

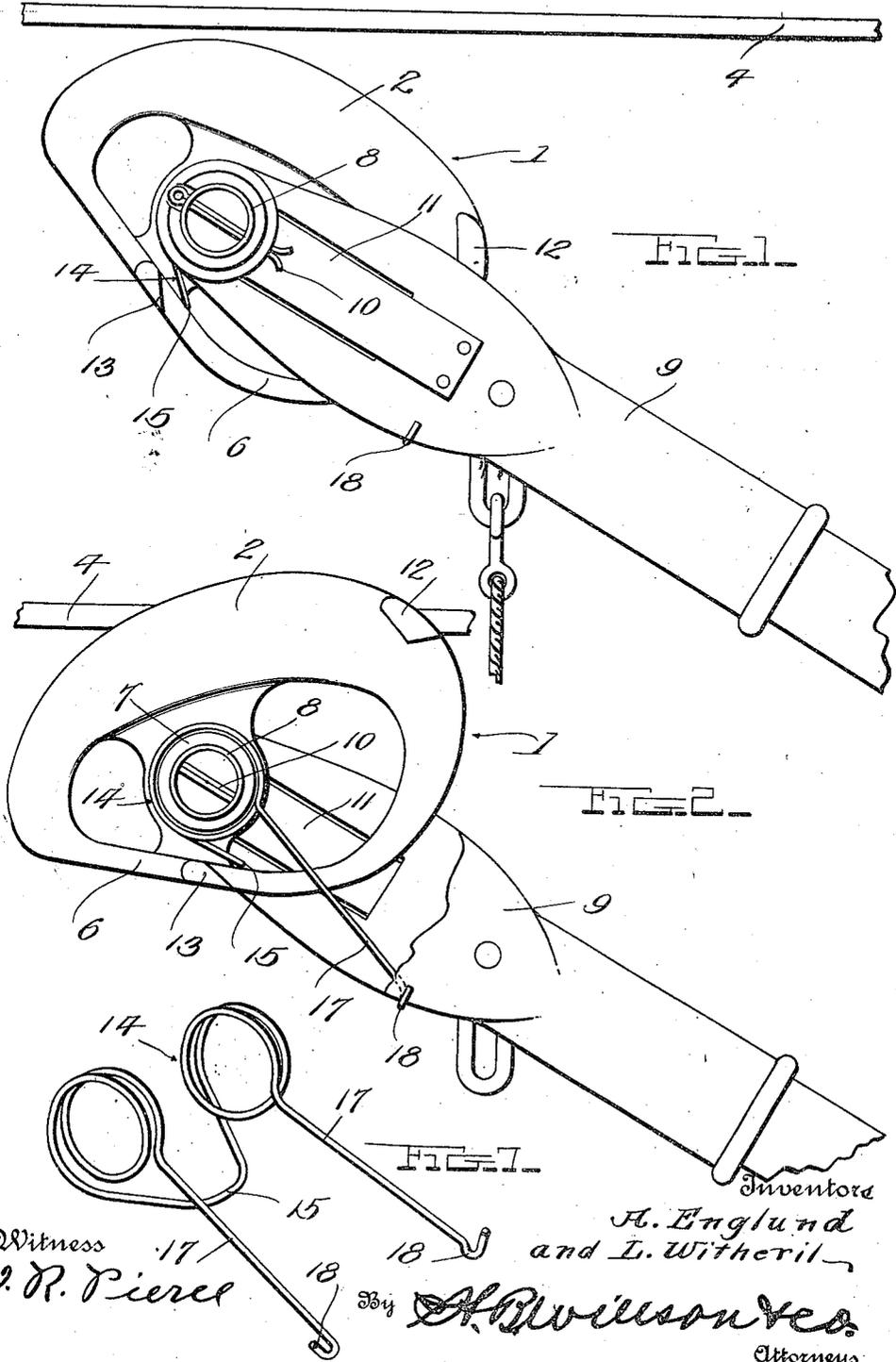
A. ENGLUND & L. WITHERIL.
TROLLEY SHOE.

1,237,247.

APPLICATION FILED NOV. 13, 1916.

Patented Aug. 14, 1917.

