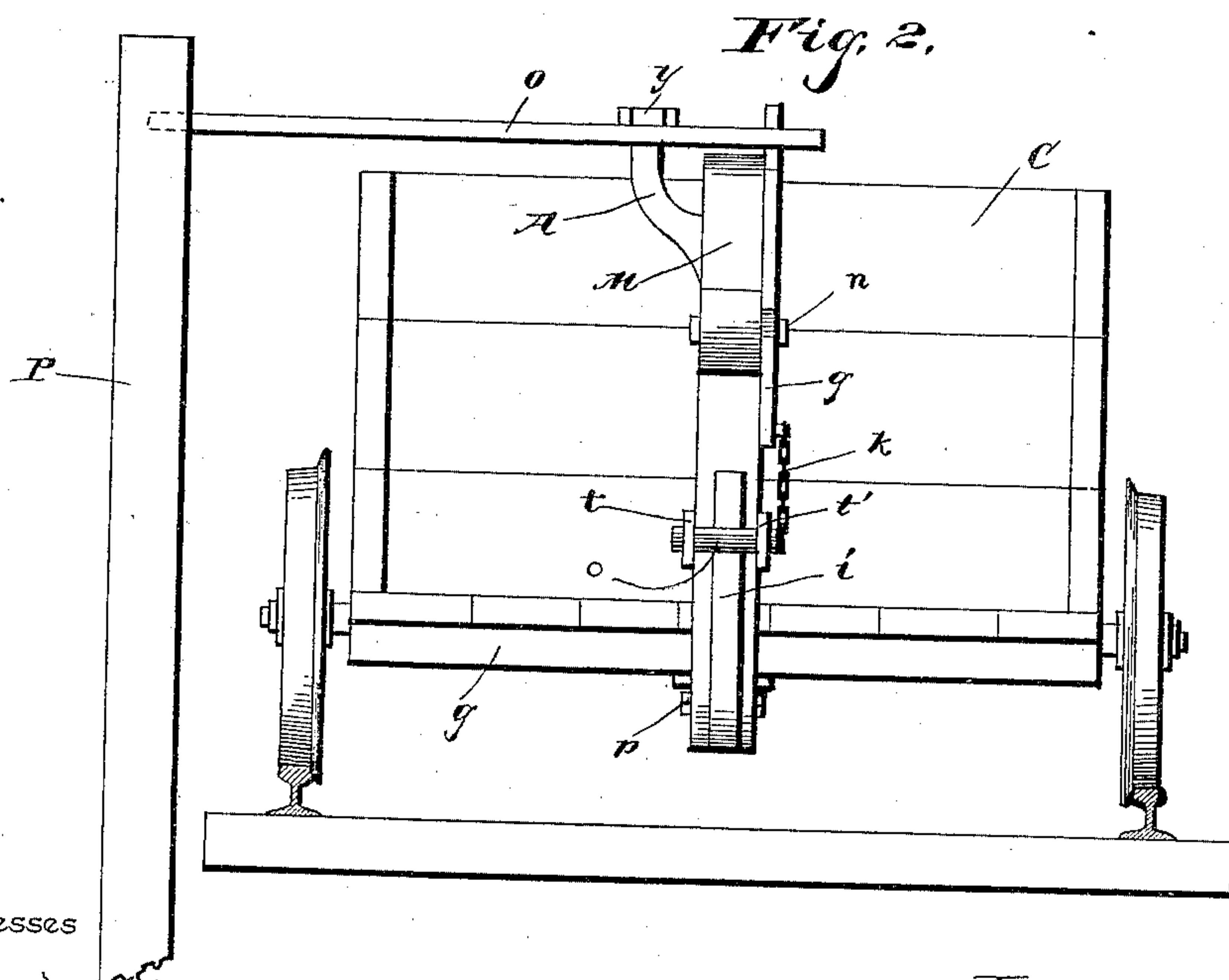
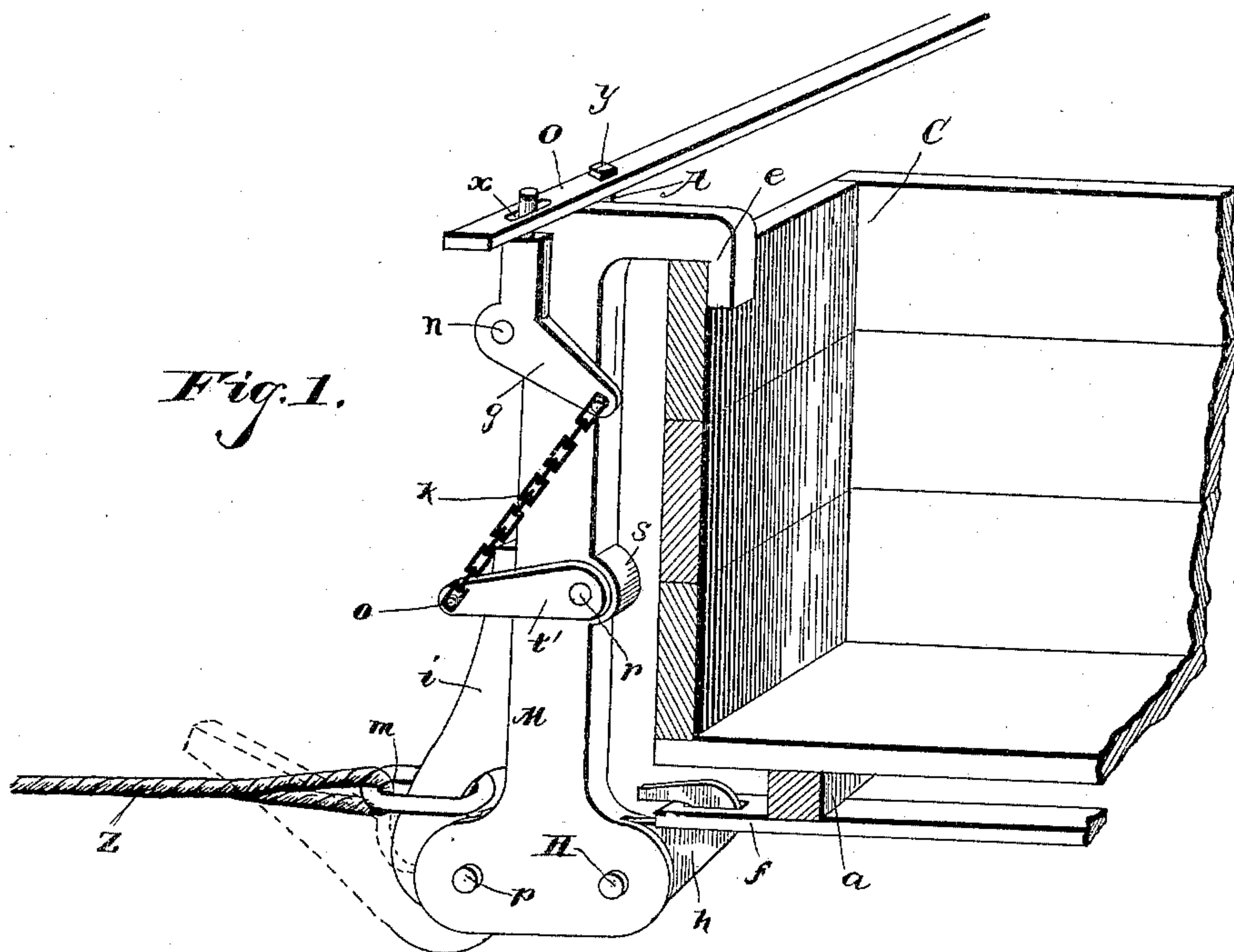


