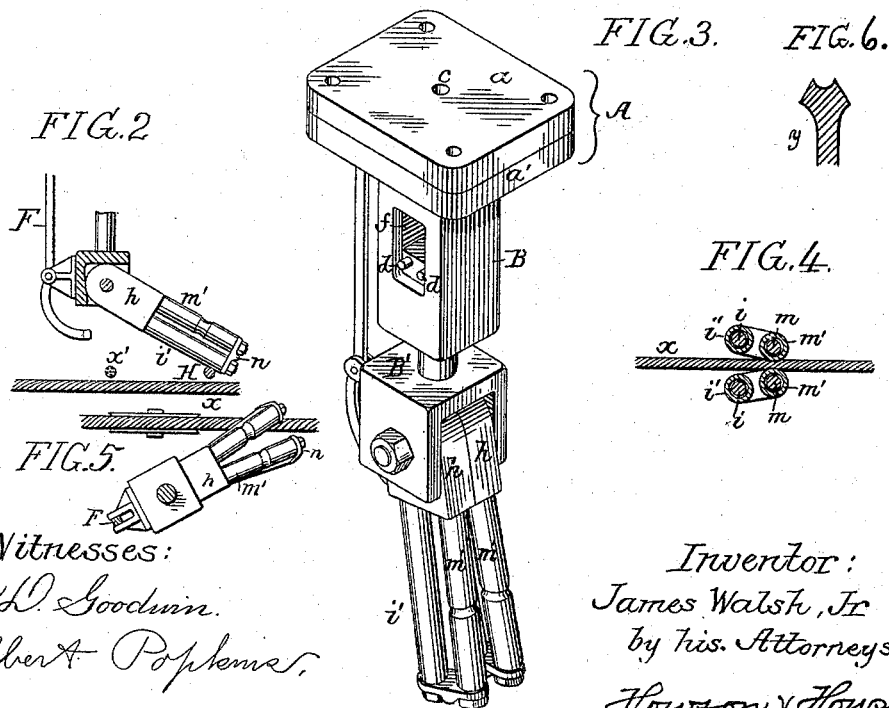
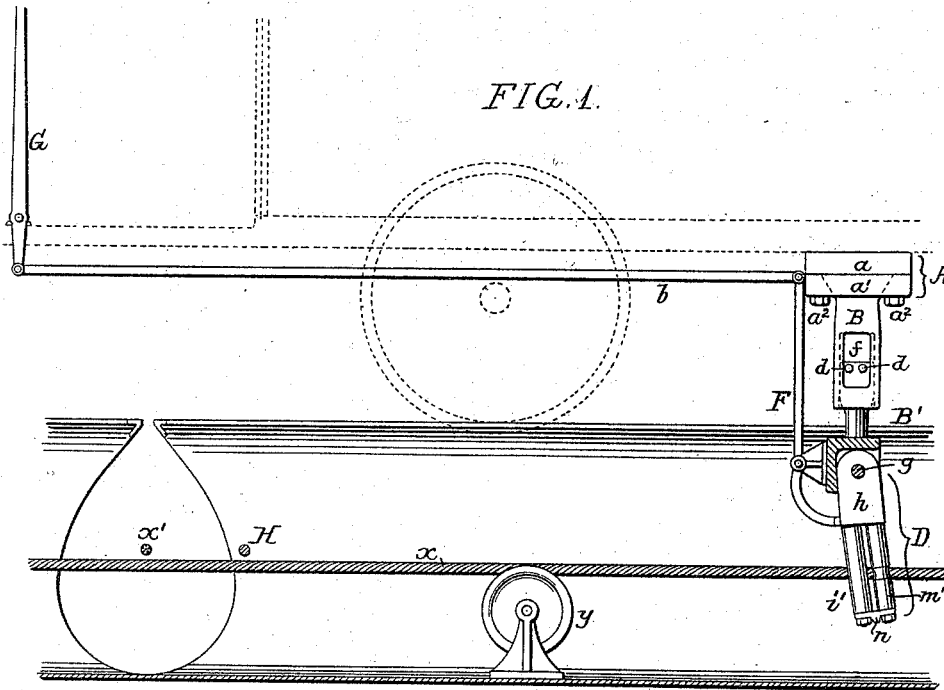


(No Model.)

J. WALSH, Jr.
CABLE GRIPPER.

No. 492,248.

Patented Feb. 21, 1893.



Witnesses:
Fred D. Goodwin.
Albert A. Popkema.

Inventor:
James Walsh, Jr.
by his Attorneys
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UNITED STATES PATENT OFFICE.

JAMES WALSH, JR., OF PHILADELPHIA, PENNSYLVANIA.

CABLE-GRIPPER.

