

(No Model.)

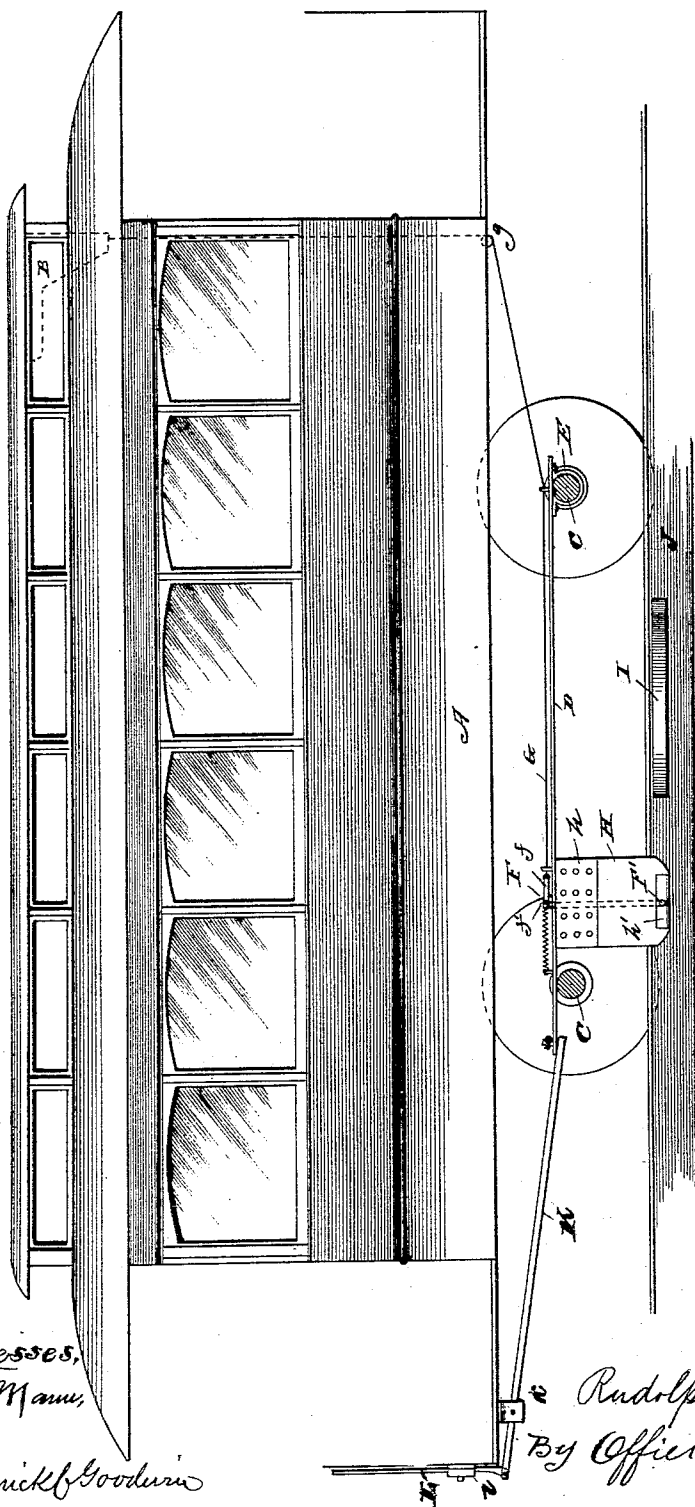
2 Sheets—Sheet 1.

R. G. HOUTNEY.
STATION INDICATOR.

No. 476,537.

Patented June 7, 1892.

Fig. 1.



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(No Model.)

2 Sheets—Sheet 2.

R. G. HOURTNEY.
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Fig. 2.

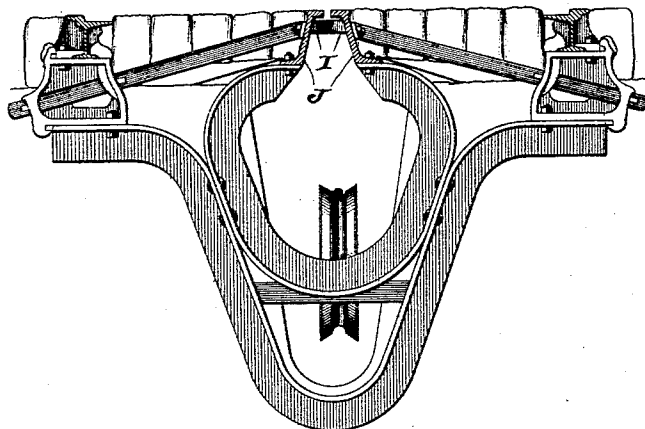


Fig. 6

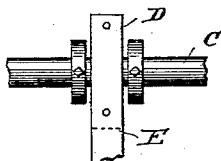


Fig. 3.

