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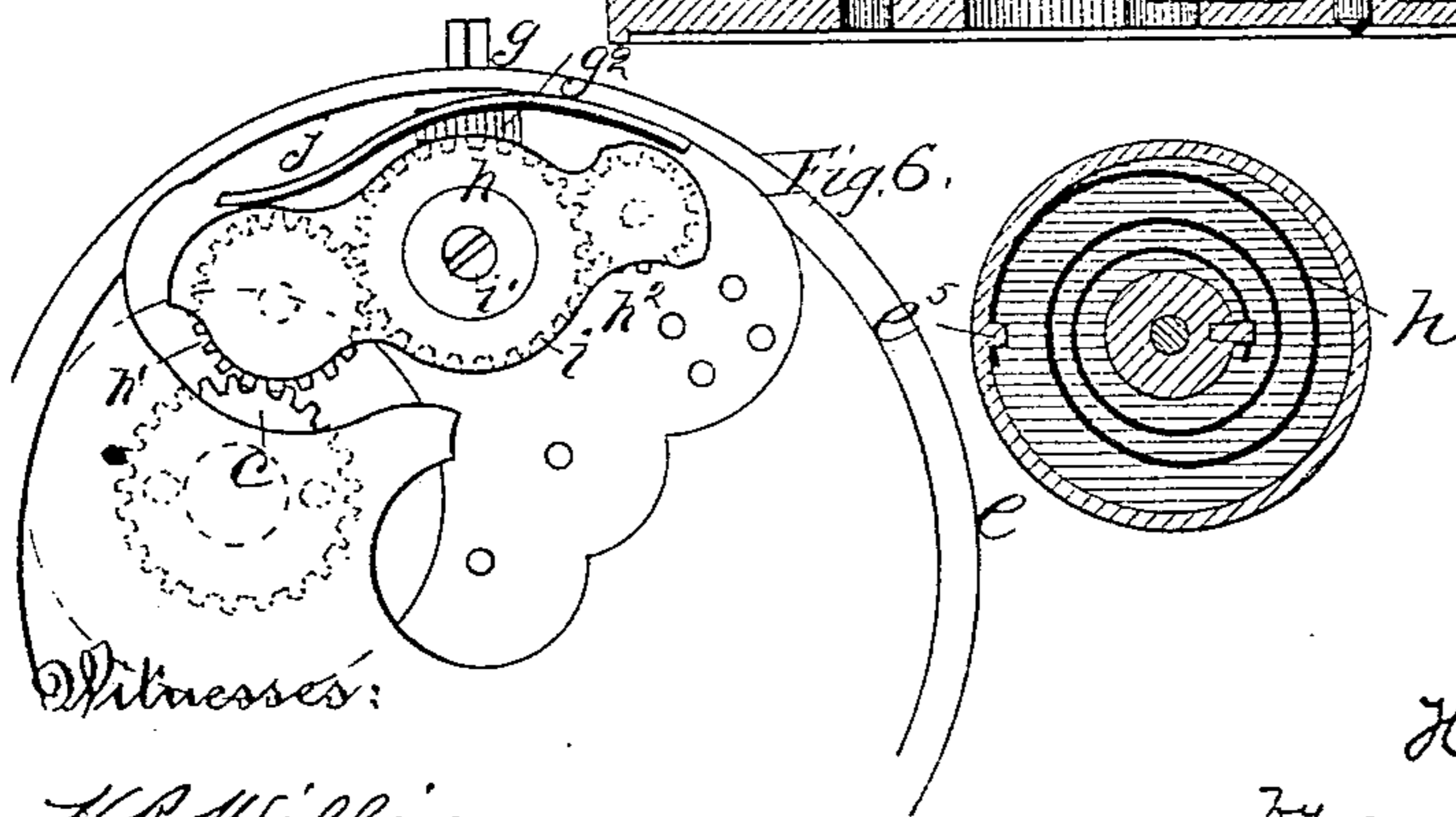
