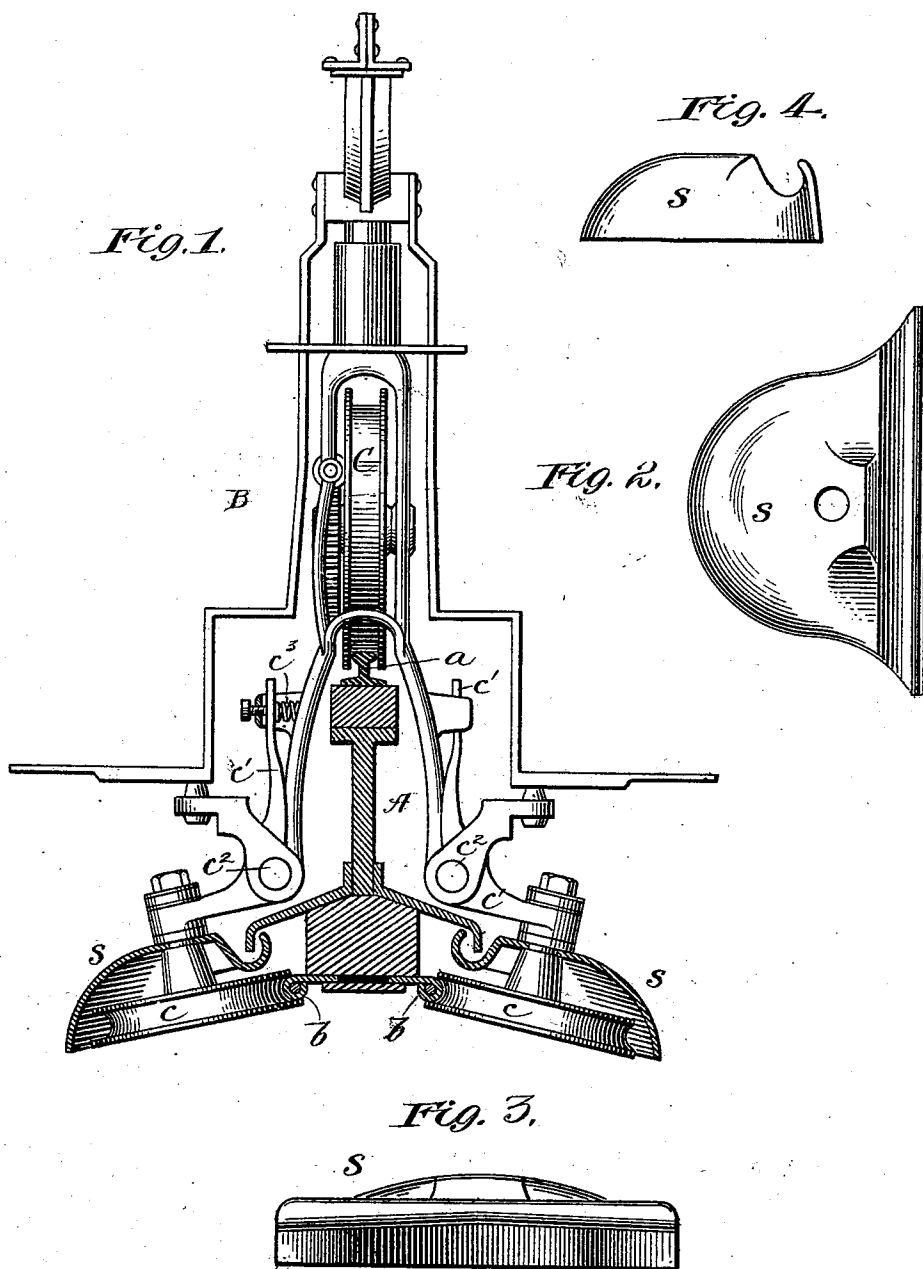


(No Model.)

H. S. PRUYN.
ELECTRIC TROLLEY WHEEL SHIELD.

No. 514,274.

Patented Feb. 6, 1894.



WITNESSES:

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HENRY S. PRUYN, OF HOOSICK FALLS, NEW YORK.

ELECTRIC-TROLLEY-WHEEL SHIELD.

SPECIFICATION forming part of Letters Patent No. 514,274, dated February 6, 1894.

Application filed May 10, 1893. Serial No. 473,656. (No model.)

To all whom it may concern:

Be it known that I, HENRY SAMUEL PRUYN, a citizen of the United States, residing at Hoosick Falls, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Electric Railways, of which the following is a full, clear, and exact description.

