

(No Model.)

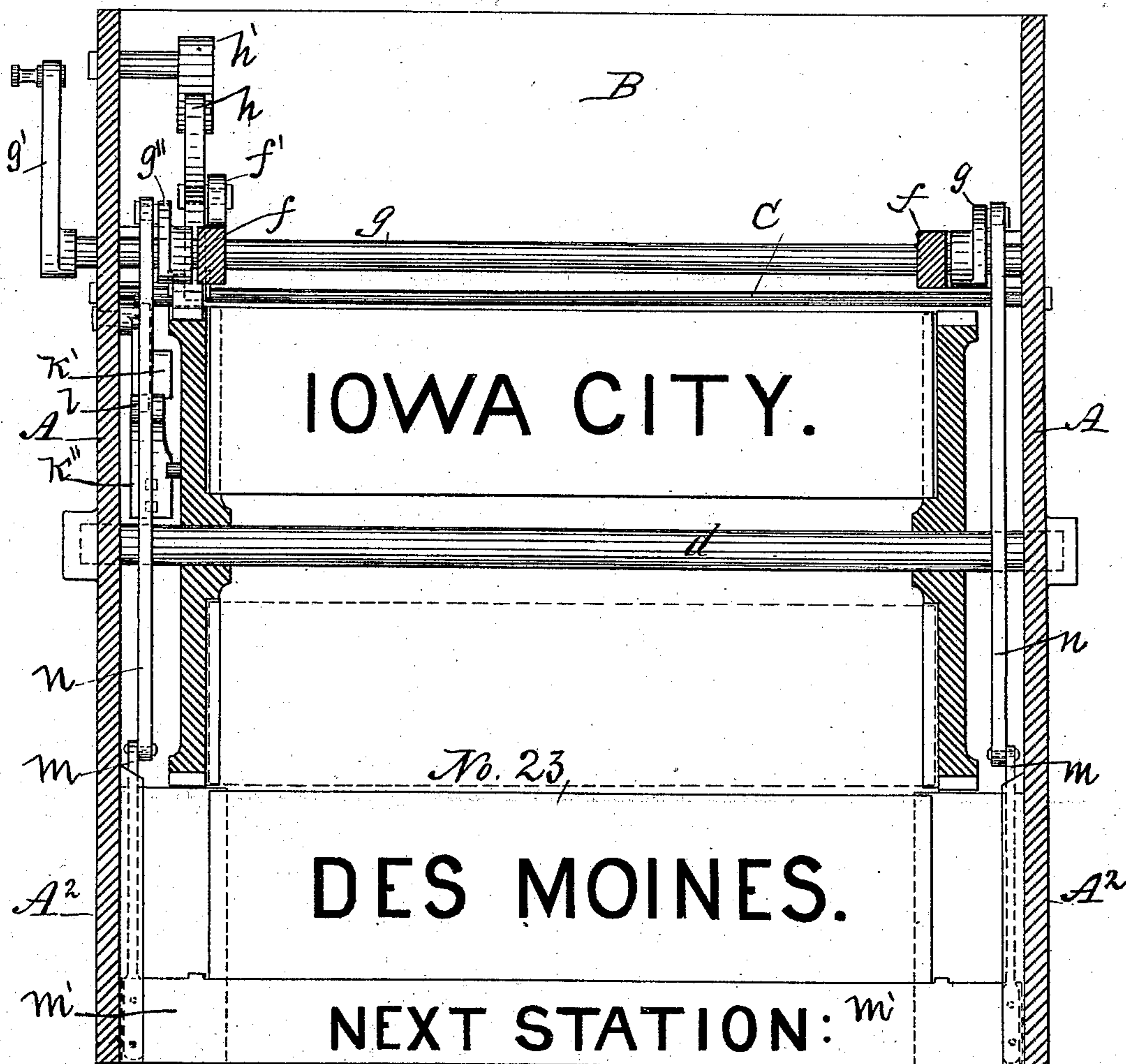
2 Sheets—Sheet 1.

G. P. RASCK.
STATION INDICATOR.

No. 271,985.

