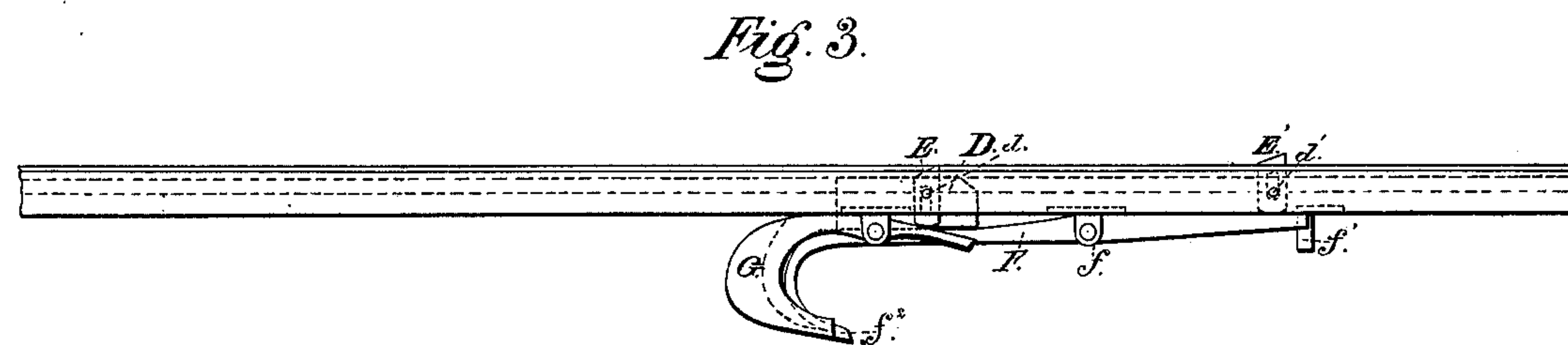
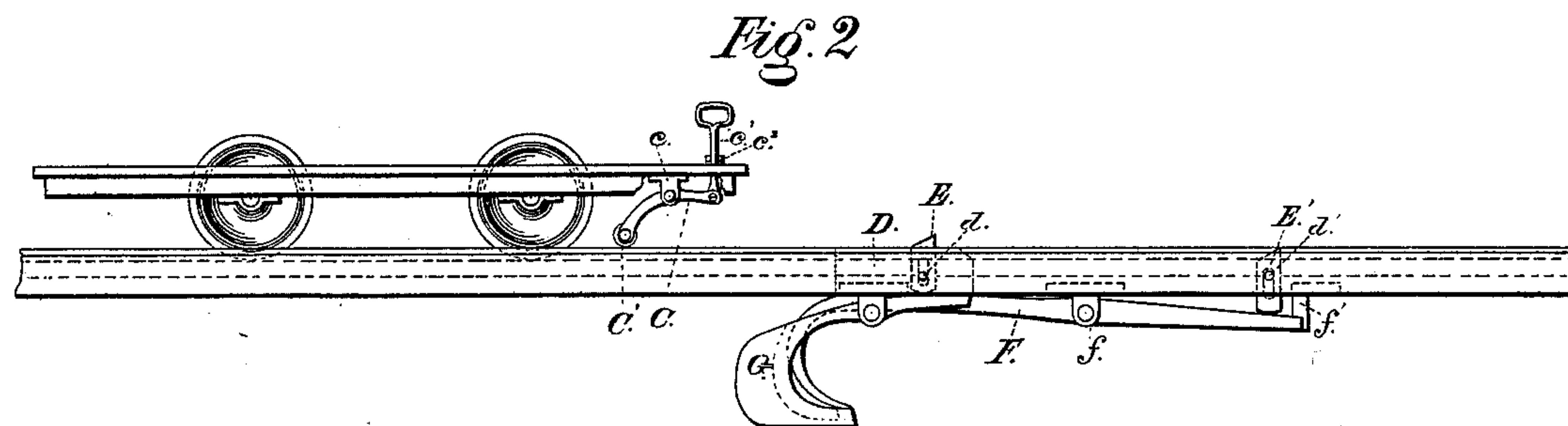
