

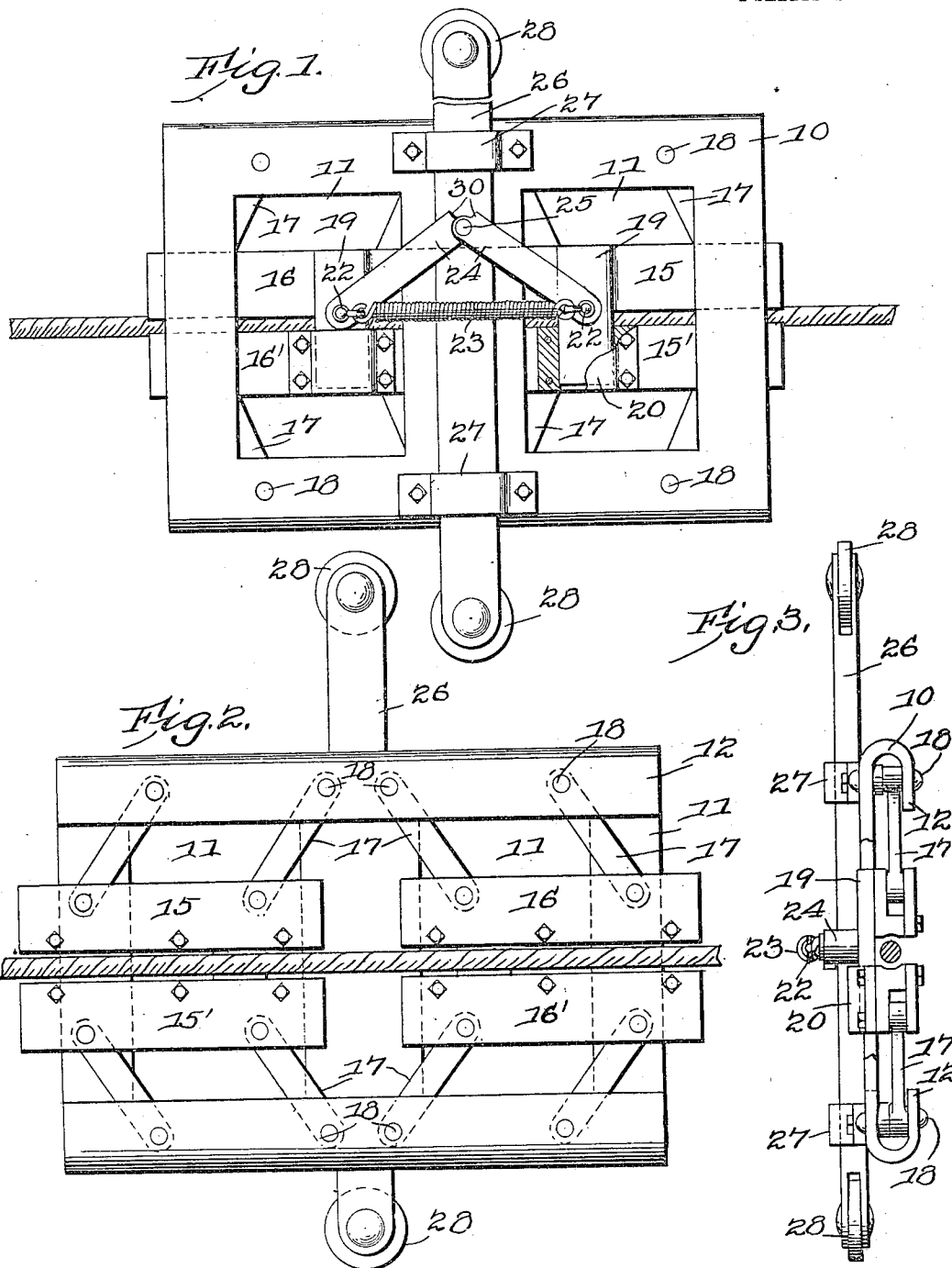
No. 831,729.

