

B. HINKLEY.

Improvement in Railway Switches.

No. 115,470.

Patented May 30, 1871.

Fig. 2.

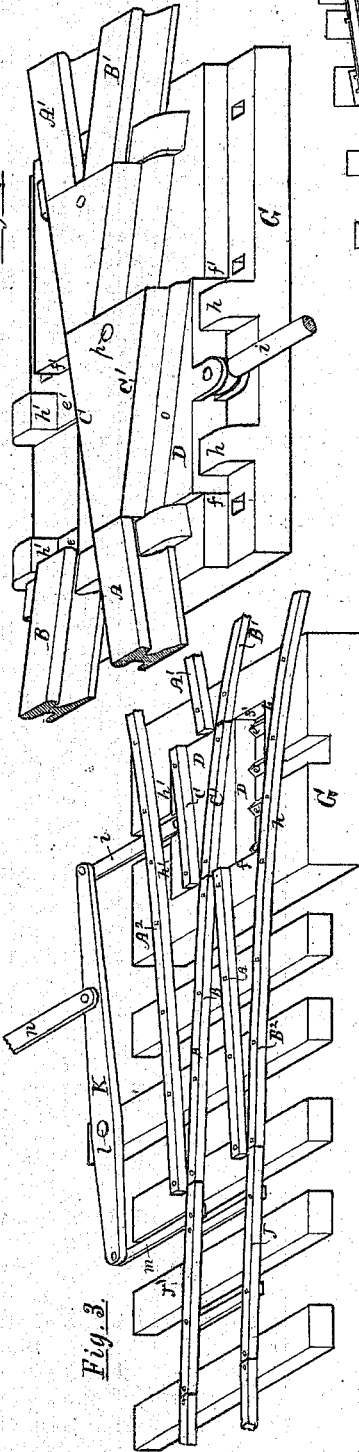


Fig. 3.

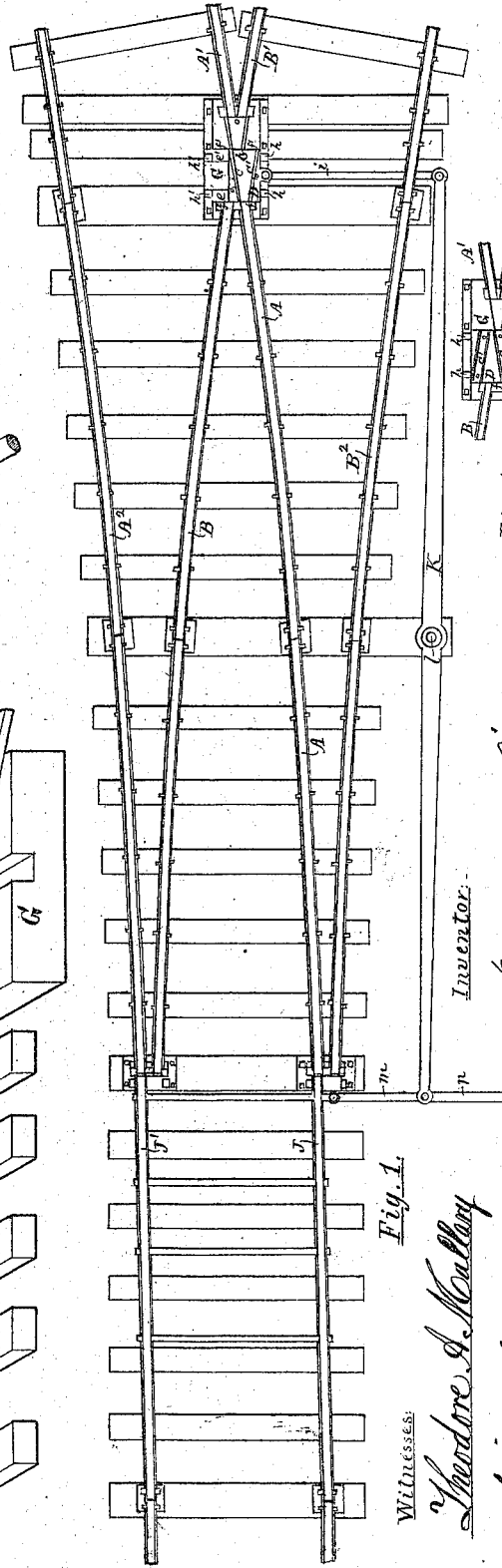
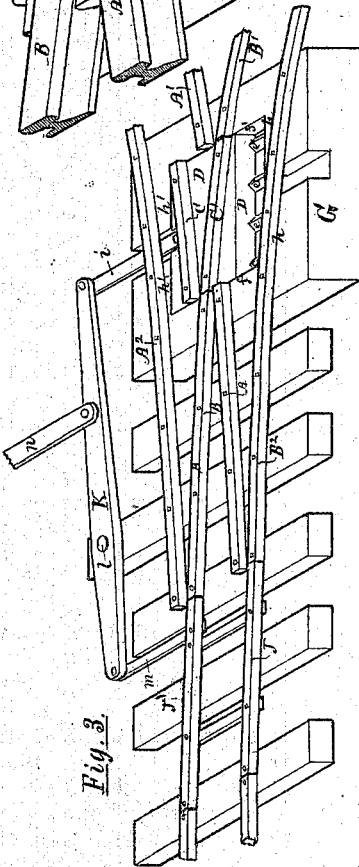


