(No Model.)

O. H. JADWIN.

CABLE GRIP FOR TRACTION RAILWAYS.

No. 388,686. Patented Aug. 28, 1888.

Fig. 1.

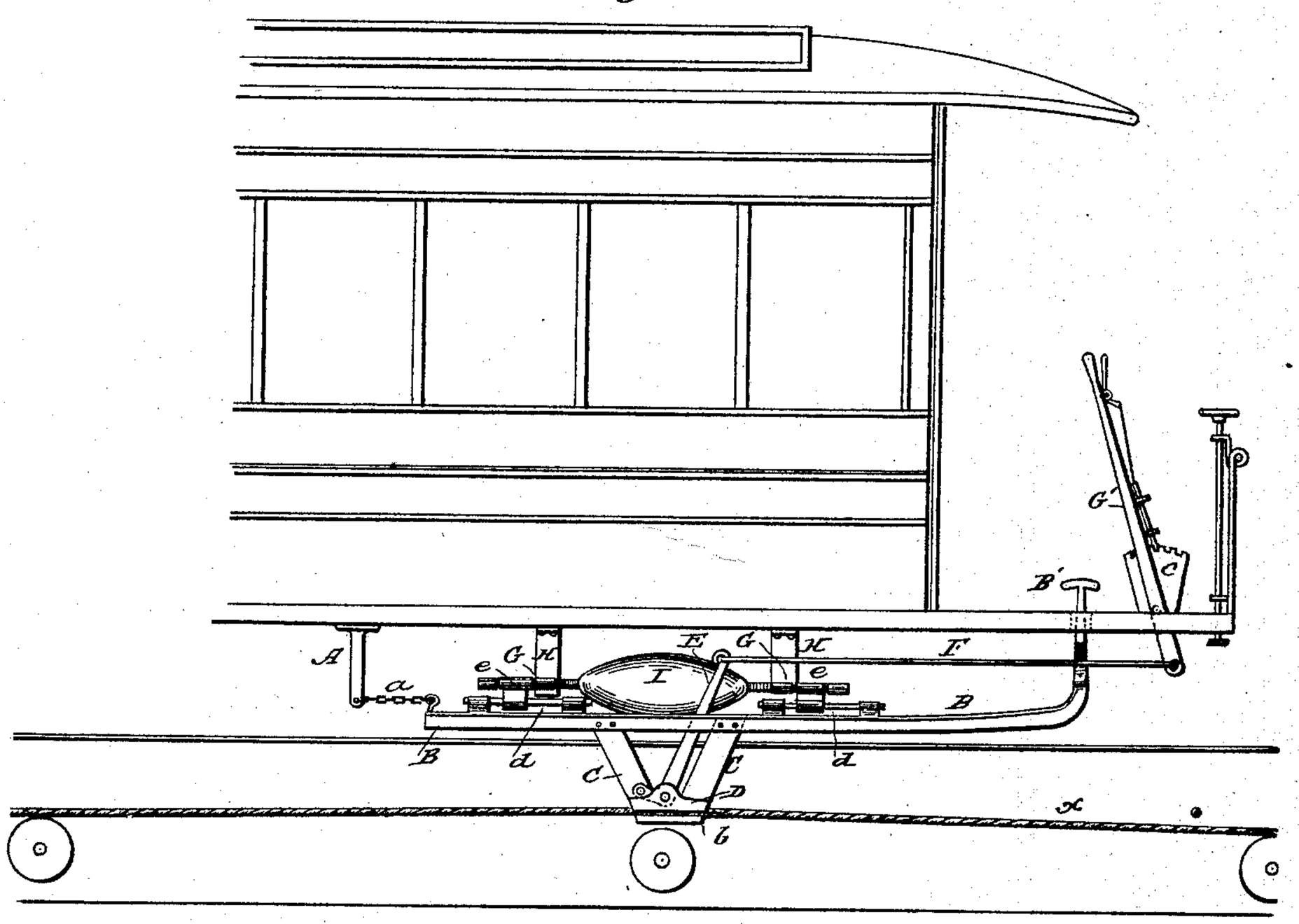


Fig. 2.

