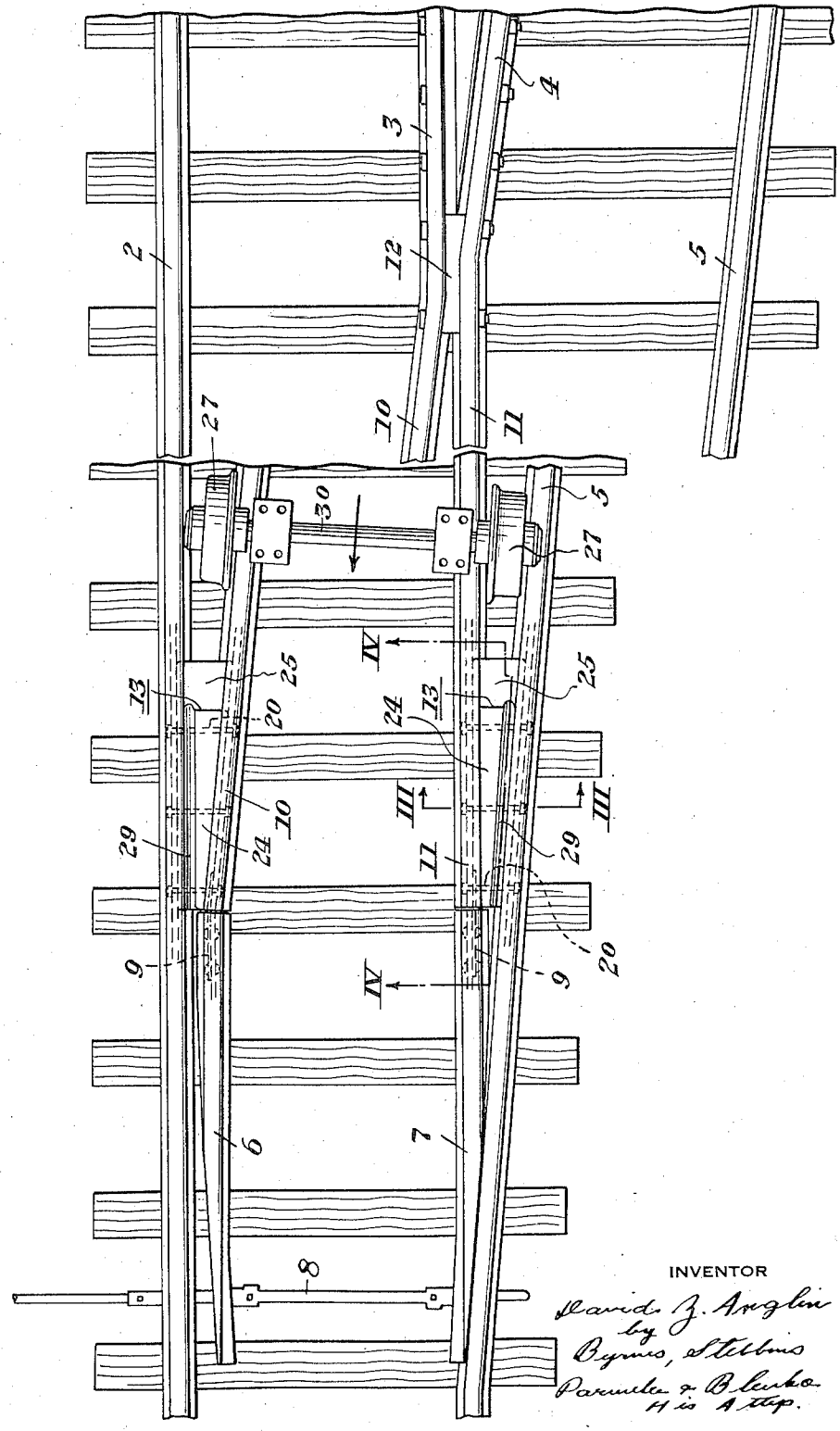
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SWITCH BRACE AND RERAILER

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Fig. 1.



