(No Model.) 2 Sheets—Sheet 1.

S. P. BENTLEY.

STATION INDICATOR.

No. 589,522. Patented Sept. 7, 1897.

Fig. 1.

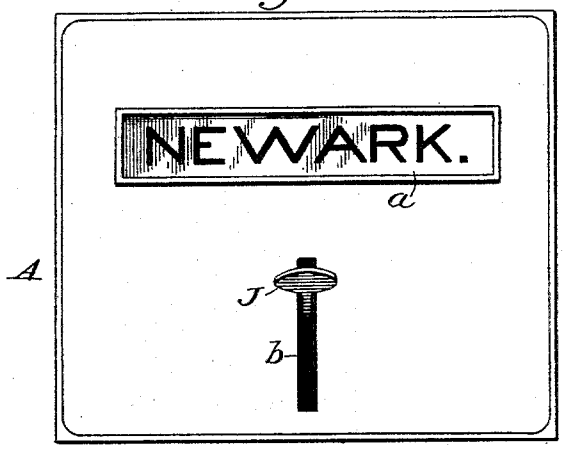


Fig. 2.

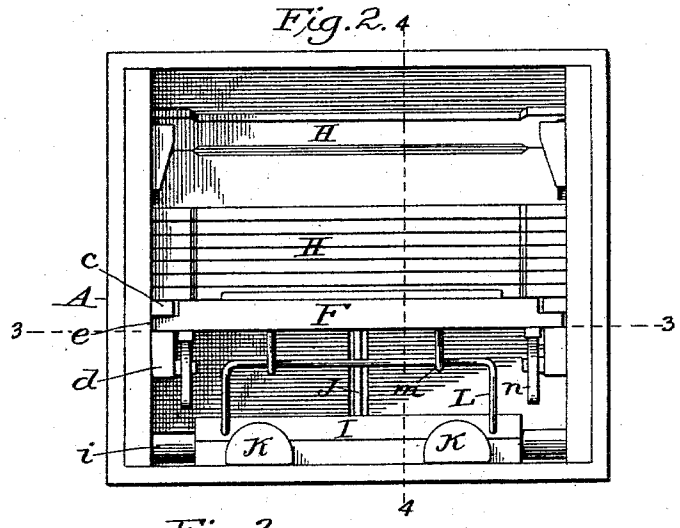
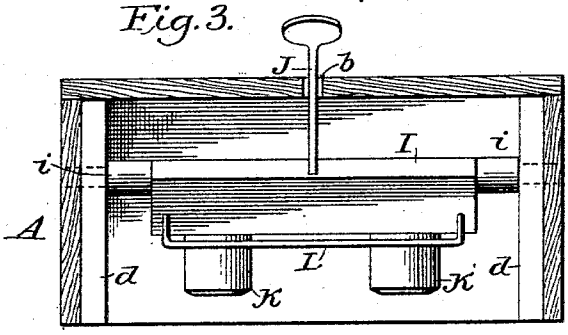


Fig. 3.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

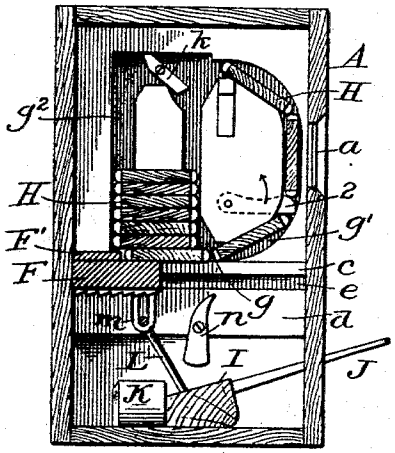


Fig. 5.

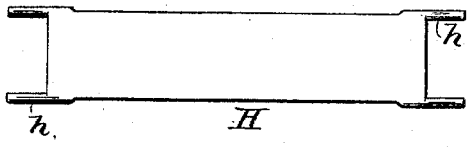


Fig. 6.

