J. H. HERZOG.

STATION INDICATOR.

No. 189,039. Patented April 3, 1877.

Fig. 1.

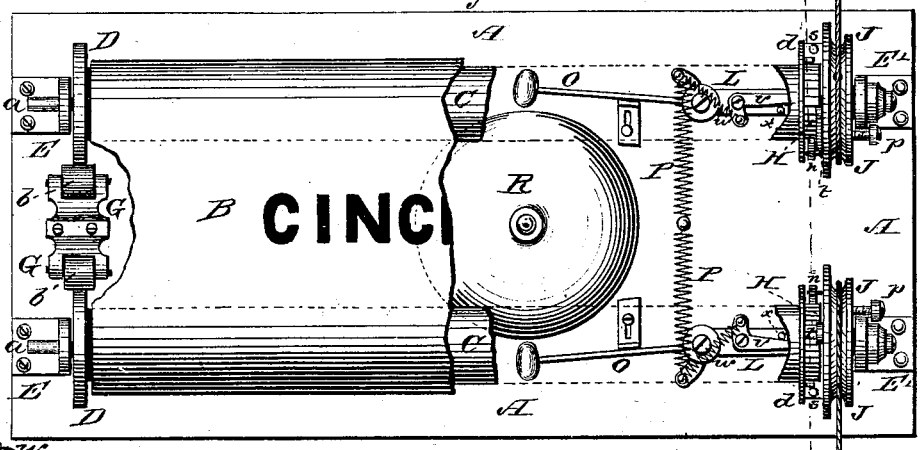


Fig. 6.

Fig. 8

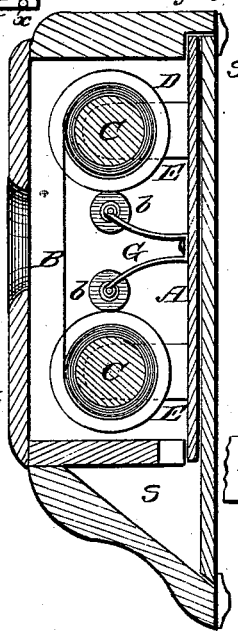


Fig. 2.

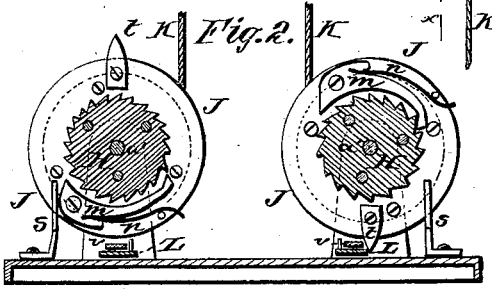


Fig. 3.

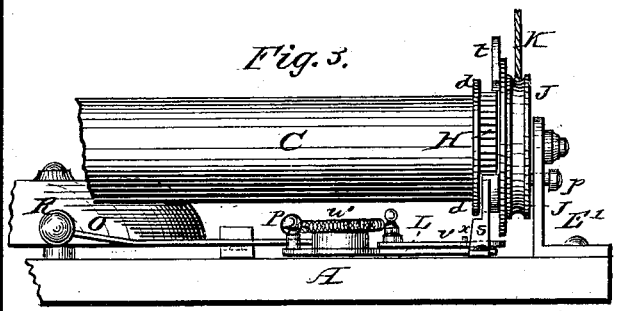


Fig. 4.

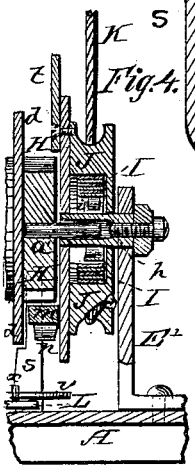


Fig. 7.

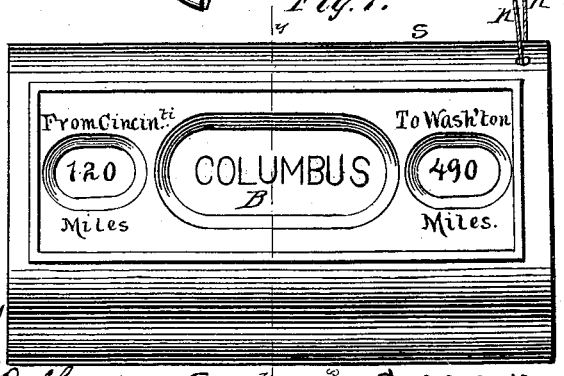
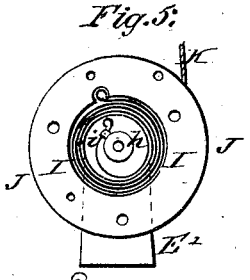


Fig. 5.



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UNITED STATES PATENT OFFICE

JOHN H. HERZOG, OF CINCINNATI, OHIO.

IMPROVEMENT IN STATION-INDICATORS.

Specification forming part of Letters Patent No. **189,039**, dated April 3, 1877; application filed March 9, 1877.