Fig. 1.

Witnesses:

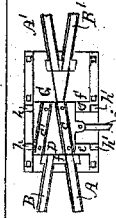
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Fig. 4.



UNITED STATES PATENT OFFICE.

BENJAMIN HINKLEY, OF TROY, NEW YORK.

IMPROVEMENT IN RAILWAY SWITCHES.

Specification forming part of Letters Patent No. 115,470, dated May 30, 1871.

To all whom it may concern:

Be it known that I, BENJAMIN HINKLEY, of the city of Troy, in the county of Rensselaer and State of New York, have invented certain Improvements in Railway Turn-Outs, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a plan of one form of my invention. Fig. 2 is an enlarged view of a part of the same. Fig. 3 is a view of another form of my invention as adapted to receive cars having wheels with a flange either on one side or on each side of the tread of each wheel. Fig. 4 represents a modified part of the same invention.

Similar parts are marked by like letters in the different figures.

In the railway turn-outs now in use the well-known "frog" is generally introduced at the intersection of the crossing-rails, which frog leaves a break or opening in the rails at their crossing-point, and requires the use of guard-rails along the outer track-rails opposite to the frog, so that, while the frog and guard-rails are quite expensive, the treads and flanges of the car-wheels and the points and guards of the frog are battered and worn out very fast, by reason of the banging of the treads of the wheels over the open frog-crossing, and the grinding of the flanges of the wheels along the guards. To avoid these difficulties the frog and guard-rails have, in some cases, been heretofore left out, and a single short crossing-rail or tongue has been introduced and pivoted at its middle, or at its end furthest from the switch-rails, and so connected with the latter that the act of shifting the switch-rails to either track also turned the pivoted crossing-rail or tongue, so that the latter temporarily completed the rail at the crossing in that particular track to which the switch-rails were turned and set. In other cases two long rails, which extended past the crossing-point, and a long distance on the side thereof furthest from the switch-rails, have been pivoted and held together much like the common switch-rails, and so connected with the latter that the shifting of the switch-rails to either track also turned such long crossing-rails, so as to make one or the other of them form a continuous rail through the crossing in whichever track the switch-

rails were set to. But such single or double pivoted or swinging crossing-rails or tongues were expensive or difficult to operate, or to keep firmly in place against the great tractive and lateral strains by the wheels of engines and cars running over them, so that they have not been introduced into common use.