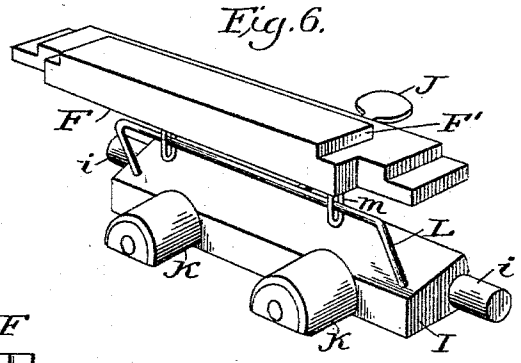
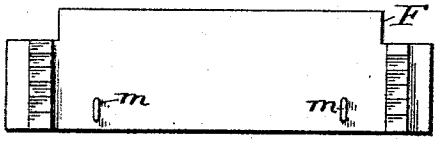


Fig. 7.



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UNITED STATES PATENT OFFICE.

SOLOMON P. BENTLEY, OF SPRINGFIELD, MINNESOTA, ASSIGNOR OF ONE-HALF TO MICHAEL LEHRER, OF SAME PLACE.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 589,522, dated September 7, 1897.

Application filed January 12, 1897. Serial No. 618,944. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON P. BENTLEY, a citizen of the United States, residing at Springfield, in the county of Brown and State of Minnesota, have invented certain new and useful Improvements in Station-Indicators; and I do hereby 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.

My invention relates to certain new and useful improvements in station-indicators for street and railway cars, the object being to provide a simple and efficient construction of indicator adapted to be operated by the conductor or other official of the car or train.

My invention consists of a suitable box or case provided with an opening for displaying any one of a series of sign boards or plates which are adapted to be brought into view successively by suitable mechanism under control of the conductor or other official of the car or train.

My invention also consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter more fully described and specifically claimed.

In the accompanying drawings, Figure 1 is a front elevation of a station-indicator constructed in accordance with my invention. Fig. 2 is a rear elevation, the back of the inclosing case being removed. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is a transverse section on line 4 4 of Fig. 2. Fig. 5 is a view of one of the sign boards or plates. Fig. 6 is a perspective view of the pivoted push-block and parts. Fig. 7 is a bottom plan view of the push-block.

Referring to the drawings, the letter A designates a suitable inclosing housing or case provided in its front at the top with a transverse display-opening *a* and at the bottom with a vertical slot *b*. On the interior side walls of the case, about midway thereof, are two spaced supporting-blocks *c d*, forming a horizontal guideway *e*, in which moves a push-block F. Above said push-block guideway is another guideway *g*, which curves forward and upward at *g'*, near the front of the case, in rear of the said transverse display-opening. In the upwardly-curved portion of the guideway *g* are the pivoted catches 2, which swing upwardly and out of the guideway upon being moved, but which normally stand across the same. On a plane above the said transverse opening the guideway extends rearwardly and connects with a vertical grooved guideway g^2.

A series of display boards or plates H rest upon the forward portion of a reciprocating push-block F and are adapted to be brought successively into position at the display-opening *a*. The face side of each board bears the name of the streets or stations along the same and are brought successively or in rotation before the display-opening. As before stated, these display-boards rest primarily on the forward portion of the push-block F, and I have provided them with arms *h*, which project into the said grooved guideways *g g' g²*. It is seen that the catches 2 allow the arms *h* to pass the same, but prevent them from retreating. The push-block has a raised rearward portion F', which bears against the rear edge of the lowermost display-board or the one resting immediately thereon.

A push-block-actuating device I has trunnion ends *i*, which are journaled in the side walls of the case near the bottom thereof. An operating-lever J, attached at the front of the device, projects to the exterior through the vertical slot *b* in the front wall of the case, and weights K at the rear of the device normally tilt the rear end thereof down and throw the said operating-lever up. It is obvious that springs may be employed to effect this action instead of the weights. This tilting actuating device must be suitably connected with the push-block F, so that when the lever J is forced downward the push-block will push the lowermost display-board thereon forward. In the present instance a bail-shaped rod L, extending from the tilting actuating device, engages with eyes or projections *m* on the under side of the push-block, whereby when said actuating device is tilted the push-block and lowermost display-board thereon will be moved forward, and the weight K will move the block back automatically.

The operation is as follows: The display-boards are moved forward, as before described, until the first one is forced up the

guideway g' in position to be displayed at the opening a. The remaining display-boards are then pushed forward in the same manner until the first board has position immediately above the vertical guideway g^2, when it falls by its own gravity down upon the series of boards remaining on the push-block. In order to insure that the arms h of the display-board do not catch or hang upon the vertical wall between grooves of the guideway g^2, I have provided a tilting guide-block k above said wall end, which automatically guides the said arms h to the grooves.

