

Fig 1

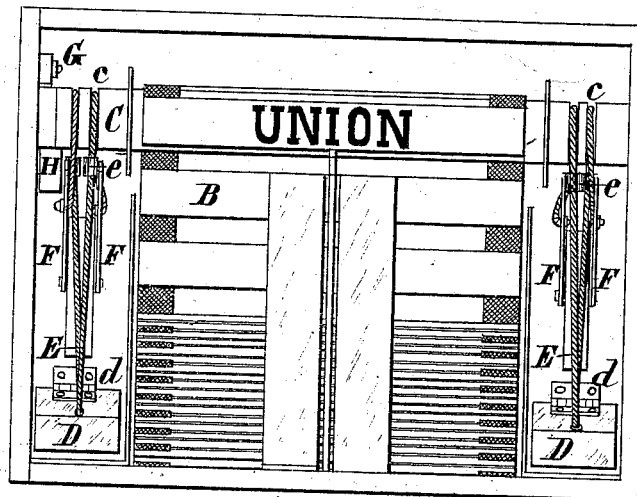


Fig 2

Witnesses

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Station-Indicators.

2 Sheets—Sheet 2.

No. 214,776.

Patented April 29, 1879.

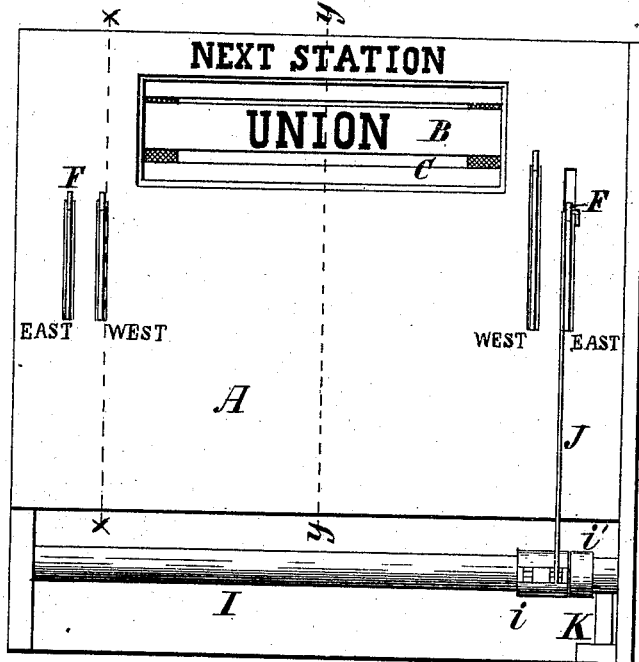


Fig 3

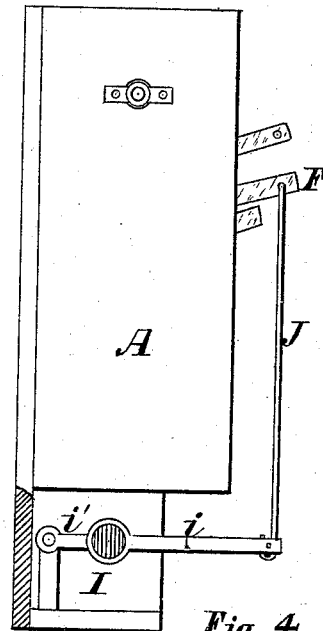


Fig 4



Fig 5

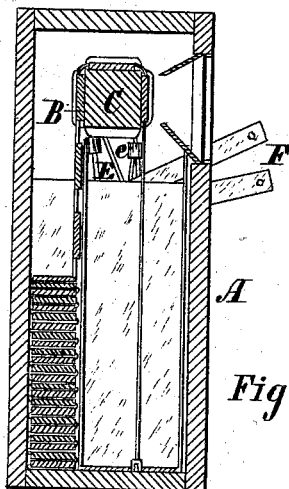


Fig 7

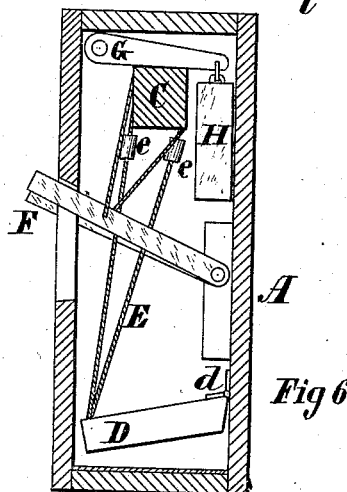


Fig 6

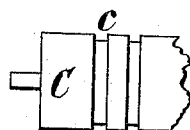


Fig 8

Witnesses

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN STATION-INDICATORS.

Specification forming part of Letters Patent No. **214,776**, dated April 29, 1879; application filed June 12, 1878.

