(No Model.)

G. F. WOOLSTON.

Station Indicator.

No. 239,910. Patented April 5, 1881.

Fig. 1.

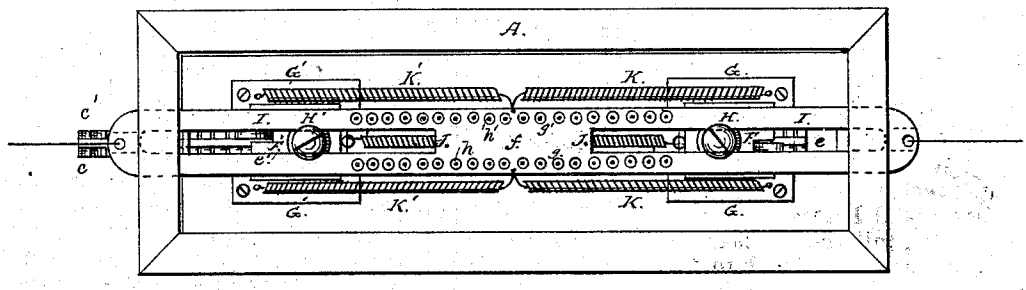

Fig. 2.

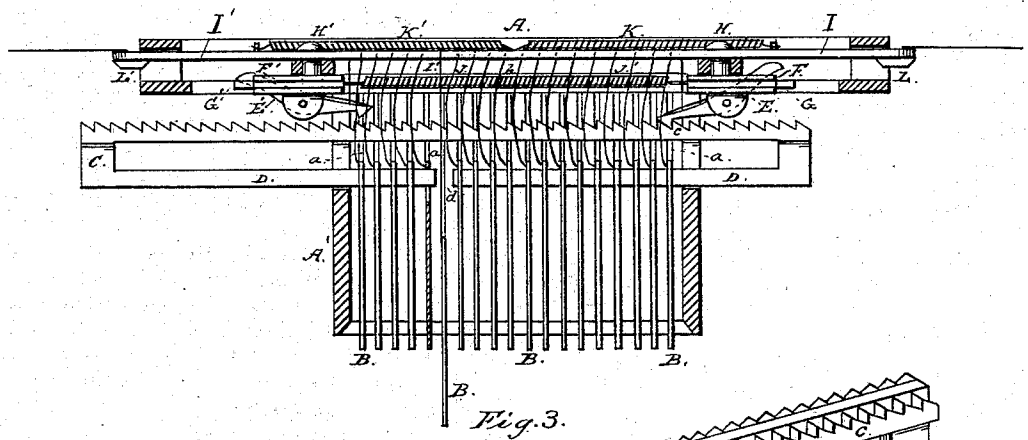

Fig. 3.

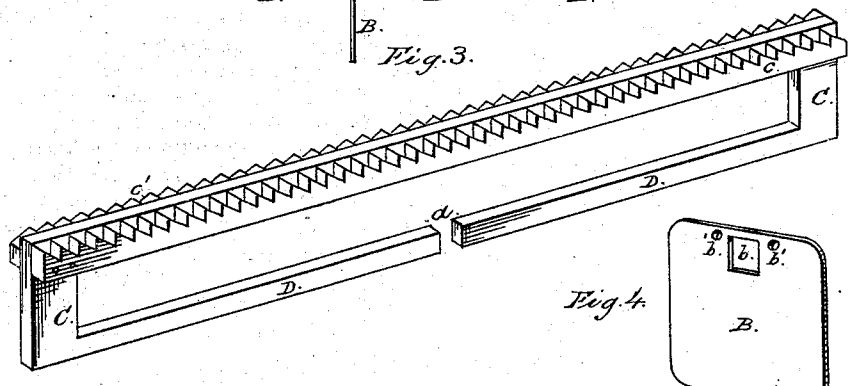

Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE F. WOOLSTON, OF ST. LOUIS, MISSOURI.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 239,910, dated April 5, 1881.

Application filed August 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. WOOLSTON, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Station-Indicators for Railroad-Cars; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

I wish to avoid the annoyance which results to railroad conductors and other attendants, and to the passengers, from the frequent inquiries about stations of the railroad, by providing a simple and accurate indicator which shall always display in full view the name of the next station, or the name of the next station where the particular train will stop; and my invention therein consists in a novel indicator containing cards or plates having the names of all the stations thereon arranged in proper sequence, so that each one is caused to drop into full view at the proper time, in whichever direction the train is going, and also in the novel parts of the mechanism employed for the purpose, and in their various new and operative combinations, all as more fully hereinafter explained.

To enable those skilled in the business to know how to make and use my station-indicator, I proceed to describe the same, particularly referring to the drawings accompanying this specification, in which—

Figure 1 is a plan view of the indicator, the top or cover being removed; Fig. 2, a vertical longitudinal central section of the entire indicator; Fig. 3, a separate view of the rack-bar which supports the station cards or plates, and Fig. 4 a separate view of one of the indicator cards or plates.

Like letters denote corresponding parts in each figure.