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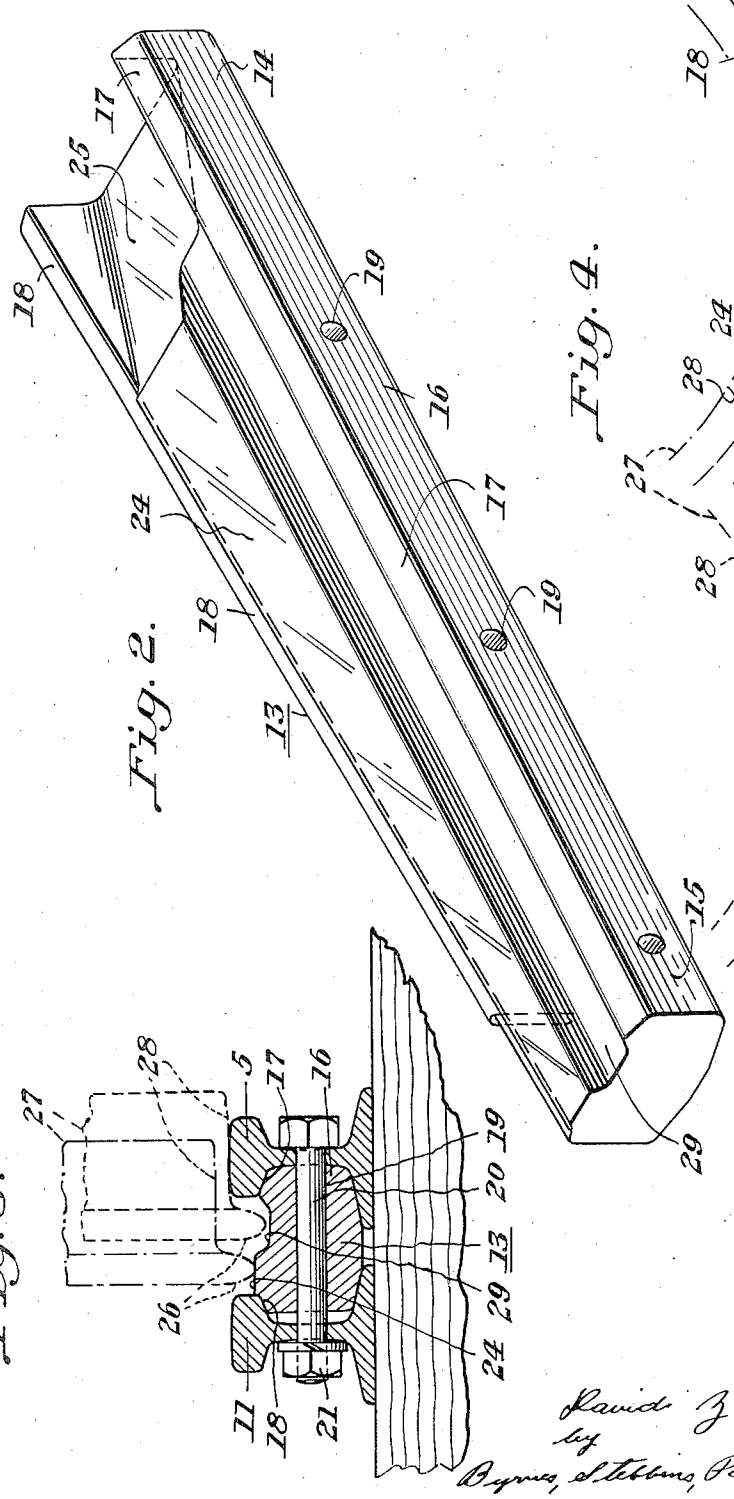
Parmelee & Bluhm

