

H. M. ADAMS.
CAR INDICATOR.

APPLICATION FILED JULY 22, 1909.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.

953,311.

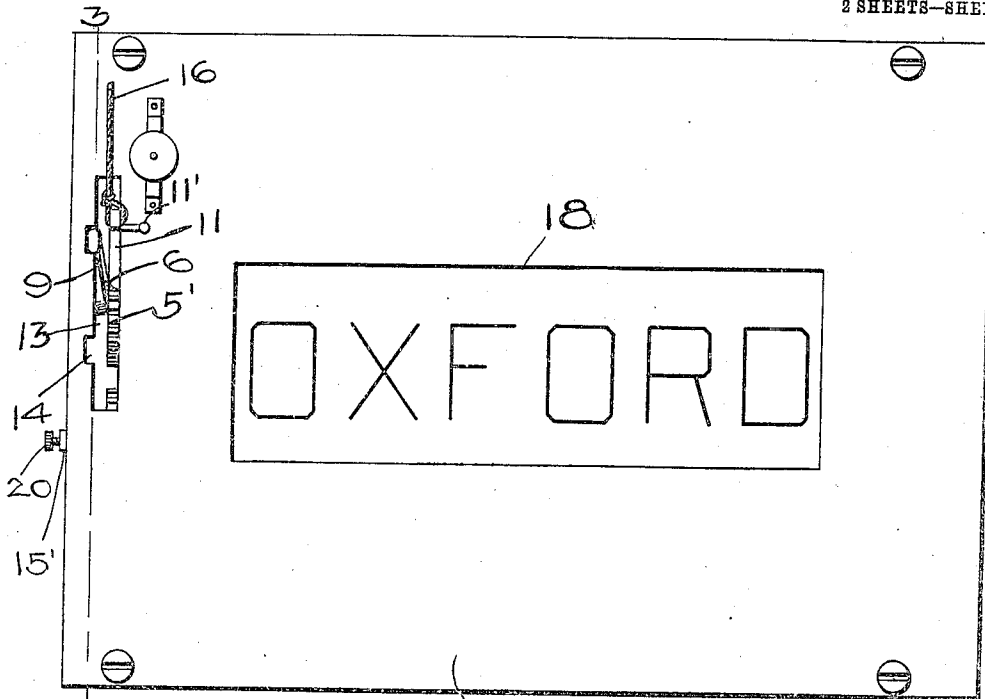


Fig. 1

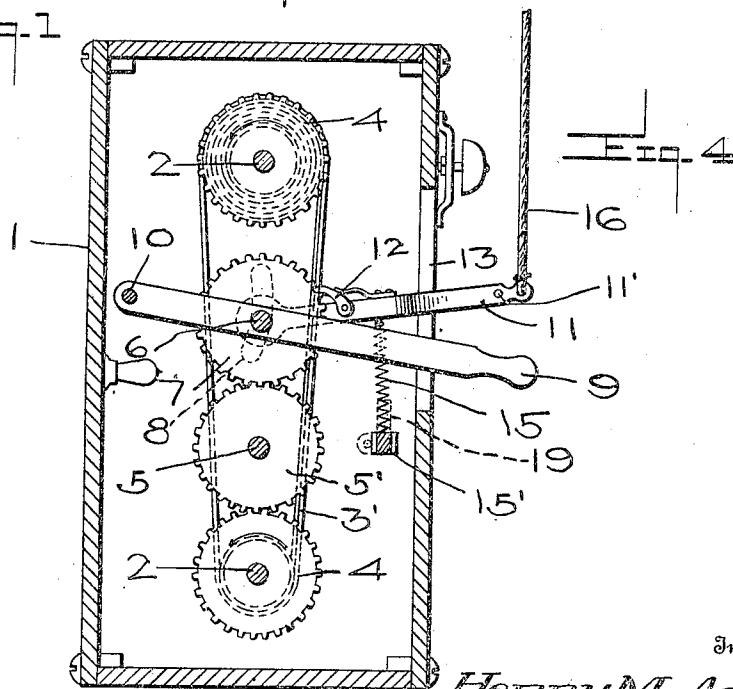


Fig. 4

Inventor

Henry M. Adams

Witnesses

Jos. H. Collins
Ed. R. Luby

By *Woodward & Chandler*

Attorneys

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2 SHEETS—SHEET 2.

