

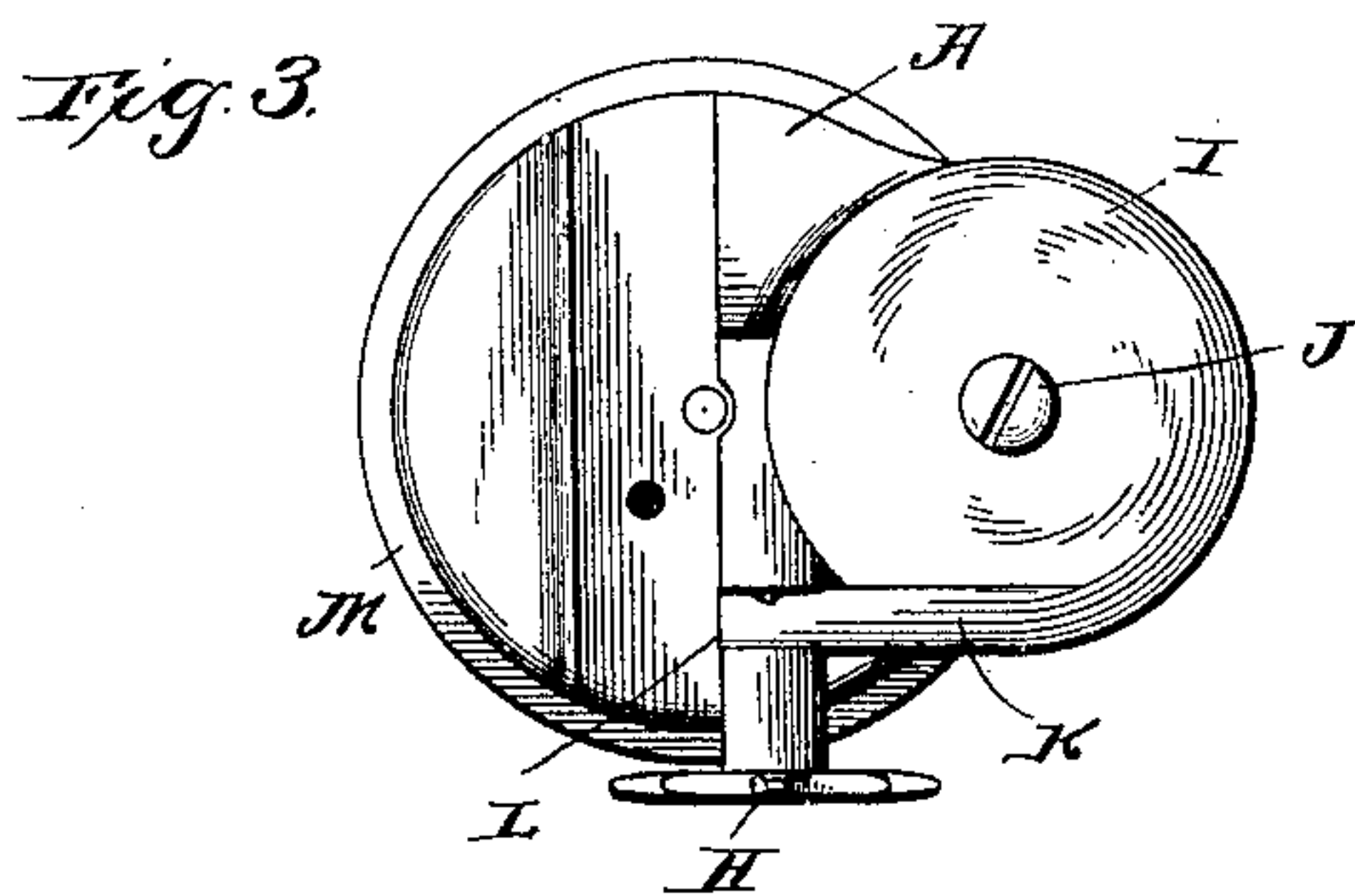