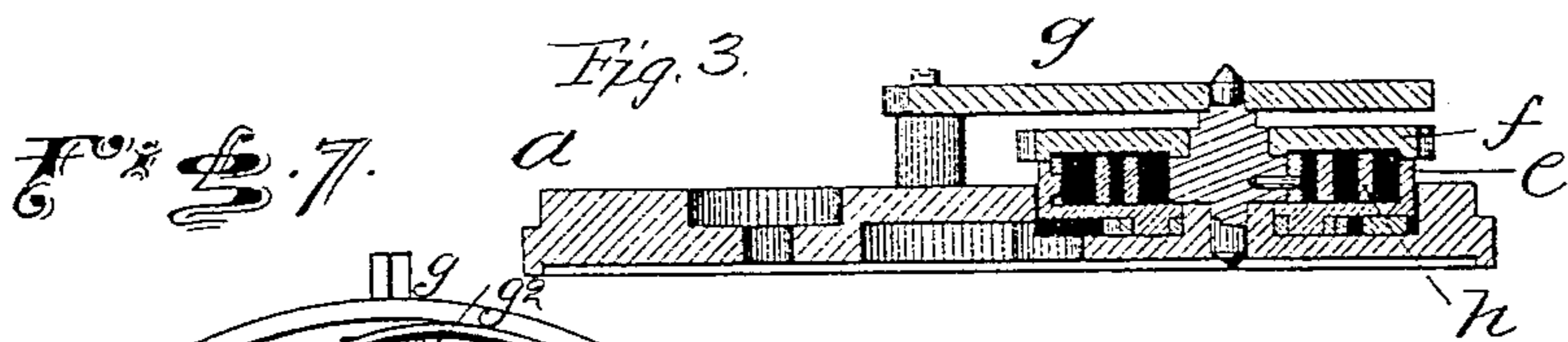
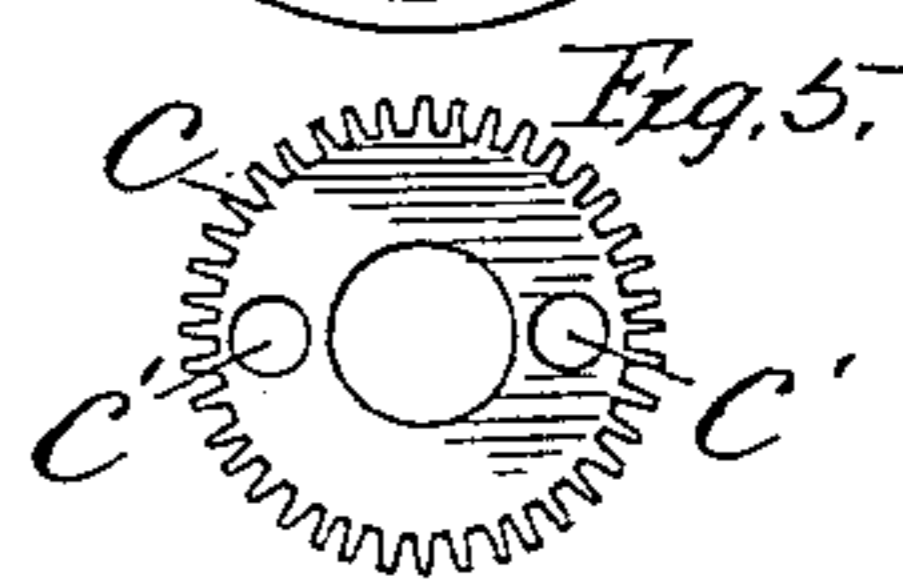
