M. T. RIDOUT.

Odometer.

No. 32,000. Patented April 9, 1861.

Fig. 2

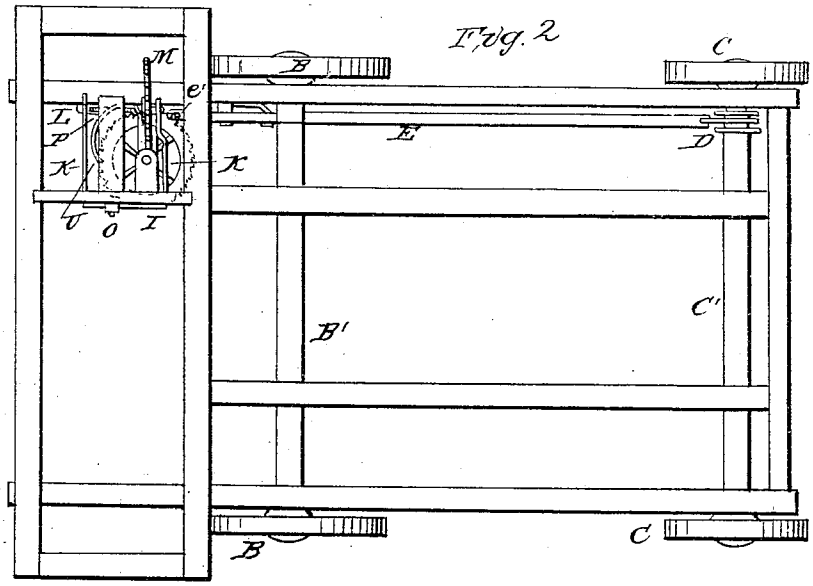
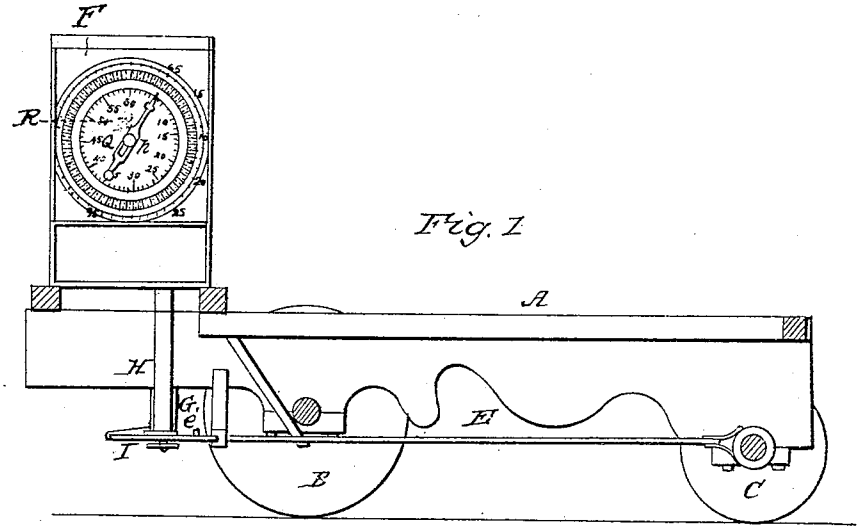


Fig. 1



Witnesses
Octavius Knight
James H. Gurley

Inventor
M. T. Ridout
By Munn & Co
Attys

UNITED STATES PATENT OFFICE.

MOSES T. RIDOUT, OF MILWAUKEE, WISCONSIN.

RAILROAD-INDICATOR.

Specification of Letters Patent No. 32,000, dated April 9, 1861.

To all whom it may concern:

Be it known that I, MOSES T. RIDOUT, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and Improved Railroad-Indicator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a longitudinal section of a truck with my invention attached. Fig. 2 is a plan of the same.

Similar letters of reference indicate corresponding parts in both figures.

My invention consists in the combination and arrangement of a reversible dial plate and hand with its actuating mechanism attached to a locomotive engine as hereinafter more fully explained.

A, represents the framing of a locomotive engine, mounted in the usual manner upon trucks at the forward end, and driving wheels at the rear end.

B, are driving wheels and C, the truck wheels secured respectively upon axles B′, and C′.

D, is an eccentric fixed upon axle C′, and communicating motion to a ratchet wheel and mechanism hereafter more fully described through a rod E, and dog *e*′, attached to the same.