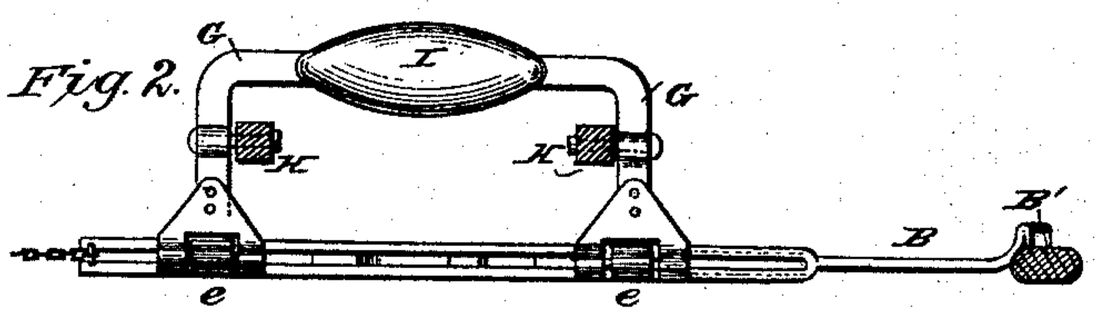


Fig. 3.

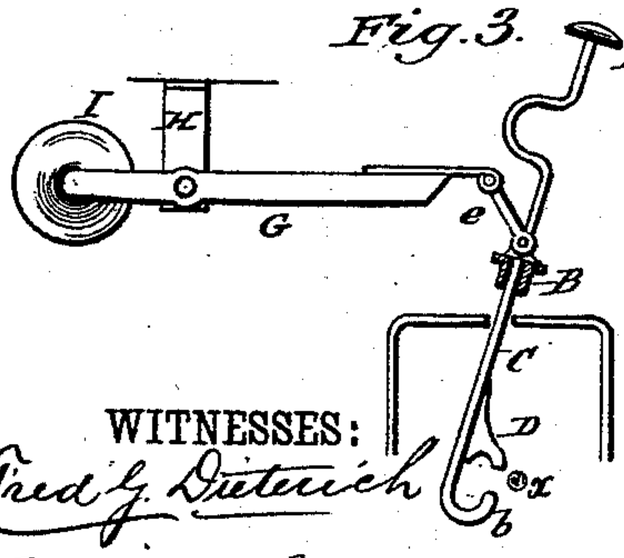
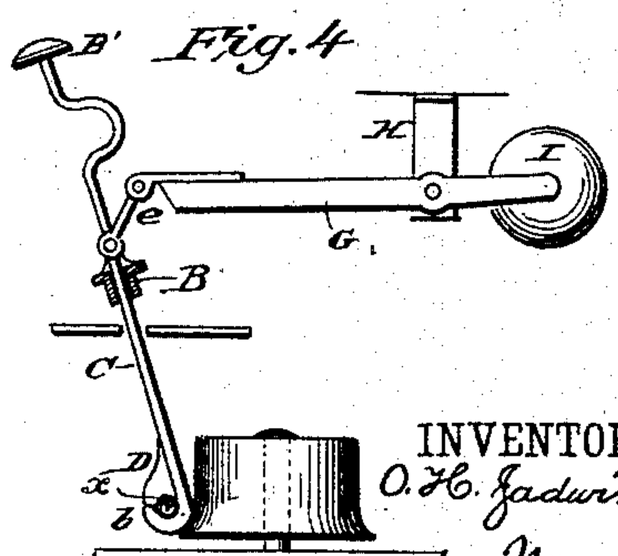


Fig. 4.



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CABLE-GRIP FOR TRACTION RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 388,686, dated August 28, 1888.