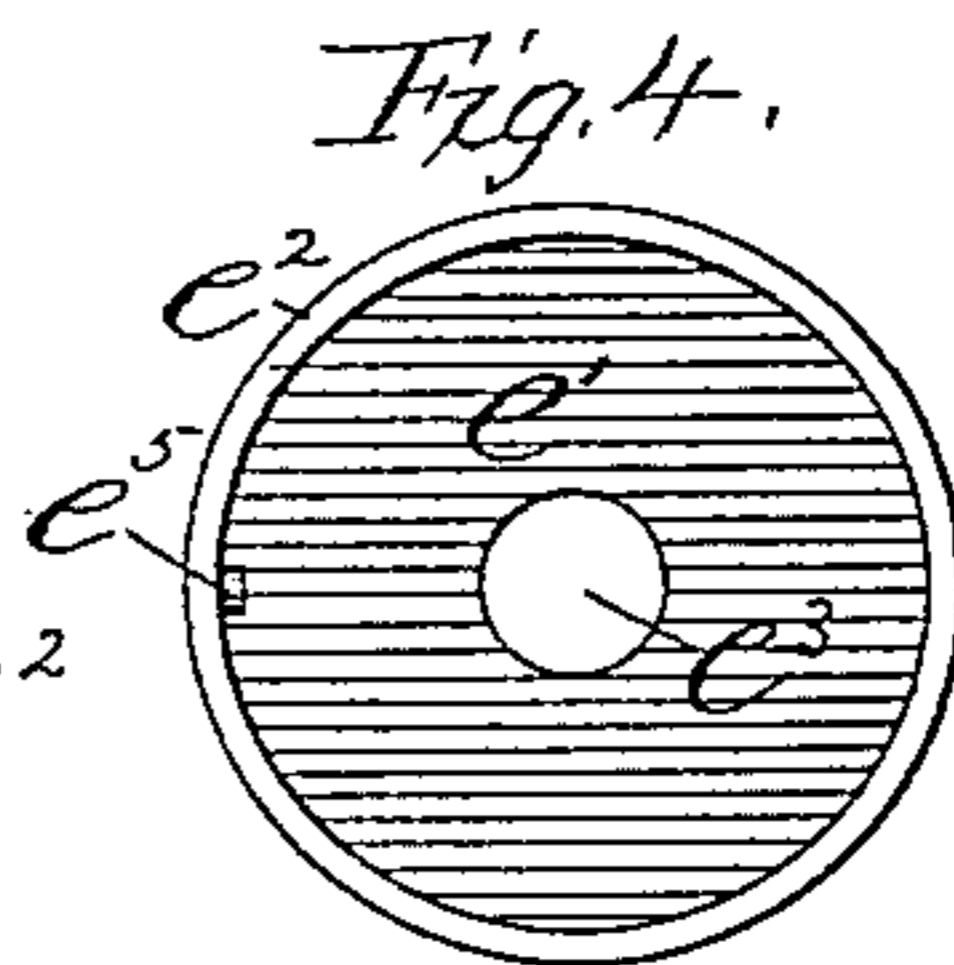
