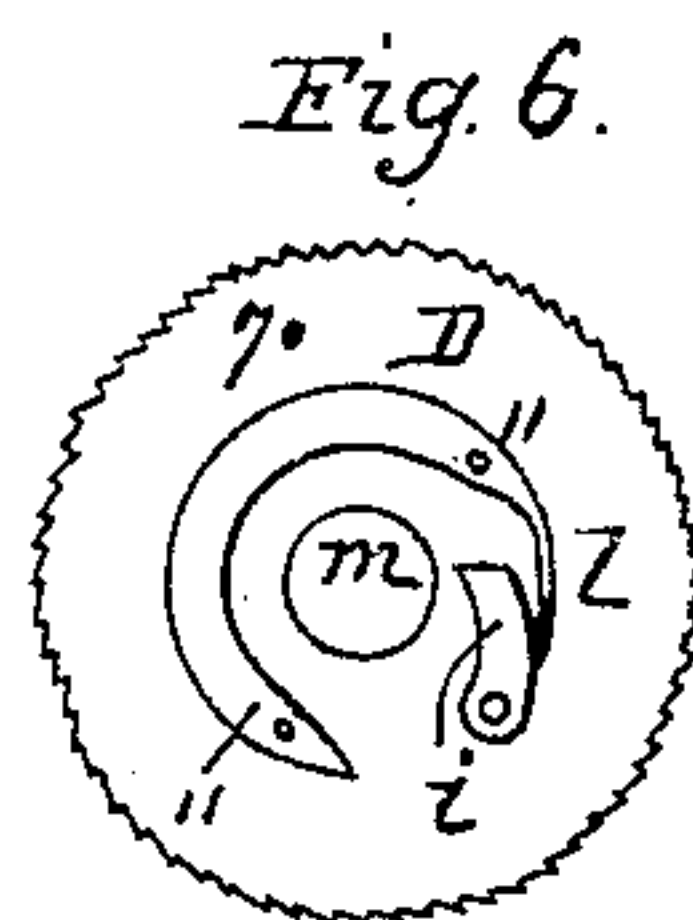
