

E. CHAPIN.
Watch-Barrels.

No. 157,155.

Patented Nov. 24, 1874.

Fig. 1.

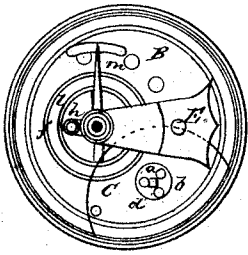


Fig. 2.

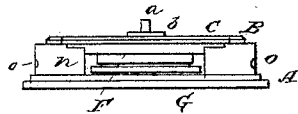


Fig. 3.



Fig. 4.

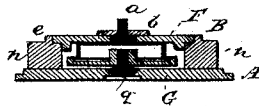


Fig. 5.

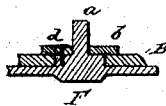
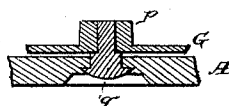


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EARL CHAPIN, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN WATCH-BARRELS.

Specification forming part of Letters Patent No. **157,155**, dated November 24, 1874; application filed June 30, 1874.

CASE B.

To all whom it may concern:

Be it known that I, EARL CHAPIN, of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Watches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to improve the construction of watch-barrels, whereby the watch is simplified and cheapened; and to this end the nature of my invention consists in attaching the mainspring-barrel to one of the plates, or to the bridge, without running the arbor through to the other plate; also, in attaching the main or driving wheel to one plate, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a plan view of a watch embodying my invention. Fig. 2 is a side elevation, showing the barrel and main wheel. Fig. 3 is a side view of the bottom plate, with the main wheel attached. Fig. 4 is a cross-section of the barrel, main wheel, and part of the frame. Fig. 5 is an enlarged detail, showing the mode of securing the mainspring-barrel. Fig. 6 is an enlarged detail, showing the mode of attaching the main wheel.

A represents the bottom plate, usually called the pillar-plate. B is the upper plate; C, the barrel-bridge; E, the balance-wheel bridge; F, the mainspring-barrel, and G the main or driving wheel. *a* represents the winding-arbor; *b*, the ratchet-wheel; *d*, screws for connecting the ratchet-wheel and barrel together. *f* is a recess in the upper plate for the balance-wheel; *h*, the hair-spring stud; *l*, the balance-wheel; *m*, the regulator; *n* *n'*, projections or pillars; *o*, screws for securing the dust-ring; *p*, the hub of the main wheel, and *q* the arbor of the main wheel. The mainspring-barrel F is provided with a shoulder, as shown in Fig. 5, which passes through the plate B, and is reduced to form the winding-arbor *a*. The ratchet-wheel *b* is placed on the shoulder thus formed, and secured thereto by screws *d* or other suitable means, thus forming a secure and efficient bearing

for the barrel in one plate without extending the arbor through the opposite plate. Opposite to this barrel I place the main wheel G on an arbor or bearing, *q*, and provide the main wheel with a hub, *p*, to which the inner end of the mainspring is attached. The outer end of the mainspring is attached to the barrel F, so that the only connection between the mainspring-barrel and the main wheel is the spring itself; and in case of a rupture of the mainspring or other accident, the barrel takes the shock or recoil of the spring without injury to the train or in any way disturbing it. As the barrel and main wheel have each a separate and independent bearing, the connection is broken whenever the mainspring is broken or slips from its fastening. The arbor or journal for the main wheel is secured to the plate A by being burrished in, as shown in Fig. 6, or it may be secured in any suitable way. The main wheel G is kept in place on its arbor by the central portion of the barrel, which projects slightly downward, as shown in Fig. 5, and comes sufficiently near the hub *p* to keep the wheel in position and allow for the necessary end play between that and the shoulder of the arbor *q*. The mainspring-barrel and the main wheel may, of course, be reversed with reference to the plates A and B.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The barrel F, made with a single arbor or bearing, substantially as described.
2. The barrel F, provided with a shoulder, passing through plate B, and reduced to form the winding-arbor *a*, in combination with ratchet-wheel *b*, forming a bearing-plate without extending the arbor through the opposite plate, substantially as and for the purpose set forth.
3. The combination of the barrel F with the main wheel G, the barrel and main wheel being located opposite to each other, and each being provided with separate arbors, substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

Witnesses: EARL CHAPIN.

W. W. MONTELIUS,
W. G. FORD.