

974,763.

Patented Nov. 1, 1910.

2 SHEETS-SHEET 1.

Fig. 1.

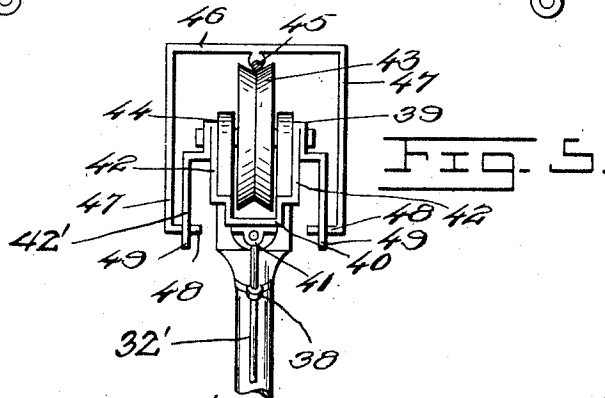
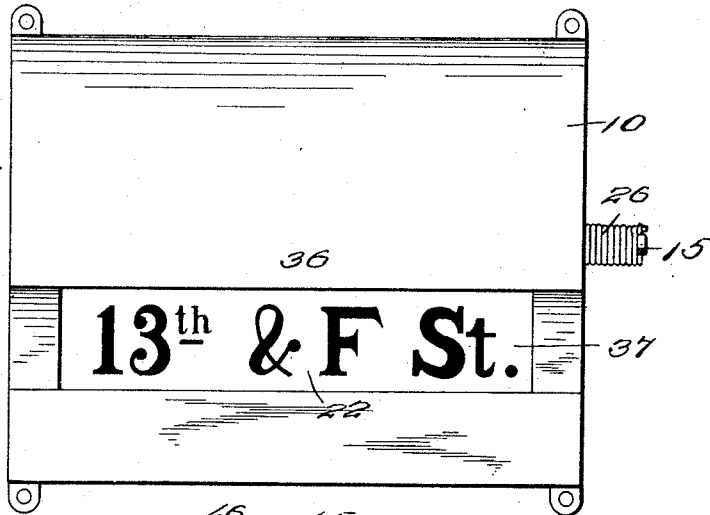
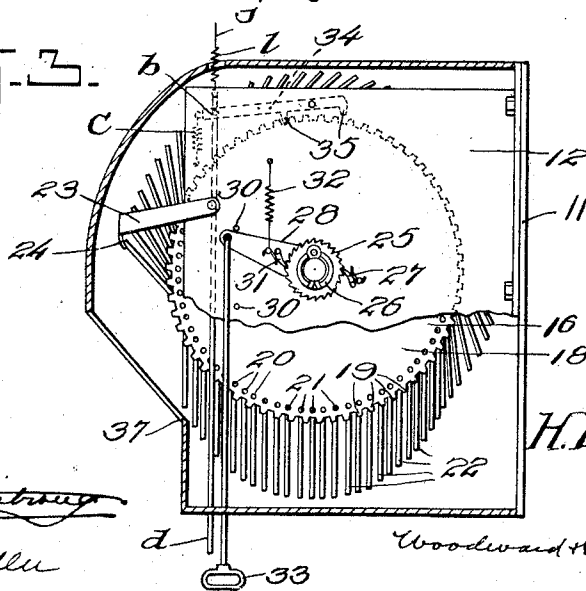


Fig. 2.



