J. A. MILLER.

Watch-Regulator.

No. 163,680. Patented May 25, 1875.

Fig. 1.

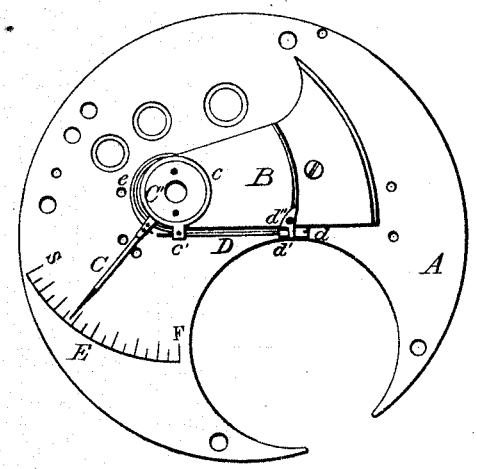
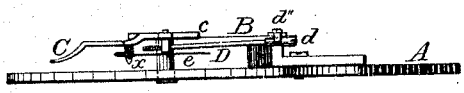


Fig. 2.



Attest:

C. C. Smith
Geo. W. Hunt

Inventor:

John A. Miller
By N. Crawford atty.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JOHN A. MILLER, OF PADUCAH, KENTUCKY.

IMPROVEMENT IN WATCH-REGULATORS.

Specification forming part of Letters Patent No. **163,680**, dated May 25, 1875; application filed February 2, 1875.

To all whom it may concern:

Be it known that I, JOHN A. MILLER, of Paducah, in the county of McCracken, in the State of Kentucky, have invented certain Improvements in Watch-Regulators, of which the following is the specification:

The object of this invention is to produce a cheap and reliable device by which the pointer of the regulator is actuated, and the hair-spring of the balance-wheel affected more accurately; and it consists in the construction of parts, as will be hereinafter described.

In the drawings, Figure 1 is a top view of the device, and Fig. 2 a transverse view of same.

A represents the top plate of the watch-movements. B is the balance-bridge, of the ordinary construction. C is the regulator-arm or pointer, having an edge or collar, *c*, that surrounds a circular upwardly-projecting center, C′, that is concentric with the balance-wheel staff, and extends radially from the center of the balance-wheel staff to an index-scale, E, as is provided in most watches to govern the movement of the pointer. Upon one side of the collar *c* is a projection with a screw-nut, *c′*, therein, which is so attached to the projection as to change its position relatively with the screw-shaft D. D is a horizontal screw-shaft, with head *d* and collar *d′*, with a space between the head and collar, that forms a journal, which bears in a box in plate *d″*, that is secured firmly to the edge of the balance-bridge B. The other end of the shaft D has a screw-thread cut upon it, and screws into the nut *c′*, and it will be plain that as this screw-shaft D is revolved in one direction the pointer-arm C will be forced in one direction upon the scale E, and by revolving the screw-shaft in the opposite direction the pointer C will be caused to move in the reverse direction also upon the scale E. A trifling movement of the nut *c′* will move the outer end of the arm C considerably; hence but a very slight turn of the screw-shaft D is necessary in order to regulate the pointer a given distance upon the scale E.

The screw-shaft D is revolved by the head *d*, being square and fitted to be turned by the winding-key; or the head of the screw may have a nick in it to be turned by a screw-driver.

e is the hair-spring, its outer coil passing through the slot in stud *x*, which projects downward from the pointer-arm, as seen in Fig. 2, and is affected by the movement of the pointer C, the same as in ordinary watches.

The several parts being perfectly constructed and arranged as shown, the device for regulating the speed of the watch is surely and simply affected. As the screw-shaft D cannot reciprocate longitudinally itself it forces the pointer-arm C to partially revolve around the center of the balance-wheel staff whenever the shaft is revolved.

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

1. The screw-shaft D, secured to the balance-bridge B, turning in a bearing in plate *d″*, and working in nut *c′* on collar *c*, substantially as and for the purpose described.

2. The combination of the screw-shaft D on balance-bridge B, and working on nut *c′* on yoke *c*, and the pointer-arm C, having the slotted stud *x*, with the hair-spring *e*, substantially as and for the purposes described.

JNO. A. MILLER.

Witnesses:
GEO. C. THOMPSON,
H. C. MEYERS.