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PATENTED NOV. 14, 1905.

G. F. JOHNSON.  
SAFETY BARREL FOR WATCHES.

APPLICATION FILED MAR. 25, 1905.

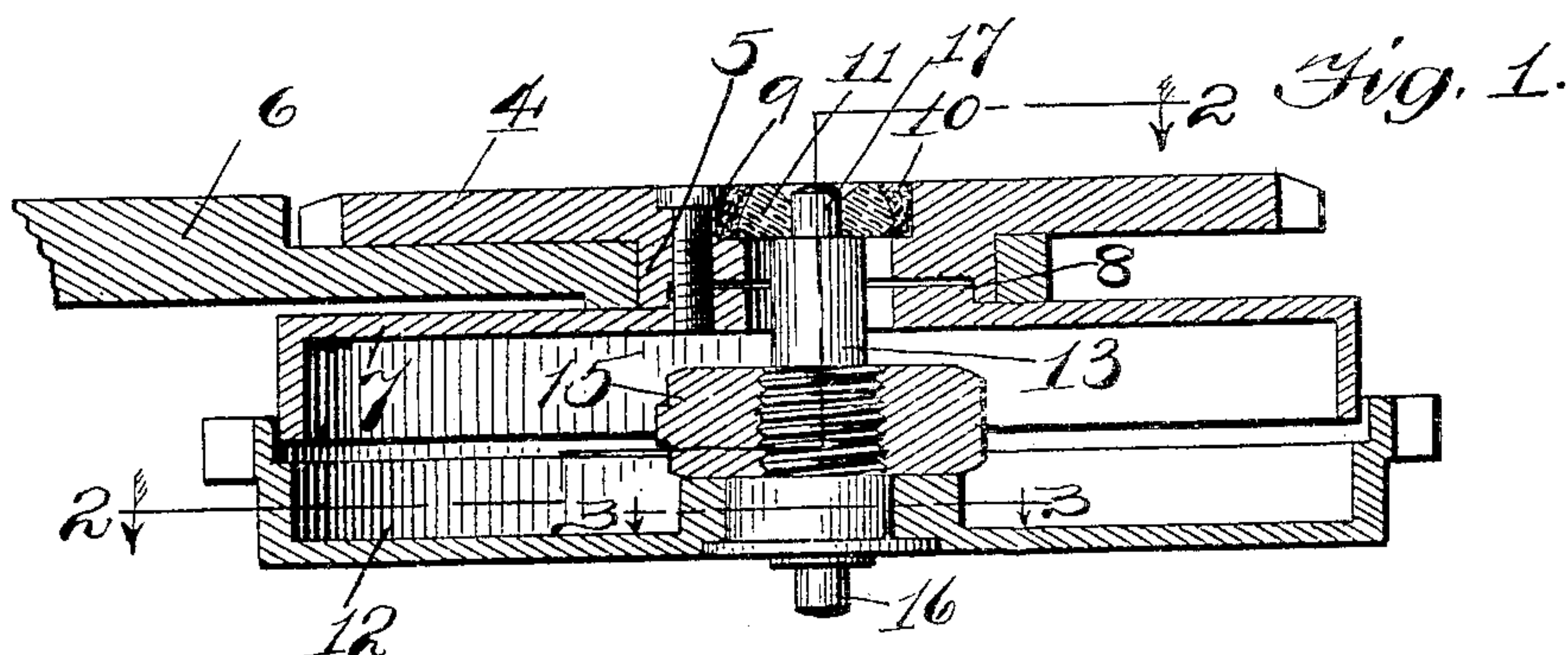


Fig. 2.

