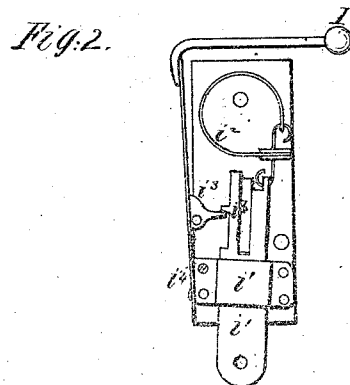
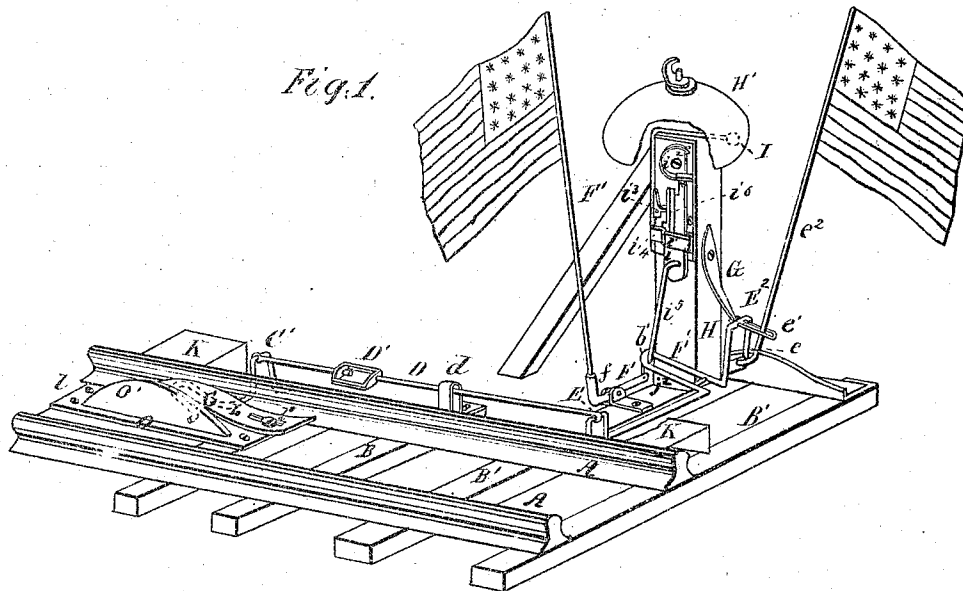


J. H. JOHNSON & J. E. LAYTON.

Railroad Signals.

No. 140,200.

Patented June 24, 1873.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. JOHNSON AND JOHN E. LAYTON, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN RAILROAD SIGNALS.

Specification forming part of Letters Patent No. 140,200, dated June 24, 1873; application filed January 4, 1873.

To all whom it may concern:

Be it known that we, JOHN H. JOHNSON and JOHN E. LAYTON, of Springfield, county of Clark, State of Ohio, have invented a new and useful Improvement in Railway Signals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of our improved signal, with a portion of the bell broken away to more fully show the striking apparatus; and Fig. 2 is a detached view of the devices for operating the bell-hammer.

Similar letters of reference denote corresponding parts in both figures.

The invention relates to that class of automatic railway signals which are employed at road-crossings, tunnels, stations, or curves, to indicate the near approach of a train; and consists in a novel construction of parts, whereby two flags may be waved in vertical planes arranged at right angles, or thereabout, to each other.

In the drawings, A A represent the rails, and B B' the cross-ties of a railway track, which parts may be of the usual description, the ties B' being longer than ties B, as is customary at those points where switches are put in. C C' is a double crank-shaft, the two cranks being set at an angle of about fifty degrees from each other, and arranged upon opposite sides of this rail. The shaft is mounted in suitable bearings, which may be attached to one of the cross-ties, or to a sill placed below the rail especially for that purpose. The outer crank, C', occupies a nearly vertical position, the inner one, C, being placed at an angle of, say, forty-five degrees from the ground, substantially as shown in the drawings. L is a semi-elliptical spring-guard, placed above crank C. One end of this guard is secured firmly to a tie or plate, as at l. The other end of the guard is slotted, and is kept in position by means of a vertical pin, as at l', which leaves this end free to move back and forth when the central portion is depressed, in a manner and for a purpose which will soon be explained.

In practice, we prefer to use a metallic plate, O, having a circular wing or side, o', to sup-

port both the guard L and one end of crank-shaft C C', securing this plate to the ties. The upper surface of the crown or highest part of the guard projects slightly above the face of the adjacent rail, so that when a car passes the tread of the wheels will depress the guard, and with it the free end of crank C, which is arranged to be in close contact with the under side of the guard, as shown in Fig. 1, the crank being returned to its original position after each wheel passes. Thus a series of vibrations is imparted to the shaft by every car which moves over it.

D is a link-rod, the two parts of which are adjustably connected with each other by means of double-screw link D'. The link D may be supported upon friction-wheels, as at d. E E' E² are a series of cranks united by a common shaft, the link-rod D being connected with crank E. e is a socket mounted on crank E², and adapted to receive and support the flag-staff e². e¹ is a link or brace connecting socket e with the upper end of the crank; or, when preferred, the socket may be formed upon and made a part of one arm of said crank. H is a post, to which an alarm-bell, H', is secured. G is a spring attached to post H, the free end of the spring engaging with crank E² to throw it (the crank) outward from the post. The elastic arm of the hammer I is attached to the post H at i'. The pivoted tripper i' is actuated by a spur, i², projecting from the tripper-slide i, which is secured to either the post or to a face-plate by the guide-strap i', and has a reciprocating motion imparted to it by means of a spring, i², at the upper end, and a link, i³, which connects its lower end to crank E¹. F is a bent lever, pivoted at f. One end of this lever is socketed to receive the flag-staff F', the other end being connected with crank E¹ by a link, f'. f² is a spring employed to assist in raising the inner end of bent lever F after it has been depressed by crank E¹.

When desired, cranks C' E, and the link D, may be covered by a shield or guard K to protect them, and the lever E² may be mounted upon a bracket projecting from the post H, in order to keep said lever from being covered or obstructed by snow and ice.

It will be readily understood, from the above description and an inspection of the drawings,

that when a car passes over the crank O the flags will be waved and the bell H' will be struck as a signal of warning.

By means of the screw-link D' the connecting-link D may be adjusted so as to keep the crank-arm C in close contact with the guard L, and the crank E² and the bent lever F in contact with their respective springs.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is--

The combination of the crank E¹ E² and flag-

staff e' actuated by crank C, substantially as described, with the bent lever F, arranged to vibrate the flag-staff F' at right angles to the plane of flag-staff e', substantially as described.

In testimony whereof we have hereunto set our hands this 28th day of December, A. D. 1872.

JOHN H. JOHNSON.
JOHN E. LAYTON.

Witnesses:

GEO. ARTHUR,
J. W. JARRETT