

(No Model.)

G. H. ALTON.

TROLLEY FOR ELECTRIC RAILWAYS.

No. 463,765.

Patented Nov. 24, 1891.

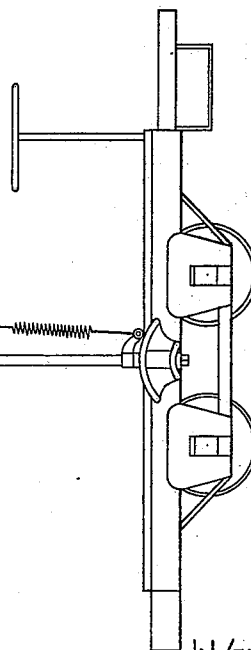
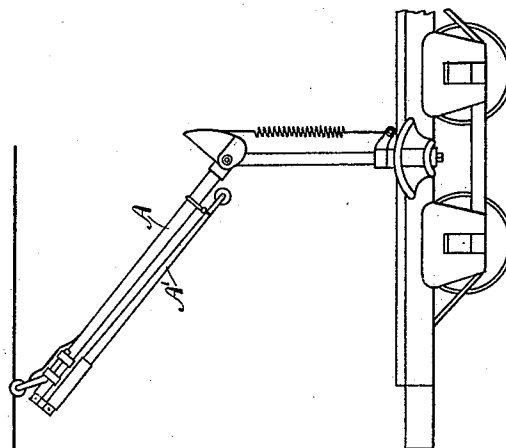
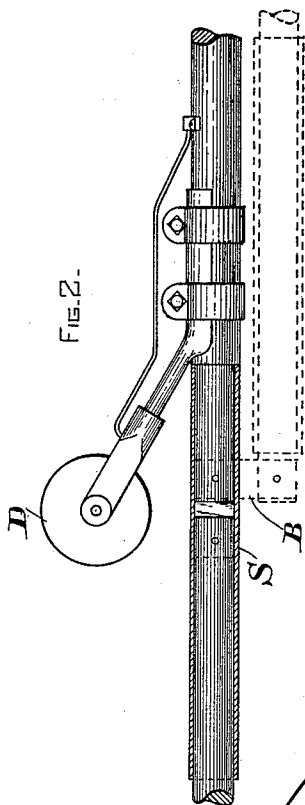


Fig. 1.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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TROLLEY FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 463,765, dated November 24, 1891.

Application filed February 16, 1891. Serial No. 381,541. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. ALTON, a citizen of the United States, and residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Trolleys for Electric Railways, of which the following is a specification.

The purpose of the invention is to provide
10 a trolley which may be used on an electric railway where extreme variations in the elevation of the supply-conductor above the road-bed takes place—as, for example, in mining installations, where the conductor
15 outside the mine will be placed at a considerable height, but inside the mine it is brought down to within a short distance of the car. Another situation in which the same condition of affairs is likely to arise is in mill or
20 factory roads, where different buildings are located at some distance apart and it is desired to transport goods from one to another without changing cars. Again, where there is a tunnel on the line of an electric railway the
25 same change in elevation of the conductor will ordinarily be necessitated.

To adapt the trolley to a conductor varying in elevation, as above described, I provide it with a folding or other supplementary end
30 section, which may either be secured in position in line with the main trolley-pole or removed therefrom, so as to form a trolley-pole of greater or less length to correspond with the different elevations of the conductor. This
35 will be readily understood from the following specific description and the accompanying drawings, wherein—

Figure 1 is a side view representing an electric railway at two points of the line, the elevation of the conductor being considerably
40 changed, and Fig. 2 is a detail view of a part of the trolley-pole.

In the figures, A represents a trolley-pole pivoted at its lower end and pressed upward
45 by a spring in the customary manner into contact with the under side of a suspended supply-conductor C. To the outer end of the portion A, which for convenience is herein referred to as the "main pole," is pivoted a
50 supplementary end section A', provided with a wheel or other contact-maker α . Means for

attaching this end section to the main pole may be varied largely, as there are many mechanical contrivances which would allow the folding of the end section down beside the
55 main pole, as in Fig. 1, or the securing of it rigidly in a position forming an extension of the main pole, as in full lines, Fig. 1. My invention therefore aims to cover all means for
60 accomplishing this purpose so far as this may be possible or proper; but I recommend the specific mechanism shown in Fig. 2 as convenient for this purpose, which consists of a
link B, pivoted to the two sections of the trolley, and a sliding sleeve S, which, when in
65 the full-line position, serves as a catch, holding the two parts in alignment. To the main pole there is attached a second contact-maker D, which, as shown, extends or projects beyond the joint in the pole, so that it is in a
70 proper position for making contact with the conductor when the end section is folded down, as in the right-hand view, Fig. 1.

The variations of elevation of the conductor are illustrated in Fig. 1, and the pole
75 described can, as will be understood from the above, be readily adjusted in length to correspond with the different elevations and allow the car to run over both sections of road, while maintaining the contact device in engage-
80 ment with a substantially uniform spring-pressure on each section.

I claim—

1. The combination, with a trolley having two contacts, of a suspended conductor hav-
85 ing a lower portion engaging with one of such contacts and a higher portion out of reach of said contact when the latter is in normal operative position, but engaged by the other
90 contact.

2. A trolley-pole carrying two contact portions for making contact with a suspended conductor at different heights, one of such
portions being adjustably attached to the pole.

3. A trolley-pole having a main section carrying a contact device and an adjustable
95 supplementary section carrying an additional contact device, the said two contact devices making contact with different portions of a
conductor.

4. A trolley-pole comprising a main section
100 and a supplemental folding section having

means for securing it in position, and two contact devices carried, respectively, by said sections and making contact with a conductor at different elevations.

- 5 5. A trolley-pole having a main section, a supplementary section adjustably attached to said main section, and a clamp or catch engaging with such sections and joining them rigidly together.
- 10 6. A trolley-pole having two sections folding together, with a sleeve or catch engaging with such sections and joining them rigidly together.
- 15 7. A trolley-pole comprising a folding section and contact-makers attached, respectively, to said section and the main pole.

8. A trolley-pole comprising a folding end section and a contact-maker attached to the main pole, but extending beyond the joint in the pole, as described.

9. The combination of a suspended conductor changing elevations, as described, with a trolley spring-pressed into contact with the conductor, comprising a supplementary end section movable into and out of operative position to make the total length of the pole correspond to the elevation of the conductor.

GEORGE H. ALTON.

Witnesses:

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