

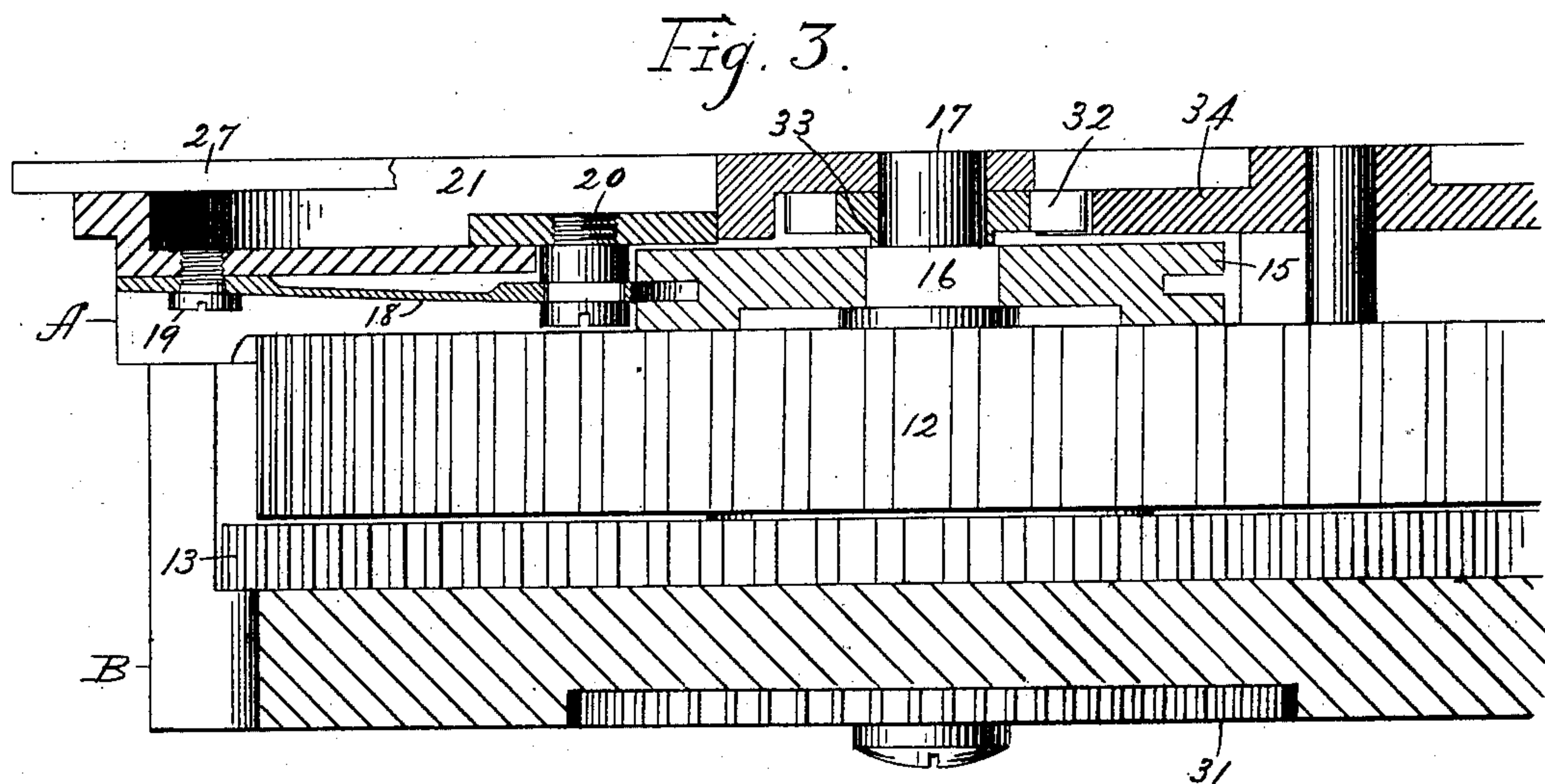
