Sheet 1. 2 Sheets.

G. W. Alexander.

Station Indicator.

No. 112,670. Patented Mar. 14, 1871.

Fig. 1.

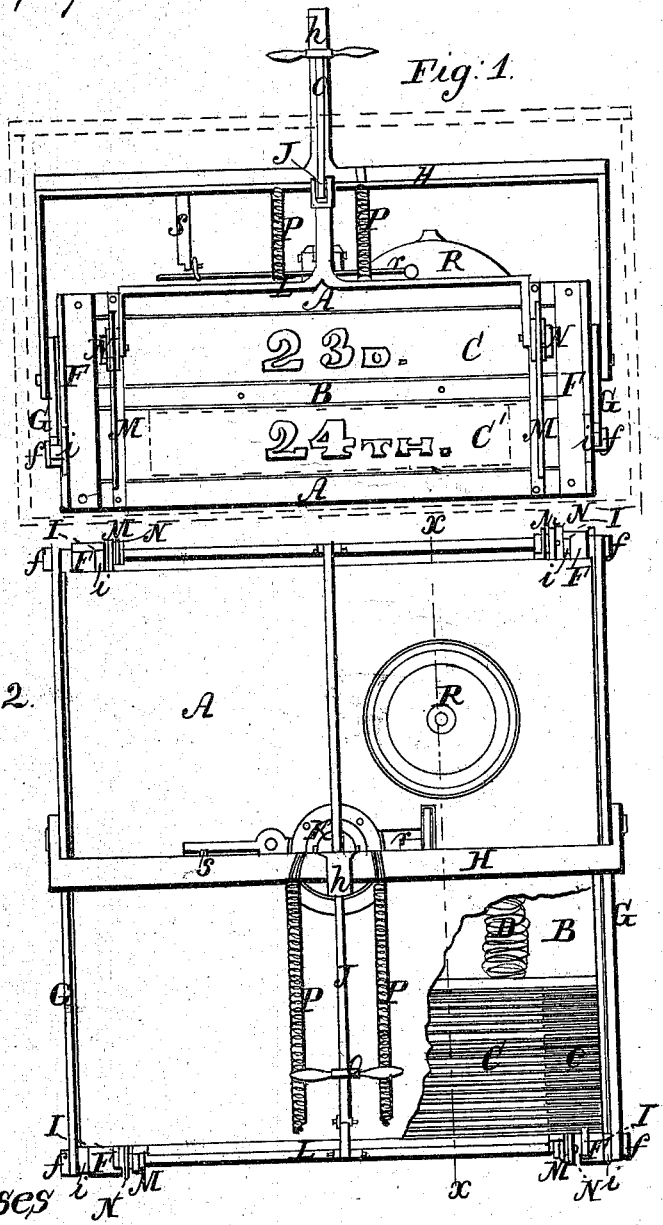

Fig. 2.

Witnesses

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L. L. Coburn

Inventor;

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G. W. Alexander. Sheet 2, 2 Sheet

Station Indicator.

No. 112,670. Patented Mar. 14, 1871.

Fig: 3.

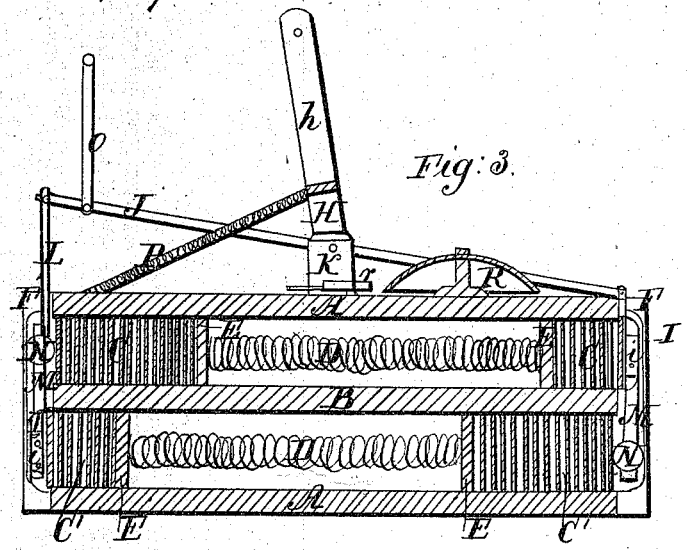

Fig: 4.

