

(No Model.)

W. J. DONAHUE & W. B. HAUSMAN.
TROLLEY FINDER.

No. 571,994.

Patented Nov. 24, 1896.

Fig. 2.

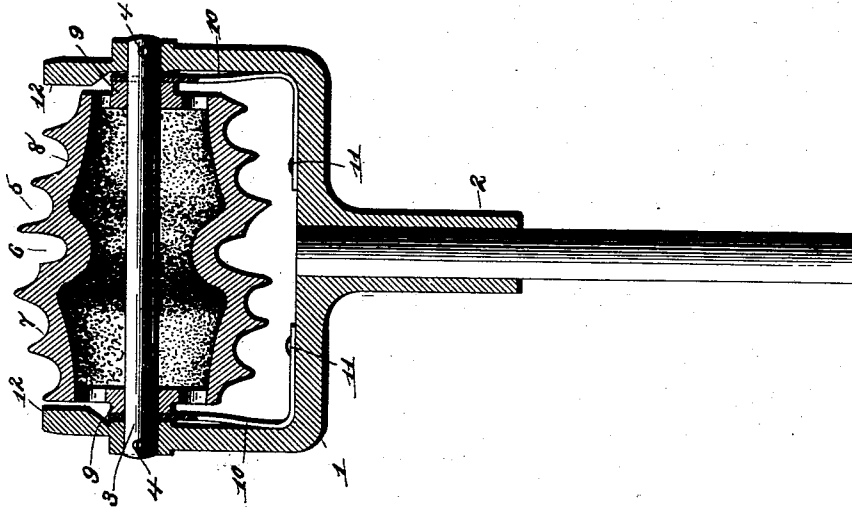
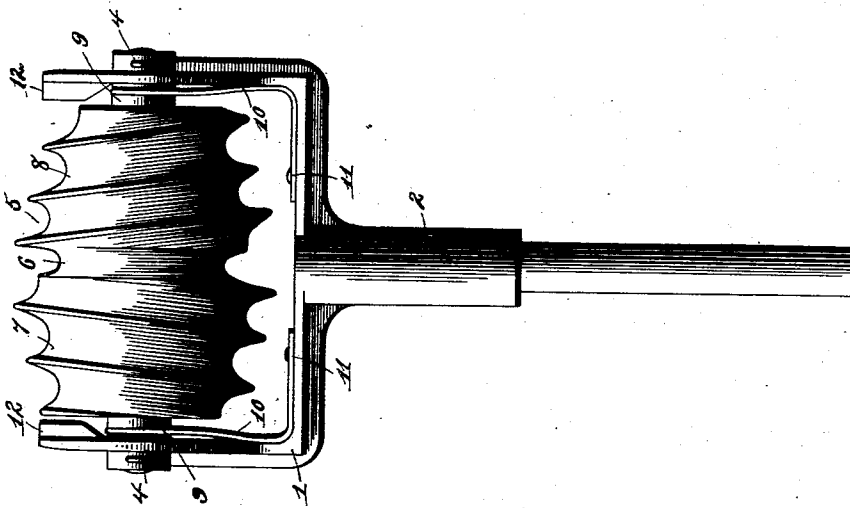


Fig. 1.



Witnesses:

E. C. Wurdeman
J. S. Williamson

Inventor

William J. Donahue and
Ward B. Hausman

by Geo. H. Holgate
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM J. DONAHUE AND WARD B. HAUSMAN, OF PHILADELPHIA,
PENNSYLVANIA.

TROLLEY-FINDER.

SPECIFICATION forming part of Letters Patent No. 571,994, dated November 24, 1896.

Application filed October 10, 1895. Serial No. 565,258. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. DONAHUE and WARD B. HAUSMAN, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Finders, of which the following is a full, clear, and exact specification.

Our invention relates to a new and useful improvement in trolley-wheels, and has for its object to provide such a device that will travel along the feed-wire as readily as the usual form of such devices, and yet which will center the wheel upon said wire should the former become displaced by a side thrust or from other causes, and its further object is to enable its being replaced upon the feed-wire more readily should it become displaced therefrom.

With these ends in view the invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which our invention appertains may understand how to make and use the same, we will describe its construction and operation in detail, referring by number to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is an elevation of our improved device, the trolley-pole being omitted; and Fig. 2 is a central section thereof.

Similar numbers denote like parts in the views of the drawings.

1 represents the fork, having the usual shank 2, by which it is secured to the trolley-pole, and 3 is a shaft-rod secured within the prongs of this fork by cotter-pins 4. Journalled upon this shaft-rod is the trolley-wheel 5, having the central groove 6, adapted to travel upon the feed-wire in the same manner and for the same purpose as the ordinary trolley-wheel.

7 and 8 are spiral grooves formed upon either side of the central groove 6 after the manner of a right and left hand thread, respectively. These grooves 7 and 8 are of smaller diameter at their outer extremities and gradually increase in diameter, as clearly

shown in Fig. 2, and finally merge into the central groove 6, but upon a higher plane and at opposite sides, so that the wire upon which the central groove is traveling will have no tendency to slip out of said central groove into the side grooves, but should the trolley-wheel be placed upon the wire and said wire fall into the grooves 7 or 8 the revolving of the trolley-wheel upon its axis will cause said wire to be fed toward the center, and when reaching the end of this groove it will drop into the central groove 6.

The trolley-wheel is cast hollow, as shown in Fig. 2, and provided with ventilating-holes 13 in each end and rings 9, forming bearings which revolve upon the shaft-rod 3, and the metal at the center is somewhat thicker than at other points, to compensate for wear upon the center groove. By this construction the trolley-wheel is kept cool, the weight of the wheel is greatly reduced, and the friction upon the shaft-rod also reduced and the wheel rendered more rigid as to side play or wobble.

10 are conductor-springs secured to the fork at 11, their free ends being provided with holes through which the shaft-rod 3 passes, and these springs have a tendency to bear inward, so as to maintain perfect contact with the rings 9 of the trolley-wheel at all times in order that the current may have a free passage from the trolley-wheel to the motor.

12 are lugs which project from the upper extremities of the fork to within close proximity to the trolley-wheel, so that the line-wire cannot slip between said wheel and the fork. In placing the trolley upon its feed-wire it is necessary to manipulate the former against the action of the heavy spring which upholds the trolley-rod, and the only guidance which the operator has is a rope, and this renders it very difficult to place the trolley-groove immediately under the wire and then permit it to move upward, so as to embrace said wire; but by the use of our improvement this accuracy is not necessary, since the wheel is so extended sidewise as to take in a larger space, and therefore it is only necessary to bring any portion of this space beneath the line-wire to place the trolley upon said wire, and should the trolley, when so placed, not be central upon the wire said

wire will be fed to the central groove upon the first few revolutions of the wheel, as will be readily understood.

We are aware that right and left grooved trolley-wheels are not new, and we do not wish to lay claim, broadly, to such a device.

What we claim as new and useful is—

1. A trolley-finder consisting of a wheel having right and left hand grooves increasing in diameter toward the center and merging with the central groove on diametrically opposite sides of the wheel, and a suitable support, as and for the purpose described.

2. A trolley-finder consisting of a fork, a

wheel rotating between the ends of the fork said wheel and right and left hand groove increasing in diameter toward the center and merging with the central groove at diametrically opposite points, as and for the purpose described.

In testimony whereof we have hereunto our signatures in the presence of two subscribing witnesses.

WM. J. DONAHUE.

WARD B. HAUSMAN

Witnesses:

S. S. WILLIAMSON,

JOHN H. HENRY.