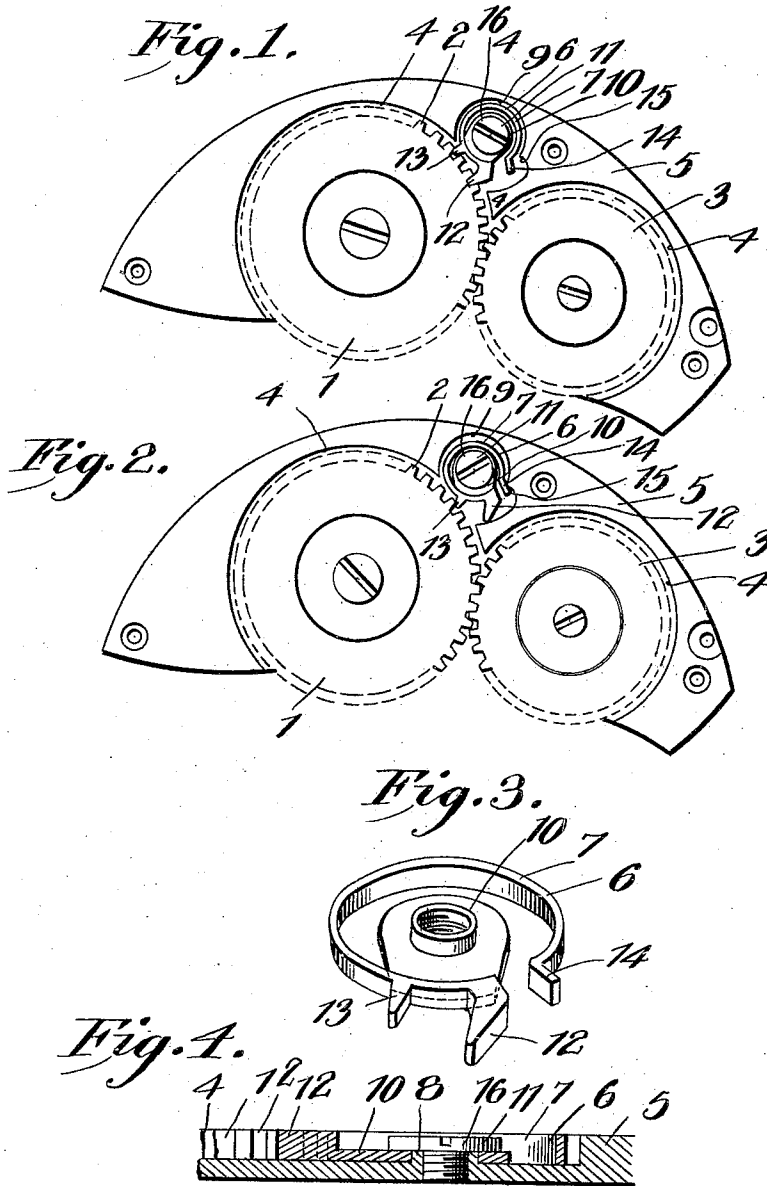


A. AUNE.
WATCH.

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940,117.

Patented Nov. 16, 1909.



Witnesses

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ANDERS AUNE, OF WALTHAM, MASSACHUSETTS.

WATCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDERS AUNE, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Watches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to winding mechanisms, and is more particularly adapted for use in connection with the mainsprings of watches. Its principal object is to provide an effective mechanism of this character which will obviate the possibility of leaving the mainspring too tightly wound, a condition which tends to subject the winding-drum arbor to undue torsional strain and to so force the convolutions of the mainspring into frictional engagement that its full force of expansion is not at once applied.

In the accompanying drawing, Figures 1 and 2 are fragmentary plan views of a watch, showing the winding wheel and click in two positions; Fig. 3 is a detail perspective view of the click on an enlarged scale; and Fig. 4 is a transverse section taken on the line 4-4 of Fig. 1.

In the embodiment illustrated the numeral 1 indicates the usual winding-wheel of a watch, it being provided with the usual teeth 2, and connected with the winding-stem through the crown wheel 3, both of these members lying, as is customary, in a recess 4 in the plate 5.

Pivotally mounted adjacent to the winding-wheel 1, is a click or pawl 6, which as shown, comprises a circular body 7 formed by a thin strip or piece of elastic material, preferably steel, bent into the proper form. The click or pawl is removably and pivotally mounted upon a tubular interiorly threaded stud 8 arising from the recessed portion 9 of the plate 5, by means of a horizontal arm 10 integral with and projecting inwardly from the click and having a central opening to receive the stud, the arm 10 being held in position by a retaining screw 11 extending through the opening in the arm and screwing into the stud 8.

The body 7 of the click terminates at one

end in a radially projecting toe or portion 12 adapted to enter the space between any two adjacent teeth of the winding-wheel 1 and hold the same against reverse rotation after the mainspring has been wound. The click is also provided at said end near the locking toe or portion 12 thereof with a second projection 13 which engages the teeth of the winding-wheel at all times, the purpose of which will be disclosed. The opposite end of the click terminates in an outwardly bent portion 14 adapted to engage the wall 15 of the recess in which the click is mounted and limit the inward swinging movement of the click. When the mainspring has been wound up the winding-wheel is turned in the direction indicated by the arrow in Fig. 2 and thereby the projection 13 is engaged by one of the teeth of the winding-wheel and the click is caused to swing upon its pivot in left-hand rotation, carrying the locking projection 12 away from the teeth of the wheel until the outwardly bent portion 14 at the opposite end of the click body engages the wall 15 of the recess in which the click is mounted, as heretofore stated. After the outwardly bent portion 14 of the click engages the wall of the recess as stated the continued rotation of the winding-wheel causes the locking-toe or projection 12 of the click to swing still farther away from the teeth thereof and until the teeth of the winding wheel are permitted to pass by the projection 13 of the click.

Attention is called to the fact that when the click is in locking position or in the position indicated in Fig. 2 the body of the click fits loosely around the head of the stud which permits the locking-toe or projection of the click to swing still farther away from the teeth of the winding-wheel even after the outwardly bent portion 14 of the click has engaged the wall of the recess 9, whereby the body of the click is contracted and the projection 13 of the click held in operative engagement with the teeth of the winding-wheel by the expansive tendency of the click. When the tension of the winding-wheel is relaxed, the contact of the teeth 2 and the projection 13 moves the locking-toe or portion 12 into its original position as indicated in Fig. 1 whereby the winding-wheel is allowed to slacken or turn back which causes a slight

loosening of the mainspring and relieves the drum-arbor of excessive torsion. Thus it is impossible even when the mainspring is completely wound up for the convolutions to tightly wind upon each other and bind.

5 It will be seen that with a click, as shown and described, its own resilience causes it to remain in engagement with the winding-wheel, and there is thus no necessity for providing a separate spring for that purpose.

10 From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

15 Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claim.

20 Having thus described and ascertained the

nature of my invention, what I claim as new and desire to secure by Letters-Patent, is:—

In a winding mechanism, a winding wheel, a click comprising a pivoted arm, a click pawl carried at the end on one side of said arm and lying in the path of and adapted to be operated by the winding wheel, a locking pawl on the end of the arm at the opposite side, said locking pawl being longer than the click pawl and adapted to be engaged with the teeth of the winding wheel to lock the same, and a circular spring integral with the arm adapted to maintain the click pawl in engagement with the winding wheel.

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

ANDERS AUNE.

Witnesses:

PRYOR FULTON,
RAGNILD A. AUNE.