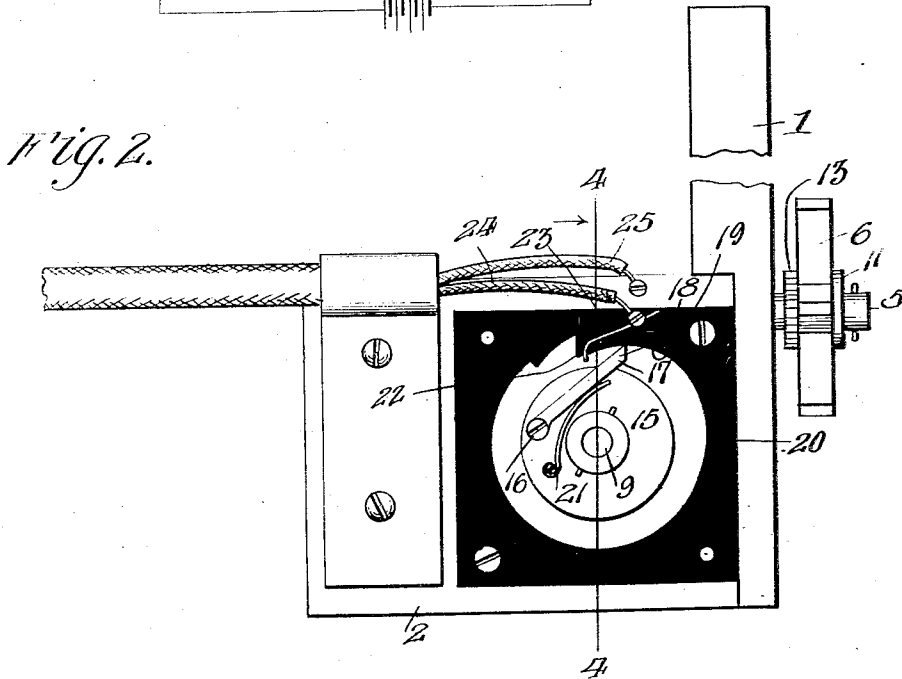
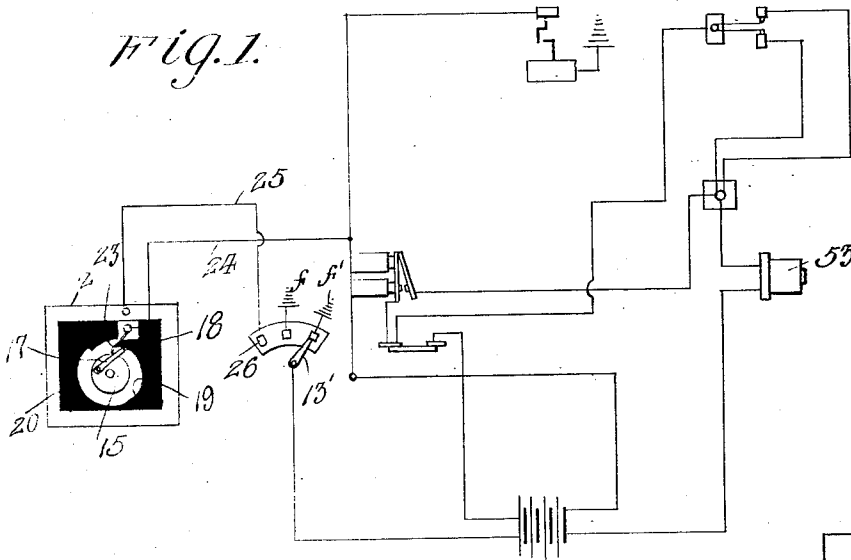


J. G. MacPHERSON.
 PERIODIC CIRCUIT CLOSER.
 APPLICATION FILED NOV. 2, 1911.

1,062,722.

Patented May 27, 1913.

