

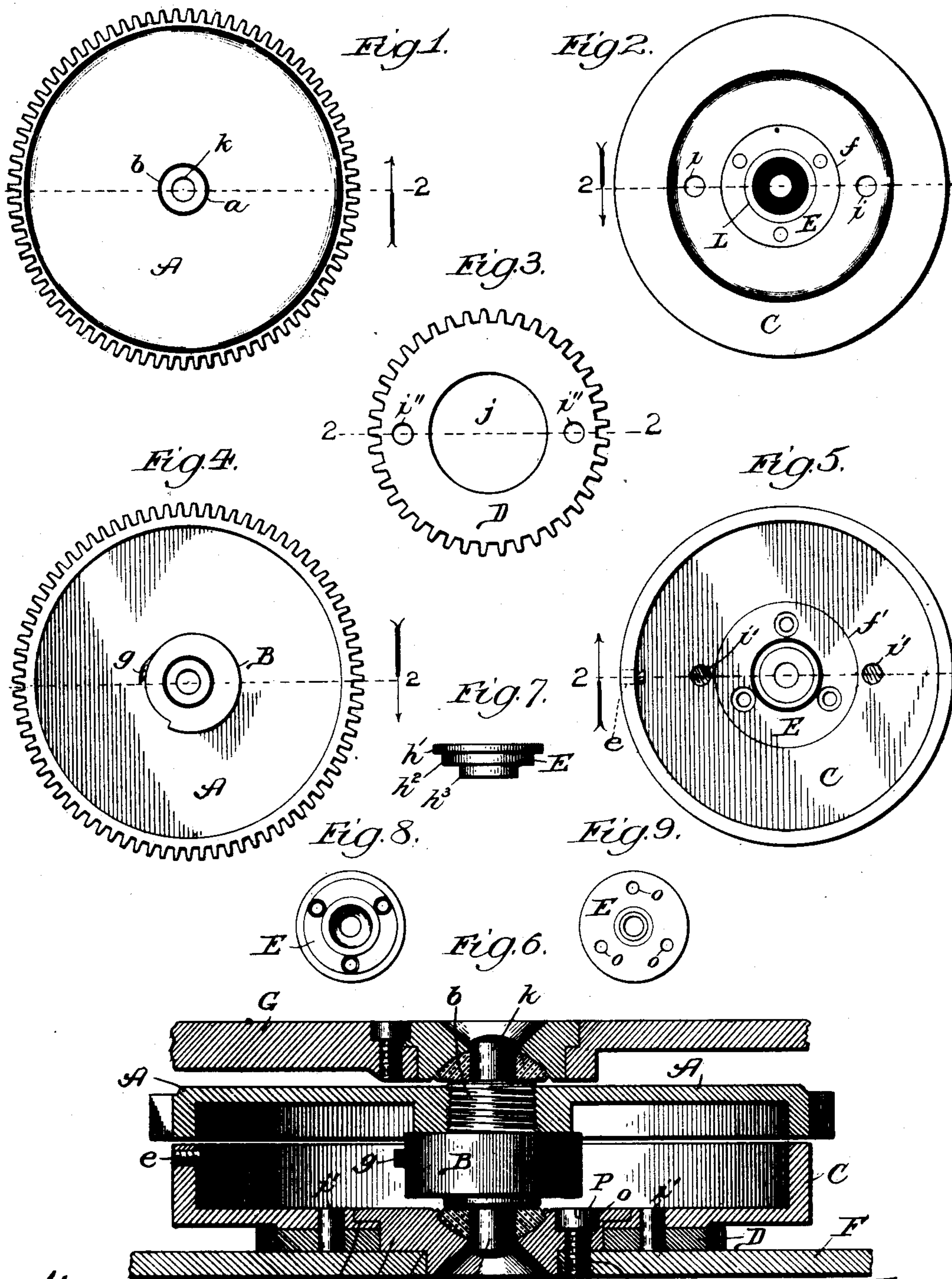
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V. S. COREY.
WATCH BARREL.

(Application filed Feb. 14, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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WATCH-BARREL.

SPECIFICATION forming part of Letters Patent No. 711,476, dated October 21, 1902.

Application filed February 14, 1902. Serial No. 94,076. (No model.)

To all whom it may concern:

Be it known that I, VARIAN S. COREY, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful
5 Improvements in Watch-Barrels, of which the following is a full, clear, and exact description.

My invention relates particularly to watch-barrels wherein the arbor of the main wheel
10 is adapted to rotate after and while the mainspring is being coiled.

The object of my invention is to provide a simple and efficient means for combining the
15 spring-barrel with the jewel-setting, main-wheel arbor, and ratchet-wheel in such manner as to enable the arbor to rotate while the mainspring is being wound, as well as during the running of the watch.

In the accompanying drawings, wherein like
20 letters refer to like parts throughout the several figures, Figure 1 is a top view of the main wheel of a watch embodying my invention, showing one end of the main-wheel arbor and its pivot. Fig. 2 is a plan view of the
25 inside or lower portion of the spring-barrel, showing the jewel-setting in position therein. Fig. 3 is a plan view of the ratchet-wheel of the watch, showing the relative size and position of the interior opening through which
30 the jewel-setting fits. Fig. 4 is a plan view of the lower or inside of the main wheel, showing the enlarged portions of the arbor, the pivot, and the hook adapted to engage the inner end of the mainspring of the watch.
35 Fig. 5 is a plan view of the upper side of the spring-barrel, showing the hook and jewel-setting in place. Fig. 6 is a detail cross-section through the axis of the main-wheel arbor, taken along the lines 2 2 of the parts shown
40 in plan view in the preceding figures, the arbor being shown in elevation. Fig. 7 shows the jewel-setting in perspective. Fig. 8 is a plan view of the jewel-setting as seen from the bottom and Fig. 9 as seen from the top.