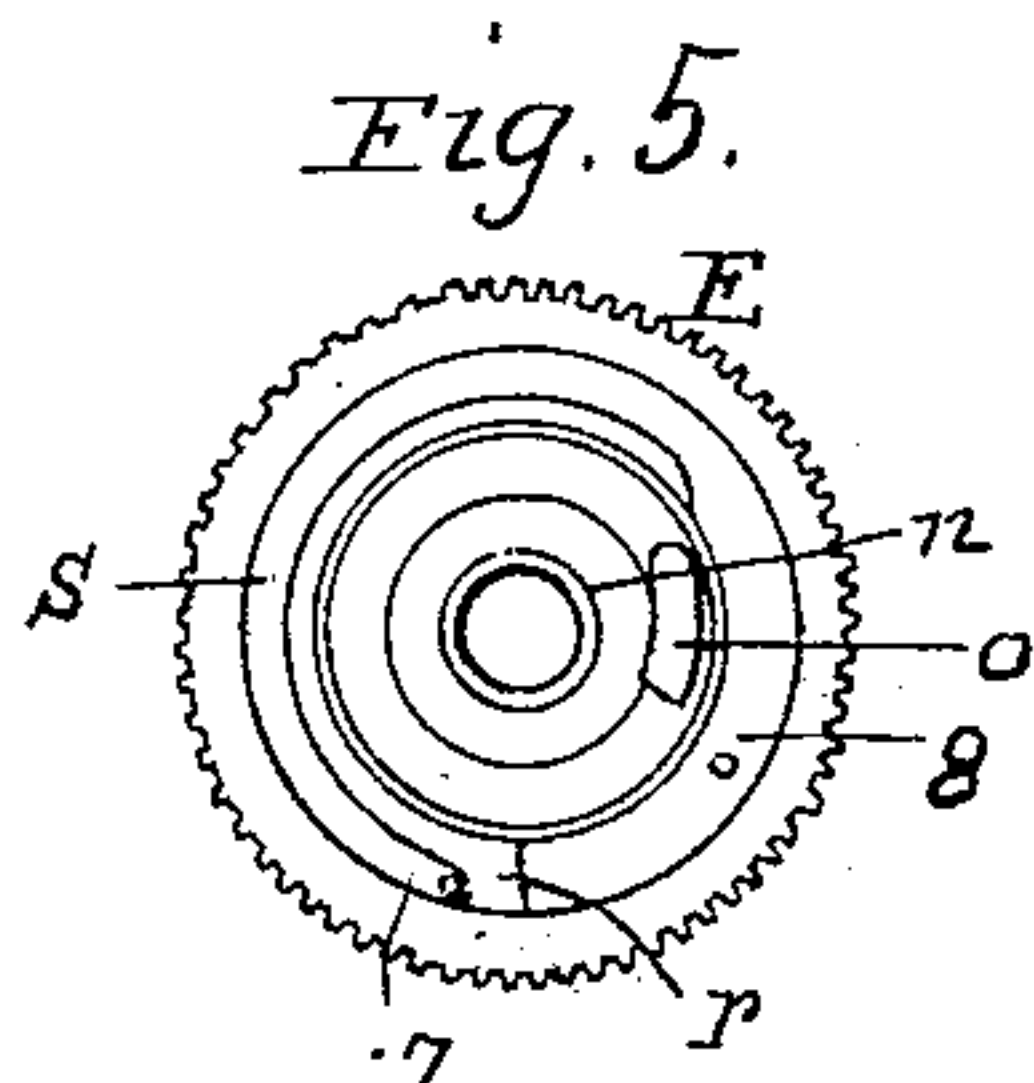