2 SHEETS—SHEET 1.



WITNESSES

B. M. Spring.
 J. Kelly

INVENTOR

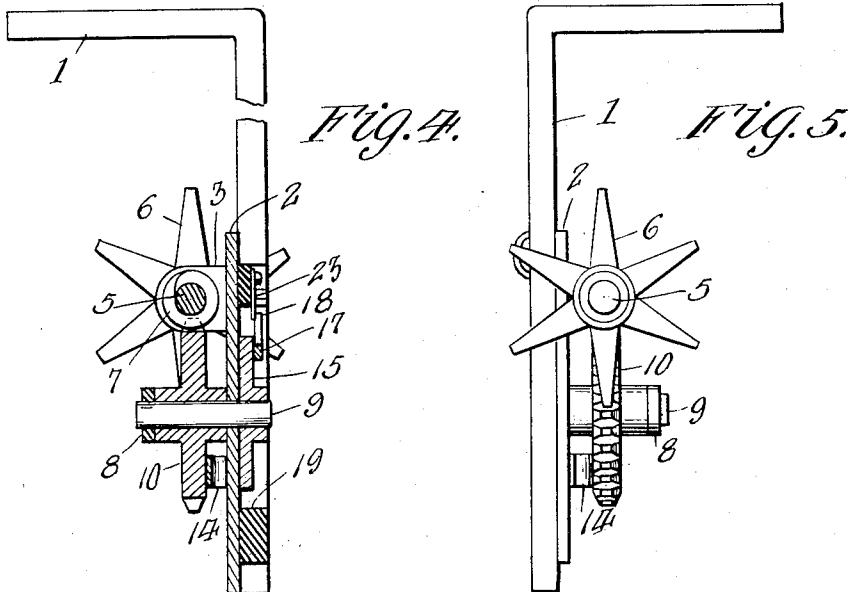
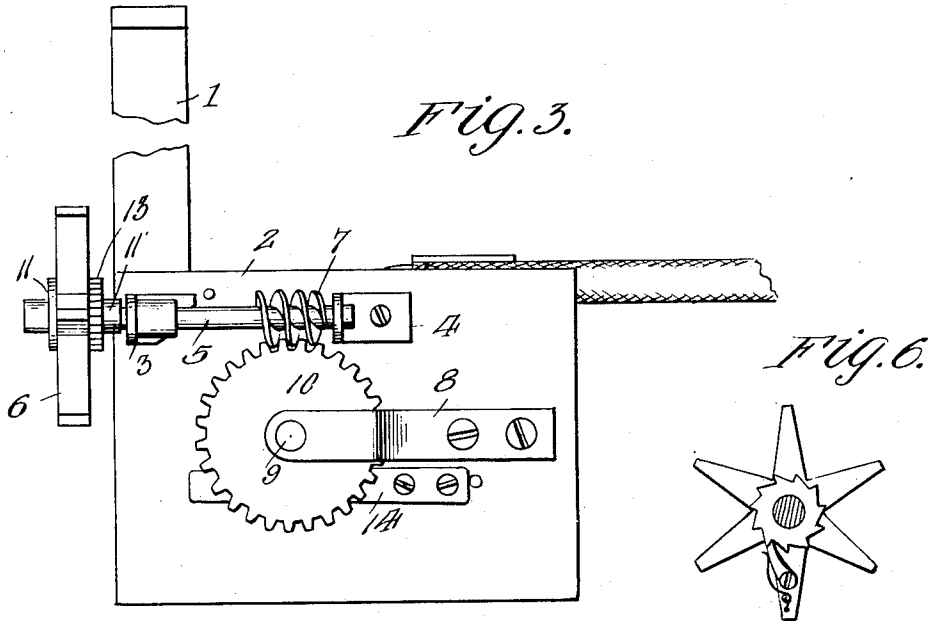
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WITNESSES

G. M. Sprung.
J. R. Kelly

INVENTOR

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UNITED STATES PATENT OFFICE.

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MACPHERSON COMPANY, INCORPORATED, A CORPORATION OF DELAWARE.

PERIODIC CIRCUIT-CLOSER.

1,062,722.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed November 2, 1911. Serial No. 658,251.

To all whom it may concern:

Be it known that I, JOHN G. MACPHERSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Periodic Circuit-Closers, of which the following is a specification.

The present invention relates to improvements in periodic circuit closers, the primary object of the invention being the provision of an attachment controllable from the traction portion of a vehicle, cab or taxicab, whereby the electromotor of a taximeter, such as that shown in my Patent No. 1,000,276, granted to me August 8th, 1911, may be actuated to record the tariff or charges for mileage as well as for time.

To carry the present invention into effect, there is attached to the axle or portion adjacent to the hub of the vehicle, a bracket carrying a star or gear wheel, which is rotated at all times during the rotation of the hub, this gear or star wheel being operably connected to a rotating electrical contact or switch, which once every full rotation thereof, will close a circuit to actuate the control electro-magnets, which in the apparatus set forth in the above patent actuate a visual indicator, and recording mechanism for a complete trip record and for printing a receipt of the fare paid by the passenger. Thus in addition to the two rates, or single time rate mechanism that I employ in the above patent, I have provided a mileage control attachment therefor to be set in electrical operation through the same medium that in said patent selects between running time and waiting time rate.

