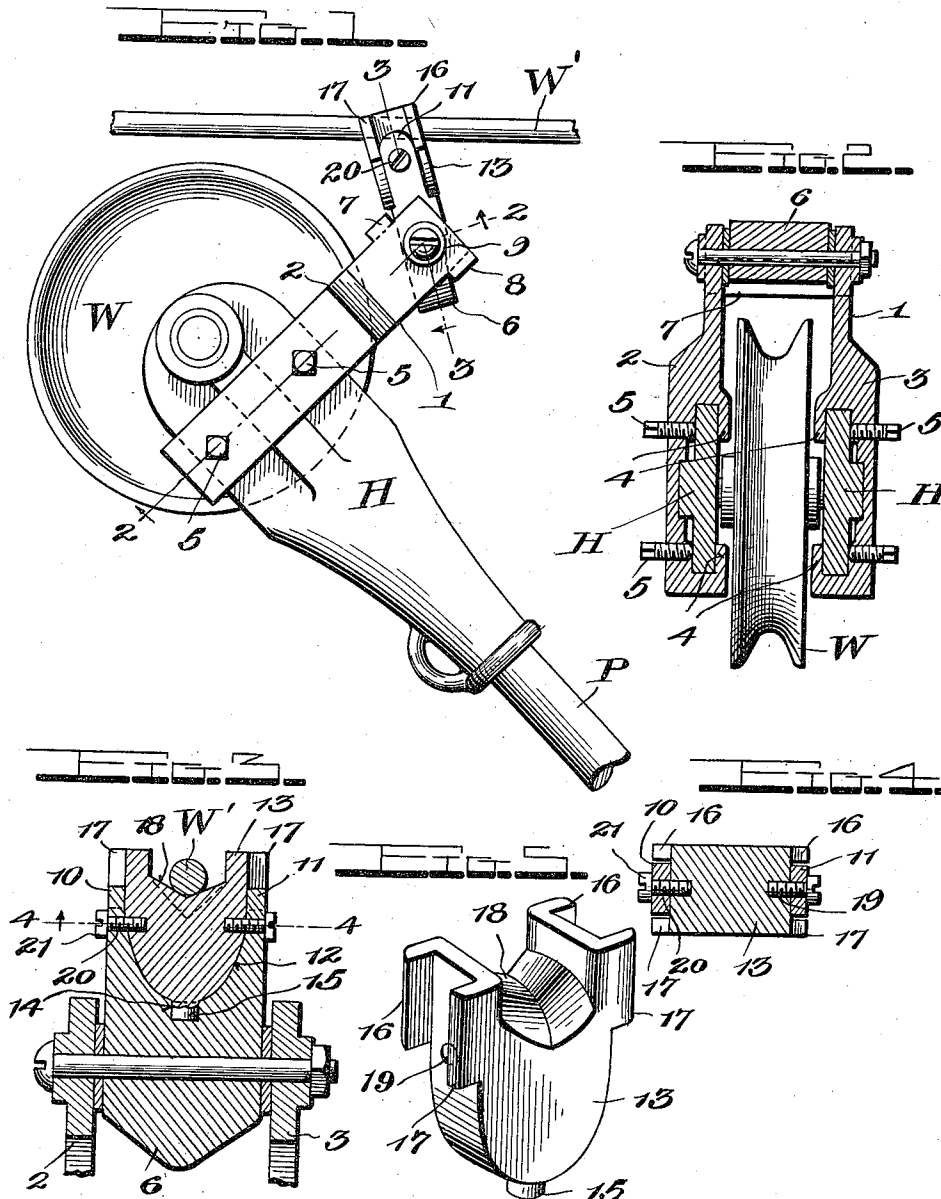


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SLEET CUTTER FOR TROLLEY WIRES.
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Witnesses

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SLEET-CUTTER FOR TROLLEY-WIRES.

1,154,828.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. AHRENS, a citizen of the United States, residing at No. 455 South Main street, city of Canandaigua, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Sleet-Cutters for Trolley-Wires; and I 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.

This invention relates to improvements in sleet cutters for trolley wires.

The object of the invention is to provide a simply constructed and efficient device of this character which will not damage overhead hangers, may be quickly attached, is self adjusting and operates no matter in what direction the car may be running.

Another object is to construct a device of this character with a scraping member so fitted that in case of its being burned out, another may be quickly inserted without a whole new appliance being necessary.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 represents a side elevation of a trolley harp equipped with this improved cutter; Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1; Fig. 3 is a vertical longitudinal section taken on the line 3—3 of Fig. 1; Fig. 4 is a transverse section taken on the line 4—4 of Fig. 3; Fig. 5 is a detail perspective view of the scraping element.

In the embodiment illustrated, a trolley pole P is shown provided with the usual harp H and trolley wheel W.