(No Model.)

J. HIRD.
TRACTION CABLE GRIP.

No. 436,955.

Patented Sept. 23, 1890.



Witnesses

Samuel Ker.

W. J. Zollman.

Inventor

James Hird,

By his Attorneys,

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UNITED STATES PATENT OFFICE.

JAMES HIRD, OF GOFF, PENNSYLVANIA.

TRACTION-CABLE GRIP.

SPECIFICATION forming part of Letters Patent No. 436,955, dated September 23, 1890.

Application filed July 30, 1890. Serial No. 360,363. (No model.)

To all whom it may concern:

Be it known that I, JAMES HIRD, a citizen of the United States, residing at Goff, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Traction-Cable Grip, of which the following is a specification.

This invention relates to traction-railways, and more especially to the grippers or other devices used in connection therewith and by means of which a car may be engaged with or released from a moving cable.

The object of the invention is to provide a grip of this character which shall positively engage the end of the cable and shall be more especially useful upon inclined tracks, as in mines, together with devices connected therewith whereby the grip will be automatically disengaged from the cable at a desired moment.

To this end the invention consists of the details of construction hereinafter more fully described, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of this device, showing its attachment to the ordinary coupling and to the frame of a box-car; and Fig. 2 is a reduced end view of a box-car with this device attached, showing the tripping device.

