

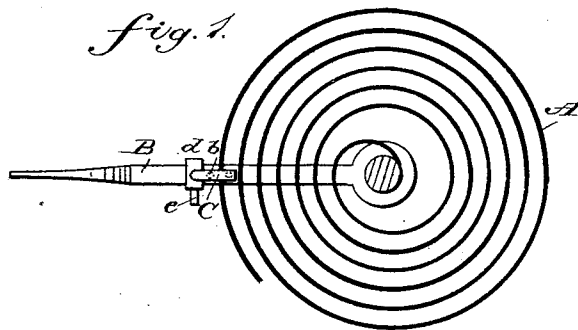
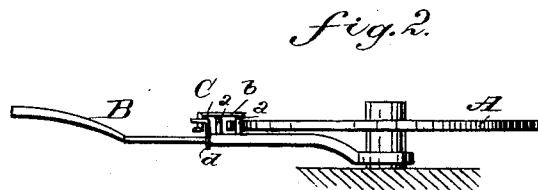
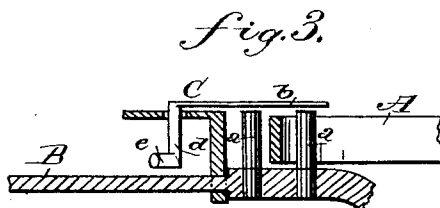
(Model.)

F. A. CURPEN.

HAIR SPRING PROTECTOR FOR WATCHES.

No. 273,034.

Patented Feb. 27, 1883.



WITNESSES:

Geo. Beyer
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INVENTOR:

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UNITED STATES PATENT OFFICE.

FERDINAND A. CURPEN, OF UPPER SANDUSKY, OHIO.

HAIR-SPRING PROTECTOR FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 273,034, dated February 27, 1883.

Application filed July 6, 1882. (Model.)

To all whom it may concern:

Be it known that I, FERDINAND A. CURPEN, of Upper Sandusky, in the county of Wyandot and State of Ohio, have invented a new and Improved Hair-Spring Protector for Watches, of which the following is a full, clear, and exact description.

In watches the outer curl of the hair-spring is attached to the regulator by being laid between two pins fastened to the regulator-arm, and it often occurs by a jerk or sudden movement that the second curl of the hair-spring is thrown between the pins, thereby shortening the hair-spring and causing the watch to run too fast, and in some cases stopping the watch.

The object of my invention is to prevent the liability of the second curl of the spring being caught by the pins, for which purpose I provide a device for closing the space between the pins after the spring is applied, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a watch spring and regulator having my improvement applied. Fig. 2 is a side view of the same, and Fig. 3 is a section showing the parts in larger size.

A is the spring, and B is the regulator-arm, provided with pins *a a*, between which the outer end of the spring A is received.

C is the device for preventing misplacement of the spring, which, as shown, consists of a tongue, *b*, pivoted to a stud, *d*, that is attached upon the regulator-arm B in such a manner

that the tongue can be turned to cover the ends of the pins *a* after the spring is applied or turned at one side to allow insertion of the spring. The pivot of the tongue *b* is formed with a right-angle extension, *e*, which extends at one side of the stud *d*. This extension is to facilitate the turning of the tongue to cover and uncover the ends of the pins *a*. The tongue is held in its place by friction, and it will be seen that when turned over the ends of the pins there is no possibility of the second curl of the spring being caught between the pins by a sudden jerk or movement.

This protecting device is adapted for being slipped readily upon the regulator-arm, and may be applied to the watch when manufactured or afterward.

The device is especially intended for application to American watches of the ordinary manufacture.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The hair-spring protector consisting of the pivoted tongue *b* and sustaining-stud *d*, combined with the regulator-arm, substantially as shown and described.

2. The combination of the tongue *b*, provided with the side extension, *e*, with the stud *d*, and regulator-arm B, provided with pins *a a*, substantially as and for the purpose set forth.

FERDINAND A. CURPEN.

Witnesses:

JNO. FRY,

GEO. J. STECHER.