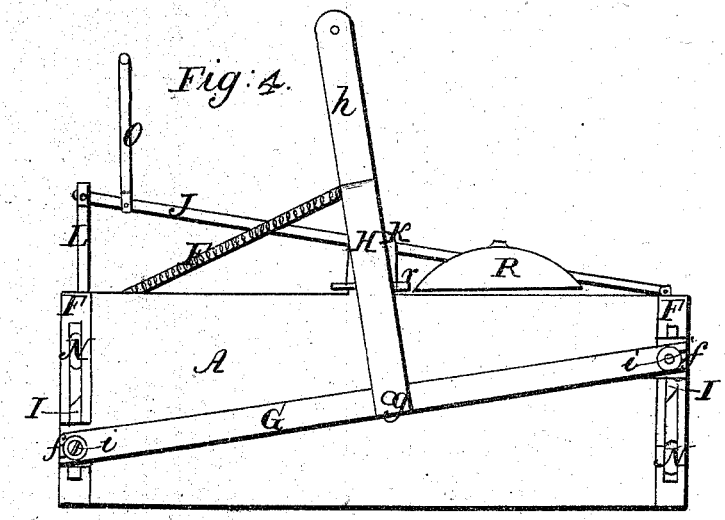

Fig: 5.

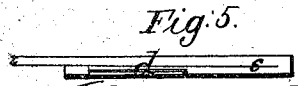

Fig: 6

Witnesses;
L. L. Coburn
J. Mumsden

Inventor;
G. W. Alexander & Co

UNITED STATES PATENT OFFICE.

GRANVILLE W. ALEXANDER, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILROAD-STATION INDICATORS.

Specification forming part of Letters Patent No. **112,670**, dated March 14, 1871.

I, GRANVILLE W. ALEXANDER, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Street-Indicators for Horse-Cars, &c.; and I do hereby declare that the following is a specification thereof.

My invention relates to a mechanical device to be carried in a street-car or any vehicle for the carriage of passengers, and which is operated by the driver of the vehicle to exhibit to the passengers the names of the several cross-streets or stopping-places as they are passed, and exhibiting the same in such a way that the driver is informed at the same time. The name of the street or stopping-place appears at two several points at the same instant, and is visible to the passengers at one point and to the driver at another. The names of the streets or stopping-places are changed by the driver by a simple mechanism, which at the same time may be constructed to strike a bell to give warning to the passengers of the change; and my invention consists in certain combinations and arrangements of parts, more particularly hereinafter set forth.

In the accompanying drawing, Figure 1 represents an end or front elevation of my invention. Fig. 2 represents a top or plan view of same. Fig. 3 exhibits a vertical section, from front to rear, along the line *x x* of Fig. 2. Fig. 4 is a side elevation of my invention. Figs. 5 and 6 are views of certain detached parts, as will be more fully explained.

General Description.

A is a stout rectangular box, divided into two compartments, an upper and a lower one, by a central horizontal partition, B, which extends entirely through the box or case A. Both of these compartments are open at the ends.

C C′ are narrow metallic plates, upon which are exhibited the names of the streets or stopping-places, as will be understood upon reference to Fig. 1. These plates are bent at the ends into a double thickness, as shown at *c*, Fig. 5, which said figure is a top view of an end of one of said plates C C′.

It will be observed that the upper and lower edges of the said plates, at the extreme ends thereof, are left square, while at a portion of said doubled part *c* these edges are rounded off, as at *d*, Fig. 5.

D D are springs, which may be either flat or coiled springs. I prefer to use a coiled spring, and such is exhibited. These springs bear against sliding pieces E, in front of which are placed the plates C C′. The tendency of these springs is to force the plates C C′ outward against the corner-pieces F.

G G are levers, one at each side of the box or case A, pivoted to said case at *g*. These levers are connected by the bent piece H, which is rigidly attached to said levers G G. From the center of said bent piece extends upward an arm, *h*, by means of which the levers G G are operated.