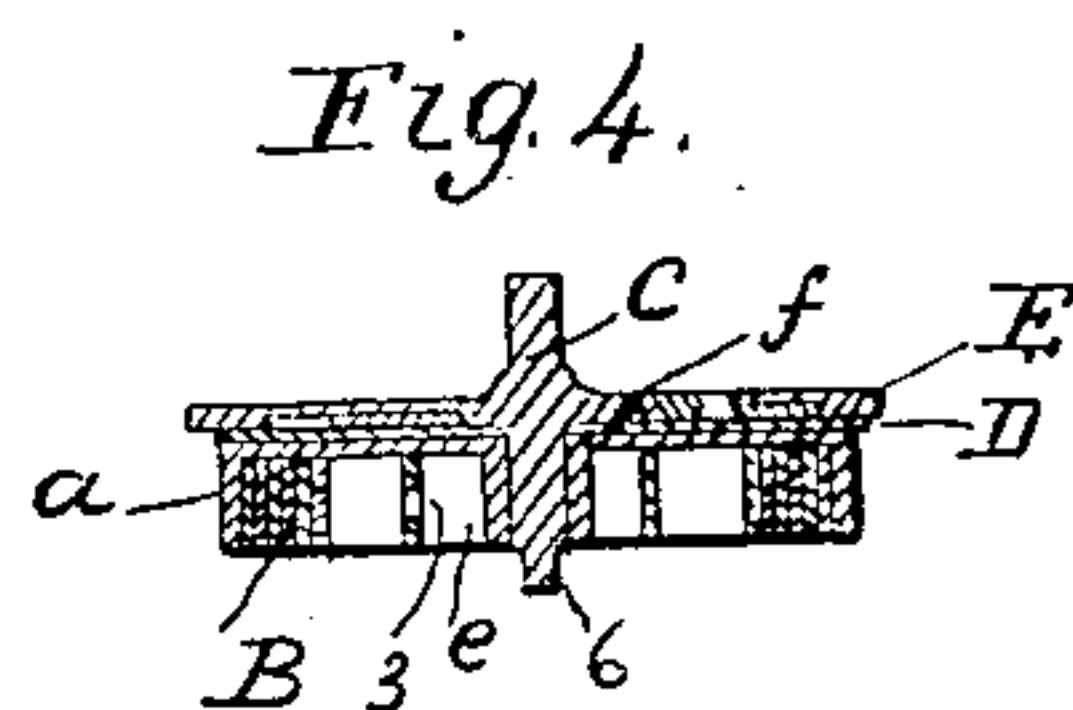
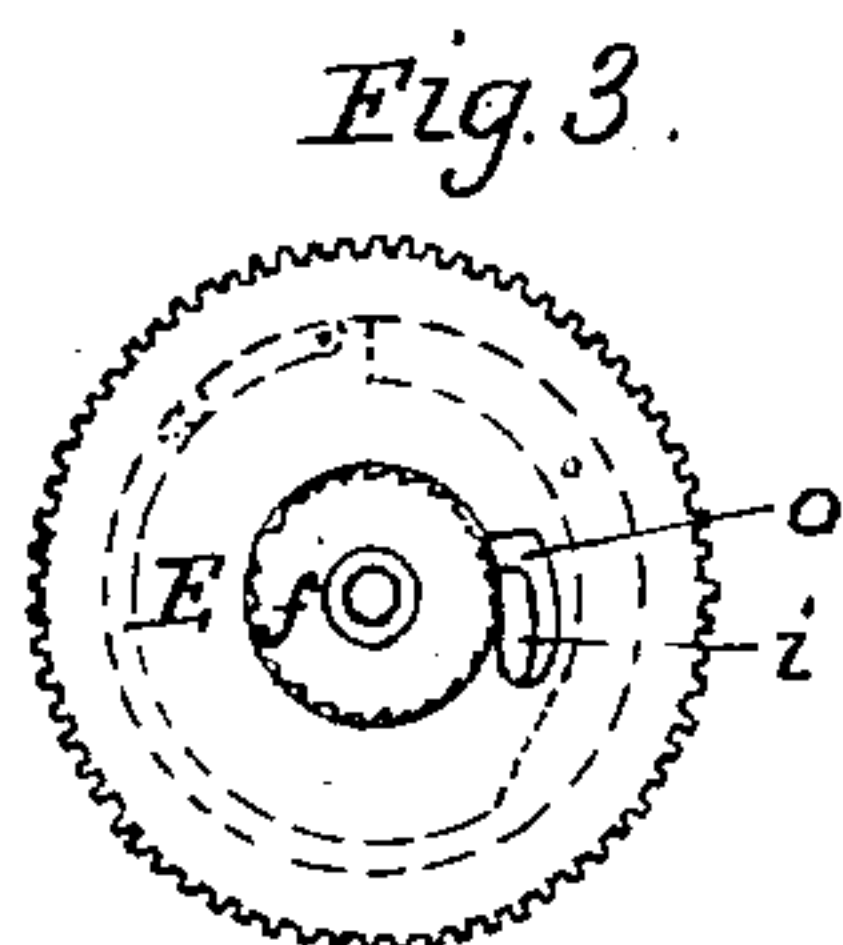
