

(No Model.)

C. H. MEYLAN.
WATCH BARREL.

No. 410,327.

Patented Sept. 3, 1889.

Fig. 2.

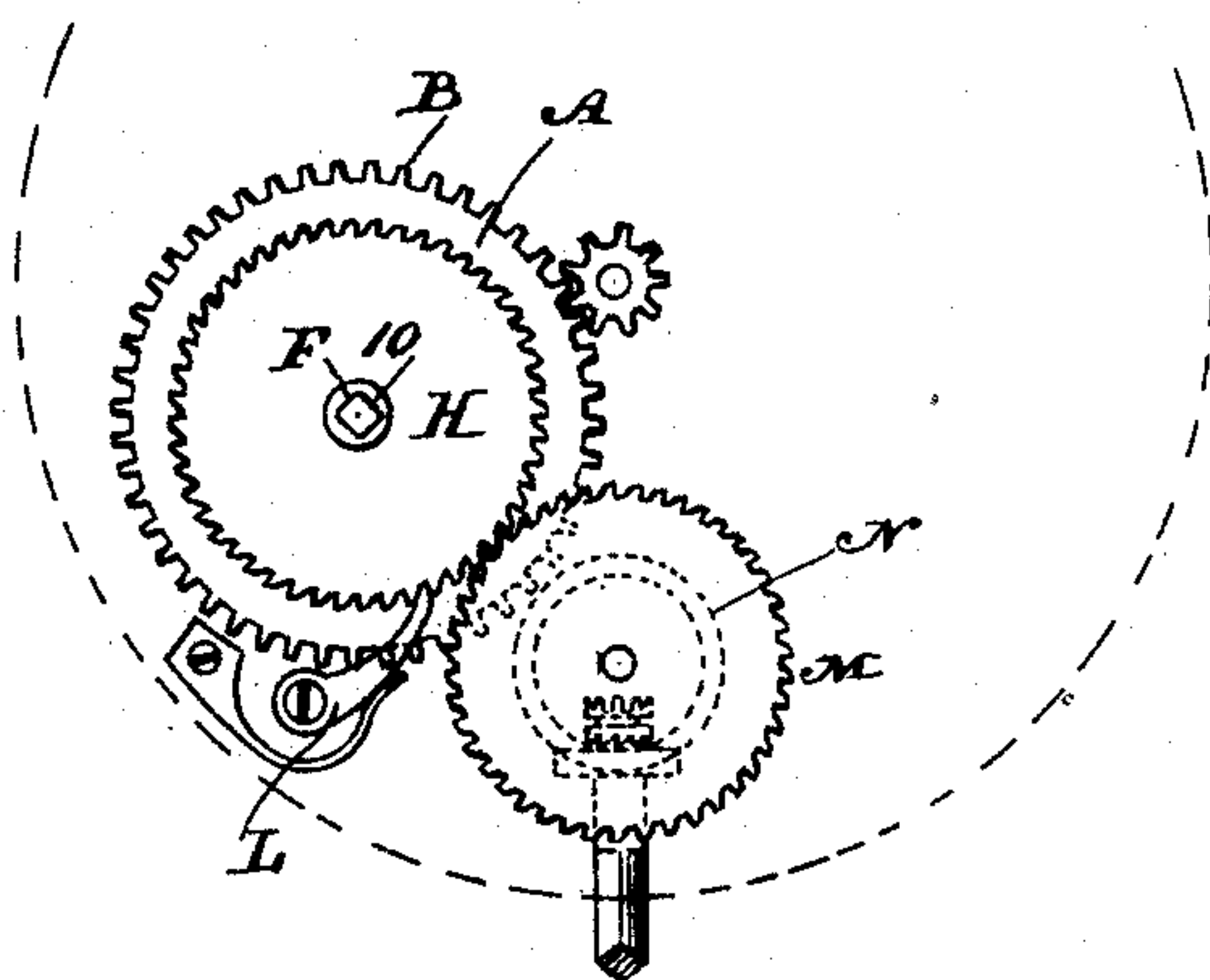


Fig. 1.

