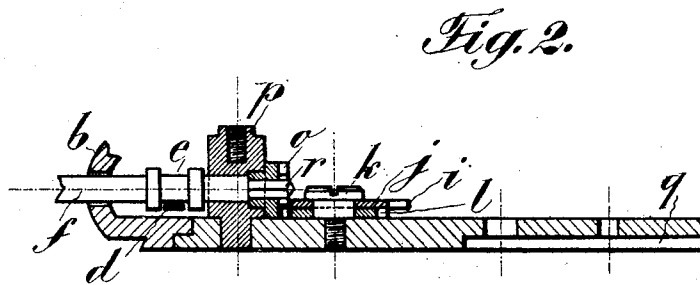
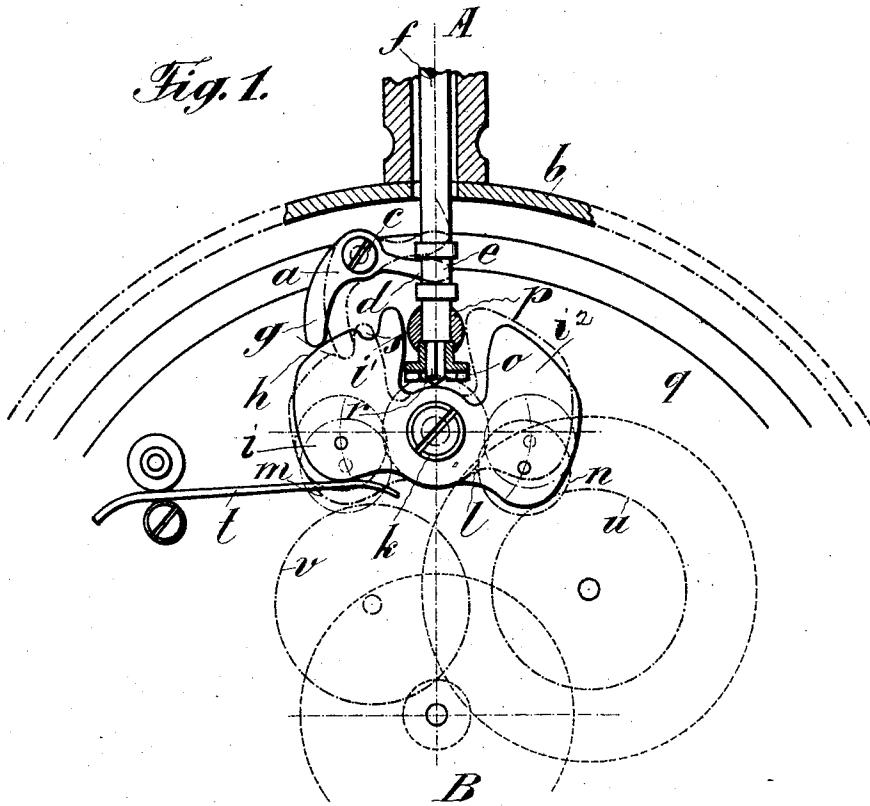


H. SANDOZ.

WINDING AND SETTING MECHANISM FOR WATCHES.

APPLICATION FILED SEPT. 5, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRI SANDOZ, OF TAVANNES, SWITZERLAND.

WINDING AND SETTING MECHANISM FOR WATCHES.

No. 856,183.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed September 5, 1905. Serial No. 277,125.

To all whom it may concern:

Be it known that I, HENRI SANDOZ, watchmaker, residing at Tavannes, Canton of Bern, Switzerland, and a citizen of Switzerland, have invented a new and useful Improvement in a Winding and Setting Mechanism for Watches; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to improvements in watches and more specially to that portion which has to do with the winding and setting of the watch, the invention having for its object the provision of a device whereby the winding stem may be alternatively thrown into operative engagement with the winding and setting train thereof.

The invention has for a further object the provision of improved mechanism of this character wherein the number of operative parts is reduced and the operation simplified and made more responsive and effective.

To this end the invention consists in the provision of a vascule or yoke pivotally mounted in the movement and carrying on its free ends wheels adapted, when the yoke is rocked, to be thrown into mesh with the winding and setting trains, both of the pinions being operatively connected with the winding stem.