The corner-pieces F are slotted vertically to admit an arm, *i*, which passes through each of the said slots, and connects by a friction-roller with the ends of the levers G, which are slotted for the reception of the same, as seen at *f*.

The arm *i* is made of a form so that it will freely slide up and down the slot in the corner-piece F, which motion it is made to pursue at the operation of the levers G.

I is a catch or clutch secured to the inner end of each of the four arms *i*. Said clutch is shown somewhat enlarged at Fig. 6. One side of this clutch is made with a recess sufficiently large to admit one of the plates C C′, so that when the levers G bring the arms *i*, bearing the clutches I, into the proper place, one of the plates C C′ is forced out by the springs D into the recesses of said clutches, when the further motion of the levers G will carry the plate up or down, as the case may be.

J is a lever, pivoted to a standard, *k*, at the center of the top of the case or box A. Said lever carries a vertical frame, L, at each end thereof, which slides up and down in slotted ways M. This frame carries rollers N, one pair at each end of the machine. The said rollers N pass over the plates C C′ and press back the said plates, which is allowed by the yielding springs D D, so that the clutches I cannot engage said plates.

The lever J may be set so as to press back either the upper or lower set of plates, so that the clutch shall engage but one set. Of course it is understood that the rollers at one end of the machine are pressing, say, the lower set,

while the rollers at the opposite end are pressing back the upper set, the clutches being arranged just vice versa.

Now the operation of my machine will be as follows: The lever J is set, by means of the rod O, so that the rollers shall press back the plates C at one end, while they press back the plates C′ at the other; and it will be found that the clutches I engage with the plates C at one end, C′ at the other. Now, when the levers G are moved by means of the arm *h*, the clutches I change position, moving up at one end and down at the other, and carry the plates C C′, so as to change the said plates. The plate, as it is brought up or down, as the case may be, passes under the rollers, and is disengagd from the clutches. The levers G are then brought back to their former position and engage another pair of plates. The driver of the vehicle operates the levers G by means of a cord attached to the arm *h*, and passing to a position convenient to his grasp.

To obviate the necessity of moving the said levers G by hand in two directions, I provide springs P, attached to the bent piece H and to the case A, which said springs induce a return motion of the levers G after the driver's hand is released from the cord above referred to. When the vehicle has arrived at the end of its route the position of the lever J, carrying the rollers, is reversed, and the plates are then presented bearing the names of the streets in a reversed order. The part *d* is rounded on the plates C C′, so that the rollers N may readily pass over the said plates.

In constructing the double portion of the plate I contemplate making the same thicker by the addition of an extra piece, to be soldered or fastened thereto.

The object of making the ends of the plates thicker than the middle thereof is for the purpose of obviating friction, and to protect the lettering of the names of the streets and stopping-places from being worn off, which would occur were the plates in contact throughout their entire length. I attach the names of the places of stoppage and names of the streets to the said plates either by painting them thereon, or by having them printed on slips of paper and pasting them on the said plates.

My invention, among many advantages, has one pre-eminent—viz., it economizes space. The ordinary indicators, even where they have but few streets, are large and unwieldy, and take up a great deal of room, and the more streets or stopping-places the larger is the apparatus, whereas my indicator will contain a large number of streets—if necessary, over one hundred—without any material increase in size. There are no endless bands to be stretching or getting displaced in my machine, as there are in most of the common indicators.

When in use I inclose my indicator in an outside box or covering. (Represented by the dotted lines in Fig. 1.) It will be observed that an opening is shown, through which may be seen the lower plate at each end, so that the passenger is not confused by the appearance of more than one plate to his view at one and the same time.

R is a bell attached to the top of case A. *r* is its hammer, which is operated by an arm, *s*, extending down from bent piece H, so that said bell is rung at each change of the plates.

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

The combination of the frame L, carrying rollers N, with the levers G G, carrying clutches I, and the plates C C′, exhibiting the names of cross-streets or stopping-places, substantially as specified and shown.

G. W. ALEXANDER.

Witnesses:

J. W. MUNDAY,

L. L. COBURN.