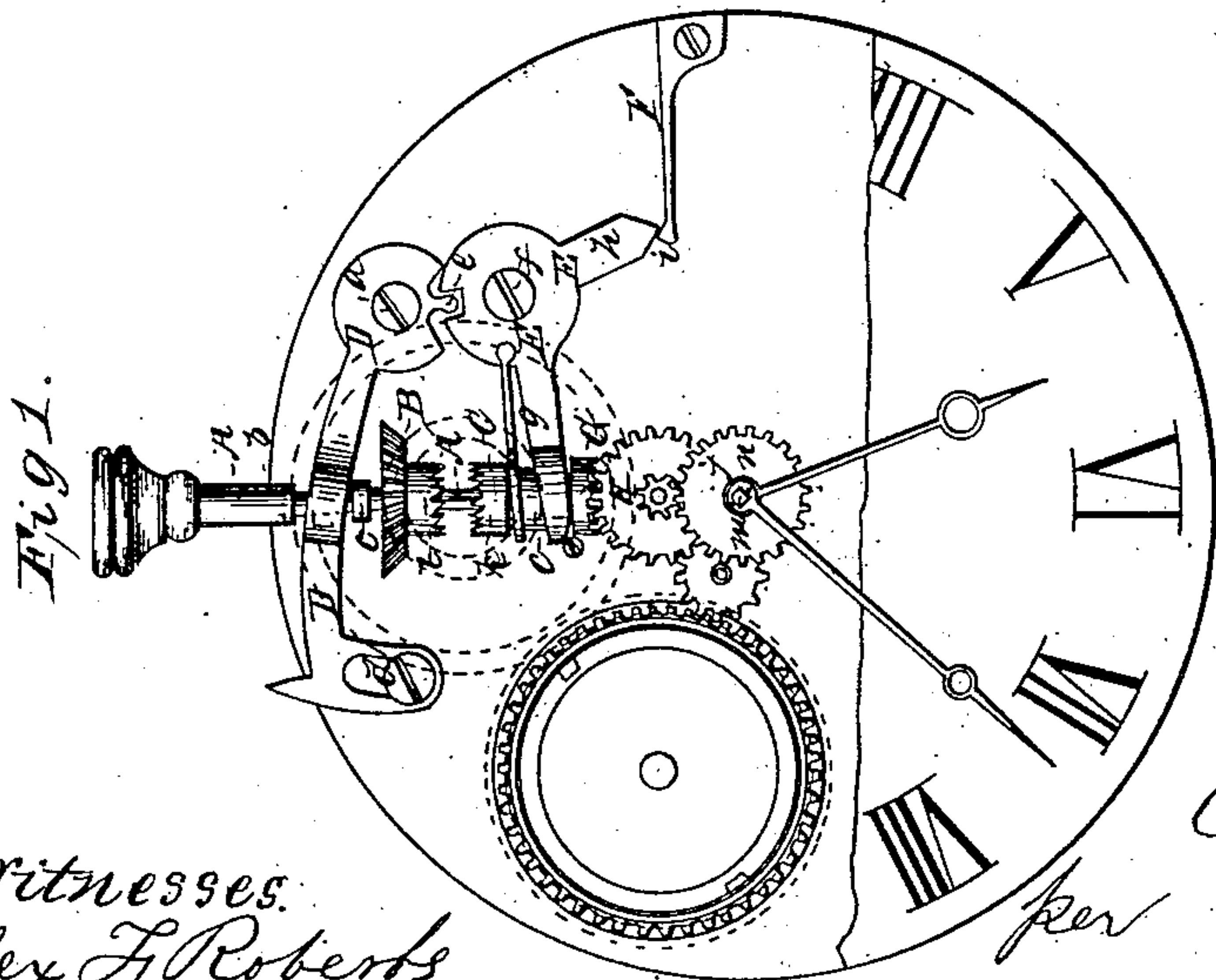
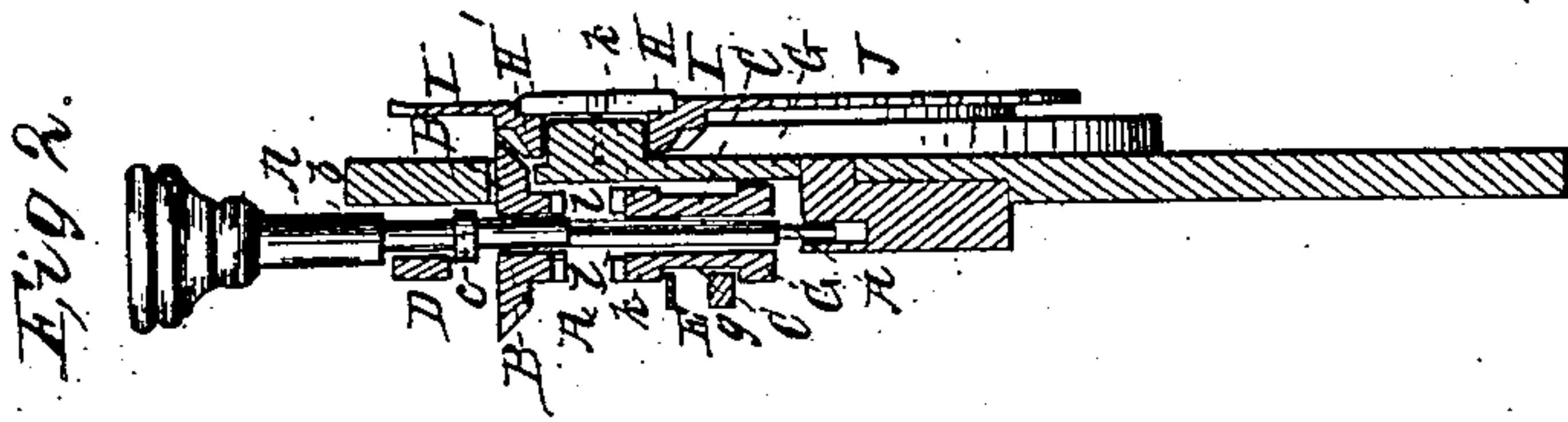
