

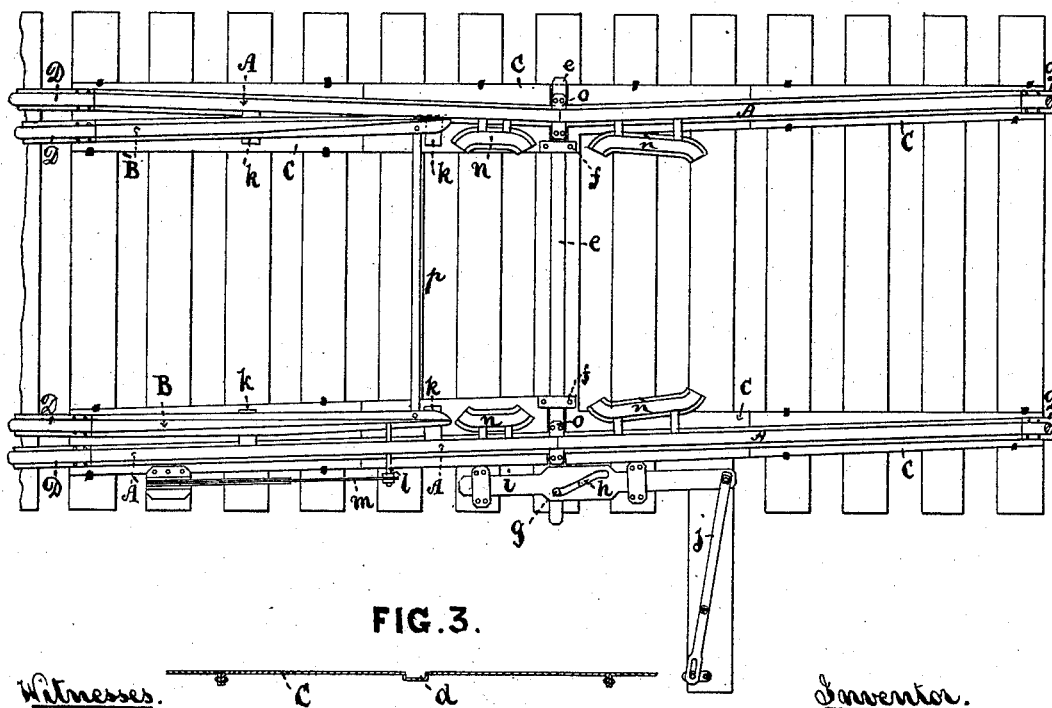
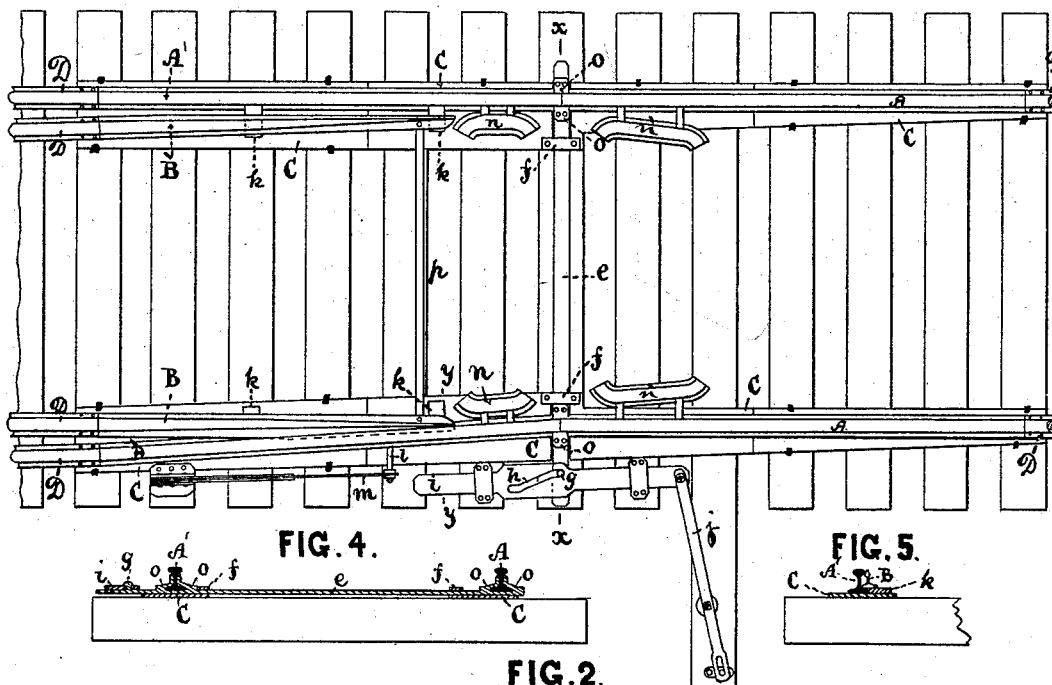
(No Model.)

E. GORDON.
RAILROAD SWITCH.

No. 307,189.

Patented Oct. 28, 1884.

FIG. 1.



Witnesses.
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EDWIN GORDON, OF HYDE PARK, MASSACHUSETTS.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 307,189, dated October 28, 1884.

Application filed March 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWIN GORDON, of Hyde Park, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Switches, of which the following is a specification.