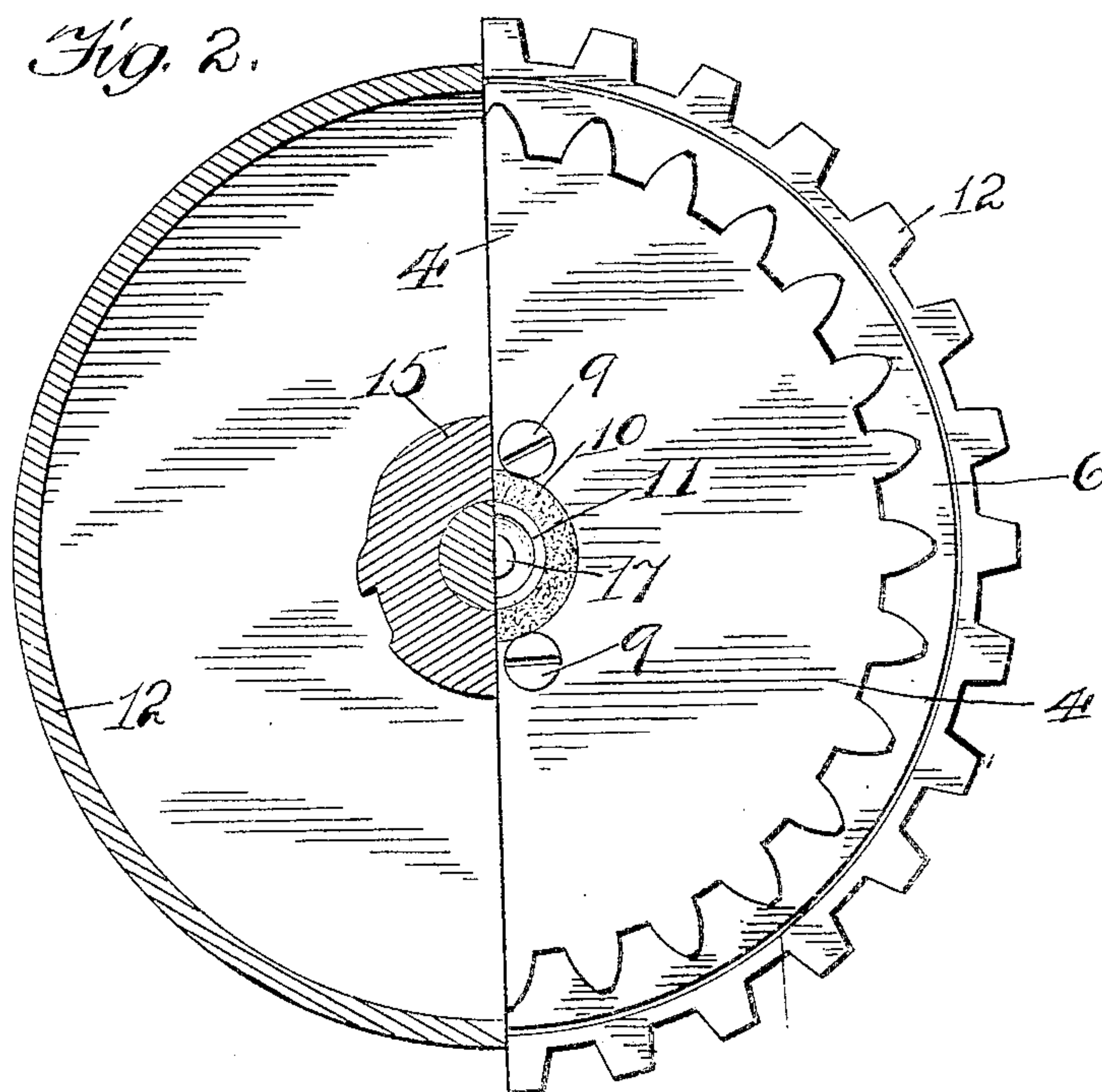