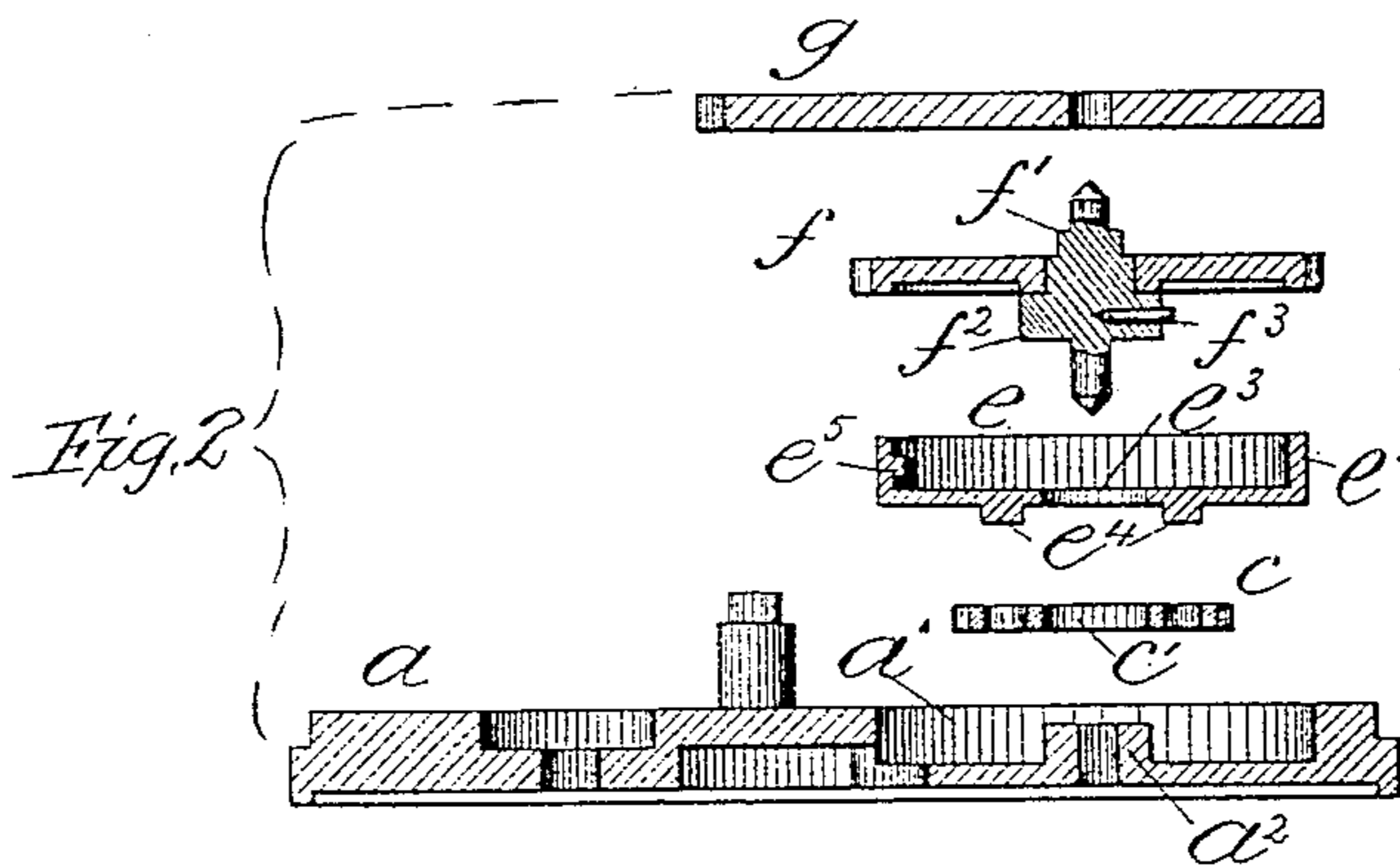
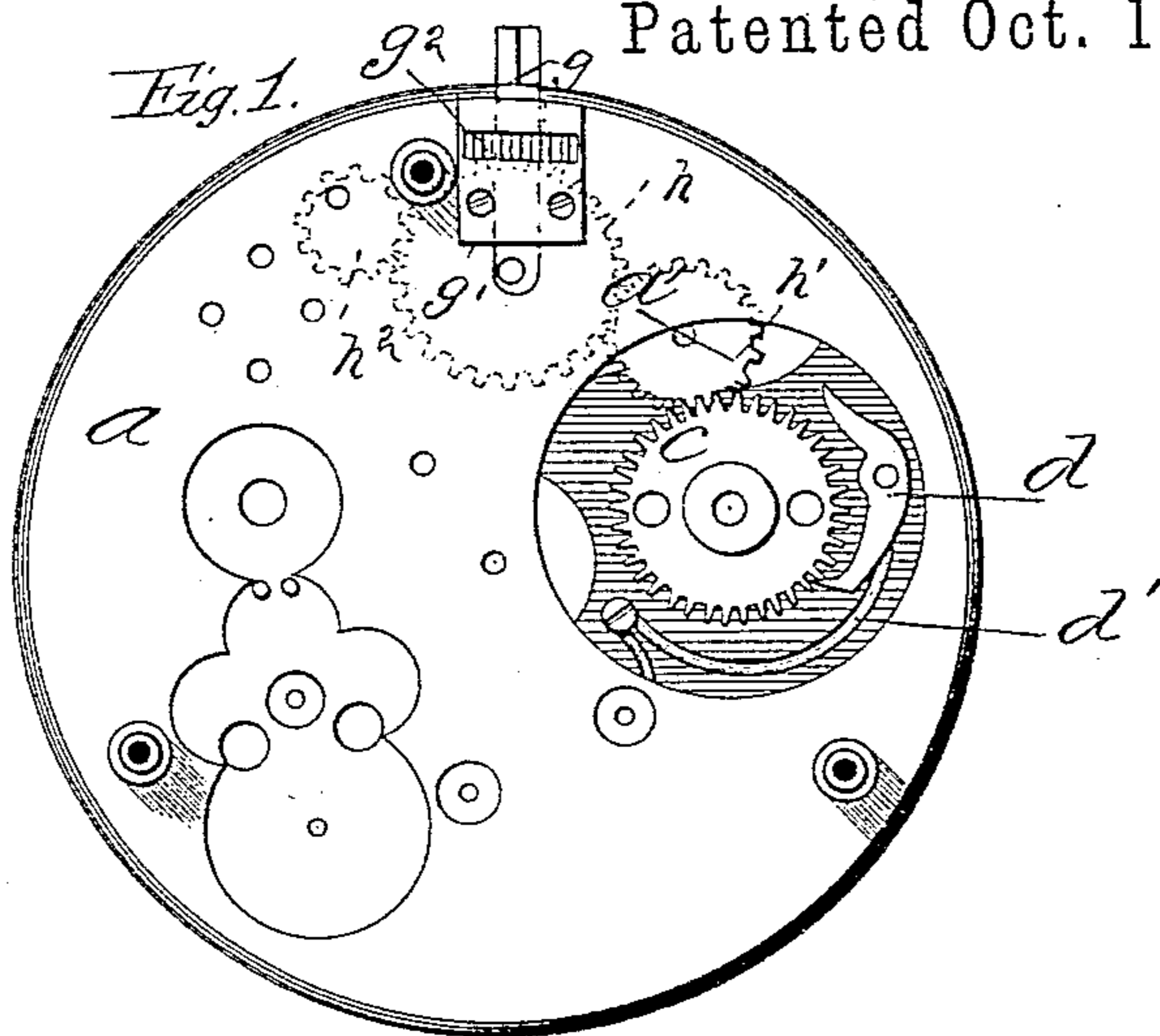
(No Model.)