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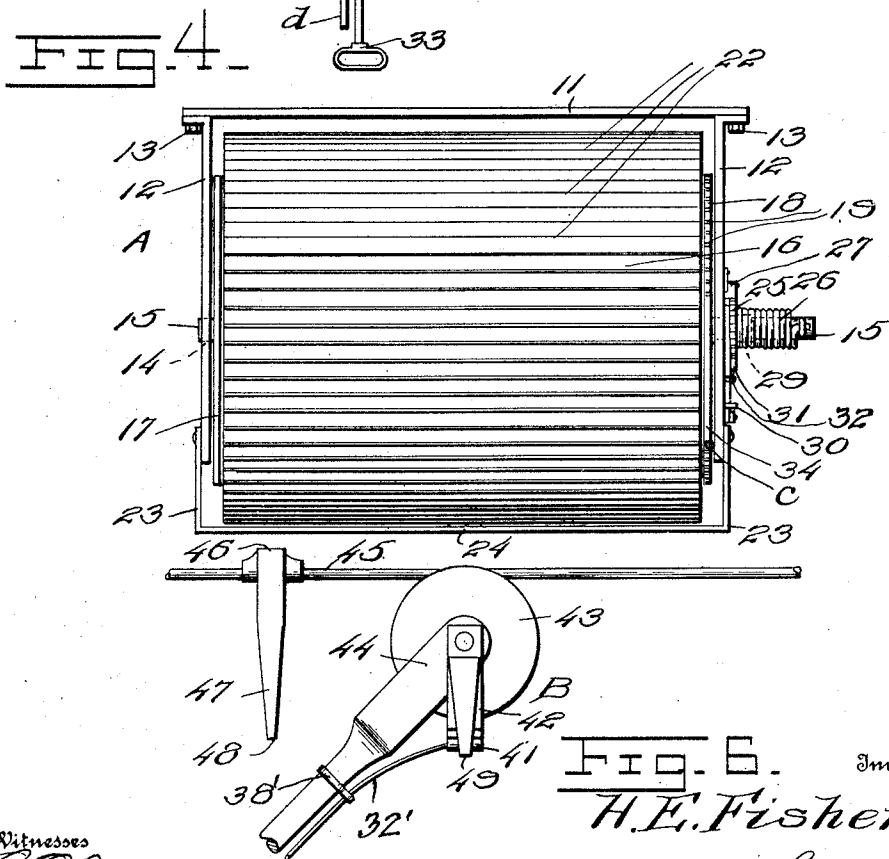
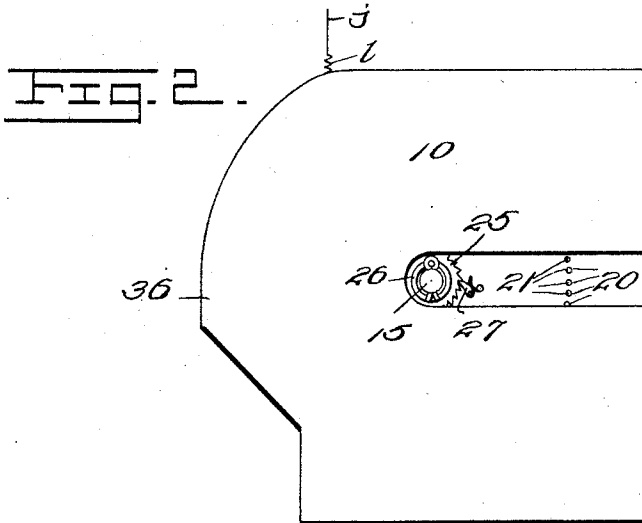
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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

HERBERT EDWARD FISHER, OF SAN FRANCISCO, CALIFORNIA.

STREET-INDICATOR.

974,763.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed January 11, 1909. Serial No. 471,665.

To all whom it may concern:

Be it known that I, HERBERT E. FISHER, a subject of the King of England, residing at San Francisco, in the county of San Francisco and State of California, United States of America, have invented certain new and useful Improvements in Street-Indicators, of which the following is a specification.

This invention relates to indicators, and more particularly to such a device adapted to indicate the routes and stops of street cars, and has for its object to provide such a device provided with an effective and novel operating means.

A particular object of the device is to provide an actuating mechanism adapted for incorporation in electric cars. In furtherance of this object it is purposed to provide a device adapted for engagement upon trolley poles, to coöperate with projections carried by wire supports.

