

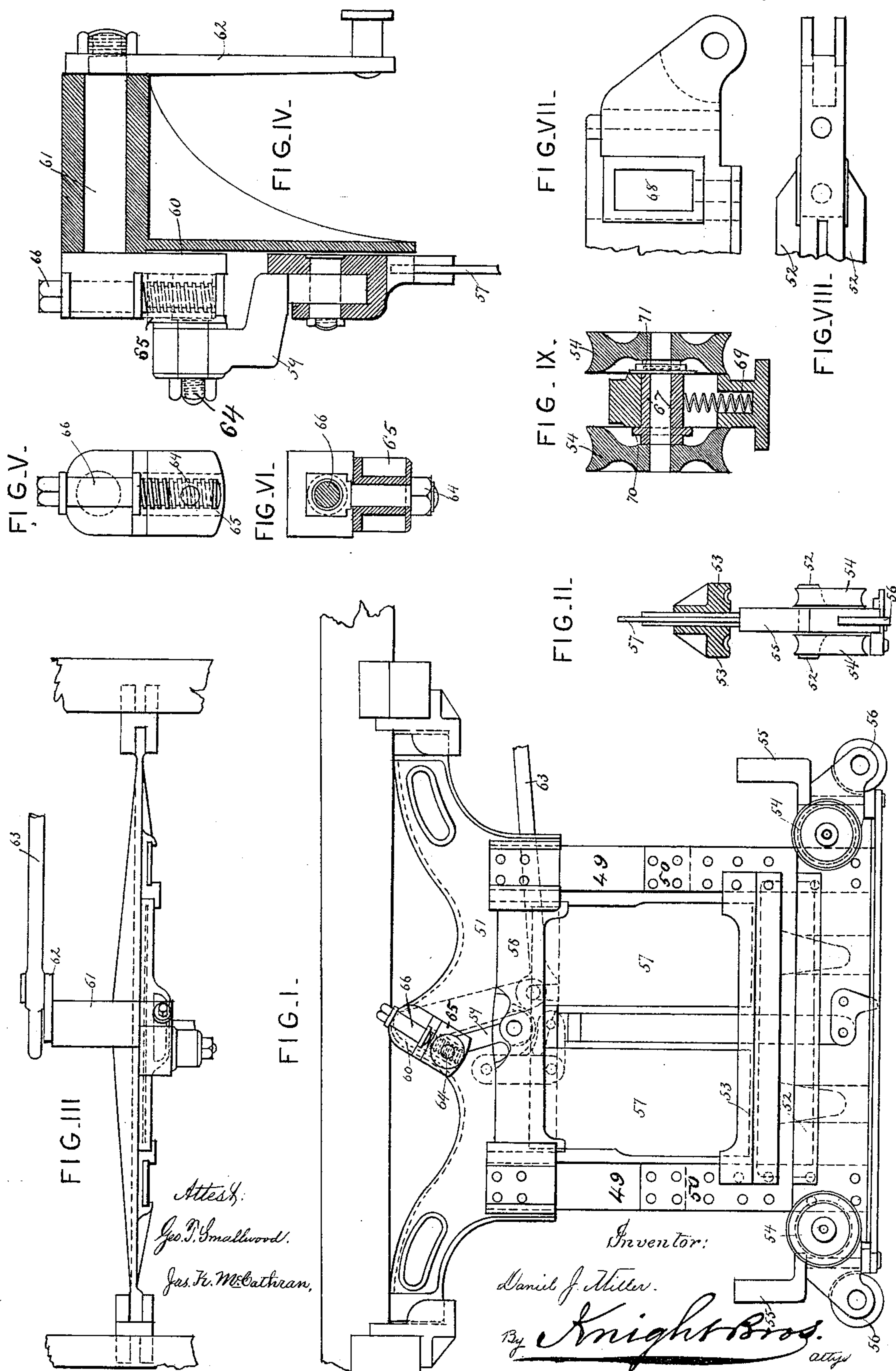
(No Model.)

D. J. MILLER.

GRIP FOR CABLE RAILWAYS.

No. 332,730.

Patented Dec. 22, 1885.



UNITED STATES PATENT OFFICE.

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GRIP FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 332,730, dated December 22, 1885.

Application filed February 27, 1885. Serial No. 157,262. (No model.)

To all whom it may concern:

Be it known that I, DANIEL J. MILLER, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Grips for Cable Railways, of which the following is a specification.

My invention is adapted primarily but not exclusively for railways in which twin cables are employed, said cables being adapted for optional use, so that either may be used while the other is under repair, or so that when both of the cables are in working condition they may be relieved by gripping them alternately with successive cars on the road. To this end the grip is made double, and is adapted to take either the right or left hand cable.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, and point out the novel features thereof more particularly in the claims.