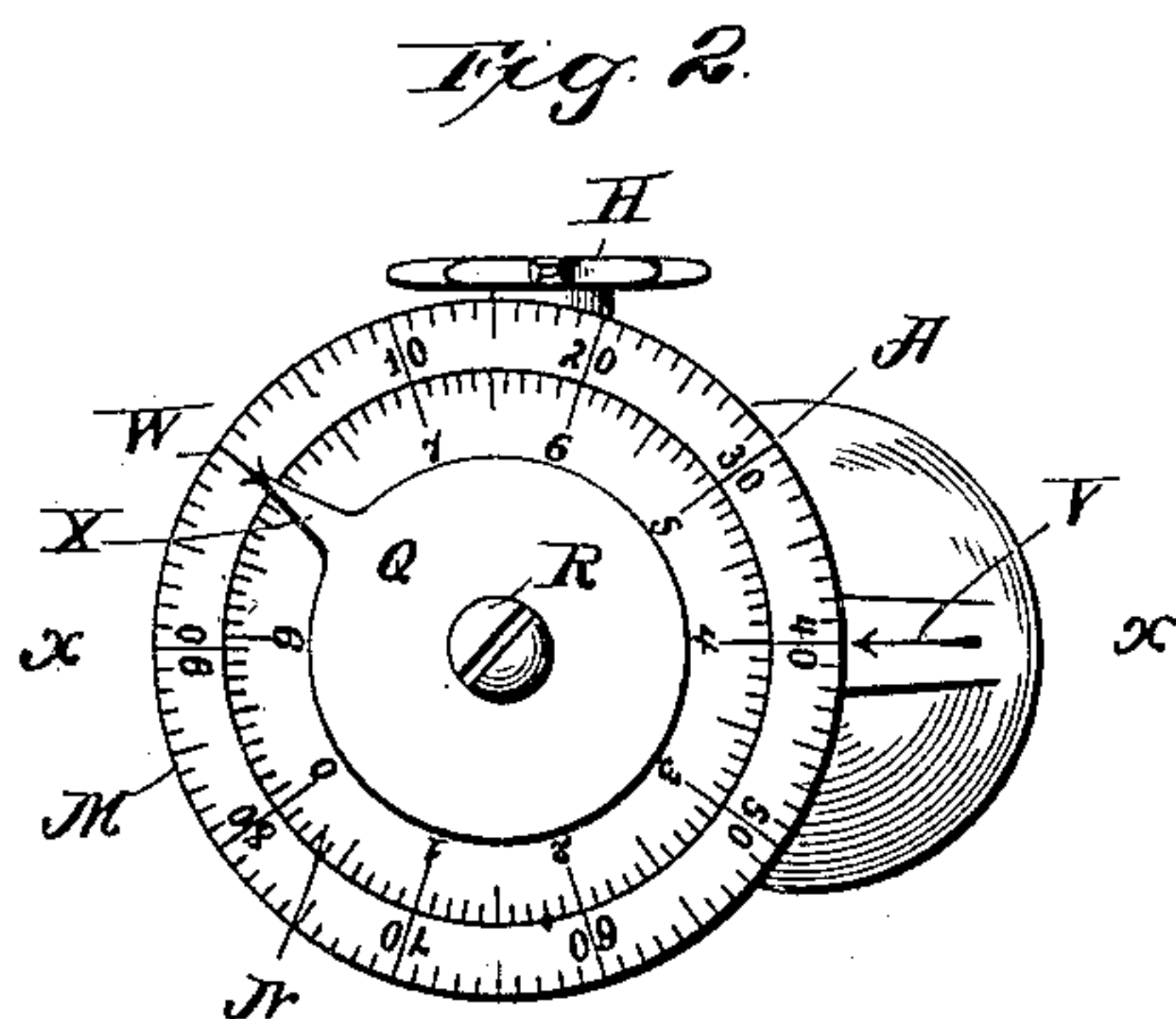