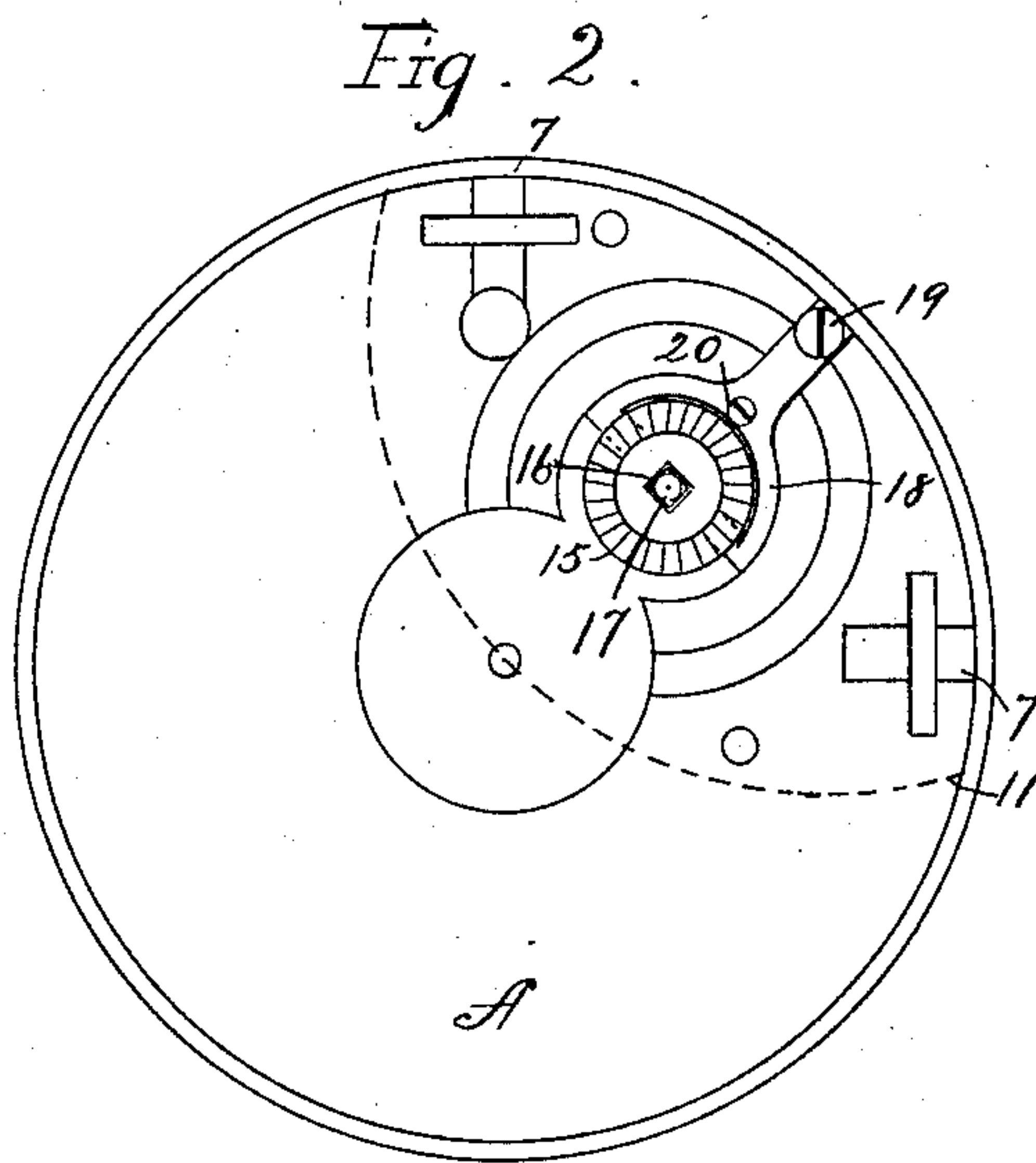
