

E. REID.
DETECTOR BAR.

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991,170.

Patented May 2, 1911.

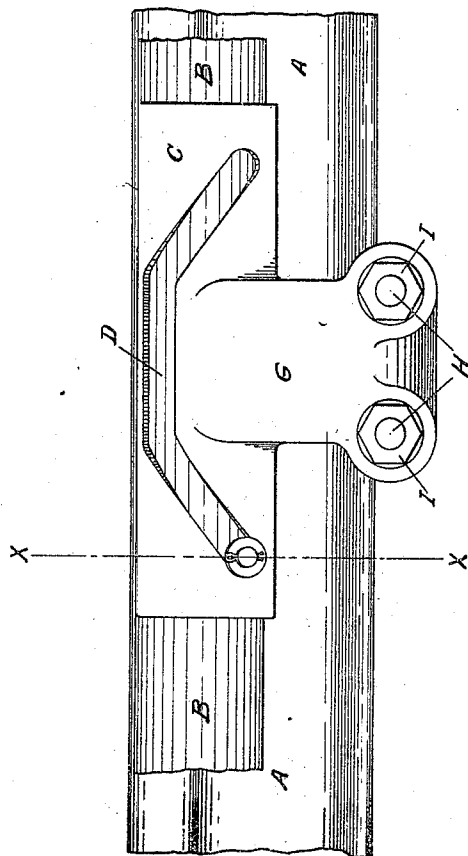


Fig. 1-

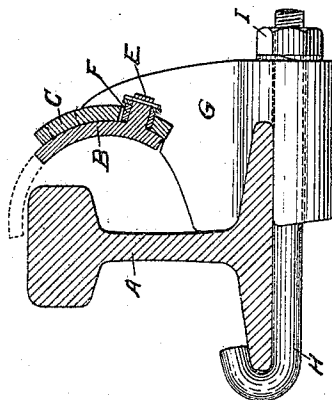


Fig. 2-

Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD REID, OF ALBANY, NEW YORK, ASSIGNOR TO THE UNION SWITCH & SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

DETECTOR-BAR.

991,170.

Specification of Letters Patent.

Patented May 2, 1911.

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To all whom it may concern:

Be it known that I, EDWARD REID, a citizen of the United States, residing at the city of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Detector-Bars, of which the following is a specification.

My invention relates to detector bars for use on railways and the objects of my invention are to construct a detector which is easily operated, simple in construction and efficient in use. I obtain these objects by means of the mechanism illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of my detector in position on a railway rail. Fig. 2 is a cross section of the same at X X Fig. 1.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings A represents a railway rail.

B is the detector bar which is arc-shaped in cross-section. The detector bar is supported along side the rail by a support or clip, here shown as comprising a guide plate C and a block G.

D is a slot in the guide plate C and may be substantially in the form of a circle or may be made with one upward projecting arm and one horizontal and one downward arm as shown in Fig. 1.

E is a pin attached to the detector bar B and adapted to operate in the slot D. About this pin E is the roller F, designed to make the pin work more easily in the slot D.

G is the block or clip for supporting the guide plate C and the detector bar B. The guide plate C may be a separate piece attached to the block G or it may be cast with a part of the block G, thus forming a support for the detector bar B. The block G extends partly under the flange of the rail A and is securely held thereto by any suitable means, as by the hook H and a nut I. The guide plate C is suitably curved to form a seat for the detector bar and is fixedly attached to the block G by any suitable means or made a part of the block G as above stated. The detector bar B, when in normal position, is out of contact with the rail A and the lower edge of the detector bar B rests against the shoulder of the block G.

The detector bar is operated in the usual manner from the switch tower. When the detector bar is pushed longitudinally the pin

E will pass upward through the slot D and the detector bar will slide upward and inward over the rail A and when the pin E is in the highest point of the slot D the detector bar will assume the position shown by the dotted lines in Fig. 2. If a car wheel is upon the rail the detector bar will strike the side of the wheel and the operator will be unable to push it farther until the obstruction is removed and in this manner the operator will know that a car occupies the track. If the track is clear the pin E will pass the whole length of the slot D and descend to the bottom of the slot at the farther end thereof and the detector bar pass up over the rail and down again, showing that the rail at that point is clear of car wheels. In this way the operator may readily determine the presence of car wheels on the track.

The guide C, as well as the detector bar B, is in the form of a segment of a circle and the pin E traveling through the slot D causes the detector bar to take a longitudinal as well as radial movement simultaneously advancing along the side of the rail and at the same time and by the same movement passing upward and over the top of the rail, thus giving the detector bar a spiral movement. It is evident that if the slot D be in the detector bar B and the pin E upon the guide C the movement would be the same. Constructed in this way the detector bar may be light in weight and the pin E, operating with the roller bearing in the slot D, is easily operated and imparts a continuous longitudinal, lateral and upward spiral movement to the detector bar and has very little friction between two parts, so that it takes but slight power on the part of the operator to successfully operate it.

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

1. A curved detector bar substantially in the form of a segment of a circle in cross section, a guide plate of substantially the same contour as the detector bar, and adapted to support said detector bar and means for simultaneously moving said detector bar from said guide plate longitudinally, upwardly and inwardly over the upper surface of the rail, substantially as described.

2. A detector bar provided with an arc-shaped surface transversely of the detector bar, a guide plate having an arc-shaped surface which co-acts with the arc-shaped sur-

face of the detector bar, a slot extending upwardly and inwardly from both ends thereof, a pin adapted to operate in said slot and adapted to simultaneously give a longitudinal, lateral and upward movement to said detector bar.

3. The combination with a railroad rail, a detector bar provided with an arc-shaped surface transversely of the detector bar, a support for said bar having an arc-shaped surface which co-acts with the arc-shaped surface on the detector bar connections between said detector bar and said support adapted to move the detector bar over the rail concentrically to the arc-shaped support when the detector bar is moved longitudinally, and means for moving the bar longitudinally.

4. A detector bar in the form of a segment of a circle in cross-section adapted to be moved laterally and upwardly and over

the side of the railway rail, a curved support adapted to guide said detector bar and means for operating said detector bar upon said support, substantially as described.

5. A detector bar provided with an arc-shaped surface transversely of the detector bar, a support having an arc-shaped surface which co-acts with the arc-shaped surface of the detector bar, a slot extending upwardly and inwardly from both ends thereof, a pin adapted to operate in said slot and adapted to simultaneously give a longitudinal, lateral and upward movement to said detector bar.

In testimony whereof I have affixed my signature in presence of two witnesses.

EDWARD REID.

Witnesses:

WALTER E. WARD,
ARTHUR W. WILLIAMS.