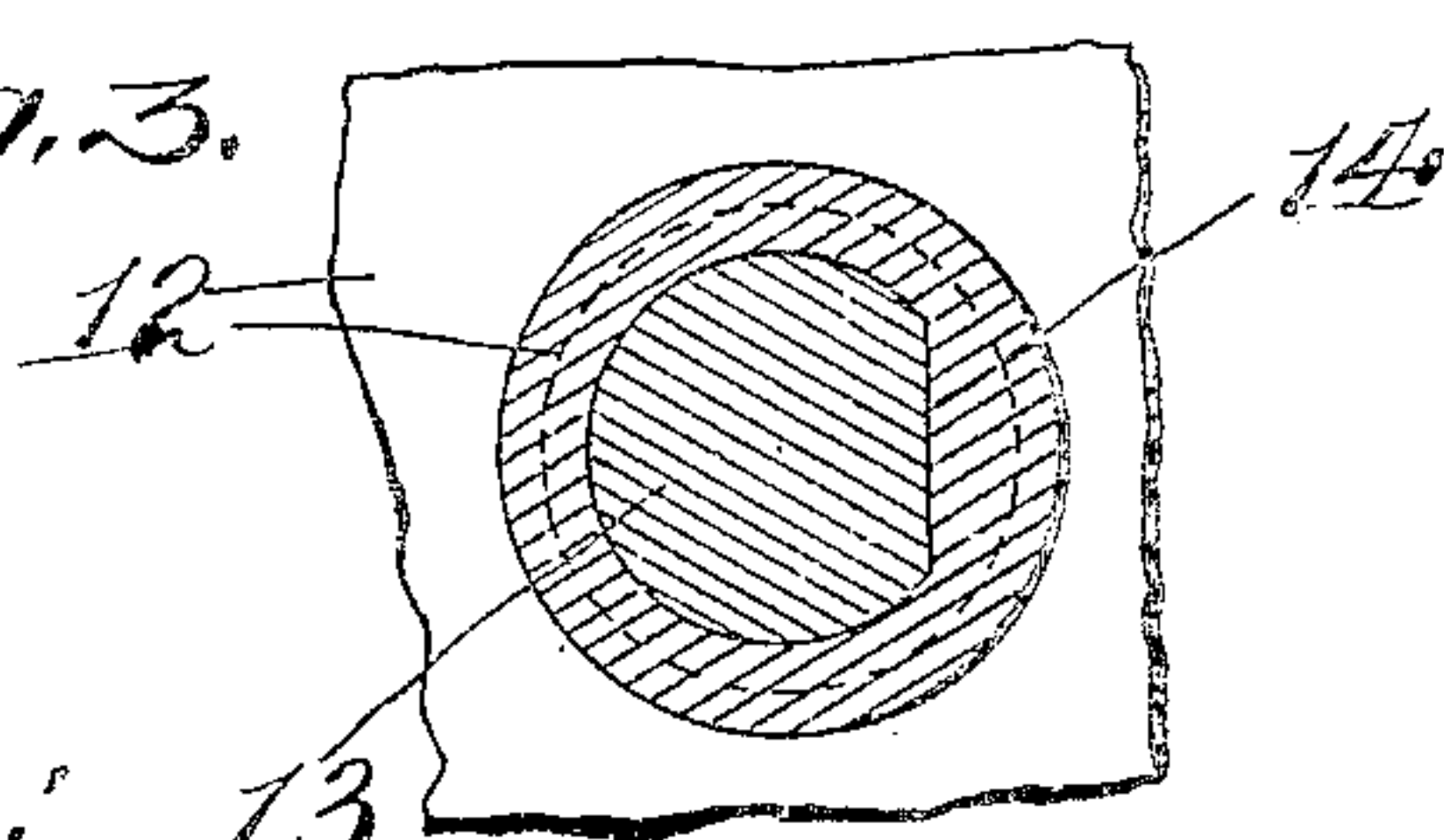