Patented Feb. 6, 1883.

Fig. 1



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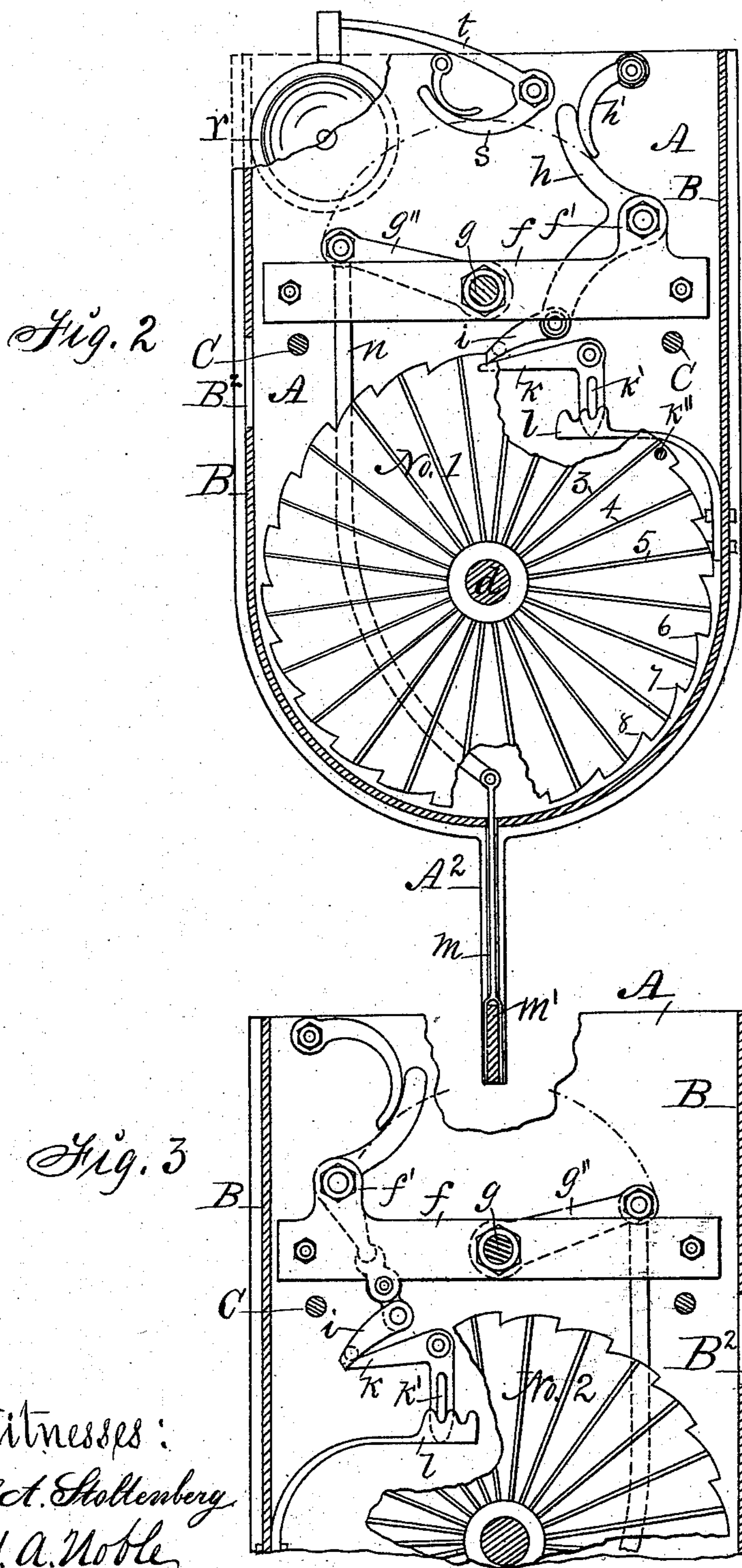
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2 Sheets—Sheet 2.

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No. 271,985.

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Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE P. RASCK, OF DES MOINES, IOWA.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 271,985, dated February 6, 1883.

