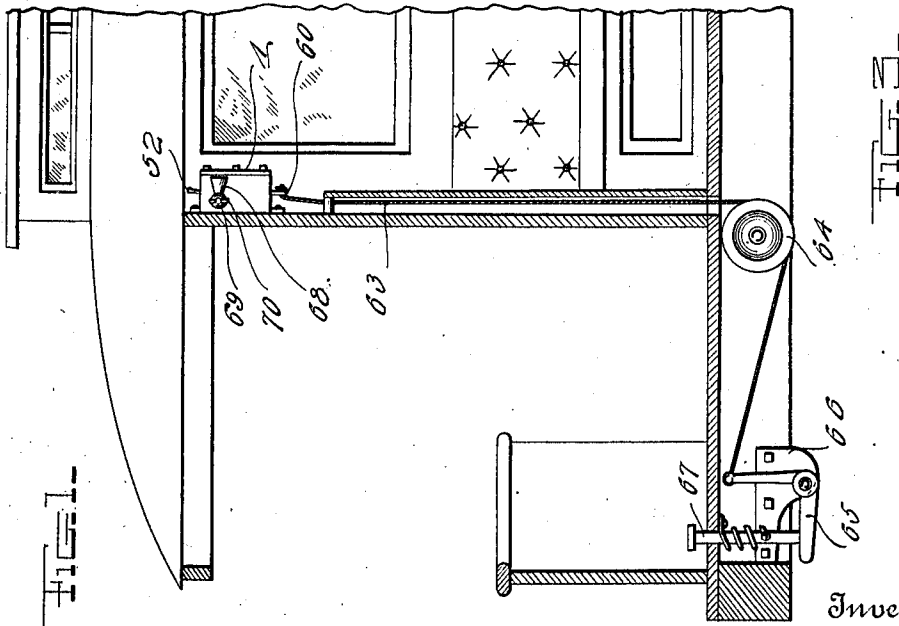
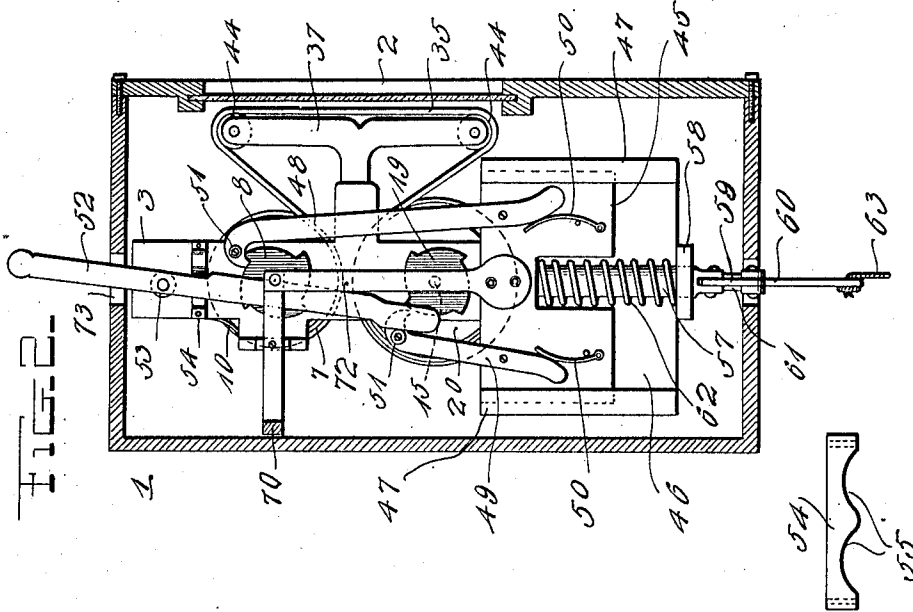


P. M. GULBRANTSON.
STREET INDICATOR FOR CARS.
APPLICATION FILED APR. 27, 1911.

1,026,980.

Patented May 21, 1912.

