

United States Patent Office.

W. L. ROGERS, OF NORTH CORNWALL, AND W. E. CRANE, OF NEW BRITAIN, CONNECTICUT.

Letters Patent No. 73,200, dated January 7, 1868.

IMPROVED RAILWAY-SWITCH.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, W. L. ROGERS, of North Cornwall, in the county of Litchfield, and State of Connecticut, and W. E. CRANE, of New Britain, in the county of Hartford, and State of Connecticut, have invented a new and improved Railroad-Switch; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification:

This invention relates to a new and improved railroad-switch, of that class which are commonly termed self-acting, and which are operated by the cars.

The invention consists in a peculiar mechanism employed to serve as a stop to prevent the casual movement of the switch, and in a mechanism employed for moving the switch, as hereinafter fully shown and described. In the accompanying sheet of drawings—

Figure 1 is a plan or top view of my invention.

Figure 2, a side view of a portion of the same.

Figure 3, a section of the same, taken in the line *x x*, fig. 1.

Figures 4 and 5, sections of a portion of the same, taken in the line *y y*, fig. 1.

Figure 6, a detached view of a part pertaining to the same.

Similar letters of reference indicate corresponding parts.

A A represent the rails of the main track of a railroad, and B B the rails of a branch track, and C the switch, constructed as usual, to form a communication with the main or branch track. These parts, being constructed and arranged in the ordinary manner, do not require a special description. The switch C is moved or operated, so as to be thrown in line with either the main rails A or branch rails B, by means of right-angular levers, D D', connected at one end by rods E E' to the switch, and connected at the opposite ends by rods F F' to cranks G G', at the outer ends of the shafts H H', the inner ends of which have pinions, *a*, on them, the latter gearing into vertical rack-bars I I', which are fitted in the sides of the rails A B of the main and branch tracks, (see figs. 1 and 2.) These rack-bars are depressed by the car wheels passing over them, and when the switch is in line with the rails B of the branch track, and the cars are moving on the main rails A, in the direction indicated by arrow 1, the rack-bar I is depressed by the car-wheels, and the switch moved in line with the rails A, but when the switch is in line with the main rails A, and the cars are moving on the branch rails B, in the direction indicated by arrow 2, the rack-bar I' is depressed by the car-wheels, and the switch moved in line with the branch rails B.

Besides this switch-operating mechanism, it will be seen that a stop-mechanism is necessary in order to hold the switch and prevent it from casually moving. This stop-mechanism is constructed as follows: To one side of the switch C there is attached, by a pivot, *a*, a rod, J, on which a tube, K, is placed, having a slot, *b*, made in it, through which a pin, *c*, on rod J, passes, the slot *b* being sufficiently long to admit of the tube K being turned a certain distance on rod J. L is a fixed rod, which is fitted in the tube K, said rod L having a pin, *d*, projecting from it, which passes through a longitudinal slot, *e*, in the tube K. This slot *e* has three small slots, *f*, extending from it at right angles, all of which are shown clearly in fig. 1. To the exterior of the tube K there is attached a plate, *g*, which has its outer edge notched in V-form, and there is also attached to the exterior of the tube a projecting plate, *h*, having a spring, *i*, bearing against it, the spring being attached to the tube, and bearing upon rods M M', which are of hook-form at one end, as shown at *j*, to extend up underneath the tube K, as shown clearly in fig. 3. The other ends of these rods are connected to cranks *k* at the outer ends of shafts l l', which have pinions, *m m*, at their inner ends, to gear into rack-bars N N', which are fitted in the rails A B.

The switch is prevented from moving casually in consequence of the hook *j* of one rod fitting in the notched plate *g* of the tube K, and the pin *d* of rod L fitting in a slot, *f*, which communicates with slot *e*, and in order to release the switch, in order that it may be moved, the wheels of the car first come in contact with the rack-bar N or N', which is connected with the rod M or M', which has its hook in the notch of the plate *g*. This rod M or M' is shoved forward, and comes in contact with the spring *i*, and in moving turns the tube K, so that the pin *d* will be brought into slot *e*, (see fig. 6,) and the tube K is then allowed to slide on rod L, and with the rod

J, and consequently the switch is allowed to move under the mechanism previously described. After each movement of the switch, the tube K is adjusted or turned back by an attendant in order that it may be held in position until a succeeding train passes.

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

1. The bent or right-angular levers D D', rods E E' F F', cranks G G', pinions *a* and rack-bars I I', all arranged and applied to a switch to operate in the manner substantially as and for the purpose set forth.
2. The rods J L and tube K, notched as shown, and provided with the spring *i* and plates *g h*, in combination with the rods M M', shafts *l l'*, pinions *m*, and rack-bars N N', all arranged substantially in the manner as and for the purpose specified.

W. L. ROGERS,
W. E. CRANE.

Witnesses:

SILAS C. BEERS,
FREDERIC L. PLATT.