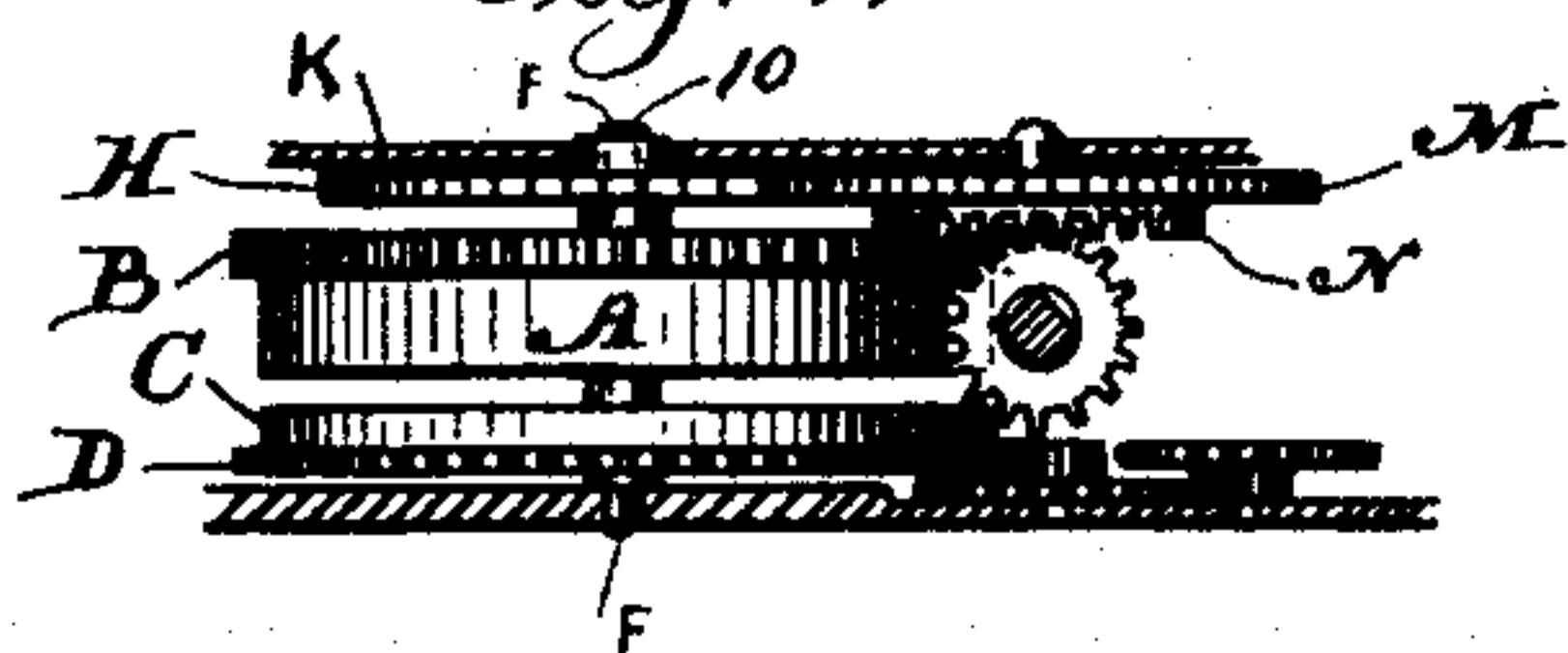


Fig. 3.

