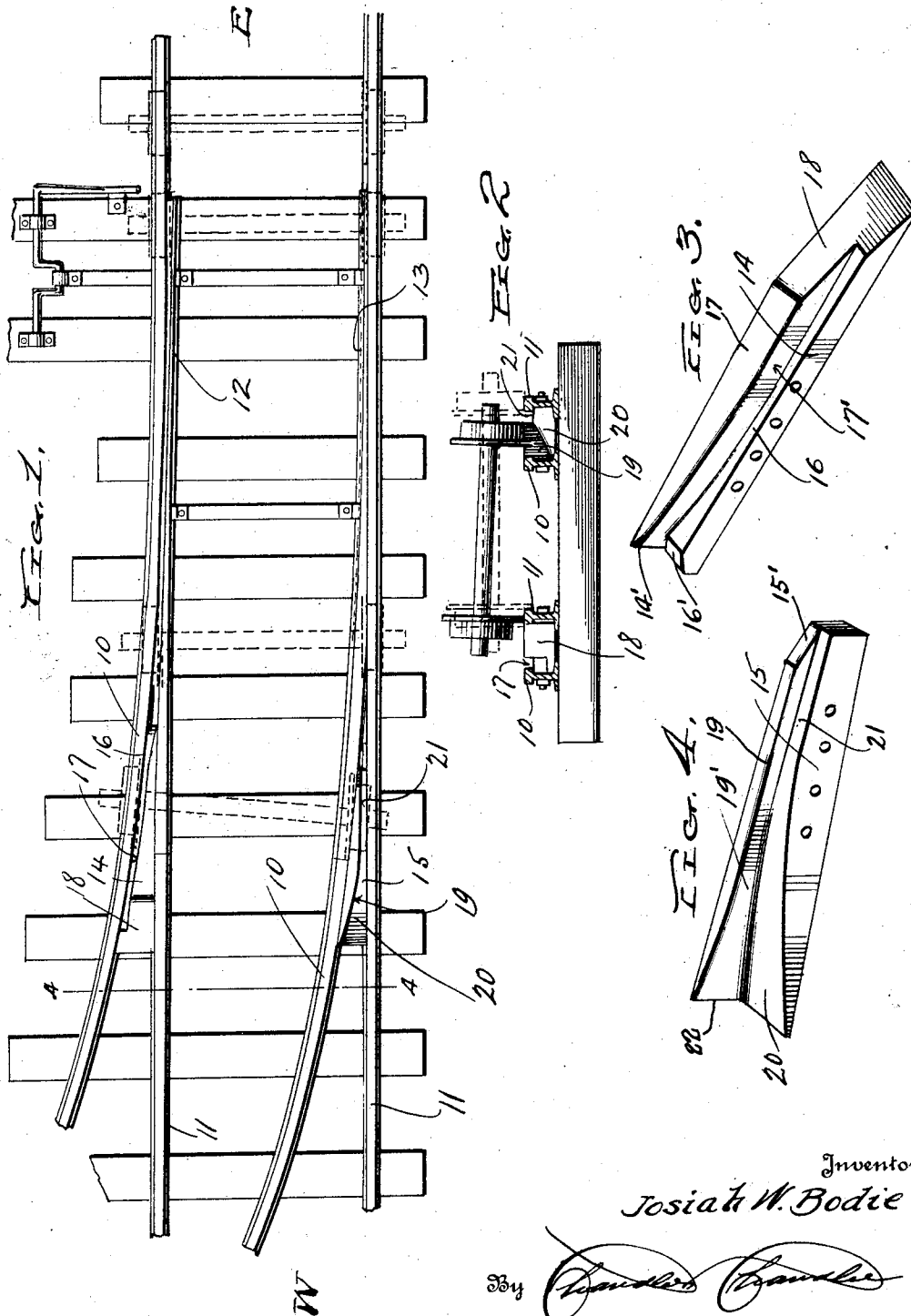


J. W. BODIE.
 AUTOMATIC CAR REPLACER.
 APPLICATION FILED MAR. 18, 1920.

1,392,392.

Patented Oct. 4, 1921.



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UNITED STATES PATENT OFFICE.

JOSIAH W. BODIE, OF EFFINGHAM, SOUTH CAROLINA.

AUTOMATIC CAR-REPLACER.

1,392,392.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSIAH W. BODIE, a citizen of the United States, residing at Effingham, in the county of Florence, State of South Carolina, have invented certain new and useful Improvements in Automatic Car-Replacers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in railway appliances and particularly to safety devices for railway switches.

The principal object of the invention is to provide a novel and improved device whereby the wheels of a car, when derailed, upon approaching a switch, or when the wheels have split the switch, will be automatically replaced on the rails without stopping the train.

Another object is to provide a novel and improved rerailing device which is operative to replace the wheels on the rails when the train is approaching the switch from either direction.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawings.

In the drawings:

Figure 1 is a plan view of a railway switch, including main line and siding rails, the switch being in position to permit a train going west to continue along the main line, the wheels of a car being shown in dotted lines in position when approaching the switch, in position when splitting the switch, and in position when derailed, as well as in position when being rerailed by the rerailing blocks.

