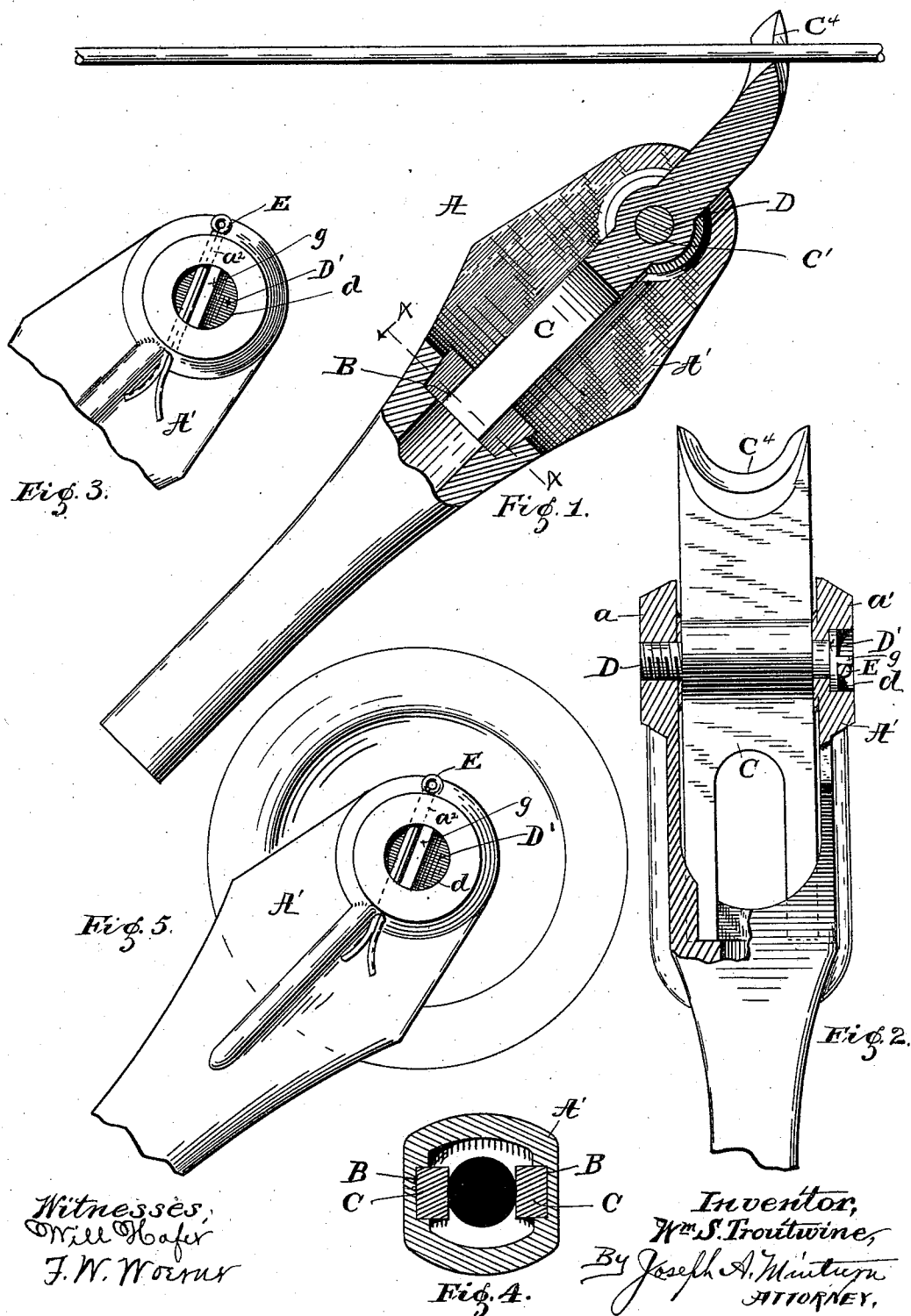


(No Model.)

W. S. TROUTWINE.
TROLLEY HEAD FOR ELECTRIC CARS.

No. 575,080.

Patented Jan. 12, 1897.