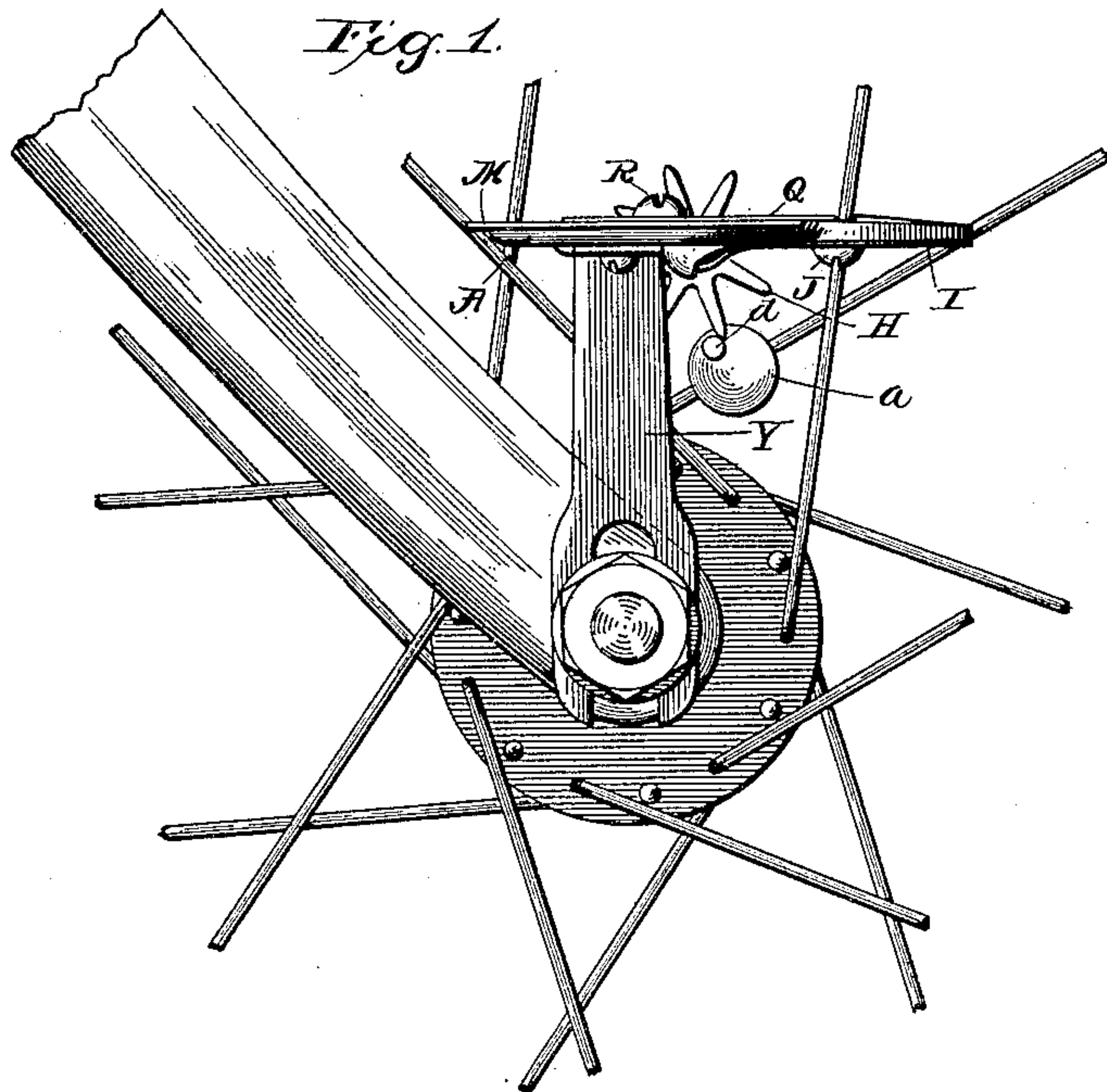
(No Model.)