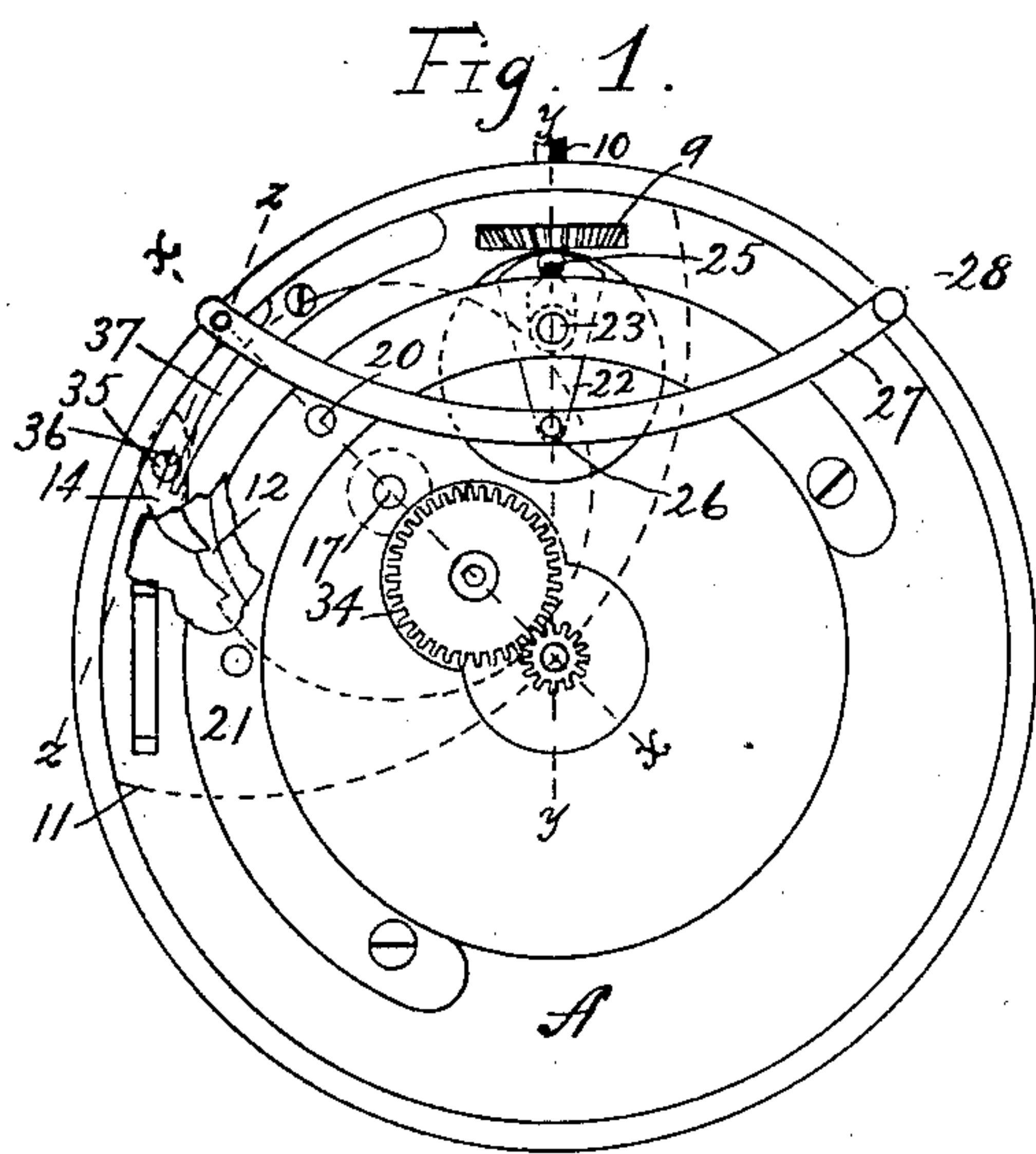
(No Model.)

