

(No Model.)

H. A. GOREHAM.
CONDUIT RAILWAY TROLLEY.

No. 508,104.

Patented Nov. 7, 1893.

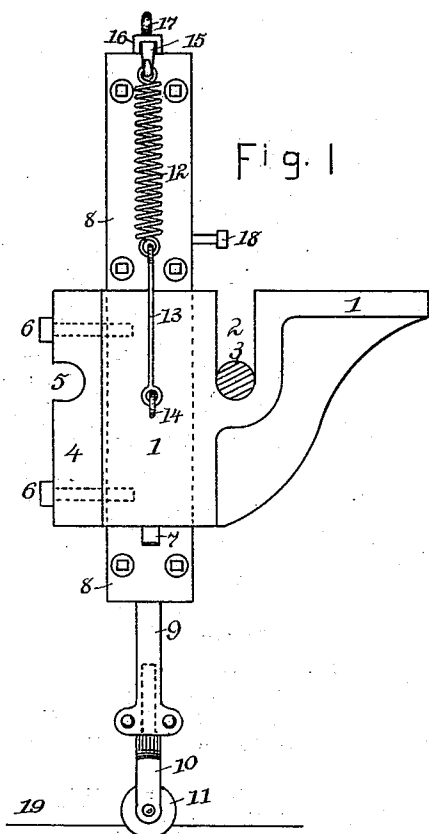


Fig. 1.

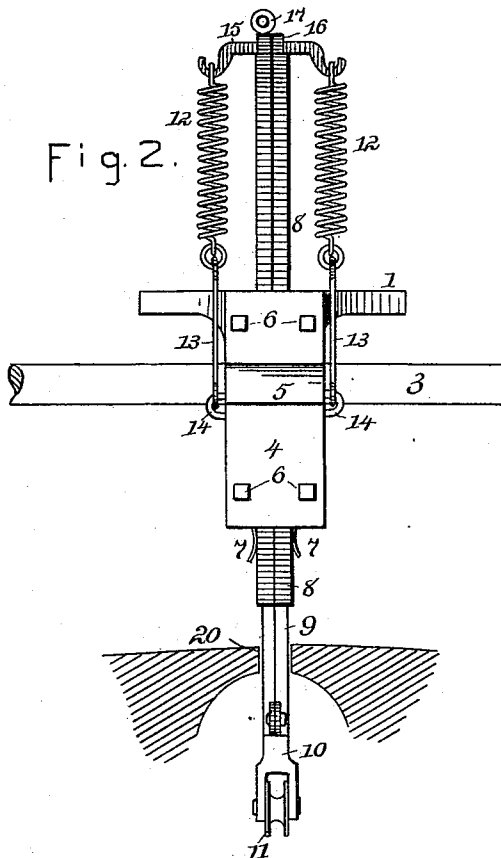


Fig. 2.

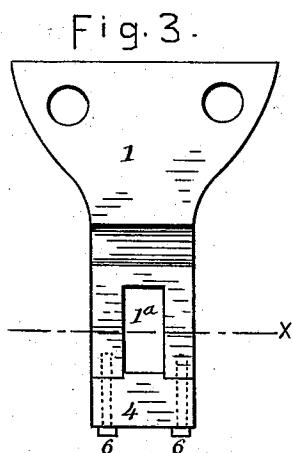
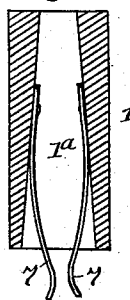


Fig. 3.

Fig. 4.



ATTEST
Helen Graham
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by his attorney
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UNITED STATES PATENT OFFICE.

HERBERT A. GOREHAM, OF DECATUR, ILLINOIS.

CONDUIT RAILWAY-TROLLEY.

SPECIFICATION forming part of Letters Patent No. 508,104, dated November 7, 1893.

Application filed January 31, 1893. Serial No. 460,276. (No model.)

To all whom it may concern:

Be it known that I, HERBERT A. GOREHAM, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Trolleys for Underground Circuits, of which the following is a specification.

