

J. ELSON.

Safety Attachment to Watches.

No. 82,097.

Patented Sept. 15, 1868.

Fig: 1.

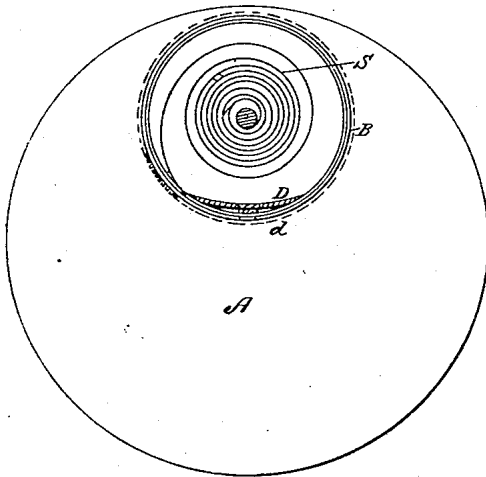


Fig: 2.

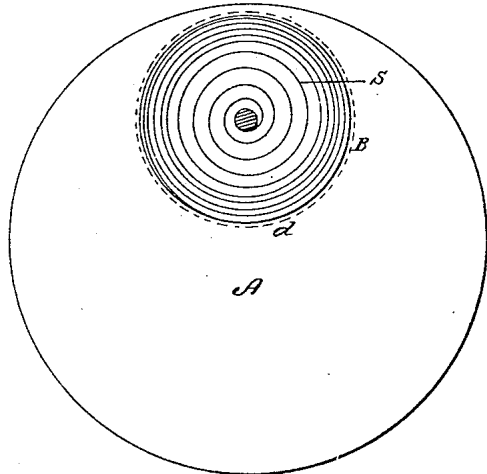


Fig: 4.

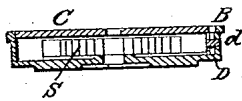
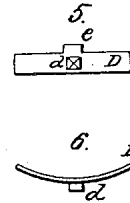
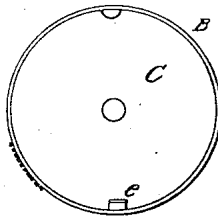


Fig: 3.



Witnesses:

J. H. Adams.  
W. A. Ganey

Inventor:

Julius Elson

# United States Patent Office.

JULIUS ELSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO FLORENTINE  
A. JONES, OF SAME PLACE.

Letters Patent No. 82,097, dated September 15, 1868.

## IMPROVEMENT IN SAFETY-ATTACHMENT TO WATCHES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JULIUS ELSON, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Watches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a plan view of a watch-plate and barrel with the main-spring and my improvement attached.

Figure 2 is a view of the same, with the main-spring unwound.

Figure 3 is a plan view of the barrel with the cover on.

Figure 4 is a section of the same, and

Figures 5 and 6 are detail views of the small spring.

The object of my invention is to prevent the main-spring, when it breaks in a watch, or when the click gives way, from injuring the train or other parts of the watch; and the invention consists in the employment of a small spring provided with one or more spurs or projections, and fitted within the barrel at one side, the said spurs or projections being placed opposite to or in a hole or holes in the side of the barrel, and allowed to move freely in and out of the same, so that when the main-spring is unwound, it will press against the small spring, and force the stud or projection through the hole in the barrel, thus stopping its motion by the friction of the said stud or projection against the plate or part surrounding the barrel. As the watch is wound up, the small spring is set free from the pressure of the main-spring, and the spur or projection will be withdrawn into the barrel, and allow the latter to rotate freely.

Referring to the drawings, A represents a watch-plate provided with an opening, in which is fitted, to rotate freely, a barrel, B. The upper portion of the barrel is provided with teeth, which extend over upon the plate. S is the main-spring, secured in the usual manner to the arbor and the barrel.

Within the barrel, at one side, is arranged a short spring, D, of the form shown in figs. 5 and 6, having on one side a spur or projection, *d*, attached to or forming a part of the spring, or it may be made in two separate parts. There may be more than one projection or spur on the spring, with corresponding holes in the barrel, if desired. The spring D has also a projecting piece, *e*, on its upper edge, which fits in an opening, *c*, in the barrel-head C, as shown in figs. 3 and 4, and by which it is held in proper position in the barrel. The opening is wide enough to admit of the free movement of the stud or spur *e* in and out of the hole *c* in the barrel.

When the watch is wound up, the spring D will be in the position shown in fig. 1, the projection or stud *d* being within the barrel, so as to allow the latter to rotate freely.

In case the main-spring should break, or the click give way, the said main-spring will at once become free, or uncoil, and will strike forcibly against the spring D, pressing the spur or projection *d* against the plate or outside ring, as the case may be, in such a way as to stop the barrel instantaneously, and thus, holding it fast, will prevent any injury to the watch.

The spring D also serves the purpose of equalizing the tension of the main-spring by relieving the latter of the friction caused by contact of the coils during the latter part of its development, and thus renders the spring more isochronal.

When the watch is nearly run down, the main-spring will gradually force out the stud or spur *d* through the opening, and thus stop the barrel; but the projection or stud will be immediately retracted as the main-spring commences to wind up again, in case the barrel should not be provided with stop-works.

My invention is equally applicable to time-pieces where a main-spring is used.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The spring D, provided with a stud or projection, *d*, one or more, in combination with the perforated barrel, as and for the purpose specified.
2. The spring D, in combination with the main-spring, for the purpose of equalizing the tension of the latter, as set forth.
3. The stud or projection *d*, in combination with the barrel or main-spring, when used and operating substantially as and for the purposes set forth.

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

JULIUS ELSON.

Witnesses:

J. H. ADAMS,  
F. A. JONES.