Fig. 3.



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# UNITED STATES PATENT OFFICE.

GEORGE F. JOHNSON, OF SPRINGFIELD, ILLINOIS, ASSIGNOR TO ILLINOIS WATCH COMPANY, OF SPRINGFIELD, ILLINOIS, A CORPORATION OF ILLINOIS.

## SAFETY-BARREL FOR WATCHES.

No. 804,727.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed March 25, 1905. Serial No. 252,016.

*To all whom it may concern:*

Be it known that I, GEORGE F. JOHNSON, a citizen of the United States, residing at Springfield, in the county of Sangamon, State of Illinois, have invented certain new and useful Improvements in Safety-Barrels for Watches, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to safety-barrels for watches; and its object is to construct a main wheel and spring-barrel of new and improved structure in which a simple and efficient means is provided for combining the spring-barrel, the main-wheel arbor, the ratchet-wheel, and their settings. The parts are also so combined that in case the spring breaks the sudden release of the spring will not put a strain upon the works, but will be thrown off through the rotation of the ratchet-wheel.

To these ends my invention consists in the combination of the parts hereinafter described.

In the drawings, Figure 1 is a section through the ratchet-wheel portion of the movement-plate, spring-barrel, and main wheel. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1.

Referring to the drawings, 4 indicates a ratchet-wheel which is provided with a suitable hub 5, preferably formed integral therewith, as is best shown in Fig. 1, and which is journaled in a suitable circular opening in a back movement-plate 6, which is recessed, as is shown in Fig. 1, in the usual manner for the reception of the ratchet-wheel 4.

7 indicates a spring-barrel which is of the usual form of a short hollow cylinder and which is provided on its upper surface with a circular boss 8, which fits within a suitable recess in the bottom of the hub 5 of the ratchet-wheel 4. The spring-barrel 7 and the ratchet-wheel 4 are secured together by means of screws 9, which pass through the ratchet-wheel 4 and its hub 5 and into the boss 8 of the spring-barrel 7.

10 indicates a jewel-setting, which is set in a suitable circular opening in the ratchet-

wheel 4 and is held in place by the heads of the screws 9.

11 indicates a jewel which is secured in place by the jewel-setting 10. As is clearly shown in Fig. 1, the hub 5 and the spring-barrel 7 are provided with a suitable opening through which a spring-arbor, hereinafter described, passes.

12 indicates the main wheel, which is of the shape of a short hollow cylinder, within the top portion of which the lower edge of the spring-barrel 7 enters.

13 indicates the spring-arbor which is secured in the main wheel 12 and projects upward therefrom, being held in position so that the two will rotate together by a squared portion 14. (See Fig. 3.)

15 indicates a hub which is screwed upon the spring-arbor 13 within the spring-barrel 7 and main wheel 12. The mainspring of the watch is in the usual manner secured at one end upon the hub 15 and at the other end to the inner surface of the barrel 7. The spring-arbor 13 is provided at its lower end with a pivot 16, adapted to be journaled in any suitable bearing in the watch (not shown) and in the usual manner, and at its upper end with a pivot 17, which is journaled in the jewel 11.

When the watch is wound, the ratchet-wheel 4 is rotated, turning in the back movement-plate 6 and carrying with it the spring-barrel 7, winding the spring. When the winding is completed, the ratchet-wheel being held from rotation in the opposite direction from that in which it was wound, the uncoiling of the spring will of course rotate the spring-arbor and with it the main wheel.

In case the mainspring should break it will be seen that the construction is such that the releasing of the strain upon the spring will cause the spring-barrel 7 to rotate in the direction in which it was wound, thus permitting the ratchet-wheel to move and preventing a sudden throwing of the strain upon the more delicate parts of the watch.

What I claim as new, and desire to secure by Letters Patent, is—

As an improvement in safety-barrels for

watches, the combination with a movement-plate, a ratchet-wheel having an integral hub journaled in said movement-plate and provided with a concentric recess upon its under  
5 side, and a jewel concentrically mounted in said ratchet-wheel, of a spring-barrel provided with a boss on its upper surface adapted to enter the recess in the bottom of said hub

and removably secured to said ratchet-wheel, a main wheel, and a spring-arbor secured at one end of said main wheel and journaled at the other end, substantially as described.

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Witnesses:

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