This invention is designed to enable electric cars to be effectively connected with underground circuits, thereby obviating the necessity of poles and overhead wires, and it is embodied in the details of construction and combinations of parts hereinafter set forth and claimed.

In the drawings forming part of this specification, Figure 1 is a side elevation of a trolley constructed in accordance with my invention. Fig. 2 is an end elevation of the same. Fig. 3 is a plan of the bracket that carries the trolley and connects with the car. Fig. 4 is a vertical section through the bracket on broken line X in Fig. 3.

The bracket 1 is adapted to connect with the lower frame work of a car, and it preferably has grooves, or recesses, as 2 and 5, that may receive the axle 3 of the car, and so permit the placing of the bracket in close proximity to the axle. One of the sides of the bracket is removable, such side being indicated in the drawings by reference numeral 4, and it is normally held in position by means of stud bolts 6. A slot 1^a extends vertically through the bracket, and such slot is of uniform width from front to back while widening laterally toward the bottom. The lower end of the slot is provided with inwardly extending springs 7, which effect a result to be hereinafter explained. The trolley standard 8 and stem 9 are preferably made in two separable parts suitably secured together by screws or their equivalents. The bracket 10 of pulley 11 is secured in and insulated from the stem 9, and a wire runs from the bracket upward between the parts of the stem and the standard in a manner to permit connection with the motor of the car. Yoke 15 is held in loop 16 on the upper end of the standard, springs 12 are connected with the hooked ends of the yoke, and rods 13 connect the springs with staples 14 on the sides of the bracket. An eye, as 17, on the top of the

standard provides a lift connection for the standard, which is to be used to carry the trolley in case of the same becoming in any way disabled. In Fig. 1 a circuit wire is represented at 19, and in Fig. 2 the slot in the trench in which the circuit wire is placed is shown at 20.

In operation, the stem of the trolley standard extends through the slot of the trench and the pulley rests on the wire. The springs draw yieldingly down on the trolley and compensate for variations in the distance of the car from the wire, the vertical position of the stem enables curves to be made without binding, and the lateral widening of the lower end of the slot of the standard permits sufficient side swing of the trolley to accommodate ordinary deviations in the wire. The springs 7 bear against the sides of the standard and tend to hold the same perpendicular. A pin is shown at 18 which, in case of displacement of the trolley from the wire, will limit the fall of the trolley and avert damage thereto.

The mechanism herein described embodies my invention, and I claim nothing novel in the way of making electrical connections with the trolley. This may be done in any manner preferred by the electrician in charge, and consequently I have not shown any particular way.

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

1. A trolley for underground wires comprising the vertically slotted bracket, the trolley standard in the slot of the bracket, and the springs connecting the standard with the bracket and tending to force the standard downward, substantially as set forth.

2. A trolley for underground wires comprising the vertically slotted bracket, the two part standard in the slot of the bracket and provided with a trolley pulley at its lower end, and springs connecting the standard with the bracket and tending to force the standard downward, substantially as set forth.

3. The combination of the vertically slotted bracket, the trolley standard in the slot of the bracket, the yoke across the upper end of the standard, and the springs connected with the

yoke and with the bracket and tending to draw the standard downward, substantially as set forth.

4. The combination of the bracket having
5 the vertical slot widened laterally toward the lower end thereof, the trolley standard extended through the slot, the springs in the slot bearing against the sides of the standard, and the springs connected with the upper end
10 of the standard and with the bracket substantially as set forth.

5. The combination of bracket 1 having slot 1^a widened toward its lower end, the springs 7 in the slot on opposite sides thereof, the two

part standard 8 having the stem 9 adapted to 15 the slot of a trench, bracket 10 secured in the lower end of the stem and carrying pulley 11, yoke 15 across the upper end of the standard, springs 12 on opposite ends of the yoke, and rods 13 connecting the springs with the 20 bracket, substantially as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

HERBERT A. GOREHAM.

Attest:

MABEL C. RUSH,
WILLETTA JOHNSON.