(No Model.)

O. H. JADWIN.

CABLE TRACTION.

No. 265,091. Patented Sept. 26, 1882.

Fig. 1.

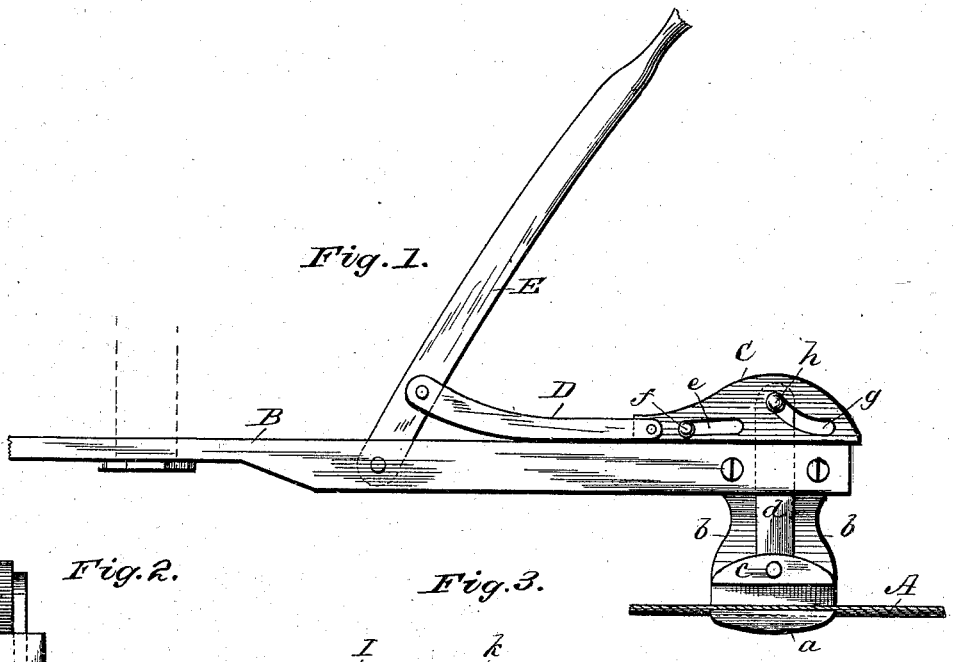


Fig. 2.

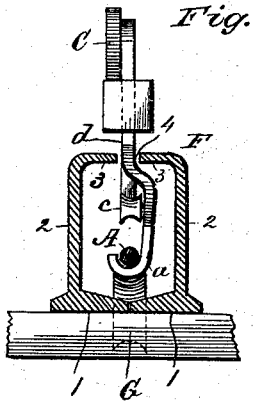


Fig. 3.

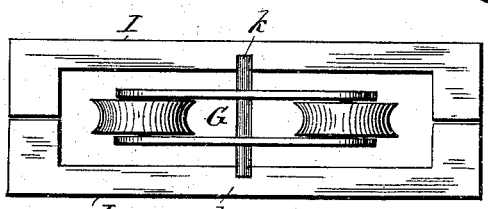
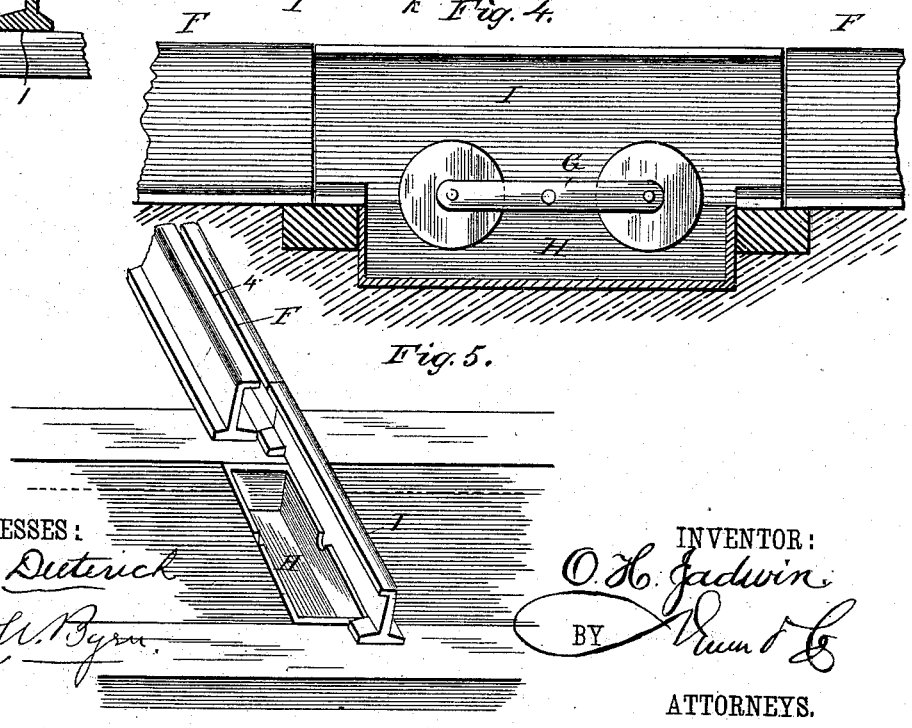


Fig. 4.

Fig. 5.



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CABLE-TRACTION.

SPECIFICATION forming part of Letters Patent No. 265,091, dated September 26, 1882.

