

(No Model.)

A. JEFFREYS.
CABLE RELEASING DEVICE AND CROSSING.

No. 500,903.

Patented July 4, 1893.

Fig. 1.

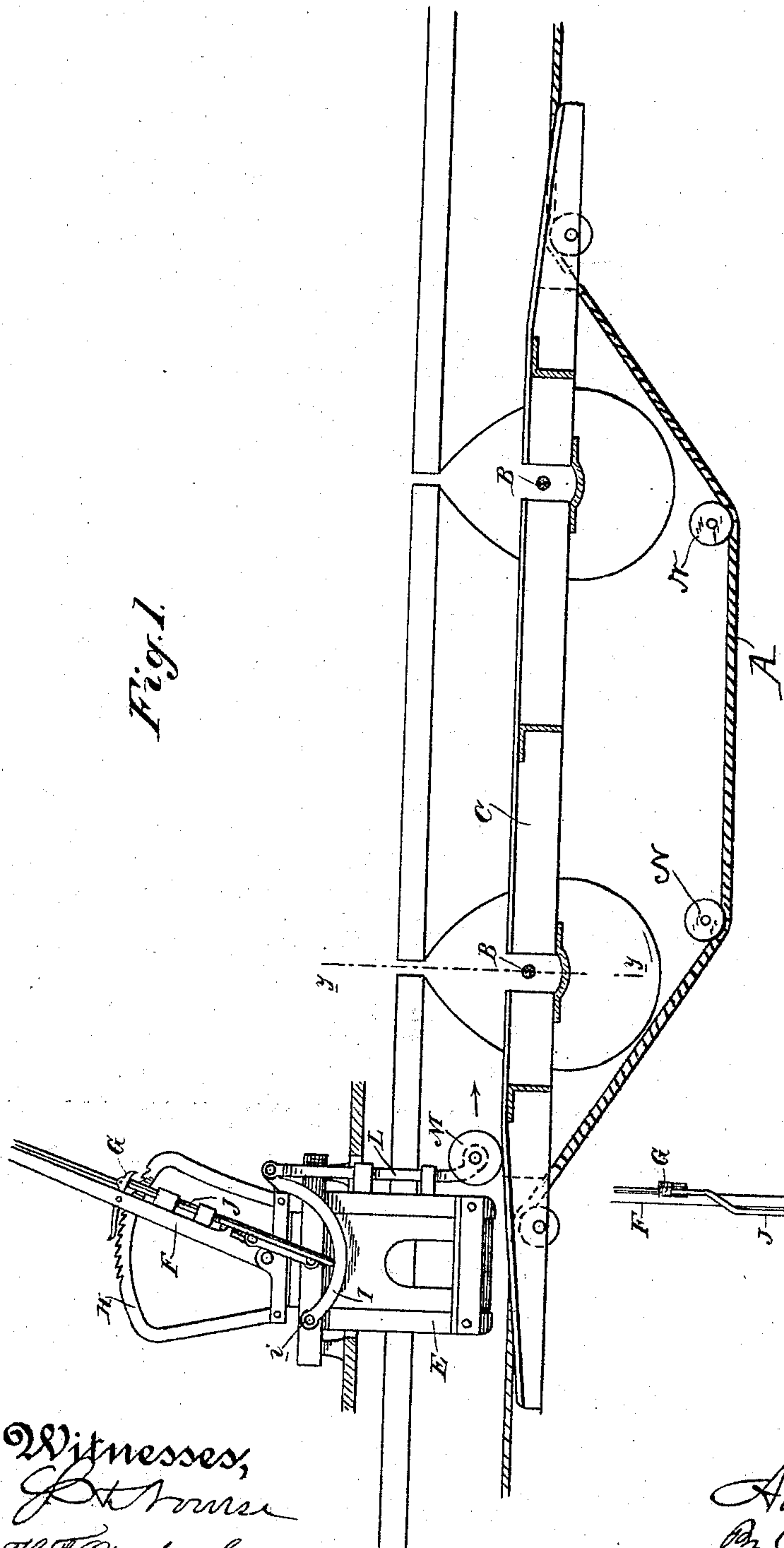
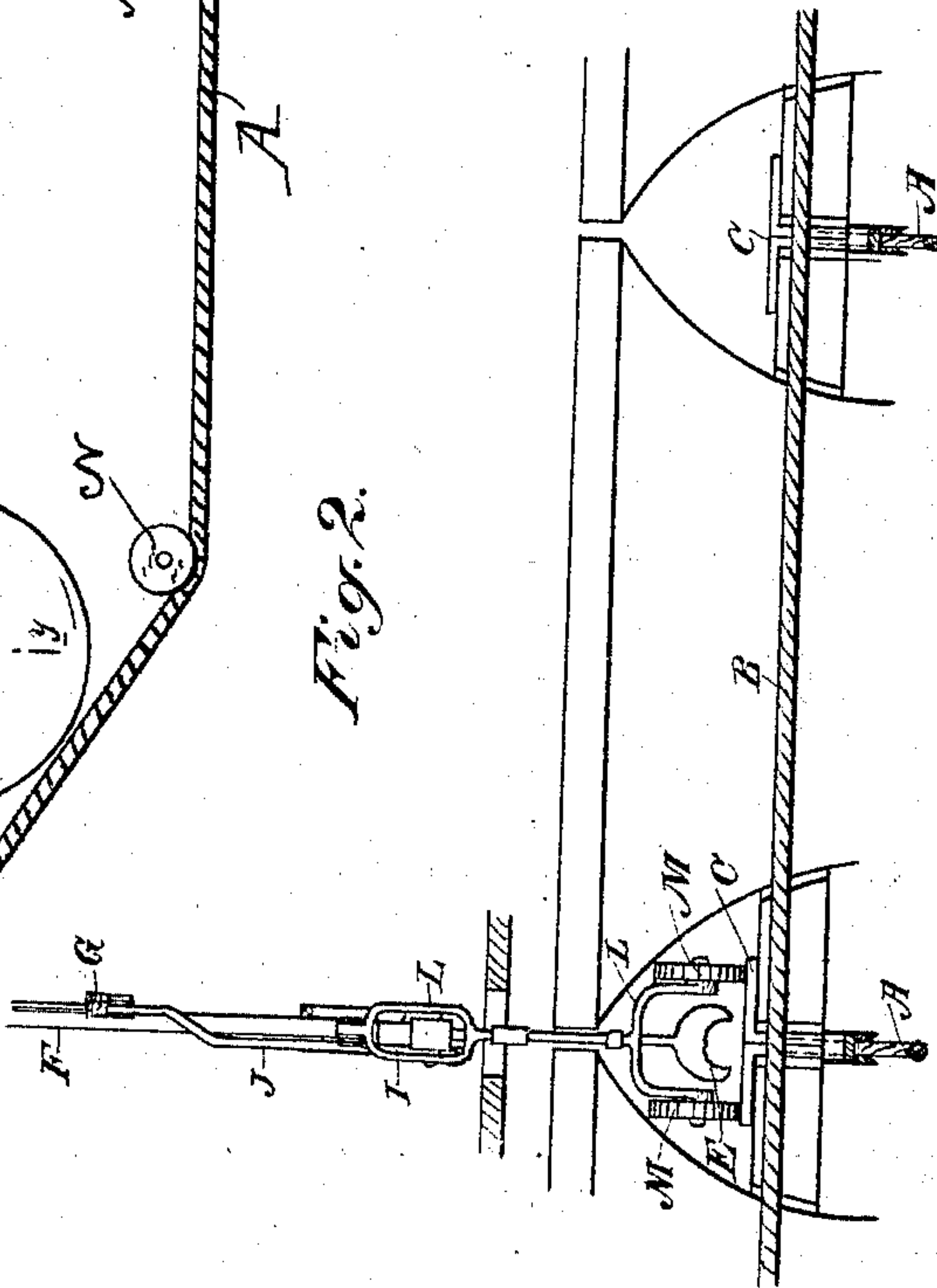


