

No. 685,635.

Patented Oct. 29, 1901.

J. PARKINSON.

STOP WATCH.

(Application filed May 25, 1901.)

(No Model.)

Fig. 1.

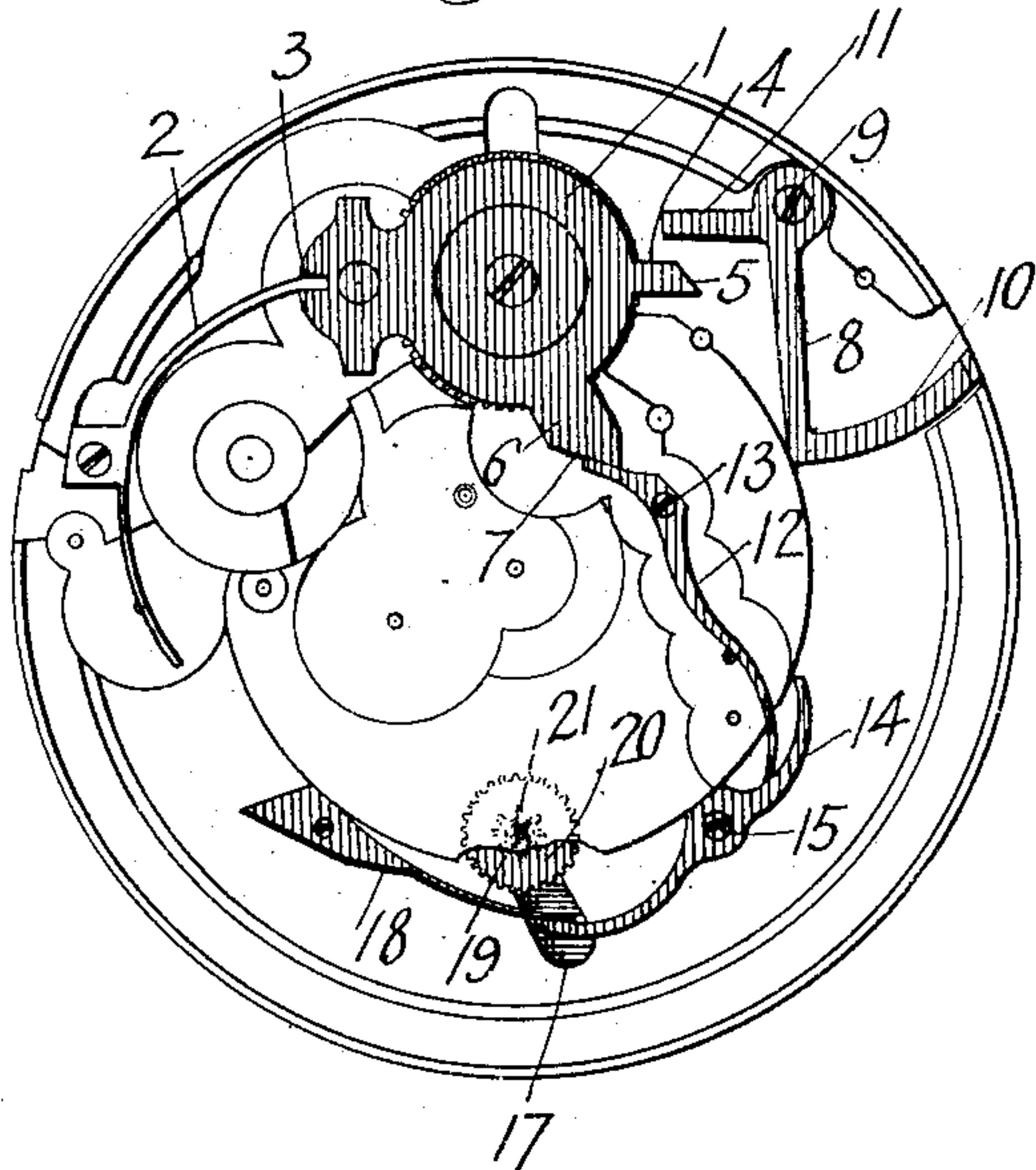


Fig. 2.

