

C. R. BACON & L. C. BROWN.  
Safety Center-Pinions for Watches.

No. 166,741.

Patented Aug. 17, 1875.

Fig: 1.

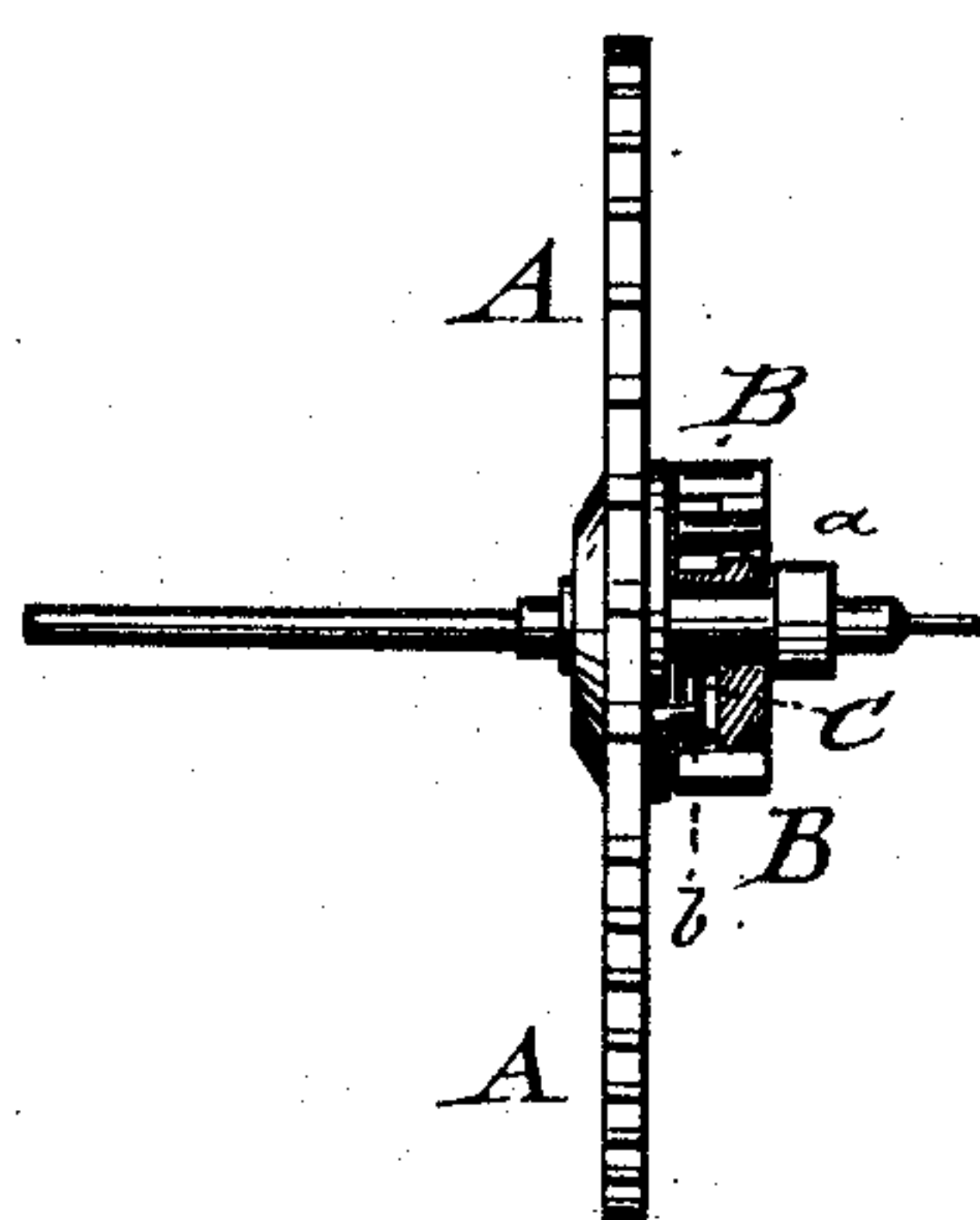


Fig: 2.