2 Sheets—Sheet 1.

W. W. HASTINGS.  
STEM WINDING AND SETTING WATCH.

No. 547,256.

Patented Oct. 1, 1895.



Witnesses

G. M. Stetson  
F. H. Griswold.

Inventor

Walter W. Hastings  
By James Shepard.  
Atty.

(No Model.)

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Fig. 4.

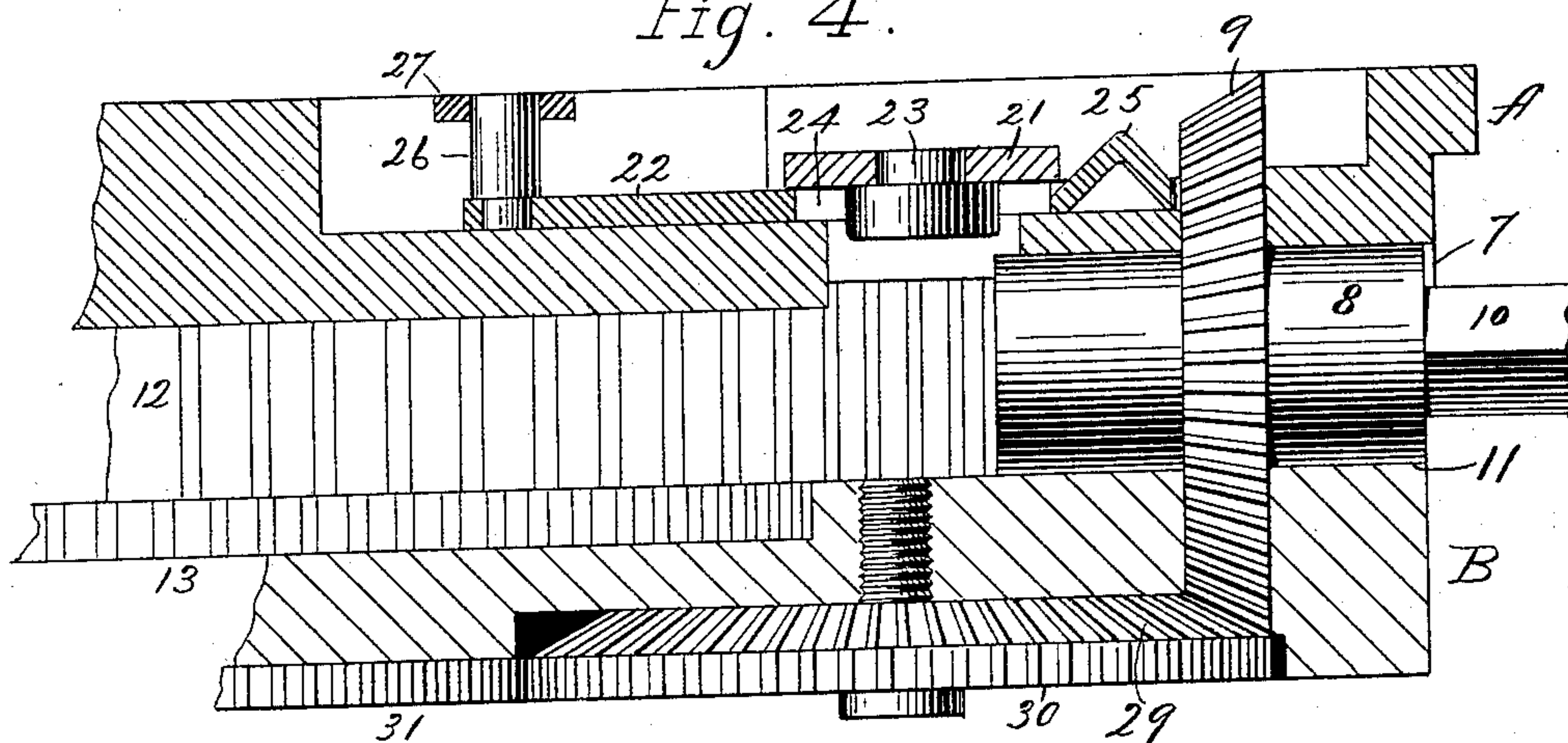


Fig. 5.