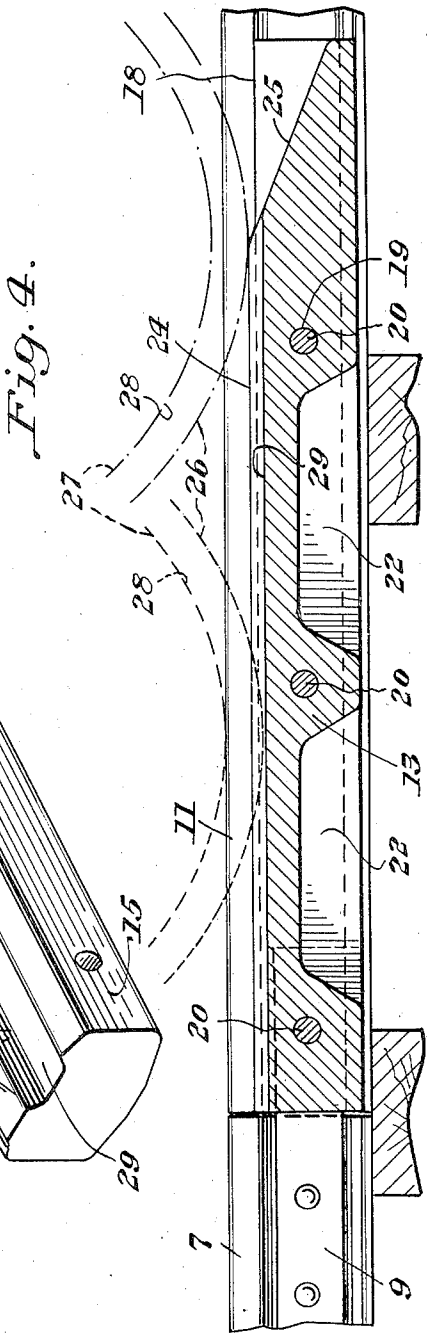
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2,043,645

SWITCH BRACE AND RERAILER

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Application October 18, 1932, Serial No. 638,312

2 Claims. (Cl. 104—264)

This invention relates to a device which is used in connection with switches on railroad, mine and industrial tracks. The device forms a substantial support for the loose ends of the rails on which the switch points pivot. It also acts as a rerailing device for rerailing any cars which are derailed as they approach the switch, thus preventing the wedging action which would be caused by hauling such derailed cars through the switch, forcing the parts of the switch out of their proper positions and perhaps injuring them. The device also serves to prevent a person or animal from getting their feet wedged in the narrow spaces between the converging rails which often results in serious injuries.

In the accompanying drawings, which illustrate the present preferred embodiment of my invention,

Figure 1 is a plan view of a common system of rails and switch, having my brace and rerailer applied thereto;

Figure 2 is a perspective view of the brace and rerailer;

Figure 3 is a section on the line III—III of Figure 1, and

Figure 4 is a section on the line IV—IV of Figure 1.

Referring more particularly to the accompanying drawings, and for the present especially to Figure 1, there is shown a common form of switch and system of rails including main rails **2** and **3** and switch rails **4** and **5**. Switch points **6** and **7** which are operated through a tie bar **8** are provided for switching the cars from one set of rails to the other. The switch points **6** and **7** are pivotally connected at their right-hand ends by splice plates **9** to the ends of filler rails **10** and **11**, respectively. The opposite ends of the filler rails **10** and **11** are connected to a frog **12**, the construction thus far described being of a form known heretofore.

A rail brace and rerailer **13**, which hereinafter will be described simply as a rerailer, is secured to the rails near each of the points of convergence of the rails **2** and **10** and the rails **5** and **11**. The rerailer is illustrated in detail in Figures 2, 3 and 4. It is of general wedge shape in plan view, the end **14** being wider than the end **15**. In cross-section its shape is such that its sides **16** and top portions **17** and **18** conform to the shape of the rails. The rerailer is provided with holes **19** through which bolts **20** may extend and be fastened by nuts **21** in order to secure the parts together and form a rigid support for the loose ends of the filler rails **10** and **11**. The rerailer is provided with cavities **22** on its underside in order to decrease its weight. It may be made of steel, cast iron or other material by any suitable process such as casting, forging or pressing.

The top surface **24** of the rerailer terminates adjacent the wide end thereof in an inclined plane **25**. The inclined plane does not extend the full width of the rerailer, but occupies only a part of the width, leaving the portions **17** and **18** which bear against the undersides of the top flanges of the rails **5** and **11** and **2** and **10**.

The surface **24** is at such an elevation relative to the rails **5** and **11** that when the flange of a wheel which supports the car rests against it, the tread of the wheel lies in a plane above the rails. This is shown in Figures 3 and 4 in chain lines wherein the flange **26** of a wheel **27** rests on the surface **24**. When in this position, the tread **28** extends over, but is spaced above, the top of the rail.

