

(No Model.)

A. W. SLAYTON & F. J. REINHOLD.
ODOMETER.

No. 430,443.

Patented June 17, 1890.

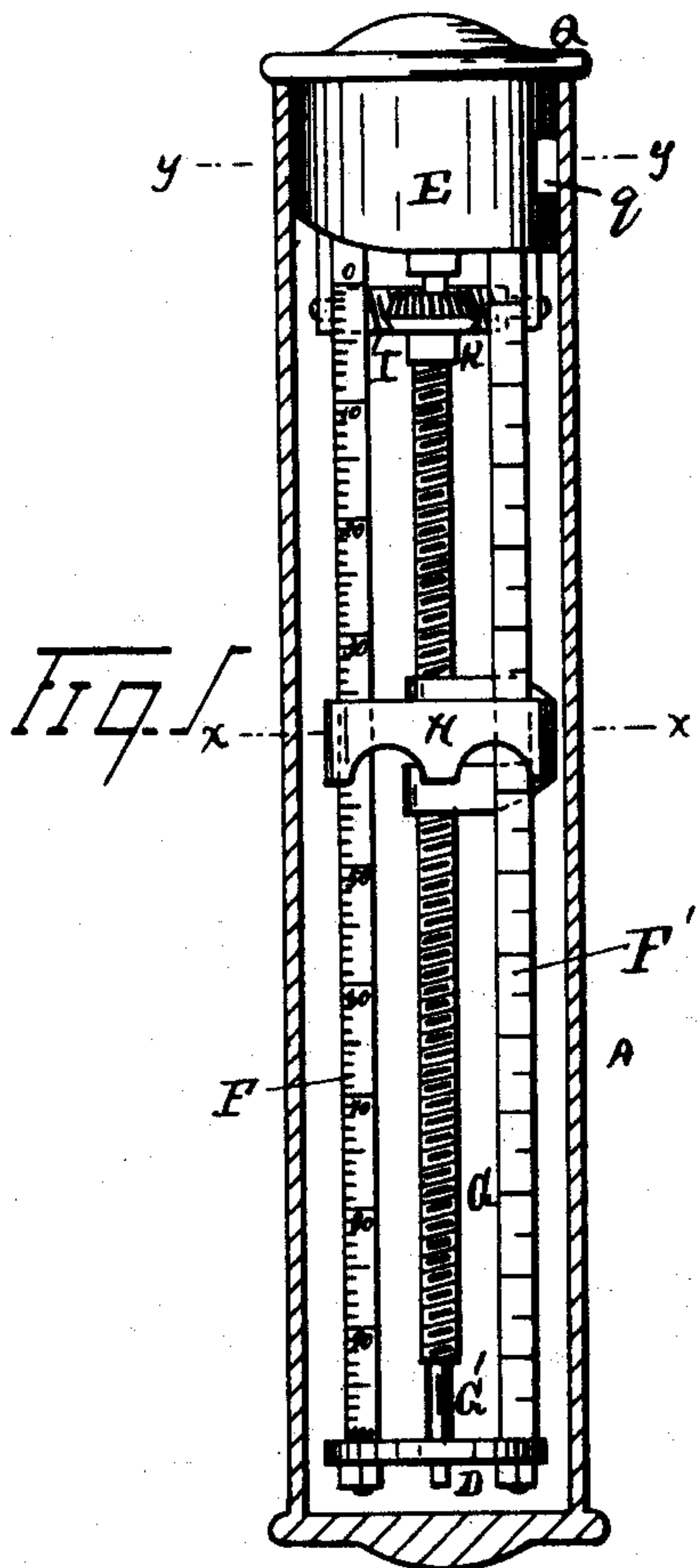


Fig. 1

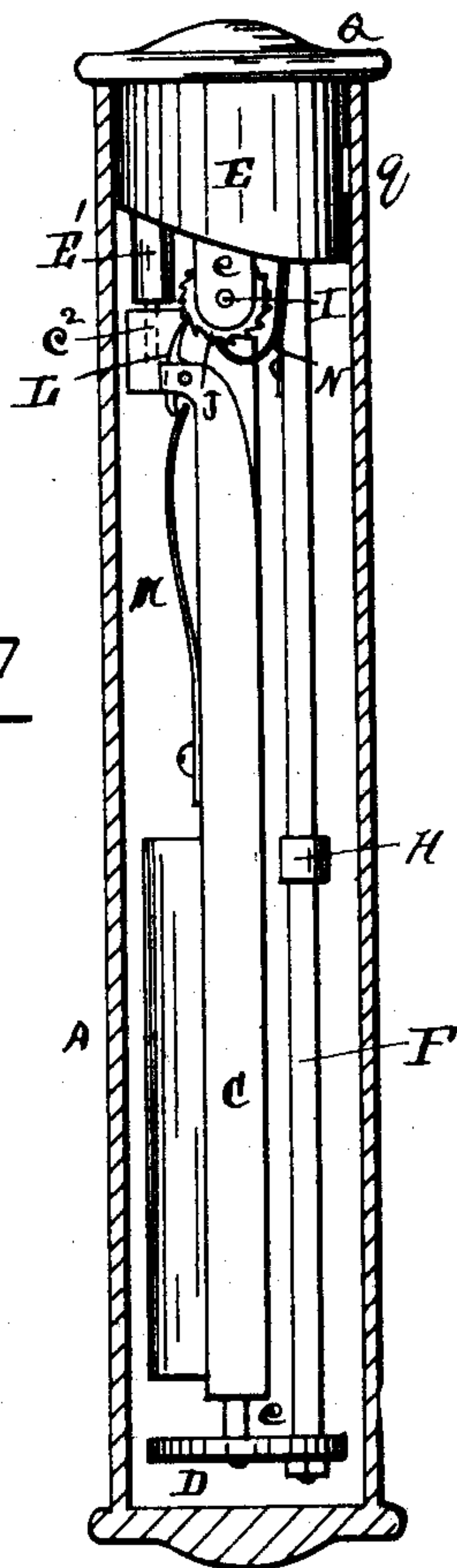


Fig. 2

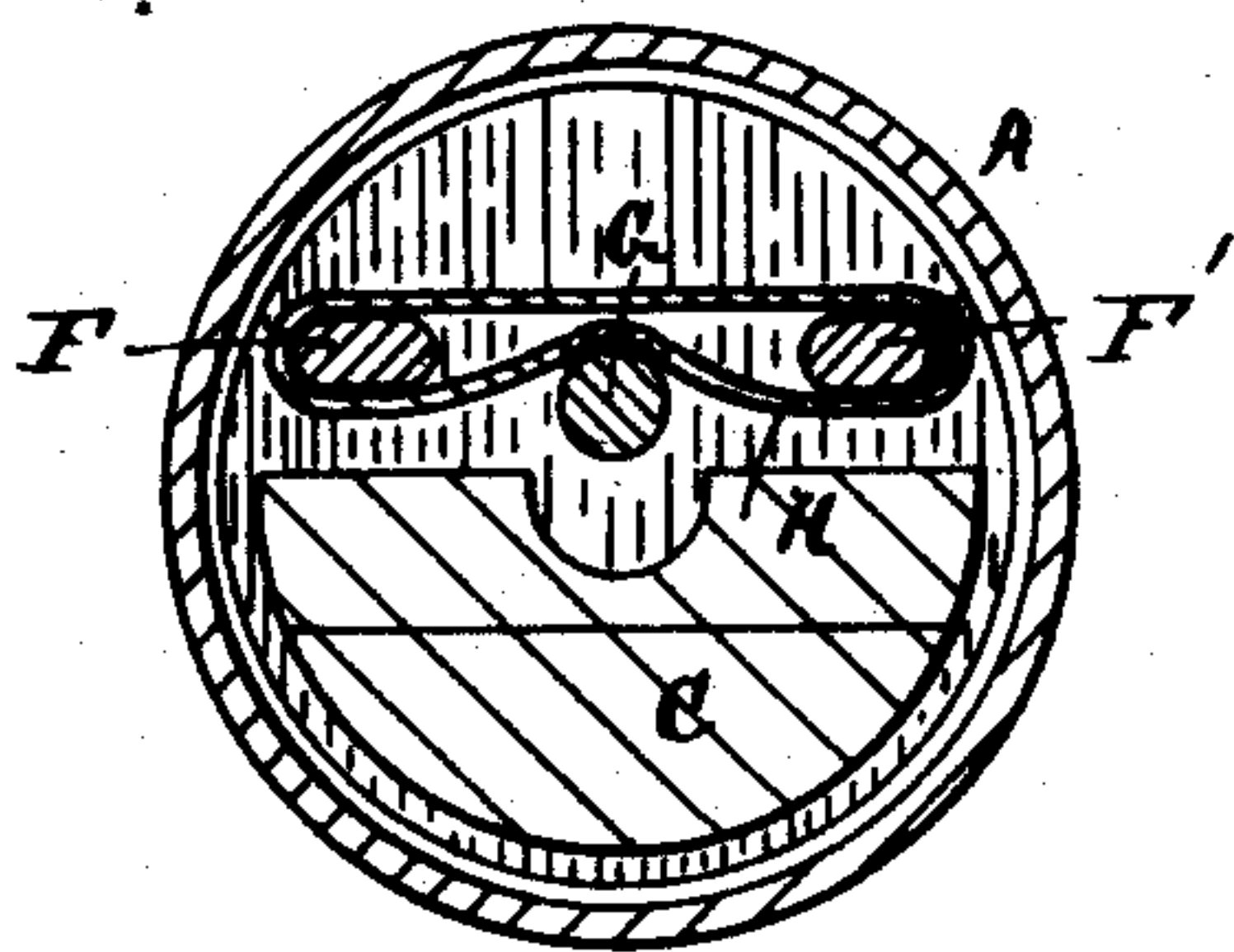


Fig. 3

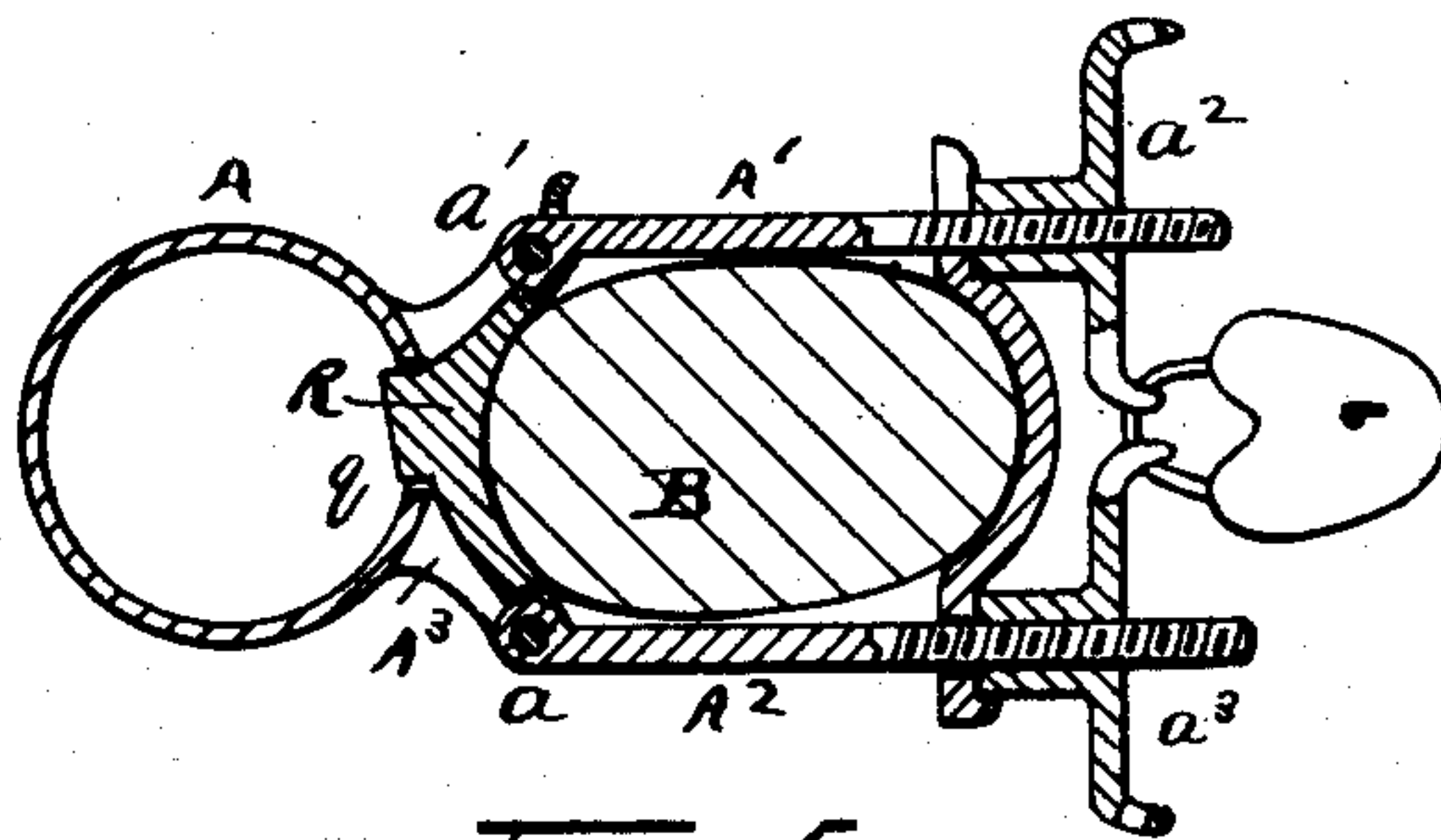


Fig. 4

Witnesses
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Charles F. Salow.

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By their Attorney
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UNITED STATES PATENT OFFICE.

AUGUSTUS W. SLAYTON AND FRANK. J. REINHOLD, OF DETROIT, MICHIGAN;
SAID REINHOLD ASSIGNOR TO SAID SLAYTON.