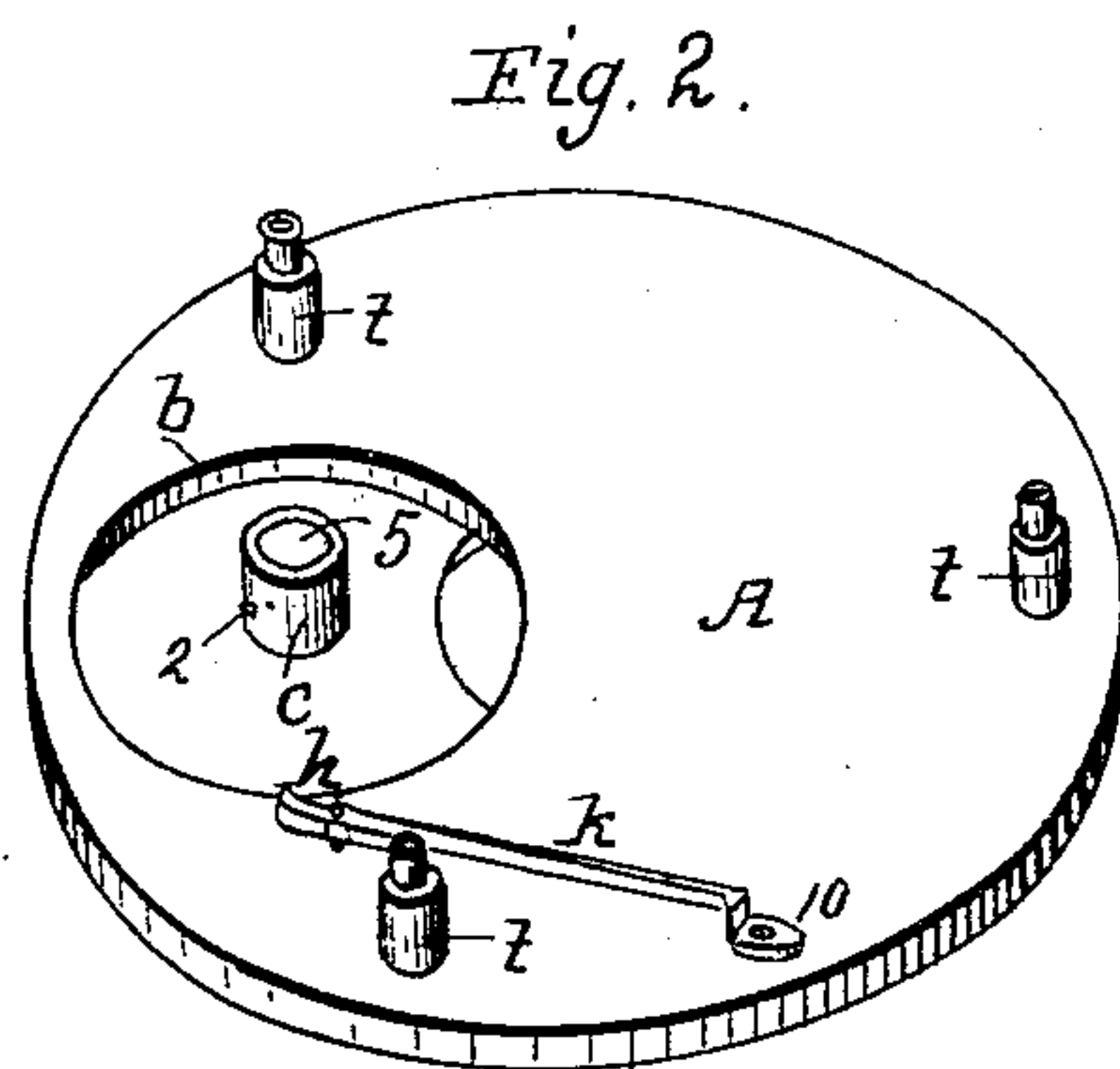
