

L. W. HARRIS.
Self-Acting Switches.

No. 139,956.

Patented June 17, 1873.

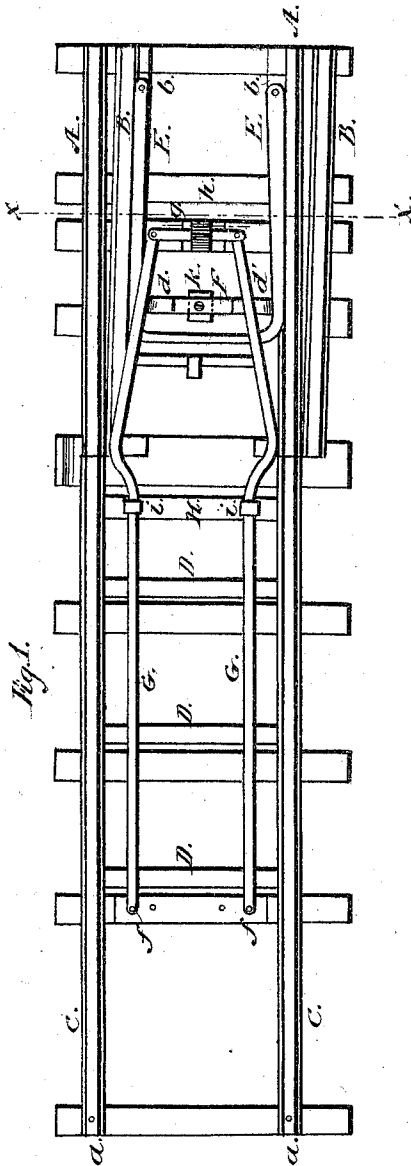


Fig. 1.

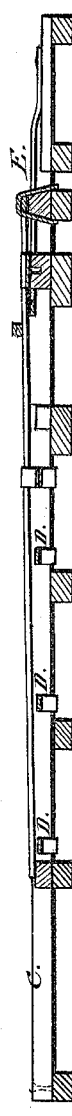


Fig. 2.

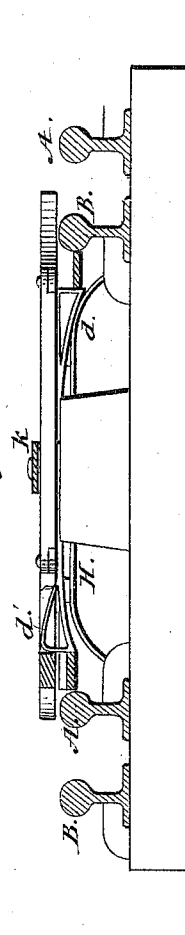
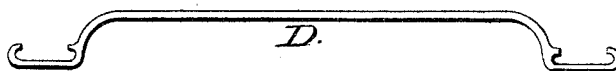


Fig. 3.



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UNITED STATES PATENT OFFICE.

LEWIS W. HARRIS, OF ORISKANY FALLS, NEW YORK.

IMPROVEMENT IN SELF-ACTING SWITCHES.

Specification forming part of Letters Patent No. **139,956**, dated June 17, 1873; application filed April 18, 1873.

To all whom it may concern:

Be it known that I, LEWIS W. HARRIS, of Oriskany Falls, county of Oneida and State of New York, have invented a new and useful Improvement in Railroad Switches; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, with letters of reference marked thereon forming a part of this specification.

My invention relates to an improved mode of making and operating a railroad switch, the object of which is to prevent the car from running off the track in moving in either direction, and also to obviate the freezing down of the different attachments, first, by elevating all the attached parts of a switch above the base of the rails, and consequently above the ordinary position of said parts where freezing down is liable to occur; second, by operating the switch from the inside face or flange of the first wheel of a train which may be approaching it upon the open track; third, by providing a spring-lock in combination with levers G G, for the purpose of securing the movable rails in line with either track.

Figure 1 is a plan view of my device. Fig. 2 is a longitudinal central section. Fig. 3 is a transverse section in line of *xx* of Fig. 1. Fig. 4 represents the form of the metallic cross-tie, which is to hold the switch-rails in their relative positions.

A A and B B are convergent rails fixed in the usual way to cross-ties. C C are movable switch-rails which bear on the cross-ties, which have independent ties D D to hold them relatively together as they move about their pivot axes *a a*. The levers G G are pivoted at *f f*, and run parallel with the switch-rails and are secured firmly to the movable cross-ties at *i i*; they then diverge outward to the outside of the inside rail of each track when in position to operate. From this point they diverge inward until they pass across the top of the rail until sufficiently open between the lever and the rail to receive the flange of the wheel between them. The cross-bar *g* is secured loosely to the levers G G, and slides in the loop *h*, which serves as a guide to steady the levers G G in their lateral movement. A bow-

spring, E, is secured firmly to a stringer, *b b*, alongside of the inner fixed rails A and B. This spring inclines upward until it meets the plane of the upper surface of the inner rails A B. Another spring, F, forms a bearing to the spring E, and has knees *d*, which serve to hold through the agency of the laterally-moving device, the movable-rails *c c* in line with track upon which the cars are moving.

The operation of the device is as follows: The movable-rails *c c* being in line with fixed rails A A, we suppose a train to be coming down on the rails B B; when the forward wheels of the first car reach the bow-spring, the flange of the right wheel then bears on the surface of one arm of it and depresses it, and with it the spring F, thereby releasing the lever G from the knee *d* of said spring. The flange of the first right wheel of the forward car now bears against the lever G, and in its movement shears said lever to the left, and with it the tracks *c c* to which it is attached, until said tracks come opposite the fixed tracks B B. The lever G of the laterally-moving device, having passed over the knee *d*, the spring F returns to its proper place, and the released knee catches the lever G upon the opposite side of the track, and holds it in position until the train passes, or until another train comes down on the tracks A A.

What I claim as new, and my invention, and desire to secure by Letters Patent, is—

1. The movable tracks *c c*, pivoted to one of the fixed ties, and held relatively together by metal ties, D D D H combined with the peculiar-shaped levers G G which are sheared or moved laterally by the wheels of a car, as and for the purpose set forth.

2. The locking device, composed of the spring F, having knees *d d'*, combined with the lever-arms G G and U-shaped springs, E E, as described for the purpose set forth.

3. The metallic tie D, (as shown in Fig. 4,) adapted by its peculiar form to be securely attached to the flanges of the shifting-switch rails, substantially as described.

LEWIS W. HARRIS.

Witnesses:

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S. J. NOYES.