No. 859,725. PATENTED JULY 9, 1907.

M. S. BEAVER.

STREET INDICATOR.

APPLICATION FILED SEPT. 1, 1906.

3 SHEETS—SHEET 1.

Fig. 2.

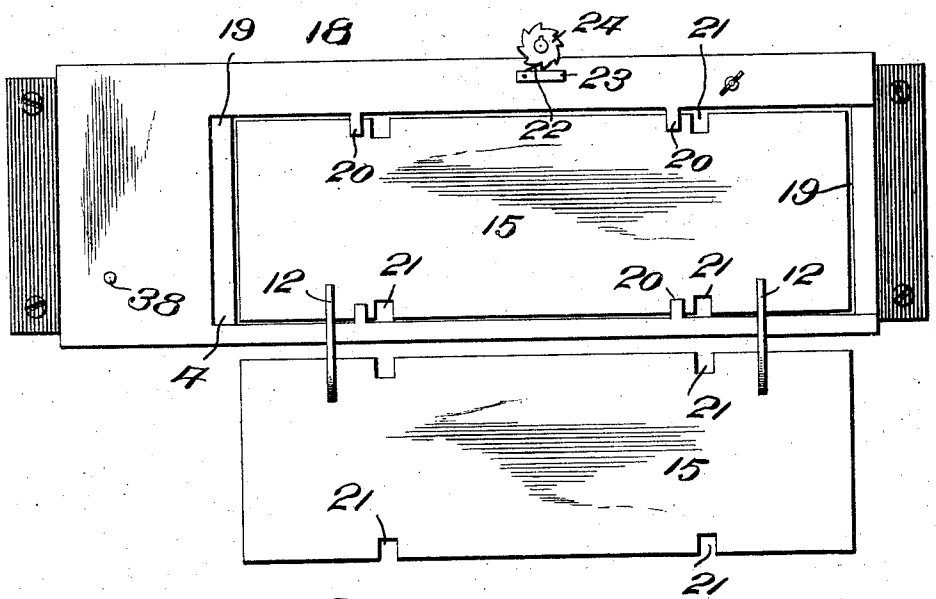
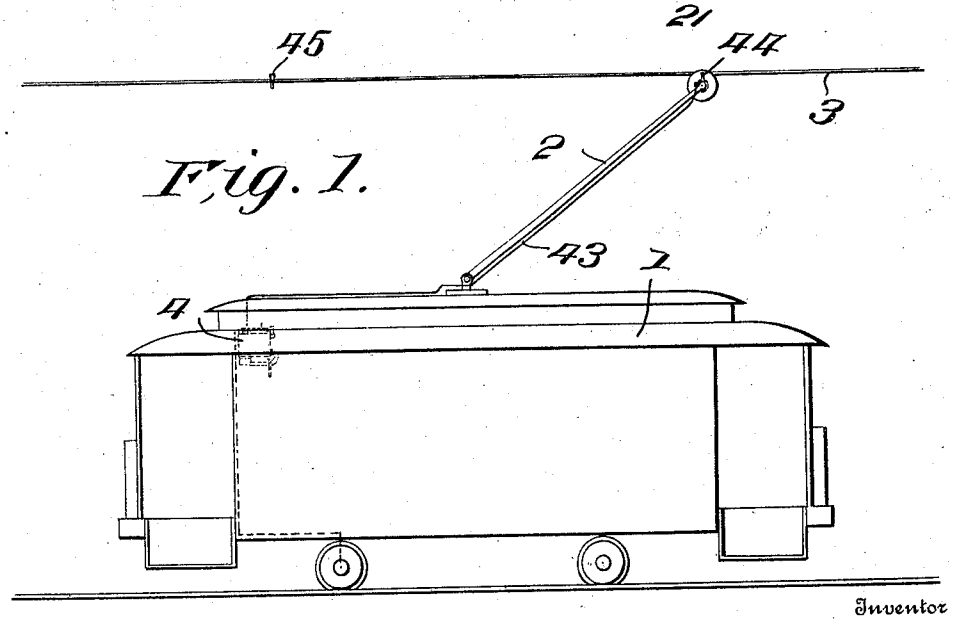


Fig. 1.



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Fig. 3.