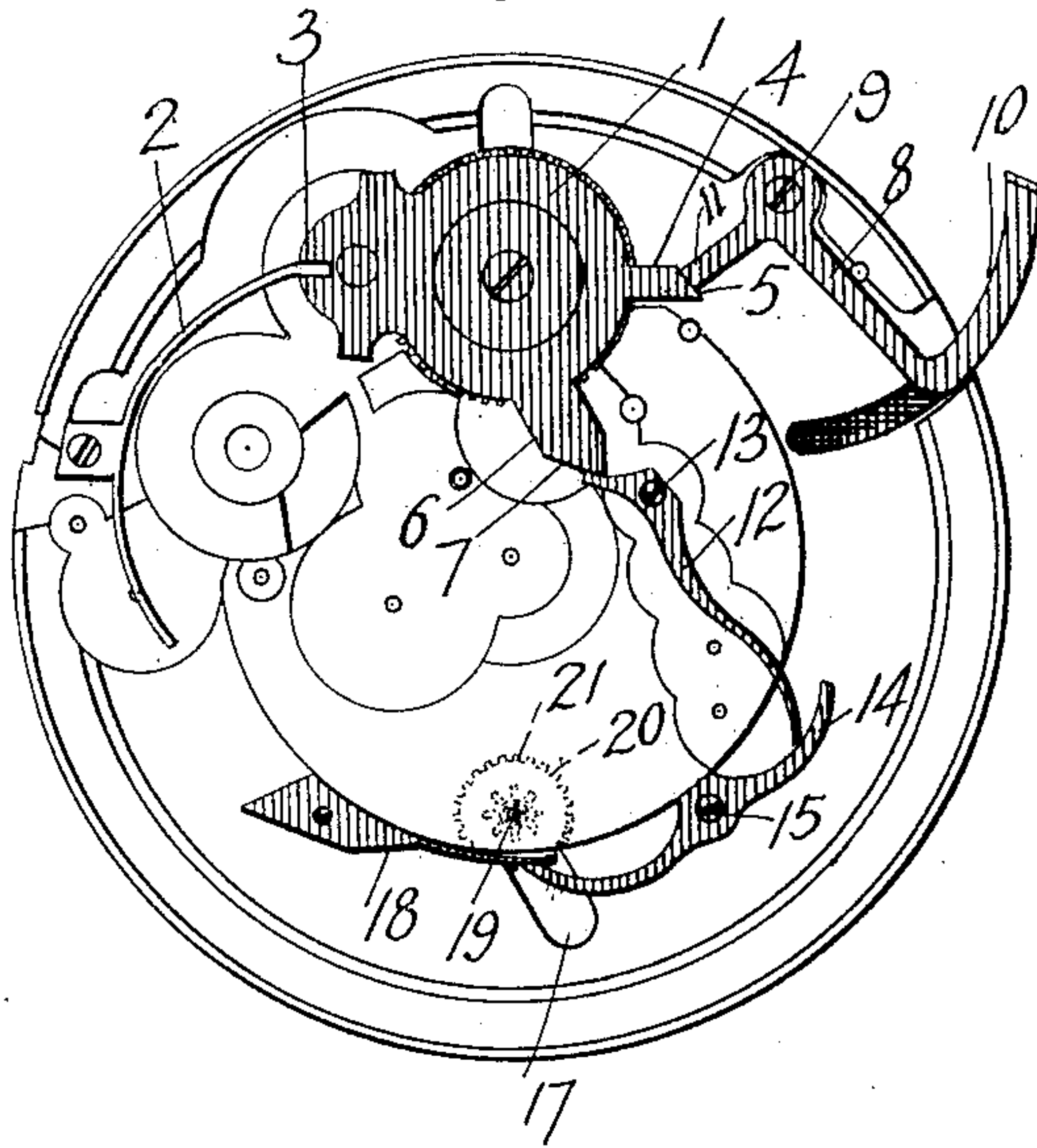


Fig. 3.

