, and means provided on said movable member of the casing and arranged to act on said wings to push the nut axially towards the other end of the winding stem when said member is moved.

In testimony whereof I affix my signature.

MARCEL BLOCH.