

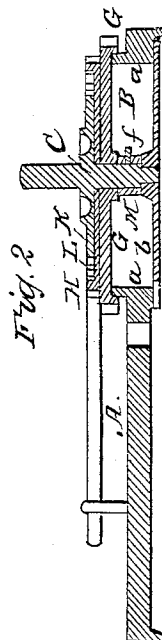
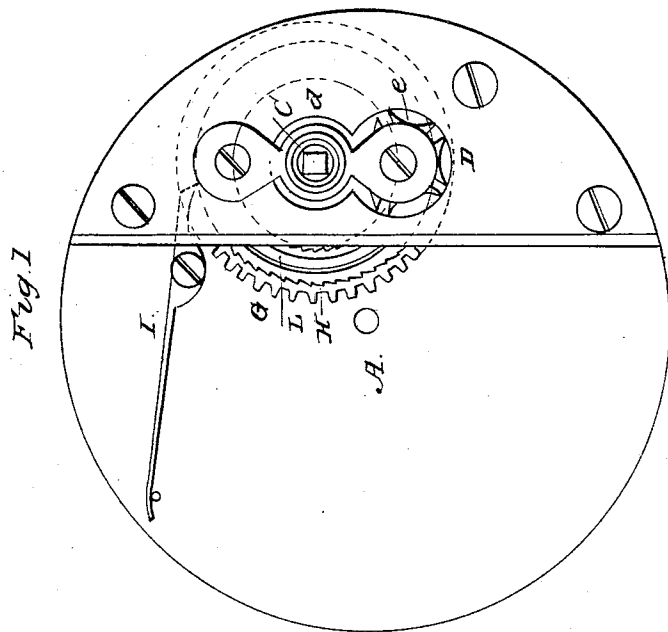
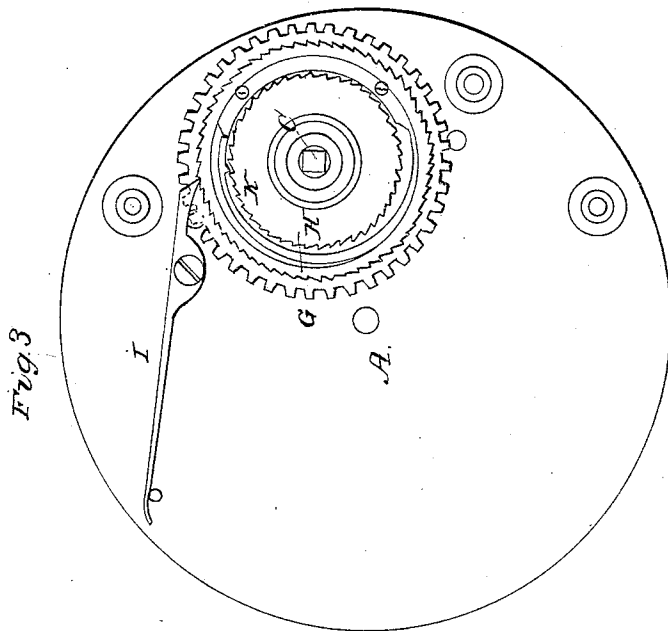
G. P. REED.

2 Sheets—Sheet 1.

Watch Barrel.

No. 17,055.

Patented April 14, 1857.