2 Sheets—Sheet 1.

C. B. POST.  
CYCLOMETER.

No. 592,255.

Patented Oct. 26, 1897.



WITNESSES

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

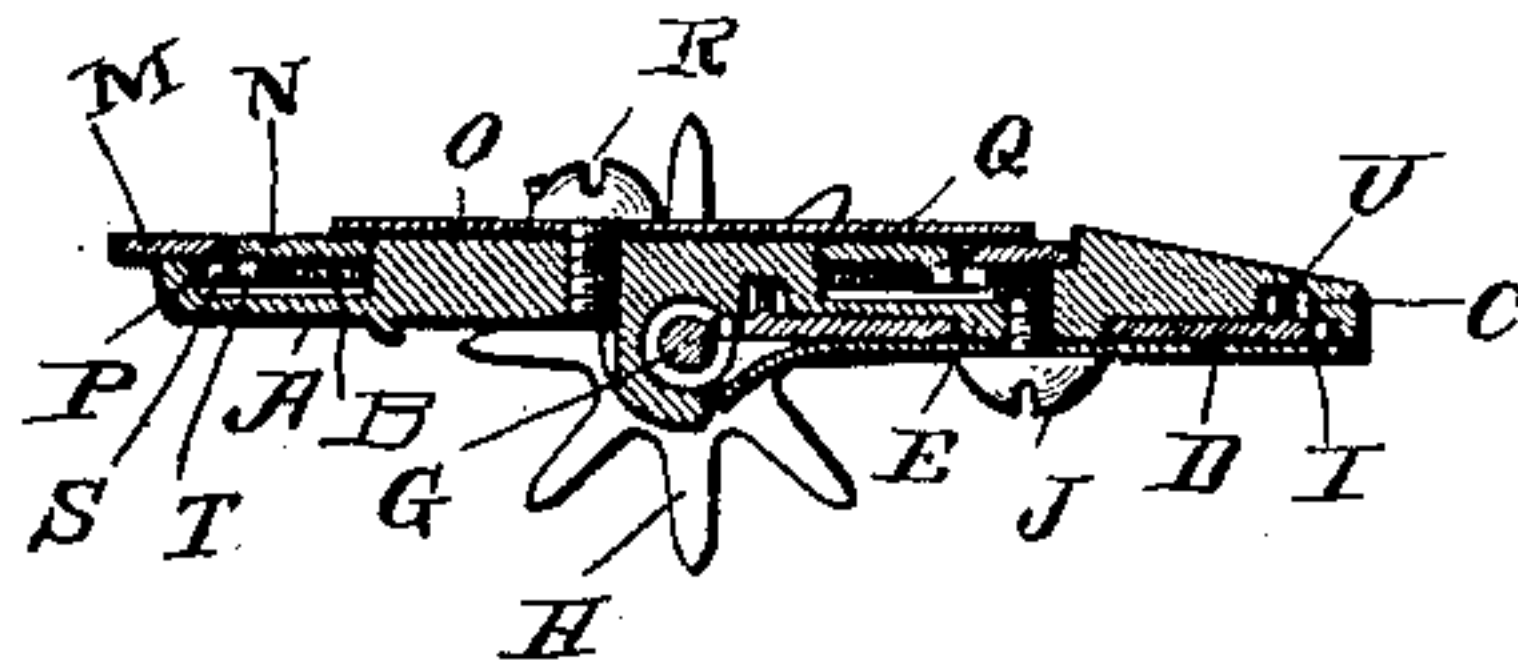


Fig. 5.

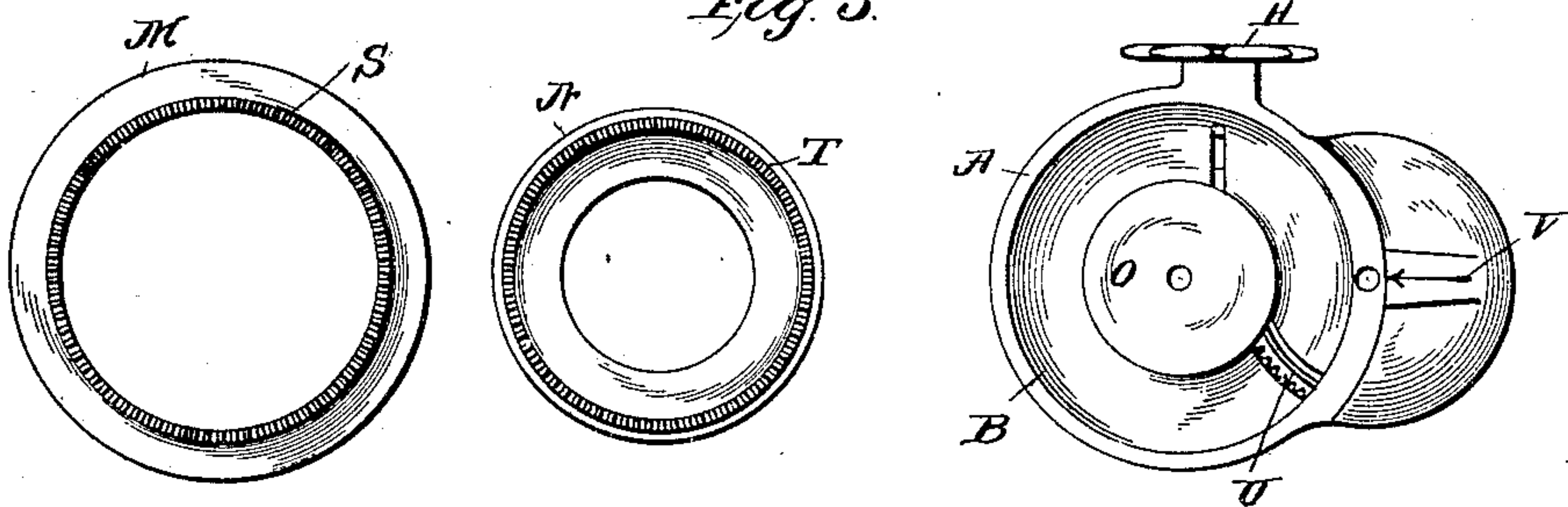


Fig. 6.