The attachment constituting this invention is mounted on the harp H and comprises a bracket 1 composed of two clamping jaws 2 and 3 provided on their inner faces with inwardly extending longitudinally spaced attaching lips 4 which are spaced laterally from the inner faces of the jaws proper and are designed to hook over and engage the opposite edges of the arms A of the trolley harp H as is shown clearly in Fig. 2. Set screws 5 pierce these jaws 2 and 3 at points opposite the lips 4 and are designed to engage and clamp between them and said lips, the arms H of the harp,

whereby the bracket is securely attached to the harp and extends laterally therefrom in a plane at right angles on the upper side of the harp to position the attachment in advance of the wheel W in convenient relation to the trolley wire W'. The ends of the jaws opposite those which carry the lips 4 are reduced in thickness and between the free ends thereof is pivotally mounted a head 6 which projects inwardly some distance beyond the ends of the arms and is adapted to swing freely from one side to the other, being controlled in its swinging movement by cross bars 7 and 8 which connect the free ends of the jaws 2 and 3 on the edges thereof, see Figs. 1 and 2. This head 6 is shown provided with a reduced lower portion formed by cutting away one face thereof, said cut away portion having a shoulder 9 at its inner end, as shown in dotted lines in Fig. 1, the reduced lower portion of the head providing for the swinging thereof between the bars 7 and 8 to a greater extent than could otherwise be accomplished if said head were not so reduced. Two laterally spaced arms 10 and 11 rise from the head 6 and are preferably curved on their inner faces, tapering in thickness toward their free ends and are so shaped as to form a rounded seat 12 conforming in shape to the shape of a scraping element 13 which is mounted between these arms as will be hereinafter more fully described. In the top of the head between the arms 10 and 11 is a socket 14 adapted to receive a stud 15 which depends from the lower end of the scraping member 13 and is adapted to be seated in said socket to assist in holding said member rigidly connected with the head.

The scraping member 13 which is substantially heart shaped as shown in Figs. 3 and 5, is preferably composed of copper and is provided on its opposite side edges at its upper end with laterally spaced longitudinally extending lips or flanges 16 and 17 between which the arms 10 and 11 are designed to be mounted, the space between said flanges being of a width corresponding to the thickness of said arms or substantially so, see Fig. 4. The upper face of this scraping member 13 is provided with a V-shaped wire engaging recess 18 which is curved transversely, see Figs. 3 and 5, and which is designed to engage the trolley wire W' in advance of the wheel W. The flanged portions of the

member 13 project upwardly in a plane above the V-shaped seat or recess thereof and are adapted to extend on opposite sides of the trolley wheel W and form guides therefor to insure the retention of the cutter on the wire. By so curving this V-shaped recess, the scraping element is designed to operate properly on the wire without exerting too much pressure no matter in what direction the car may be moving. By constructing this scraping element 13 of copper and detachably mounting it in the head 6, it may be readily removed and replaced by another should burning out thereof occur and without in any way affecting the body portion of the device, the copper scraping element being cheaply constructed and easily removed and replaced, thus rendering the device very simple, inexpensive, and practical and because of the pivotal mounting of head 6, all danger of overhead hangers being damaged thereby, is prevented, it being understood that when said device comes in contact with one of said hangers, it will swing down sufficiently to permit it and the head 6 on which it is mounted to pass over said hanger without damaging it. This heart-shaped scraping member 13 is provided in its opposite side edges near its upper end with transversely extending screw threaded sockets 19 which are adapted to register with corresponding threaded apertures 20 in the arms 10 and 11 to receive attaching screws 21 as is shown clearly in Figs. 1, 3 and 4.

35 The head 6 may be constructed of any suitable material, preferably of iron and the jaws of the attaching bracket are also preferably constructed of iron.

I claim:—

40 1. A sleet remover for trolleys comprising an attaching bracket having a scraping head pivotally mounted therein, and means for limiting the pivotal movement of said head.

2. A sleet remover for trolleys comprising an attaching bracket, a head pivotally mounted in said bracket, a scraping element removably mounted in said head, and means carried by said bracket for limiting the swinging movement of said head in both directions.

3. A sleet remover for trolleys comprising an attaching bracket composed of clamping

jaws each having longitudinally spaced inturned support engaging lips spaced laterally from the inner faces of the jaws, set screws piercing said jaws opposite said lips, a scraping member pivotally mounted between said jaws, and means on said jaws for limiting the movement of said scraper member in opposite directions.

4. A sleet remover for trolleys comprising an attaching bracket composed of clamping jaws each having longitudinally spaced inturned support engaging lips spaced laterally from the inner faces of the jaws, set screws piercing said jaws opposite said lips, a scraping member pivotally mounted between said jaws and cross bars connecting said jaws at the opposite edges thereof for limiting the swinging movement of said scraping member.

5. A sleet remover for trolleys comprising an attaching bracket, a head pivotally mounted in said bracket and having laterally spaced upwardly extending arms with a socket in said head between said arms, a heart-shaped scraping member having a depending stud at the bottom thereof adapted to engage said socket, said member fitting between the arms of said head, and means for detachably and rigidly securing said member to said arms.

6. A sleet remover for trolleys comprising an attaching bracket, a head pivotally mounted in said bracket and having laterally spaced upwardly extending arms with a socket in said head between said arms, a heart-shaped scraping member having a depending stud at the bottom thereof adapted to engage said socket, said member fitting between the arms of said head, and means for detachably and rigidly securing said member to said arms, said scraping member being provided with upward extensions having laterally extending spaced flanges projecting outwardly therefrom and adapted to engage the opposite side edges of said arms.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. AHRENS.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."