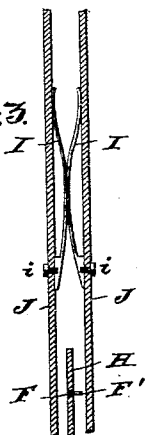


Fig. 4.

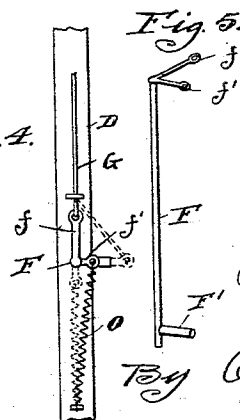
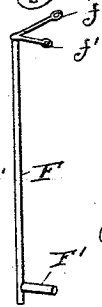


Fig. 5.



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UNITED STATES PATENT OFFICE.

RUDOLPH G. HOURTNEY, OF CHICAGO, ILLINOIS.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 476,537, dated June 7, 1892.

Application filed March 17, 1890. Serial No. 344,129. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH G. HOURTNEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Operating Mechanism for Street and Station Indicators, of which the following is a specification.

My invention has for its object to provide for automatically operating an indicator mechanism for cars, and it is particularly adapted for use with the cable and elevated railways.

In carrying out the invention I provide the car with a rocking arm or lever or equivalent projection adapted to engage a stationary tripping device located beneath the car in the conduit of a cable railway or upon the road-bed of a surface road or upon the sills or ties of an elevated roadway near the crossing and connect with said projection from the car a cable leading to the operating-lever of the indicator device within the car, whereby when the car in its progress reaches the tripping projection the indicator will be operated and by the usual appliances a sheet or placard will be presented to the view of the passengers bearing thereon the name of a street.

In the accompanying drawings, Figure 1 is a side elevation of the body of a cable railway-car and a longitudinal section through the axles and conduit, taken in the plane of the slot and showing my improved operating mechanism applied. Fig. 2 is a cross-section of the conduit and track-rails, showing the tripping projections in end elevation. Fig. 3 is a sectional plan view showing the head of the slot-irons cut away and the tripping projections applied to the inner sides of said irons and showing in section the lower end of a lever connected with the car and which is adapted to be operated by the trip. Fig. 4 is a plan view showing a bell-crank rocking lever with a cable and spring applied thereto and a portion of a bar used for supporting the lever. Fig. 5 is a perspective view of the bell-crank lever, showing a bent end thereof which is engaged by the tripping projections; and Fig. 6 is a detail plan view of one of the axles and showing the means for connecting one end of the supporting-bar thereto.

In the construction shown in Fig. 1, A rep-

resents a car of usual construction and having an indicator B, also of usual construction, therein. These indicators as now generally used have a series of sheets secured at one of their margins with link belts passed around rollers or to the periphery of a revolving drum operated, in some instances, by a ratchet and pawl manipulated with a cord or lever by the conductor or driver and in other instances by means of a positive gearing from the car-axle.

My invention has to do only with applying automatically a force to the indicator to move its parts and is well adapted to the manipulation of an indicator having a ratchet-and-pawl mechanism and operating-lever, either sliding or pivoted.

C C represent the car-axles, and, as shown in the drawings, I support my operating mechanism upon said axles by means of a bar D, loosely secured to one of said axles by the clip E, as in Figs. 1 and 6. The opposite end of this bar rests on the other axle, and journaled in said bar is an arm F, having the bell-crank members ff' at one end thereof and a bent end F' , which is adapted to project into the conduit, or rather between the Z-rails forming the slot. To the arm f I connect one end of the cable G, the other end of which will be carried around a sheave, as g , at the end of the car, and thence conducted upwardly and connected to an operating-lever of the indicator B. In order to guard the lower end of the lever F, I provide the plate H, which may be apertured for the passage of the lever and have a strengthening-plate H thereon. This guard-plate will travel edgewise in the slot, and its lower end may be apertured, as at H' , to permit the free movement of the bent end F' of the lever F.

