

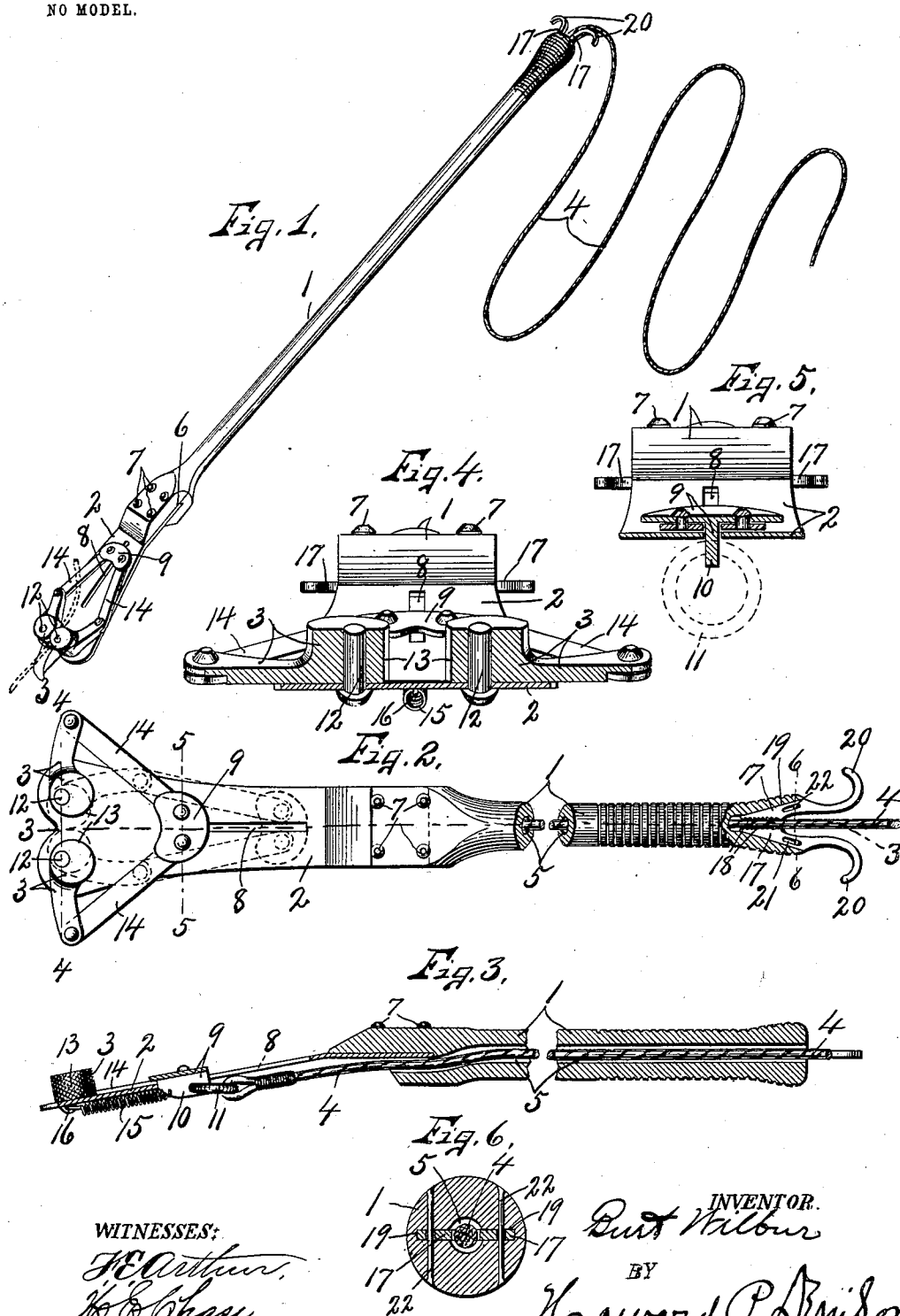
No. 731,145.

PATENTED JUNE 16, 1903.

