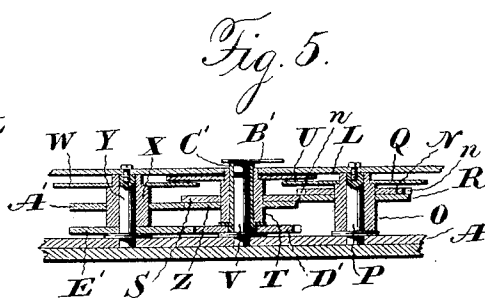
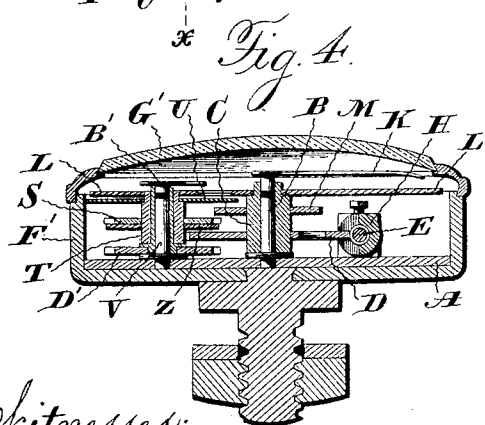
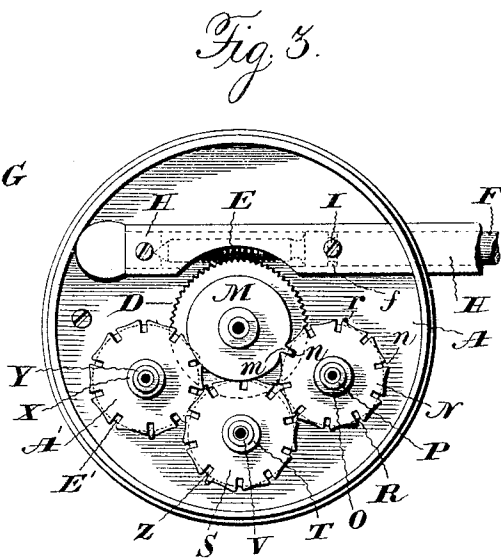
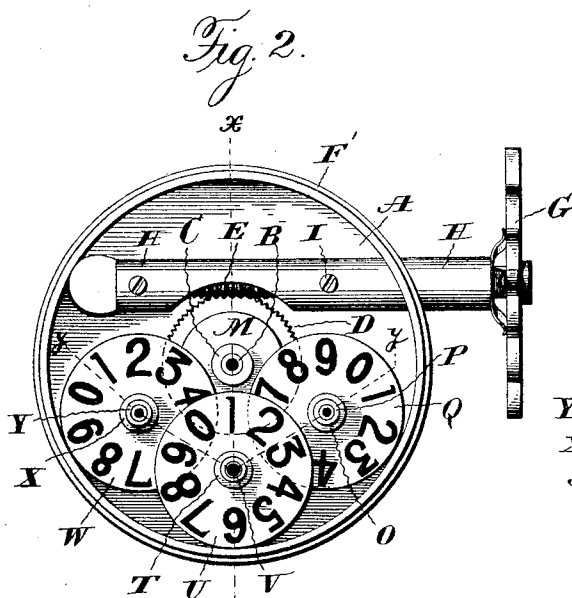
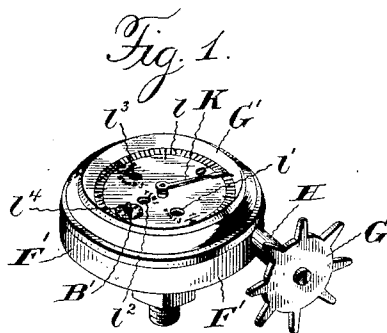


(No Model.)

W. W. DUDLEY.
CYCLOMETER.

No. 578,288.

Patented Mar. 2, 1897.



Witnesses:
Jas. E. Hutchinson.
Henry C. Hazard.

Inventor.
Wm. W. Dudley, by
Prindle and Russell, his Attys.

UNITED STATES PATENT OFFICE.

WILLIAM W. DUDLEY, OF TRENTON, NEW JERSEY, ASSIGNOR TO THE
TRENTON WATCH COMPANY, OF SAME PLACE.

CYCLOMETER.

SPECIFICATION forming part of Letters Patent No. 578,288, dated March 2, 1897.

