A. JEWETT.

Collet for Balance-Spring of Watches.

No. 166,990. Patented Aug. 24, 1875.

Fig. 1.

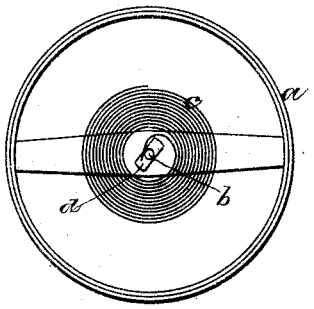
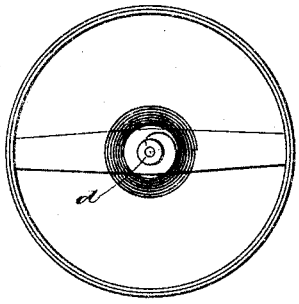


Fig. 2.



Witnesses.
Samᵘˡ M. Barton.
A. E. Druison

Inventor.
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his Attys.

UNITED STATES PATENT OFFICE.

AUGUSTINE JEWETT, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN COLLETS FOR BALANCE-SPRINGS OF WATCHES.

Specification forming part of Letters Patent No. **166,990**, dated August 24, 1875; application filed February 3, 1875.

To all whom it may concern:

Be it known that I, AUGUSTINE JEWETT, of Lynn, in the county of Essex and State of Massachusetts, have invented certain Improvements in Collets for the Balance-Springs of Watches, of which the following is a specification:

In the accompanying drawing, forming part of this specification, Figure 1 is a plan view of my improved collet applied to a balance-wheel, and Fig. 2 a similar view showing the old form.

This invention has for its object to provide means for attaching the inner end of the balance-spring to the balance at a point as near the center of the latter as possible, so as to reduce the power or leverage of the spring in its large vibrations to the minimum, and prevent the large vibrations from returning the balance too suddenly when the large vibrations are too fast to be in accordance with the small vibrations. To this end my invention consists in the peculiar shape of the collet, and the manner of connecting the end of the spring thereto, as I will now proceed to describe.

In the drawing, *a* represents the balance-wheel, *b* its arbor, and *c* the balance-spring, all of the usual construction. *d* represents the collet, located on the arbor *b* of the balance-wheel. The collet is in the general shape of a narrow section cut from the center of a disk, having parallel sides and rounded ends, the width of the collet being just sufficient to allow it to be placed on the arbor of the balance-wheel in the usual manner, its parallel sides coming as close as possible to the periphery of the arbor. The inner end of the balance-spring is inserted diagonally into one of the straight sides of the collet, the diagonal slot into which it is inserted extending from the center of one of the straight sides toward one end of the collet in the same general direction as the coil of the spring. The spring is thus attached at the nearest possible point to the center of the balance-wheel, the point where it enters the collet almost touching the arbor, while the elongated end of the collet, into which the end of the spring extends diagonally, affords sufficient hold on the spring to poise it securely. By this device the leverage of the spring on the balance-wheel is reduced to the minimum, and, as a consequence, I am enabled to adjust watches perfectly to isochronism, and compensate for the excess of the large vibrations of the spring over the small vibrations; and I have found by an extended experience that a better degree of adjustment can be obtained by the use of my invention than can possibly be obtained without it. The collet in common use is circular, with its periphery concentric with the arbor, as shown in Fig. 2, it being impossible to make a collet of this form small enough to locate the inner end of the spring as near the arbor as in my improved collet.

It is not essential, of course, that both sides of the collet be brought close to the arbor of the balance-wheel, as the side that receives the end of the spring will be found sufficient. I prefer, however, to construct it as shown for the sake of uniformity.

I claim as my invention—

A collet for the balance-spring of a watch, formed so as to bring one of its sides close to the arbor of the balance-wheel, the end of the spring being inserted diagonally into the side so formed, substantially as described, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AUGUSTINE JEWETT.

Witnesses:

C. F. BROWN,

A. E. DENISON.