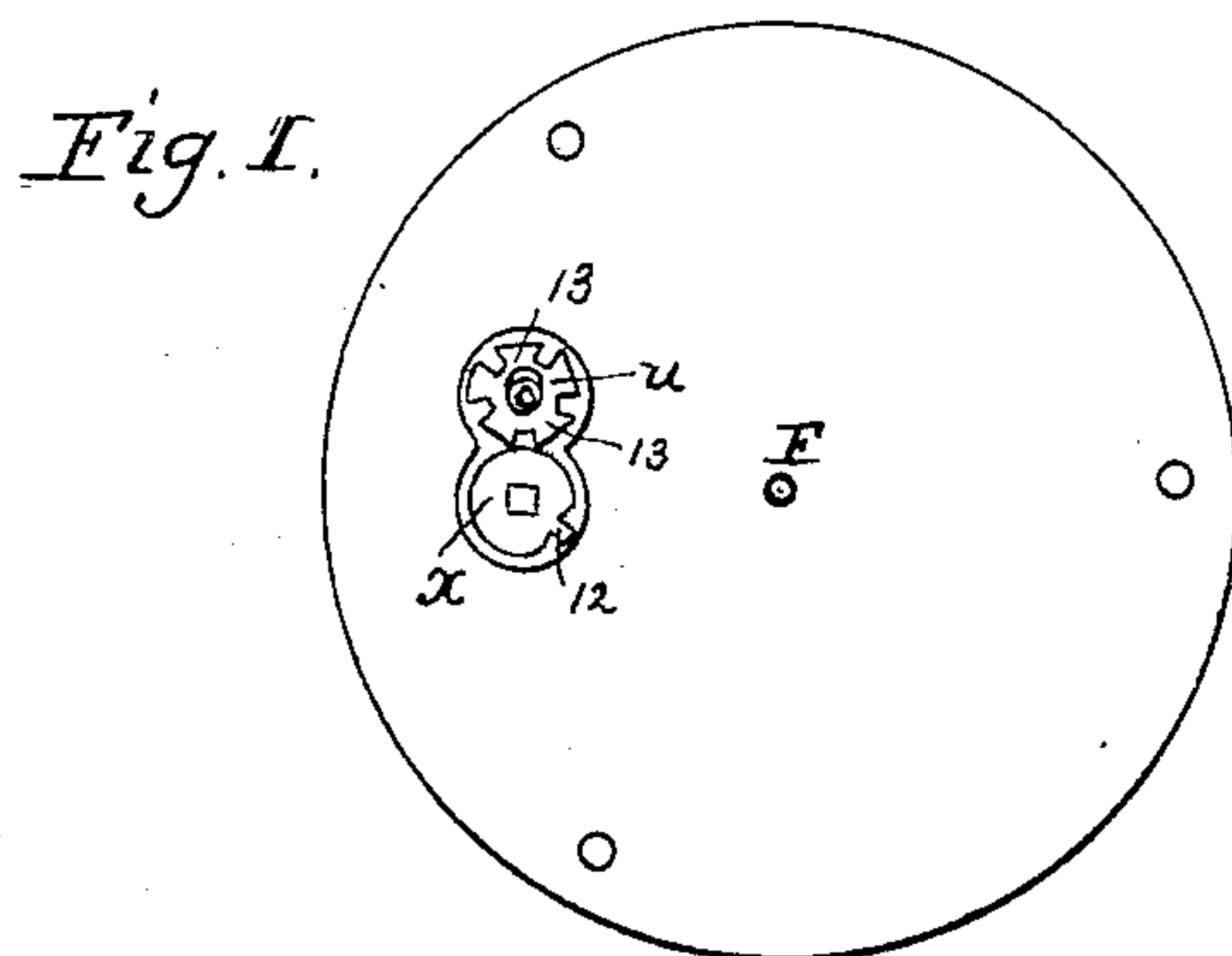