Application filed September 21, 1896. Serial No. 606,580. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. DUDLEY, of Trenton, in the county of Mercer, and in the State of New Jersey, have invented certain new and useful Improvements in Cyclometers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my cyclometer; Fig. 2, a plan view thereof with the bezel, hands, and dial removed; Fig. 3, a like view with the disk-form indexes removed, in addition to the other parts; Fig. 4, a section on the line $x x$ of Fig. 2, and Fig. 5 a section on line $y y$ of Fig. 2.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide in a very compact form and of simple construction a cyclometer for bicycles, more especially of the kind known as the "ten-thousand-mile" cyclometer; that is, a cyclometer capable of registering miles up to said number; and to this end said invention consists in the cyclometer having the construction and combination of parts substantially as and for the purpose hereinafter specified.

In the carrying of my invention into practice I employ a preferably circular base or supporting plate A, at the center of which is fixed a pin or post B. Upon said post is journaled an arbor C, that carries a worm-wheel D, meshing with a worm E at the inner end of a shaft F, upon whose outer end is placed the customary star-wheel G, by which motion is imparted to the registering mechanism of the cyclometer from the bicycle-wheel in a well-known way. Said shaft F is journaled in a tube H, being confined from longitudinal movement by means of a screw I, passing through the tube and entering a circumferential slot f in the shaft.

Secured to the upper end of the arbor C is a hand or pointer K, that travels over a dial l , marked on the face of a disk or plate L, which serves to indicate fractions of a mile, one revolution of the pointer around the dial taking place for each mile; also, fixed to said arbor C so as to rotate therewith is a disk M, having a single tooth m , that at each rev-

olution of the disk is adapted to engage a peripheral notch n in a wheel N, having a series of such notches and fastened to an arbor O, that is mounted to revolve upon a pin or post P, fastened to the base-plate A. Carried by said arbor at its upper end is a disk Q, having marked on its face in a circular series numerals from "0" to "9," which in turn are displayed through an opening l' in the dial-plate L, and denote units.

Fastened upon and rotating with the arbor O is a disk R, similar to the disk M, having a single tooth r , that at each revolution is adapted to engage and partially turn a peripherally-notched wheel S, similar to the wheel N, upon an arbor T, that at its upper end carries a disk U, marked, like the disk Q, with a series of numerals from "0" to "9," which successively are displayed through an opening l'' in the plate L, and denote tens. The arbor T revolves around a pin or post V, fastened to the base-plate. For denoting hundreds a third disk W is employed, precisely like the others, bearing the numerals "0" to "9," for which is provided the display-opening l''' in the plate L, which disk is mounted upon the upper end of an arbor X, journaled on a pin or post Y, attached to the base-plate A, and receives a periodic motion from the arbor U by means of a single-toothed disk Z and a peripherally-notched wheel A'. To employ similar indicating means to the numerals, disks Q, U, and W for indicating thousands would require enlargement of the size of the cyclometer and be otherwise objectionable, and I have accordingly provided a different means, which will enable the size of the instrument to remain the same as it is, if no higher indication than hundreds is provided for, and without disturbing the symmetrical appearance of the instrument. Said thousands-indicating means consists of a small dial l^4 , having a circular series of numerals from "0" to "9" marked on the dial-plate L concentric with the tens-disk U and a hand or pointer B' to cooperate therewith carried by an arbor C', journaled within the arbor O and upon the post V, and having attached to its lower end a peripherally-notched wheel D', that is adapted to be engaged and moved by a one-toothed disk E', carried by the hundreds-disk arbor F.

The dial-plate L is conveniently fastened in place to the two posts P and V by means of screws, as shown, and the entire mechanism is inclosed in a suitable casing F', having a glass top or cover G' and provided with means for attachment to the frame of a bicycle.

It is thought that the operation of the mechanism has been made clear in the description hereinbefore given, and hence a special description of the operation is not deemed necessary.

Having thus described my invention, what I claim is—

1. In a cyclometer, the combination of a series of indicators comprising numeral-bearing disks, an arbor for each of said disks, gearing between the arbors, a dial concentric with one of said disks, a hand for said dial, an arbor carrying said hand, and gearing between said arbor and one of the disk arbors, substantially as and for the purpose set forth.

2. In a cyclometer, the combination of a

driving-shaft having a worm, a worm-wheel, an arbor on which the latter is mounted carrying a hand, a plate having a dial for said hand, a series of disk indicators having each an arbor, said plate having a display-opening for each indicator, gearing between each of said arbors and the worm-wheel arbor, a dial on said plate concentric with an intermediate one of the disks, a hand for said dial, an arbor passing through the disk arbor carrying said hand, and gearing between said hand-carrying arbor and the arbor of the highest-indication disk of the series, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of September, 1896.

WILLIAM W. DUDLEY.

Witnesses:

ARTHUR G. MOSES,
JOHN MOSES.