

J. SHAW.

Attaching Hair-Springs to Watch-Balances.

No. 135,248.

Patented Jan. 28, 1873.

Fig. 1.

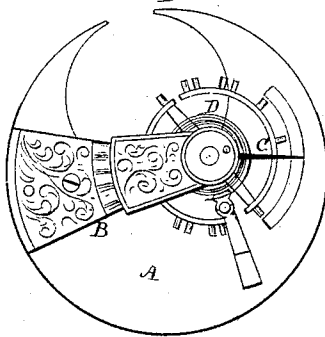
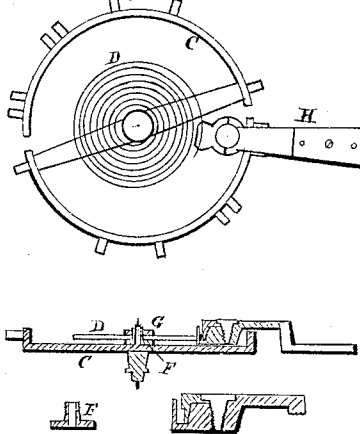


Fig. 2.



WITNESSES

N. S. Jenkins
C. F. Schroeder

INVENTOR.

Jacob Shaw
By
Geo. W. Tibbitts, Atty.

UNITED STATES PATENT OFFICE.

JACOB SHAW, OF SHELBY, OHIO.

IMPROVEMENT IN ATTACHING HAIR-SPRINGS TO WATCH-BALANCES.

Specification forming part of Letters Patent No. **135,248**, dated January 28, 1873.

To all whom it may concern:

Be it known that I, JACOB SHAW, of Shelby, county of Richland and State of Ohio, have invented an Improvement in the Method of Attaching Hair-Springs to Balance-Wheels, of which the following is a specification:

This invention relates to an improved manner of attaching hair-springs to balance-wheel staff in watches whereby the tension of the spring may be regulated.

The old method of passing the end of the spring through a hole in a stud and securing it with a pin inserted in the same hole and in line with the spring is attended with difficulty in retaining the spring in proper place or position.

Referring to the drawing, Figure 1 is a plan view of a watch having my improvements attached. Fig. 2 is a detached view of balance and balance-spring in plan and section. Figs. 3, 4, 5, 6, 7, and 8 are various modifications of constructing the clamp or vise. The scale in Figs. 1 and 2 is twice the natural size, and that of the other figures four times the natural size, of the parts.

A represents the upper plate of a watch.

B is the balance-bridge. C is a balance. D is a balance hair-spring. E, Fig. 2, is the balance-staff to which the inner end of the spring D is attached.

My improvement is as follows: On the upper end of the balance-staff E, and lying on the arms of the balance, I put a plate, F, having a raised tube which fits friction-tight on said shaft, and on the outside of said tube is cut a screw-thread. On the plate F lies about three-fourths of the inner coil of the spring D, above which is placed a nut, G, that screws onto the tube and clamps the spring between it and the plate F. The tube may be turned on the staff without unscrewing the nut for adjusting the spring.

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

The plate F and tube, and the nut G in combination with the spring D and the balance-staff E, substantially as shown and described, and for the purpose set forth.

JACOB SHAW.

Witnesses:

GEO. W. TIBBITTS,
N. N. SPAFFORD.