To clearly understand the invention, attention is invited to the accompanying drawings, in which:—

Figure 1 is a diagrammatic view of the electrical control circuit shown in the above mentioned patent with the additional means for operating the mechanism thereof for mileage rates. Fig. 2 is a top plan view on an enlarged scale of the circuit maker disposed near the rotating hub or wheel of the vehicle. Fig. 3 is a bottom plan view thereof. Fig. 4 is a section taken on line 4—4, Fig. 2. Fig. 5 is a detail view of the star or gear wheel's ratchet device. Fig. 6 is an end view taken from the star wheel side of the circuit maker.

Referring to the drawings, the numeral 1 designates the bracket which is connected to the axle or adjacent portion of a taxicab or other vehicle, in such position as to hold the plate 2, which carries and supports the mileage circuit maker.

The two brackets 3 and 4, carried by the plate 2, have journaled therein the shaft 5, carrying upon its outer end a star or gear wheel 6, while upon the portion thereof between the brackets 3 and 4 is a worm gear 7. The star or gear wheel 6, is as usual disposed to be engaged by a pin when a star wheel is used, or a gear when a gear is used, carried by the hub of a wheel, this not being shown as it is of such well known arrangement.

Another bracket 8, is connected to the underside of the plate 2, and journaled therein and also in the plate is the vertical shaft 9, having keyed thereon between the underside of the plate 2 and the bracket 8, a gear 10, which meshes at all times and is rotated by the worm gear 7. The star or gear wheel 6, is rotatably mounted upon the shaft 5, between the collars 11 and 11', which are keyed to said shaft, said star or gear wheel carrying a spring pawl 12, disposed to engage the ratchet teeth 13 formed upon the collar 11, so that the rotation of the star or gear wheel in a forward or registering direction will cause the pawl 12 to engage the teeth 13 and rotate the shaft 5, but any rotation in the reverse direction will not affect the shaft 5.

To prevent undue spinning or rotation of the gear 10 and consequently the shaft 9, a flat spring 14 is connected to the plate 2 and disposed to have a braking action upon the gear 10.

Keyed upon the upper end of the shaft 9, above the plate 2, is a metal disk 15, which has pivotally connected at 16, thereto, the inner end of a circuit maker or arm 17, the same having its free end 18, disposed to rub or engage the cam wall or cavity 19, of the block 20 of insulation, the spring 21, being connected to the disk 15 to be engaged by the arm 17 when its end is engaging the cam wall nearest to the disk, and more especially when it passes the shoulder 22, and is snapped by said spring after passing said shoulder 22, and has engaged the circuit contact or spring arm 23. By this means the circuit contact arm 23 is engaged once every revolution of the shaft 9, by the free

end 18 of the arm 17, and as one conductor wire 24 is connected to the arm 23, and the other conductor wire 25 is grounded to the plate 2, a circuit is closed to actuate the main control magnet 53, such as is illustrated in my before mentioned patent, and the indicating and recording mechanism is operated, similarly as when the circuit is made by the minute hand arbor of the clock shown therein.

As shown in the diagram, Fig. 1, the signal control switch 13', of the taximeter, may be swung to connect with grounds *f* or *f'*, for "running" or "waiting" time rates, or be moved to contact 26, to throw the conductors 24 and 25, so that when the circuit is closed by the contact 23 and lever 17, the electromagnet 53 is energized precisely the same, as in the above patent, the diagram shown herein being Fig. 12 of said patent with this mileage circuit maker connected therein.

By the employment of a circuit maker controlled by the hub or wheel of a vehicle to record distance traveled, the troublesome and unreliable flexible shaft, as generally used is dispensed with, and a much simpler

mechanism substituted. Also by this arrangement the chauffeur may according to the desires of the passenger, select the recording and operation of the taximeter, to record and charge for mileage or time, or this may be placed or taken out of the control of the chauffeur, the taximeter being set for time or mileage before leaving the garage.

What I claim, as new, is:—

A circuit maker and breaker control, having a body of insulation having a recess with a curved and a shouldered wall, a contact terminal projecting within the recess adjacent the shouldered portion of the wall and a rotary contact arm spring cushionedly mounted and guided by the wall of the recess to engage said contact terminal and be snapped thereaway from due to its spring and the shouldered portion of the wall of the recess.

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

JOHN G. MACPHERSON.

Witnesses:

J. R. KELLY,
G. M. SPRING.