N. P. STRATTON.
Watch Safety Wheel.

No. 30,772.

Patented Nov. 27, 1860.



Witnesses:
Thos. R. Rouch
Edward Stratton

Inventor:
Nelson P. Stratton

UNITED STATES PATENT OFFICE.

NELSON P. STRATTON, OF NASHUA, NEW HAMPSHIRE.

METHOD OF WINDING WATCHES.

Specification of Letters Patent No. 30,772, dated November 27, 1860.

To all whom it may concern:

Be it known that I, NELSON P. STRATTON, of Nashua, in the county of Hillsboro and State of New Hampshire, have invented certain Improvements 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 of the top plate. Fig. 2, is a view of the lower or pillar plate. Fig. 3, is a plan of the main gear wheel the winding ratch and arbor. Fig. 4 a vertical section through the main gear wheel, the retaining ratch, the main spring barrel and spring, and the winding arbor and its ratch. Fig. 5. a plan of underside of main gear wheel. Fig. 6 a plan of the maintaining ratch.

My present invention consists in the arrangement of a winding main spring barrel attached to and turning with the winding arbor, in connection with a maintaining ratch and spring—main gear wheel, and stationary main spring hub, whereby I am enabled to obtain a compact watch, dispense with chain and fusee, prevent damage to the train of the watch by the breaking of the main spring; and attach the stop works to the frame of the watch thereby preventing all strain to the train in winding up the main spring.

In the drawings A, Fig. 2, is the lower or pillar plate to the underside of which the dial is attached; a circular recess *b*, is cut out of this plate, partly through it to receive the main spring barrel *a* Fig. 4, which revolves freely in the recess; a hub *c* rises from the plate A in the center of the recess *b*, it has on its outside a stud 2, on which the inner end 3 of the main spring B, Fig. 4, hooks, and a recess 5, turned out of the hub in which revolves the socket *e* of the barrel *a*, the pivot 6 of the winding arbor C, entering a hole made through the plate A in the center of the hub *c*. The outer end of the spring B, is attached to the barrel *a*. The winding arbor C, is attached to the barrel *a*, a left hand screw on the arbor screwing into the socket *e* of the barrel; a winding ratch *f*, Figs. 3 and 4, is formed on the arbor C.

Immediately over the barrel *a* is placed a maintaining ratch D, Figs. 4 and 6, with which a detent *h*, Fig. 2, engages. This detent is pivoted into the plates and is held in contact with the ratch D, by the detent

spring *k*, secured at 10 to the plate A. A pawl *i* is pivoted to the upper face of the ratch D, and is thrown toward its center by a spring *l*, fastened at 11 to the ratch.

Over the ratch D is placed the main gear wheel E, Figs. 3, 4, and 5 (Fig. 3, being a top view and Fig. 5 a bottom view of this wheel) which is cut away in the center to receive the winding ratch *f* and has a socket *n* Fig. 5, which enters the hole *m*, in the ratch D and around which the ratch revolves; a slot *o*, is cut through the wheel E, in which the head of the pawl *i* plays to allow this pawl to engage with the winding ratch *f*. A groove *r* is cut in the lower side of the wheel E, in which is secured by a rivet 8 the maintaining spring *s* which plays a short distance in its groove, and has a pin 7 on its free end which enters a hole 7, in the maintaining ratch D. The top plate F, Fig. 1, when in place rests on the pillars *t* Fig. 2, having a recess cut in its upper surface in which are placed the stop works *u*, *x*. The maintaining ratch D, and spring *s* serve to keep the train of the watch going in time of winding, through the main gear wheel E, the spring *s*, being retracted by the force of the main spring, and the retaining ratch D, (to which the spring *s*, is attached) being held in place by the detent *h*, the force of the spring is transmitted to the train through the main gear wheel E. A maintaining power has been applied to a winding barrel in what is known as a fusee watch, but through the intervention of a chain and fusee, while in my arrangement the maintaining power ratch and spring is connected directly to the winding arbor or barrel.

The main spring hub *c* (around which the main spring is coiled) is attached to the frame of the watch, thereby enabling me to attach the barrel to the winding arbor. In all other winding barrel watches the hub is a part of the arbor. The barrel *a* is so arranged in connection with the train that should the main spring break, the barrel would revolve harmlessly with the arbor, thereby preventing all damage to the train by that sudden recoil so detrimental in the going barrel or Swiss watch.

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

1. The winding barrel *a* with the winding arbor C attached thereto, in connection with the retaining ratch D, spring *s*, main gear

wheel E, and stationary hub *c*; the outer end of the main spring B, being attached to the barrel *a* and the inner end 3 to the stationary hub *c*, or its equivalent.

- 5 2. Attaching the hub *c* or its equivalent to the frame of the watch in combination with the winding barrel, maintaining ratch and main gear wheel.

3. The application of the maintaining power directly to the winding barrel substantially in the manner specified. 10

NELSON P. STRATTON.

Witnesses:

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