2 SHEETS-SHEET 1.



Witnesses
D. R. Pierce

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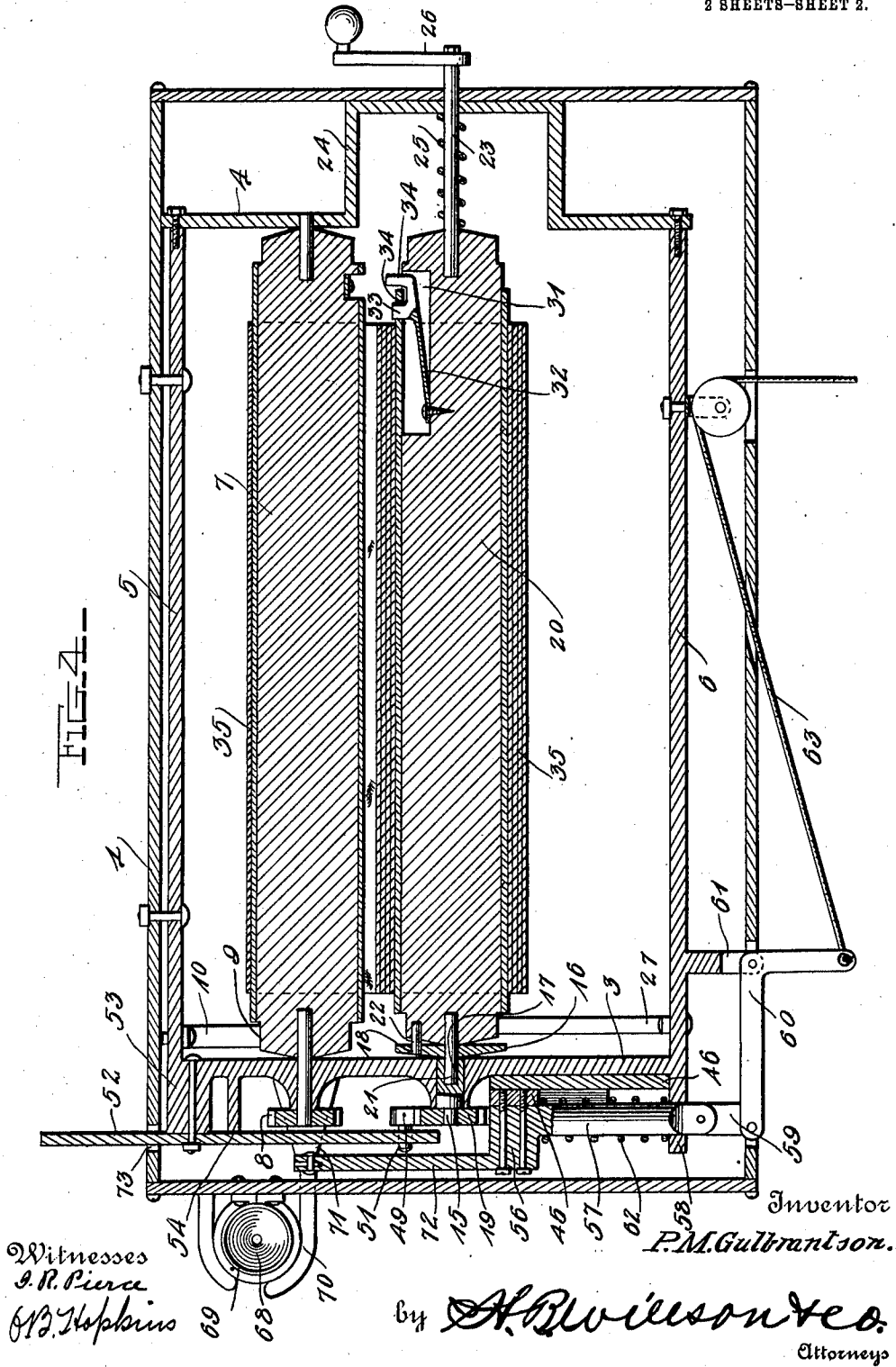
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2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

PEDER MARTIN GULBRANTSON, OF ROCKFORD, ILLINOIS, ASSIGNOR OF ONE-FOURTH TO KARL HAGLUND AND ONE-FOURTH TO ANTON HAGLUND, BOTH OF ROCKFORD, ILLINOIS.

STREET-INDICATOR FOR CARS.

1,026,980.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed April 27, 1911. Serial No. 623,658.

To all whom it may concern:

Be it known that I, PEDER M. GULBRANTSON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Street-Indicators for Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in street indicators for cars.

The object of this invention is to produce certain detailed improvements in a machine of this kind, to which end the invention consists of the novel features of construction, combination and arrangement of parts hereinafter more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is a vertical section through the front end of a street car showing the application of the invention; Fig. 2 is a transverse section through my improved indicator. Fig. 3 is a detail of the locking plate. Fig. 4 is a central vertical longitudinal section through the interior.

Referring more particularly to the drawings 1 denotes the box or casing of the indicator, said box having in its front side a view opening 2 through which the names of the streets are displayed. In the casing 1 is arranged a supporting frame comprising vertically disposed end bars 3 and 4 which are connected at their ends by upper and lower longitudinal bars 5 and 6. Revolvably mounted in suitable bearing apertures formed in the upper portion of the end bars of the frame is an upper apron winding roller 7, the shaft or journal of which projects beyond the end bar 3 and has fixedly mounted thereon a ratchet gear 8.

