(No Model.)

F. W. SCHIMMEL.

WATCH REGULATOR.

No. 414,449. Patented Nov. 5, 1889.

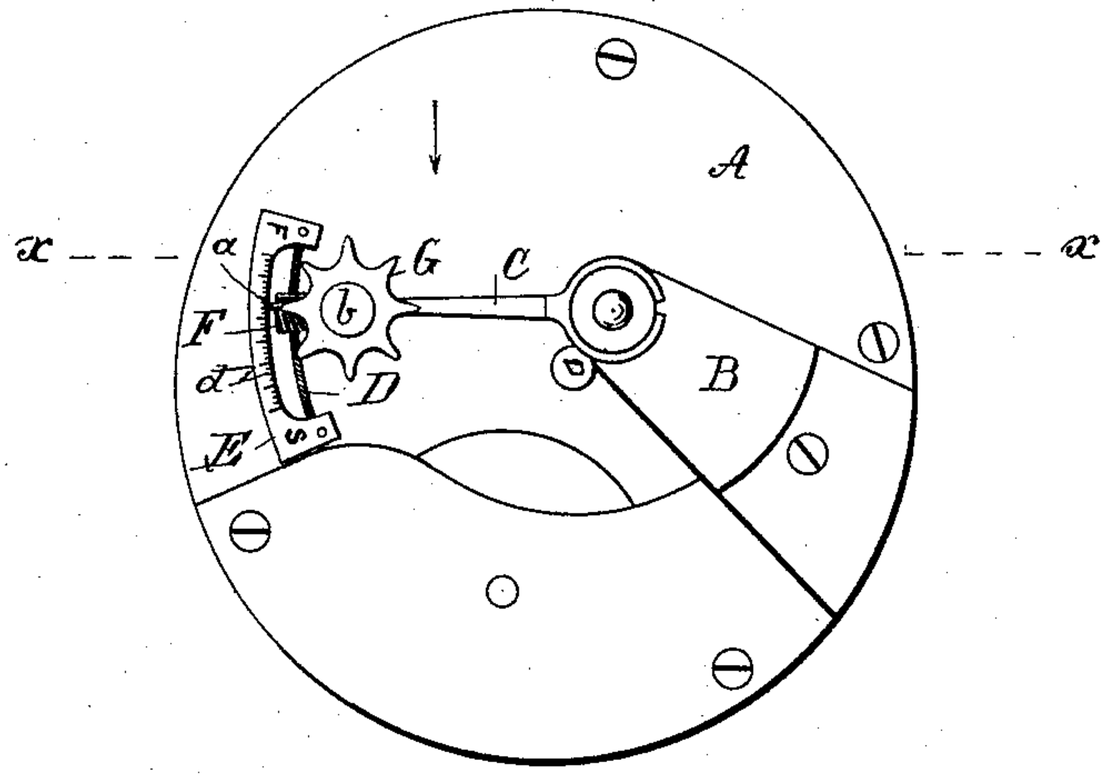

FIG. 1.

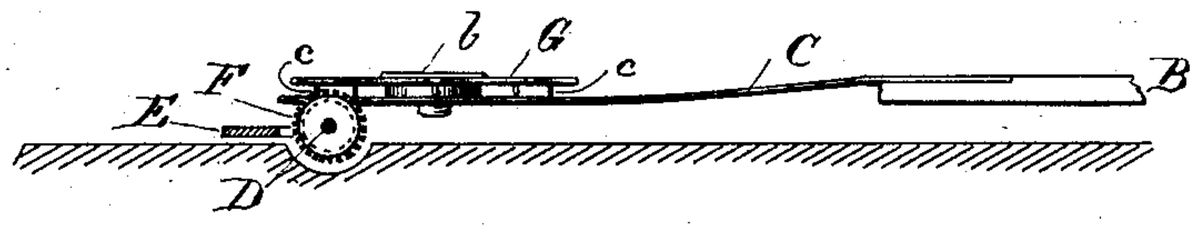

FIG. 2.

FIG. 3.

WITNESSES:

J. M. Coward

C. Sedgwick

UNITED STATES PATENT OFFICE.

FREDERICK W. SCHIMMEL, OF WALLACE, IDAHO TERRITORY.

WATCH-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 414,449, dated November 5, 1889.

Application filed June 7, 1889. Serial No. 313,488. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. SCHIMMEL, of Wallace, in the county of Shoshone and Territory of Idaho, have invented a new and Improved Watch-Regulator, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a plan view of a portion of a watch-movement, showing the application of my improvement. Fig. 2 is a transverse section taken on line *x x* in Fig. 1, and Fig. 3 is a detail side elevation of the spirally-grooved traveling nut.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to construct a simple and effective device for moving the regulators of watches, whereby the regulator may be positively moved a short distance.

My invention consists in the combination, with the regulator, of a curved screw and a nut arranged to travel upon the screw and provided with a circumferential groove near one end for receiving the end of the regulating-lever, the said nut being provided with helical grooves, and in combination with the helically-grooved nut of a star-wheel pivoted on a stud or screw projecting from the regulator and provided with pins for engaging and turning the helically-grooved nut, all as will be hereinafter more fully described.

The watch-movement A, which is of the usual description, is provided with a balance-bridge B, to which is attached in the usual way the regulator-lever C. Under the free extremity of the regulator-lever C is supported a curved screw D by the frame E, the center of the curvature of the said screw being coincident with the center of motion of the regulator-lever C. Upon the curved screw D is placed a nut F, provided at one end with a circumferential groove *a* for receiving the free end of the regulator-lever C. The remainder of the nut F is grooved helically. Upon a screw *b*, inserted in the regulator-lever C, is journaled a star-wheel G, which may be turned by a needle or any convenient instrument. A series of pins *c* project from the under surface of the star-wheel G, and are arranged to enter the helical grooves of the nut F when the star-wheel G is turned. In this manner by turning the star-wheel G the pins *c* by entering the grooves of the nut F cause the nut to rotate upon the curved screw D and carry the regulator-lever C in one direction or the other, according to the direction of the rotation of the star-wheel G.

The frame E is provided with a scale *d* for indicating the amount of motion of the regulator-lever C.

By means of my improved regulating device any owner of a watch may readily regulate it without the necessity of taking it to a watch-maker.

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

1. The combination, with the regulator-lever C, of the curved screw D, the circumferentially and helically grooved nut F, and the star-wheel G, provided with the pins *c*, substantially as specified.

2. The combination, with the regulator-lever C, of the curved screw D, the circumferentially and helically grooved nut F, the star-wheel G, provided with the pins *c*, and the frame E, provided with the scale *d*, substantially as specified.

FREDERICK W. SCHIMMEL.

Witnesses:

C. M. HALL,

H. E. HAYDON.