F, represents a casing similar to that of a clock only the front of which is shown in the drawing. In the upper part of the said casing, an index or dial plate is fixed.

G, is a bent arm or knee attached to and projecting downwardly from the framing, and forming a bearing or step for the lower end of the vertical shaft H, which has attached thereon near its lower end a ratchet wheel I, provided with thirty-five teeth. The upper end of the said shaft is journaled in a bracket J, attached to the interior of the casing F.

K, K, are arms or brackets also attached to and projecting from said casing and forming journal bearings for the ends of worm shaft L.

M, is a wheel secured upon the worm shaft L, and provided with thirty-six cogs which mesh into a worm cut on the upper end of the vertical shaft H.

N, is an upright or standard, into which the rear end of the arbor O, is pivoted the opposite end of the said arbor being journaled in the casing F.

P, is a wheel, secured upon arbor O, and provided with thirty cogs which mesh into worm shaft L.

Q is a reversible index or dial plate, on each side of which are inscribed four concentric circles. The inner and outer circles of the said dials are divided in sixty parts each representing so many miles. The inner circle of dial No. 1, is marked with numerals from one to sixty, and the outer circle of the same from sixty to one hundred and twenty. In the spaces between the first and second circles are characters which represent the various places on the road for the first sixty miles, in the following manner: S, station; ⁄, road crossing; ⌸, bridge; ⁄, up grade; \, down; ⌐ ⌐, embankment; ⊙, tunnel; ⫞⫞, railroad crossing; ⌒, curve, etc. The space between the second and third circles is divided into fractions of miles, and the characters representing the various places on the road are placed adjacent thereto to show their extent and exact locality. The space between the third and fourth circles, is marked after the same manner as that between the first and second circles. In dial Number two the relative positions of the characters and numerals are precisely the same as those of Number one though they run in a reverse direction.

R, is a hand or index pointer, provided with a slot where it fits the end of the arbor O, the object of which is to allow it to be adjusted or extended after traversing the first circle, so as to point to the numerals on the outer circle. The said hand or pointer fits the ends of the arbor O, and is securely fastened thereon by a nut *b*, pressing it against a shoulder on the arbor.

V, is a spring detent or pawl fastened to the downwardly projecting arm G, and working in conjunction with the ratchet wheel I, to prevent any recoil or backward movement of the same.

Operation: The engine being put in motion causes the eccentric secured upon the forward truck of the engine to impart an intermittent motion through eccentric rod and dog to the ratchet wheel I, causing it to move one tooth at each revolution of the truck wheels. The first wheel having thirty-five teeth makes one revolution to thirty-five revolutions of the truck wheels.

The second wheel having thirty-six cogs ---------- makes one revolution to thirty-six of the first wheel as it moves but one cog to each revolution of the first. The third wheel having thirty cogs makes one revolution to thirty of the second, thus requiring the truck wheels to make thirty-seven thousand eight hundred revolutions to move the arbor and hand once around.

Provided the truck wheels are thirty two inches in diameter the engine will need to travel sixty miles to make one revolution of the hand on the dial. We will suppose the road to be more than sixty miles and less than one hundred and twenty. After the engine has passed over the first sixty miles of the road the nut fastening the hand on the arbor is loosened and hand raised so as to cover the characters on the inner circles by the wings on the hand, and point to those on the outer, they representing a continuation of the road commencing on the outer circles at the same point and numerals left off on the inner.

By means of this device the hand will point out on the dial the exact locality and distance traveled by the engine up to one hundred and twenty miles. To return, take off the hand and reverse the dial and place it in position again. Now put the hand in its place on the arbor so that it will point to the characters on the inner circles on which the characters are reversel from those on dial Number one. The last represented on the outer circle of dial Number one being the first on the inner circles of dial Number two so that when the hand has made one revolution on the said dial, sixty miles of the road have been retraced after which raise the hand as before, so as to point to the outer circles and make one more revolution which brings you back to the starting point.

If required to indicate more miles than the extent of the dial, other dials can be added. The mechanism of the indicator is so constructed that it runs equally well either way.

What I claim as my invention herein, and desire to secure by Letters Patent: is—

The described combination and arrangement of reversible dial plate, and hand, with its actuating mechanism substantially as set forth.

MOSES T. RIDOUT.

Witnesses:
SELA D. MATHIUS,
WILLIAM EVEN.