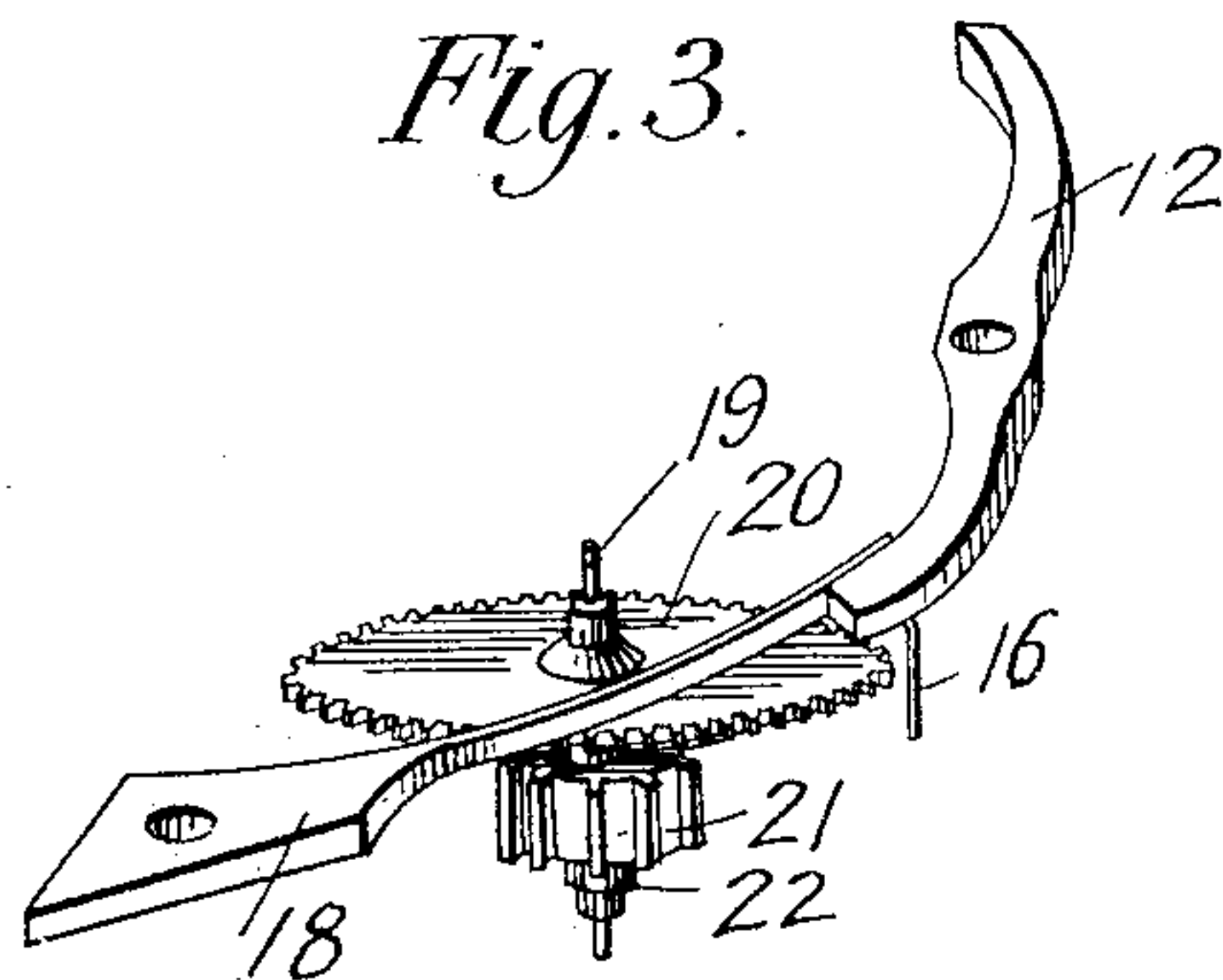