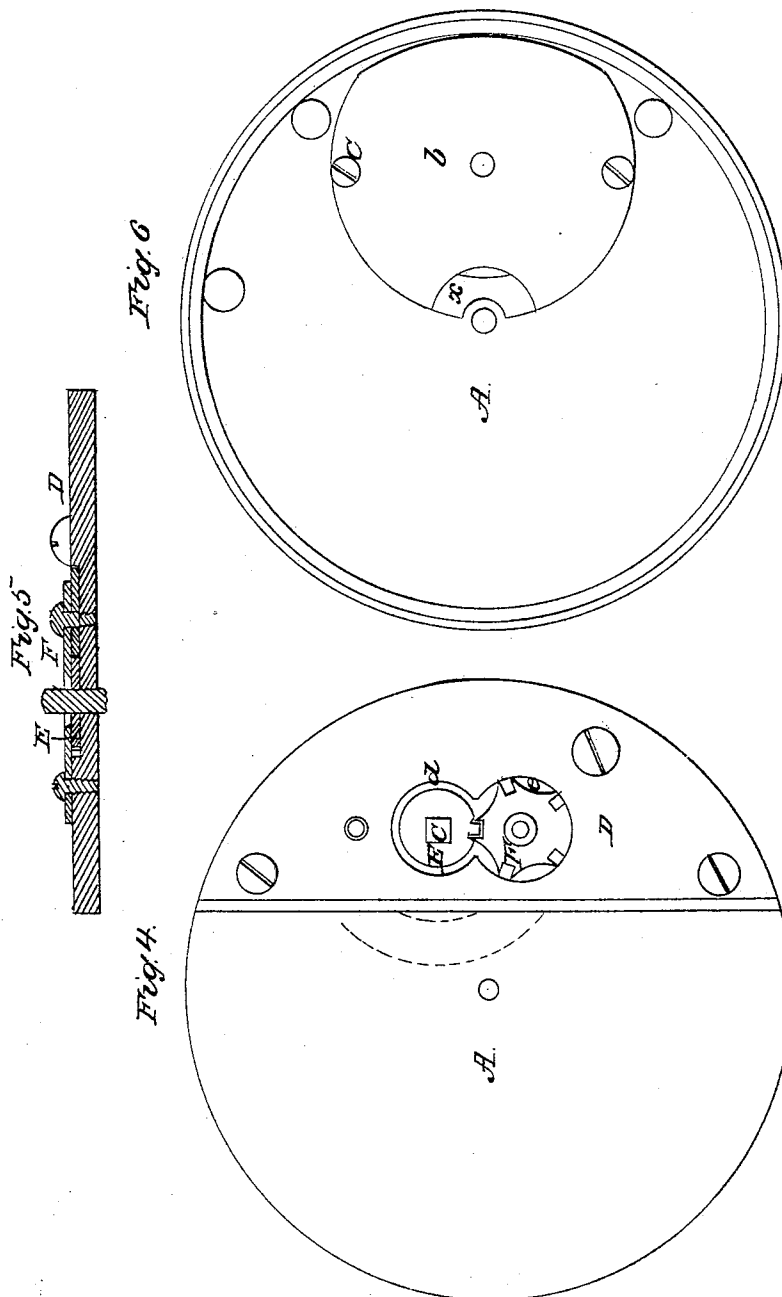


Watch Barrel.

2 Sheets—Sheet 2.

No. 17,055.

Patented April 14, 1857.



UNITED STATES PATENT OFFICE.

GEORGE P. REED, OF WALTHAM, MASSACHUSETTS.

WATCH.

Specification forming part of Letters Patent No. 17,055, dated April 14, 1857; Reissued November 24, 1857, No: 510.

To all whom it may concern:

Be it known that I, GEORGE P. REED, of Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Watches; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, exhibits an underside view of the pillar plate of a watch, and shows the bridge and mechanism applied to it, as will be hereinafter explained. Fig. 2, is a transverse section of the said pillar plate and the
15 barrel for containing the mainspring, such section being taken through the centers of the said plate and barrel. Fig. 3, is a top view of the main gear, its ratchet, with the ratchet and pawl of the winding arbor. Fig.
20 4, is a top view of the stop works. Fig. 5, is a vertical section of them and the bridge. Fig. 6, is a top view of the pillar plate, all the parts of the different figures being drawn on a scale three times the usual size.

25 In these drawings, A, denotes the pillar plate, and B, the barrel for containing the main spring, the latter not being represented in the drawing. This barrel is formed with a projecting flange, *a*, for the purpose of
30 enabling it to be fastened to the pillar plate into and through which it extends as shown in the drawings the said pillar plate being formed with a round hole having a diameter equal to that of the barrel and for the reception of the barrel.
35

In Fig. 6, I have shown a top view of the pillar plate such also representing the cap plate, *b*, of the barrel. This cap plate is secured in place by two screws, *c, c*, extending through it and the flange, *a, a*, (which
40 is an extension of the cap plate) and being screwed into the pillar plate so as not only to confine the cap plate to the flange, but the barrel to the pillar plate.

