

VAN DYKE CRUSER.
RAILWAY SWITCH.

Patented Nov. 14, 1893.



UNITED STATES PATENT OFFICE.

VAN DYKE CRUSER, OF FLATBUSH, NEW YORK.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 508,413, dated November 14, 1893.

Application filed January 3, 1893. Serial No. 457,088. (No model.)

To all whom it may concern:

Be it known that I, VAN DYKE CRUSER, a citizen of the United States, residing at Flatbush, in the county of Kings and State of New York, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in railway switches of that class which are designed to be operated by means located to be actuated by devices on the car, and it has for its objects among others to
15 provide a simple and cheap construction and arrangement of parts, arranged beneath the bed of the road and actuated by a lever or analogous device upon the car, the mechanism comprising a partially revoluble disk or plate to
20 which is pivotally connected eccentrically an arm which is connected with the switch rail, and to this same disk or plate are also pivoted eccentric vertical rods which, at their upper ends, carry pressure plates which are
25 designed to be depressed by the means on the car and thus give the disk or plate a partial rotary movement and move the switch rail; this depression of the one plate elevates the other into position for actuation by the next
30 car which moves the switch by the same means.

The construction is simple, easily set up into operative position and requires but little expense or change in the construction of the cars or the road bed.

35 Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

40 The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

45 Figure 1 is a view partly in side elevation and partly in vertical cross section showing my improvement. Fig. 2 is a plan view of the rails and pressure plates, and also of the levers which are designed to be located upon a car. Fig. 3 is a cross section on the line 3—3 of Figs. 1 and 2.

50 Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the draw-

ings by letter, A designates the main track rails, and A' the side track rails; A² is the switch rail mounted upon a suitable pivot *a* 55 as seen best in Fig. 2.

B is a metallic plate located between the rails and supported upon suitable means above a well or chamber B', the said plate having rail supporting portions *b*^x and raised 60 portions *b* substantially the height of the rails as seen in Fig. 3 and openings *b*' through which work the pressure plates.

C are the pressure plates arranged between the tracks as seen in Fig. 2, and each pressure 65 plate or block is supported upon an arm or rod D which are pivotally connected upon opposite sides of the center of a disk E which is carried by a shaft F journaled in the depending arms F' depending from the plate B 70 into the well B' as seen in Fig. 1. These blocks or plates and arms are so arranged and connected that as one block is up the other will be down.

G is an arm extending in an inclined direction, with one end pivotally connected eccentrically with the disk E and its other end with the switch rail A² as seen in Fig. 3. The arrangement and connection of this arm are such 80 that as the disk is moved in one direction the switch rail is moved one way, and as the disk is moved in the opposite direction by the depression of one of the pressure blocks the switch rail will be moved the other way.

Upon the car H at one or both ends I provide the pressure-block-operating devices 85 which in this instance consist each of a lever I pivoted at its rear end as at *i* in lugs or ears *j* depending from the bottom of the car and at the forward end carrying an anti-friction 90 roller J which is normally held above the plane of the pressure blocks by a spring K which is arranged around the vertical rod L between the head *l* thereof and the platform of the car, the said rod being pivotally connected 95 beneath the bottom of the car with the lever I as shown in Fig. 1, so that pressure upon the head of the rod will depress the lever and bring the roller in contact with the pressure block and depress the latter to operate the 100 switch rail. When pressure is removed from the head of the rod the spring returns the parts to their normal position.

In operation, when the car approaches the

switch the driver depresses the rod L and lever I with its roller so that it will contact with the pressure block and move the switch; as soon as the switch is passed pressure is removed from the rod and the lever with its roller are raised by the spring; the switch is moved in the opposite direction by the proper car by depressing the other lever so as to operate the other pressure block.

10 What I claim as new is—

1. The combination with the plate having openings for the pressure blocks, and depending portions, of a transverse shaft journaled in said depending portions, a vertically disposed disk on said shaft, vertically disposed arms eccentrically pivoted on said disk and carrying pressure blocks, rail supporting portions and raised portions between said openings and rail supporting portions and an arm eccentrically connected with said disk and connected with the switch rail, substantially as specified.

2. The combination with the plate having

25 rail-supporting portions and raised portions in proximity to the rail and openings between the raised portions for the movement of the pressure blocks and depending portions, of the horizontal shaft supported in said depending portions, the vertically-disposed disk on said shaft, the vertically-disposed arms eccentrically connected with said disk upon opposite sides of its shaft, the pressure blocks on the upper ends of the vertical arms, the switch rail and the inclined arm having one end eccentrically connected with the disk near its upper edge and the other end connected with the under side of the switch rail, the connection between the inclined arm and the switch rail working in a slot in the plate, substantially as specified.

40 In testimony whereof I affix my signature in presence of two witnesses.

VAN DYKE CRUSER.

Witnesses:

WILLIAM H. CUNNINGHAM,
NOAH TEBBETTS.