Jan. 19, 1926. 1,569,946

E. F. BUETTNER ET AL

ROUTE METER

Filed April 20, 1925

Fig. 1.

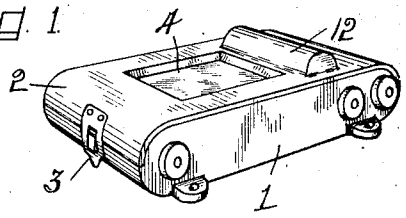


Fig. 4.

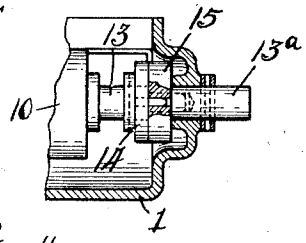


Fig. 2.

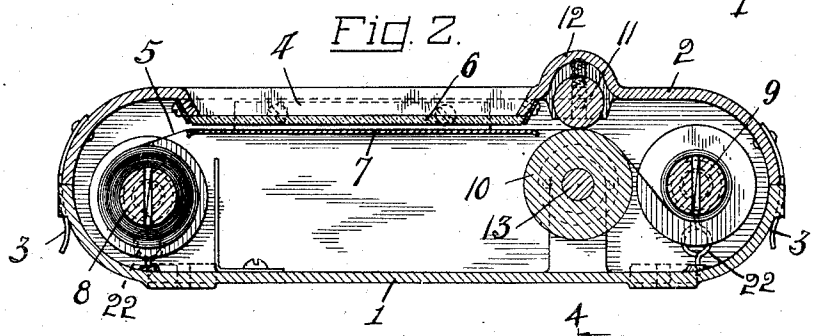
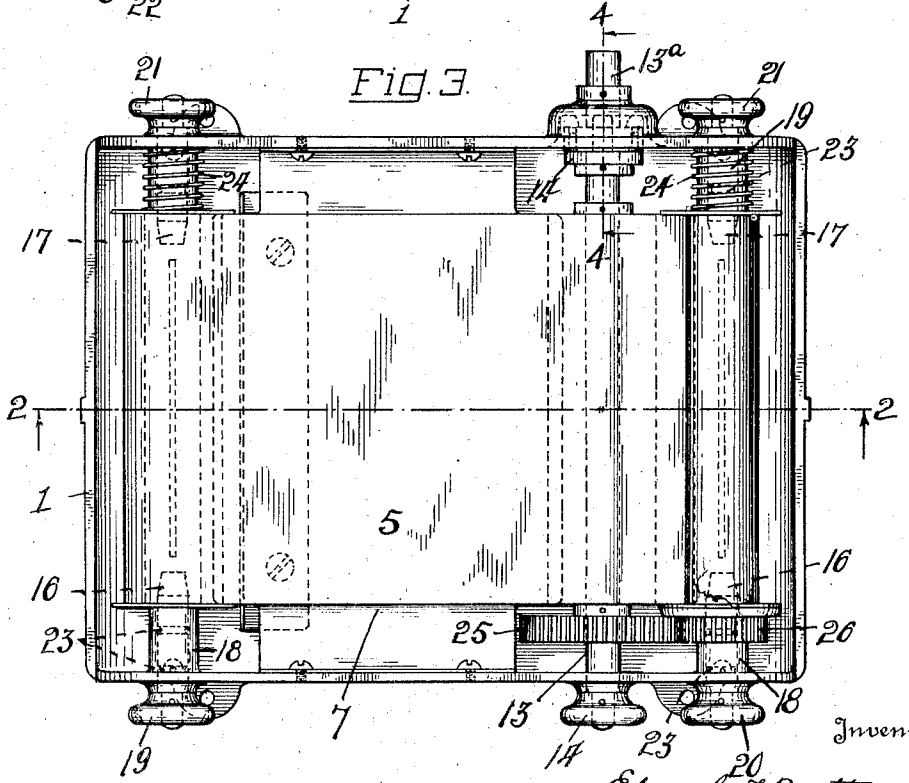


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ROUTE METER.

Application filed April 20, 1925. Serial No. 24,388.

To all whom it may concern:

Be it known that we, EDWARD F. BUETTNER, EMERY GANUN, and HENRY K. THROM, citizens of the United States, and residents of Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Route Meter, which invention is fully set forth in the following specification.

This invention relates to devices adapted to be connected to and be operated by means, such, for instance, as speedometer driving means, moving in accordance with the forward movement of an associated automobile or other vehicle to designate any particular route being traversed, and the object of the invention is the provision of a simple, improved and efficient device of this character.

The invention is fully described in the following specification, and one embodiment thereof is illustrated in the accompanying drawing, in which,—

Figure 1 is a perspective view of a device embodying the invention. Fig. 2 is an enlarged central longitudinal section thereof. Fig. 3 is an enlarged top plan view thereof with the cover member of the case removed, and Fig. 4 is a section on the line 4—4 in Fig. 3.

