No. 620,972. Patented Mar. 14, 1899.

A. C. ROSENBROOK.

ADJUSTABLE JEWEL BEARING FOR WATCHES.

(Application filed May 21, 1898.)

(No Model.)

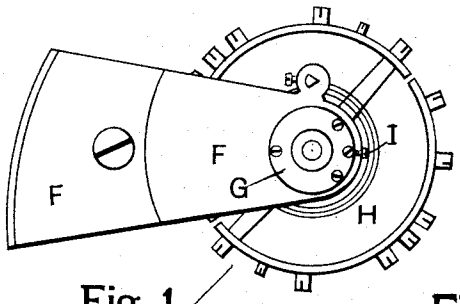


Fig. 1.

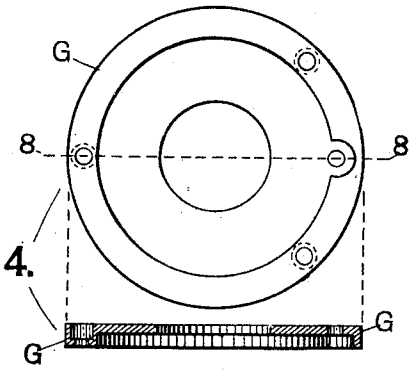
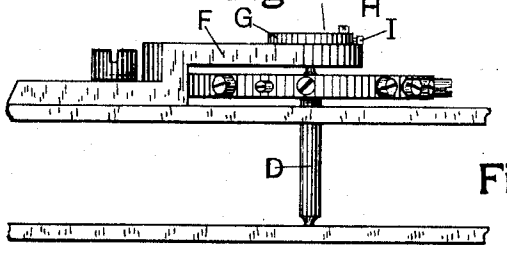


Fig. 4.

Fig. 2



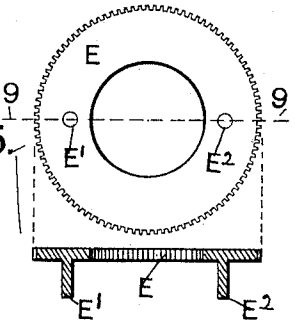


Fig. 5.

Fig. 3

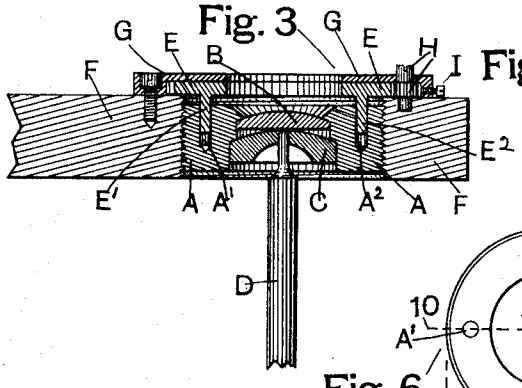


Fig. 7.



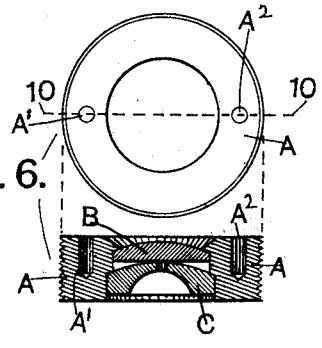


Fig. 6.

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ADJUSTABLE JEWEL-BEARING FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 620,972, dated March 14, 1899.

Application filed May 21, 1898. Serial No. 681,966. (No model.)

To all whom it may concern:

Be it known that I, AUGUST C. ROSENBROOK, a citizen of the United States, residing at Brook, in the county of Newton and State of Indiana, have invented a new and useful Means for Adjusting Jewels for Watch-Balance-Wheel Arbors, of which the following is a specification.

My invention relates to means for adjusting the jewels of balance-wheel arbors for watches; and my object is to provide a construction which is adapted to be operated at any time after the watch is assembled and running or partially assembled, as may be necessary, it being possible to easily and accurately adjust the jewels with very simple tools and with a degree of perfection heretofore never attained without the expenditure of considerable time and labor.