Another object is to provide such a device which may be manufactured at extremely low cost and which will occupy but small space when installed upon a car.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims, and that any suitable materials may be used 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 several views, Figure 1 is a front view of the device, Fig. 2 is a side view of the device, Fig. 3 is a similar view with one of the retaining plates removed, Fig. 4 is a top view of the device, Fig. 5 is a front view of a trolley head with the tripping mechanism engaged thereon, and about to be engaged by an actuating member carried by wire supports, Fig. 6 is a side view of the matter shown in Fig. 5.

Referring to the drawings, there is shown an indicator including a casing 10 engaged detachably over the indicating mechanism A. This mechanism comprises a base plate 11 to which are secured end plates 12 disposed at right angles to the plate 11. The plates 12 have their inner edge portions turned laterally and perforated and secured

to the base plate 11 by means of bolts and nuts 13 as shown. The plates 12 are provided with registering bearings 14 receiving a shaft 15 therethrough carrying a drum 16 comprising circular members 17 and 18 secured to the shaft 15, the latter member having a series of peripheral ratchet teeth 19. The disks 17 and 18 are provided with spaced series of registering openings 20 adjacent their peripheries, and engaged detachably in the openings there are flexible shaft members 21 carrying indicator plates 22. The plates 22 comprise rectangular sheets of suitable material and normally tend to hang pendent from the shaft 21. A retarding yoke 23, comprising a rod having its opposite end portions bent in spaced relation is perforated and secured pivotally to the opposite plates 12 so that the plate 22 will spring thereapart, upon the rotation of the drum, the inturned projection of said yoke being adapted to engage the outer edge of the plates 22 and hold the same by its gravital weight, upon the pivot point thereof. The member 23 is provided with a pendent projection 24, centrally thereof, and by reason of its weight is brought into engagement with the outer edges of the plates 22. The projection 24 may be bent inward a trifle to engage the plates 22 more positively so that they will be held upwardly until pulled out of engagement with the retarder by the rotation of the drum 16. It will thus be seen that a portion of the plates 22 will always be held upwardly displaying clearly the face of one of the plates, upon which suitable characters or illustrations may be depicted.

The shaft 15 projects outwardly of the plate 12 adjacent the disk 18, and carries revolubly thereon an arm 28 having a boss 29 on its outer side carrying revolubly a ratchet member 25 as shown. The movement of the arm 28 is limited by means of spaced projections 30 carried by the plate 12, as shown. It will be noted that the shaft 15 projects considerably beyond the member 28 and is provided with a transverse passage adjacent its extremity through which there is engaged a cotter pin 26 receiving slidably therein, the end of a helical spring 26, the inner end of which is engaged with the ratchet 25 as shown. A spring pressed dog 27 carried by the plate 12 en-

gages the ratchet 25 to prevent rotation thereof in one direction. The arm 28 carries a similar dog 31, and is engaged by a spring 32 adapted to hold it yieldably at the upper limit of its movement. An operating handle 33 is suspended from the arm 28 to be engaged manually for oscillation of the arm 28 to apply tension to the spring 26 as will be subsequently indicated. There is an escapement lever 34, having engaging teeth 35 spaced equi-distant from its pivotal point and adapted to engage alternately with the ratchet teeth 19 of the disk 18. The lever 34 is provided with an extension *b* engaged by a spring *c* under tension to hold it normally at the lower limit of its movement. Carried slidably by the plate 12 and connected pivotally to the extension *b* of the lever 24, there is a vertical rod *d* projecting below the casing 10 for manipulation to be subsequently indicated. An operating connection *j* is connected to the upper end of the rod *c*, a resilient member 7 being interposed to prevent severe strain incident to its operation, which will be subsequently described.

It will be noted that the casing 10 is provided with an outwardly offset portion 36, below which there is an opening 37, the edges of which are disposed to lie flush with the face of one of the members 22 when pendent from the drum 19 as shown in Fig. 3. Any legend or other outline upon the plate 22 may thus be easily observed through the opening 37.