Referring to the drawings, 1 designates a case of rectangular form adapted to be secured to the instrument board or other convenient mounting part within an automobile and having a removable top portion or cover 2, which is held to the body of the case by snap fasteners 3 at its ends. The cover 2 is provided with an opening 4 through which the route tape 5 may be viewed as it travels lengthwise within the case below the window opening, as hereinafter described. The opening 4 is preferably closed by a glass plate 6 or other suitable transparent member. A guide plate 7 for the tape 5 is disposed within the case in slightly spaced relation to the lower edge of the window 4 and holds the tape in close proximity to the window throughout the length of the window opening.

A pair of rolls 8, 9 is mounted crosswise in the case 1, one roll within each end thereof, and the tape 5 winds from one to the other of these rolls, the roll 9, in the present instance, being the winding roll and the roll 8 the pay-out roll. The tape preferably unwinds from the top of the pay-out roll 8 and thence passes over a guide plate 7 and feed roll 10, and then down under the winding roll 9. A spring-pressed idler roll 11 is carried by the cover member 2 of the case partly within a raised portion 12 therein and acts to press the tape against the feed roll 10.

The shaft 13 of the drive-roll 10 is journalled at its ends in the sides of the case 1 and carries a knob 14 at one end without the case to facilitate hand-turning of the same and has its opposite end in releasable clutch connection with a drive section 13^a of the shaft, which section is adapted to be connected to any suitable driving means, as, for instance, to the speedometer drive means of an automobile so that the feed roll 10 will be driven in properly synchronized relation with the speedometer. The shaft section 13 has a clutch member 14 thereon, which is adapted to have engagement with a clutch member 15 on the shaft section 13^a (Fig. 4). The shaft section 13 is mounted for axial movements relative to the case 1 to permit a manual withdrawal of the clutch member 14 from engagement with its companion.

Each spool or tape roll 8 and 9 is detachably held at one end by a stub shaft 16 and at its other end by a stub shaft 17, which shafts are mounted for axial movements in bearings 18 and 19 projecting inwardly from the respective case sides. Knobs 20 and 21 are provided on the outer ends of the respective stub shafts 16 and 17 without the case to permit withdrawal of the shafts from engagement with the respective spools 8 and 9 when it is desired to remove the spools from the case or to reverse the positions of the spools. A spring 22 is anchored in the bottom portion of the case 1 for each stub shaft 16 and 17 and projects upwardly through a registering opening in the bottom of the respective shaft bearing and yieldingly enters a registering one of a pair of peripheral grooves 23 in the shaft and acts on the shaft to yieldingly hold it either in inwardly projected position or in released position with respect to its spool. A coiled expansion spring 24 is mounted around each bearing 19 and acts against the adjacent end of the spool to take up any play or looseness between the spool and bearings.

A gear 25 is mounted on the drive shaft 13, preferably at the opposite end of the roller 10, to the clutch 14, 15 and is in driving connection with a gear 26 on the stub

shaft 16 for the upper or winding tape roll. The gear 26 when rotated is intended to drive the stub shaft 16 on which mounted and through the adjacent tape spool, but is adapted to permit axial movements of the stub shaft therein. If it is desired to disconnect the driving connection between the gears 25 and 26 the shaft 13 is drawn outwardly, thereby moving the gear 25 laterally from engagement with the other, and the stub shaft 16 may then be turned by hand to effect the desired turning of the connected spool.

It is preferable to have a route printed on each side of the tape 5, so that after the use of the tape for traversing one route the tape may then be used for the other route without re-winding the tape from the spool on which it was wound in traversing the first route. To accomplish this, the tape winds on the winding spool in the reversed direction from which it unwinds from the other spool, as clearly shown in Fig. 2, and after the tape has been entirely wound on the winding spool the positions of the spools may be reversed and the outer free end of the spool connected across the plate 7 and feed roll 10 to the upper winding spool so that the unwinding of the tape from one spool and its winding on the other will be in the same relation as indicated in Fig. 2.

We wish it understood that our invention is not limited to any particular construction, arrangement or form of the parts as it is capable of different modifications and changes without departing from the spirit of the claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a route meter, a case having a window in its front side, spools removably mounted in spaced relation in the case from one to the other of which a route tape winds across said window, a guide within the case for holding a tape in adjacent relation to said window as it feeds across the same, a feed roll mounted within the case for engagement with the tape, a shaft carrying the feed roll and axially shiftable from without the case, a drive shaft section adapted to have connection with a driving source, a clutch for connecting said shaft and shaft section and releasable by an axial shifting of the first shaft and geared connection between said first shaft and the tape winding spool of the pair for driving one from the other, said connection being separable upon a clutch releasing movement of the first shaft to permit a manual turning of the winding spool.

2. A route meter having a case with a window in the front side thereof, a spool mounted in each end of the case from one to the other of which a route tape winds across said window, a pair of stub shafts engaging the opposite ends of each spool for carrying the same for rotary movements, said shafts being axially movable from without the case to release the spools, a sectional shaft mounted in the case sides and adapted to have connection with a driving source, one section extending across the interior of the case and being axially movable from without the case, a clutch connection between the shaft sections adapted to be disengaged by an outward axial movement of the movable shaft section, a feed roll mounted on the axially movable shaft section within the case for engagement with a tape winding from one to the other of the spools, a geared connection between said axially movable shaft and the winding spool for driving one from the other, said connection being disengaged by a clutch releasing movement of the movable shaft section.

In testimony whereof we have hereunto signed our names to this specification.

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