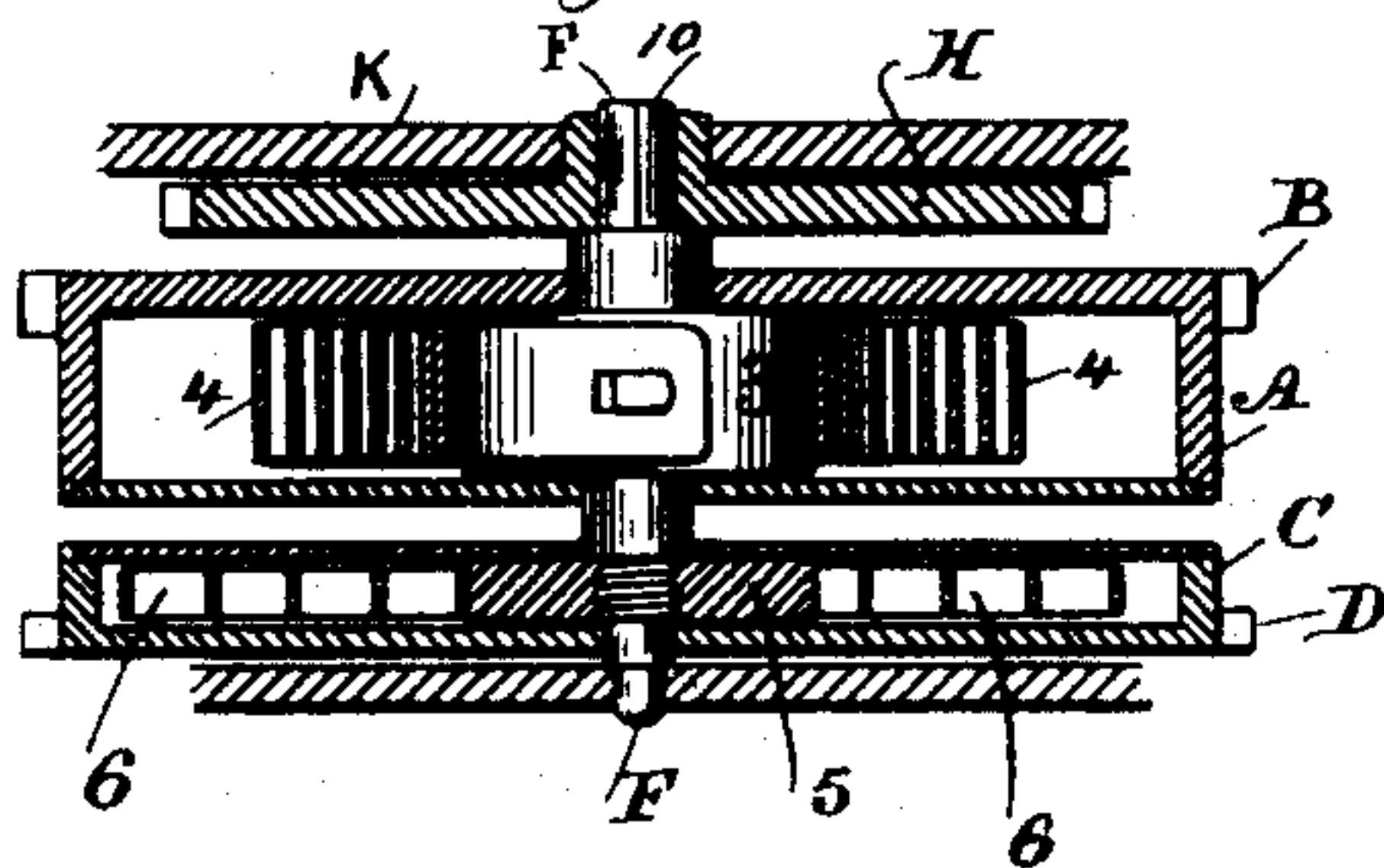
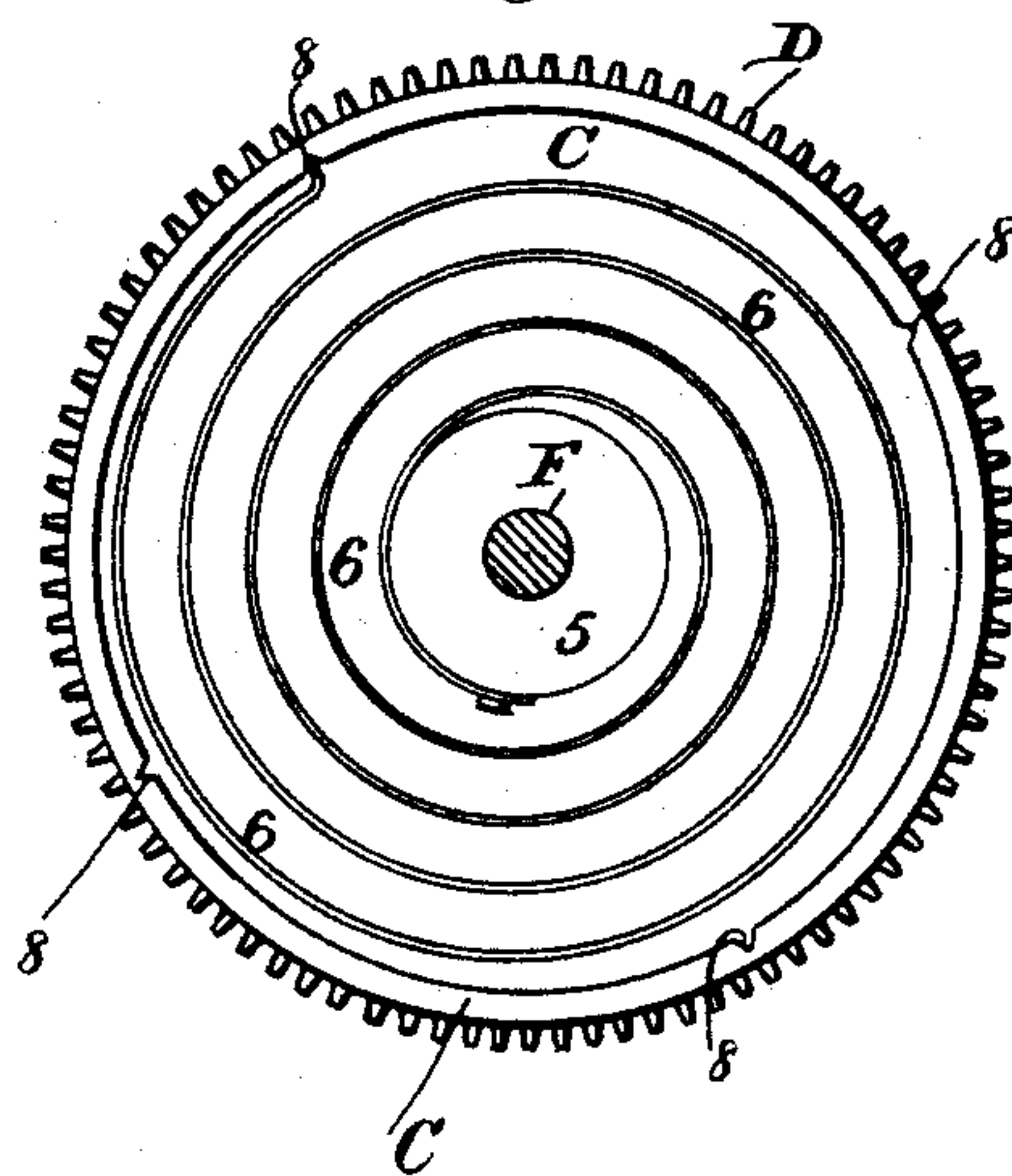


