

UNITED STATES PATENT OFFICE.

EDWIN BENDER GREEN, OF WHITING, INDIANA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 690,421, dated January 7, 1902.

Application filed May 31, 1901. Serial No. 62,623. (No model.)

To all whom it may concern:

Be it known that I, EDWIN BENDER GREEN, a citizen of the United States, residing at Whiting, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to what are known as "split switches" for railway-tracks; and the object is to provide a switch-bar in one piece which extends from the hand-lever to and under both of the main rails and having integral auxiliary arms to which the switch-rails are adjustably secured, whereby the switch-rails may be made the desired gage and the lost motion due to wear may be taken up with accuracy and ease.

A further object of the invention is to provide a shoe connection between the auxiliary arms of the switch-rod and the split point-rail which will strengthen the latter and afford ready access to the adjusting-nuts on the threaded ends of the said auxiliary arms and which will provide an attachment between the arms and point-rail which will be no obstruction to the flange of the car-wheel passing over the rail.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improvement in position for use, and Fig. 2 is a plan view of same.

Like letters of reference indicate like parts throughout both views of the drawings.

A A represent the main rails of a railway-track, and B B a pair of split rails which are adjusted to and from the main rails. The split rails taper to a thin end, which is brought close against the main rail in order to guide the flanged car-wheel upon the switch-track without obstruction or jar, which would mean the breaking down of the split rail because of its cut-away and weakened condition. It is in order to adjust the split rail that I provide a switch-bar which can be adjusted to any length to make the switch-rails the desired gage. To provide a suitable means for connecting the switch-bar to the split rails, I use the shoes D D. The shoes D D are of like construction, so that a description of one will suffice for both. The shoe D is made

from heavy strap metal, the ends of which are brought nearly together, causing the intermediate portions to form a loop, with lower edges resting upon the top of the base-flange of the rail. The ends are bolted to the web of the split rail, and the sides of the loop by resting upon the flange of the rail serve as a brace to keep the rail from twisting. The loop is of two widths, the inner portion being narrower than the outer portion. The end d of the loop is parallel with the web of the split rail and is perforated to receive the screw-threaded end of the switch-bar. The outer enlarged end of the loop is represented at d' and is primarily for the purpose of allowing the insertion of the head of a wrench to turn a nut on the threaded end of the switch-bar. It will also be noted, as shown in Fig. 1, that the loop after following the top of the rail-flange drops below same in order that the attachment of the switch-bar may be below the flange to prevent the upturning of the latter. The ends of the shoe are secured by bolts d^2 to the web of the split rail and by the open-center construction of the shoe form a resilient support for the reduced web of the rail, which strengthens the latter, while permitting the web to be placed in close contact with the rail A.

C represents the switch-rod, which extends under the track and projects at either side thereof. One end, C', is given a quarter-twist and has horizontal bolt-hole c' to connect with bolt of switch-lever. The opposite end has vertical bolt-hole c^2 also to connect with switch-lever when the latter is of a style requiring vertical instead of horizontal bolt-hole. This switch-rod is cranked down on each side under the split rails, as shown at $C^3 C^3$, and then up again in the middle, so that the horizontal member C^7 is about on a level with the outer edges of the flanges of the split rails or a little below same.

E and E are branch arms integral with the member C^7 of the switch-bar and in alignment longitudinally with said member C^7 . The ends of the arms E E are screw-threaded, and upon the threaded ends are screwed a pair of threaded nuts $e e' e e'$, the inner nuts e' being as locks for the adjacent outer nuts e . The ends E E are then projected through the openings in the ends d of their respective

shoes. By screwing the nuts *e e* in or out the distance between the split rails can be adjusted to a nicety and the adjustment held by screwing the lock-nuts *e' e'* up tight against the nuts *e e*. In pressing the split rails against the main rails the pressure is applied through the nuts *e e'*; but in going the other way to withdraw the split rail I use the nut *e³* on the inside of the shoe. In this case it is not necessary to lock the nut, as the only function is to draw the rail away far enough to allow the flange of the car-wheel to pass between it and the main rail. In fact, a degree of looseness is desired in order to allow play for the swinging split rails.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In combination with a pair of split switch-rails, open-center shoes rigidly secured to said split rails said shoes having openings through their outer portions, a switch-bar passing under the main rails and having integral screw-threaded branch arms, said arms being inserted through the said openings in the shoes, nuts on the branch arms to regulate the distance between the shoes, and locks to hold the nuts.

2. In combination with a split switch-rail,

an open-center shoe directly connected to said rail, a switch-bar having integral arms connected with the shoe, and a take-up device.

3. In combination with a pair of split switch-rails, straps looped to form an open-center shoe rigidly attached to each switch-rail, and a switch-bar adjustably connected to said shoes by means of two take-up devices.

4. In combination with a pair of split switch-rails, straps looped to form an open-center shoe, said open center being contracted in width at its inner portion, the ends of said straps being bolted to the switch-rails and the outer end of its loop having a bolt-hole, a switch-bar passing under the main rails and having an upwardly-cranked middle portion, integral arms projecting from said middle portion to and through the bolt-holes in the shoes, said arms being screw-threaded, nuts on the threaded arms forming take-up devices and lock-nuts to hold the adjustment of the inner nuts.

In witness whereof I have hereunto set my hand and seal, at Whiting, Indiana, this 21st day of May, A. D. 1901.

EDWIN BENDER GREEN. [L. S.]

Witnesses:

JOHN G. ERDLITZ,
GALLUS J. BADER.