PATENTED SEPT. 25, 1906.

E. B. MERRY.
CABLE GRIPPER.

APPLICATION FILED JAN. 4, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

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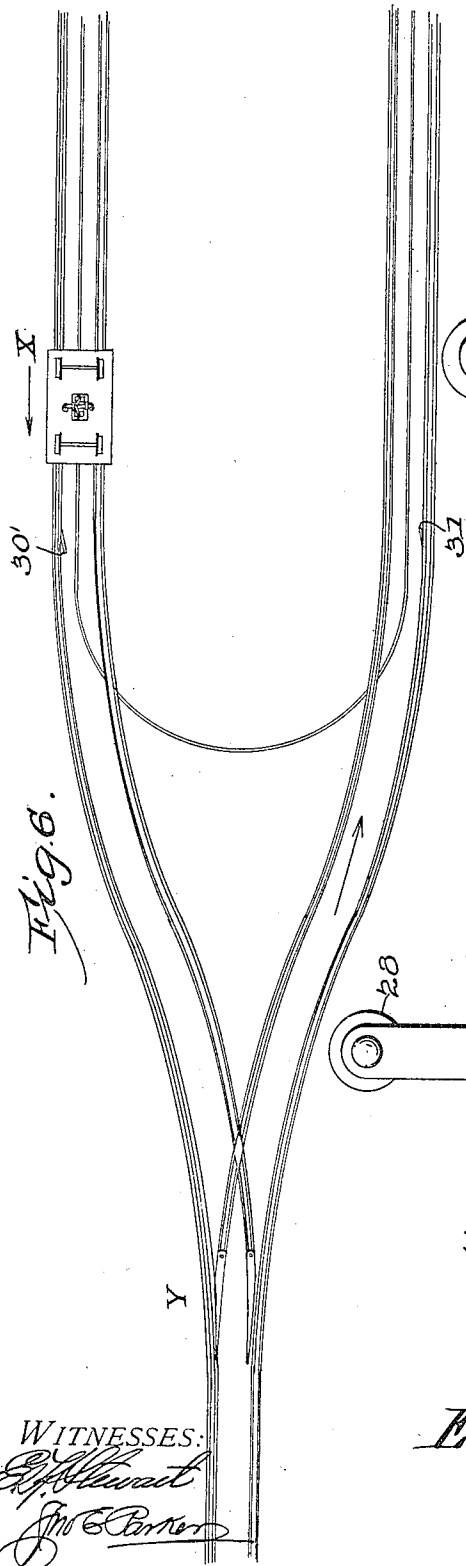


Fig. 6.