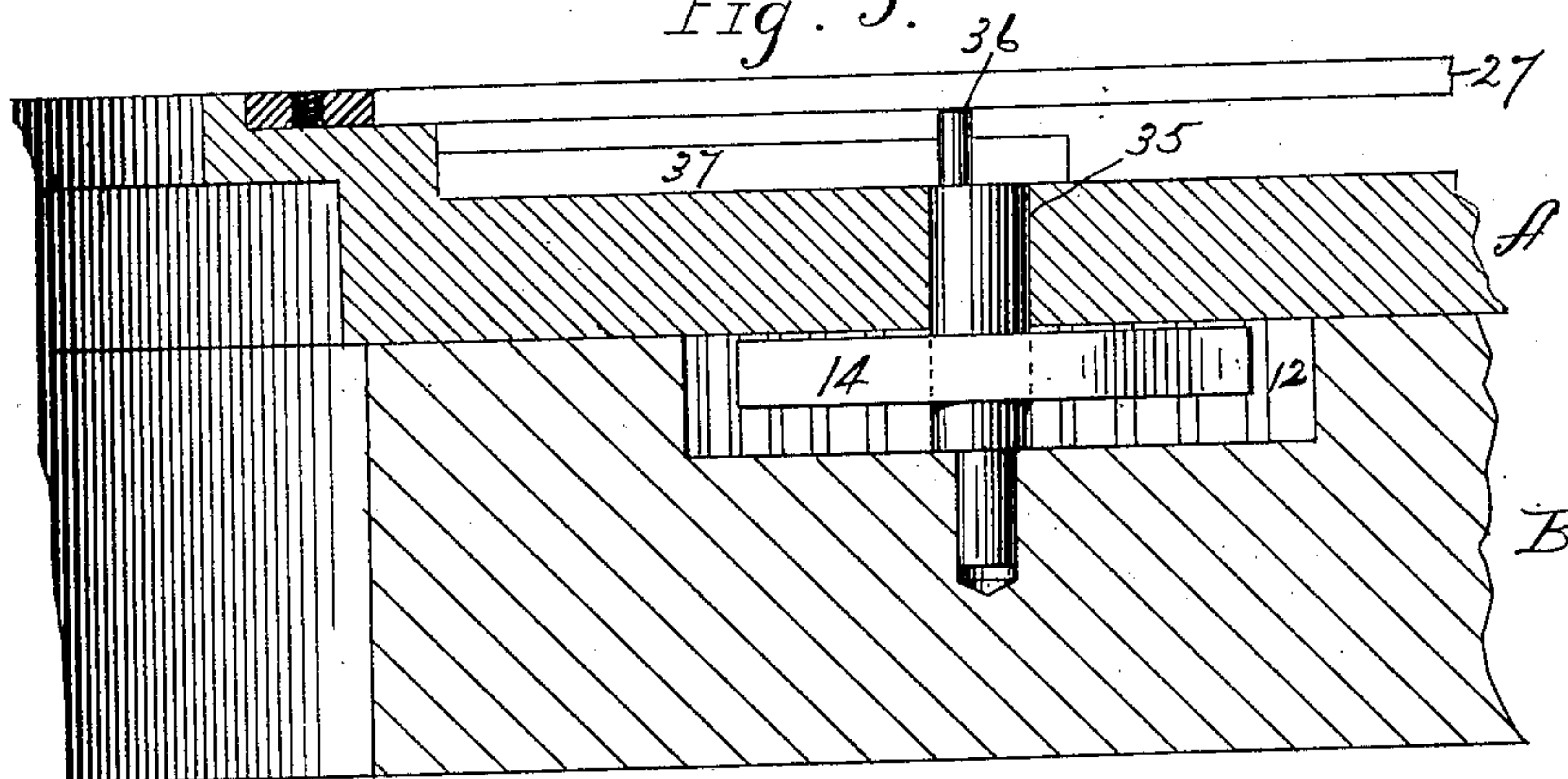