2 SHEETS—SHEET 1.



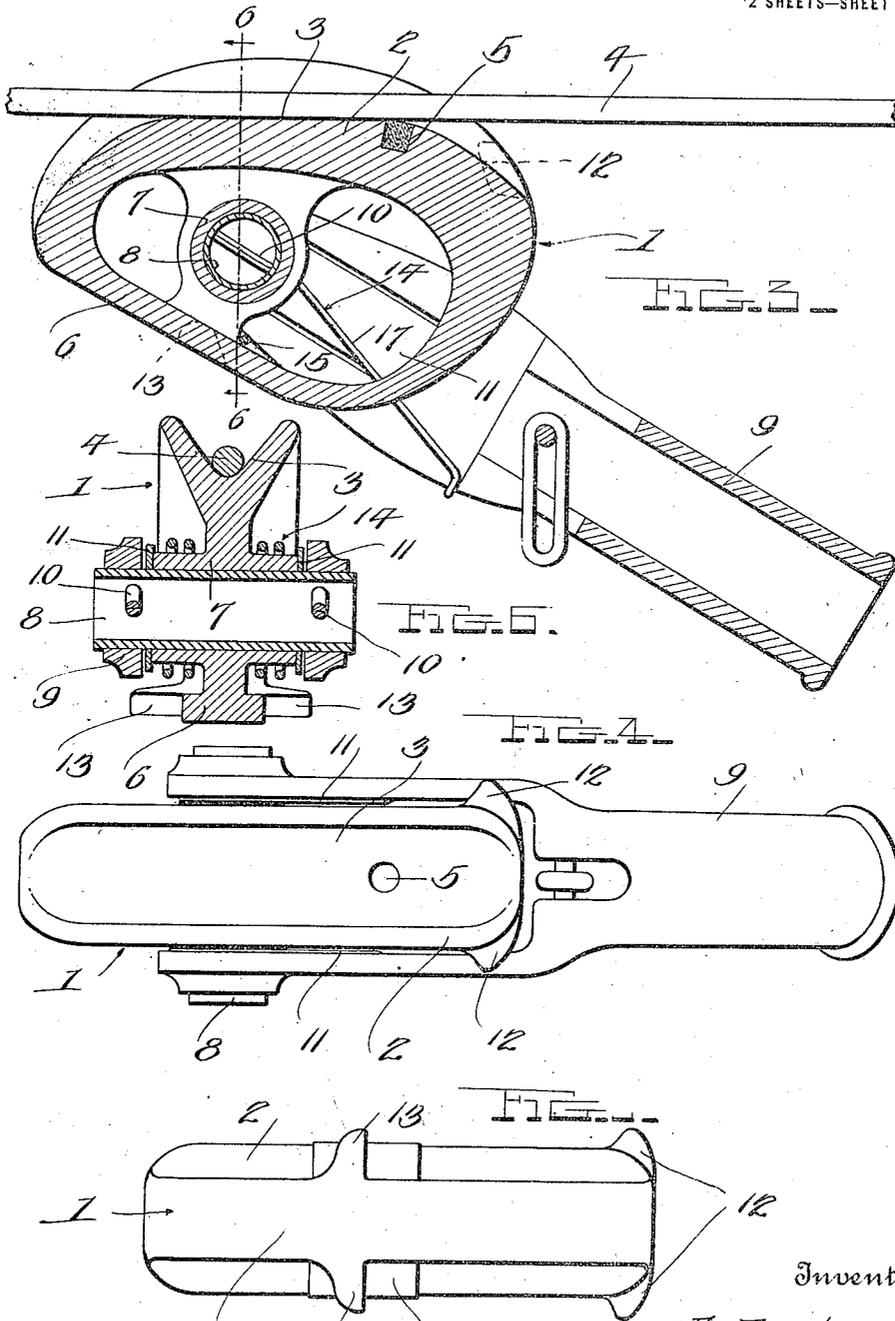
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UNITED STATES PATENT OFFICE.

ALEXANDER ENGLUND, OF PORTLAND, AND LEE WITHERIL, OF HILLSDALE, OREGON.

TROLLEY-SHOE.

1,237,247.

Specification of Letters Patent. Patented Aug. 14, 1917.

Application filed November 13, 1916. Serial No. 131,123.

To all whom it may concern:

Be it known that we, ALEXANDER ENGLUND, a citizen of Russia, residing at Portland, in the county of Multnomah and State of Oregon, and LEE WITHERIL, a citizen of the United States, residing at Hillsdale, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Trolley-Shoes; and we do 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.