Application filed March 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO H. JADWIN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Cable-Traction; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the grip mechanism. Fig. 2 is a cross-section of the channel-way, showing the grip in position. Fig. 3 is an underneath plan view of the short rail-sections, showing the position of the rocking pulleys. Fig. 4 is a side view of the channel-way with the bed in section and the near section of short rails removed. Fig. 5 is a perspective view of the channel-way with one of the short rail-sections removed.

My invention relates to certain improvements in the system of cable-traction for street-railways; and it consists, first, in the improved construction of grip mounted on the car which serves to clutch the traveling cable; and, secondly, in the improved construction of channel-way for the traveling cable and means for arranging the guide-pulleys therein, as will be hereinafter more fully described.

In the drawings, A represents the traveling cable, and B is the draft-bar, which is attached to the car at the rear end, and at its forward end is provided with a gripping attachment for seizing or releasing the cable. This grip is made with a stationary bottom shoe, *a*, attached by shanks *b b* to the bar B, and clamping-foot *c*, pivoted to a shank, *d*, so as to rock in the plane of the cable, as described and claimed in some of my previous patents. The grip as constructed of these parts, however, I make stronger, shorter, and more compact than in my previous patents, so that they may more readily ride over the guide-pulleys that carry the cable. For raising or lowering the clamping-foot *c* its shank *d* is extended between *b* and *b* to a point above the bar B, and is there provided with a pin, *h*.

C is a cam-plate which is arranged to slide back and forth longitudinally on the top of the bar B, the said plate being guided in its movement by a slot, *e*, and a pin, *f*, attached to the bar, or by a tongue-and-groove connection, if desired. In said plate is formed a cam-slot, *g*, arranged diagonally to the shank *d*, which slot receives the pin *h*, so that when said cam-plate is drawn back it forces shank *d* and its clamping-foot down upon and grips the cable, and when the cam-plate is thrown forward it lifts said shank and foot and allows the cable to travel freely through the grip. For giving these adjustments to the cam-plate a connecting-rod, D, is jointed to the same at one end, and at the other end is jointed to a vertical hand-lever, E, which is fulcrumed at its lower end upon the bar B.

F is the channel-way in which runs the traveling cable. This channel-way is composed of two rolled channel-bars of the same cross-section. These bars are formed with base-flanges at the bottom, on each side of their web portions 2, and with a flange, 3, only on one side of their web portions at the top. The base-flanges 1 1 on the inner sides of the channel are of such extent that when the base-flange of one channel-bar touches the base-flange of the other channel-bar on the opposite side a sufficient passage-way is left between the web or vertical portions 2 2 of the bars to receive the cable and its guide-pulleys and accommodate the passage of the grip. The lateral projection of the upper flanges, 3, is less than that of the inner base-flanges, 1, by an amount which leaves a central continuous opening, 4, to give passage to the shank of the grip which fastens the car to the cable.

I am aware of the fact that cable-tunnels have been made of two channel-bars; but they were not provided with equal inwardly-projecting flanges, which serve by contact or abutment with each other to limit and exactly define the opening at 4. On the other hand, I am aware that two channel-bars of different cross-section have been used to form a cable-tunnel, one of which channel-bars had a broad base with a seat in it, that received the base of the other channel-bar, and I do not claim this. In my construction it will be seen that the two channel-bars are of the same cross-section and formed by the same roll, and by the contact of the base-flanges in the middle the upper portions of the channel-bars are not only held a

uniform and definite distance apart, but the said channel-bars are greatly braced and stiffened and may be held in place sufficiently by spikes on the outside alone. The central joint also affords a desirable leak-seam for water that may pass into the channel-way. I propose to use, in connection with this channel-way, my rocking or compensating pulleys, as covered in one of my earliest patents, an example of which is shown at G. It consists of a pair of pulleys mounted upon the opposite sides of the fulcrum of a rocking frame and forming a guide for the traction-cable, which has the following functions: that when the grip strikes the first of this pair of pulleys and depresses it in riding over it the depression of this pulley causes the other to rise and seize the cable with a firmer contact until the grip reaches the second pulley, and then the first pulley rises to firmer contact with the cable, thus effectually avoiding the throwing of the cable off its guide-pulleys by the grip. For accommodating this arrangement of guides to my channel-way a suitable pit, H, is formed in the bed of the track immediately beneath the channel-way, and in suitable seats or bearings in the sides of this pit are placed the trunnions *k* of the pulley-frame. Then above these pulleys the channel-way is completed by short sections I I of channel-bars, which have the same cross-section at their ends as the main channel-bars; but in the middle portion their inwardly-projecting base-flanges are discontinued, so that the pulleys and their frame can project up into the channel-way to sustain the cable and be free to move. These short sections of channel-bars, it will be seen, serve to give continuity to the channel, permit ready access to the pulleys for inspection, removal, or repairs, and by the abutment of their adjacent flanges at the ends dispense with the necessity for chairs, fish-plates, &c.

Having thus described my invention, what I claim as new is—

1. The combination, with the draft-bar B and its stationary shoe, of the movable clamping-foot having a shank, *d*, with a pin at its upper end, the sliding cam-plate C, having diagonal slot and moving in guides on top of the draft-bar, the connecting-rod D, and the lever E, substantially as shown and described.

2. The cable channel-way composed of two channel-bars of like transverse form and dimension, having their inwardly-projecting base-flanges 1 1 of greater lateral projection than the top flanges, 3 3, and having their said inwardly-projecting base-flanges abutting against each other, substantially as shown and described.

3. The combination, with the channel-way and the compensating pulleys, with their frame G located in a pit beneath the same, of the short channel-bars I I, having inwardly projecting and abutting flanges at their ends and without inner flanges at their middle portions, as shown and described.

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Witnesses:

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