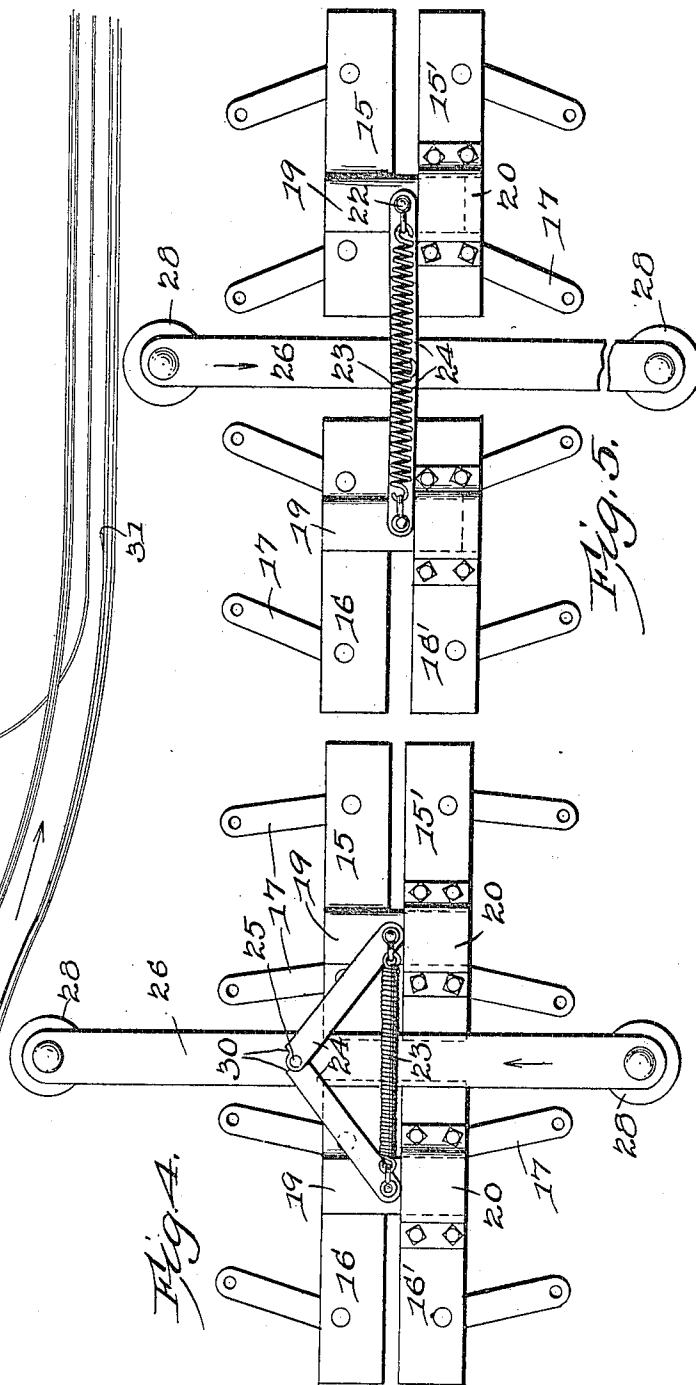


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

ERNEST B. MERRY, OF AUGUSTA, GEORGIA.

CABLE-GRIPPER.

No. 831,729.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed January 4, 1906. Serial No. 294,598.

To all whom it may concern:

Be it known that I, ERNEST B. MERRY, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented a new and useful Cable-Gripper, of which the following is a specification.

This invention relates to cable-grippers, and has for its principal object to provide an automatic grip of simple and inexpensive construction which may be employed in connection with the hauling of cars or the like by endless cables, the grip being so constructed and arranged as to permit its automatic disconnection from the cable at the end of the line or any other predetermined point and its automatic connection with the cable for the return trip.

A further object of the invention is to provide a cable-grip in which a pair of sets of gripping members are arranged opposite each other, one being active on movement in one direction and the other while the car is traveling in the opposite direction.

A still further object of the invention is to provide a locking and releasing device of simple construction and which may be readily operated to move the grip to operative or to release position by stationary cams or like members at the station or stations where such operation is to take place.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a plan view, partly in section, of a cable-grip constructed in accordance with the invention. Fig. 2 is an inverted plan view of the same. Fig. 3 is an end elevation of the grip. Fig. 4 is a plan view of the principal portions of the gripping device in gripping position. Fig. 5 is a similar view with the parts in release position. Fig. 6 is a diagram showing one application of the invention.

Similar characters of reference are employed

to indicate corresponding parts throughout the several figures of the drawings.

The device forming the subject of the present invention is intended principally for use in connection with cars or carriers that are propelled by an endless cable and is intended to be operated automatically in order to release or to grip the cable at a predetermined point, although it may be utilized to advantage in cases where the apparatus is manipulated manually.

The car or other carrier is provided with a suitable frame in the form of a plate 10, which is provided with two large openings 11, and the opposite edges of the plate are turned to form flanges 12, that are parallel with the body of the plate.