My invention consists in so arranging two pairs of rails pivoted at their outer ends and so jointed at their inner ends as to allow of lateral shifting, in connection with two point-rails, that a safe main track or branch track may be formed by changing the position of the two pairs of rails without breaking their continuity and without changing the position of the point-rails; in placing the two pairs of rails and the point-rails upon a metallic plate, which acts as a solid foundation, and upon which they rest and move, and by the use of which the rails to which the rails A A on one side and the rails A A' on the other side and the point-rails are attached act as fixed points by being firmly attached to this plate; and in so combining the point-rails with a spring that in case the switch is misplaced for trains which are passing in one direction on the main track or in the same direction from the branch track onto the main line the trains will, notwithstanding, pass the switch safely and continue along the main line. I accomplish these objects in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a plan of a section of a railroad track and switch containing my invention and adapted for the passage of trains along the main track. Fig. 2 is the same adapted for the passage of trains from the main track to the siding or from the siding to the main track. Fig. 3 is a longitudinal section of the fixed plate described below. Fig. 4 is a section of Fig. 1 on the line *x x*; and Fig. 5 is a section of a portion of the same on the line *y y*.

A A' are the pairs of laterally-movable rails, the rails constituting each pair being pivoted at their outer ends, and so jointed at their inner ends as to allow lateral motion. B B' are the point-rails. A B form the main track, and A' B' the siding.

C is a fixed holding-plate, on which rest and move the rails A A', and it is firmly attached to the ends of the rails D D. It is secured in

this way to prevent the rails A A' from separating and from coming too closely together from contraction or expansion, as they are held firmly by being attached to the fixed rails D D, to which they are fished so as to permit a slight motion laterally, so that if there is any movement longitudinally the rails D and plate C must move together, as they cannot separate.

In the plate C is a seat, *d*, for the reception of the switch-bar *e*, which is held in position by the seat *d*, and the plates *f f*, bolted at each end to the plate C. The movable rails A A' are connected with this bar, as shown in Fig. 4, by the clamps *o o*, welded or otherwise attached to the bar *e*, which is actuated by means of the stud *g*, moving in the slot *h* in the plate *i*, operated by the switch-rod *j*, or any other suitable device. The ends of the fixed rails D D, connecting with the movable rails and with the point-rails, are at ordinary track-gage—that is, four feet eight and one-half inches; but the movable rails A A are secured to the switch-bar *e* by the clamps *o o* at wheel-gage—that is, about three-fourths of an inch less. By this arrangement the train has less lateral motion, and greater steadiness is secured in passing the point-rails, which is especially important in passing the switch in the direction toward the points.

Attached to the base of the movable rails A A are the pieces *k k*, on which rest the point-rails B B'. As a result of this arrangement the point-rails are raised at their bases above those of the rails A A', but are of the same height at their upper surfaces, except that at their extreme ends they are slightly lower. When either the movable rail A or A' is moved against the point of the point-rail B or B', the base of the latter fits into the web of the movable rail, and thus the upper surfaces of the two near the point of the point-rail are brought closely together, as shown in Fig. 5, whereas if point-rails of the same height as the others are used, having their bases on the same line, the bases, being broader than the upper surfaces of the rails, would meet and leave a wide space above, unless the base of one or both were cut away, and the rail thereby weakened. The outer part of the base of the point-rails

B B' is to be cut away slightly to permit them to lie sufficiently close to the rails A A', and as the point-rails are a little lower at their extreme ends than the rails A A', this may be safely done, as the tread of the wheels will not come upon them except at a little distance from the ends where the base has not been cut away. By this arrangement, also, as the point-rails are considerably raised, they are less likely to be clogged with snow than they are as usually constructed, as the pieces *k k*, when the rails A A' are moved, slide readily under the point-rails. The point-rails are united by the tie-rod *p*, and are connected by the rod *l* with the spring *m*, attached to the plate C. If the switch should be misplaced for trains passing from the siding to the main track, or along the main line in the direction of the points, the flanges of the wheels will force back the point-rails B B', which are so fished as to allow of a slight motion, so that the train will pass in safety. When a wheel has passed, the spring *m* will bring back the point-rails to their former position.

The rails A A', in combination with the point-rails B B', are especially adapted for the safe passage of trains from a siding or branch track to the connecting main line, or along the main-line track in one direction—that is, off the points.

To make sure of the safe passage of a train from the main track to the siding-track, or along the main track in the same direction, guard-rails *n* and *n'* are used. These guard-rails are attached to the movable pairs of rails A A' on each side of the joints thereof, and move therewith. Their distance from the said movable rails is such that the flanges of the cars passing over rails A A' will come in contact with the outer faces of said guard-rails, and the wheels will be guided thereby. As shown in the drawings, there are four of these guard rails, a guard-rail *n* and a guard-rail *n'* being attached to each movable pair of rails

A or A', and the guard-rails *n* being on the side of the joint nearer the point-rails, while the guard-rails *n'* are on the other side of the joint; but there may be only a single guard-rail on each side extending across the joint. One end of each guard-rail *n* extends nearly to the point on that side of the track, and curves toward the middle of the track, so that when the switch is shifted into either position one or the other of said guard-rails *n* will have its curved end inside of the line of the point-rail. The flange of a wheel in contact with this guard-rail will be guided by the curved end thereof so far from the movable rails A or A' that the tread of the opposite wheel will pass to the point-rail. When the said guard-rail is moved by the operation of the switch into the other position, the said guard-rail will be about in line with the point of the point-rail, and the approaching wheel will pass between the point-rail and the proximate movable rail A or A', and the tread of the wheel will continue on said movable rail.

What I claim, and desire to secure by Letters Patent, is—

1. Two pairs of movable rails, A A', in combination with point-rails which do not shift therewith, the said point-rails being loosely fished to allow a certain amount of independent motion, substantially as set forth.

2. In combination with the fixed main track and siding rails, two pairs of movable rails, A A', the point-rails which do not move therewith, and the guard-rails which are attached to said movable rails and adapted to guide the wheels of the train to run on one or the other of said point-rails and the corresponding opposite rail of the track, substantially as set forth.

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Witnesses:

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