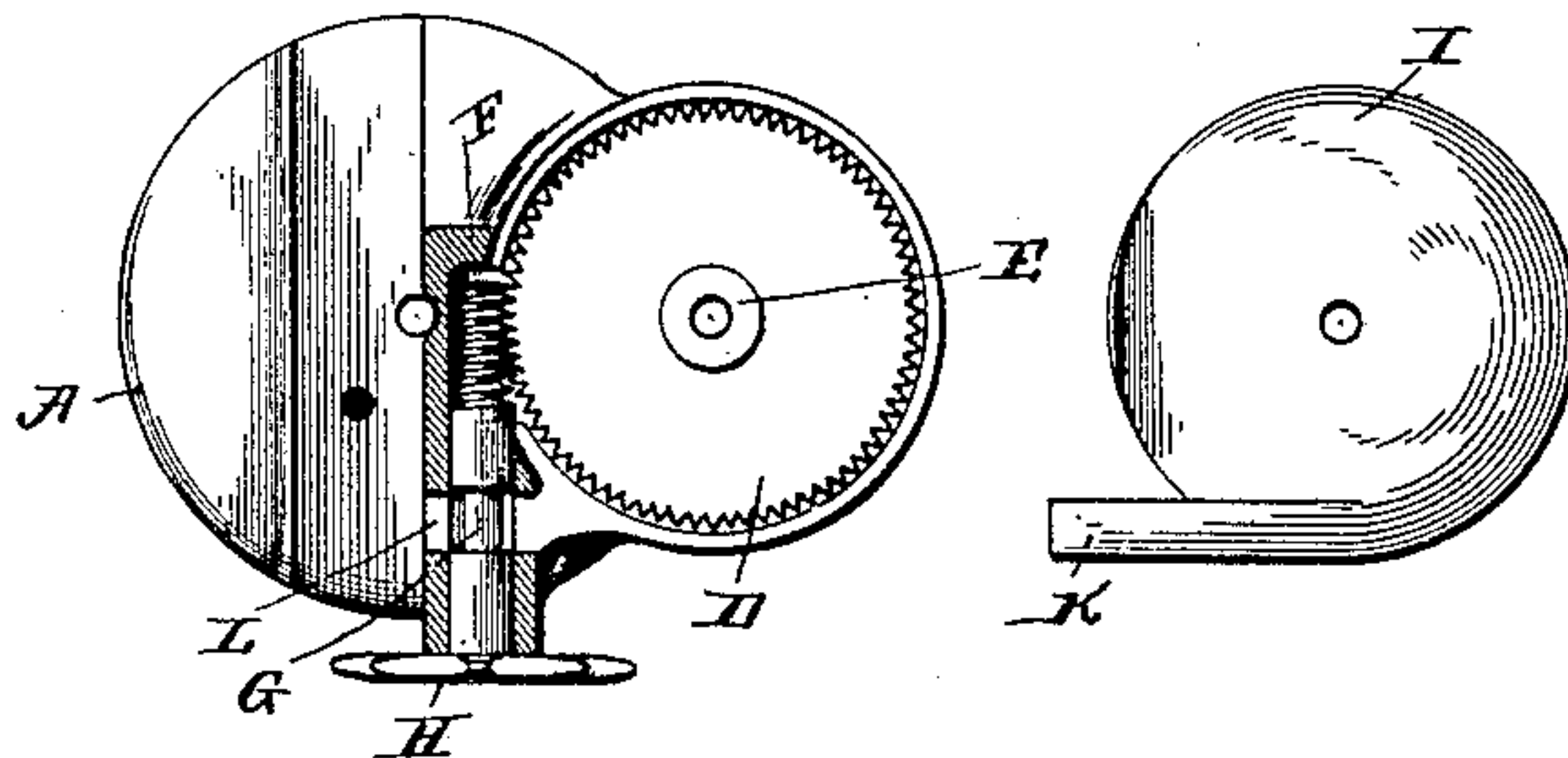


Fig. 8.