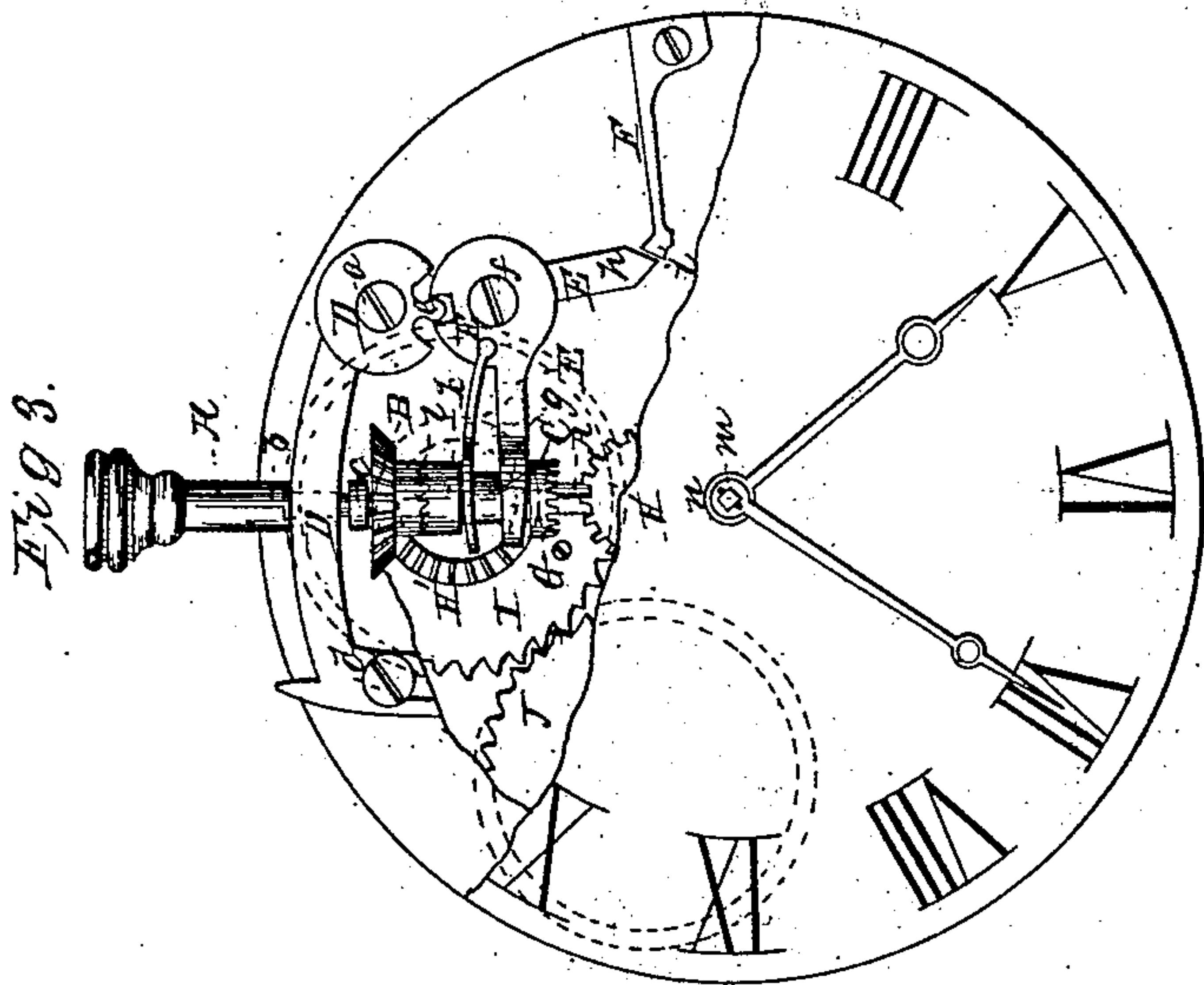


