(No Model.)

J. P. ROBERGE & L. P. TIMMONS.

RAILWAY STATION INDICATOR.

No. 362,662. Patented May 10, 1887.

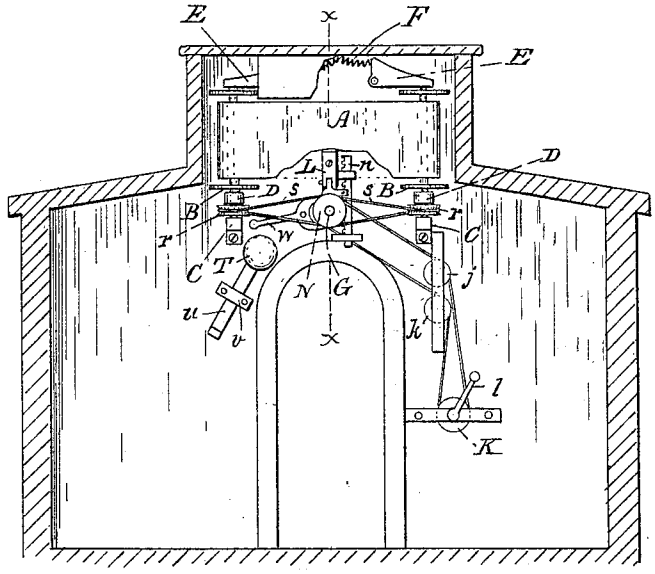


Fig. 1

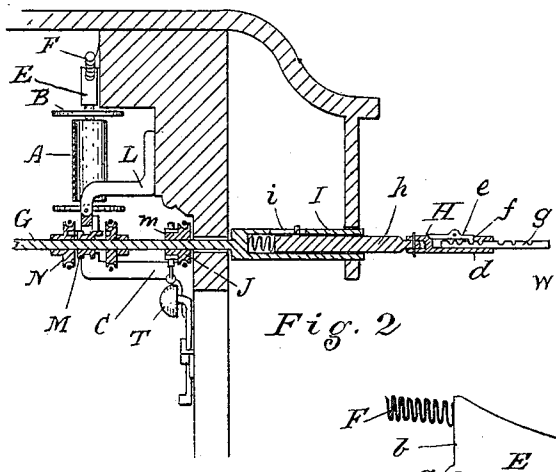


Fig. 2

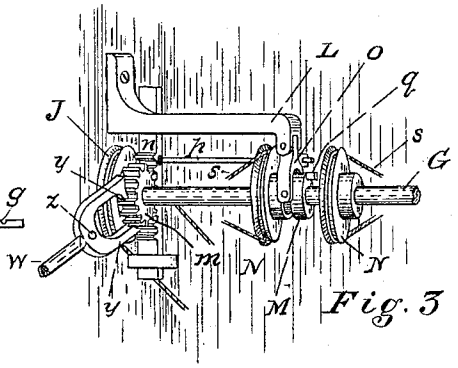


Fig. 3

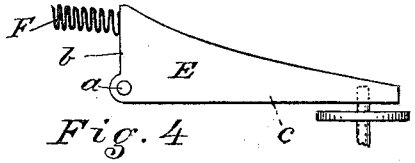


Fig. 4

Witnesses:
J. Richard
Art. Charbonneau.

Inventors.
Joseph P. Roberge,
Leonard P. Timmons,
By J. Coursolle atty.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH PIERRE ROBERGE AND LEONARD PATRICK TIMMONS, OF WICKHAM WEST, QUEBEC, CANADA.

RAILWAY-STATION INDICATOR.

SPECIFICATION forming part of Letters Patent No. 362,662, dated May 10, 1887.

Application filed December 1, 1886. Serial No. 220,357. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH PIERRE ROBERGE and LEONARD PATRICK TIMMONS, citizens of Canada, residing at Wickham West, in the county of Drummond and Province of Quebec, Canada, have invented certain new and useful Improvements in Railway-Station Indicators, of which the following is a specification.

A device embodying our invention contains a rod or shaft extending lengthwise through the car, supported in suitable bearings, connected by an escapement device with a gong or bell, and by a system of pulleys and belts with spools or rollers, which carry a belt upon which the names of the stations are shown, and which may be drawn from one spool to the other, and means for removing or changing said spools; provision for connecting the indicator for one car with that of another, so that the communication throughout a train of any length may be effected, all as hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a general view of our indicator as placed in a car. Fig. 2 is a sectional elevation, on line *x x*, on a larger scale than Fig. 1. Fig. 3 is an enlarged perspective view of the driving parts of the apparatus, and Fig. 4 is an enlarged view of part of the spool-holding device.

The names of the stations on the line are printed or otherwise indicated on the belt A, which is wound upon the two spools B B. The spools rest on pivots which stand in the brackets C, secured to the wall of the car, and pass up through the steadying-brackets D. The top ends of these spools are held by the bell-cranks E E, one of which is shown in Fig. 4. These bell-cranks are pivoted at *a*. Their short arms *b* are held outward by the spring F, and their long arms *c* are thereby held down upon the journals of the spools, which project up into them. From this it will be seen that for the removal of a spool it is only necessary to raise the arm *c* and lift the spool off its bottom pivot.