Fig. 4.



Witnesses

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att

UNITED STATES PATENT OFFICE.

CHARLES H. MEYLAN, OF NEW YORK, N. Y., ASSIGNOR TO MATHEY BROTHERS, MATHEZ & CO., OF SAME PLACE.

WATCH-BARREL.

SPECIFICATION forming part of Letters Patent No. 410,327, dated September 3, 1889.

Application filed June 8, 1889. Serial No. 313,545. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. MEYLAN, of the city and State of New York, but temporarily residing at Brassus, Switzerland, have invented an Improvement in Spring-Barrels for Watches, of which the following is a specification.

In watches that contain two trains of gearing for independent or split seconds in stop-watches and for striking the time in repeating-watches two spring-barrels have been made use of, one spring-barrel giving motion to the main train or time gearing and the other to the independent seconds-hand or to the striking devices. These barrels, however, have been upon separate arbors and have occupied considerable space in the watch, and the devices that communicated motion from one spring-barrel to the other, whereby only one movement was necessary in winding, have been complicated.

My present improvement is for simplifying the construction and lessening the cost of manufacture and for lessening the space occupied by the spring-barrels. I place the two springs and the two spring-barrels around one arbor, and in consequence of the second spring having comparatively little work to perform it can be made quite narrow, and hence the space occupied by the two spring-barrels on one arbor is but little increased, and I take the movement for one train of gearing from a wheel around the edge of each spring-barrel.