In my improved railway turn-out, as illustrated by the aforesaid drawing, the fixed inside rails A B, on the switch side of the crossing-point, terminate near the latter, but far enough apart to allow the flange of a car-wheel to pass between them, as in some other railway turn-outs; and the fixed inside rails A¹ B¹ on the other side of the crossing-point have their ends either united together, Figs. 1, 2, and 4, or separate, Fig. 3. Between the ends of the rails A B and A¹ B¹ are two short rail-sections, C C', which are fastened firmly together and inclined toward each other at, or nearly at, the same angle as the rails A A' and B B'. These crossing-rail sections C C' constitute or are fastened together in or upon a stock or table, D, which is fitted to slide bodily to and fro transversely to the rails, and in or upon ways or guides e f e' f', that are in or upon a fixed bed or chair, G, having stops h h', which limit the transverse movements and positions of the rail-sections C C' in respect to the crossing-rails A A' and B B', so that when the stock D is slid against the stop or stops h, as in Figs. 1, 2, and 4, the rail-section C then coincides with and connects the rails A and A'; and so that, when the stock or table D is slid against the stop or stops h', the rail-section C' then connects the rails B and B', as shown in Fig. 3, thereby temporarily giving a continuous rail through the crossing in each of the tracks A A' A² and B B' B². The rail-sections C C', when thus inclined toward each other, and fastened together and mounted so as to be slid bodily to and fro transversely a certain limited distance, and arranged in relation to and in combination with the fixed crossing-rails A A' and B B', as above described, constitute the distinguishing feature of one part of my invention.

The sliding stock or table which carries the inclined rail-sections C C' may be slid sideways to and fro, and set so as to connect either the rails A and A¹ or B and B¹ without any movement of any switch-rails, which inde-

pendent movement of the rail-sections with the table D may be effected by any suitable means, as, for example, by a rod, *i*, pivoted to the sliding table and to a hand-lever mounted and operated in a stand, the same as for any ordinary railway switch.

The distinguishing feature of another part of my invention is the combination of the sliding table D, having the inclined rail-sections C C' fast thereon, with the usual switch-rails J J' and the turnout track-rails A A¹ A² and B B¹ B², in such manner that the turning of the switch-rails J J', so as to set the latter in connection with either one or the other of the tracks A A¹ A² or B B¹ B², will simultaneously effect the sliding of the table D with the rail-sections C C' thereon, so as to thereby set one or the other of those rail-sections in line with the crossing-rails A A¹ or B B¹ of that particular track to which the switch-rails shall be set. As regards this part of my invention, the switch-rails J J' and the sliding table D, with the inclined rail-sections C C' thereon, may be connected together so as to be operated simultaneously, as above specified, by means of any suitable device or devices. In Figs. 1 and 3 the switch-rails J J' and sliding table D are connected so as to be thus simultaneously operated by means of a lever, K, which is pivoted at *l*, and connected at its ends by pivoted rods *i m* with the sliding table and switch-rails.

The lever K may be operated by means of a rod, *n*, in connection with a switch-stand of any ordinary or suitable construction.

As shown by Figs. 1, 2, and 3, the guides *f f'* at the ends of the sliding table D prevent the latter from being forced endwise out of place by the traction of locomotive-wheels on

the rail-sections C C'; and with the construction shown in those figures the stops *h h'* surely prevent the sliding table D, with the rail-sections C C' thereon, from being forced outward sidewise by the centrifugal tendency of the cars in running along the curve at the crossing.

In Figs. 1 and 2 the rail-sections C C' are formed in one and the same piece, which may be fastened to the table D by dovetail ribs *o o* formed on the table; and a retaining-bolt, *p*, on the table, and rail-sections C C', may all be cast or formed together in one piece, or the rail-sections may be fastened separately to the sliding table, as in Figs. 3 and 4.

The bed G, which holds the sliding stock D and the ends of the crossing-rails A A¹ B B¹, may consist of one piece of cast-iron, as indicated in Fig. 2; or the bed G may be made of wood, with metal guides or ways for the table D to slide on, or otherwise suitably constructed.

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

1. The sliding table D, with the rail-sections C C' inclined to each other and fast thereon, when arranged in combination with the crossing-rails A A¹ and B B¹, substantially as described.

2. The combination of the sliding table, having inclined rail-sections C C' fast thereon, with the switch-rails J J' and track-rails A A¹ A² and B B¹ B², substantially as herein set forth.

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Witnesses:

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