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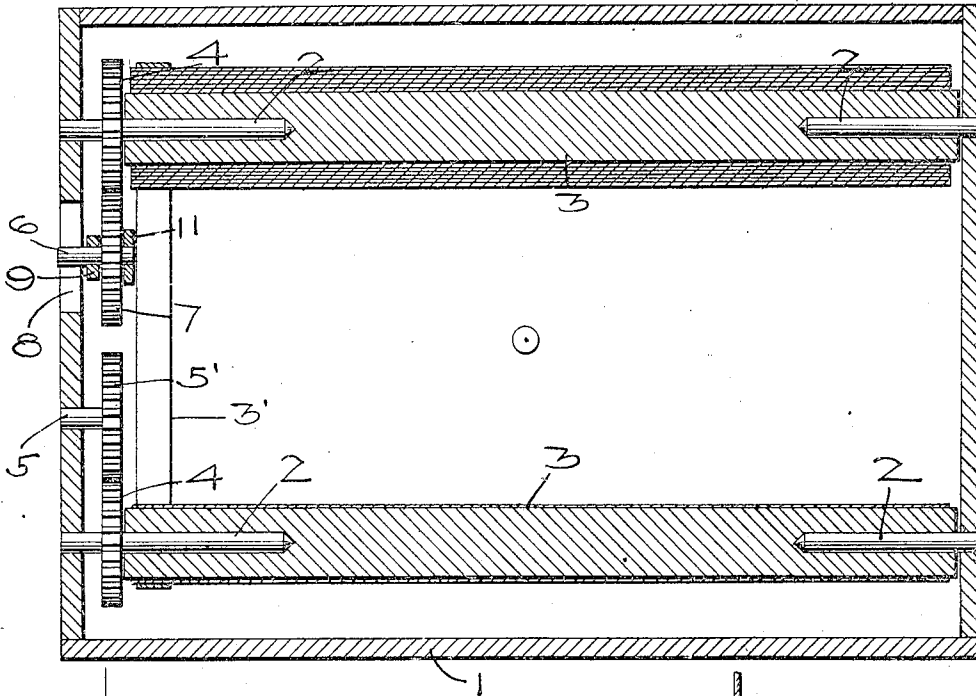


Fig. 2

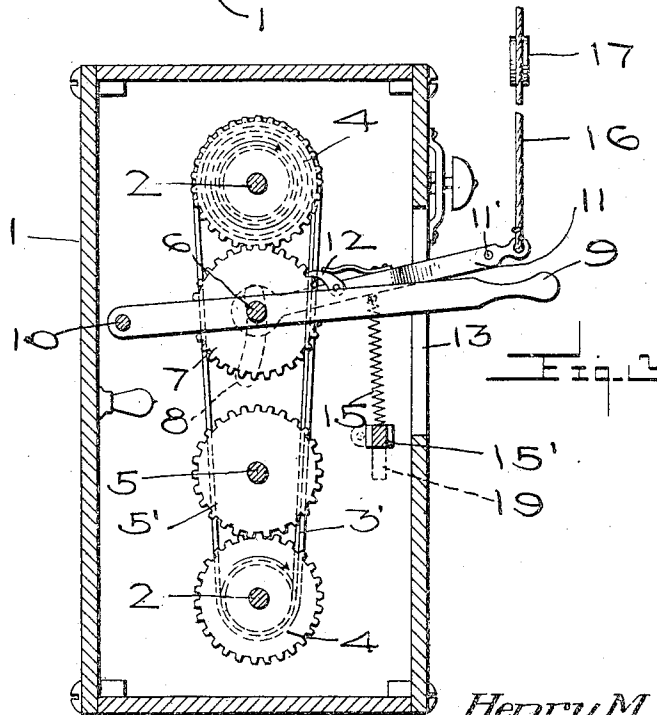


Fig. 3

Inventor

Henry M. Adams

By *Woodward & Chandler*

Attorneys

Witnesses
J. Collins
E. A. Lusby

UNITED STATES PATENT OFFICE.

HENRY M. ADAMS, OF OXFORD, NEBRASKA.

CAR-INDICATOR.

953,311.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed July 22, 1909. Serial No. 508,946.