Fig. 2 is a transverse sectional view through the tracks, at one end of the rerailing blocks, showing the wheels of the car as they engage with the blocks, in solid lines, and as the wheels are replaced on the rails by the blocks, in dotted lines.

Fig. 3 is a perspective view of one of the rerailing blocks.

Fig. 4 is a perspective view of the other rerailing block.

Referring particularly to the accompanying drawing, 10 represents the main line rails, and 11 the siding rails, while 12 and 13 represent the switch points. Disposed

between one of the rails 10 and the adjacent rail 11, within the angle formed thereby, and at the point where the adjacent switch point 12 is pivotally mounted, is a trapezoidal block 14, while a trapezoidal block 15 is secured within the angle between the other rail 10 and the other rail 11 and adjacent the point where the switch point 13 is pivotally mounted. The block 14 is formed with an upstanding longitudinal rib 17, and a longitudinal ledge 16, on the side adjacent the rail 10, the vertical side wall 17' of the rib, adjacent the ledge tapering or extending obliquely longitudinally of the rails, in a direction toward the angle of the adjacent rails, and toward the narrower end of the block, to form the vertical sharp edge 14'. The wider end of the block 14 is formed with an inclined face 18 leading upwardly to the upper face of the rib 17, and to the ledge 16. The end of the ledge 16, at the narrower end of the block, is formed with a slightly inclined face 16', as clearly seen in Figs. 1 and 3.

The other block 15, while being in general outline similar to the block 14, has certain features of difference. This block 15 has the vertical rib 19 extending longitudinally of the upper face of the block, and along the edge adjacent the rail 10. This rib has its inner vertical face 19' gradually inclining toward the outer vertical face of the block, and meets said face to form the vertical edge 22. The block 15 also has a longitudinally extending ledge 21 which inclines downwardly, at 20, to a point adjacent the level of the ties. This inclined portion 20 will be further described with respect to the beforementioned face 18. At the other end of the rib 19 there is formed a short inclined face 15'.

In Fig. 1 the switch is set for a train going west on the main line, the dotted position A of the wheels indicating the position just before engagement with the switch point 12, which will carry the wheels on the main line. In the second position, in dotted lines B, the wheel on the left hand side has forced its flange between the switch point 12 and the adjacent rail 10, the left hand wheel being then on the rail 11 of the siding while the right hand wheel is on the right hand rail of the main line. The distance between the switch points, is, however, too small to permit the wheels to drop to the ties. The flange of the right hand wheel

engages with, and rides up, the inclined face 16', of the block 14, onto the ledge 16, while at the same time the inner face of the flange engages with the vertical face 17' of the rib 17. At the same time, the flange of the left hand wheel engages and rides up on the face 15' of the block 15, so that the tread face of the flange is brought onto the upper face of the rib 19, and into the plane of the upper surface of the rail 10. The engagement of the flange of the right wheel with the face 17', by reason of the taper of the rib, causes a sidewise pull of the right wheel which results in the flange of the left wheel riding across the upper face of the rail 10, and dropping down at the inner side of the said rail. The tread of the right wheel, being at all times on the rail 10, at the side of the railway, will continue along the main rail, while the left wheel will be thereby replaced onto the left rail 10.

When switching in railroad yards, and a car or engine approaches the switch from the opposite direction, the car or engine may be derailed. In this event, the spaces in the angles between the rails 10 and 11 are wide enough to permit the wheels to drop to the ties, whereupon the flanges of the wheels will engage and ride upwardly on the inclined faces 20 and 18, respectively, of the blocks 15 and 14. The right wheel, which rides on the face 20, will engage with the vertical face of the rib 19, and be drawn toward the right, while the flange of the left wheel will ride up onto the upper face of the rib 17. The right wheel will thus be pulled toward the right onto the right rail

11, and the flange of the left wheel ride across the tread of the left rail 11, and drop thereonto.

The most common cases of derailling occur because of splitting the switches, that is when approaching the switches toward the points, and it is for the particular case that the present rerailing device is provided. In the case of the approach from the opposite direction, the chance of derailling is rather unusual, but as this sometimes happens, the eventuality must be guarded against. Thus the peculiar formation of the wider ends of the blocks 14 and 15.

What is claimed is:

A rerailing device for railways comprising a pair of blocks which are trapezoidal in plan and each of which has a vertical longitudinal rib on its upper face adjacent one of the sides thereof and a longitudinal ledge adjacent the other side, the wider end of one block being beveled longitudinally, the other end of the ledge being beveled, and the rib being tapered toward the last-named end of the block, the other block having the ledge inclined longitudinally from a point adjacent the longitudinal center to the wider end of the block, the rib tapering toward the wider end of the block and having its other end beveled to a line lying in the plane of the adjacent end of the ledge.

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

JOSIAH W. BODIE.

Witnesses:

B. C. THOMAS,
D. S. HILL.