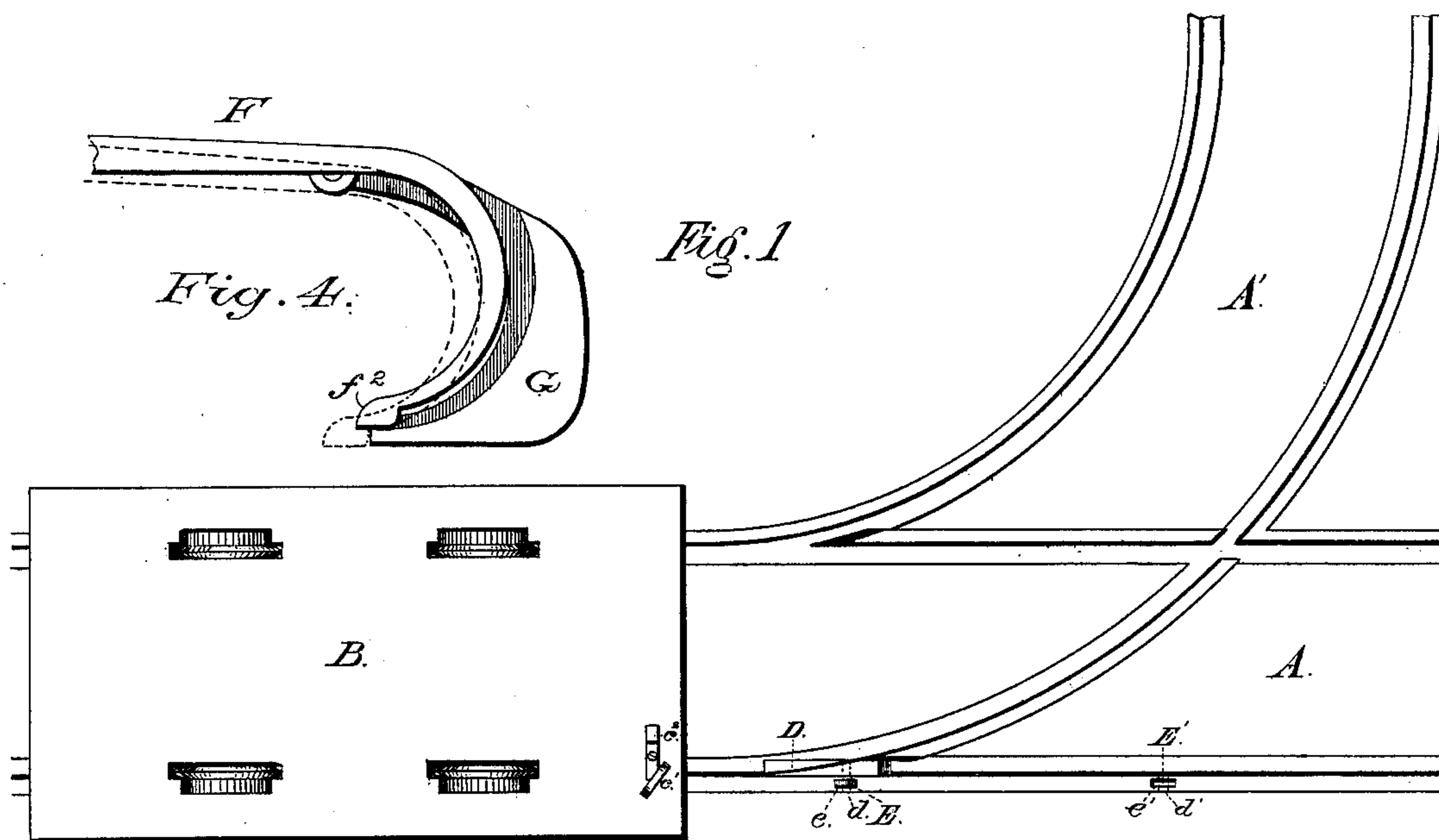