The roller 7 is preferably provided with reduced ends which form annular bearing surfaces 9 with one of which is engaged the lower end of a brake spring 10 which prevents the roller from being turned too far and which holds the same against retrograde movement.

In a lower portion of the end bar 3 of the frame is revolvably mounted a roller supporting shaft 15 having on its inner end an annular disk or plate 16 in which and the adjacent end of the shaft is formed a socket

17. In the disk is also formed a locking recess 18. On the outer end of the shaft 15 is fixedly mounted a ratchet gear 19 with which the operating mechanism is engaged for turning the lower roller as will be hereinafter described. Adapted to be engaged at one end with the disk 16 and shaft 15 is a lower apron winding roller 20, said roller having on one end a pintle 21 which is adapted to be engaged with the socket 17 in the shaft 15 and disk 16. On said end of the roller 20 is also arranged a locking pin or stud 22 which is adapted to be engaged with the locking recess 18 in the disk 16 whereby the roller is locked in engagement with the shaft 15 and is turned thereby when the latter is operated. On the opposite end of the roller 20 is arranged an elongated pintle 23 which projects through and is revolvably engaged with a bearing aperture in an offset or lateral extension 24 of the end bar 4 of the frame. On the pintle 23 between the end of the roller 20 and the side of the extension 24 is arranged a coiled spring 25 the pressure of which is exerted to hold the opposite end of the roller in operative engagement with the disk 16 and the shaft 15. On the outer end of the pintle 23 is preferably arranged a crank handle 26 by means of which the roller may be turned in the proper direction for winding the indicating apron thereon. The ends of the roller 20 are preferably reduced and with one of said reduced ends is engaged a brake spring 27 the pressure of which is applied to hold the roller against retrograde movement or from being turned too far by the operating mechanism.

The roller 20 is preferably provided with a removable sleeve or tube 28 to which one end of the apron 35 is attached in any suitable manner, and upon which it is wound; and in the body of the roller is formed a longitudinal notch or recess 31 in which is secured the inner end of a sleeve locking spring 32 on the outer end of which is formed a locking lug 33 and an operating finger 34 whereby the spring is depressed in the notch or recess 31. When in operative position the locking lug 33 will be projected through a passage or opening 34' formed in the adjacent end of the tube 28 thereby firmly locking the tube on the roller. When it is desired to remove the tube the spring is depressed by the finger 34 until

the lug 33 is disengaged from the opening 34' whereupon the tube may be slipped off from the opposite end of the roller after the latter has been removed from the supporting frame.

In removing the lower roller from the supporting frame said roller is forced laterally against the pressure of the spring 25 until the pintle 21 on the opposite end of the roller is disengaged from the socket 17 in the shaft 15 and the locking stud 22 is disengaged from the recess 18 in the plate 16 after which the pintle 23 on the opposite end of the roller may be disengaged from its bearing aperture in the extension 24 of the frame.

The apron in being wound on and off the rollers passes around a stretching frame whereby that portion of the apron containing the name to be exposed is held flat against the view opening in the casing. The stretched frame for the apron comprises T-shaped end plates 37 and stretching rollers 44, said rollers extending entirely across the front side of the indicator above and below the view opening in the casing.

The winding rollers for the indicator apron are operated to wind the latter in either direction by a suitable operating mechanism comprising a pawl operating plate 45 which is slidably mounted in a guide frame 46 secured to one end of the main supporting frame of the indicator, said frame having on its side edges guide flanges 47 with which the edges of the plate 45 are slidably engaged. Pivotally secured to the outer side of the plate adjacent to its opposite edges are roller operating pawls 48 and 49. The pawls 48 and 49 are held in operative position to respectively engage the ratchet gears 8 and 19 of the upper and lower winding rollers by springs 50 arranged on the plate 45 as shown. On the upper ends of the pawls 48 and 49 are arranged outwardly projecting studs 51 with one or the other of which is adapted to be engaged a pawl releasing lever 52 said lever being pivotally mounted on an extension 53 on the upper end of the end plate 3 of the frame, at a point where its body hangs between the two pawls as best seen in Fig. 2. When the lower end of the lever is swung to the left, said end will be engaged with the stud 51 of the lower roller operating pawl 49 thus swinging said pawl back against the pressure of its spring 50 and to an inoperative position wherein the same will not engage the ratchet gear 19 of the lower roller when the plate 45 is operated. When the pawl releasing lever or reversing lever is swung in the opposite direction the same will engage the stud 51 on the pawl 48 thus forcing the latter back to inoperative position at the same time releasing the lower pawl and permitting its spring to swing it

into operative position. By this arrangement it will be seen that either of the pawls may be thrown into operative and inoperative positions thus providing for turning either the upper or lower winding roller and thus winding the apron in the desired direction. The pawl releasing or reversing lever 52 is preferably locked in its adjusted position for holding one or the other of the pawls in an inoperative position by means of a locking plate 54 which is carried by the side plate 3, said plate 54 having formed therein recesses 55 into which the upper end of the lever is adapted to be sprung when the latter is swung in one direction or the other.