H. OEHL.

WATCH BARREL.

No. 391,183.

Patented Oct. 16, 1888.



Witnesses:

H. R. Williams.
A. B. Jenkins.

Inventor,
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UNITED STATES PATENT OFFICE

HENRY OEHL, OF CHESHIRE, CONNECTICUT, ASSIGNOR TO THE CHESHIRE WATCH COMPANY, OF SAME PLACE.

WATCH-BARREL.

SPECIFICATION forming part of Letters Patent No. 391,183, dated October 16, 1888.

Application filed January 14, 1888. Serial No. 260,686. (No model.)

To all whom it may concern:

Be it known that I, HENRY OEHL, of Cheshire, in the county of New Haven and State of Connecticut, have invented certain new and useful
5 Improvements in Spring-Barrels for Time-Pieces, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a
10 device that shall, on the breaking of the main-spring of a watch or like time-piece, prevent the shock or recoil from being thrown upon the time-train of the time-piece; and to this end my invention consists in making the
15 spring-barrel independent of the main wheel by the means described; also, in the winding-ratchet combined with the independent spring-barrel, these parts having engaging lugs and sockets. It also consists in the peculiar spring-
20 barrel struck up of metal and with integral lugs in combination with the main wheel, the spring-barrel removably connected to the main wheel, the spring, and the ratchet; and it further consists in details of the several parts of
25 the device, and in their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a top or plan view of the back plate of a watch-
30 movement with the time-train removed, and showing the spring-barrel socket with the ratchet-wheel and spring-pawl in place. Fig. 2 is a view in central vertical section through the plate and through the bridge, main wheel,
35 spring-barrel, and ratchet, the latter parts being arranged each over the other in the order in which they are to be assembled. Fig. 3 is a detail view in central vertical section of the back plate and the several parts
40 above described when assembled. Fig. 4 is a detail plan view of the spring-barrel. Fig. 5 is a detail plan view of the ratchet-wheel. Fig. 6 is a detail view in horizontal section through the spring-barrel and the shaft of the
45 main wheel. Fig. 7 is a detail plan view of a part of the back of the pillar-plate or back plate of a watch, showing a yoke and rotary winding-stem.