G. W. SHERER.
Railroad Switches.

No. 231,197.

Patented Aug. 17, 1880.



Witnesses
E. L. Ames.
E. M. Carmele

Inventor
George W. Sherer
By J. W. Lovel
attg

UNITED STATES PATENT OFFICE.

GEORGE W. SHERER, OF ROCKFORD, ILLINOIS, ASSIGNOR TO HIMSELF
AND DEXTER A. K. ANDRUS, OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 231,197, dated August 17, 1880.

Application filed October 16, 1879.

To all whom it may concern:

Be it known that I, GEORGE W. SHERER, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Railroad-Switches; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a plan view of the railway, showing the car in position for running upon the main track. Fig. 2 is a side view of the main line with the car in the same position as in Fig. 1. Fig. 3 shows the position of the switch when the main line is open and with the car removed, and Fig. 4 is an enlarged view of the weighted locking-lever.

The object of the invention is to provide a railway-switch that shall be automatical in its operation by the passage of the car over the road, and the whole under the control of the driver or the person upon the car or engine, and especially adapted for use upon a horse-railway, but can be used upon the common steam-railway.

The invention consists of the ordinary rail, the ordinary car with an operating-pulley (under control of the driver) attached to and operated from the forward end of the car, a track-rail having vertical perforations through it, within which the tripping-dogs are placed, a switch-point that rises or lowers for the passage of the car either upon the main or side track, as desired, a hook-shaped switch-point-operating lever and a weighted curved locking-lever to hold the point up when the car is to be run upon the side track or upon a street running at right angles with the one upon which the main track is laid, all of which will be hereinafter fully described.

Similar letters of reference denote corresponding parts in all the figures.

In the drawings, A represents the main track, and A' the side or right-angled track. B represents the ordinary car, mounted upon wheels in the usual manner. C is a bar, bifurcated at one end for the insertion of the operating-pulley C'. c is a slotted downhanger secured to the lower side of the car, and within the slot of which the bar C vibrates. c' is an up-right hand-lever, pivoted at its lower end with

the bar C, and having a loop at its upper end for the convenience of the operator, whose hand is inserted within the loop whenever it is desired to raise or lower the pulley, as will be hereinafter more fully described.

c² is a locking-dog, which holds the operating-pulley, through the medium of the levers, in a raised or lowered position. As here shown, the locking-dog c² is pivoted centrally of its length, and has a raised portion at its free end, so as to be swung around by the use of the operator's foot when it is desired to raise or lower the operating-pulley; but I do not wish to confine myself to this specific locking device, as any common or well-known one can be used.

It will also be observed that the operating-pulley is herein shown upon but one end of the car; but, if desired, two devices can be used—one upon either end of the car—so that the car need not be turned end for end at the terminus of the route.

D is a vertically-movable switch-point placed between the inner side of the rail upon the main track, against which the curved rail of the side track abuts and at the end of the said curved rail. This point is made wedge-shaped upon its upper edge, so as to guide the wheel of the car upon the side track when it is desired so to do.

A vertical slot is made in the point, within which the holding-pin designated d enters, so as to keep the point in place, and yet allow of the required vertical movement necessary to lower or raise the switch-point.

E is a tripping-dog, which passes through a mortise, e, made in the rail upon the main track laterally in line with the point, and is held in place by the pin d, which passes through both the dog E and the point D, thus keeping both from vertical displacement. E' is still another tripping-dog similar to the dog E, which passes through a mortise, e', in the rail and is held in place vertically by the pin d', which passes through a slot made in the dog in the same manner as has been described in connection with dog E.

