

(No Model.)

B. LE COULTRE.
SAFETY PINION FOR WATCHES.

No. 358,208.

Patented Feb. 22, 1887.

Fig. 1.

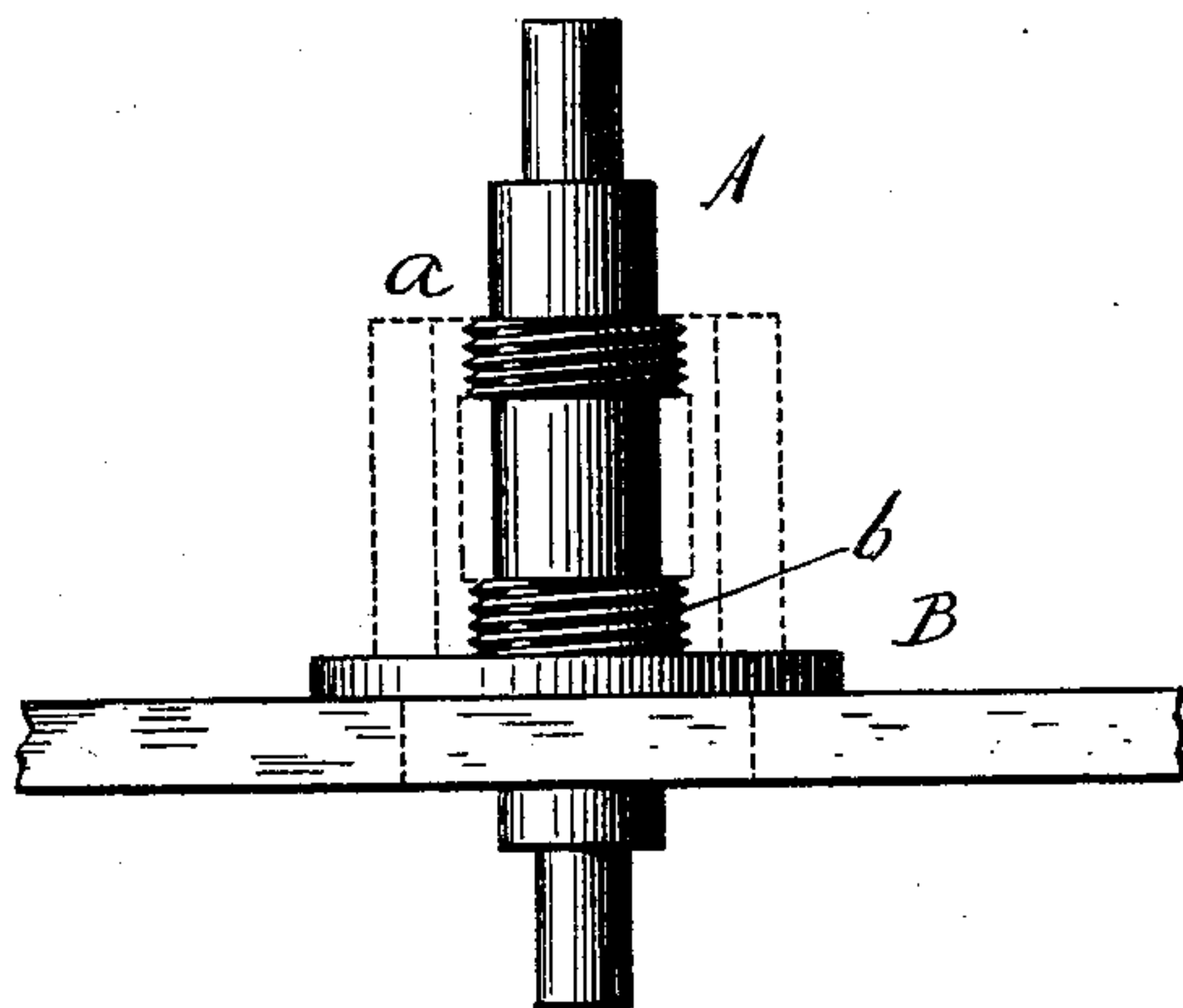


Fig. 2.