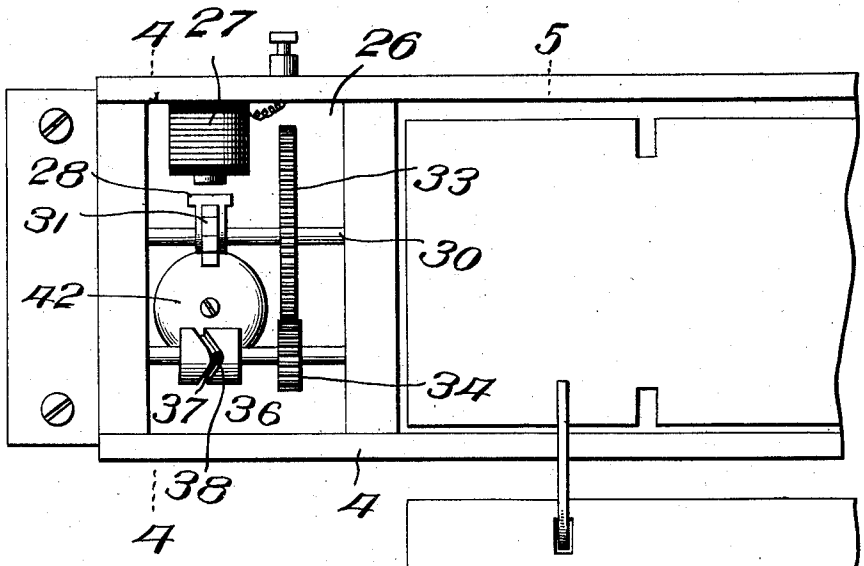
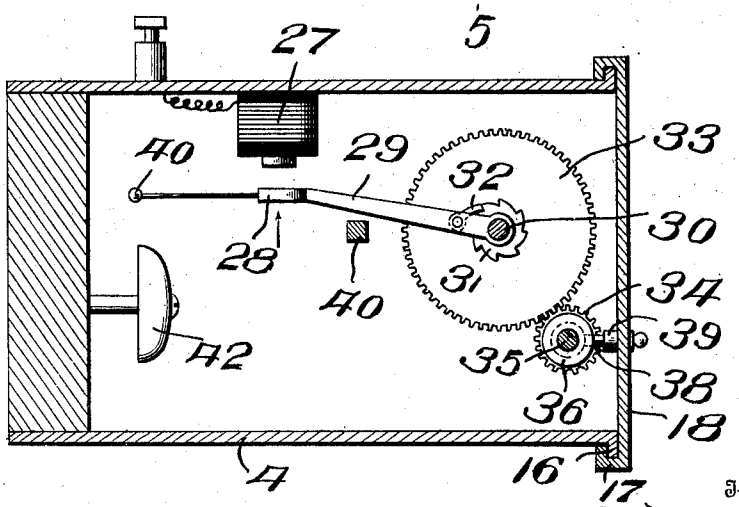


Fig. 4.



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3 SHEETS—SHEET 3.

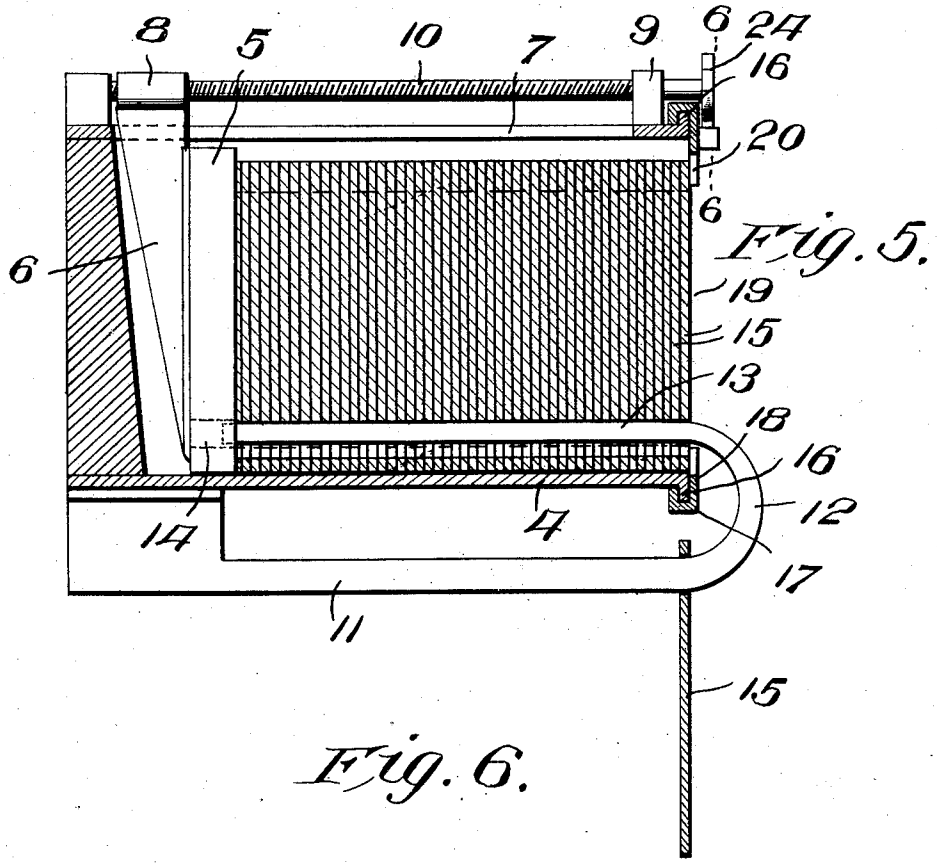
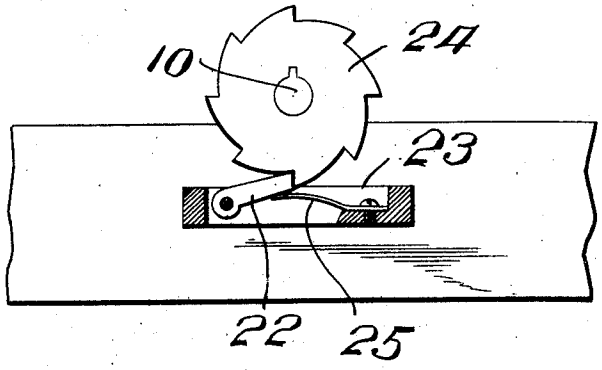