Figure I is a side elevation of the grip, showing the jaws closed, or nearly so. Fig. II is an end view of the jaws of the grip, partly in section, showing the jaws open and the ejecting device in central position, so as to permit either of the twin cables to enter the grip. Fig. III is a plan or top view of the upper part of the grip. Fig. IV is a sectional elevation of the upper part of the grip, showing in elevation the crank shaft or levers for opening or closing the jaws. Fig. V is a side elevation of one of the levers or crank-arms, showing the device for regulating the movement of the jaws. Fig. VI is a horizontal section of the same. Fig. VII is a side elevation of one end of the lower jaw of the grip, showing the opening for the journal-box of the rollers on which the cable runs when the car is at rest, and also the bearing for a roller employed to operate the tilting frame of the main carrying-sheaves, as described in my application filed on the 12th day of July, 1884, Serial No. 138,595. Fig. VIII is a plan of the parts shown in elevation in Fig. VII. Fig. IX is an elevation, partly in section, of the connected paired rollers and their journal-box by which they are mounted in the end of the grip-jaws shown in Fig. VII.

51 is the main yoke of the grip, which is secured in any suitable manner to the under

side of the car, and 52 is the stationary jaw of the grip, which is connected to the yoke 51 through the medium of shanks or suspenders, which are, as shown in Fig. I, formed in two pieces, 49 50, spliced together in any suitable or well-known manner. This construction permits the upper parts, 49, of the suspenders to be readily removed and replaced when they become worn by contact with the slot-irons.

The moving jaw 53 of the grip is connected by bars 57 to a slide, 58, which is guided in the main yoke 51, to which the stationary jaw 52 is fixed. The slide 58 is operated by a link, 59, connected to a crank-arm, 60, so as to form a toggle-joint, the crank-shaft 61 being operated by a lever-arm, 62, and rod 63, extending to the grip-staff at the end platform of the car.

In my present invention I have devised means for regulating the play or throw of the moving jaw 53 to compensate for wear, which mechanism is as follows: The connection between the toggle-link 59 and the crank-arm 60 is by a pin, 64, and a sliding block, 65, adjusted by a screw, 66, so as to set the block 65 up or down, and thus shorten or lengthen the combined toggle-joint 59 60. The rollers 54 are fixed to the ends of a shaft, 63, running in a horizontal journal-box, 67, passing transversely to the grip through an aperture, 68, cored out to receive it, in which aperture the said journal-box may slide vertically as the rollers 54 rise and fall. The journal-box is supported on strong spiral springs 69, and is confined within the opening in the grip-iron by a head, 70, at one end and a washer and nut, 71, at the other. It will now appear that when the jaws 52 53 are separated the pressure of the supporting-springs 69 will raise the rollers 54, lifting the cable so that it will not bear heavily on the stationary lower jaw of the grip, and it will thus run freely through the grip-jaws so long as the car is at rest; but when the car is to be started, the jaws being brought together, the springs 69 yield under pressure of the upper jaw, permitting the cable to be gripped firmly between the jaws 52 53.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent—

1. A grip for cable-railway cars, having one of its jaws connected to a yoke by means of

suspenders, each made in two pieces spliced together to facilitate replacing the upper parts when they become worn by contact with the slot-irons.

5 2. The combination, with the stationary and movable jaws of a grip, of a crank-shaft, 61, journaled in the frame or yoke 51 of the stationary jaw, the adjustable crank-arm 60, secured to said shaft, and the link 59, connected
10 at its respective ends to said arm and the slide of the movable jaw, thereby forming a toggle-connection between the two jaws, substantially as and for the purpose set forth.

3. The combination, with the stationary and
15 the movable jaw of a grip, of the crank-shaft 61, journaled in the yoke of the former, the crank-arm 60, secured to said crank-shaft, the sliding block 65, secured to said crank-arm, and the link 59, connected at its respective
20 ends to said block and the slide of the movable jaw, as and for the purpose set forth.

4. In a grip, the stationary jaw, a horizontal crank-shaft mounted in the attaching yoke thereof, and a crank-arm projecting from said
25 shaft, in combination with the movable jaw, a slide to which it is secured, and a link positively connected at its respective ends to said crank-arm and slide by means of pivot-pins, substantially as and for the purpose set forth.

30 5. In a double grip for use in connection with twin cables, the combination of the lower jaw having a vertical transverse opening formed in each end thereof, a journal-box secured in said opening, an axle carried by said
35 journal-box, and the cable-supporting sheaves

carried at the respective ends of said axle, substantially as set forth.

6. The combination, with the lower jaw, 52, having the transverse opening 68, of the journal-box 67, having the head 70 and nut 71, 40 the axle carried by said journal-box, and the cable-supporting sheaves 54, carried at the respective ends of said axle, substantially as and for the purposes set forth.

7. A grip for cable-railway cars, having near 45 each end a pair of grooved rolls for carrying the moving cable when the car is at rest, fixed to a shaft running in a journal-box supported on springs, substantially as set forth.

8. The combination, with the fixed jaw having a rigid yoke or shank and the movable jaw having a slide, of an arm connected at one extremity to the yoke of the fixed jaw, a link connected at one extremity to the slide of the movable jaw, an adjustable connection between said arm and link, and means for operating them, substantially as set forth. 55

9. The combination, with the yoke of the fixed jaw and the slide of the movable jaw, of the arm 60, connected at one extremity to the 60 former, and the link 59, connected at one end to the latter, the sliding block 65, secured to the arm 60, and to which the free extremity of the link 59 is attached, and the set-screw 66, for controlling the position of the block 65, 65 substantially as and for the purposes set forth.

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Witnesses:

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