June 24, 1924.

1,498,693

R. J. LYLE

TROLLEY SHOE

Filed Oct. 20, 1923

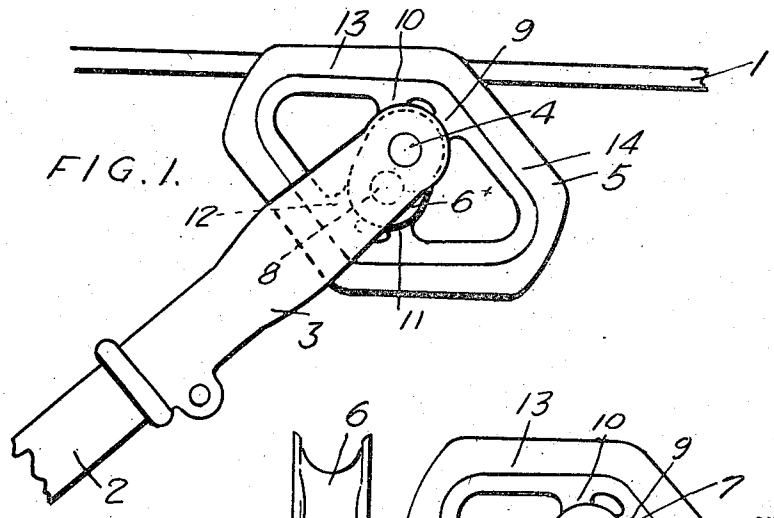


FIG. 1.

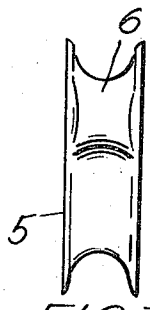


FIG. 3.

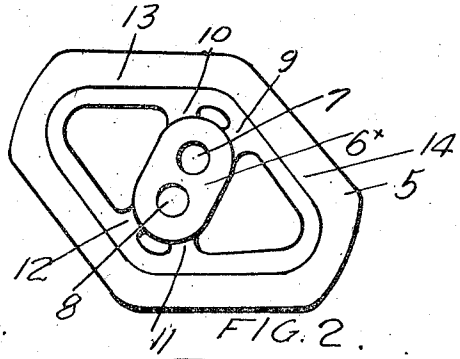


FIG. 2.

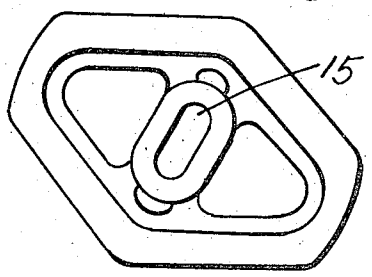


FIG. 4.

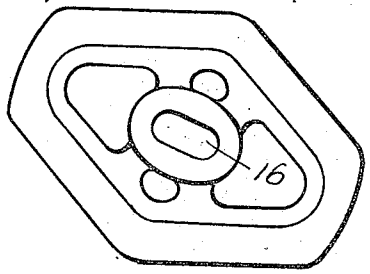


FIG. 5.

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Patented June 24, 1924. 1,498,693

UNITED STATES PATENT OFFICE.

ROBERT JOHN LYLE, OF KINMOUNT, ONTARIO, CANADA.

TROLLEY SHOE.

Application filed October 20, 1923. Serial No. 669,783.

To all whom it may concern:

Be it known that I, ROBERT JOHN LYLE, a subject of the King of Great Britain, and a resident of the village of Kinmount, in the county of Victoria, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Trolley Shoes, of which the following is the specification.

My invention relates to improvements in trolley shoes, and the object of the invention is to devise in a shoe of the type disclosed in my Canadian Patent No. 236,251, dated December 11, 1923, and my United States Patent No. 1,477,575, granted December 18, 1923, means whereby the shoe is mounted to automatically swing either to the reverse or forward position as a car moves in a corresponding direction. It consists essentially of a diamond shaped shoe provided with a bearing portion in the centre thereof adapted to permit of the supporting axle assuming an eccentric position at one side or other of the centre of the shoe, all as hereafter more particularly explained by the following specification.

Fig. 1 is a side elevation of my shoe mounted upon a harp and in contact with a trolley wire.

Fig. 2 is a detail elevation of my shoe removed from the harp.

Fig. 3 is an edge-wise elevation of my shoe.

Fig. 4 is a side elevation of a modified construction.

Fig. 5 is a side elevation of a further modification.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 indicates a trolley wire.

2 a trolley pole.

3 a harp secured to the trolley pole in which is mounted in the usual manner the supporting axle 4.

5 is a shoe which is substantially diamond shaped in form and provided with a surrounding groove, 6, as fully described in my above referred to co-pending applications.

6× is a bearing portion extending crosswise of the shoe centrally thereof, parallel with the short diameter. The bearing portion is provided with a pair of orifices, 7 and 8, located at each side of the centre of the shoe, and through one of which the axle pin 4 extends.

9 and 10 are connecting webs connecting one end of the bearing portion with the body of the shoe.

11 and 12 are webs connecting the other end of the bearing portion to the body of the shoe.

From this description it will be seen that the contact portions 13 and 14 of the shoe employed for forward and reverse are located above the centre of swing of the shoe, and that such centre of swing is located above the centre of the shoe so that the heavy under-portion of the shoe acts as a balance or stabilizer for the contact surfaces in use and render the shoe less liable to turn over on the trolley wire during its travel either in one direction or the other, and yet will permit of the further turning of the shoe when the direction of travel is changed from forward to reverse or vice versa.

In Fig. 4 I have shown an alternative construction in which a slotted opening, 15, is provided in place of two separate orifices, 7 and 8, illustrated in Figs. 1 and 2. The object of the slot or elongated hole is to render easier the change of contact surfaces of the shoe with the trolley wire, which in this case is accomplished without the removal or replacement of the axle pin. At the same time the trolley pole tension and the gravity balance of the shoe holds the axle pin in proper position in the slot.

In Fig. 5 I have shown a further modification in which the slot 16 is located on the centre line corresponding to the major diameter of the shoe. The object of this form is to permit the shoe to be tilted or kicked over more readily from one contact position to another, that is, from forward to reverse, or vice versa, the movement of the car causing the axle pin to slide from one end of the slot to the other, thus throwing the pivot of the shoe off centre. The form shown in Fig. 5 is particularly adaptable for use where trolley wire is slack or the pole tension light, and especially where the trolley wire on a siding is slack or high and the car is required to back into the

siding, this form of pivoting tends to make the reverse movement more reliable.

What I claim as my invention is:

1. A trolley shoe substantially diamond shaped in form and having a central bearing portion adapted to receive an axle pin eccentrically to the centre of the shoe at either side of such centre.

2. A trolley shoe substantially diamond shaped and having a central bearing portion having a bearing orifice located on each side of the centre of the shoe in which the axle pin is adapted to be alternately received.

ROBERT JOHN LYLE.