Application filed July 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. RASCK, of Des Moines, in the county of Polk and State of Iowa, have invented an Improved Station-Indicator for Railways, of which the following is a specification.

The object of my invention is to secure the advantages of presenting to the view of travelers in passenger-cars the names of railroad-stations as the train advances from one end of a route to another, and to simultaneously signal the attention of the passengers upon approaching a station, and exposing a card to view that contains the name of the station in conspicuous letters.

Heretofore maps of routes and lists of names of stations have been printed upon ribbons and belts to be wound and unwound and moved by a pair of rollers to bring the names of stations into view successively as the train passed the stations. The names of stations have also been placed upon rotating disks in such a manner that each station could be presented to view at the proper time as a train advanced back and forth over a route. A rotating card-carrier, a reciprocating card-exhibitor, and a signal-bell have also been combined in such a manner that they could be jointly operated to exhibit the name of a station and signal attention thereto by means of levers and a ratchet and pawls.

My improvement consists in forming, arranging, and combining operative mechanism, as hereinafter fully set forth, in such a manner that the rotary card-carrier, the reciprocating card-exhibitor, the bell-striker, and a reversing device will be actuated in concert to automatically exhibit the name of a station and signal attention thereto by simply turning a crank by means of a cord to rock a shaft at the approach of each station along the route.

Figure 1 of my accompanying drawings is a longitudinal half-section of my indicator. Fig. 2 is a transverse sectional view, showing the operative mechanism at one end of the machine. Fig. 3 is a sectional view, showing the mechanism of the opposite end for reversing the motion of the card-carrier at the end of a route.

Together these figures clearly illustrate the construction and operation of my complete invention.

A A are the end pieces of a case. They are preferably made of cast metal, about seven inches wide and eleven inches long.

B B are sheet-metal sides, fitted into grooves formed in the inside faces and edges of the ends A.

C C are rods or screw-bolts that extend from one end to the other and clamp the end pieces firmly to the sides, as required, to form a case adapted to retain my card-carrier and its operative mechanism.

A² are vertical grooved extensions formed on or fixed to the bottoms and centers of the ends A to serve as bearings in which to operate my reciprocating card-exhibitor.

d is the shaft of my rotating card-carrier, mounted in bearings formed in or fixed to the ends A.

Nos. 1 and 2 are circular heads or end pieces of the card-carrier, fixed to the shaft d.

3 4 5 represent series of radial grooves formed in the inside faces of the circular end pieces, Nos. 1 and 2, in such a manner that the ends of the cards can be slipped from the peripheries of the parallel pieces toward their centers. 6 7 8 represent ratchet-teeth on the peripheries of the same grooved circular ends.

f f are metal bars or brackets, fixed to the inside faces of the ends A to support operative mechanisms.

g is a rock-shaft mounted in the brackets f, immediately over the card-carrier shaft d. It extends through one of the ends of the case, and has a crank, g', attached for operating it by hand, or in any suitable way.

g'' are cranks fixed to the shaft inside of the ends A.

h h are elbow-cranks pivoted to extensions f' on the brackets f to aid in imparting motion from the rock-shaft g to the rotating card-carrier. They are engaged by springs h', fixed to the case in such a manner as to press the upper ends of the cranks h toward the shaft g.

i i are pawls connected with the cranks h. The one shown in Fig. 2 is pivoted to the lower end of the elbow-crank, and the one shown in Fig. 3 is in the form of an elbow and pivoted to the bracket f f', and joined to the elbow-crank h by a hinged connection. Each of the pawls i has a pin projecting at right angles from its end to engage the ratchet-teeth 6 7 8, and also to engage devices for reversing the

motion of the rotary card-carrier at the end of a route.

$k k$ are elbow-shaped pawl-lifters, pivoted to the ends of the case in such positions relative to the pawls $i i$ that they can be adjusted and set to engage the pawls and hold them elevated relative to the ratchets 6 7 8 and inoperative.

k' are cam-projections extending laterally from the lower arms of the pawl-lifters k to engage pins k'' , that are fixed in the outside faces of the ends Nos. 1 and 2 of the card-carrier.