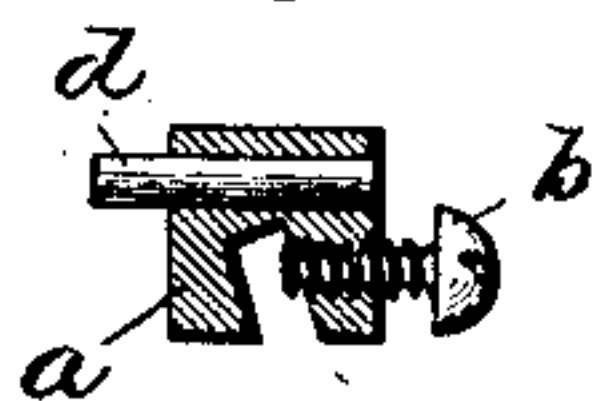
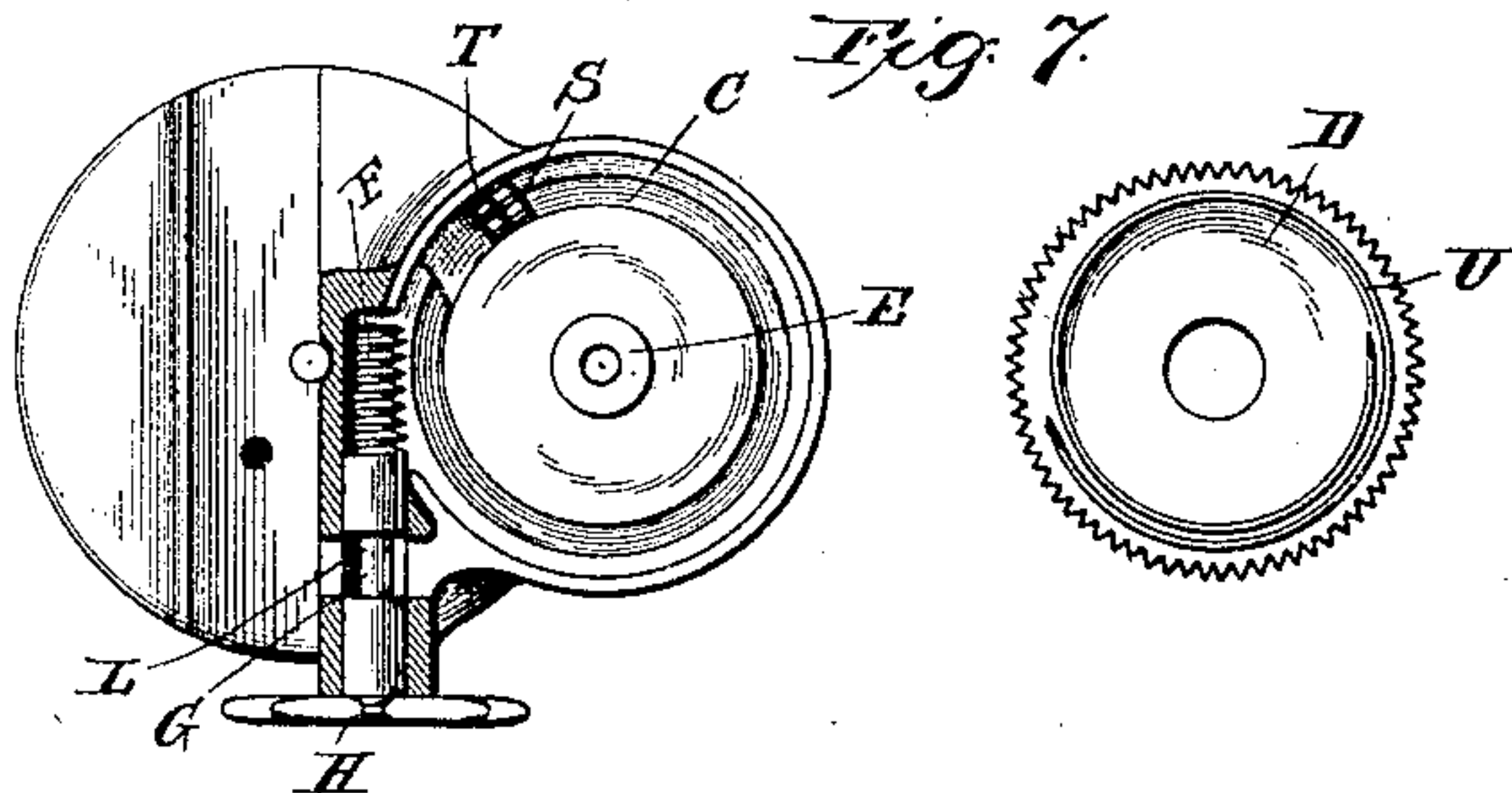


Fig. 7.