To all whom it may concern:

Be it known that I, HENRY M. ADAMS, a citizen of the United States, residing at Oxford, in the county of Furnas and State of Nebraska, have invented certain new and useful Improvements in Car-Indicators, of which the following is a specification.

This invention relates to a new and useful improvement in car indicators, and is designed to be suspended in street or railway cars, whereby the next street or station at which the car will stop shall be indicated thereby.

Another object is to provide a suitable indicating belt, either end of which is secured to rollers revolubly mounted within the indicator so as to successively indicate to the passengers, the names of the various streets upon the route traveled by the car.

Another object is to provide new and novel means for rotating the rollers, together with suitable mechanism whereby the same may be held against retrograde movement due to the vibratory motion of the car.

A still further object is to provide novel means whereby the rotation of the rollers may be reversed during the return trip of the car.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the general views, Figure 1 is a front elevation of my indicator. Fig. 2 is a longitudinal, vertical section therethrough. Fig. 3 is a vertical transverse section along the line 3—3 in Fig. 1. Fig. 4 is a similar view illustrating the position of the various parts when the rotation of the rollers has been reversed.

Referring to the drawings, 1 indicates the indicator casing, in which are mounted upon the shafts 2, between the ends of the casing 1, the rollers 3. Secured upon the shafts 2, between one end of the rollers and the end wall of the casing, are the gear wheels 4.

Revolubly mounted upon a sub-shaft 5, in the end of the casing 1, is the gear wheel 5', which is disposed immediately above the lower gear 4 and is adapted to mesh therewith. This gear is an idler and is employed to impart the reverse rotary movement to the lower roller 3 through the medium of the gear 4, during the return trip of the car. Also mounted upon the sub-shaft 6, between the gear 5' and the upper roller gear 4, is the vertically movable gear wheel 7. The outer end of the shaft 6 projects through a slot 8 in the end of the casing 1. The shaft is adapted to be moved vertically in this slot by means of the lever 9, pivoted to the end of the casing as at 10. An arm 11 has its inner end pivoted upon the shaft 6, on the opposite side of the gear 7 to the operating lever 9. Carried by the arm 11 is a spring pressed pawl 12 adapted to be held in engagement with the teeth of the gear wheel 7, to prevent retrograde movement thereof due to the vibration of the car to which the indicator is attached. The outer end of the operating lever 9 and the arm 11 project through a vertical slot 13 adjacent one end of the casing 1. The slot 13 is enlarged as at 14 to receive the end of the lever 9, to retain the same against vertical movement upon the actuation of the gear wheel 7. A contractile spring 15 has one of its ends secured to the lower edge of the arm 11, the other end thereof being suitably secured to the end of the casing 1. To the outer extremity of the arm 11 the operating cord 16 is attached, and extends upwardly therefrom, passing over a pulley 17, suitably secured to the woodwork of the car. A suitable opening 18 is provided in the front of the casing 1, so that the various names of the streets, printed or otherwise designed upon the indicating belt, may be readily seen by the passengers of the car.

From reference to Fig. 3 it will be seen that when the arm 11 is moved upward, the pawl 12 will engage with the teeth of the gear 7 and rotate the same, whereupon the gear 4 and the upper roller 3 will likewise be rotated in the direction indicated by the arrow. Thus the belt carried by the roll 3 will move downward, and the name of the street or station at which the car will next stop may be plainly read thereon. When the car has arrived at the end of the route, and starts upon the return trip, the pivoted lever 9 is moved downward in the slot 13 to

a position opposite to the enlargement 14, adjacent to the lower end thereof. The pivotal connection 10 of the lever is such that it will allow of a slight lateral movement of the same, so that the lever may be moved into the enlargement of the slot and effectually held therein from further upward movement. When the lever is in this position the gear wheel 7 will mesh with the idler 5' whereby rotary movement will be imparted to the lower roll 3 through the gear 4 carried by the shaft of said roll, which, as before stated, is at all times in engagement with the idler gear 5'. As illustrated in Fig. 4, when the gear 7 has been moved to this position, the lower roll 3 will rotate in the direction indicated by the arrow, and the indicating belt will be rewound thereon, whereby the various designating characters appear in the opening 18 in the reverse order to which they were previously displayed.