SPECIFICATION forming part of Letters Patent No. 492,248, dated February 21, 1893.

Application filed January 5, 1891. Serial No. 376,742. (No model.)

To all whom it may concern:

Be it known that I, JAMES WALSH, Jr., a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Cable-Gripping Mechanism for Railroad-Cars, of which the following is a specification.

My invention consists of a certain improvement in or modification of the gripping mechanism for cable railways for which I obtained Letters Patent No. 385,980, dated July 10, 1888, the objects of my present improvements being to provide a more acceptable hanging for the grip shank, to improve the character of the grip head and to prevent injury to the gripping surface when the grip head is automatically thrown out of engagement with the cable. These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1, is a longitudinal section of a portion of a cable railway and part of a car with my improved cable gripping device, the grip head being shown in the operative position; Fig. 2, is a view partly in section and partly in elevation, and showing the grip head released from the cable; Fig. 3, is a perspective view of the gripping device on an enlarged scale; Fig. 4, is a sectional plan view through the grip head illustrating one of the features of my invention; Fig. 5, is a sectional plan, illustrating another feature of construction in the grip head, and Fig. 6, is an enlarged view of part of one of the cable pulleys or sheaves.

To the fixed frame work of the car is secured a hanger block A comprising two plates a a' , both of which have at the corners, openings for the passage of bolts a^2 whereby they are secured together and to the frame of the car, the upper plate a also having a central oil hole c and the lower plate a' having a countersunk recess for the reception of the beveled head of the grip shank B so that the latter is free to turn in the hanger A. By this means the shank is properly confined vertically to the hanger A and the head of the shank has no bearing upon the bottom of the car frame as in the patented device, hence there can be no wear of the wooden frame, and consequent looseness of fit of the shank head in the hanger.

In the shank B is vertically guided a shank

B' which has pins or projections d extending laterally into openings f in the shank B so that the shank B' is free to rise and fall in the shank B to an extent limited by contact of these pins with the opposite ends of the opening f , hence the rising and falling movement of the car body or cable can have no effect upon the grip head D. The latter is pivoted by means of a pin g in a recess or pocket at the lower end of the shank B' but instead of being in the form of a forked block as in the patented device, it consists of two swinging heads h h from each of which project downward two pins i and m , these pins being connected at the bottom by a plate n , and being flared laterally so that between the pins of the two heads a V-shaped opening is formed. The pins i are provided with antifriction rollers i' and the pins m have antifriction rollers m' the latter serving to grip the cable as shown in Figs. 1, and 4 when the grip head is depressed.

The pins i are more widely separated than the pins m so that the rollers i' do not come in contact with the cable, but these rollers are in advance of the rollers m' and thus serve to strike the cross bar H or the cross cable x' if the bar is not used, and thereby effect the automatic release of the grip head from the cable x as shown in Fig. 2, this operation being performed without any wear upon or injury to the cable gripping rollers. The use of the rollers, moreover, as a means of gripping the cable prevents sudden jerk in starting which is likely to follow if the grip head is rigid as in the patented device.

The grip head can, as before, be operated by the gripman so as to release it from the cable, this operation being performed by mechanism similar to that before used, and comprising a lever F hung to the shank B' and connected by a rod b to a lever G on the platform of the car.

It should be understood that the cable runs in the conduit in a position laterally at one side of the grip-head, but the grip head swings at an angle to the cable, so that when the grip-head is thrown backward the outer end of one of the gripping rollers overhangs the cable, as shown in Fig. 5, and when the grip-head is dropped said roller will come in contact with the cable and the forward movement of the

latter will tend to continue the movement of the grip-head downward and thus will draw the cable sidewise so as to cause it to clear the supporting pulleys *y*, the cable drawing
5 back into position on said pulleys when the grip-head is raised so as to release it, the pulleys being beveled as shown in Fig. 6 so as to direct the laterally moving cable upward and into the groove. The rollers *m'* have shallow
10 grooves which receive the cable when the rollers are in gripping position and present shoulders to prevent further descent of the grip on the cable and thus prevent jamming of the latter in the contracted space above the
15 grooves.

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

1. The combination of the grip shank having beveled head, with the hanger composed
20 of two plates secured together and to the frame of the car, the lower plate being recessed for

the reception of said beveled head, and the upper plate confining said head in the recess, substantially as specified.

2. The grip head having gripping rollers, 25 and in advance of the same, independent contact bars for striking the cross bar or cable to automatically release the grip, substantially as specified.

3. The combination of the grip shank, the 30 gripping rollers, and the swinging grip head located at one side of the cable, but pivoted so as to carry one of its gripping rollers across the cable when raised, substantially as specified.
35

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES WALSH, JR.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.