To all whom it may concern:

Be it known that I, JOHN H. HERZOG, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Station-Indicators, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a station-indicator, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a front view of my improved station-indicator. Fig. 2 is a cross-sction of the same through the line *x x* of Fig. 1. Fig. 3 is an enlarged side view of a part of the indicator. Figs. 4, 5, and 6 are detached views of detailed parts of the mechanism. Fig. 7 is a front view of the indicator with the surrounding case. Fig. 8 is a section through the line *y y*, Fig. 7.

A represents a back plate, to which the entire mechanism is attached. B is an apron, upon which the names of the stations are printed, or otherwise permanently attached, at regular intervals. On one side of each of these names is affixed the number showing the number of miles from one end of the route, and at the other end of the name other numbers, showing the number of miles to the other end of the route. This apron B is attached to two rollers, C C, mounted in bearings, as hereinafter described, so as to roll up and unroll the apron first in one direction and then in the other—that is to say, while the train moves in one direction the apron is to be turned in one direction at the proper times, and when the train returns the apron will be turned in the opposite direction. At one end each roller C is provided with a smooth-edged metal disk, D, of larger diameter than that of the roller, and from the center of such disk projects a journal, *a*, which rests in a bearing, E, attached to the plate A. Between the two bearings E E are arranged two spring-arms, G G, which carry at their ends small rubber blocks or rollers *b b*, that bear against the peripheries of the two disks D D, so as to hold them by friction from turning, except when the operating mechanism is actuated. At the other end of each roller C is secured a flange, *d*, and ratchet-wheel H, and from the center of said wheel projects a journal, *a'*, which has its bearing in a hollow hub, *h*, secured in and projecting inward from a standard, E', also secured to the plate A. On this hub is placed loosely a pulley, J, which is made hollow, and contains a coiled spring, I. One end of this coiled spring is fastened to the interior of the pulley, while the other end is hooked on a hook, *i*, projecting from the side of the hub *h*. On the inner side of the pulley J is pivoted a pawl, *m*, actuated by a spring, *n*, which pawl is to engage with the ratchet-wheel H to rotate the roller. In the outer side of the pulley J is inserted a screw, *p*, which projects therefrom and strikes the standard E', forming a stop for the rotation of said pulley. The tension of the spring I within the pulley can easily be regulated by taking out the screw *p*, turning the pulley one or more times forward or backward, and then inserting the screw again.

K is a cord or chain, attached to and wrapped around the pulley J, so that by pulling the same the pulley will be turned on its hub nearly one revolution, or until stopped by the stop *p* against the other edge of the standard E', and when the tension is removed from the cord K, the spring I will return the pulley to its former position. When the pulley is thus rotated by means of the cord K, the pawl *m* engages with the ratchet-wheel H, and rotates that roller C a certain distance, sufficient to bring the name of the next station on the apron B in view, and when the tension on the cord is released, and the pulley returns, the pawl slides over the ratchet-wheel without turning the roller.

When the spring-pulley J has reached its normal position, the pivoted end of the pawl *m*, projecting beyond the pivot, comes in contact with a lug or stop, *s*, on the plate A, whereby the pawl is lifted away from the ratchet-wheel, and the roller is only held stationary by the friction-roller *b* at the opposite end. It is, of course, understood that the

two spring-pulleys, with their pawls and ratchet-wheels for the two rollers, operate in opposite directions, so that one cord is operated when the train moves in one direction, and the other cord while it moves in the opposite direction.

On the inner side of each pulley J is attached a rigid tooth, *t*, which, when the pulley is rotated by the cord K, comes in contact with a finger, *v*, on a lever, L, to which a bell-hammer, *o*, is attached. By this means the lever L is turned on its pivot, and when the tooth passes beyond the finger a spring, P, causes the hammer *o* to strike a bell, R, as shown. The finger *v* is pivoted on the lever L, and held by means of a spring, *w*, against a pin, *x*, on the lever, so that the tooth *t* will, when the pulley is rotated by the cord, operate the lever to sound the bell; while, when the pulley is returned by means of its spring, the finger turns on its pivot by the action of the tooth on it in the opposite direction. There are two of these levers, fingers, and hammers, so that whichever pulley is operated the bell will be struck.

The plate A, with the entire mechanism as described secured thereon, is inclosed within a case, S, having suitable glass-covered openings to expose the name of the station, as well as the numbers on each side thereof.

On a railroad-train it is intended to have one of these indicators in each car, and the cords operated directly from the engine, so that the engineer can at one time give due notice in all the cars of the name of the next station the train is approaching. This invention may also be used on street-railroad cars, when names of streets will be substituted for names of stations.

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

1. The spring-pulley J, provided with projecting tooth *e*, in combination with the pivoted lever L, carrying hammer *o*, finger *v*, and spring *w*, substantially as and for the purpose set forth.

2. The combination of the curtain-rollers C with ratchet-wheels H and standards E′, having stationary hubs *h*, provided with projecting hooks *i*, the hollow pulleys J, springs I, pawls *m*, and stops *p* and *s*, whereby the curtain can be operated in both directions, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN H. HERZOG.

Witnesses:
WM. B. UPPERMAN,
FRANK GALT.