G is a rod or shaft which extends through the car lengthwise, supported in suitable bearings and projecting through the ends of the car, where it is provided with the coupling H, by which it may be attached to the corresponding rod of the adjoining car. This coupling is provided with a universal joint, (shown in Fig. 2,) and the outer part, *d*, of the coupling contains a spring, *e*, having on its end a small nib, *f*, which takes into notches formed in the connecting-rod *g*, and holds it in place, so that it will not be pulled out without a determined effort. This connecting-rod *g* projects and is held in a similar manner in the coupling of the next car. The inner part, *h*, of the coupling slides freely endwise in a tube, I; but this tube is held to revolve with the coupling by a pin which projects from the part *h* through the slot *i*, formed in the tube. The end of the rod G is fixed rigidly in the end of the tube I and turns with it.

A cord-pulley, J, is fixed on the rod G, and is belted over the direction-pulleys *j* and *k* down to the driving-pulley K, which is turned by the hand-crank *l*, and is within convenient reach of the train officials. A small spur pinion, *m*, is fixed on the rod G, and works the rack *n* vertically through suitable bearings. A bracket, L, is secured to the car-wall, and to its outer end is pivoted a clutch-fork, *o*, which spans and moves a sliding hub, M, which slides endwise on the shaft G and turns with it. A lever, *p*, connects the fork with the rack *n*, the said lever being secured to the fork, and the pivot of the latter serving as the fulcrum of the said lever. As the lever is moved up or down by the rack, the fork will be swung on the pivot and move the hub into engagement with one or the other of the pulleys.

To provide for the slight longitudinal movement of the lever *p*, caused by the swinging of the fork *o*, any suitable connection between the said lever and the rack that will permit the said movement may be provided—as, for instance, the end of the lever may extend into a slot in the rack or through an eye thereon.

The hub M has a finger, *g*, projecting from each end, which may be moved by the fork *o* into openings made in the pulleys N N, which turn loosely on the rod G, and one of which is placed on each side of the hub M. The object of this arrangement is that either one of the pulleys N may be caused to turn with the rod

G while the other is left free. The toothed portion of the rack *n* is only of such length as will be sufficient to move the hubs M from one of the pulleys N to the other. When the rack is run out of engagement in either direction with the spur-pinion *m*, the further turning of the pinion in the same direction will have no material effect upon the rack, the lever *p* holding the rack endwise against the pinion, so that when the rotation of the pinion is reversed it engages immediately with the rack. The lever *p* is sufficiently elastic to hold the rack in engagement with the pinion, as stated, but also is rigid enough to insure the operation of the hub M in the manner described.

On the pivots of the spools B are fixed the pulleys *r*, which are driven by belts or cords *s* from the pulleys N, one of these pulleys being connected with one of the spools and the other with the opposite one, so that either spool may be driven, according to the way in which the belt A is to move.

T is a gong provided with the shank *u*, held in a clasp, *v*, which is fixed to the car-wall. The gong is sounded by the hammer W, which is pivoted at *z*, and provided with the pallets *y y*, which are moved by the teeth of the pinion *m* and cause the hammer to strike the gong. In sleeping-cars the gong may be moved down out of reach of the hammer, so as not to sound during the night.

What we claim as our invention is—

1. In a station-indicator, the combination, with a rotatable drive-shaft, of pulleys mounted loosely thereon, an indicating device, connections between the pulleys and said indicating device, a hub movable on the shaft to engage one or the other of the pulleys, and means, substantially as described, for operating the hub, for the purpose set forth.

2. In a station-indicator, the combination of a rotatable drive-shaft, pulleys connected to an indicating device and mounted loosely on the said shaft, a pinion movable with the shaft, a rack engaging with the pinion, a hub on the shaft, and connections between the rack and hub for moving the latter into engagement with one or the other of the pulleys, substantially as described.

3. In a station-indicator, the combination, with a rotatable drive-shaft, pulleys loosely mounted thereon and connected to an indicating device, a pinion on the shaft, a rack engaging therewith, a hub on the shaft, and an elastic connection between the rack and hub, whereby the rack is maintained in connection with the pinion, substantially as described.

4. The combination, with the drive-shaft and an indicating device operated thereby, of an alarm consisting of a bell or gong, and a pivoted hammer provided with pallets engaging a pinion on the shaft, substantially as described.

5. In a station-indicator, a drive-shaft provided with a slotted tubular end, combined with a coupling consisting of a part, *h*, partially contained in the tubular end of the shaft, an outer tubular part, *d*, pivoted to the part *h*, a notched connecting-rod, *g*, and a spring-catch carried by the part *d* and engaging the rod *g*, substantially as described.

6. In a station-indicator, the combination, with the spool B, for carrying the indicating-strip, of a removable bearing for the same, consisting of a pivoted bell-crank, E, having one arm engaging the spindle of the spool and the other acted upon by a spring, substantially as and for the purpose specified.

Signed at Wickham West this 12th day of November, 1886.

JOSEPH PIERRE ROBERGE.
LEONARD PATRICK TIMMONS.

In presence of—
M. LEONARD,
JAS. TIMMONS.