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

MILTON S. BEAVER, OF BANGOR, PENNSYLVANIA.

STREET-INDICATOR.

No. 859,725. Specification of Letters Patent. Patented July 9, 1907.

Application filed September 1, 1906. Serial No. 332,989.

To all whom it may concern:

Be it known that I, MILTON S. BEAVER, a citizen of the United States, residing at Bangor, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Street-Indicators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable other skilled in the art to which it appertains to make and use the same.

My invention relates to indicators, and more particularly to that class adapted to be used in connection with street cars to successively indicate the names of the streets as they are approached, and my object is to provide suitable means whereby a current of electricity is directed through suitable mechanisms for automatically releasing the signs.

A further object is to provide means for sounding an alarm simultaneously with the release of each one of the signs.

A further object is to provide means for automatically disposing the signs in position to be successively released.

A still further object is to provide suitable means for obtaining the operating current from the trolley wire.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application. Figure 1 is a side elevation of a street car showing my improved device attached thereto. Fig. 2 is a front elevation of the sign carrying and operating mechanism complete. Fig. 3 is a detail elevation thereof showing the releasing plate removed. Fig. 4 is a sectional view as seen from line 4—4, Fig. 3. Fig. 5 is a sectional view as seen from line 5—5, Fig. 3, and Fig. 6 is a sectional view on an enlarged scale as seen from line 6—6, Fig. 5.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the body of a street car, which may be constructed in the usual or any preferred form, 2 the usual form of trolley pole and 3, the feed wire, through which is directed a current of electricity for propelling the car.

Secured at any preferred point within the car body 1, and preferably at one end thereof is a suitable box or housing 4, in which is located a plunger 5, having an arm 6, the upper end of said arm extending through a slot 7 in the upper surface of the housing 4, and the extreme upper end thereof having a head 8, through which is disposed a threaded bore.

Disposed in suitable bearings 9 carried by the housing 4, is a threaded shaft 10, said shaft being directed through the bore in the head 8, so that when the shaft 10 is rotated, the arm and plunger will be moved from side to side of the housing.

Secured to the lower surface of the housing 4 and at the rear edge thereof are bars 11, said bars being directed to the front edge of the housing 4, where they are curved upwardly as at 12 and the free ends 13 thereof disposed rearwardly and parallel with the main bars 11, the portion 13 being directed into the housing 4, and into engagement with the slots 14 in the lower portion of the plunger 5.

Disposed on the free ends 13 and adapted to be directed onto the main bars 11 are a plurality of cards 15, upon one side of which is adapted to be placed the name of a street, while upon the opposite side thereof is adapted to be placed suitable advertising matter. The upper and lower edges of the housing 4 are provided with extensions 16, which are preferably disposed at right angles to the upper and lower surface of the housing, with which engage the L-shaped keepers 17, integral with the upper and lower edges of a releasing plate 18. This plate is provided with an elongated opening 19, said opening being of sufficient extent to allow the cards 15 to freely pass therethrough. The cards are prevented from casually passing through the opening 19 by means of tongues 20, two of said tongues being disposed at the upper and two at the lower edges of the opening 19, at points diametrically opposite each other. When it is desired to exhibit a new street number, the plate 18 is moved longitudinally on the extensions 16, disposing the tongues 20 into the path of notches 21 in the cards 15, thereby releasing the first card and permitting it to descend on the curved portion 12, and be disposed upon the bars 11, this operation exposing the opposite side of the descending card to the passenger and exhibiting suitable advertisements, while the next succeeding card in the housing will indicate the next street. The plate 18 has secured to its outer face a detent 22, which is pivotally secured in a frame 23, said detent being designed to engage a ratchet wheel 24 carried by the outer end of the threaded shaft 10, the detent being held into engagement with the ratchet wheel by means of a spring 25. By this construction it will be seen that when the plate 18 is directed laterally upon the extensions 16 to release one of the cards, the detent and ratchet will cause the shaft 10 to rotate and direct the plunger 5 forward, thereby giving impetus to the descending card and disposing the next succeeding card into position to be released at the next operation of the plate.