B. WILBUR.
DEVICE FOR HANDLING LIVE ELECTRIC WIRES.

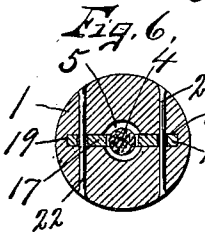
APPLICATION FILED FEB. 9, 1903.

NO MODEL.



WITNESSES:

J. E. Arthur.
W. E. Chase



INVENTOR.

Burt Wilbur

BY

Howard P. Brinson
ATTORNEY

UNITED STATES PATENT OFFICE.

BURT WILBUR, OF SYRACUSE, NEW YORK.

DEVICE FOR HANDLING LIVE ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 731,145, dated June 16, 1903.

Application filed February 9, 1903. Serial No. 142,564. (No model.)

To all whom it may concern:

Be it known that I, BURT WILBUR, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful
 5 Improvements in Devices for Handling Live Electric Wires, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to a device for handling live electric wires of high voltage; and is particularly applicable for use in electric-railway systems in which the overhead trolley-wire is employed, although it will be apparent from the subsequent description that the device may be used for safely handling any wire through which an electric current of high voltage may be liable to pass.

It is well known that in the use of overhead trolley-wires in electric-railway systems the wires frequently break at different points along the route and that the broken ends of these wires frequently drop to the ground, and thereby endanger the lives of pedestrians and animals and also are liable to injure the electric-generating mechanism at the power-house.

The object, therefore, in providing the device which forms the subject-matter of this invention is to enable any one skilled or unskilled in the use of high-voltage electric currents to safely pick up the broken dangling ends of the wire and temporarily secure the same to some overhead support out of the line of travel until the break may be repaired by the persons employed for this purpose.

It is my purpose to equip each of the electric cars with one or more of these devices, so that in case of a break in the trolley-wire the motorman or conductor may readily and safely pick up the broken ends of the wire and properly secure them in some overhead position, so that the car may continue on its route without further interruption.

It is well known that a large number of cars are frequently stalled for a considerable period of time on account of the broken wires dangling in front of or in proximity to one of the cars and that it would be extremely dangerous for the attendants to attempt to run the car into contact with these broken wires, and therefore it becomes necessary for

the cars to wait until the repair force can reach the vicinity of the breakage, which is often a considerable distance from the power-house or from the office of the superintendent of repairs.

I am aware that it is not uncommon to provide means for gripping and stretching wires in general; but I am not aware that any device of the character hereinafter described has ever before been employed.

Referring to the drawings, Figure 1 is a perspective view of my improved "pick-up" device for handling live electric wires. Fig. 2 is a top plan, partly broken away and partly in section, of the device seen in Fig. 1. Figs. 3, 4, 5, and 6 are sectional views taken, respectively, on lines 3 3, 4 4, 5 5, and 6 6, Fig. 2.

Similar reference characters indicate corresponding parts in all the views.

This invention consists, essentially, of an elongated handle 1 of suitable insulating material, a head 2, and gripping-jaws 3, which are usually formed of metal, and a cable 4, of insulating material, guided on the handle and connected to the gripping-jaws for operating the same to grip and hold the wire.

The handle 1 is formed of wood or other insulating material, and is provided with a lengthwise central opening 5, extending there-through from end to end for receiving and guiding the flexible cable 4.

The head 2 preferably consists of a metallic plate of steel or equivalent strong metal, one end of which is inserted into a slot 6 into one end of the handle and is securely held in position by rivets or bolts 7. This plate is provided with a lengthwise slot 8, in which is movable a sliding cross-head 9, which is substantially T-shaped in cross-section, as seen in Fig. 5, being formed with a depending elongated flange 10, which projects through the slot 8, and is provided with an eye 11, to which is connected one end of the flexible cable 4.

The jaws 3 preferably consist of levers, which are pivoted at 12 upon the free end of the head 2, and their adjacent ends are provided with eccentric wire-engaging faces 13, the outer ends of the levers being connected by links 14 to the sliding cross-head 9 in such manner that as the cross-head is reciprocated along the slot or guide 8 the eccentric faces

13 rock toward and from each other for engaging or releasing the wire which may be interposed between the jaws.