Our invention has for its object to provide a simply constructed and inexpensive shoe to take the place of the usual wheels now employed on trolley poles for contact with the overhead trolley wire, thus eliminating the wear on the pin or shaft at the upper end of the pole which is caused by the rotating wheels now employed.

With the foregoing general object in view, the invention resides in certain novel features of construction, and in unique combinations of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings which constitute a part of this application, and in which—

Figure 1 is a side elevation showing the improved shoe in one of its extreme positions;

Fig. 2 is a side elevation partly broken

away showing the shoe in its other extreme; Fig. 3 is a longitudinal section with the shoe in a neutral position;

Fig. 4 is a top plan view;

Fig. 5 is a bottom plan;

Fig. 6 is a transverse section on the plane of the line 6—6 of Fig. 3; and

Fig. 7 is a perspective view of the spring employed for exerting its tension to move the shoe normally in one direction.

In the drawings above briefly described, the numeral 1 designates the improved device as a whole, said device including an elongated shoe 2 having in its upper side a longitudinal channel 3 to receive the trolley wire 4, the ends of said channel being curved downwardly to facilitate the passage of the shoe over the wire, one of said ends preferably having a pocket 5 to contain graphite or any other appropriate lubricant for preventing excessive friction between the shoe and wire.

A substantially V-shaped yoke 6 is disposed beneath the shoe 2 and is integrally joined at its ends to the ends of said shoe, while a transverse bearing 7 extends through said yoke and is joined integrally therewith and with the lower side of the shoe, said bearing being adapted to receive a pin or shaft 8 by means of which the device is pivotally connected with the usual trolley harp 9. Since the movement of the bearing 6 upon 8 is slight, the latter may well be in tubular form as shown, being constructed of brass or other suitable material. The usual cotter pins 10 or any other preferred means may be employed for holding the shaft 8 against removal from the harp, and the latter will be equipped with the well known brushes 11 resting against the ends of the bearing 7.

For limiting the tilting movement of the shoe in either direction, upper and lower stops 12 and 13 are provided, these stops being carried respectively by and formed integrally with the front end of the shoe 2 and the intermediate portion of the yoke 6. The provision of these stops will prevent the shoe from turning entirely over whether the car be moving forwardly or rearwardly.

A spring member 14 is provided to normally exert its tension in a manner to tilt the shoe in one direction to the limit permitted by the stops 12, said member being formed of a single piece of wire bent substantially upon itself at 15 and bearing at this point against the upper side of the yoke 6 in advance of the bearing 7, the two halves of said wire being coiled loosely around the ends of said bearing and then extending forwardly therefrom in the form of arms 17 whose free ends are bent laterally and upwardly to provide hooks 18 for engagement with the lower edge of the harp 9. The member 14 is of great advantage when placing the shoe on the wire since it holds said shoe firmly but yieldably in such a position as to permit it to be readily engaged with said wire.

It will be understood that the movement of the bearing 7 on the shaft 8 is slight and that the wear on said shaft and the brushes 11 is therefore reduced to a minimum. Furthermore, the wear on the bearing itself will be infinitesimal, and due to the fact that the shoe will be preferably formed of steel properly lubricated from the contents of the pocket 5, wear on this shoe and the wire will

be practically unnoticeable. It will therefore be clear that the device is highly efficient and will to advantage take the place of the usual rotating trolley wheels now employed. For these reasons the particular construction shown and described constitutes the preferred form of the invention, but it is to be understood that within the scope of the appended claim numerous changes may be made without sacrificing the principal advantages.

We claim:

A device of the class described adapted to be mounted in a trolley harp and comprising an elongated one-piece shoe having in its upper side a longitudinal trolley wire channel with downwardly curved ends, a U-shaped yoke beneath said shoe and joined integrally at its ends to the ends thereof, a transverse cylindrical bearing positioned between said yoke and shoe and joined integrally to both, upper and lower stops formed integrally with and projecting respectively from the shoe and yoke, near the front ends thereof,

for limiting the tilting movement of the device by contact with the harp, and a spring member for normally tilting said device to the limit permitted by the upper stops, said spring member being formed of a single piece of wire bent substantially upon itself at its center and bearing at this point on the yoke in advance of the bearing, the two halves of said wire being coiled around the ends of said bearing and extended forwardly therefrom, the free ends of said halves being bent to form hooks for engagement with the lower edge of the harp.

In testimony whereof we have hereunto set our hands in the presence of subscribing witnesses.

ALEXANDER ENGLUND.
LEE WITHERIL.

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