A compartment 26 is formed at one end of the housing 4, and in said compartment is located a magnet 27, with which is adapted to coöperate an armature 28, disposed upon the end of a lever 29, which is in turn loosely mounted upon a shaft 30, disposed in suitable bearings in the walls of the compartment. The end of the lever 29 engaging the shaft 30 is preferably bifurcated, and has disposed between its bifurcated end and integral with the shaft 30, a notched wheel 31, with which is adapted

to engage a pawl 32 carried by the lever 29, so that when the armature 28 is attracted by the magnet 27, the shaft 30 will be rotated. A cog wheel 33 is mounted upon the shaft 30 and adapted to rotate therewith, and is disposed in mesh with a pinion 34 carried by a shaft 35 rotatably mounted in the walls of the compartment 26 and below the plane of the shaft 30. The shaft 35 has also secured thereto a drum 36, which is provided with a cam slot 37 around its periphery, with which is adapted to engage a pin 38 extending through a suitable bearing 39 in the releasing plate 18. By this construction it will be seen that when the pin 38 is in engagement with the cam slot 37 and the armature 28 is attracted by the magnet 27, that the drum 36 will be rotated and the cam slot move the releasing plate 18 laterally upon the housing 4, thereby automatically releasing the display cards.

When the armature 28 descends after being attracted by the magnet 27, the lever 29 engages a stop 40, thereby causing a hammer 41, carried by the armature 28 to strike an alarm bell 42 and thus attracting the attention of the passengers to the fact that they are approaching a street crossing, and that the name of the next succeeding street is now exhibited to view. The electric current for operating the magnet 27 is secured by disposing a suitable wire 43 from the magnet 27 to the upper end of the trolley pole 2 and into engagement with a contact point 44, which is so disposed that it will engage a similar contact point 45 carried by the feed wire 3, the point 45 being located at a suitable distance from each street crossing, so that when the car has passed one crossing, the contact point 44 will engage one of the contact points 45 and energize the magnet 27 thereby exposing the name of the next street and directing the card containing the name of the street just passed onto the bars 11.

The cards 15 are provided in duplicate, so that by disposing all of the cards into the housing when starting upon the trip or at one end of the line, one half of the cards will have been used and disposed on the bars 11 when the opposite end of the line is reached, and it will be seen that by having a duplicate set of cards arranged in reverse order to the first set of cards, that the proper street will be indicated on the return trip, so that it will only be necessary to direct the cards into position in the housing at the initial end of the route. If for any reason it becomes necessary to run the car backwards, the operation of the card releasing device may be stopped by disengaging the pin 38 from the cam slot 37. It will also be seen that by disengaging the detent 22 from the ratchet 24, that the shaft 10 may be rotated in the opposite direction and the plunger 5 disposed to the rear side of the housing, and also by disengaging the pin 38 from the cam slot 37, the releasing plate 18 may be properly disposed to engage the notches in the cards 15, so that the cards may be freely directed from the bars 11 to the free ends 13 thereof and disposed into the housing.

What I claim is:

1. An indicator of the class described comprising a housing, bars below said housing and having free ends directed thereinto, cards carried by said free ends and adapted to be disposed on said bars, a plate movably mounted on said housing, said plate having an opening therein through which said cards pass, tongues at the upper and lower edges of said opening adapted to hold said cards in position upon said free ends, means to move said plate laterally whereby said tongues will be directed into notches in the upper and lower edges of said cards and one of the cards released, and additional means to move the cards towards the opening in said plate.

2. In an indicator of the class described, the combination with a housing having bars secured thereto, the free ends of which are disposed in said housing; of cards movably mounted upon said bars, a releasing plate slidably mounted on said housing, said plate having an opening therein, tongues on said plate and in the path of said cards, a plunger in said housing, an arm on said plunger, a threaded shaft through said arm, a ratchet wheel at one end of said shaft and means on said plate to engage said ratchet to rotate the shaft, whereby the plunger will be moved longitudinally on the shaft and means to reciprocate said releasing plate whereby the tongues will be directed into registration with notches in the cards.

3. An indicator of the class described comprising the combination with a housing, cards in said housing and a releasing plate for said cards; of means to operate said releasing plate comprising a magnet, an armature for said magnet, a drum having a cam slot therein, a pin carried by said plate and adapted to engage said cam slot, and means interposed between said armature and drum to rotate said drum when the armature is attracted, whereby the releasing plate will be operated and one of the cards released.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MILTON S. BEAVER.

Witnesses:
THOMAS R. LEVI,
SAMUEL J. WISE.