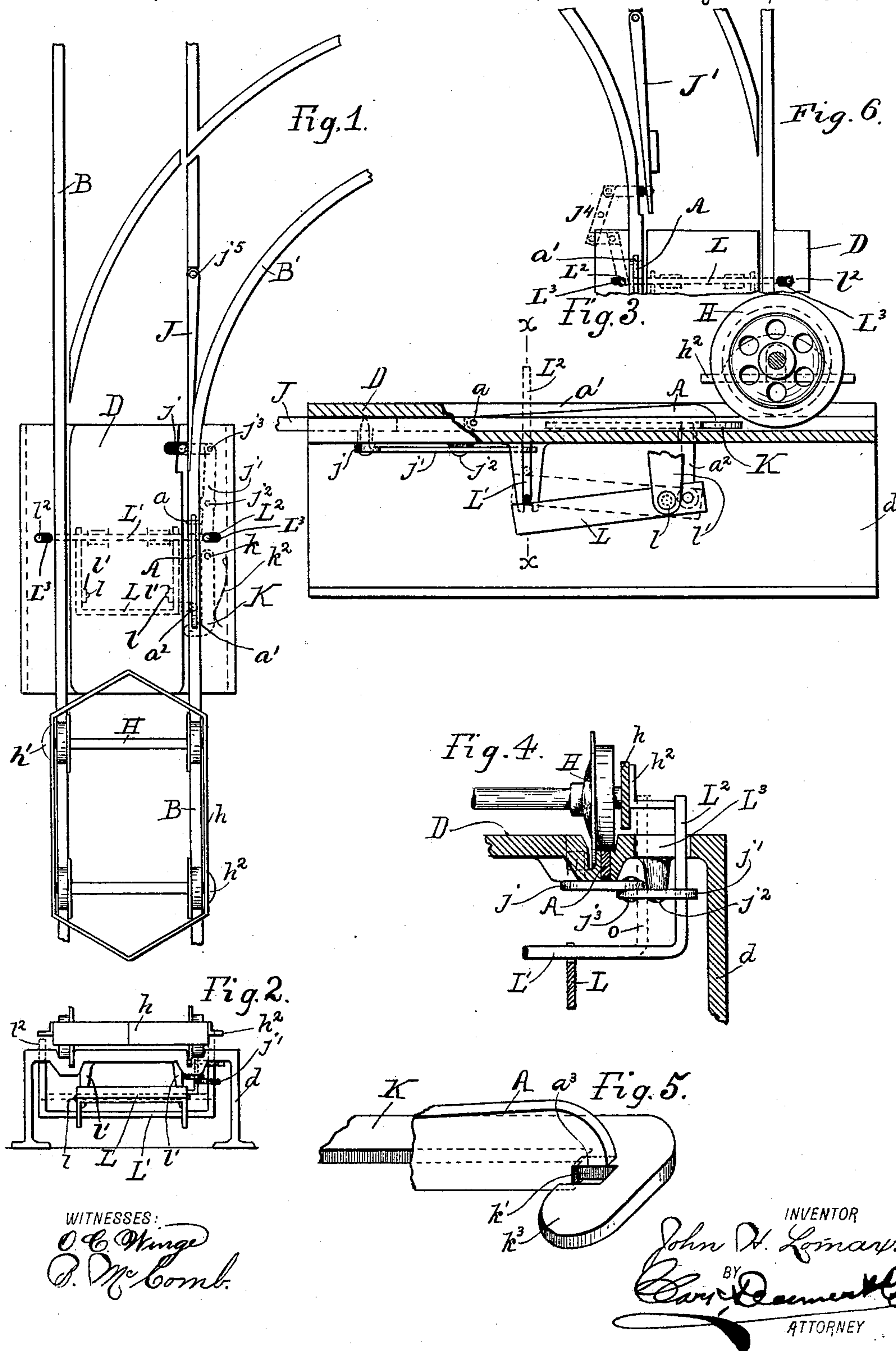


(No Model.)

J. H. LOMAX.
AUTOMATIC RAILWAY SWITCH.

No. 583,148.

Patented May 25, 1897.



UNITED STATES PATENT OFFICE.

JOHN HENRY LOMAX, OF BROOKLYN, NEW YORK.

AUTOMATIC RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 583,148, dated May 25, 1897.

Application filed February 12, 1897. Serial No. 623,078, (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY LOMAX, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Automatic Railway-Switches, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to an improvement in automatic railway-switches; and the object of my invention is to provide an apparatus that shall be automatic in its operation of switching a car in either direction without the necessity of stopping the same. The mechanical portions consist of few parts, which are of simple construction and arranged beneath the surface of the road-bed, and are operated by the flanged wheel of the car, which precludes any possibility of the switches being thrown accidentally by other vehicles.

The invention will be hereinafter fully described, and specifically set forth in the annexed claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a railway-switch constructed and arranged according to my invention. Fig. 2 is an end elevation of Fig. 1. Fig. 3 is an enlarged longitudinal vertical section through the switch-box. Fig. 4 is a vertical cross-section on line xx of Fig. 3; and Fig. 5 is an enlarged view, shown in perspective, of the switch-locking mechanism. Fig. 6 illustrates a plan view of a modification.