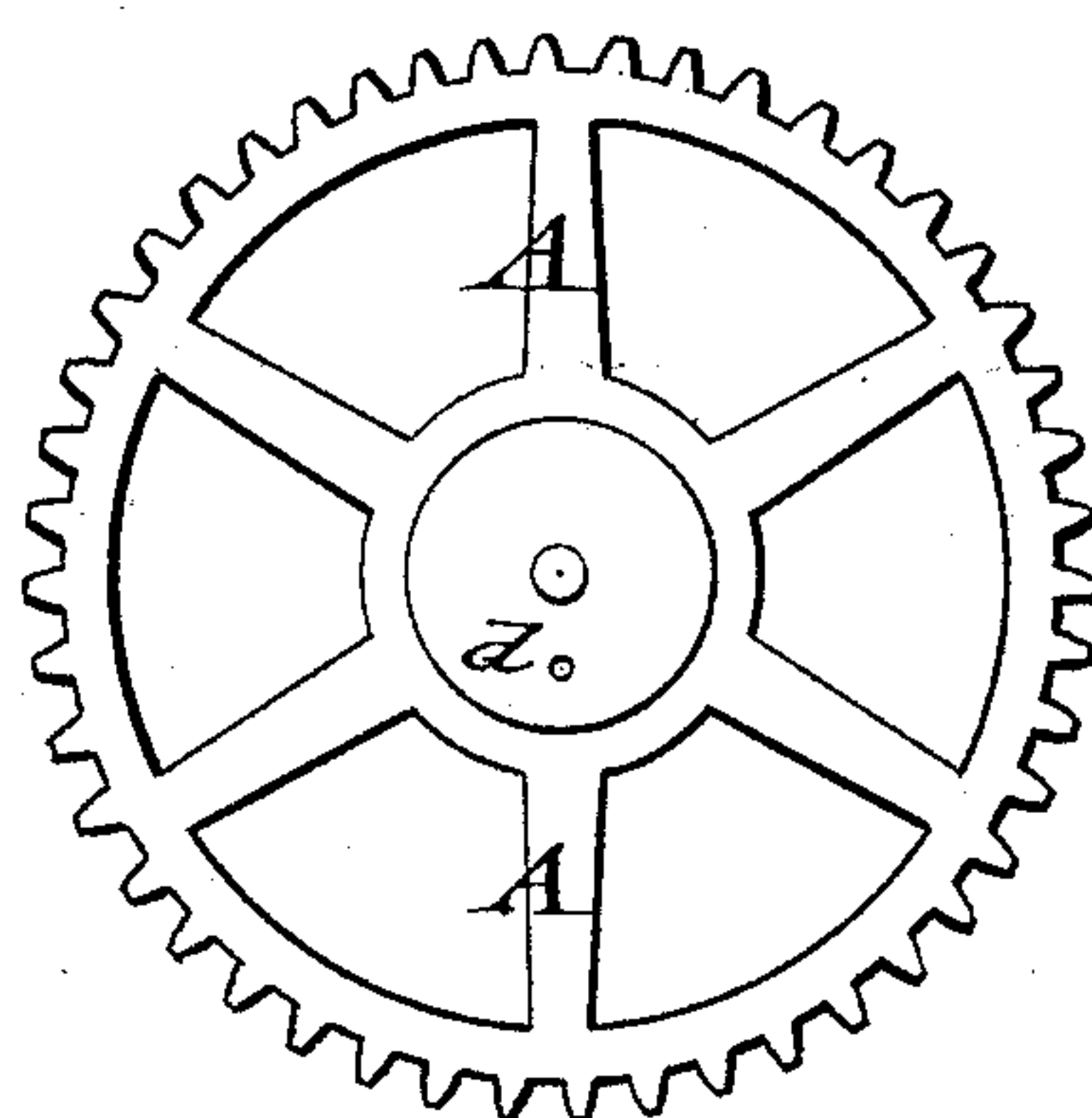


Fig: 3.