E. CHATELAIN.  
WATCH.

No. 78,720.

Patented June 9, 1868.



Witnesses:  
Alex L Roberts  
John A Morgan

Inventor.  
E. Chatelain  
per Attorneys

# United States Patent Office.

EDOUARD CHÂTELAIN, OF ST. IMIER, SWITZERLAND, ASSIGNOR TO ERNEST FRANCILLON, OF SAME PLACE.

*Letters Patent No. 78,720, dated June 9, 1868.*

## IMPROVEMENT IN WATCHES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDOUARD CHATELAIN, of St. Imier, Canton of Berne, Switzerland, have invented a new and improved Stem-Winding Watch; 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 make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figures 1 and 2 represent face views partly in section, and on an enlarged scale, of my improved watch.

Figure 3 is a central sectional view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new mechanism for winding and setting watches by means of the stem only, a longitudinal motion of the stem throwing it in gear with the barrel or with the minute-wheel, as may be desired, for the purpose of either winding up the watch or setting the hands.

The invention consists in the arrangement and combination of the levers and devices, by means of which the aforesaid results are obtained.

A, in the drawing, represents the stem-shaft of a watch. It is arranged so that it can slide loose in its bearings, and fits loose through a bevel-gear wheel, B, and through a sliding clutch, C, as is shown in fig. 3. D represents a lever, pivoted by a pin, *a*, to the case or a part of the case of the watch, and resting upon the stem A, between two shoulders *b c* of the same, so as to receive oscillating motion by the longitudinal motion of the stem. The free swinging end of the lever D is or may be slotted, as shown, so that its motion may be regulated or confined by means of a pin, *d*. On the pivoted end of the lever D is formed a tooth, *e*, which meshes into a recess in a bell-crank, E, that is pivoted by a pin, *f*, to the case, as is clearly shown in figs. 1 and 2.

One arm, *g*, of the lever E, forms a fork to operate the sliding sleeve or clutch C, while the other arm *h* is pointed, and is, by a V-shaped lug, *i*, of a spring, F, held in position, as shown.

On the inner end of the clutch C is formed a crown-wheel, G, which can be caused to mesh into the pinion H, which gears into the minute-wheel. On the outer end of the clutch C is formed a ratchet-wheel, *k*, which can be locked with a similar toothed disk, L, on the face of the bevel-gear wheel B, as shown in fig. 2.

The bevel-gear wheel B meshes into another bevel-wheel H', which is mounted on the face of a toothed wheel, I, that meshes into the teeth of another gear-wheel J, hung on the axis of the main spring.

When the stem is pulled out, as in fig. 1, it will, by means of the shoulder *c*, pull out the lever D, which, by its connection with the lever E, will cause the same to swing with its forked arm *g* towards the centre of the watch, during which motion the arm *g* will carry the sleeve C towards the centre, and the wheel G towards the wheel H, into which it will gear, as is clearly shown in fig. 1, the wheel B being loose on the shaft A, it not being connected with the clutch.

When, then, the stem is turned, the wheel H will be revolved, and will transmit its motion to the minute-hand pillar *m*, and to the hour-hand tube *n*. The hands can thus be set.

But when the stem is pushed in, as in fig. 2, the shoulder *b* will also push in the lever D, which will cause the arm *g* of the lever E to swing outward, carrying the wheel G off the wheel H, and bringing the clutch C *k* into contact with the gear-wheel B, so that when the stem is turned, the wheel B will also be turned, and will transmit its motion to the wheel J, whereby the spring will be wound up. At the same time the minute and hour-hands will not be in gear with the stem.

It will, from the above and from fig. 3, be understood that the sleeve C turns always with the stem, and can still slide thereon, it being, by feather or otherwise, connected with the stem.

The spring F yields to the motion of the lever E, but retains the same in its position, after the position has been ascertained by the sliding motion of the stem.

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

1. The sliding stem carrying the loose wheel B, and the sliding clutch C, in combination with the oscillating



levers D and E, which operate so that the clutch will, by them, be moved in an opposite direction to the sliding motion given to the stem, substantially as and for the purpose herein shown and described.

2. The above in combination with the spring F, made and operating as described.

3. The loose bevel-gear wheel B, which is only turned when connected with the sliding clutch C, in combination with the bevel-gear wheel H, by means of which motion is imparted to the wheel which winds up the spring, as set forth.

The above specification of my invention signed by me, this      day of      1867.

EDOUARD CHÂTELAIN.

Witnesses:

J. DAVID, *Ing'r*,  
Ls. ROUSSILLON.