$l l$ are ratchets on the ends of springs fixed to the case in such positions relative to the pawl-lifters k that the springs will, in their normal condition, hold up the ratchets to engage their lower ends, and retain them stationary until the pins k'' , carried by the rotating card-carrier, come in contact with the cams k' , and adjust the pawl-lifters as required to elevate or lower the pawls i . By forming series of perforations in the opposite ends of the card-carrier adapted to receive the pins k'' those pins may be adjusted so that they will simultaneously engage the cams k' of the two pawl-lifters k , and raise the one and lower the other, as required, to reverse the motion of the card-carrier at the end of each revolution and the end of each route. Each motion imparted to the rock-shaft g by means of the crank g' will cause the crank-arms g'' to strike the upper arms of the elbow-cranks h , as required, to impart intermittent motions to the rotary card-carrier by means of the pawls $i i'$ and ratchets 6 7 8.

$m m$ are the vertical end pieces, and m' the cross-piece of a sliding frame and card-exhibitor that moves in the grooves of the extensions A^2 of the end pieces, A , of the case. It is connected with the crank-arms g'' on the rock-shaft g , by means of pitmen n , in such a manner that at every motion of the shaft and intermittent motion of the card-carrier a reciprocating motion will be imparted to the sliding frame and card-exhibitor, as required to elevate one card into the card-carrier and receive and lower another to exhibit the name of the station thereon, as shown in Fig. 1.

r is a bell fixed to the outside end of the case.

s is a crank pivoted to the inside of the same end of the case in such a position relative to the crank g'' that every motion of the rock-shaft g made to impart motion to the rotating card-carrier and reciprocating card-exhibitor will cause the crank g'' to engage the cranks s in such a manner as to thereby lift a hammer, t , that is connected therewith, and strike the bell, as required, to signal the attention of passengers in the car to the fact that another station is near by, and its name pre-

sented in the card-exhibitor of my station-indicator.

No. 23 (shown in Fig. 1) is one of a series of cards upon which the names of the stations are printed or painted. These cards are placed into the series of grooves 3 4 5 in the end pieces of the card-carrier by passing them successively through the opening B^2 in the side of the case.

From the foregoing detailed description of the construction and function of each element and subcombination of my invention their unitary actions and the practical operation and utility of the complete machine are obvious.

I claim as my invention—

1. In a station-indicator, the combination of the brackets $f f'$, fixed to the ends of the case, the rock-shaft g , having cranks g'' , carrying a card-lifting device, an elbow-crank, h , carrying a pawl, and a rotary card-carrier having a ratchet on its periphery, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

2. The elbow-shaped pawl-lifting device k , pivoted to the end of the case, and having a lateral projection, k' , in combination with the crank h , pivoted to the brackets $f f'$, and carrying a pawl, i , a rotating card-carrier having a ratchet on its periphery, and a projecting pin, k'' , on its outside end face, and the spring-ratchet l , substantially as shown and described.

3. The elbow-shaped pawl i , pivoted to the bracket f , as shown in Fig. 3, in combination with the elbow-shaped crank h , pivoted to the brackets $f f'$, and the elbow-shaped pawl-lifter $k k'$, pivoted to the end of the case, and a rotating card-carrier having a ratchet on its periphery, and a projecting pin, k'' , at its end, substantially as set forth, for the purpose specified.

4. The case $A B C$, having grooved extensions A^2 , the sliding frame and card-exhibitor $m m'$, the rock-shaft g , having cranks g'' , and the pitmen n , arranged and combined, substantially as shown and described, to operate in combination with a rotary card-carrier in the manner set forth, for the purposes specified.

5. The combination of the cranks g'' , pivoted to the opposite ends of the case, and carrying a reciprocating card-exhibitor, the elbow-cranks h , pivoted to the brackets $f f'$, the pawls $i i$ for rotating a card-carrier in reverse ways, and the crank s , carrying a hammer, substantially as shown and described, to simultaneously exhibit a card and strike a bell, in the manner and for the purposes set forth.

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