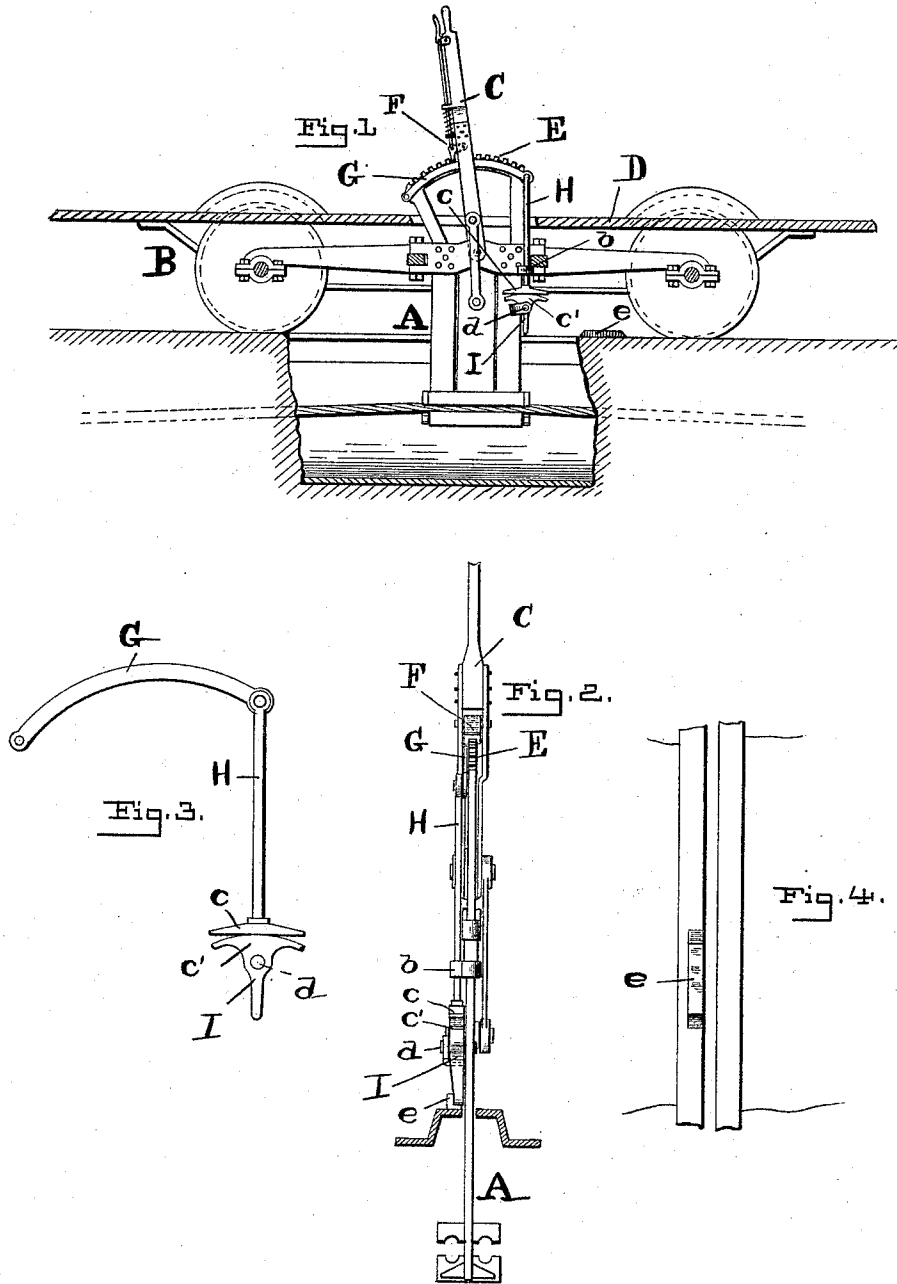


(No Model.)

J. B. MAHAFFEY.  
CABLE RAILWAY GRIP.

No. 489,870.

Patented Jan. 10, 1893.