In the operation of gripping a wire the device is usually held by the handle 1, with the head and gripping-jaws downwardly, and the cross-head 9 and connections with the jaws 3 operate to open the jaws by gravity; but in order that this opening movement of the jaws may be positive I provide a spring 15 at the opposite face of the head, said spring having one end secured to the flange 10 of the cross-head, and its other end is attached to an eye 16, which is secured to the head in proximity to its free-end edge. The means for closing the jaws preferably consists of the cable 4, which is connected to the jaws 3 through the medium of the cross-head 9 and links 14, said cable being movable lengthwise through the central opening 5 in the handle and extends a considerable distance beyond the upper end of the handle, so that when the jaws are firmly gripped upon the wire the whole device, together with the wire, may be drawn up tightly and the surplus end of the cable may be tied to any convenient support—as, for instance, a telegraph-pole or tree—so as to suspend the wire overhead remote from the line of travel of the cars or pedestrians. In order that the jaws may be held in their closed or gripping position upon the wire, I provide the upper end of the handle 1 with gripping members 17, which are formed with serrated gripping-faces 18 and are movable in inclined guides or slots 19 in the handle, said gripping members being provided with hand engaging portions 20, by means of which the gripping members may be moved endwise in their respective guides into and out of engagement with the cable 4. These gripping members 17 are provided with lengthwise slots 21, which receive guide-pins 22, secured to the handle 1, said guide-pins preventing the displacement or removal of the gripping members.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A device for handling live electric wires comprising a handle of insulating material having a lengthwise opening therethrough from end to end, a head secured to one end of the handle, jaws pivotally mounted on the head and having eccentric engaging faces for gripping and holding the wire, means for opening the jaws, and additional means passed through the opening in the handle and connected to the jaws to close the same.

2. A device for handling live electric wires comprising a handle of insulating material having a lengthwise opening therethrough from end to end, a head secured to one end of the handle, jaws on the head for gripping and holding the wire, and a flexible cable passed through the handle and having one end connected to the jaws and its other end

adapted to be engaged by the operator whereby the cable may be drawn through the opening to close the jaws and its free end secured to a fixed support.

3. A device for handling live electric wires comprising a handle of insulating material having a lengthwise opening therethrough, a head secured to one end of the handle and provided with a lengthwise guide, a cross-head slidable along the guide, jaws connected to and operated by the cross-head to open and close the jaws, means to move the cross-head in one direction to open the jaws, and a flexible cable of insulating material movable in the opening of the handle and connected to close the jaws.

4. A device for handling live electric wires comprising a handle of insulating material having a lengthwise opening therethrough, a head secured to one end of the handle and provided with a lengthwise guide, a cross-head slidable along the guide, jaws connected to and operated by the cross-head to open and close the jaws, a spring connected and operating to open the jaws, and a flexible cable of insulating material guided in the opening of the handle and connected to close the jaws.

5. A device for handling live electric wires comprising a handle of insulating material, jaws connected to the handle to grip the wire and a cable of insulating material connected to close the jaws for the purpose described, and movable means to grip and hold the cable when the jaws are closed.

6. A device for handling live electric wires comprising a handle of insulating material having a lengthwise opening therethrough, a head secured to one end of the handle, jaws on the head for gripping and holding the wire, a cable of insulating material guided in the opening in the handle and connected to close the jaws, and means to grip and hold the cable when the jaws are closed.

7. A device for handling live electric wires comprising a handle of insulating material having a lengthwise opening therethrough, a head secured to one end of the handle, jaws pivotally mounted in the head and provided with eccentric engaging faces, a slidable cross-head mounted on the former head and connected to open and close the jaws, a spring connected to open the jaws, a flexible cable passed through the opening in the handle and having one end connected to the cross-head to operate the same to close the jaws, and means mounted on the other end of the handle to grip and hold the cable when the jaws are closed.

In witness whereof I have hereunto set my hand this 31st day of January, 1903.

BURT WILBUR.

Witnesses:

H. E. CHASE,
MILDRED M. NOTT.