My new invention is fully described hereinafter and is illustrated in the accompanying drawings, in which—

Figure 1 is a plan of an ordinary bridge for supporting the outer end of the balance-wheel arbor, the balance-wheel and several other usual parts being shown, which form a combination of well-known parts of a watch, together with a cover secured to the outer end portion of the bridge and which conceals the principal operative parts of my invention. Fig. 2 is a side elevation of the bridge, balance-wheel arbor, and balance-wheel, together with portions of the top and bottom plates of the train-frame and also the cover shown in Fig. 1. Fig. 3 is an axial section, on a scale very much larger than is shown in Figs. 1 and 2, of a cylindrically-shaped exteriorly-screw-threaded hole and cap-jewel holder, together with the jewels in position therein, and also, on same section, a spur cog-wheel and its connection with the jewel-holder and the cover which secures the several parts upon the outer end portion of the balance-wheel-arbor bridge, there being the balance-wheel arbor, top portion, a holding-down screw for the spur-wheel cap, and a small pinion in engagement with the spur cog-wheel and mounted both in the spur-wheel cap and the bridge in elevation. Fig. 4 shows a bottom plan and an axial section, on broken line 8 8, of the cover-plate, in which is mounted a large spur cog-wheel and a small pinion-wheel in engagement therewith. Fig. 5 shows a plan and an axial cross-section, on broken line 9 9, of the large spur cog-wheel. Fig. 6 shows a plan and an axial cross-section, on line 10 10, of the jewel-holder with jewels in the usual position for service. Fig. 7 shows an elevation and a plan of the small pinion fitted to gear with the spur-gear shown in Fig. 5.

Similar letters indicate like parts throughout the several views.

This invention comprises a jewel-holder A of a substantially cylindrical form in this instance, the peripheral surface thereof being screw-threaded, as indicated in Figs. 3 and 6.

Axially disposed within the holder A are secured jewels B and C, of any suitable form, to support the balance-wheel arbor D both laterally and longitudinally, as usual. At opposite side portions (diametrically opposite in this instance) are holes A′ and A^2. Large spur cog-wheel E, Fig. 5, has two pins E′ and E^2 projecting therefrom at one side, so that when this spur-wheel is disposed upon the jewel-holder A, Fig. 3, these pins will rest in holes A′ and A^2, and thereby serve as a sliding coupling, through which a rotary movement is transmitted from the cog-wheel to the holder.

Spur-wheel E is usually larger than holder A, so that it will rest upon the top of bridge F when the parts are assembled, with holder A in engagement with the the screw-threads in a hole at the outer end portion of bridge F.

The cap G, Fig. 4, covers the large spur cog-wheel E, and pinion H is mounted within this cover, with its lower end journal mounted in the upper surface of the end portion of the bridge. In this instance a notch is provided in the protruding top of the upper journal of pinion H, whereby it may be revolved by means of a small screw-driver.

Cap G is secured to the bridge by means of ordinary screws with heads countersunk, as shown.

Cog-wheel E and pinion H may be dispensed with where a very simple form of means for adjusting the jewels is necessary, for it is obvious that the holder A may be turned by inserting a tool directly into holes A′ and A^2 and accomplish a very accurate result in adjusting the jewels. By turning the small pinion H either way it is obvious that

an extremely delicate adjustment of the jewels may be attained and the operative parts afterward secured from further movement in the manner stated.

I claim as my invention—

In a watch-movement, means for adjusting the balance-jewels thereof consisting of an exteriorly-screw-threaded holder having a jewel secured coaxially therein, the balance-wheel-arbor bridge having a screw-threaded hole therein concentric with the balance-wheel-arbor shaft, and with the jewel-holder mounted therein in engagement with the screw-threads thereof, a cog-wheel revolubly mounted on the bridge and coupled with the jewel-holder, a pinion mounted on the bridge and adapted to revolve in engagement with the cog-wheel, in the manner and for the purpose substantially as hereinbefore shown and described.

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