WITNESSES:—

A. O. Babendreier.

*James B. Mahaffey*

INVENTOR:—

*James B. Mahaffey*

By *Chas B. Mann*  
*att'y*

# UNITED STATES PATENT OFFICE.

JAMES B. MAHAFFEY, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF  
TO EBEN B. HUNTING, OF SAME PLACE.

## CABLE-RAILWAY GRIP.

SPECIFICATION forming part of Letters Patent No. 489,870, dated January 10, 1893.

Application filed October 13, 1892. Serial No. 448,738. (No model.)

### *To all whom it may concern:*

Be it known that I, JAMES B. MAHAFFEY, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Cable-Railway Grips, of which the following is a specification.

This invention relates to an improved arrangement for automatically releasing cable-railway grips, and is illustrated in the accompanying drawings, in which,—

Figure 1 shows a side view of the grip with the parts in the gripping position, the truck and floor of the car in section, and the conduit broken away; Fig. 2, a vertical edge-view of the grip on an enlarged scale with the slot-rails of the track in cross-section; Fig. 3, a detail side-view of the releasing device; Fig. 4, a top or plan view of a portion of the slot-rails of the track.

The invention is applied to the well-known form of grip comprising sliding plates which carry the grip-bars or jaws above and below the cable.

In the drawings the letter, A, designates the grip, which is suitably mounted in the truck B, of a car, and operated by a lever, C, through the connections shown, which lever projects up through the floor, D, of the car, and straddles a rack, E; a pawl, F, is carried by the said lever and engages said rack.

In cable-railroads as generally managed at present it is incumbent on the gripman to disengage the pawl on the operating lever from the rack and then throw the lever over in order to wholly release the grip at crossings and other places where the cable is to pass entirely out of the grip. My invention contemplates tripping the said pawl out of the rack-teeth at such places automatically, thereby avoiding the accidents which result from inattention on the part of the gripman. A curved bar, G, is pivoted at one end of the rack, while its opposite end projects beyond the opposite end of the rack, and is jointed to a vertical slide-rod, H, which extends down through the car-floor and through a guide, b, on the grip, and carries an elongated shoe, c, at its lower end. A segment-shaped trip-lever, I, is pivoted at, d, to the grip and has an elongated shoe, c', at its upper end with a curved upper surface for contact with the under-surface of the said shoe,

c. The opposite or lower end of said lever, I, depends below the pivot, d, and a projection, e, on the track is in the path of the said depending part. The normal position of the curved bar, G, is below the base-line of the rack-teeth, leaving the pawl free to engage said teeth at any part of the rack. Upon approaching a crossing or other place where the grip is to drop the cable, the depending trip-lever, I, encounters the track-projection, e, which shifts it and thereby throws one end of the shoe, c', at its upper end against the under surface of the shoe, c, on the lower end of the slide-rod, H, and pushes the latter upward; this raises the curved bar, G, which pushes the pawl, F, out of engagement with the rack. The operating lever now being free, the downward strain of the cable on the lower jaw of the grip instantly throws said lever to the release position, its pawl riding over the bar, G, which is now above all the rack-teeth and thus prevents the pawl catching in any of them. Whatever part of the rack the pawl may be engaging, the trip-bar will throw it out.

The construction of rocking-shoe, c', for engaging the sliding shoe, c, adapts the device for operation with the car moving in either direction. It will be obvious this arrangement will avoid the accidents which frequently occur through failure of the gripman to release at the proper time.

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

In a cable-grip, the combination of a rack; a controlling lever; a pawl carried by said lever and engaging the rack; a vertically-movable trip-bar extending along the rack and arranged to loosely engage the pawl; a slide-rod connected with said trip-bar and having a transverse shoe at its lower end with an under contact surface; a rocking trip-lever having a transverse shoe at its upper end with a top-surface for contact with the under surface of the slide-rod shoe, and a depending lower end; and a track-projection or rise in the path of said depending lower end.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES B. MAHAFFEY.

Witnesses:

JNO. T. MADDOX,  
I. PARKER DAVIS.