In the drawings, A represents the upper part, and A′ the lower part, of a box, which will be a convenient receptacle for the mechanism for operating the indicator, although this is not an essential portion of my invention, as other means—as, for instance, various forms of frames—could be readily employed for sustaining such mechanism. This box, frame, or other receptacle for the mechanism is intended to be secured to the upper interior of the car; but it may be secured upon either wall or end of the same. In the upper part, A, of the box, as shown in the drawings, is contained the mechanism for moving the rack-bar, and in the lower part, A′, are contained the rack-bar and the indicator plates or cards. These plates or cards B—preferably rectangular metal plates of suitable size, containing the name of a station and other necessary information on one or both sides of the same—fit so as to drop, by gravity, in suitable grooves, *a*, in the inner walls of the lower part, A′, of the box. Each of these plates has an opening, *b*, through which the chord of the rack-bar passes, and other openings, *b′*, by means of which such plates are held suspended when dropped, and raised to be again threaded by the chord of the rack-bar. This rack-bar C is composed preferably of a slotted longitudinal rectangular plate, having upon each side of its upper portion a series of ratchets, *c c′*, inclined in opposite directions. The chord D of this rack-bar is divided at *d*, leaving an opening through which the plates B may pass.

When the indicator is ready for use, all of the plates B being in position and unexposed, the chord D passes through the openings *b* in each of said plates, which are thus threaded upon such chord, and when the rack-bar is moved in either direction, so that the opening *d* in the chord releases any one of the indicator-plates, such plate drops by gravity and is exposed to view. To give this movement conveniently to the rack-bar, hooks E E′ are employed, one of which engages with the ratchets *c*, to pull the rack-bar in one direction, and the other with the ratchets *c′*, to pull the rack-bar in the opposite direction. These hooks are centrally pivoted, respectively, in blocks F F′, which, in turn, have movement back and forth upon slides or ways G G′. Each of these blocks has upon it a suitable stud, H H′, by means of which the blocks may be moved back and forth by the slotted bar I. This bar, which is preferably a longitudinal plate with parallel sides, has at each end a slotted portion, *e e′*, and in the center a solid portion, *f*. It has also along each side a series of openings, *g g′*. While this bar is obviously an improvement in the better working of my indicator, it is apparent that it may be wholly dispensed with.

The studs H H′ extend up through the slot-

ted portions *e e'* of the bar I, and permit a free movement back and forth of such slotted bar until one of the studs, H or H', engages with the solid portion *f*, when such stud is moved by the slotted bar, and, in turn, moves the block F or F', the hook E or E', and consequently the rack-bar, in the same direction.

Through the openings *g g'* pass cords *h h'*, by which the station-plates are suspended when dropped and drawn back to place, these cords having knots at their upper ends, or means to prevent their drawing out of the openings *g g'*. These cords also pass through openings in a stationary plate, I', which is secured below the slotted plate I, by which means, when such slotted plate is moved in either direction, the cords are correspondingly drawn upon. Suitable springs, J J', attached to the sliding block F F', and other springs, K K', attached to the slotted bar I, return these bars respectively to or toward their normal position when released from movement in either direction.

In order to insure the proper dropping of the station-plates B from either direction, I employ trips L L', placed on the under side of the slotted bar I, at each end, so arranged as to trip the hook E or E', respectively, by pressing upon the outer ends of the same and raising the hooked inner ends out of engagement with the ratchets *c* or *c'*. Thus, if the rack-bar is moved in one direction, the hook which would draw it in the other direction is moved out of possible engagement, or danger of catching or binding in its proper series of ratchets. Cords, hooks, handles, or any other convenient means attached to the ends of the slotted bar will enable it to be moved in either direction.

If, now, this indicator is in position in the car at the commencement of a trip, with all of the station-plates unexposed and threaded upon one arm of the chord, the conductor or brakeman draws out the slotted bar until one of the studs engages with the solid part of such slotted bar, and then such stud, by means of the block and its hook, draws out the rack-bar until the opening in its chord allows the station-card having the name of the next station nearest the opening in the chord to drop through it and be exposed to view. This bar cannot be drawn out so far as to permit more than one plate to be dropped, as the other stud engages with the end of its slot as soon as the opening in the chord comes in line with the station-plate. The springs then return both bars to their normal position. That station being passed, the conductor draws out the rack-bar again, and by that act, through the cord by which the plate is suspended, draws such plate up, so that it is threaded by the other arm of the chord, and releases the station-plate of the next station, and so on until the end of the route is attained. Upon his return trip the conductor or brakeman draws out the other end of the slotted bar, and the stations are presented, one after the other, in the reverse and proper order.

It will thus be observed that my apparatus is simple, can be operated by any one who can pull a string, is always accurate, and meets the very great want of information which now annoys railroad-passengers.

It will also be observed that this indicator is not only adapted for steam railroad and horse cars but for other classes of public conveyances without further invention.

Having thus described my invention, what I claim as new therein is—

1. In a station-indicator, the combination of the rack-bar C, hooks E E', blocks F F', studs H H', and slotted bar I, when constructed and arranged substantially as described and shown.

2. In a station-indicator, the combination of the rack-bar C, hooks E E', blocks F F', and studs H H' with the slotted bar I, trips L L', and springs K K', the several parts constructed and arranged to operate substantially as described.

3. In a station-indicator, the combination, with the rack-bar C, of the slotted bar I, springs K K', trips L L', studs H H', blocks F F', stationary plate I', springs J J', and hooks E E', when constructed and arranged substantially as described and shown.

4. In a station-indicator, the rack-bar C, with its divided chord D, and the station-cards B, suspended by cords *h h'*, as described, in combination with the slotted bar I, stationary plate I', springs K K' and J J', studs H H', blocks F F', and hooks E E', the several parts constructed and arranged to operate in the manner described, as and for the purpose set forth.

5. In the station-indicator described, the combination of the rack-bar C, hooks E E', to move the same in either direction, and slotted bar I, to give movement to said hooks and rack-bar, substantially as described.

This specification signed and witnessed this 10th day of August, 1880.

GEORGE F. WOOLSTON.

Witnesses:
H. W. SEELY,
JAMES A. PAYNE.