45 C is the winding arbor, which steps or is pivoted into the cap plate, *b*, and turns in a bridge, *d*, arranged parallel to and with respect to the pillar plate and fastened to it by posts.

50 The stop wheels, E, F are placed in sunken recesses made in the bridge plate as shown at *d, e*.

55 G, is the main gear, which is arranged so as to constitute a cap, or bottom to the barrel.

H, is the ratchet of the maintaining power; I, the spring pawl of said ratchet; K, the arbor ratchet and L, the spring click thereof. A retaining power or spring may be applied to the winding arbor, and the
60 main gear in the usual way for the purpose of keeping the watch in motion while it is being wound up. The winding arbor and main wheel are combined in essentially the same manner, as the main wheel and common fusee of a watch excepting that with
65 regard to that part M of the winding arbor which is within the barrel, and around which, the main spring is coiled, and which is shown at *f*; it is stepped on the other
70 portion of the arbor like a collar and fastened there by a pin or key, such part serving both as a shoulder for the support of the main wheel and also to support the winding arbor. The thickness of the part *f*, should
75 be such as to bring the main wheel just out of contact with the rim of the barrel so that the said main wheel may turn freely and serve as a cover or bottom to the barrel.

The advantages of the above described
80 arrangement of parts are as follows: As the barrel is stationary, and the main wheel made to revolve with the winding arbor (such barrel as watches are usually constructed generally rotating with the main
85 wheel while the winding arbor is stationary) there is no danger in case of breakage of the main spring, that the sudden and violent recoil of such spring will do injury to the train of the watch, as the arbor and
90 ratchet under such circumstances are left free to turn backward without exerting any force on the main gear wheel. In those watches having revolving barrels, the reverse is the case, as the violent recoil of the
95 spring often bends or breaks the teeth of the main wheel as well as those of other wheels of the train.

By arranging the barrel within the pillar plate as described, such barrel is so supported by such plate as to entirely prevent
100 it from being burst open by such a recoil of the mainspring, an accident which frequently happens, when the barrel rotates and is arranged entirely outside of the pillar plate. This arrangement also enables
105 the watch to be made thinner comparatively speaking. As while the watch is being wound up the winding arbor rotates in one direction, and in the opposite as it runs
110

down, I am enabled to employ a bridge and
arrange the stop works therein as described
the same enabling me to make the bridge
as well as the stop works so thick and strong
5 as to prevent all liability of derangement of
them. When the stop works are arranged
on the head of a rotary barrel in the usual
way it becomes necessary to make the same
so thin that it has no substantial fastening
10 and is liable to get out of order. When
the force of winding is brought up by the
stop works, the extra force is exerted on the
bridge and does not disturb the motions of
the balance of the watch. The reverse of
15 this is true when the barrel rotates, the extra
force being exerted on the train, and
imparting to the balance an increased and
unnatural motion. As the stop works are
exposed on the bridge, they constitute a
20 good indicator of the time which may have
elapsed since the watch was wound up.

The lower barrel head *b*, is represented
in Figs. 2, and 6, as formed with a sectoral
recess or space *a*, for the reception of the
25 dial wheel gear, or that wheel which oper-
ates the hour hand of the watch. This
recess enables the watch to be made thinner
than would otherwise be the case. In con-
sequence of applying the barrel to the pil-

lar plate in the manner described, we are 30
enabled to form the said barrel or its head *b*,
with such a recess; whereas, if the barrel
rotated the hour hand wheel or gear, would
have to be arranged entirely above the bar-
rel, and thus the watch as a natural conse- 35
quence would have to be made thicker.

From the above, it will be seen that one
great advantage resulting from my improve-
ment is the reduction of the thickness of
the watch. 40

What therefore I claim is as follows:

I claim arranging and fastening the bar-
rel, B, with respect to the pillar plate es-
sentially as described, (that is so that it
shall extend through the pillar plate and 45
be fastened to the dial side of it) in combi-
nation with arranging the main gear wheel,
G, so that it shall operate as a barrel head
or cover to the barrel, and have the retain-
ing power applied to it substantially as 50
above set forth.

In testimony whereof, I have hereunto
set my signature this eighth day of Decem-
ber A. D. 1856.

GEO. P. REED.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.