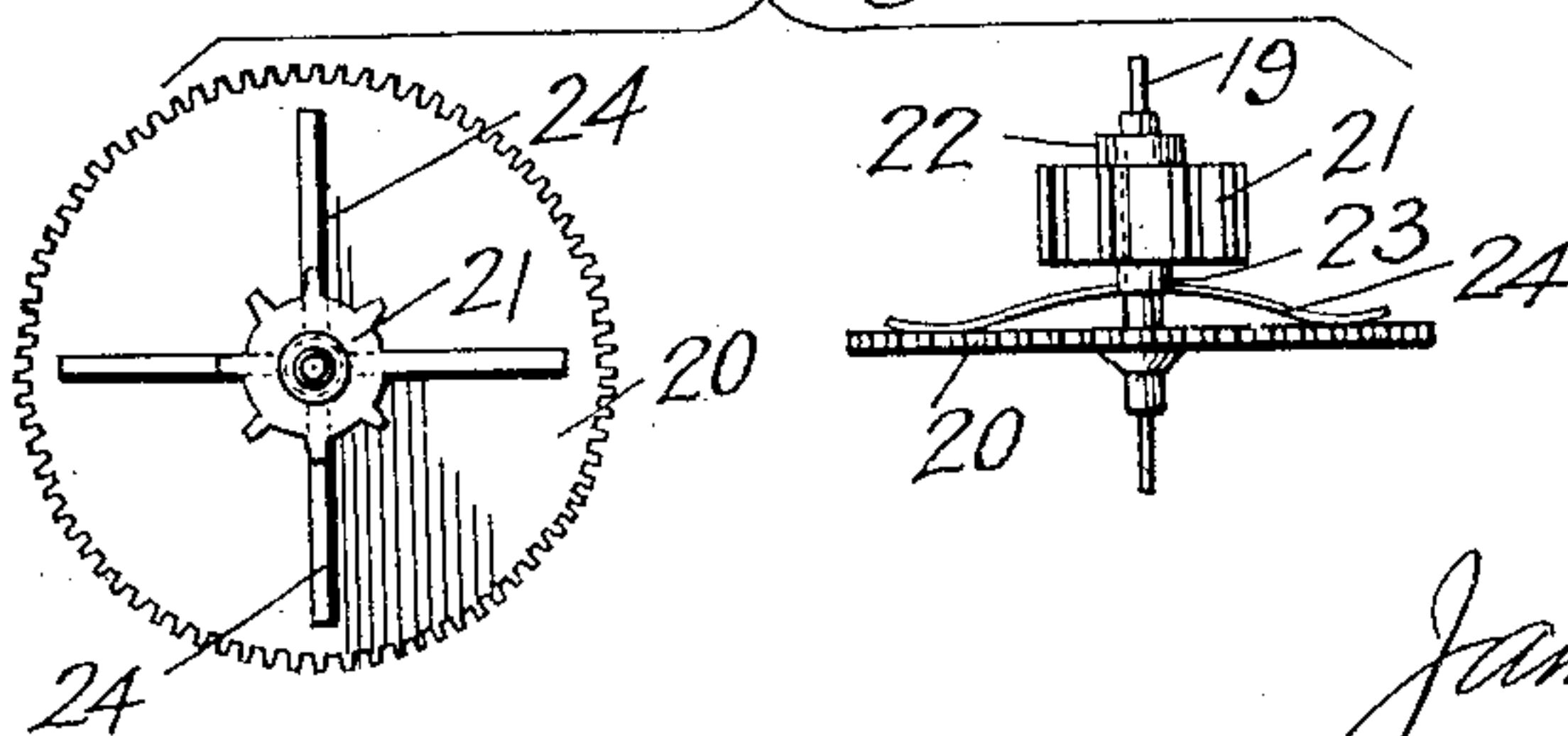