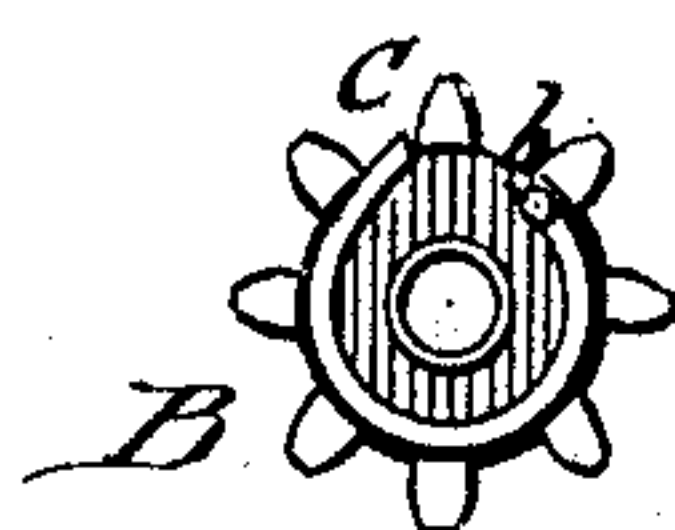


Fig: 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES R. BACON AND LEUTHOLD C. BROWN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNORS TO CORNELL WATCH COMPANY, OF SAME PLACE.

## IMPROVEMENT IN SAFETY CENTER-PINIONS FOR WATCHES.

Specification forming part of Letters Patent No. **166,741**, dated August 17, 1875; application filed June 19, 1875.

*To all whom it may concern:*

Be it known that we, CHARLES R. BACON and LEUTHOLD C. BROWN, of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Safety Center-Pinion, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical transverse section of our safety center-pinion; Fig. 2, a bottom view of the center-wheel, with spring-pinion detached; Fig. 3, a top view of the pinion with spring, and Fig. 4 a perspective view of the pinion check-spring.

Similar letters of reference indicate corresponding parts.

Our invention relates to an improved safety center-pinion for watches; and it consists of a center-wheel with detachable pinion, having projecting teeth, that inclose a spring secured by a pin at one end to a perforation of the center-wheel, while the opposite free end of the spring binds pinion and center-wheel to revolve in the usual manner, while it turns freely without the center-wheel in opposite direction.

In the drawing, A represents a center-wheel of a watch, and B a detachable pinion that is placed on the arbor of the center-wheel, and held by a collar, *a*. The teeth of pinion B are extended at that side facing the central disk shaped part of the wheel A beyond the solid center part of the pinion, and form thereby a kind of casing around a band or wire spring, C, that is placed inside of the teeth, and attached to the center-wheel by a projecting pin,

*b*, at one end of the spring, which is seated into a perforation, *d*, of the center-wheel. When the center-pinion is revolved in the regular manner by the mainspring-cylinder, the free end of the spring locks into one of the recesses between the projecting pinion-teeth, and couples the center-wheel firmly thereto, so that it is compelled to rotate with the pinion. When by the breaking of the mainspring the cylinder is violently turned in opposite directions the pinion is revolved therewith as the free spring end passes readily along the teeth of the same, leaving thereby the center-wheel and arbor in position without causing injurious effects on the intermeshing wheels and pinions.

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

1. The combination, with a center-wheel of a watch, of a detachable center-pinion having teeth extended toward the center-wheel, and an intermediate check-spring placed between pinion and center-wheel, and attached at one end to the latter, substantially in the manner and for the purpose set forth.

2. A detachable safety center-pinion, provided with teeth extended to project beyond the solid center part toward the center-wheel, and form alternating recesses for the check-spring, substantially as specified.

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