

C. S. MOSELEY.  
Safety Pinion for Watches.

No. 104,756.

Patented June 28, 1870.

Fig. 1.

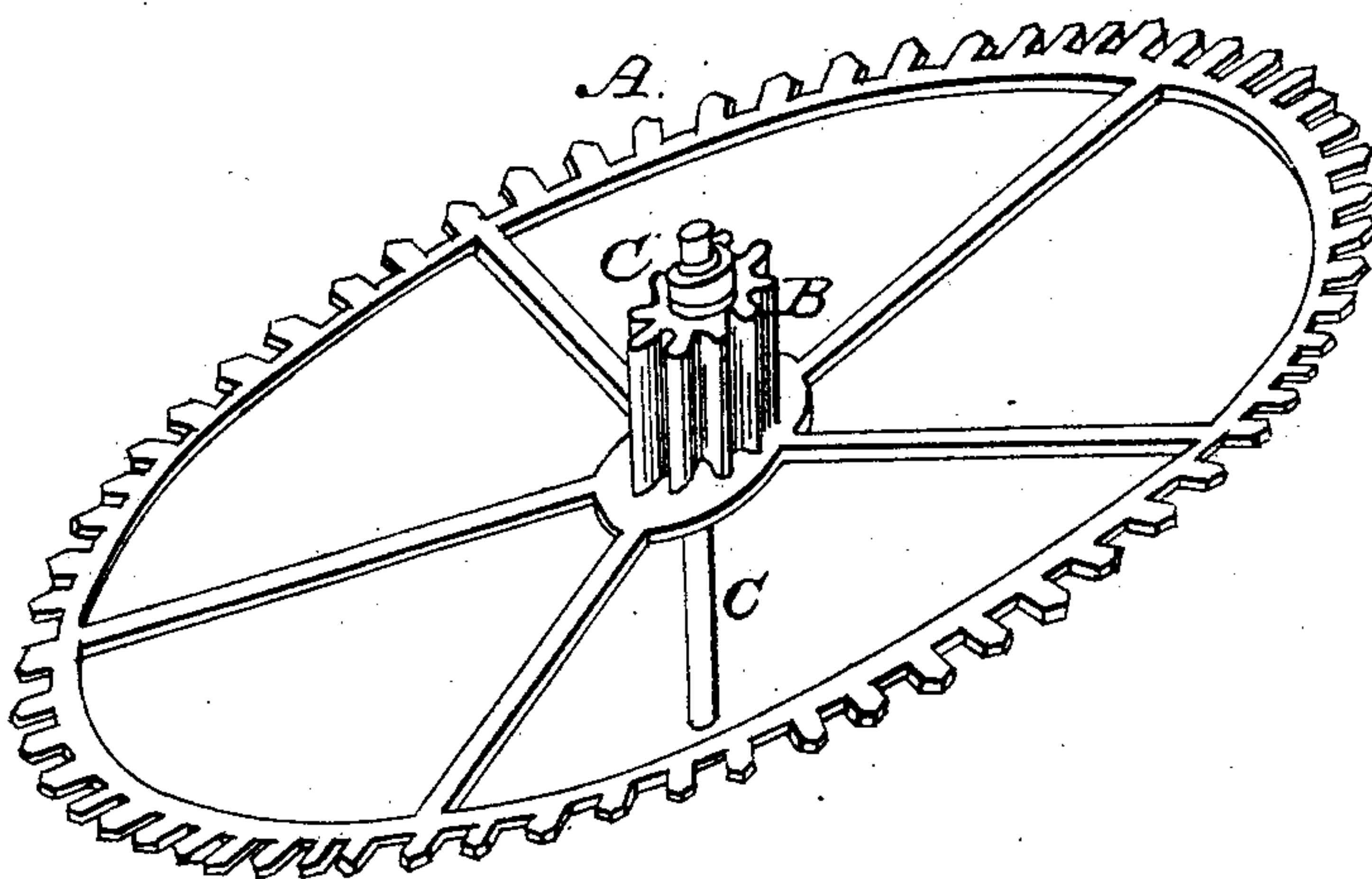


Fig. 2.