In the accompanying drawings, the letter *a*
50 denotes the back plate of a watch-movement,

having the usual pivot-sockets and posts for holding the time-train and the front plate, respectively. In the body of the plate *a* is formed the spring-barrel socket *a'*, in the bottom of which is located a ratchet-wheel, *c*, the
55 spring-pawl *d*, and pawl-spring *d'*. The spring-barrel *e* is a shallow cylindrical box having a bottom, *e'*, a flange, *e''*, around the edge, and a central recess, *e'''*, that fits upon the stud *a''* that rises from the bottom of the barrel-socket
60 in the form of my improvement shown in the drawings. This stud serves as a pivot to center not only the ratchet-wheel that is pivoted on it, but also the spring-barrel. The bottom of the spring-barrel is provided with the pro-
65 jecting lugs *e''*, that fit into the corresponding sockets *c'* in the ratchet-wheel. It is obvious that the arrangement of these interlocking parts of spring-barrel and ratchet-wheel may be reversed—that is, that the projections may
70 be formed on the ratchet-wheel and the socket in the barrel. The main wheel *f* is formed separate from the spring-barrel, and has a shaft, *f'*, upon which it is secured and by which it is pivotally supported between the back plate
75 and the bridge *g*, as shown in Fig. 3 of the drawings.

On the hub *f''* of the main wheel there is a projecting pin, *f'''*, that serves as the point upon which the inner end of the mainspring
80 *h* is hooked, while the other end of the mainspring is hooked upon the stud *e''* on the inner side of the wheel or flange of the spring-barrel.

The several parts to which my improvement directly relates are assembled in the relation
85 shown in Figs. 2 and 3 of the drawings, and when thus arranged they not only serve to prevent in a measure the breaking of the mainspring, but it effectually prevents the shock of a recoil, in case a mainspring breaks, from
90 being thrown upon the time-train. When arranged as shown, the spring-barrel is held in place loosely and yet with sufficient firmness to keep the spring-barrel and ratchet-wheel in engagement, and yet allow freedom for the
95 main wheel to turn when required. The ratchet-wheel may, however, be integral with or secured to the spring-barrel without departing from the main feature of my invention.

In the particular construction of pillar-plate 100

herein shown and described a rotary winding-stem, g , is mounted in the block g' , and bears a small gear-wheel, g^2 , that extends through a recess in the plate, and is held normally in mesh with the center wheel, h , of the stem-winding mechanism. This center wheel is pivotally supported on the same central screw, i' , on which is hung the tilting yoke i that bears on its opposite ends the end wheels, h' h^2 , the latter being held by a spring, j , normally in mesh with the ratchet-wheel c , to which the spring-barrel is attached.

The spring is wound by turning the winding-stem g that drives the ratchet-wheel c by means of the intermediate intermeshing gear-wheels, g^2 , h , and h' , the relative positions of which are shown in Figs. 1 and 7 of the drawings.

I claim as my invention—

1. In combination with the plates of a watch or like time-piece, a spring-barrel mounted thereon, the ratchet-wheel and its spring-pawl, the main wheel of the time-train independent of the spring-barrel and of the ratchet-wheel, and the mainspring located within the spring-

barrel and connected to the main shaft and spring-barrel, respectively, all substantially as described.

2. In combination with the plates of a watch or like time-piece, the ratchet-wheel c , the spring-barrel e , removably connected to the ratchet-wheel and located between the ratchet-wheel and the main wheel, the main wheel independent of the spring-barrel, and the mainspring located within the spring-barrel and attached to the main shaft and spring-barrel, respectively, all substantially as described.

3. In combination with the back plate, a , having the spring-barrel socket a' and post a^2 , the ratchet-wheel c , pivoted on said post, the spring-pawl d , the spring-barrel e , located in the socket a' and removably attached to the ratchet-wheel, the mainspring located in the spring-barrel, and the main wheel independent of the spring-barrel and forming the cover thereof, all substantially as described.

HENRY OEHL.

Witnesses:

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