The plate 45 is drawn downwardly to engage the pawls with the ratchet gears of the winding rollers by means of an operating mechanism comprising a block 56 which is secured to the outer side of the plate and has connected to its lower side an operating rod 57. The rod 57 extends downwardly through a guide lug 58 formed on the end of the lower longitudinal bar 6 of the frame and is connected by a link 59 with the bell crank operating lever 60 pivoted in a bearing bracket 61 secured to the lower side of the frame as shown.

On the rod 57 is coiled a spring 62 to raise the plate 45 after the same has been pulled down by the movement of the bell crank lever 60 to bring one or the other of the pawls into engagement with the proper ratchet gear as hereinbefore described. In the downward movement of the pawls, the hooked end of one of them readily engages its ratchet but the stud 51 on the other pawl slides upon one edge of the lever 52 and is reliably held out of engagement with its ratchet, the fact that the lever is pivotally hung between the pawls and its lower end swung to either side thus assisting in positively releasing one pawl for action and positively holding the other pawl out of position to act. To the bell crank lever 60 is connected an operating cord or cable 63 which passes over suitable guide pulleys 64 arranged in the car and extends to either end of the latter in position to be reached by the motorman or conductor. In the present instance the cable 63 is shown as being extended beneath the front platform of the car and connected with a bell crank operating lever 65 mounted on a suitable supporting bracket 66 secured to the car frame below the front platform. With the free end of the bell crank lever is adapted to be engaged the lower end of a spring retracted plunger 67 the upper end of which projects through the front platform of the car in position to be engaged by the foot of the motorman whereby when said plunger is depressed the bell crank lever 65 will be operated to pull upon the cable 63 and

through said cable to actuate the pawl carrying plate 45 to engage the pawls with the ratchet gears on the winding rollers.

In order to attract the attention of the passengers in the car to the indicator each time the same is operated to indicate the next street or stop, I provide a suitable alarm which is preferably in the form of a horn 68 secured in any suitable manner to one end of the box or casing of the indicator and to which is attached an elastic bulb 69. In order to compress the bulb and thus blow the horn when the indicating mechanism is operated, I provide a depressing lever 70 which is pivotally mounted on a bracket 71 formed on the end bar or plate 3 of the main frame. One end of the lever is formed at an angle and projects through a slot in the adjacent end of the box or casing in position to engage and compress the bulb. The opposite end of the lever is connected to the upper end of an operating bar 72 the lower end of which is secured to or formed as a part of the block 56 on the plate 45 whereby when the latter is drawn down or actuated to operate the pawls carried thereby said lever 70 will be rocked and caused to sound the horn in the manner described.

When the car reaches the end of the route and starts back on its return trip the pawl shifting lever 52 will be operated to throw one or the other of the pawls out of engagement, so that the apron will be operated in the right direction for properly displaying the names of the streets in succession. In order to permit the lever 52 to be reached for the purpose of adjusting the pawls, the upper end of the lever projects through a slot 73 formed in the top of the box or casing as shown. When the car changes its route the apron containing the names of the streets on the old route may be readily removed by winding the same upon the tube or sleeve 28 of the lower roller by means of the crank handle 26 and detaching the outer end of the apron from the upper roller after which the lower roller is detached

from its bearings at one end and the tube or sleeve 28 released as hereinbefore described and slipped off from the free end of the roller and another tube containing a different apron may then be placed thereon and connected with the upper roller and operated as described.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim is:

In an indicator of the character described, the combination with two rollers, an apron connecting them, oppositely facing ratchet gears on their adjacent extremities, a frame having upright guides, a plate movable in the latter below said gears, two pawls pivoted to said plate and having inturned upper extremities adapted to engage said ratchet gears respectively, studs projecting laterally from said extremities, and springs on the plate bearing the extremities in a direction to normally engage said gears; of manually-operated mechanism, for actuating said plate at will, a reversing lever pivoted on a fixed support above said pawls with its lower arm swinging between the studs thereof to hold either pawl disengaged from its ratchet gear, and means for holding the lever in either of its extreme positions.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PEDER MARTIN GULBRANTSON.

Witnesses:

CARL HAGLUND,
ANTON HAGLUND.