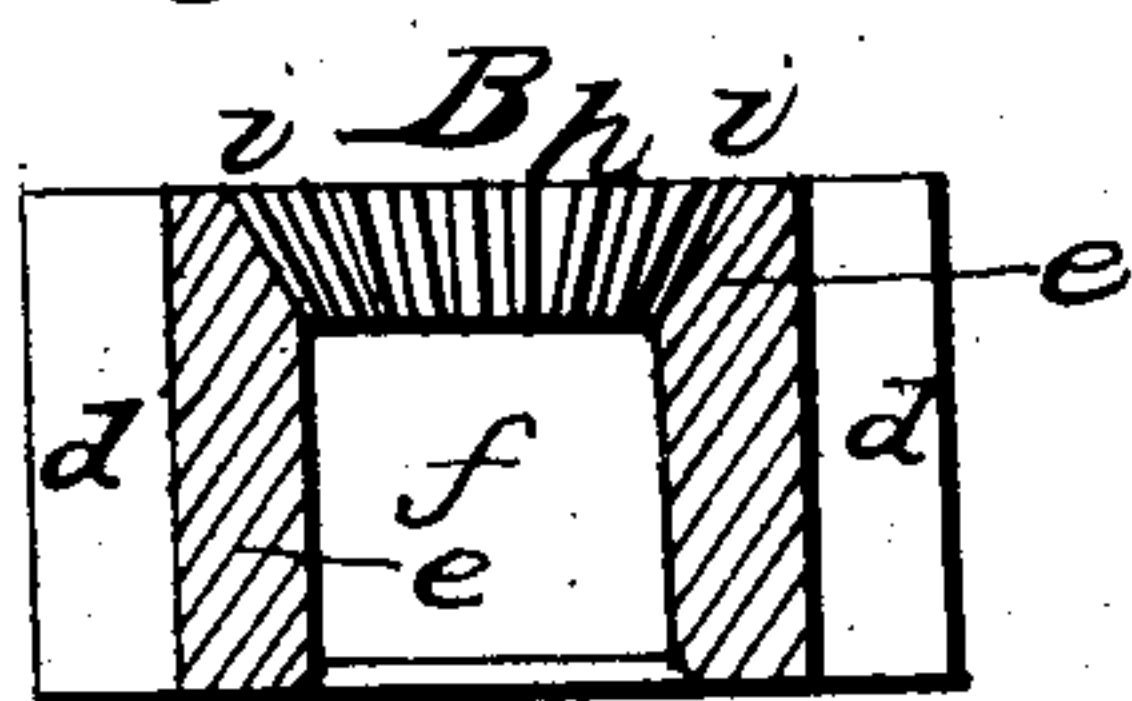


Fig. 3.



Witnesses.  
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CHARLES S. MOSELEY, OF ELGIN, ILLINOIS.

## IMPROVEMENT IN SAFETY-PINION FOR WATCHES.

Specification forming part of Letters Patent No. **104,756**, dated June 28, 1870.

*To all whom it may concern:*

Be it known that I, CHARLES S. MOSELEY, of Elgin, in the State of Illinois, have invented a certain new and useful Improvement in Watches; and I do declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of the center-wheel, with loose pinion and nut attached as in use; Fig. 2, a vertical section of the pinion; Fig. 3, a side view of the nut, all being much enlarged.

My invention relates to that class of improvements in watches the object of which is to prevent injury to the other parts of the same in consequence of the breaking of the main-spring. This has been accomplished by the use of a loose pinion on the shaft of the center-wheel; and I am aware that, to be used with such loose pinion, a nut has been made having one or more lugs or points projecting downward from the under side of the nut, and, passing between the leaves of the pinion, so far connecting the nut and pinion that the two move together, preventing the slipping of the pinion between the nut and wheel.

There are serious objections to this method of connecting the nut and pinion. It is difficult and comparatively expensive to make the nut with these lugs, and they are liable to become broken or detached from the nut, and hence are not entirely reliable.

The object of my invention is to provide a cheap, simple, efficient, and reliable method of connecting the nut and pinion, so that when the watch is running the pinion cannot slip between the nut and wheel, while if the main-spring breaks the nut will be loosened, thereby loosening the pinion.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation.

A represents the center-wheel of a watch, secured to the shaft C in the usual manner. B is a loose pinion, the construction of which is, in some respects, different from any now in use. *d d* represent the leaves, *e e* the body, and *f* the interior of the same. The upper end of the hole through the pinion is enlarged and beveled, as seen in Fig. 2, *i i*, and this portion is milled or otherwise corrugated. (See *h*, Fig. 2.)

The lower part *g* of the nut *c* is smaller than the upper part, and beveled, as shown by Fig. 3, and the beveled portion of the nut is also milled or corrugated, so as to fit the other. The beveled portion of the nut is designed to fit into the enlarged portion of the pinion, the corrugations of one corresponding with and fitting those of the other. These parts can be made and milled or corrugated, as described, very rapidly and easily, before being hardened, by the use of well-known machinery. A piece of steel having its end shaped like the nut, and milled, may be used to mill the interior of the pinion.

The use of a nut having a smooth flat surface in contact with a similar surface on the pinion is objectionable, and requires accurate adjustment.

By beveling the pinion and nut, as described, the areas of the surfaces which come in contact are greatly increased, thus securing a greater degree of friction between the two, even if the surfaces were smooth, and by milling or corrugating these surfaces, as described, it will be impossible for the pinion to slip between the nut and wheel. A decided advantage is gained by so constructing the pinion and nut that the line of contact between them is nearly vertical, instead of horizontal.

From the foregoing description the operation of my device will be readily understood.

This method of connecting the nut and pinion is efficient and reliable, and does not require accurate and careful adjustment in use. It is far superior to other methods heretofore in use. The construction of the several parts secures strength and durability.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

The loose pinion B, when a portion of the opening through the same is enlarged, beveled, and milled or corrugated, as described, in combination with the nut *c*, when one end is beveled and milled or corrugated, as described, substantially as and for the purposes specified.

CHAS. S. MOSELEY.

Witnesses:

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