In the practice of my invention I locate at a suitable point in advance of the switch an iron switch-box D, having the general contour of the car-rail cast in its upper face and throughout its length to perform the functions of a rail to the car-wheels. In the center of the rail so formed a treadle-lever A is pivoted within a slot a' of the rail B by means of a pin a . This said treadle from the point of where it is fulcrumed to the rail gradually rises above the said rail as an inclined plane to a height flush with the top of the switch-box D and having a rounded end to admit a car-wheel passing over it. This treadle A

rests upon a vertical rod a^2 , that is pivoted at its lower end to a two-armed or U-shaped lever L, and said lever L, fulcrumed on either side at l to ears l' , drops vertically from the under side of the box D. At or near the open ends of the said lever L and resting thereon by gravity is a double or U-shaped rod L' , whose vertical upright ends L^2 and l^2 pass loosely into elongated slots L^3 on the outside of the rails, and when in their normal position are slightly below the top surface thereof. These rods L^2 and l^2 are of unequal height, l^2 being shown the shorter of the two.

On the side of the track containing the switch-tongue J the upright or vertical rods L^2 and l^2 loosely pass through the eye of a lever j' , pivoted to a suitable boss at j^2 and hinged at the other end at j^3 to an intermediate lever j , connected to the under side of the switch-tongue J, said tongue J swinging on a pin j^5 .

As a means for locking the treadle-lever A, I provide a swinging L-shaped lever K, pivoted at k to the under side of the box D. The other end engages with a horizontal slot through the rail B and penetrates the longitudinal groove in the box to accommodate the flange of the car-wheel. The outer end k^3 , which so engages the flange of the wheel, is provided with a slot k' , designed to release the treadle A when pushed aside by said flange, and returned to its normal position by a spring k^2 .

On both sides of the car and at both ends are arranged horizontal segmental plates h' and h^2 , fixed to the guard h or other convenient standard. These plates are adapted to engage the vertical upright rods L^2 and l^2 when caused to rise above the surface of the road, for the purpose of shifting the switch-tongue to the right or left, as will be presently explained.

In Fig. 6 I have illustrated a slight modification, illustrating a means for operating the switch J in an opposite direction to the switch J' without altering the position of the means on the car. To do this, I substitute for the lever j' a compound-lever arrangement j^4 .

In the operation of my invention, when it is desired to throw the switch-tongue J from its position as shown in Fig. 1 to one which will allow the car to pass from the track B to

track B' the flange of the car-wheel striking the toe k^3 of the lock-lever K forces it to one side, releasing the treadle A by allowing it to pass through the slot k' . The wheel passes
 5 to and rides over said treadle, causing it to be depressed downwardly into the slot through the rail to engage the rod a^2 . Said rod a^2 is forced downward, causing the hinged U-shaped lever L to swing as shown in dotted
 10 lines in Fig. 3 of the drawings, which motion causes the double connected rods L^2 and l^2 to rise perpendicularly to a height of several inches above the road-bed on either side of the track.

15 The car in its onward motion brings the segment-plate h^2 or any other suitable projection located upon the car parallel to the rails into contact with the said upright rod L^2 , causing it to be thrown to one side from a position shown
 20 at o, Fig. 3 in dotted lines, to the position of rod L^2 , causing the lever j' to swing and its attached lever j to throw the switch-tongue to the left, allowing the car to pass upon the rail B'. These upright or perpendicular rods
 25 L^2 and l^2 are of unequal height and the plates or projections h' and h^2 on either side arranged to correspond—that is to say, the car having a prescribed or fixed route the upright rod L^2 at each switch to be operated by the
 30 said car is of an equal height and the engaging plates on said car arranged at a corresponding height, while a car having a different route engages the shorter rod l^2 on the opposite side of the track to throw the said
 35 switch-tongue J in a reverse position. As soon as the car-wheel has passed from the treadle A said treadle rises to its normal position above the face of the rail and is locked by the lever K under the influence of its
 40 springs. The U-shaped lever L swings down-

ward, causing the upright rods L^2 and l^2 to drop from sight by gravity.

I do not confine myself to the specific details of construction as herein shown and described, as it is obvious that under the scope 45 of my invention I am entitled to the use of slight variations in mere mechanical structure.

Having thus described my invention, what I claim as new, and desire to secure by Letters 50 Patent, is—

1. A railway-switch, comprising a car-wheel-operated treadle, a pivoted lever for locking the same, and a rod connecting said treadle with a two-armed or U-shaped hinged 55 lever, said lever adapted to raise and lower perpendicular rods of unequal height to operate a switch-tongue, substantially as shown and described.

2. In a car-wheel-operated switch, the combination of a normally-locked treadle adapted 60 to be operated by the tread of a car-wheel, a pivoted lever locking said treadle and operated by the flange of a car-wheel, of a rod connecting said treadle with a two-armed or 65 U-shaped pivoted lever adapted to raise and lower perpendicular rods of unequal height within the range of segment-plates fixed to said car, and of a pivoted lever hinged to the switch-tongue and operated by the said per- 70 pendicular rods, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of February, 1897. 75

JOHN HENRY LOMAX.

Witnesses:

C. SEDGWICK,
 B. McCOMB.