My invention relates to electric railways, and has special reference to means for protecting the collecting devices from moisture and external injury.

In general terms, the invention consists in combining with the trolley wheel, or other collecting device, a shield of special construction which will conduct water away from the wheel.

The invention will be described with reference to the accompanying drawings, in which—

Figure 1 represents a cross-section of an elevated railway structure showing a portion of the frame of a car in position thereon, and also illustrating my invention. Figs. 2, 3 and 4 are respectively a plan side-elevation and end-elevation of the protecting shield.

Referring to the drawings by letter, A represents a railway structure which is preferably elevated. As shown here, it is intended to carry a single rail, *a*, and the car B which runs upon it is provided with central wheels C. Below the car and on the under portion of the structure are mounted two electrical conductors, *b b*. These are of any suitable form, and are supported in any suitable manner. They are, as usual, bare so that collecting devices connected with the car may be put into electrical connection with them. The position of these conductors, with respect to the structure, is under the side edges of the same, so that the structure itself forms a hood or cover which protects them from the weather. In order to make contact with these conductors, therefore, the collecting devices of the car must reach down under the structure. The collecting devices which I use are metallic wheels, *c*, which are carried on a substantially vertical axis, and mounted in the ends of bell-crank levers, *c'*. These levers are pivoted at the points *c²* in the main frame of the car. Springs, *c³* are placed in position behind the one arm of the bell-crank levers,

as shown, to force the wheels inward, under the structure, and against the conductors. When the wheels are used in this position, they must necessarily be partially under the structure or hood which protects the conductors, and partially outside thereof, and thus, in stormy weather, when the structure is dripping with water, the wheels receive on their upper surfaces the water which falls from the surface of the hood, and as the wheels are rotating rapidly the water is thrown in all directions, wetting all portions of the circuit in the neighborhood.

I sometimes coat the upper surfaces of the wheels with a non-conducting material to prevent short-circuiting by reason of foreign bodies falling thereon. Water will often penetrate this material and it is desirable for various reasons to protect the wheel as effectually as possible from moisture. I therefore have provided in connection with each wheel a shield, S, which is preferably a sheet of non-conducting material bent into the general form shown in the several figures. It is secured above the wheel by being clamped between washers on the wheel axle. From this center the shield radiates over the top and sides of the wheel, and the front portion of the shield dips down and under the edge of the structure or hood, protecting the electrical conductors, and on the inside is bent upward, so as to overlap the said edges of the hood. This front-bent-up edge of the shield must, necessarily, be substantially parallel with the edge of the hood, and it extends in a longitudinal direction some distance behind and ahead of the wheel. The turned-up edge, *s*, of the shield forms a longitudinal gutter, which receives the dripping water from the edge of the hood, and takes it off at the edges of the shield. The bottom of the gutter is therefore inclined, as shown in Fig. 3, for this purpose. By making the edges of the hood and the shield overlap, water is kept out, even when a severe wind is blowing. It will be understood that this idea of protecting the collecting wheels from moisture is applicable to conduit systems in which horizontal trolley wheels are used as collectors, and in fact it is adapted for use in any electric railway system wherein a horizontal collecting wheel is utilized. It will

also be understood that in case a collecting device of any other form than the wheel herein described is used which is partially under the hood, and partially outside thereof, a similar shield may be applied without departing from the spirit of my invention.

Having thus described my invention, I claim—

1. In an electric railway system, the combination of an electrical conductor mounted along the roadway, a hood or covering protecting said conductor and open on its under side, a car adapted to travel along the roadway, a current collecting device carried by the car and passing up under the hood to make contact with the conductor, and a shield carried by and protecting the contact device and extending under the edge of the hood, for the purpose set forth.

2. In an electric railway system, an electrical conductor mounted under a hood, in combination with a trolley wheel making a rolling contact with the conductor and extending outside of the hood, and a shield carried by the wheel support, covering the

outer part of the wheel and extending under the edge of the hood, for the purpose set forth.

3. The combination with the elevated railway structure, supporting an electrical conductor and having a hood carrying the conductor, of a vehicle running upon the structure and carrying a collecting wheel which makes contact with the conductor by projecting under the edge of the hood, a shield moving with and covering the wheel, the edge of the shield passing under the edge of the hood and overlapping the same.

4. A trolley wheel for electric railways provided with a shield covering its upper side, the shield provided with a gutter to carry off water.

5. A trolley wheel for electric railways provided with a guttered shield.

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

HENRY S. PRUYN.

Witnesses:

W. L. THORPE,

L. J. BRIEN.