Referring to the said drawings, the letter M designates a casting having a permanent hook *e* at its upper end adapted to engage over the box of a mining or other car C. *a* is a cross-beam below the body of said car, to which beam is bolted the coupling *f*, usually employed upon cars of this character, and *h* is a hook pivoted at H in the casting M, and detachably engaging said coupling. By this means when it is desired to disconnect the casting M from the car, the former is first raised, so that the hook *e* shall disengage the car-body, and the hook *h* is then removed from the coupling *f*.

Mounted on a pivot *p*, at the front lower corner of the casting M, is a coupling-hook *i*, adapted to engage a loop in the end of the cable Z, but preferably a metallic link *m* in said end, as shown. When this coupling-hook stands in the position shown in full lines, it will be obvious that the cable Z will be connected therewith, and if the cable be drawn

upon the car will be moved with it; but when the coupling-hook is permitted to turn to the position shown in dotted lines or beyond that position it is obvious that the cable will be disconnected automatically from the car. In order to hold the coupling-hook *i* in operative position the following device is provided.

s is an ear or enlargement, preferably formed at the rear side of the casting M, and through the same passes a bolt *r*, upon the ends of which are pivotally mounted the links *t t'*, their front ends being connected by a bolt *o* (or integrally connected, if preferred) at such distance from the pivot-bolt *r* that the upper end of the coupling-hook *i* can be engaged between the bolt *o* and the casting M. When the hook *i* is raised and the catch is dropped into engagement with its upper end, the link *m* will be held within the hook until the catch is raised; and the following are the means I preferably employ for raising the catch.

A bell-crank lever *g* is pivoted at *n* to the casting M, and its lower end is connected by a chain *k* with the front end of the catch just described. Pivoted at *y* on an arm A projecting laterally from the casting M is an operating-lever O, having a slot *x* in its inner end loosely engaging the upper arm of the bell-crank lever *g*, and the outer end of this operating-lever extends to a considerable distance beyond the car-body and beyond the bed of the road, as seen in Fig. 2.

P is a post set in the ground alongside the bed at a point where it is desired to disconnect the car C from the cable Z. When the car reaches this point, the operating-lever O at its outer end strikes the post and its inner end is moved forward, as shown by the arrow, the bell-crank lever and catch being thereby moved, as also shown by arrows. The tension of the cable Z will then automatically throw the coupling-hook *i* forward and the link *m* will slip off said hook, as will be readily understood, thereby entirely disconnecting the car from the cable. If any accident or emergency should render it desirable at any time during the ascent of the car as it is drawn by the cable to suddenly release it from the cable, any operator or person who may be standing near who will press the outer end of the operating-lever O to the rear can

effect the desired uncoupling in a manner which will readily be understood.

The entire casting M can be removed from the car when desired in the manner above set forth.

Although I have not so illustrated it, still it will be understood that by a slight modification of parts the casting M may be attached to an ordinary passenger or other car, and my improved cable-grip used in connection therewith.

What is claimed as new is—

1. In a cable-gripper, the combination, with the car C, having a coupling *f*, of the casting M, having a hook *e* at its upper end engaging the body of the car, a pivoted hook *h* at its lower end engaging said coupling, and gripping devices, substantially as described, carried by said casting, as set forth.

2. In a cable-gripper, the combination, with the casting M, connected to a car, a coupling-hook *i*, mounted on a pivot *p* in said casting, and a catch pivoted to said casting and detachably engaging the upper end of said hook when the latter is in operative position, of catch-operating devices, substantially as described, extending to one side of the car, the whole adapted to be operated substantially as set forth.

3. In a cable-gripper, the combination, with the casting M, connected to a car, a coupling-hook *i*, mounted on a pivot *p* in the front side of said casting, links *t t'*, mounted on a horizontal pivot *r* through an eye *s* of said cast-

ing and connected, as at *o*, at their front ends, said connection detachably engaging the free end of said hook when the latter is in operative position, and a chain *k*, connected to one of said links, of a bell-crank lever *g*, connected at one extremity to said chain, a pivot *n*, connecting the elbow of said lever to said casting, and tripping devices, substantially as described, extending from said lever beyond one side of the car, as set forth.

4. In a cable-gripper, the combination, with the casting M, connected to a car, a coupling-hook *i*, pivoted to said casting, and a catch, also pivoted to said casting and detachably engaging the free end of said hook when the latter is in operative position, of a bell-crank lever *g*, a pivot *n*, connecting the elbow of said lever to the casting, a chain *k*, connecting one extremity of said lever with said catch, a lateral arm A on said casting, and a horizontal operating-lever O, pivoted at *y* on said arm and having a slot *x* in its inner end loosely embracing the upper end of said bell-crank lever, the outer end of said operating-lever extending beyond one side of the car, substantially as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES HIRD.

Witnesses:

DANIEL CAMPBELL,
P. J. MANSFIELD.