(No Model.)

D. S. MACKEY.

CABLE RAILWAY GRIP.

No. 377,527. Patented Feb. 7, 1888.

Fig. 1.

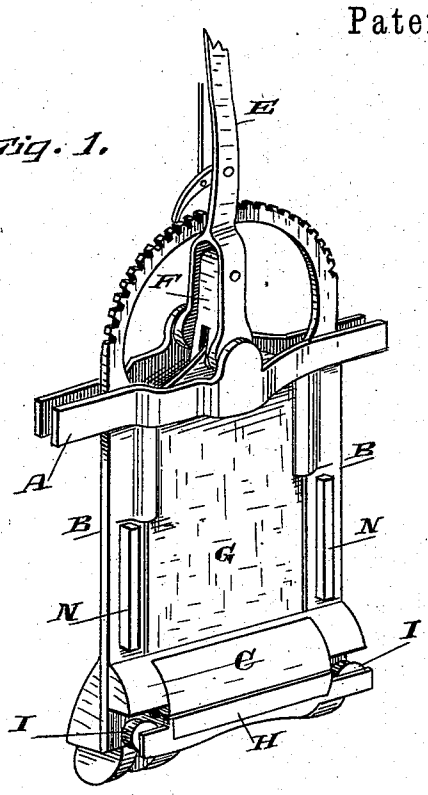


Fig. 3.

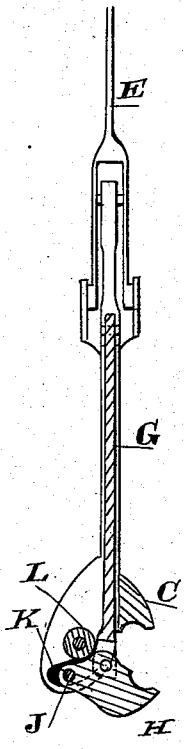
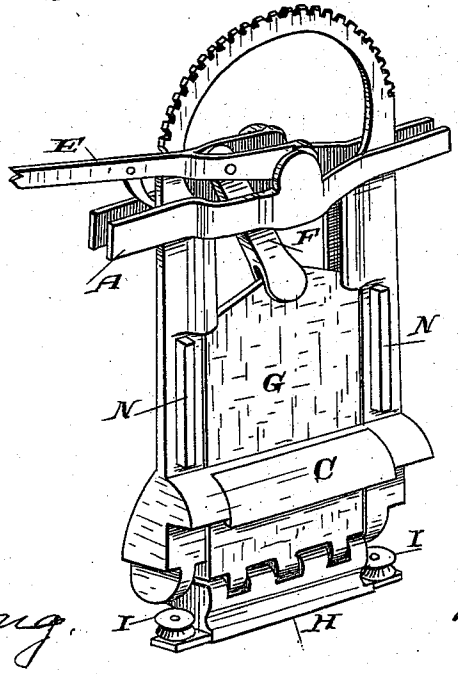


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID S. MACKEY, OF SAN FRANCISCO, CALIFORNIA.

CABLE-RAILWAY GRIP.

SPECIFICATION forming part of Letters Patent No. 377,527, dated February 7, 1888.

Application filed August 26, 1887. Serial No. 247,980. (No model.)

To all whom it may concern:

Be it known that I, DAVID S. MACKEY, of the city and county of San Francisco, State of California, have invented an Improvement in Cable-Railway Grips; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in cable-railway grips; and it consists in such a construction of the lower movable jaw of the grip, in connection with an adjustably-moving fulcrum, and the sliding plate to which the jaw is hinged, that it may be thrown down and swung entirely out of the way of the rope in case of obstruction or accident, and it may be brought up in such a manner as to seize the rope whenever desired.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of the grip showing the jaws closed. Fig. 2 is a view showing the jaws opened. Fig. 3 is a vertical section.

A are the bars or frame-work by which the grip mechanism is suspended or secured within the car or dummy, and B B are guides extending downward from this frame-work, passing through the slot in the road-bed, so as to support the upper gripping-jaw, C, and the guides K at the lower end for the purpose of receiving the ends of the fulcrum-bar, as will be hereinafter described.

E is the lever by which the grip is opened and closed, this lever being fulcrumed to the frame A, and connected by a link, F, with the slide G, moving between the guides B, as before described.

To the lower end of the sliding plate G is hinged the lower gripping-jaw, H, which in the present case is shown in the form of a quadrant in cross-section, the hinged point being at the meeting angle of the two radial lines, and the gripping-die is secured to one face of this jaw, so that when it is drawn up the rope will be grasped between it and the upper stationary jaw, as shown. I I are rollers at each end of the movable jaw and slightly above the level of the gripping-die, so that when it is necessary to stop the cars the jaws are opened sufficiently to allow the rope to travel freely, and it runs upon these rollers, so as not to produce undue friction upon the gripping-jaws. Through the lower angle at the opposite side of this jaw from the face which grips the rope a stout bar or rod, J, passes, and its ends enter the curved guide-slots K, so that when the lower jaw is thrown down by forcing the slide and its hinged edge downward this fulcrum-rod will travel in the curved slots so as to carry the rear portion of the gripping-jaw backward until the gripping-face stands parallel with the slide which moves it, as shown in Fig. 2, and at right angles with the upper gripping-jaw. This allows the rope to run entirely clear of the grip, and is of especial advantage in case the rope becomes stranded and the strands bunch so that it would not pass through an ordinary grip.

By my construction the stranded or obstructed rope is allowed to pass freely without any hinderance from the grip. When the grip is to be closed from this position by drawing up the slide, the first movement is to swing the lower edge upward, and as the movement is continued the traveling fulcrum-rod moves around in the quadrant-shaped slots until the face of the lower die is brought opposite the upper one and in position to again seize the rope. Above and within the arc of the curved guiding-groove K, in which the fulcrum-rod J travels, is journaled a long roller, L, in such a position that the inner or back portion of the lower swinging jaw, H, moves in contact with it when thrown down, and when drawn up to grip the rope this roller bears against its rear lower portion and holds it rigidly to its place.

In order to protect the guides B and the slide G from chafing against the edges of the slot, and also to protect them from being chafed by the cable when it is running through the open grip, I fix vertical steel strips N in the faces of the guides, projecting just sufficient to protect them and the slides. These strips may be removed at any time when worn and replaced by others. By this construction the rope may be dropped at any time and picked up easily, as the sweep of the lower jaw in closing will always take hold of the rope and bring it to its proper position between the two.

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

1. In a cable-railway grip, the upper stationary jaw and the guides supported from the car, the movable slide moving between said guides and having the lower gripping-jaw hinged to its lower end, in combination with the quadrant-shaped curved slots at the lower end of the frame, and the fulcrum-rod extending through the edge of the movable jaw and into these slots in which it travels, substantially as herein described.

2. The lower movable jaw of a cable-grip having one angle hinged to the vertically-moving slide by which it is opened and closed, in combination with a traveling fulcrum-rod or pins in the outer angle and the quadrant-shaped slots in the stationary portion of the frame within which said fulcrum-rod travels when the grip is opened or closed, substantially as herein described.

3. The lower movable jaw of a cable-grip having one angle hinged to the vertically-moving slide, the fulcrum-rod or pins extending from the outer angle into the curved guide-slots in the stationary portion of the frame, in combination with the roller L, journaled in the frame and bearing against the rear portion of the movable jaw, substantially as herein described.

In witness whereof I have hereunto set my hand.

DAVID S. MACKEY.

Witnesses:
S. H. NOURSE,
H. C. LEE.