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TROLLEY-HEAD FOR ELECTRIC CARS.

SPECIFICATION forming part of Letters Patent No. 575,080, dated January 12, 1897.

Application filed May 22, 1896. Serial No. 592,649. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. TROUTWINE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Trolley-Heads for Electric Cars; 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.

The object of this invention is to provide a trolley-head in which the wheel can be removed and a scraper inserted in its place, and to provide a scraper that can be quickly applied and that will be effective in removing ice and sleet from the wires when the latter become loaded down in winter time so as to interfere with the transmission of the electric current.

A further object is to provide a spindle that will serve to secure the scraper in place in the head and will also form the axle for the trolley-wheel, and to provide means for locking the spindle in place so it can be readily inserted and removed.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation, partially in section, of a trolley-head with scraper applied and shows the head in operative position on the wire. Fig. 2 is a front view, also partially in section, of the trolley-head with scraper. Fig. 3 is a detail showing the upper end of the head in side elevation. Fig. 4 is a view in cross-section of the head on the line 4 4 of Fig. 1, looking in the direction of the arrow. Fig. 5 is a view of the trolley-head with a wheel applied in place of the scraper.

Similar letters of reference indicate like parts throughout the several views of the drawings.

A represents the trolley-head, which will be fastened to the trolley-pole in any substantial manner.

In general outline and construction the head, or more properly the frame, to receive the scraper or wheel will be the same as commonly employed and will differ mainly in the construction of the thickened portions

or bosses in which the ends of the axle are to rest and in the formation of the inside notches B.

The notches B are to receive the inner ends of the scraper C, so as to hold the scraper from rotating on the spindle or axle D. The scraper C is of metal and is removably secured in the frame A' by means of the spindle D, which is projected through the opening C' in the scraper and by placing the ends of the scraper in the notches B. The upper end of the scraper is projected above the frame and terminates with the notched edge C', so shaped in order to enable the scraper to follow the wire without displacement.

The bosses *a* and *a'* are formed by a thickening of the frame of the head, and are for the purpose of giving a better bearing for the axle. One of these bosses, *a*, is screw-threaded to receive the threaded end of the axle D, as shown in Fig. 2, and the other boss, *a'*, is provided with a countersunk hole *d* in order to let the head of the bolt in below the outer face of the boss. The boss is provided with a transverse hole *a*² through its walls to receive a pin E, which will serve as a lock to keep the axle from rotating, as will be hereinafter described.

The axle D will have a thin head D' to occupy only a portion of the depth of the countersink in the boss and leave room for the pin E outside of the bolt-head. The head of the bolt will have the transverse flange *g* to bear against the pin E and hold the pin from rotating and unscrewing. The pin E will be a split pin, as shown.

I am aware that axles have been fastened in trolley-heads by passing split pins through the boss and through a hole through the pin, but neither of the ends of the pin or axle was secured by screwing it into the frame, and no means was therefore provided for drawing the sides of the frame together so as to make the hole in the axle register with the hole through the boss, and because, by wear and use, the frame would spring so as to be too wide or perhaps too narrow it has been very difficult to change the axle or remove the wheel. With the present construction it is frequently necessary for the car to be taken into the shop to have the head repaired because the axle could not be fastened in place.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. The combination, with a trolley-head having openings to receive the axle, one of said openings being threaded and the other being countersunk in the manner substantially as described, and the countersunk end having a transverse pin-hole, of an axle having a head at one end with the outside transverse flange *g* and having a screw-thread at the other end said axle being adapted to be applied to the trolley-head in the manner as shown, a pin applied as shown to prevent the rotary movement of the axle and a metallic body to contact with the wire and removably secured to the head by means of the axle.

2. The combination with a trolley-head having the inside notches *B*, of the scraper *C* having its end inserted in the notches in the trolley-head and secured in the head by means of the axle on which the trolley-wheel ordinarily is mounted, said scraper having an upwardly-projected portion extending beyond the trolley-head into contact with the wire and terminating with a hollow or notch to keep the scraper on the wire.

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

WILLIAM S. TROUTWINE.

Witnesses:

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