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES PARKINSON, OF GREENVILLE, MISSISSIPPI, ASSIGNOR OF ONE-THIRD
TO FRANK BINDER, OF GREENVILLE, MISSISSIPPI.

STOP-WATCH.

SPECIFICATION forming part of **Letters Patent No. 685,635**, dated October 29, 1901.

Application filed May 25, 1901. Serial No. 61,948. (No model.)

To all whom it may concern:

Be it known that I, JAMES PARKINSON, a citizen of the United States, residing at Greenville, in the county of Washington and State of Mississippi, have invented certain new and useful Improvements in Stop-Watches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to improvements in the construction of watches, and more particularly to that class known as "stop-watches."

The object of the invention is the production of a watch provided with means whereby the seconds-hand thereof may be stopped without affecting the movement of the other mechanism of the watch.

A further object of the invention is the provision of means whereby the shaft or arbor carrying the seconds-hand may be stopped while the pinion operating said shaft or arbor continues to rotate.

With these and other objects in view it consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 represents a top plan view of a watch provided with the features of the present invention, the dial and watch-operating train being omitted to the more clearly illustrate the present invention. Fig. 2 represents a similar view of the same, the parts having been operated to stop the movement of the shaft or arbor carrying the seconds-hand. Fig. 3 represents an enlarged detail perspective of the locking-lever and spring and the seconds-hand arbor, pinion, and disk; and Fig. 4 represents enlarged detail views, in top plan and side elevation, respectively, of the seconds-hand arbor or shaft, together with disk, pinion, and interposed spring.

In the art to which the present invention appertains the provision of means whereby the hands or one hand of the watch may be stopped at a given instant, without regard to the position of the said hand or hands, has been found very useful for well-known purposes, and in order to provide such means, as

illustrated in the drawings, a suitable yoke, as 1, is pivotally mounted on the outer face of the upper plate of a watch, and a suitable spring, as 2, is adapted to engage a portion of the said yoke, as by having its free end extending into notch 3 in yoke 1. A lug, as 4, is formed integral with yoke 1 and extends from the periphery thereof and is provided with a beveled end, as 5, and a similar lug, as 6, extends from the periphery of said yoke 1 at a point nearer the center of the top plate of the watch than lug 4 and is provided with a beveled outer end, as 7. It will of course be understood that the exact size and shape of the lugs 4 and 6 may be altered, as may be convenient.

A suitable elbow-lever, as 8, is preferably pivoted near the periphery of the top plate of the watch, as at 9, and is provided with an arm, as 10, which is adapted to extend outside the watch for operating the said lever, the lever in operation adapted to have its free arm, as 11, partially rotate yoke 1, as herein-after described. The beveled end 7 of lug 6 is adapted to contact with one end of an intermediate lever, as 12, which lever is pivoted intermediate its length, as at 13, and its opposite end preferably contacts with one of the wings of double-winged lever 14. Lever 14 is pivoted, preferably centrally of its length, as at 15, and carries at its free end a downwardly-extending arm or rod, as 16, which passes through an elongated aperture or slot, as 17, in the top plate of the watch. A suitable spring, as 18, is adapted to press the end of lever 14, carrying arm 16, and prevent the said arm normally from coming in contact with the moving parts of the watch mechanism or interfering with its operations. Penetrating the top plate just beyond the inner end of slot 17 and extending a suitable distance above the said plate is a shaft or arbor, as 19, the upper end of which is adapted to carry the seconds-hand of the watch. Mounted upon and rigidly secured to arbor 19 beneath the top plate is a disk, as 20, which is provided with suitable ratchet-teeth or notches upon its periphery. Spaced apart from and revolubly mounted upon arbor 19 below disk 20 is a suitable pinion, as 21, which in operation is in mesh with a pinion in the train of

gears comprising the watch mechanism. A suitable annular shoulder, as 22, is rigidly mounted upon arbor 19 beneath pinion 21 and is adapted to prevent said pinion from dropping out of position. An annular sleeve, as 23, is revolubly mounted upon arbor 19 and is interposed between disk 20 and pinion 21, the said sleeve being provided with a plurality of suitably-curved spring-arms, as 24, which are adapted to press against the under face of disk 20, the sleeve 23 being thereby held against pinion 21 under the pressure of said spring-arms.