45 In the accompanying drawings, A denotes the main wheel of the watch. This wheel is mounted on the arbor B, which is of sufficient length to permit of its being journaled or pivoted within the movement-plates F and

50 G. The arbor B is journaled at its upper end K within a jewel in the movement-plate

G. I prefer to attach the main wheel to its arbor B by means of threads *a*, adapted to engage threads *b* of the same pitch on the arbor. The arbor B is journaled at its lower end in
55 a jewel-setting E. (See Fig. 7.) This setting is composed of three concentric superposed cylinders, the uppermost cylinder *h'* being of greater diameter than the middle cylinder *h²* and the lowermost cylinder *h³* being of lesser
60 diameter than either *h'* or *h²*. These cylinders are shown as made of one piece, the three being concentric and parallel. (See Fig. 7.)

The spring-barrel C may be constructed in the usual form and is provided with a hook *e*,
65 adapted to engage the outer end of the mainspring. This hook *e* is preferably made separate from the spring-barrel and fastened to it by means of screws or rivets. The mainspring is thus connected at its outer end to
70 the spring-barrel and at its inner end to the arbor B by the hook *g*. A circular opening *f* is made central and concentric with the circumference of the spring-barrel, said opening being enlarged and forming a recess *f'* on the
75 inner surface of the spring-barrel to receive the enlarged portion or shoulder *h'* of the jewel-setting E. The ratchet-wheel D is provided with an opening *j*, located centrally and concentrically within the circumference of
80 the ratchet-wheel and adapted to receive the shoulder *h²* of the jewel-setting E. The setting projects through the openings *f* and *j*. One or more holes *i i* are provided in the spring-barrel to receive the screws or pins
85 *i' i'*, which extend through the spring-barrel and ratchet-wheel, thereby holding firmly together in close contact the spring-barrel and ratchet-wheel. The ratchet-wheel D has a circular concentric opening *j*, adapted to re-
90 ceive the portion *h²* of the jewel-setting E. I prefer to secure the spring-barrel to the ratchet-wheel by means of the threaded or plain holes *i''*, adapted to receive screws or pins. The holes *i''* are located in the same
95 relative positions to the central opening as are the holes *i i* in the spring-barrel. The cylinders *h' h²* are adapted to hold the spring-barrel and ratchet-wheel rotatively in connection with the watch-plate F. The jewel-
100 setting is rigidly mounted on the movement-plate, being secured thereto, preferably, by

means of screws n , extending through the setting, which is countersunk at $o o o$ to receive the heads of screws p . Correspondingly-threaded holes n' are provided in the watch-plate F to receive the threaded screws n .

The jewel-setting E is adapted to fit with the required freedom about the cylindrical part h' , the recess f' in the spring-barrel, and the part h^2 the opening j in the ratchet-wheel, the smallest diameter of the setting h^3 being adapted to fit into the opening m of the movement-plate F . The screws n secure the spring-barrel, ratchet-wheel, and jewel-setting in their relative positions in the watch-plate.

This arrangement of parts allows the spring-barrel to rotate in connection with the ratchet-wheel around the jewel-setting held in positive position, so that it cannot get out of alignment while the mainspring is being wound or let down, and makes effective the journaling of the main-wheel arbor in jewels. The spring-barrel and ratchet-wheel are in close contact and directly attached to each other.

Having thus described my invention, I claim as an improvement in watches—

1. The combination of a spring-barrel centrally recessed, a ratchet-wheel, a jewel-setting within said recess extended through said ratchet-wheel, said spring-barrel and ratchet-wheel being connected with each other independently of said jewel-setting and adapted to rotate freely around the same, and a main-wheel arbor extending through said jewel-setting and concentric with said spring-barrel, for the purpose described.

2. The combination of a spring-barrel centrally recessed, a ratchet-wheel having a central opening, a jewel-setting of three concentrically-superposed cylindrical parts of successively smaller diameter, the largest adapted to fit freely into a central opening in the spring-barrel, the intermediate into central openings in the spring-barrel and the ratchet-wheel and the smallest into a circular opening in the barrel position in the movement-plate, and a main-wheel arbor pivotally

mounted on said jewel, said spring-barrel being adapted to move freely with reference to said arbor, for the purpose described.

3. The combination with a movement-plate, of a jewel and jewel-setting rigidly secured thereto, a main-wheel arbor journaled in said jewel, a spring-barrel surrounding said arbor, and a ratchet-wheel between said movement-plate and barrel rigidly secured to the latter, for the purpose described.

4. The combination with a movement-plate, of a jewel and jewel-setting rigidly secured thereto, a main-wheel arbor journaled in said jewel, a spring-barrel surrounding said arbor and journaled on said jewel-setting, and a ratchet-wheel between said movement-plate and barrel rigidly secured to the latter, for the purpose described.

5. The combination with a movement-plate, of a jewel and jewel-setting rigidly secured thereto, a main-wheel arbor journaled in said jewel, a spring-barrel surrounding said arbor, a ratchet-wheel between said movement-plate and barrel, and fastening devices rigidly securing the ratchet-wheel to said barrel, for the purpose described.

6. The combination of a spring-barrel having a central opening and a recess on its inner surface concentric with its circumference, a ratchet-wheel provided with a central opening, said wheel being surmounted by and connected to said spring-barrel, a jewel-setting of successively smaller concentric steps, one adapted to fit into the opening of said spring-barrel, and another into the openings in said ratchet-wheel and to confine rotatively the said spring-barrel and ratchet-wheel upon the movement-plate, said setting being rigidly secured to said plate and a main wheel mounted on an arbor pivotally journaled in jewels in said movement-plate, for the purpose described.

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Witnesses:

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