To all whom it may concern:

Be it known that I, ZEBINA M. HIBBARD, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and useful Improvement in Station-Indicators, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a partial cross-section of a railway-car with my improved indicator applied. Fig. 2 is a front elevation of the indicator-box with the side removed; Fig. 3, a similar elevation of the apparatus, the central portion of the operating-post being broken away; Fig. 4, an end elevation of the same; Fig. 5, a side elevation of the head of the trip; Fig. 6, a transverse section of the indicator-box taken on the line *x x*, Fig. 3; Fig. 7 a similar section taken on the line *y y*, Fig. 3; and Fig. 8, a detail of the square end of the reel-shaft.

My present invention relates to an improvement upon the station-indicating apparatus for which I have heretofore applied for Letters Patent, whereby the action of the indicator is made more certain, and may be operated automatically, if desired.

The invention consists in various special devices and combinations of devices, all of which will be hereinafter fully set forth.

In the drawings, A represents the indicator-box, within which is inclosed the continuous strip bearing the names of the stations and the direct mechanism by which it is moved. This strip B passes over a square shaft, C, within the box similar to the one shown in my previous application. At one or both ends of this shaft are shallow parallel grooves *c*, cut in each side of the shaft, as shown in Figs. 2 and 8 of the drawings.

At the bottom of the box, and at one or both ends thereof, is a weight, D, attached at its rear end to the back of the box by a hinge, *d*, so that it will vibrate up and down. Two cords, E, are attached to the front end of this weight, and are extended up over the shaft C, on opposite sides thereof, being arranged each in one of the grooves *c*. These cords are provided with stops or disks *e*, arranged just below the shaft, and are attached at their upper ends to levers F, respectively, which are piv-

oted to a suitable support at the rear of the box, and project through the front thereof, as shown in Figs. 6 and 7 of the drawings.

At one or both ends of the shaft C is a lever, G, arranged just above the shaft, and pivoted at one end to the end piece of the box. This lever extends across the shaft, and is provided at its other end with a weight, H, whereby the lever is caused to operate as a weighted stop on the straight sides of the shaft, to prevent the turning of the latter more than one side at a time.

It is evident from the above description that when one of the cords E is drawn over the shaft C it will turn the latter in one direction, while if the other cord is pulled it will turn it in the opposite direction, the hinged weight D producing the necessary friction. These cords are thus operated to rotate the shaft by vibrating the levers F, one of which is operated to rotate the shaft and move the name-belt in one direction, and the other to reverse the movement when the car is going in the opposite direction. The stops or disks *e* strike against the side of the shaft soon after the cord is tightened over the shaft, thereby preventing any slipping in case there is any undue resistance to be overcome, and thus making the required rotation of the shaft positive and certain.

The levers may be operated by the hand, or a device may be connected to them by means of which they may be operated automatically. I have shown one device for this latter purpose in the drawings. A rock-shaft, I, is mounted in suitable bearings below the indicator-box, and is provided with two arms or levers, *i i'*, projecting in opposite directions from the shaft. A rod, J, connects the outer end of the lever *i* with one of the levers F, and to the other lever, *i'*, is pivoted the upper end of a rod or bar, K, which extends down through the bottom of the car, as shown in Fig. 1 of the drawings. A cam or trip, L, is mounted on the top of a post, *l*, set up by the side of the track in a convenient position, and arranged so that just as or soon after the car leaves a station the lower end of the bar K will come in contact with the cam, which is of such contour as to lift the bar, thereby rocking the shaft I, so as to depress the lever *i*, and through it the le-

ver F. The distance to which the cam will raise the trip or bar is regulated so as to move the lever F just sufficiently to turn the belt-shaft one space, thereby exhibiting in the indicator the name of the next station.

The weight D will, of course, operate to restore the sliding bar to its normal position below the car after it has passed the cam.

The lower end of the bar K may be provided with a wheel, *k*, to relieve the friction.

Upon the return-trip, if the car is run back without turning, it will only be necessary to change the connection of the link-rod J from one lever F to the other; but if the car is turned around, the indicating apparatus must be constructed so as to be readily transferred from one side of the car to the other.

It will, of course, be desirable to arrange the operating-cams on both sides of the station, so that the indication will be made just as or soon after the car leaves the station when going in either direction.

It will thus be seen that the indicator may be made automatic in its operation, and, if desired, the box may be provided with automatic apparatus at one end and with hand-levers at the other, so that either one may be used to change the indicator.

The two independent cords are desirable, as it saves all shifting of devices at the end of a route, and the hinging of the weights makes the action of the latter steadier, so that there

is no liability of the cords becoming disarranged.

I do not limit myself to the special device described for operating the indicator automatically, as some other device may be used without changing the other parts of my machine.

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

1. The shaft C, in combination with the independent weighted cords E, independent levers F, and a name-belt, B, operated by the shaft, substantially as described.

2. The operating-shaft C, in combination with the actuating-cord E and a weight, D, attached at one end to the cord and at the other hinged to a stationary support, whereby it is free to vibrate while held in place, substantially as described.

3. The operating-cords E, provided with stops *e*, in combination with the shaft C, provided with grooves *c*, substantially as described.

4. The rock-shaft I, provided with levers *i*, in combination with the sliding bar K, cam L, lever F, weighted cord E, and indicator-shaft C, substantially as described.

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Witnesses:

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