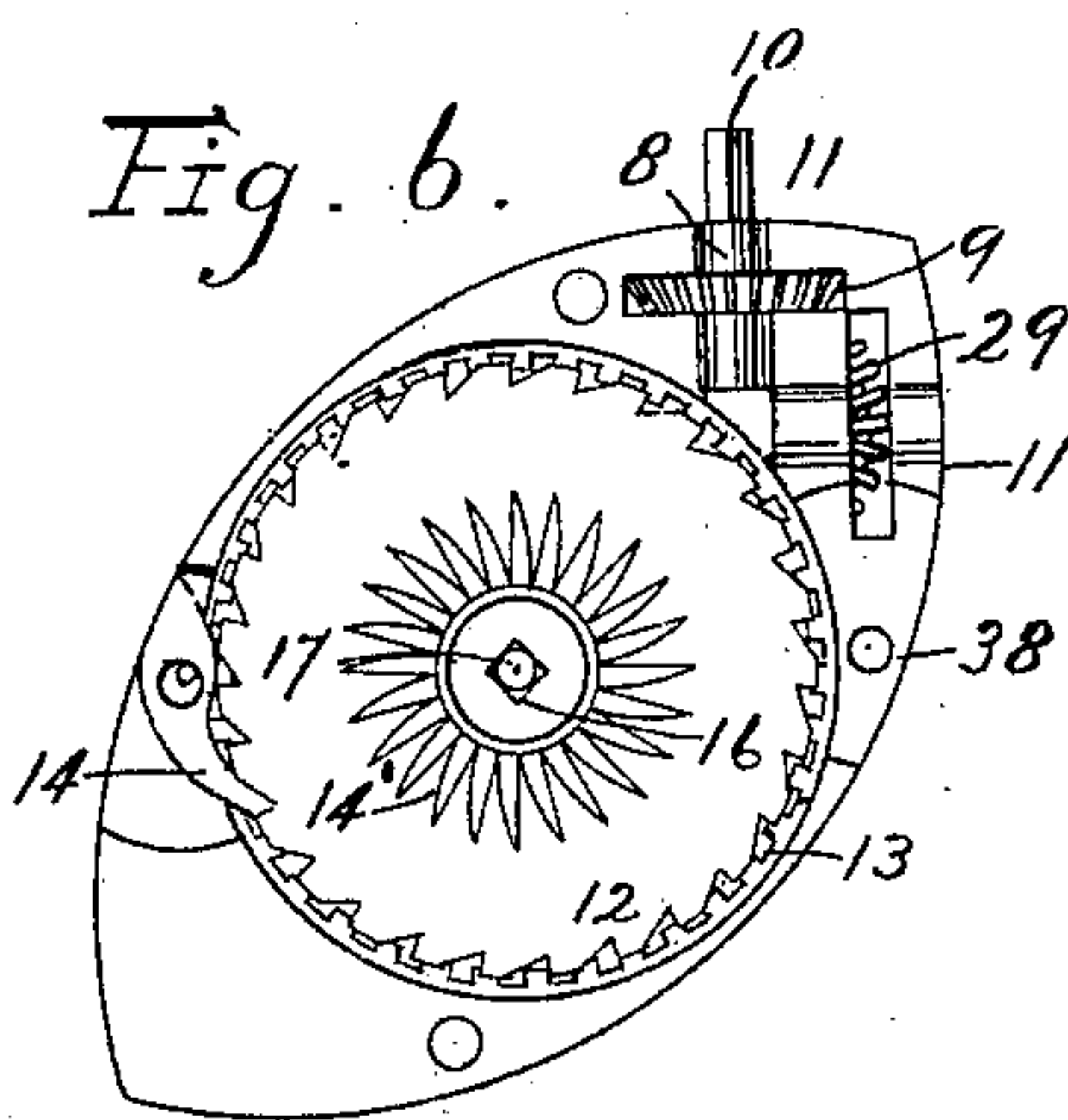