Carried upon the trolley pole 38, there is an actuating member 39, formed of sheet material, stamped to present a central yoke portion 40 having a pendent perforated ear 41, and having its opposite end portions turned downwardly against the spaced arms 42 of the yoke, turned outwardly and then downwardly again at 42' in spaced relation with the arms 42, said downwardly extending portions 42' projecting some distance below the yoke 40 for a purpose to be subsequently indicated. The upper extremities of the arms 42 and the downturned portion are perforated, and engaged pivotally either upon the axle of the usual trolley wheel 43, or upon suitable trunnions carried by the trolley harp 44.

Carried by the trolley wire 45 at the point at which it is desired to operate the indicator, there are trip yokes 46, comprising spaced arms 47 having inwardly turned portions 48 adapted to engage the outer end portions 49 of the actuating member 39 of the mechanism B, carried by the trolley pole 38. The operating bar 32' for transmitting motion from the actuating mechanism B to the indicator mechanism A is extended through suitable guides 38' upon the trolley pole, as more particularly shown in Fig. 5 of the drawings and is engaged with the

ear 41 as shown. It will thus be seen that when the arms 49 are engaged by the member 48, the member *j* will operate the lever 34 and expose a new plate 22 in position as above described.

It is apparent from the above that an effective and simple indicator is provided which may be manufactured at a low cost, and which will involve a minimum of expense for installation.

The device is adapted to be incorporated upon electric cars of the type already in use, and the actuating mechanism B may be incorporated upon the usual type of trolley pole.

It will be apparent that by means of the handle 33 tension may be produced in the spring 26 between the shaft 15 and the ratchet 26 tending to rotate the drum 16. By pressing upwardly on the base of the rod the escapement member 34 may be operated to allow rotation of the drum to a proper point, either for starting or to correct errors in the movement of the car, or to accord with change of route.

The plates 22 may be removed and replaced by flexing them together with the shaft 21, which allows sliding disengagement of the ends of the shaft from the openings 20.

What is claimed is:

1. An indicator device comprising a base plate, end plates disposed at right angles thereto and having laterally turned edged portions secured against the base plate, said end plates being provided with registering perforations, a shaft revoluble in said perforations, a drum mounted on said shaft, said drum having spaced end heads provided with registering series of spaced openings adjacent their peripheries, one of said heads having peripheral teeth, flexible shafts engaged slidably in the openings, indicator members pendent from said shafts, a retarding member carried by the plates and adapted to engage the outer edges of the indicator members, a ratchet wheel mounted on the shaft, a pawl carried by one of the end plates and engaged with the ratchet teeth to prevent rotation thereof, a spring connected to the ratchet wheel and shaft for rotating said shaft and drum carried thereby, a lever pivotally mounted on said shaft, a dog carried by said lever and in engagement with the teeth of the ratchet wheel, to impart rotation thereto upon movement of the lever, an operating lever pivoted upon one of said plates, said operating lever being provided with projections at either side of its pivot point, and being so disposed that one of said projections will engage with said teeth of one head, means for holding the lever in one position, normally in engagement with the peripheral teeth of said head, means for moving said

lever out of operative engagement and means for moving the first named lever against the action of the spring.

2. In a device of the class described, the
5 combination with an indicator having an oscillating actuating member, of a trip member comprising a yoke member having spaced arms and a bight portion and adapted to be pivoted by the extremities of its
10 arms upon a trolley harp, and carrying spaced outwardly off-set trip arms extending downwardly therefrom, downwardly and inwardly extended trip members adapted for engagement upon trolley wire supports to engage said trip arms, and operative connections between the bight portion of the yoke and the oscillating member of the indicator.

3. An indicating mechanism of the class
20 described comprising the combination with an indicator normally under spring tension

and having an oscillating actuating member, of a trip member comprising a yoke having spaced arms and a bight portion, operative connections between said bight portion and
25 indicator mechanism and the actuating member thereof, said spaced arms being pivotally mounted upon the shaft of a trolley wheel, said arms being downturned and spaced from said bight portion, inwardly extended
30 trip members supported upon the trolley wire and adapted to engage said downwardly extended arms to communicate longitudinal movement to the operating connection.

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

HERBERT EDWARD FISHER.

Witnesses:

W. H. KLINE,
W. A. ROBERTS.