H. B. WEILAND,

Safety-Wheels for Watches.

No. 156,718. Patented Nov. 10, 1874.

Fig. 1.

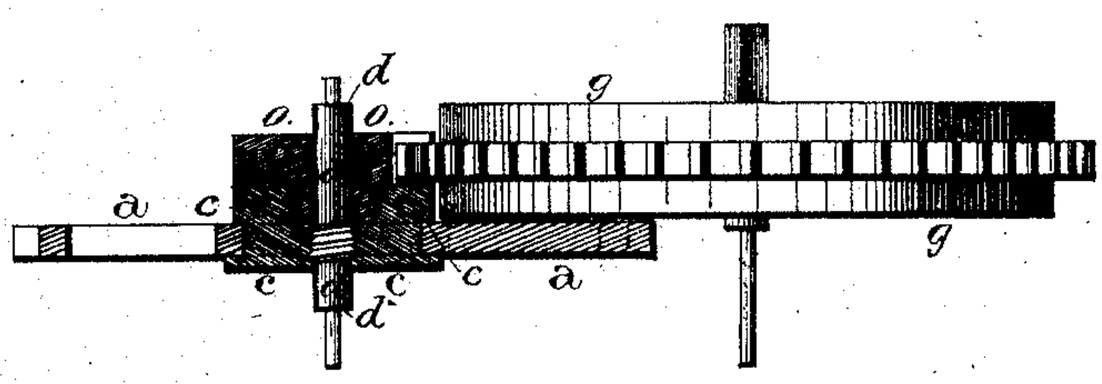
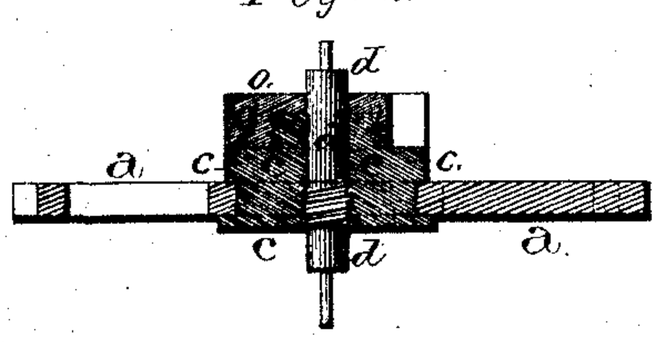


Fig. 2.



WITNESSES.

J. Wm. Garner

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per

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UNITED STATES PATENT OFFICE.

HARRY B. WEILAND, OF MARTINSBURG, WEST VIRGINIA.

IMPROVEMENT IN SAFETY-WHEELS FOR WATCHES.

Specification forming part of Letters Patent No. **156,718**, dated November 10, 1874; application filed October 5, 1874.

To all whom it may concern:

Be it known that I, HARRY B. WEILAND, of Martinsburg, in the county of Berkeley and State of West Virginia, have invented certain new and useful Improvements in Watches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to reversible pinions for watches; and consists in the peculiar arrangement and combination of parts, which will be more fully described hereafter, whereby the pinion is made to detach itself from the center wheel in case of breakage of the spring, so as to prevent injury to the works.

The accompanying drawing represents my invention. *a* represents the center-wheel, into the center of which is secured the collet *c*, which collet forms an extension or shoulder of any suitable form upon the top of the wheel. Through the center of this collet is formed a threaded opening, through which the arbor *d* passes. This arbor has a short thread formed around its surface, which engages with the thread in the collet and by which the arbor and wheel are secured together. In case either the arbor or wheel should be injured, they can be readily replaced without having to lose both wheel and arbor, as is now the case. In the top of the collet is formed a left-handed screw-threaded recess or opening, into which a short similarly-threaded extension, on the under side of the pinion *o*, screws. Or, should it be so preferred, the extension may be formed upon the top of the collet and project up into a recess formed in the under side of the pinion. Should the spring accidentally break, the recoil of the barrel-wheel will turn the wheel toward the left, and as the wheel and pinion are connected by a left-handed thread, the pinion will be instantly unscrewed from the wheel and then turn freely around without communicating its motion to the rest of the wheels. By this arrangement of parts the sudden recoil of the barrel-wheel, which causes always more or less damage to the works of the watch, is completely neutralized. The barrel-wheel *g* has heretofore always had its teeth placed around one of its edges, at some distance from the center, and, as a consequence, the force of the spring has always been exerted almost entirely upon that journal of the barrel nearest to the teeth, and thus always caused an unequal strain and wear. In order to prevent this I place the teeth directly around at or near the center of its two edges and thereby equalize the wear and strain upon both journals and cause the spring to exert its force directly upon the barrel-wheel and thus gain additional power.

I am aware that it is not new to attach the pinion to the center-wheel by means of a screw-shaft or arbor, and this I disclaim.

Having thus described my invention, I claim—

The combination of the center-wheel *a*, collet *c*, screw-arbor *d*, and pinion *o*, the collet having either a threaded recess in its top or a threaded neck, whereby it is attached to the pinion independently of the shaft, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of September, 1874.

HARRY B. WEILAND.

Witnesses:
F. A. LEHMANN,
FRANK CLAUDY.