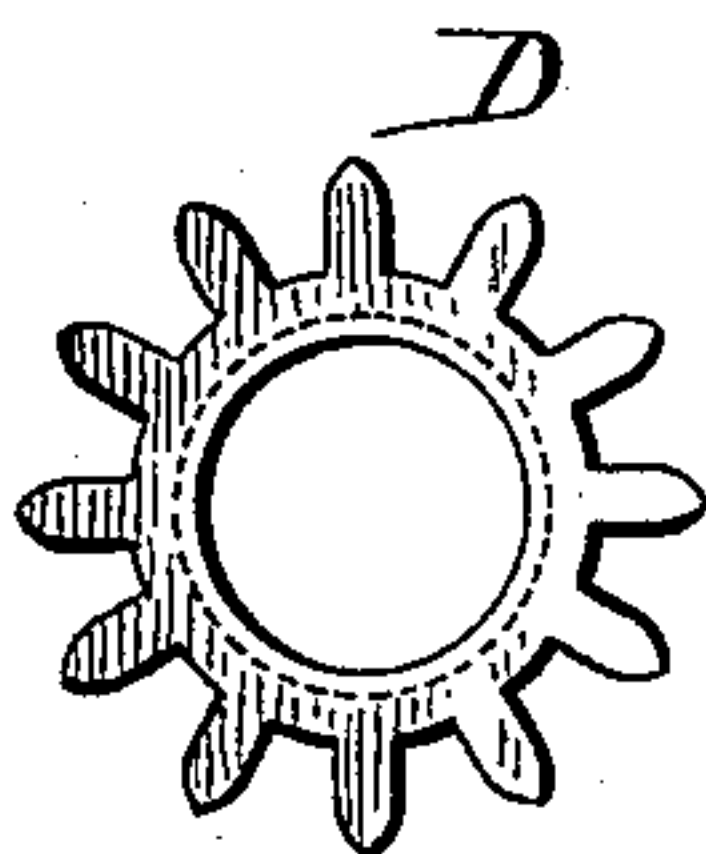
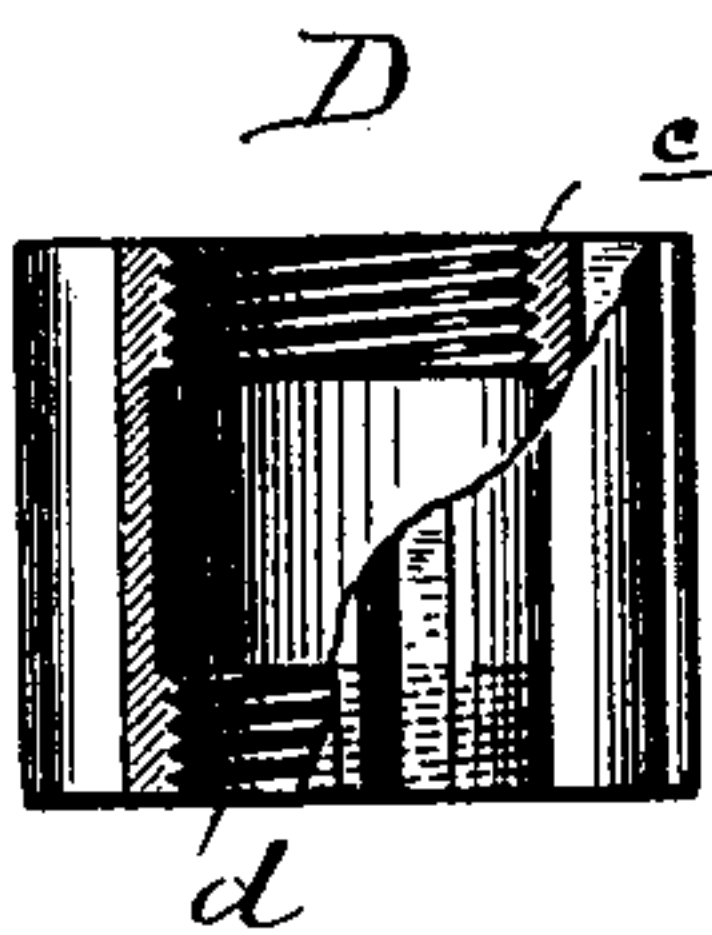


Fig. 3.



WITNESSES:

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SAFETY-PINION FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 358,208, dated February 22, 1887.

Application filed October 19, 1886. Serial No. 216,032. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN LE COULTRE, a citizen of Switzerland, and a resident of Sentier, in the Republic of Switzerland, have invented certain new and useful Improvements in Safety-Pinions for Watches, of which the following is a specification.

The object of my invention is to provide a new and improved safety-pinion of such a construction that the pinion can be released from the arbor with a few turns backward from the arbor, whereby the pinion is raised only the distance of the height of one of the screws, in contradistinction to the well-known Fogg pinion, which requires that the pinion should be unscrewed to its full depth to release it from the arbor when the recoil of the mainspring in breaking turns the pinion in its unscrewing direction.

The invention consists in the combination, with an arbor having two screw-threads, of a tubular pinion having two internal screw-threads adapted to engage with the screw-threads on the arbor, whereby when the spring is not broken the tubular pinion is held securely on the arbor, but when the mainspring breaks the force of the recoil is sufficient to revolve the pinion and unscrew it from its arbor, all as will be fully described and set forth hereinafter, and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a side view of the arbor of my improved safety-pinion. Fig. 2 is a top view of the tubular pinion. Fig. 3 is a side view of the same, parts being broken out.

Similar letters of reference indicate corresponding parts.

The arbor A is provided with two screw-threaded collars, *a* and *b*, at a short distance from each other, and at the bottom of the screw-threaded collar *b* a shoulder or offset, B, is formed, against which the bottom of the pinion D, that is provided with top and bot-

tom interior screw-threaded collars *c* and *d*, can rest.

As shown in Fig. 1, the diameter of the arbor is less between the screw-collars *a* and *b* than at said collars, and, as shown in Fig. 3, the internal diameter of the tubular pinion D is greater between the collars *c* and *d* than at said collars. The screw-threads on the several collars of the arbor and pinion are right or left, according to the direction in which the spring coils. The tubular pinion is screwed on the arbor, the screw-threaded collars of the pinion engaging the screw-threaded collars of the arbor, and as long as the spring is intact the pinion is screwed down, so as to rest on the offset or shoulder B; but whenever the mainspring breaks the force of the recoil causes the pinion to revolve in the inverse direction, whereby said pinion is unscrewed from the arbor, and the screw-threaded collar *a* of the arbor is now in the recess in the pinion and the bottom screw-threaded collar *d* of the pinion is in the space between the collars *a* and *b* of the arbor.

The pinion revolves without revolving the arbor A, and all danger of derangement and breaking of the gear is avoided.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A safety-pinion for watches, consisting of an arbor provided with two threaded collars a short distance from each other, and a tubular pinion provided with two screw-threaded internal collars, separated the same distance from each other as the collars on the arbor, substantially as shown and described.

Signed at Chaux-de-Fonds, in the canton of Neuchâtel and Republic of Switzerland, this 24th day of May, A. D. 1886.

BENJAMIN LE COULTRE.

Witnesses:

L. ROZAT,
JAMES BOILLAT.