It will, of course, be understood that the movement of the arm 11 is such that upon each operation of the same the indicating belt will be moved the requisite distance to properly display the name of the street at which the car will make its next stop.

It will be seen that the indicator may be quickly operated by means of the cord 16 which passes over the pulley 17 and extends the entire length of the car, so as to be within convenient reach of the conductor, irrespective of the point at which he may be stationed when it is desired to change the name of the street displayed by the indicator.

From the foregoing it will be noted that all of the operating mechanism of my improved indicator is inclosed within the casing 1, excluding all dirt, dust or other foreign matter which might be liable to collect thereon and seriously interfere with the operation of the various parts. It will also be understood that the contractile spring is so formed and secured to the end of the casing, that the contractile force thereof may be regulated at the will of the operator. To obtain this end, I have secured the lower extremity of the spring 15 to a block 15' which is slidably mounted in the slot 19, in the end of the casing 1. This block may be adjusted to any position in the slot 19, and held in this position by means of a suitable set screw 20, which is inserted into the block 15' and bears against the exterior of the end of the casing 1. Thus when the lever 9 is moved upwardly in the slot 13 to reverse the rotary movement of the roller 4, the block 15' will also be moved upwardly in the slot 19, so that the proper contractile force of the spring may be secured to return the arm 11 to its normal position. An incandescent electric bulb may be disposed within the interior of the casing and connected to a suit-

able source of electric supply, whereby the indicator may be illumined so that the designations of the various streets may be readily read.

As but few parts are employed in the construction of my improved indicator, it will be obvious that the same can be very inexpensively manufactured. The operation of the mechanism is such that an indicator is provided which is absolutely positive in its actuation, so that there is no possibility of the rolls which carry the indicating belt failing to rotate to properly display the names of the various streets or stations.

A lug 11' is integrally formed with the arm 11, and extends laterally therefrom. This lug is adapted to contact with a bell which is secured to the front of the indicator casing, upon the upward movement of the arm to indicate the name of the next succeeding station or stop of the car. The attention of the passengers will thus be attracted to the indicator, and the name of the station called to their attention. To effect the proper winding of the indicating band, an endless elastic belt 3' is disposed upon the indicating belt, which is adapted to impart simultaneous rotative movement to the rollers in a common direction when the lever 11 is operated.

What is claimed is:

1. An indicator comprising a casing, having a guide slot and a second guide slot therein a block slidably mounted in the second slot, rolls, revolubly mounted in said casing, an indicating belt having its ends secured to said rolls, gears carried by the roller shafts, an idler gear mounted in said casing between the roller gears and engaging one of them, a gear vertically movable in said casing into and out of engagement with said idler gear and one of said roller gears, a reversing lever pivoted to said casing, the outer end of said lever extending through the first named slot in said casing, said lever being secured to the movable gear shaft, means for confining said lever in said slot against vertical movement, an arm having one of its extremities pivoted on the movable gear shaft, the other end of said arm extending through the first named guide slot in said casing, an operating cord attached to the outer end of said arm, a spring pressed pawl pivotally mounted upon said arm and adapted to impart rotary movement to said movable gear, a contractile spring secured to said arm, the lower end of said spring being secured to the said slidably mounted block in said casing whereby the contractile force of said spring may be regulated.

2. An indicator comprising a casing having a guide slot, a second guide slot and a vertical slot, a block slidably mounted in the second guide slot, rolls revolubly mounted in said casing, an indicating belt having

its ends secured to said rolls, gears carried
by the roller shafts, an idler gear mounted
in said casing between the roller gears and
engaging one of them, a gear movable in the
5 said vertical slot in said casing adapted to
alternately engage said idler gear and one
of said roller gears, an operating lever piv-
oted to the end of said casing and secured to
said movable gear shaft, the other end of
10 said lever extending through the said slot
in the casing, an arm pivoted upon said
movable gear shaft and vertically movable
in the said slot in said casing, a spring
pressed pawl pivoted upon said arm and

adapted to impart rotary movement to said 15
movable gear, a contractile spring secured
to said arm and to the said block vertically
adjustable in the second slot in said casing,
and means for securing said block in its ad-
justed position, whereby the contractile force 20
of said spring may be regulated.

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

HENRY M. ADAMS.

Witnesses:

H. L. LEE,

WALTER DIVAN.