The under side of the push-block F at each end has rack-teeth, with which pivoted dogs n on the side walls of the case engage. These dogs prevent the push-block, when moved only partially forward, from being moved backward. This insures that a display-board must be pushed forward the proper distance before another block can be moved, and hence jamming is thereby prevented.

My invention provides a simple and cheap construction of indicator which entirely dispenses with cloth signs wound on rollers and the cords or pulleys used therewith, which, for obvious reasons, are objectionable.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a street or station indicator, the combination with an inclosing case provided with a display-opening at the front thereof, substantially semicircular guideways in its interior side walls leading past said opening, and straight vertical guideways g^2 in communication with said semicircular guideways, of a horizontal reciprocating push-block provided with a raised rear portion and normally disposed below said rear guideways, tilting guide-catches located at the junction of said guideways, a series of display-boards resting on the front portion of said push-block, so that the raised portion of the block will bear against the rear edge of the lowermost board, said boards being provided with arms traversing said guideways, and a lever for operating the push-board, substantially as described.

2. In a street or station indicator, the combination with a suitable inclosing house or case having a display-opening at the front thereof, of a reciprocating push-block contained therein, a series of display boards or plates resting thereon, and a tilting actuating device connected with said push-block and provided at the front thereof with a lever whereby it and the push-block may be moved forward, and means for automatically returning said actuating device and push-block to their normal positions, substantially as described.

3. In a street or station indicator, the combination with a suitable inclosing house or case having a display-opening at the front thereof, of a reciprocating push-block contained therein, a series of display boards or plates resting thereon, and a tilting actuating device connected with said push-block and provided at the front thereof with a lever whereby it and the push-block may be moved forward, and weights at the rear for automatically returning said actuating device and push-block to their normal positions, substantially as described.

4. In a street or station indicator, the combination with a suitable inclosing house or case having a display-opening at the front thereof, of a reciprocating push-block contained therein, a series of display boards or plates resting thereon, and a tilting actuating device provided with trunnion ends journaled in the side walls of the case and connected with a lever at the front and means at its rear for automatically returning the push-block and actuating device to their normal positions, substantially as described.

5. In a street or station indicator, the combination with an inclosing case provided with a display-opening at the front thereof and with guideways in its interior side walls leading past said opening, of a series of display boards or plates each having parallel end arms to travel in said guideways, catches in said guideways, and means for moving said boards to a position for display at said opening, substantially as described.

6. In a street or station indicator, the combination with an inclosing case provided with a display-opening at the front thereof and with guideways in its interior side walls leading past said opening, of a series of display boards or plates each having parallel end arms to travel in said grooves, a push-block carrying said boards, and a tilting actuating device connected with said push-block and provided with a lever for moving it and said push-block and means for automatically returning said block and actuating device to their normal position, substantially as described.

7. In a street or station indicator, an inclosing case or housing having a display-opening at the front thereof, a series of display boards or plates contained therein and adapted to be displayed at said opening, a push-block carrying said plates and provided with rack-teeth on its under side, and pivoted dogs engaging said teeth to prevent backward movement of said push-block when the same has been pushed partially forward only, substantially as and for the purpose described.

8. In a street or station indicator, a case or housing provided with a display-opening at the front and with guideways leading past said opening, a series of display boards or plates having arms to travel in said guideways and adapted to be displayed at said opening, a reciprocating push-block carrying said boards, and a tilting actuating device connected with said push-block and provided with a lever for tilting it and reciprocating the push-block one way and weighted at the rear, whereby, when the said lever is released the push-block and actuating device will be

automatically returned to their normal positions, substantially as described.

9. In a street or station indicator, a case or housing provided with a display-opening at the front and with guideways leading past said opening and thence extending rearwardly and connecting with a vertical guideway, pivoted catches in said guideways, a series of display boards or plates having arms to travel on said guideways and adapted to be displayed at said opening, a reciprocating push-block carrying said boards and located beneath the said vertical guideways, and pivoted guide-blocks at the upper end of said vertical guideway for conducting the boards thereto, substantially as described.

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

SOLOMON P. BENTLEY.

Witnesses:
A. C. OCHS,
OSCAR ERICKSON.