The invention also includes a rocking member connected with the winding stem and the yoke in such a manner as to rock the latter upon reciprocation of the former and said yoke is provided with cam rocking and locking surfaces adapted to be engaged by said member to rock and lock the yoke in one of its positions. There is provided a bearing for the winding stem together with stop projections on the yoke adapted to engage said bearing to limit the movement of the yoke in opposite directions which in connection with a spring engaging the yoke forms the combination constituting the present invention.

The invention will be described more fully in connection with the accompanying drawing and will be more particularly pointed out and ascertained in and by the appended claims.

In the drawings: Figure 1 is a diagrammatic sectional view of a watch or clock movement showing the device of my invention applied thereto. Fig. 2 is a section on line A B of Fig. 1 showing the setting and winding trains removed.

As shown the winding train is indicated at

u and the setting train at *v* each suitably mounted on the pillar plate *g* of the casing *b*. A winding stem *f* is shown mounted at its lower end in a pillar block *p* the said stem projecting upwardly into and through the pendant in the usual manner, the crown and the connection of the stem therewith not being shown. The said stem *f* is provided with shoulders between which is formed an annular recess *e* for a purpose which will be hereinafter described, said stem being shown square in cross section at its lower end and having sliding and non-rotating engagement with a stem pinion *o*. Said pinion and stem are each rotatively mounted in the pillar *p* and the connection of the stem and pinion permits the former to be raised and lowered by the crown for the hereinafter described purpose.

A yoke *i* is pivoted centrally of its ends to the pillar plate *g* or to any convenient stationary part of the movement, preferably upon a bearing *k* which also carries a crown wheel *l*. Said wheel *l* meshes with the stem pinion *o* and supports the same in the pillar *p*. The yoke *i* is provided with wings *i'* and *i''*, the inner faces of which perform the function of stop projections by engaging the pillar *p* limiting the rocking movement of the yoke *i*. The wing *i'* is provided with a cam rocking surface *h* and a cam locking surface *s* adapted to be engaged by movable member *a* consisting preferably of a bell crank, one arm *g* thereof engaging the cam surfaces and the other arm *d* engaging the recess *e* in the winding stem. The yoke *i* carries pinions *m* and *n* which mesh with the pinion *l* and which are operated therethrough by the winding stem. The yoke *i* is so located with respect to the winding and setting trains that the pinions *m* and *n* are respectively alternately thrust into engagement with the pinions *v* and *u* when the yoke *i* is rocked upon its pivot, the said yoke engaging the pillar *p* to limit the rocking movement of the yoke, thereby avoiding injury of the teeth of the meshing pinions.

In devices of this nature it is the practice to operatively connect the winding stem and winding train when the parts are in a normal position and to this end there is provided a spring *t* which normally engages the yoke *i* on the left hand side thereof, serving to hold the parts in the position shown in full lines.

The operation will be obvious of the foregoing but may be briefly stated to be as fol-

lows: Assuming that the user wishes to set the hands of the watch and shift the parts from the winding position as shown in full lines to the setting position as shown in dotted lines, he will grasp the crown and reciprocate the winding stem bodily in an upward direction, which action will cause the lower arm *g* of the bell crank to slide up on the cam surface *h* and rock the yoke *i* against the action of the spring *t*, in a contra-clockwise direction. When the arm *g* engages the surface *s* it will seat therein and hold the parts in a setting position with the pinion *m* in mesh with the setting pinion *v* thus leaving the operator free to rotate the stem and set the hands without at the same time pulling outwardly on the stem. When it is desired to again throw the yoke into a winding position it will merely be necessary to apply a quick downward pressure to the crown in a manner to force the arm *g* out of the cam surface *s* whereupon the spring *t* will automatically rock the yoke into the position shown in full lines.

25 The device of my invention reduces the number of parts in mechanism of this character to a minimum and affords in quick, re-

sponsive and effective means for performing the functions described.

I claim:—

An improved winding and setting mechanism comprising in combination a rocking yoke provided with rocking and locking cam surfaces and stop projections, pinions mounted on said yoke and adapted to be alternately thrust into mesh with winding and dial wheels, a crown wheel meshing with said pinions, a stem pinion meshing with said crown wheel, a slidably mounted stem nonrotatively and slidably engaging said stem pinion, a bearing for said stem adapted to be engaged by said stop projections, means normally holding said yoke in a winding position, and a rocking lever cooperating with said rocking and locking cam surfaces to rock and lock the yoke into a setting position.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HENRI SANDOZ.

Witnesses:

ARMAND PERRELET,
PHILIPPE BÉGUIN.