

J. S. BARNUM & J. B. FERGUSON.

SAFETY PINIONS FOR WATCHES.

No. 185,661.

Patented Dec. 26, 1876.

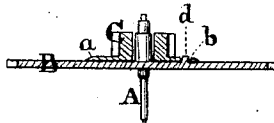


Fig. 1.

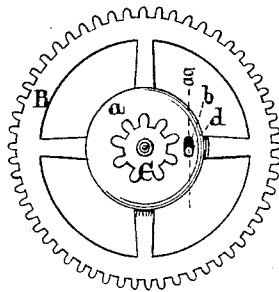
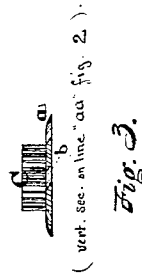


Fig. 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOSEPH S. BARNUM AND JAMES B. FERGUSON, OF PRINCEVILLE, ILLINOIS.

## IMPROVEMENT IN SAFETY-PINIONS FOR WATCHES.

Specification forming part of Letters Patent No. **185,661**, dated December 26, 1876; application filed May 16, 1876.

*To all whom it may concern:*

Be it known that we, JOSEPH S. BARNUM and JAMES B. FERGUSON, of Princeville, in the county of Peoria and in the State of Illinois, have invented an Improvement in Reversible Safety Center-Pinions for Watches; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a sectional view of pinion, showing collar or plate and inclined stud in center-wheel. Fig. 2 represents a front view of center-wheel, pinion, collar or plate, inclined stud, and oblong slot in collar or plate to receive the stud. Fig. 3 represents a vertical section on line *a a* of Fig. 2.

This invention consists of a center-pinion, with a flat steel collar or plate secured upon the lower end of the pinion, next to the center-wheel, with an oblong slot near the outer edge of the collar or plate, and of a stud secured in an inclined position upon or near the outer edge of the solid part of center-wheel, or upon one of the arms of the same.

The pinion, with its attached steel collar or plate is fitted so as to revolve upon the center-staff, and is securely held in position by the oblong slot catching upon the inclined stud when turned in a proper direction to impart a forward motion to the train of wheels.

The reverse motion of the pinion disengages the collar or plate from the inclined stud in the center-wheel by the reverse or backward motion, causing the reverse end of the oblong slot to rise up, so as to carry the collar or plate above the inclined stud, allowing the pinion and attached collar or plate to revolve freely and independently of the center-staff, thus preventing damage to the train of wheels from the recoil of the spring-barrel caused by the breaking of the mainspring.

In the drawings, A represents the center-staff; B, the center-wheel; C, the pinion; *a*, the steel collar or plate attached securely to lower part or end of pinion, next to the center-wheel; *b*, the oblong slot in the collar or plate, the ends cut slanting to correspond to the incline of stud, causing it more readily to engage with the inclined stud in the center-wheel when moved in the proper direction, and to hold it more firmly in position; *d*, inclined stud in the center-wheel, being riveted into the solid part or arm of the same.

It will be seen that the application of a slotted plate to the pinion C permits the pin *d* to be removed such a distance from the staff A as to prevent the destructive action which invariably results from having the bearing for the pinion at a point adjacent to the staff, with a leverage proportioned to the distance between the periphery of the pinion and the bearing. When the bearing is outside of the periphery of the pinion the leverage is reduced, absolutely preventing injury to the watch, however frequent may be the breakage of the mainspring.

We claim—

1. The pinion C, provided with a collar or plate recessed to receive an inclined pin on the center-wheel, substantially as and for the purpose described.

2. The staff A, its center-wheel B provided with an inclined pin, *d*, the pinion C turning on the staff, and the plate *a* projecting beyond the pinion and recessed to receive the said pin, combined substantially as set forth.

In testimony that we claim the foregoing reversible safety center-pinion for watches we have hereunto set our hands this 11th day of May, 1876.

JOSEPH S. BARNUM.  
JAMES B. FERGUSON.

Witnesses:

MILTON WILSON,  
JOHN G. CORBETT.