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# UNITED STATES PATENT OFFICE.

CHARLES B. POST, OF NEW LONDON, OHIO.

## CYCLOMETER.

SPECIFICATION forming part of Letters Patent No. 592,255, dated October 26, 1897.

Application filed December 10, 1896. Serial No. 615,134. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. POST, a citizen of the United States, residing at New London, in the county of Huron and State of Ohio, have invented a certain new and useful Improvement in Cyclometers, of which the following is a specification.

My invention relates to a new and useful improvement in cyclometers, and has for its object to produce a simple, cheap, and durable device by means of which without computation the record of the distance from one place to another traveled by a bicycle or the like, the length of day runs, and the total record of distance traveled up to ten thousand miles may be recorded upon a single dial.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of the lower end of the bicycle-fork having my improvement attached thereto and showing a portion of the front wheel and an interrupter carried thereby; Fig. 2, a plan view of the cyclometer; Fig. 3, a bottom view thereof; Fig. 4, a section at the line  $x x$  of Fig. 2; Fig. 5, a dismembered view of the cyclometer, the registering-rings being removed therefrom and shown in bottom plan; Fig. 6, a bottom plan of the cyclometer, the bearing of the star-wheel shaft being sectioned away and the cap removed, the latter being also shown in the bottom plan; Fig. 7, a view similar to Fig. 6, the worm-wheel being removed from the casing; and Fig. 8, a section of the striker.

In carrying out my invention I provide a casing A by casting in the desired shape and forming therein two circular recesses B and C, and in the latter is fitted a worm-wheel D, adapted to revolve upon the hub E, which is formed within the recess, and this worm-wheel meshes with the worm F, which is formed

upon the spindle G, the latter being journaled in suitable bearings formed with the casing and carrying a star-wheel H upon its outer end adapted to be actuated by a striker, as hereinafter set forth.

The worm-wheel is held in place by the cap I, which in turn is secured over the recess C by the screw J, and this cap has a spring-tongue K projecting therefrom and arranged to bear upon the spindle G by fitting within the cut-away portion L in the bearing of said spindle, the object of which is to exert a certain amount of pressure upon the spindle, so as to prevent it from being overthrown by the momentum of the star-wheel when the latter is given its intermittent motion by the striker.

Two registering-rings M and N are arranged to fit over the recess B. The ring N, which is of smaller diameter and adapted to fit snugly within the outer ring M, fits upon the hub O, projecting upward from the bottom of the recess and serving as a center upon which the ring revolves. The outer ring M is held in place by the inner ring by the latter fitting upon a flange P, formed upon the inner edge of the outer ring, as shown in Fig. 4, and the inner ring in turn is held in place by a disk Q, which is secured upon the hub O by means of the screw R.

The outer and inner registering-rings have gear-teeth S and T, formed thereon, respectively, and these teeth project downward within the recess B and into engagement with the scroll U, which is formed upon the inner surface of the worm-wheel D, as clearly shown in Fig. 7, so that for every rotation of the worm-wheel each of the registering-rings will be moved a distance equal to one of its teeth.

The outer ring has one hundred teeth, while the inner ring is provided with one hundred and one teeth, so that for every rotation of the outer ring the inner ring will have lost a distance of one tooth, and the face of the outer ring is graduated from "0" to "100," while the inner ring is also graduated from "0" to "101," and every ten of these graduations are designated by figures from "1" to "10." An arrow V marked upon the casing serves to indicate the starting-point from which the movements of the outer ring are completed, and an arrow W placed upon this ring serves



to indicate the point from which the movements of the inner ring are computed. Now it will be seen that the worm-wheel being so timed relative to the distance traveled at each rotation of the wheels to which the striker is attached as to cause said worm-wheel to make a complete rotation for every mile traveled by the machine the scroll carried by the worm-wheel will move the outer ring a distance equal to the width of one tooth, which is sufficient to carry it one graduation past the arrow V, thereby indicating the fact that the machine has traveled one mile, and while this ring has been moved through one rotation it will indicate that the bicycle has traveled one hundred miles, during which time the inner ring, on account of having one tooth more than the outer ring, will have fallen behind the outer ring one graduation, and this graduation determines the fact that the machine has traveled a hundred miles, so that the further movement of the outer ring to a distance less than one rotation will indicate the number of miles less than one hundred which the machine has traveled, while the difference between the position of the outer and inner ring will indicate the miles traveled in hundreds. This will therefore make a complete record of the miles traveled by the bicycle and enable a person to determine the same at any time by reference to the registering-rings without a necessity of computation.

