G. HUNTER.

Main-Springs for Watches.

No. 161,236. Patented March 23, 1875.

Fig. 1.

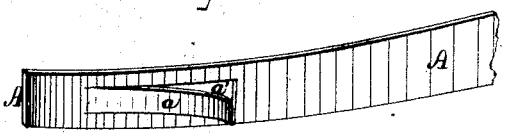


Fig. 2.

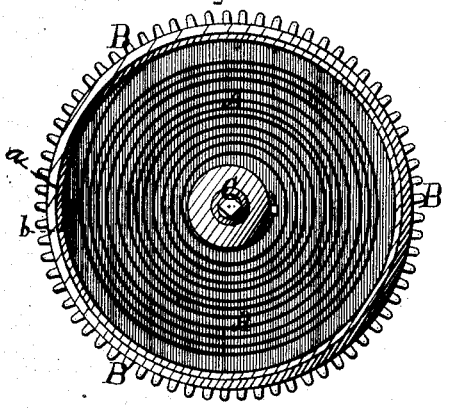
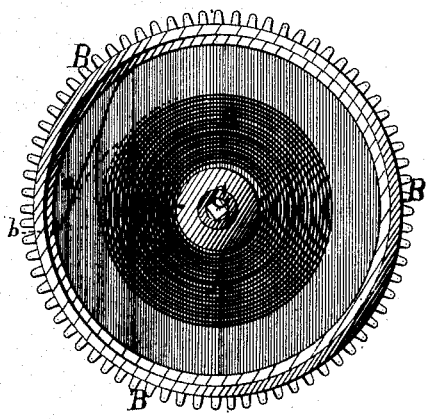


Fig. 3.



WITNESSES=

Jas. E. Hutchinson

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George Hunter, by

Prindle and Deane, his Attys

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UNITED STATES PATENT OFFICE.

GEORGE HUNTER, OF ELGIN, ILLINOIS.

IMPROVEMENT IN MAINSPRINGS FOR WATCHES.

Specification forming part of Letters Patent No. **161,236**, dated March 23, 1875; application filed October 1, 1873.

To all whom it may concern:

Be it known that I, GEORGE HUNTER, of Elgin in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Mainsprings for Watches; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the outer end of a mainspring prepared for engagement with a winding-barrel. Fig. 2 is a plan view of said spring in position within a barrel and unwound; and Fig. 3 is a like view of the same when wound up.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the ease and certainty of the engagement of the outer end of a mainspring with the winding-barrel of a watch, and to enable the full size of the interior of said barrel to be utilized, so as thereby to permit an increase in the usual length of the spring; and it consists in providing, near the outer end of a mainspring, a tongue that extends forward, and slightly outward, so as to engage with a suitable notch in the interior of the barrel, which tongue is cut from said spring, and may be pressed into the opening formed therein, so as not to increase the space occupied by the same within said barrel, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A represents an ordinary mainspring for a watch, constructed in the usual manner, except at or near its outer end, at which point is formed a tongue, *a*, that extends forward and slightly outward, as shown in Fig. 1. The tongue *a* is constructed from the spring A, by cutting along its sides and across its forward end, its rear end being a part of said spring, after which a slight outward curve is given, and said tongue suitably tempered. The spring A is placed within an ordinary barrel, B, and has its inner end connected in the usual manner to or with a winding-arbor, C, while at its outer end the forward end of the tongue *a* engages with a corresponding notch, *b*, that is formed within the inner side of said barrel.

Upon winding the spring, the strain has a tendency to cause the tongue to engage more closely with its notch, while the outer end of said spring, not being rigidly attached to said barrel, is at liberty to assume any position within the space between the inner side of the latter and the contiguous coil of said spring, so as thereby to cause the strain upon said part to be in a direct line, and thus avoid the usual liability to breakage which exists when such strain is oblique.

When the spring A is unwound, its tongue *a* will be contained within the opening *a'*, from which it was cut, and permit the end of said spring to bear directly against the inner side of the barrel B, by which means, as said engaging device occupies no radial space within said barrel, a spring can be employed which contains one or more coils in addition to those which could be contained by said barrel were any ordinary method of attachment used, the result of such increase in the length of the mainspring being an increase in the regularity with which the watch movement will be driven.

I am aware that mainsprings have before been connected to or with winding barrels by bending or doubling their outer ends forward, so as to form a hook, and causing the same to engage with a notch, stud, or opening formed in or attached to the inner side of a barrel, and therefore do not claim such construction.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The mainspring A, provided at or near its outer end with the tongue *a*, which tongue is cut from the opening *a'*, and extends forward and slightly outward, in combination with the winding-barrel B, provided within its inner side with the engaging notch *b*, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of September, 1874.

GEORGE HUNTER.

Witnesses:

JNO. H. WHIPPLE,

JACKSON W. ALWARD.