ODOMETER.

SPECIFICATION forming part of Letters Patent No. 430,443, dated June 17, 1890.

Application filed January 3, 1890. Serial No. 335,790. (No model.)

To all whom it may concern:

Be it known that we, AUGUSTUS W. SLAYTON and FRANK. J. REINHOLD, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Odometers; and we 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, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to a new and useful improvement in odometers or analogous registering devices; and it consists of the combinations of devices and appliances hereinafter specified and claimed, and more fully illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section showing parts in elevation. Fig. 2 is a similar view at right angles to Fig. 1. Fig. 3 is a cross-section on the line $x x$, Fig. 1; and Fig. 4 is a cross-section on the line $y y$, Fig. 1.

The object of our invention is to provide an odometer or analogous registering device which shall be simple, efficient, and economical.

We carry out our invention as follows:

A represents an inclosing case of any desired form, and which may be provided with arms $A' A^2$, preferably having a jointed engagement, as shown at $a a'$, with a shoulder A^3 , engaged with the case or with a collar embracing the case. At their outer ends said arms may be provided with suitable thumb-nuts $a^2 a^3$, by which the device may be tightened upon a spoke B or other part of a wheel. Any suitable fastening device may be employed for engaging the device in place. The thumb-nuts may be constructed to permit the engagement of a lock therewith. Within the case is a reciprocating plunger or tumbler C, suitably supported upon its extremities, as upon a disk D and head E, in such a manner as to allow the tumbler to drop back and forth toward one end and the other as the device is rotated by the wheel's revolution. While we do not limit ourselves in any