Fig. 6.



WITNESSES

A. M. Stipek

F. H. Griswold.

INVENTOR

Walter W. Hastings

By James Shepard

Atty.



# UNITED STATES PATENT OFFICE.

WALTER W. HASTINGS, OF JERSEY CITY, NEW JERSEY.

## STEM WINDING AND SETTING WATCH.

SPECIFICATION forming part of Letters Patent No. 547,256, dated October 1, 1895.

Application filed November 10, 1894. Serial No. 528,360. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER W. HASTINGS, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Winding and Setting Mechanism for Stem-Winding Watches, of which the following is a specification.

My invention relates to improvements in winding and setting mechanisms for stem-winding watches; and the objects of my improvements are simplicity of construction and general efficiency and convenience in use.

In the accompanying drawings, Figure 1 is a front elevation of the front movement-plate. Fig. 2 is a rear elevation of said plate with the reversible bridge removed. Fig. 3 is an enlarged sectional view on the line  $xx$  of Fig. 1. Fig. 4 is a like view on the line  $yy$  of Fig. 1. Fig. 5 is a like view on the line  $zz$  of Fig. 1; and Fig. 6 is a detached front elevation of the reversible bridge, the same being on the scale corresponding to that of Figs. 1 and 2.

My invention is in the nature of an improvement upon the plates for stem-winding watches, patented to me May 29, 1894, and numbered 520,483, although some parts of my improvement may be applied to other plates for stem-winding watches.

A designates the front movement-plate of a watch, which in its main features may be of any ordinary construction.

B is the reversible bridge, which is fully shown and described in my aforesaid patent. This front movement-plate is provided with partial bearings 7 on its rear side, which extend radially inward from the edge at points designed to be immediately back of the figures "12" and "3" on the dial, and in one of these bearings the hub 8 of the beveled wheel 9 is placed, as shown in Figs. 4 and 6. This hub is provided with an axial hole which is squared to fit the stem 10 of the watch, all substantially as in the aforesaid patent. The reversible bridge B is secured upon the rear or inner side of the plate A in the position indicated by the broken line in Figs. 1 and 2, the bridge substantially covering that portion of the plate which lies between said broken line and the outer edge of the plate A. This bridge is made attachable and detachable, so as to be changed end for end, and it is also provided with partial

bearings or recesses 11 for the reception of the hub 8 of the beveled wheel 9. Both the bridge and the movement-plate are recessed for the accommodation of the beveled wheel 8, as shown. Within the bridge is the main spring-barrel 12 and main wheel 13, the edge of the barrel 12 being provided with notches or ratchet-teeth for being engaged with the gear or pawl 14, and the other side of the spring-barrel 12 is provided with a series of teeth 14', Fig. 6, for being engaged with the confronting teeth on the flat side of the ratchet-disk 15, which is mounted upon a square portion 16 of the shaft 17 of the spring-barrel and main wheel. This ratchet-disk is grooved on its periphery, which groove is engaged by the inner ends of the spring-fork 18, Figs. 2 and 3, and as more fully illustrated in my aforesaid patent. This spring-fork 18 is secured to the rear side of the movement-plate by means of the screw 19, and it is connected by means of the screw 20 with the spring-plate 21. Underneath this plate 21 is a lever 22, which is fulcrumed on a pin 23, said pin being rigidly secured to the plate 21 by one end, while its other end rests loosely within the slot 24 of the lever 22, (see Fig. 4,) the position of said slot being indicated by broken lines in Fig. 1. One end of this lever is provided with a cam 25, Figs. 1 and 4, and the opposite end of the lever is connected by means of a pin 26 to a curved lever or slide 27. This slide works in a groove in front of the movement-plate A, and by pulling it endwise, so as to swing the lever slightly, one end will project more than the other, and within its projecting end a screw 28 may be inserted for an operating-handle. For convenience of illustration this curved lever or slide is shown in Fig. 1 with both ends projecting equally. By pulling upon the handle-screw 28 of this curved lever or slide to carry said slide endwise the cam 25 on the lever 22 (see Fig. 1) will at first be swung on the arc of a circle of which the pivot 23 is the axis, thereby forcing said cam against the edge of the spring-plate 21, and by a continued movement said cam will be forced under said spring-plate so as to raise it, thereby raising the spring-fork 18 and the ratchet-disk out of engagement with the spring-barrel; but when the spring-plate 21 is not lifted by the cam 25 the ratchet-disk is