It is often desirable for a person riding a bicycle to determine the distance between the starting-point to the point of destination for the distance traveled at any one time, and this is accomplished in my improvement by the use of a pointer X, formed with the disk Q and arranged to coincide with the graduations upon the outer ring. Thus when it is desired to determine the distance traveled in a given time or from one place to another the pointer is set so as to register with the arrow W upon the outer ring, after which the movements of this ring may be determined by reference to the graduations thereof relative to the pointer, which will determine the number of miles traveled from the point at which the pointer was set. The movements of the pointer are permitted without necessity of adjusting the screw R, since the disk Q will turn beneath said screw and be held in place against accidental movement by the friction of the screw-head thereon. The cyclometer is secured in proper position upon the bicycle by means of a suitable bracket Y, here shown as bolted to the lower end of the fork by one of the nuts used for securing the front-wheel axle, and the striker adapted for the operation of the star-wheel consists of a block *a*, having a slot therein and a screw *b* for securing the block to a spoke of the front wheel. This block also has a hole formed therethrough in which a wooden peg *d* may be driven, one end thereof projecting outward, so as to enter into engagement with the teeth of the star-wheel at every rotation of the front

wheel of the bicycle, thereby actuating said star-wheel one tooth, which, as before described, will impart motion to the worm-wheel. The object of the wooden peg is to deaden the sound of impact between said peg and the star-wheel and also to permit the ready renewal of the peg when worn or broken.

From the foregoing description it will be obvious that a very efficient cyclometer is provided which is exceedingly durable, since neither dirt nor wet will injure the same and since there is no glass to break or delicate parts to become deranged, and on account of its simplicity the cost of manufacture is small.

Another advantage of my improvement is that it is easily understood and read and requires no calculation to determine the distance traveled by the wheel from one place to another during a continuous ride.

Another advantage of my improvement is that it is exceedingly light and compact.

Having thus fully described my invention, what I claim as new and useful is—

1. A cyclometer, consisting of a casing, two registering-rings arranged to revolve thereon, gears projecting inward from the rings, one gear having one hundred teeth, while the other is provided with one hundred and one teeth, graduations marked upon the rings, a scroll engaging with the gears, a worm-wheel carrying said scroll, a worm meshing with the worm-wheel, and a star-wheel carried by the spindle of the worm and adapted to be intermittently operated by a suitable striker, as specified.
2. In combination, a casing, two registering-rings mounted thereon so as to revolve, a gear having one hundred teeth formed with the outer ring, a gear having one hundred and one teeth formed with the inner ring, a scroll meshing with the two gears, a worm-wheel carrying the scroll, a worm meshing with the last-named wheel, a spindle upon which said worm is formed, a star-wheel carried by the outer end of the spindle, and a striker carried by the wheel of the bicycle for intermittently actuating the wheel, as specified.
3. In a cyclometer of the character described, two registering-rings arranged in the same plane and adapted to rotate, the outer ring carrying a gear with one hundred teeth, the inner ring having a gear with one hundred and one teeth whereby at every rotation of the rings the inner ring will lose a distance equal to one of its teeth relative to the outer ring, a scroll for actuating the rings, and means for revolving the scroll, substantially as and for the purpose set forth.
4. In a cyclometer the combination of a casing, two rings mounted thereon in the same plane and adapted to rotate, a disk for holding said rings in position, a pointer formed with the disk arranged to indicate the movement of the outer ring, gears formed with the rings, the outer gear having one hundred teeth and the inner gear one hundred and one teeth,



a scroll meshing with the two gears, a worm-wheel carrying said scroll, a worm meshing with the worm-wheel, a spindle upon which said worm is formed, a star-wheel secured to  
5 the outer end of the spindle, and means for intermittently actuating said star-wheel by the rotations of the wheel of the bicycle, substantially as and for the purpose set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

CHARLES B. POST.

Witnesses:

S. S. WILLIAMSON,  
F. R. HUBBARD.