special manner, the tumbler may be provided with spindles $c c'$ adjacent to and penetrating the disk D, and with a spindle c^2 , penetrating a sleeve E' , engaged with the head E, said spindles having a movable engagement with said disk and sleeve. The disk D and head E are connected by scale-bars $F F'$ and by a rotatable screw-threaded shaft G. An indicator H is operated by said shaft to move upon said scale-bars as the shaft is rotated. A very simple way of constructing and operating said indicator is to form it of a band of spring metal bent to embrace the scale-bars, and having its extremities engaged with the screw-shaft, as shown. In its normal position the indicator so engages the shaft as to be moved thereby. When at the end of its run it is desired to move the indicator back to the starting or zero point, by simply pressing inward upon the sides of the indicator where it laps over the scale-bar the extremities may very readily be disengaged from the screw-shaft, so that it can be moved back to the required point. To operate the screw-shaft, the head E is provided with bearings e , supporting a worm-shaft I, provided with a toothed or ratchet wheel J. A suitable gear K, mounted upon the screw-shaft, engages said worm and is operated thereby. The tumbler is provided with a pawl L, arranged to throw the ratchet-wheel J as the tumbler drops in the corresponding direction, while the drop of the tumbler in the opposite direction retracts the pawl ready for another start or throw. A spring M keeps the pawl in contact with the ratchet-wheel, insuring its operation. An additional pawl N engages the ratchet-wheel to prevent its retraction.

The end of the screw-shaft opposite the gear mechanism we prefer to construct smooth, as shown at G' , so that the indicator, when it has reached the end of its stroke, may ride thereupon without wear.

The scale-bars may each be numbered differently from the other, if desired, to correspond with different sizes of wheels in ordinary use.

A cap Q is engaged upon the head E to close the end of the case.

The interior devices may be secured in the case in any desired manner. A very simple method is to recess the head, as shown at *q*, a latch *R*, having a jointed engagement upon the shoulder *A*³, penetrating the case and entering said recess. By leading this latch across the face of the shoulder, as shown, and engaging its free end upon the adjacent arm *A'* it is evident that when the device is secured upon a wheel it will be impossible to disengage the interior mechanism from the case without first removing the entire device from the wheel.

What we claim as our invention is—

1. In combination, the screw-threaded shaft, the ratchet-wheel geared with said shaft, a reciprocatory tumbler provided with a pawl to operate said ratchet-wheel, substantially as set forth.
2. In combination, a scale-bar, a screw-threaded shaft carrying an indicator, a ratchet-wheel geared with said screw-threaded shaft, and a reciprocatory tumbler arranged to operate said ratchet-wheel by gravity, substantially as set forth.
3. In combination, a scale-bar, a screw-threaded shaft carrying an indicator, a ratchet-wheel geared with said shaft and provided with a pawl *N*, and a reciprocatory tumbler provided with a spring-pawl to operate said ratchet-wheel by gravity, substantially as set forth.

4. In combination, a disk *D* and head *E*, united by one or more scale-bars, a screw-threaded shaft carrying an indicator, a ratchet-wheel geared with said shaft, and a tumbler having a movable engagement with said disk and head and arranged to operate said ratchet-wheel by gravity, substantially as set forth.

5. The combination, with an inclosing-case, of a reciprocatory tumbler, a ratchet-wheel operated by the gravity of the tumbler, and a screw-threaded shaft operated by said wheel and carrying an indicator, substantially as set forth.

6. The combination, with an inclosing-case provided with a shoulder or band *A*³, of interior registering mechanism, a latch engaging said registering mechanism and located upon the face of said shoulder or band, and fastening devices for securing the case upon a support, the construction being such that the latch cannot be disengaged when the device is fastened to its support, substantially as set forth.

In testimony whereof we sign this specification in the presence of two witnesses.

AUGUSTUS W. SLAYTON.
FRANK. J. REINHOLD.

Witnesses:

N. S. WRIGHT,
CHAS. F. SALOW.