In the drawings, Figure 1 is an elevation illustrating the connections to the winding mechanism, and showing the relative positions of the two spring-barrels. Fig. 2 is a plan view of the mainspring-barrel, and winding-gearing. Fig. 3 is a section, in larger size, of the spring-barrels; and Fig. 4 is a plan view of the secondary-spring barrel and its spring.

The mainspring-barrel A is provided with gear-teeth B around its periphery, from which the necessary movement is given to the train of gearing extending to the escapement and balance, and the secondary-spring barrel C has gear-teeth D around its periphery, which give motion to the train of gearing extending to the independent seconds or striking mech-

anism. These trains of gearing and devices employed in connection with them may be of any desired character and do not form a necessary part of the present invention. The arbor F passes through the two barrels A and C, and its ends are suitably supported, usually in the plates or bridges of the watch, and upon the hub 3 one end of the mainspring 4 is hooked, and the other end of such mainspring 4 is hooked inside of the spring-barrel A. This spring and the hooks may be of any desired character.

Upon the arbor F is a hub 5, preferably screwed thereon, and to this hub 5 one end of the secondary spring 6 is attached, and the other end of this secondary spring 6 is turned outwardly at right angles, or nearly so, and catches into one of the notches 8 within the barrel C.

It will now be understood that when the arbor F is rotated to wind up the mainspring the secondary spring 6 will also be wound up; but after this secondary spring has been wound up to the proper point, if the winding of the mainspring is continued, the outer end of the secondary spring 6 will slip out of one of the notches 8, and continue to slip from one notch to the other until the winding ceases, and in this operation the secondary spring will not be injured, and it will be wound up to a sufficient extent for performing whatever duty is required of it in moving the parts that receive motion from the secondary-spring barrel.

It is to be understood that the arbor F, as it is rotated, is to be held by a suitable ratchet and pawl; hence the inner ends of both springs are held rigidly when the winding operation ceases, and the mainspring uncoils itself in the ordinary movement of the watch, and the secondary spring may or may not be brought into operation before the watch is wound up again; and it is to be understood that this secondary spring is to be of sufficient length and strength for any duty that may be required of it between one winding and the next of the mainspring-barrel. I prefer to make use of a square upon one end of the arbor F, upon which is a gear-wheel H, having a square hole to fit the square 10, and a surrounding hub passing into a hole

in the bridge or plate K, and this wheel H has teeth that are adapted to receive a pawl or click L upon the plate or bridge K, and this wheel H is geared into the wheel M, that receives motion from the gear N of the stem-winding mechanism. These parts may be of any desired or ordinary construction in stem-winding watches, and it will be apparent that the arbor F might be wound by an ordinary key, if so desired.

In many instances the spring-barrels of watches are provided with a stop mechanism to limit the number of turns in winding up the spring, and in other watches this stop mechanism is not employed. My present invention may be used with or without such stop mechanism.

I claim as my invention—

1. The combination, with the arbor F, spring and spring-barrel A, of a secondary-spring barrel C, surrounding the arbor F, and a spring 6, within the barrel C and connected at its ends with the hub on the arbor F and with the spring-barrel, substantially as set forth.

2. The combination, with the arbor F, of the mainspring and spring-barrel A, for giving motion to the time mechanism in a watch, the hub 5, surrounding the winding-arbor F, the secondary barrel C, and gear D, also surrounding the arbor F, and the spring 6, connected at one end to the hub 5 and having a projecting end that catches into notches in the interior of the secondary barrel C, substantially as set forth.

3. The combination, with the winding-arbor F, mainspring and spring-barrel A, around such arbor, of the secondary spring and spring-barrel C, also around the arbor F, a wheel H, having a central opening setting over the square end of the arbor, and a circular hub entering a hole in the watch plate or bridge, and a pawl for holding such wheel H, substantially as set forth.

Signed by me this 23d day of May, 1889.

CHARLES H. MEYLAN.

Witnesses:

B. S. BRIMOND,
LYELL T. ADAMS.