When the parts are in the position shown in Fig. 1, the watch operates in the common manner, and the seconds-hand is free to rotate, through the motion imparted by pinion 21, through sleeve 23 and arms 24 to disk 20 and arbor 19; but when arm 10 is moved outwardly to the position shown in Fig. 2 arm 11 will engage the beveled face of lug 4, partially rotating yoke 1, and thereby moving lever 12 through contact with the beveled end 7 of lug 6, the said movement of lever 12 moving the inner end of lever 14 outwardly and the outer end, together with rod 16, inwardly, bringing said rod into engagement with the peripheral teeth or notches of disk 20, and thereby instantly stopping the movement of said disk, together with its arbor 19, and therewith the seconds-hand of the watch. It will of course be obvious that when the disk 20 ceases to revolve through the locking effect of rod 16 the pinion 21 will still be free to rotate, thereby permitting the watch mechanism to continue its usual movement, not in the least being affected by the stopping of the seconds-hand. To start the seconds-hand, arm 10 is pressed inwardly to the original position, thereby freeing lug 4 and permitting yoke 1, through the pressure of spring 2, to assume its normal position, and in so doing freeing levers 12 and 14, whereupon spring 18 presses the end of lever 14, carrying rod 16 outwardly, and disengages the said rod from disk 20, thereby permitting the rotation of said disk through the motion imparted from pinion 21 through sleeve 23 and arms 24, as hereinbefore described.

Although I have described specifically one particular embodiment of the present invention, yet I do not wish to be understood as limiting myself to the exact form set forth, but shall feel at liberty to deviate from the size, shape, and minor details of structure within the spirit and scope of the present invention.

It will of course be obvious that when the end of the arm is moved to squarely engage the beveled end 5 of lug 4 the yoke 1 and levers 12 and 14 will be temporarily locked and will remain in such position until arm 10 is forced inward to the position shown in Fig. 1.

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

1. Means for stopping the movement of the

seconds-hand arbor of a watch, comprising a disk having a notched periphery and being rigidly secured to said arbor, a pinion revolubly mounted on said arbor, an annular sleeve interposed between said disk and pinion and surrounding said arbor, a plurality of arms carried by said sleeve and adapted to frictionally contact said disk while the said sleeve is pressed against said pinion, thereby permitting the transmission of motion from said pinion to said disk by means of friction, and a movable arm operable from outside the watch and extending transversely to the plane of movement of said disk and adapted to be brought laterally into engagement with the notched periphery of said disk for locking the same against movement, substantially as described.

2. In a watch, the combination with friction means for operating the seconds-hand arbor, of means for overcoming said friction and stopping said arbor, comprising a lever pivoted intermediate its length, a downwardly-extending arm carried by one end of said lever, means extending outside the watch for operating said lever for bringing said arm into locking engagement with the seconds-hand-operating means, and a spring pressing the end of said lever carrying said arm for holding the arm normally out of locking engagement with said seconds-hand-operating means, substantially as described.

3. In a watch, the combination with friction means for operating the seconds-hand arbor thereof, of means for overcoming said friction and stopping said arbor, comprising a yoke, means for partially rotating the same, a lever pivoted intermediate its length, an arm carried by said lever, means for communicating motion from said yoke to said lever, whereby said arm may be brought into locking engagement with the seconds-hand-operating means for stopping the movement of the same, means for temporarily retaining said arm in such locking engagement, and means for normally holding said arm out of such engagement, substantially as described.

4. In an arbor-controlling mechanism, the combination with a top plate of a watch and means for frictionally operating the said arbor, of means for stopping and starting said arbor, comprising a yoke pivoted to said top plate, a spring engaging said yoke for normally holding the same out of operation, a bevel-ended integral lug extending from the periphery of said yoke, an elbow-lever pivoted to said top plate and provided with an arm adapted to engage the beveled end of said lug for operating said yoke, an arm carried by the other member of said elbow-lever extending outside said watch for operating the lever, a second lug extending from the periphery of said yoke, and provided with a beveled end, a lever pivoted to said top plate having one end engaging said beveled end of the last-mentioned lug, a double-winged lever pivoted to said top plate and having one end

engaging the free end of said last-mentioned lever, a downwardly-extending arm carried by the free end of said double-winged lever and adapted to operate in a slot in said top
5 plate, and a spring pressing the arm-carrying end of said double-winged lever, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JAMES PARKINSON.

Witnesses:

T. A. HUNTZBERGER,
R. P. BARNETTE.