F is a hooked-shaped lever lying beneath the mortised rail above described, and in longitudinal line with the same.

f is an eared piece, which secures the hooked

lever by a centrally pivotal connection with the mortised rail.

f' is a down-hanging guide, which passes through a slot in the straight end of the lever F, so as to prevent lateral displacement of the said lever. f^2 is a lug upon the lower portion of the curved or hooked end of the lever F.

G is a short weighted lever, curved upon its weighted end to correspond with the curve upon the lever F. This lever G is centrally pivoted to the rail, beneath the same, in a similar manner with the long curved lever, and lying side by side with the said lever, and in such manner that its curved end, by its weight, will drop down and catch against the lug f^2 upon the lever F, thus locking it and keeping the siding open, as will be hereinafter described.

The tripping-dog E rests with its lower end upon the forward or straight end of the weighted lever G, and by which the weighted end is raised when the pressure comes upon the upper end of the said tripping-dog, the operation of which will now be described.

In horse-railways a double track is usually used. The switch is approached from the direction as indicated by the car shown in Fig. 1, and if the main track is to be used the pulley C' upon the forward end of the car is thrown down by the levers to within close proximity of the rail, and the said pulley, being in advance of the wheel, runs upon the incline of the dog E, the lower end of which rests upon the forward part of the short weighted locking-lever, thus causing the weighted end to rise, which releases it from its connection with the lug f^2 upon the end of the long curved lever, and when so released the weight of the point which rests upon that end causes it to drop, and the point with it, thus lowering the switch-point and allowing the passage of the car.

When the dog E' is reached by the operating-pulley the main line is closed and the siding opened and locked by the depression of the forward end of the long lever and the consequent raising of the rear end upon which the vertically-moving point rests. When the car is to be run upon the side track the operating-pulley is raised so that it will not strike the tripping-dog. The switch-point remaining elevated, the car is turned, as will be readily understood.

It will be seen that the invention is more especially adapted for use upon horse-railways; but it is evident that it can be used upon any double-track railway without modification further than having operating-pulleys at both ends of the train—one to lower the switch-point, the other to raise the same. In this case the tripping-dogs are not in line, but the

lowering one receives the forward pulley and the raising one the rear pulley.

For a single-track railway some slight modifications are made which will suggest themselves to those skilled in this branch of mechanics.

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

1. The combination, with a vertically-adjustable roller connected with a car, of a railway-switch consisting, essentially, of a lever supporting upon one end a vertically-movable tripping-dog and upon the other end a vertically-movable switch-point, and a weighted lever supporting a tripping-dog, said levers being arranged to positively lock the switch-point in its raised position when one of said tripping-dogs is depressed, and to depress the switch-point when the other tripping-dog is acted upon, substantially as set forth.

2. In a railway-switch, the tripping-dog E, the weighted lever G, and curved lever F, the said levers pivoted as described, in combination with the rails or railway-bed, substantially as specified and set forth.

3. The combination of the lever F, lug f^2 , and weighted lever G, arranged and operating substantially as described.

4. The combination of the lever F, centrally pivoted as described, the vertically-moving point D, and tripping-dog E', arranged and operating substantially as described.

5. The combination with the slotted tripping-dogs E E', lever F, slotted switch-point D, weighted lever G', and securing-pins $d d'$, substantially as set forth.

6. In an automatic railway-switch, the combination of the operating-pulley C', levers F and G, point D, tripping-dogs E E', holding-pins $d d'$, guide f' , and the mortised rail, within which the tripping-dogs move, all these parts arranged and operating substantially as described and herein set forth.

7. The combination, with a railway-track, of two tripping-dogs, a vertically-movable switch-point, and connecting mechanism, whereby, one of said tripping-dogs being depressed, the switch-point is moved to its lowest and inoperative position, while the other tripping-dog, being depressed, operates to raise the switch-point and other tripping-dog and positively lock the switch-point in its raised and operative position, substantially as set forth.

This specification signed and witnessed this 31st day of July, 1879.

GEORGE W. SHERER.

Witnesses:

G. W. FORD,
E. A. FORD.