The rerailer is also provided with a longitudinal groove **29** which extends at an angle to the longitudinal axis of the rerailer. The groove is parallel to the side **16** and, therefore, when the rerailer is placed in the position shown in Figure 1, the groove will extend substantially parallel to the rail **5** or the rail **2** according to the position of the rerailer. This groove preferably extends from the narrow end of the rerailer and terminates in the inclined plane **25**.

In the operation of the rerailer, it is assumed that the axle **30** and wheels **27** forming a part of the truck which supports the car are moving in the direction indicated by the arrow, that is, toward the switch points **6** and **7**, and that the wheels have been derailed. When the wheels reach the rerailer **13**, the flanges **26** will ride up the inclined plane onto the surface **24**. By reference to Figures 3 and 4 it is seen that when the flanges of the wheels rest on the surface **24**, the treads **28** of the wheels lie above the rails. As the wheels continue to move forward, the flange **26** on the wheel **27** which is between the rails **5** and **11**, bears against the outer side of rail **11** and is guided thereby. The flange moves closer and closer to the groove **29** due to the fact that the groove is not parallel to rail **11**, but, on the contrary, approaches the rail **11** as it extends toward the switch. When the flange and the groove coincide, the flange drops down into the groove. The groove is deep enough so that when the flange is received in it, the tread **28** of the wheel is supported by the rail **5** and there is no contact between the flange and the groove.

The position of the wheel is shown in Figures

3 and 4 by dotted lines after it has been rerailed. The wheels then continue to move forward toward the switch points 6 and 7. The passage of the wheels between the switch points and the rails is accomplished automatically in switches of the type having a spring in the tie bar 8. In other types of switches it can be accomplished manually by permitting the switch throw mechanism to be thrown to an approximate halfway position.

The rerailer acts not only to rerail cars which have been derailed in approaching the switch, but also forms an excellent brace for the ends of the loose or filler rails 10 and 11 by providing a solid means for attaching and bracing these rails to the solid through rails 2 and 5. This is an important advantage of my rerailer since in ordinary switch construction it is a very difficult matter to securely fasten the ends of the filler rails. The rerailer fills the space between converging rails to such an extent that there is no possibility of wedging the feet of a person or animal between them. The rerailers aid in the installation of switches by establishing the proper position and angularity of the converging rails. They maintain switch alinement, particularly by bracing the loose ends of the filler rails which are the weakest points of any switch. They prevent the damage which would be caused by pulling derailed cars through the switch, thus wedging the converging rails out of position. The majority of derailments occur at a point inside of the switch, and since the rerailers are located as indicated, the rerailing of the cars is quickly accomplished. They can be made for switches of either right-hand or left-hand throw and can be adapted by suitable changes to special varieties of switches, such as are sometimes known as split switches commonly used on light industrial and mining tracks. The rerailers can be changed in shape and size to conform to the particular switch and rails, but should be long enough and wide enough so as to prevent any wedging tendency of the derailed wheels.

I have illustrated and described the present preferred embodiment of my invention. It is to be understood, however, that the invention may be otherwise embodied within the scope of the following claims.

I claim:

1. A rerailer adapted to be secured between converging rails adjacent a switch and comprising a body having a top surface on which a wheel flange rests during rerailing, said surface lying a sufficient distance below the tops of the rails so that when a wheel flange rests thereon the wheel tread is slightly above the tops of the rails, said body narrowing from a wider end in conformity with the convergence of the rails, the wider end sloping to carry upwardly a derailed wheel and having substantially no lateral slope tending to deflect the wheel to either side as the wheel rides up the slope.

2. A rerailer adapted to be secured between converging rails adjacent a switch and comprising a body having a top surface on which a wheel flange rests during rerailing, said surface lying a sufficient distance below the tops of the rails so that when a wheel flange rests thereon the wheel tread is slightly above the tops of the rails, said body narrowing from a wider end in conformity with the convergence of the rails, the wider end sloping to carry upwardly a derailed wheel and having substantially no lateral slope tending to deflect the wheel to either side as the wheel rides up the slope, said body having a groove adjacent the outside rail of the switch for receiving a wheel flange of a rerailed wheel when the wheel tread rests on the rail.

DAVID Z. ANGLIN.