Fig. 2.



Witnesses,
J. H. House
H. F. Aschbeck

Inventor,
Adam Jeffreys
By Dwyer & Co.
attys

UNITED STATES PATENT OFFICE.

ADAM JEFFREYS, OF SAN FRANCISCO, CALIFORNIA.

CABLE RELEASING DEVICE AND CROSSING.

SPECIFICATION forming part of Letters Patent No. 500,903, dated July 4, 1893.

Application filed March 29, 1892. Serial No. 426,962. (No model.)

To all whom it may concern:

Be it known that I, ADAM JEFFREYS, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Cable Releasing Devices and Crossings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a novel device for releasing the grips of cars from the cable at an instant before another line of cable which crosses the first one is reached, and a means for automatically carrying the grip over the crossing cable to prevent contact therewith.

It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the grip and bridge with my attachment. Fig. 2 is an edge view of the grip and releasing device.

In the construction of cable roads within a city, it is often necessary to carry one road transversely across another. In such cases one of the ropes must pass beneath the other one, and it will be manifest that the grips of all cars which are driven by this lowermost rope must be released just before the uppermost rope is reached, in order to prevent the grip from being forced against the other rope and injury done.

My invention is designed to provide a device for automatically releasing the grips without the necessity of any attention from the gripman, and the lifting of the grip when so released and transferring it over the other cable.

A and B are the cables of two lines of track which cross each other transversely, as shown in the present case. In this case the cable A is shown below the cable B. The cable B having the first right of way, the grips of the cars which are driven by this cable do not need to be released when the cars cross the other line, but when the cars which are driven by the cable A arrive at a point of crossing, it is necessary to release the grip and allow the car to be carried beyond by momentum or otherwise. This necessitates constant watchfulness on the part of the gripman, and lack of such watchfulness sometimes causes serious accidents such as the cutting off of the other cable, or the injury of passengers by

reason of the grip striking the cable and stopping the car suddenly.

In my device, a guiding track or girder C is made of angle or channel iron. In the present case it is shown extending upon each side of and parallel with the horizontally traveling cable A. As shown in side elevation, this girder commences at a point below the level of the cable upon each side of the crossing track, and gradually rises to a point above that cable, extending across the width of the track or tracks, and then being depressed again to a point below the level of its own cable, thus forming a sort of an arch.

N N denote rollers which hold the cable A depressed beneath the cables B B.

The grip E is opened and closed by the movement of the lever F in the usual manner, and the lever is held in position after the grip is closed by the pawl G which engages a toothed segmental rack H for the purpose.

In my present device I have shown a curved lever I, one end of which is pivoted to the grip frame at i and the opposite end is connected by a vertically sliding rod L with shoes or rollers M which are journaled in the lower end of the sliding rod L and are adapted to travel upon the angle iron bridge or bridges C previously described.

Upon the front of the hand lever F is a sliding rod J, the upper end of which is pivoted to the pawl lever G, and the lower end is adapted to travel in the concavity of the lever I so that when the shoes or rollers M arrive at a point where the inclined angle plates begin to rise so as to intercept the line of travel of the grip, these shoes will first be lifted by striking the plates, and will force the rod L and the end of the lever I upward, and acting upon the rod J will disengage the pawl G from the rack. This allows the lever to be thrown forward and the grip automatically opened and disengaged from its cable, the curved lever I assisting the movement of the lever by its action upon the rod J. At the same time, the grip will pass above the level of the opposite or crossing cable, and will pass over this cable without touching it. When the car has arrived upon the other side, the shoes M will pass down the corresponding incline upon that side, and the grip will then be in readiness to grasp its own ca-

ble again, this being done by the action of gripman in the usual manner. By this arrangement I am enabled to automatically disengage the grip and carry it over the other
 5 cable with no risk of accident by reason of carelessness of employes.

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

10 In a cable railway, tubes or tunnels, with endless traveling cables crossing one above the other and supported upon carrying pulleys within the tunnels, a grip adapted to engage or be disengaged from the lowermost cable
 15 and supported from the car by a shank extending down through a slot in the top of the tunnel, a grip releasing device consisting of a rod removable upon the grip lever having the upper end pivoted to the pawl by which
 20 the grip lever is retained in position when the grip jaws are closed, a second rod con-

nected with the first rod by an intermediate lever, and extending down through the slot in the tunnel and having a shoe upon its lower end, rollers beneath which the lowermost cable is depressed at the point where it crosses the upper cable, in combination with girders fixed within the tunnel upon each side of the line of travel inclining upward from a point below to a point above the line of travel of the grip at each side of the crossing, and an intermediate horizontal bridge extending between the two inclines above the line of the upper cable and having transverse slots for the passage of the grip shanks of the upper
 25
 30
 35 cables, substantially as herein described.

In witness whereof I hereunto set my hand.

ADAM JEFFREYS.

Witnesses:

RALPH MORTON FOLLOWS,
 FREDERICK WALKER.