in active engagement with the spring-barrel, so that turning the stem 10 will drive the beveled gear 9 and the engaging beveled gear 29 and attached gear-wheel 30, which engages  
5 another gear 31 on the main shaft 17, so as to drive the ratchet-disk and spring-barrel in the direction to wind up the mainspring.

Upon the rounded end of the shaft 17, adjacent to the ratchet-disk, is the setting-wheel  
10 32, the same being provided with a slightly-projecting squared hub 33 of a size that will readily enter the square axial hole of the ratchet-disk 15. This setting-wheel 32 engages the gear-wheel 34, with which the ordinary dial-wheels may be connected. By operating the curved lever or slide 27 to disengage the ratchet-wheel 15 from the main barrel said disk will be forced toward the squared  
20 hub of the setting-wheel, which will enter into the square of the ratchet-disk, so that upon turning the stem 10 of the watch to revolve the shaft 17 the setting-wheel 32 will be driven with the ratchet-disk 15 at a time when said disk is disengaged from the spring-barrel, and is, therefore, free to be moved in  
25 either direction for setting the hands. I mount the click or pawl 14 upon the shaft 35, one end of which is mounted in the plate A and the other end within the bridge B. I provide the projecting end of this shaft 35  
30 with a crank-pin 36, which crank-pin is engaged by the spring 37, that is attached to the movement-plate, as shown in Fig. 1. In the position there shown the click is engaged with the teeth of the spring-barrel 12. A part of  
35 the movement-plate A is broken away in Fig. 1 in order to show the engagement of the pawl. When it is desired to let the spring down, this pawl may be swung outwardly to  
40 carry the crank-pin past the center of the shaft 35, when the pressure of the spring 37 will hold the pawl out of engagement with

the teeth of the spring-barrel. When the bridge is changed end for end, the click or pawl 14 may remain in the movement-plate 45 and its opposite end be received within a second orifice or bearing 38 in the bridge, which is shown in Fig. 6.

I claim as my invention—

1. The combination of the spring barrel 50 and shaft with the ratchet disk, mechanism for turning said shaft and disk, the spring plate 21 and connected mechanism for moving said ratchet disk to and from said spring barrel, the lever 22 having the cam 25, and  
55 the curved lever or slide 27 for moving said lever 22, substantially as described and for the purpose specified.

2. The combination of the spring barrel having side teeth, the shaft 21 squared for a  
60 portion of its length and rounded toward its end, the ratchet disk mounted on said squared portion and having side teeth for engaging the side teeth of the spring barrel, mechanism for turning said shaft 21 and for moving  
65 said ratchet disk to and from said spring barrel, and the setting wheel 32 mounted on the rounded portion of said shaft 21 and having a squared hub adapted to engage and disengage the square axial hole of said ratchet  
70 disk, substantially as described and for the purpose specified.

3. The combination of the spring barrel and main shaft of a watch movement with the pawl 14 mounted on the shaft 35, the  
75 crank pin 36 on the end of said shaft, and the spring 37 pressing upon said crank pin, substantially as described and for the purpose specified.

WALTER W. HASTINGS.

Witnesses:

J. H. BALCH,

GEO. P. WADLEIGH.