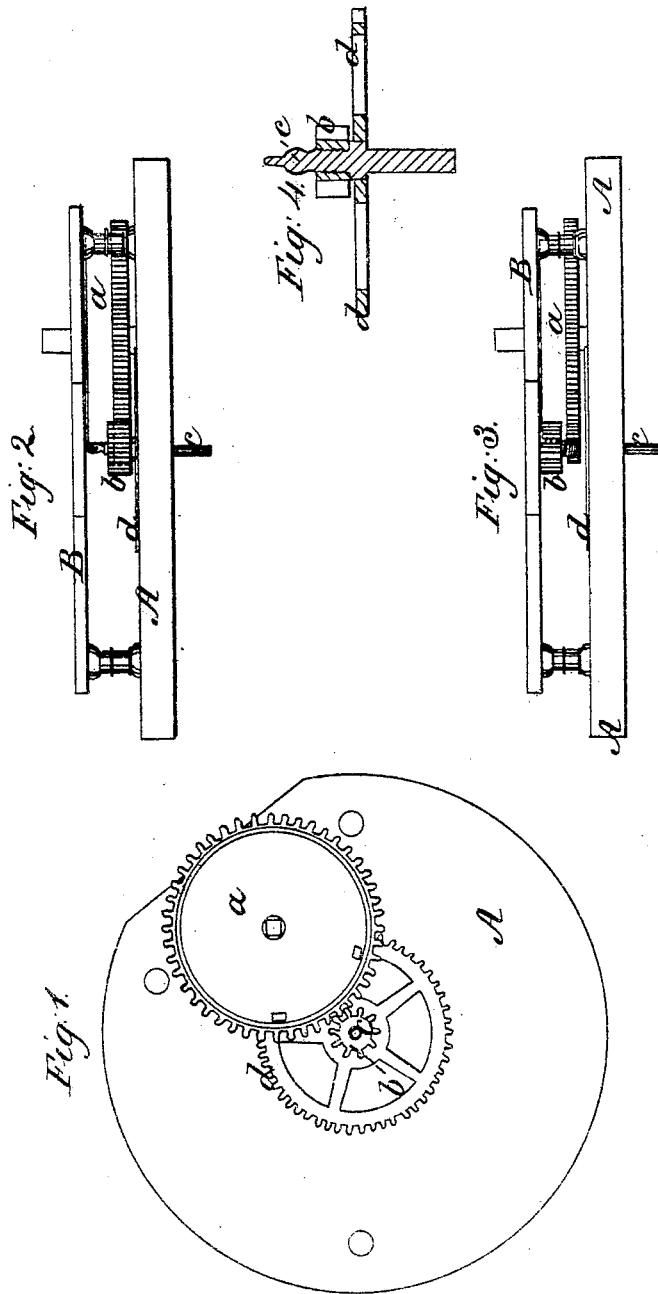


C. W. Fogg. Watch.

No 46,343.

Patented Feb. 14. 1865.



Witnesses;
N. W. Stearns.
P. B. Fitchmacher.

Inventor;
C. W. Fogg.

UNITED STATES PATENT OFFICE.

CHARLES W. FOGG, OF WALTHAM, MASSACHUSETTS.

IMPROVEMENT IN WATCHES.

Specification forming part of Letters Patent No. **46,343**, dated February 14, 1865.

To all whom it may concern:

Be it known that I, CHARLES W. FOGG, of Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Watches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan (enlarged) of the pillar-plate of a watch and a portion of the train to which my improvements are applied. Fig. 2 is an elevation of the same with the top plate in place. Fig. 3 is a similar elevation, showing the pinion raised on its arbor out of gear with the teeth of the "going barrel." Fig. 4 is a central vertical section through the "center wheel," pinion, and arbor, showing the manner in which the pinion is attached to its arbor.

A great objection to that class of watches, where a going barrel is employed arises from the liability of the train to be damaged by the violent recoil resulting from the accidental breakage of the mainspring. To overcome this difficulty, a "stationary barrel" has been substituted for the going barrel; but this necessitated the employment of a "maintaining power" to prevent the stoppage of the watch when being wound up, and this arrangement, although it accomplished the desired result, was nevertheless complicated, and materially increased the cost of the watch.

My invention has for its object to overcome all of the above-mentioned difficulties, and still enable me to employ the going barrel; and it consists in attaching one of the pinions of the train to its arbor by means of a screw-thread, so that when it is driven in the direction in which it is intended to run it will be kept down in place; but in the event of the breakage of the mainspring the force of the recoil will revolve it in the opposite direction, and cause it to rise on its arbor out of gear with the wheel into which it takes, thereby avoiding all liability of derangement of the train, and enabling me to retain the advantages of the going barrel without danger of the train being injured by the recoil.

To enable others skilled in the art to under-

stand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the pillar-plate; B, the top-plate.

a is the going barrel, into the teeth of which the pinion *b* take. This pinion is attached to the arbor *c* of the center wheel, *d*, by means of a screw-thread, Figs. 3 and 4, which is cut right or left handed, as the case may require, so that when the pinion is driven in the direction necessary for the going of the watch, it will be kept down on the arbor, and retained in place, as seen in Fig. 2; but on being revolved in the opposite direction by the violent recoil caused by the sudden breakage of the mainspring, it will be carried up on the arbor by means of the screw-thread cut thereon until it is out of gear with the teeth of the going barrel, as seen in Fig. 3.

It will thus be seen that the force of the recoil is prevented from being communicated to the train, as the pinion commences to rise on its arbor the instant that the force of the recoil is exerted to revolve it in a contrary to that in which it is intended to run, and no force is exerted on the train beyond what is necessary to start the pinion on its screw-arbor, which is very slight, as the parts are made with great nicety and exactness.

I have spoken of my invention as applied to the pinion of the center wheel; but it is evident that any other pinion in the train may be made to screw onto its arbor instead of the one here shown, and that the result will be similar. I prefer to apply it, however, to the one here shown, as it is nearest to the motive power. It is also obvious that my improvement is equally applicable to marine or other clocks where the motive power is a spring.

What I claim as my invention, and desire to secure by Letters Patent, is—

Attaching one of the pinions of the train to its arbor by means of a screw-thread, substantially as set forth, for the purpose specified.

CHAS. W. FOGG.

Witnesses:

N. W. STEARNS,

P. E. TESCHEMÄCHER.