Application filed January 24, 1888. Serial No. 261,772. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO H. JADWIN, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Cable-Grips for Traction Railways, of which the following is a specification.

My invention is in the nature of an improved cable-grip for traction railways; and it consists in the special means for balancing the grip and insuring for it perfect flexibility in all directions, so as to reduce cramping and binding strains and adapt the parts to a free and easy motion through the varying conditions and positions to which it is subjected throughout its travel along the route.

Figure 1 is a side elevation of the grip, showing its connection with the car and the cable. Fig. 2 is a plan view of the grip, and Figs. 3 and 4 are transverse sections showing different positions of the grip.

A, Fig. 1, is a point of connection with the car, to which, by a chain, *a*, or other flexible connection, the draft-bar B is attached. This draft-bar is constructed in twin sections, as shown in Figs. 3 and 4, between which are bolted the downwardly-extending shanks C C, which at their lower ends are provided with and connected by a foot, *b*, which forms the lower jaw of the grip.

To one of the shanks C (or to the side of foot *b*) is fulcrumed the grip-lever E, which has a short elbow that is jointed to the upper movable jaw, D, of the grip. This lever E is connected to a pull-rod, F, which at its front end is fastened to the hand-lever G, which is fulcrumed to the front platform of the car, and is provided with a locking-bolt engaging with a toothed arch-bar, *c*.

In order to balance the weight of the grip and sustain it in easy equilibrium, a U-shaped frame is fulcrumed to hangers or pendent projections H H from the car, and the middle portion of this frame on one side of the fulcrum is provided with a weight or counter-balance, I, while the other side of the frame has its two ends connected to the draft-bar of the grip, so that the weight I tends to counterbalance the grip and relieve the cable of its weight, holding the grip in easy equilibrium to adapt itself to the various positions which its use involves. The grip-bar B is not directly jointed to this counterbalance-frame, but is connected through links *e e* and long pintle-rods *d d*. These links form double hinge-joints, that not only allow the grip to rise and fall freely, but also allow the shank of the grip to be deflected to one side or the other, as in Figs. 3 and 4, (for engagement and disengagement and for crossing cables, &c.,) without allowing the shanks of the grip to bind against the sides of the slot in the conduit.

In order to deflect the shank of the grip at the will of the operator, so as to apply the grip to or release it from the cable, the draft-bar B is provided with an upwardly-extended arm, which rises above the platform of the car and terminates in a treadle-head, B′, to which the foot of the operator is applied to rock the bar B on its hinges and thus deflect the grip. The pintle-rods *d* of the lower hinges are also made of sufficient length to give a free sliding motion between the balance-frame and the grip to accommodate the draft-strain.

In defining my invention with greater clearness, I would state that I am aware that the grip-frame has been suspended upon links and that a counter-balance for the grip-frame has been provided which was arranged to play in a plane parallel with the cable, these features having been incorporated by me in previous patents. I do not know, however, that a lateral counter-balance has ever been arranged to play at right angles to the cable, and this, together with the double hinge or links working on axes parallel with the cable and the rocking draft-bar, constitute the main features of my present invention.

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

1. The combination, with a cable-grip, of a laterally-projecting counter-balance arranged to work in a plane at right angles to the cable, substantially as and for the purpose described.

2. The combination, with a cable-grip, of a laterally-projecting counter-balance arranged to work in a plane at right angles to the cable, and links or double hinges connecting the counter-balance and grip and having their axes parallel with the cable, substantially as and for the purpose described.

3. The combination, with a cable-grip, of a

laterally-projecting counter-balance arranged to play at right angles to the cable and a sliding connection between the two arranged to yield in the direction of the draft, substantially as and for the purpose described.

4. The combination, with a grip hung upon an axis parallel with the cable, of a rigidly-attached bar extended above the platform and provided with a treadle-head, substantially as and for the purpose described.

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Witnesses:
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