G. BEMENT.

Lever Safety-Pinion.

No. 165,783. Patented July 20, 1875.

Fig. 1.

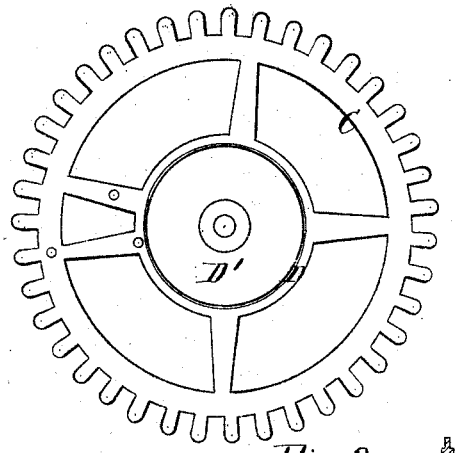


Fig. 2.

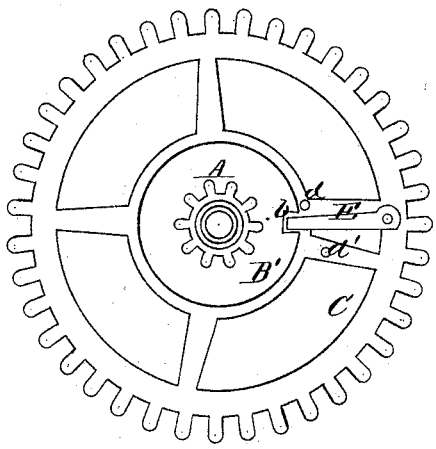


Fig. 3.

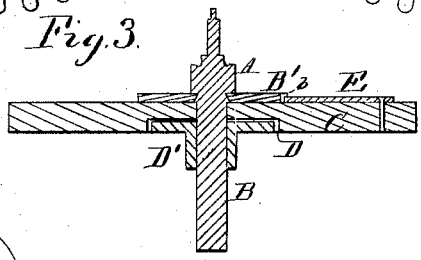


Fig. 4.

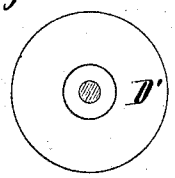
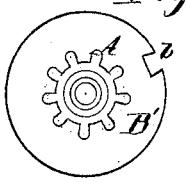


Fig. 5.



Witnesses:

T. A. Connolly

George E. Upham.

Inventor:

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Chipman Hopkins & Co

attys

UNITED STATES PATENT OFFICE.

GEORGE BEMENT, OF BELVIDERE, ILLINOIS.

IMPROVEMENT IN LEVER SAFETY-PINIONS.

Specification forming part of Letters Patent No. **165,783**, dated July 20, 1875; application filed October 26, 1872.

To all whom it may concern:

Be it known that I, GEORGE BEMENT, of Belvidere, in the county of Boone and State of Illinois, have invented a new and valuable Improvement in Lever Safety-Pinions; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my invention. Fig. 2 is a bottom view. Fig. 3 is a sectional view; and Figs. 4 and 5 are details.

This invention has relation to self-releasing devices which are applicable to the center-wheel pinions of the American and English watches, and which are designed for preventing injury to the train of wheels should the mainsprings break.

The nature of my invention consists in a rigid pawl, which is pivoted to the center-wheel, in combination with a stop-pin and a notched collar or flange on the center-wheel pinion, as will be hereinafter explained.

The following is a description of my improvement:

In the annexed drawings, A represents the center-wheel pinion, which is keyed on the setting-post B, and constructed with a flange, B′, of circular form. C designates the center-wheel, through which motion is transmitted to the train. D is a steel collar, which is constructed with a hub and recessed into the the wheel C, so as to afford a durable bearing for this wheel on the setting-post B. By thus applying the steel collar to wheel C, this wheel can be made of brass, or other metal which is softer than the collar, and by recessing the latter into the wheel C the parts are very compact. I make a notch, *b*, into the periphery of the circular flange B′ for the purpose of receiving the square end of a pawl, E. This pawl is a straight piece of rigid metal, and it is pivoted on the wheel C, near its periphery, as shown in Figs. 2 and 3. When the pinion A is under the influence of the mainspring of the watch, the flange B′ on this pinion will be forced in the direction indicated by the arrow in Fig. 1, which will press the pawl E against a stop or stud, *d*. This stud *d* is fixed into the center-wheel C, as near as possible to the periphery of the flange B′, without touching this flange, so as to afford a firm support for the free end of the pawl, and prevent the same from being broken by the force acting against it. A stud, *d′*, is fixed into the wheel C in a proper position to catch the pawl in the event of the mainspring breaking, and prevent this pawl from injuring the wheel-work.

I am aware that a curved hooking-pawl has been used, in combination with a shouldered disk on the center pinion, and this I do not claim.

What I do claim as new, and desire to secure by Letters Patent, is—

1. The self-releasing device for a watch, consisting of a rigid pivoted pawl, E, a stop, *d*, and a circular flange, B′, having a notch, *b*, formed in its periphery, in combination with the center-wheel C and pinion A, as herein set forth.

2. The steel collar D, recessed into the wheel C, in combination with the setting-post B, and a pinion, A, as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE BEMENT.

Witnesses:

A. E. JENNER,

U. S. BRIGGS.