The indicator mechanism is usually provided with a spring or weight, so that after it has been once operated it will be set for further operation by the action of the spring or weight, and hence no additional mechanism need be provided for turning the lever F to operative position, and the parts will be so set when in use that the bent end F' will project at right angles to the slot. Secured in position to engage the bent end of the lever F are tripping projections which will be located along

the line of travel near to street-intersections, and in the present instance these tripping devices are leaf-springs I, whose ends are secured by the screws *i* with the slot-rails J.

5 In the form shown in the drawings these springs will yield to the passage of the grip-shank; but when the bent end F' of the lever F comes in contact with either the one or the other of them the lever F will be rocked and

10 its bell-crank members *f f'* will be turned in the position indicated by the dotted lines, Fig. 4, and a pull on the cable will result, thus effecting the operation of the indicator, the movement of the operating parts of which

15 will return the bell-crank lever to its original position, and thus put it in position to be engaged by the next trip.

In some cases cable-railway cars are transferred to horse-car lines, and to provide for

20 the lifting of the lower end of the lever F out of the slot I connect the bell-crank member *f'* by a spring O with the supporting-bar D. The free end of this bar projects beyond the axle of the car and is there pivotally connected with a pivoted arm or lever K, whose

25 forward end is connected to an operating-arm L. The arm L slides in a keeper *l*, secured on the dash-board of the car, and the lever K is preferably pivotally connected with a support *k*. When the cable is disconnected from

30 the indicator, the resiliency of the spring O will turn the bent end F' of the lever F in a position to be lifted out of the slot, and then by a downward thrust on the arm L the lever

35 K will be rocked on its pivot and will lift the free end of the supporting-bar D, and with it the lever F, so as to raise the bent end of the latter out of the slot.

It will be understood that the construction

40 hereinbefore described is intended to be illustrated only and that changes may be made in the construction and arrangement of parts without departing from the spirit of my invention. The tripping projections may be

45 located toward the bottom of the conduit, instead of on the sides of the slot-rails, and only one projection need be employed, unless the cars are to be turned at the end of the track. Instead of the bell-crank-lever arrangement,

50 the pull on the operating-cable may be effected by other and equivalent means, such as a pivoted lever, having one of its ends connected with said cable and the other end adapted to engage the tripping projection. The size and

55 proportion of parts may be varied, and it may be found necessary to make the bell-crank members of the operating-lever longer, so as to give a greater sweep of movement and to provide for differences of gearing in the indi-

60 cator.

I claim—

1. The combination, with a car having a

street or station indicator mechanism therein and a cable connected with the operative mechanism, of the indicator conducted beneath the car and having its other end secured with a

65 crank-operating lever, said lever vertically positioned and adapted to rock in its bearings and having an end thereof projected to pass into the slot of a cable railway, and a yielding

70 tripping projection secured in the conduit, substantially as described.

2. A means for operating indicators on cable railways, comprising, in combination with an indicator mechanism located in the car, a

75 cable connected with the operative mechanism of the indicator conducted beneath the car and having its other end secured with an operating-lever, said lever being vertically positioned and adapted to rock in its bearings,

80 and a guard-plate projected from the car into the slot and adapted to shield the operating-lever, substantially as described.

3. The combination of a car, a depending pivoted trip-rod, an obstructing device in the

85 path of the trip-rod, means for moving the trip-rod at will out of the plane of the obstructing device while the car is in motion without disturbing or changing the indicators, street

90 or station indicators adapted to be changed to display names, and a connection between the trip-rod and the street or station indicators to effect their change as the trip-rod is swung,

substantially as described.

4. A means for operating a street or station

95 indicator, comprising, in combination, a supporting-bar having an end thereof pivotally connected with one of the axles and its opposite end projected to bear upon the other

100 axle, and means under the control of the driver for rocking said lever on its pivot whereby to elevate the supporting-bar, a crank-lever

105 vertically positioned and adapted to rock in a bearing on the supporting-bar, a cable connecting the crank member with the operating mechanism of the car, and the bent end of

said crank-lever projecting to engage the tripping device located along the line of way, substantially as described.

5. In means for operating street or station

110 indicators, the combination of a rocking bell-crank lever having one member connected by a flexible medium with the operating mechanism of an indicator and having a bent end

115 thereof projected through a slot in the track to engage a tripping projection located below said slot, and a spring adapted to turn said rocking lever, so as to permit the bent end thereof to be removed from the slot, substantially as described.

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