The cable-gripping jaws are arranged in two sets, one set 15 15' being designed for use when the car is traveling in the direction indicated by the arrow in Fig. 2, while the second set 16 16' is intended to be used while the car is traveling in the opposite direction; but both sets of gripping-jaws are connected to a single operating mechanism, so that both are simultaneously opened and closed, and while both grip the cable during movement in both directions the effective force is exercised by one set when traveling in one direction and by the other set when traveling in the opposite direction. Each of the gripping-jaws is formed of a channel-bar, as will be seen on reference to Fig. 3, and between the parallel webs of the channel-bar are pivoted the inner end of links 17, there being two parallel links for each jaw. The outer ends of the links are pivoted on pins 18, that extend between the main plate and the flange 12, and said links are designed to keep the jaws in parallel relation during the opening and closing movement.

To the upper or rear face of each of the jaws 15 and 16 is secured a bar 19, that extends into a socket 20, there being one of such sockets in each of the jaws 15' 16', and this connection serves to properly guide the two jaws of each set with relation to each other. The bars 19 and sockets 20 extend through the openings 11, formed in the main frame-plate 10, and to each of the bars 19 is secured a projecting stud 22, the two studs being connected by a helical tension-spring 23, that serves normally to draw the two bars toward each other, and thus move the gripping-jaws

to cable-engaging position. The two studs 22 are connected by links 24, the mating ends of which are pivoted to a stud 25, that is carried by a transversely-movable bar 26, adapted to guides 27, carried by the plate 10, and at the opposite ends of the bar 26 are antifriction-rollers 28, which may be engaged by cams along the roadway for the purpose of moving said bar in the direction of its length and imparting movement to the gripping-jaws. The adjacent ends of the links 24 are provided with shoulders 30, which abut after the ends of the pivot-pin 25 have passed inward beyond a plane common to the two pivot-studs 22, as shown in Fig. 5, so that a self-locking joint is formed which will retain the gripping-jaws in open position when the bar 26 has been moved in the direction indicated by the arrow of Fig. 5. When the bar 20 is moved in the direction of the arrow indicated in Fig. 4, the links will be carried out and the jaws will be drawn together for the purpose of gripping the cable.

In Fig. 6, which illustrates the diagram of the cable-road on which the device may be used, a car approaching the switch in the direction of the arrow x will move its grip-actuating bar 26 into engagement with a stationary cam 30', and the grip will be released from the cable in advance of the turn of the cable, so that the car may move onward beyond the switch y to deliver its load. The car may then be moved back on the other track, and as it approaches the cam 31 the opposite end of the bar 26 will be engaged and the grip will be moved to closed position, as shown in Fig. 4, thus automatically catching the cable.

The device is of such construction that the greater the load on the car the tighter will be the grip on the cable and the car will not be allowed to run ahead of the cable at any point, as when descending a grade, by reason of the second set of gripping-jaws. While the grip is in use that set toward the rear of the car is the active set, and while the forward set is always in engagement with the cable the pressure on the cable will not be the same as that exercised by the rear set. If, however, the car tends to move ahead of the cable, as will sometimes occur where a heavy car is descending a grade, the front set of gripping-jaws will engage the cable and positively prevent such movement.

I claim—

1. A cable-grip including a pair of sets of gripping-jaws arranged to operatively grip the cable for movement in opposite direc-

tions, respectively, and means for simultaneously and positively moving both jaws to gripping and release positions.

2. A cable-grip comprising a pair of sets of gripping-jaws arranged for positive clamping movement on the cable in opposite directions, respectively.

3. A cable-grip having a pair of sets of gripping-jaws carrying links through which the jaws are forced into engagement with the cable, said links being inclined in opposite directions, respectively.

4. A cable-grip, having a pair of sets of gripping-jaws arranged for positive clamping movement in opposite directions, respectively, an operating-bar extending therefrom, and a stationary cam with which said bar engages to simultaneously open or close both jaws.

5. A cable-grip comprising a pair of gripping-jaws arranged to engage the cable, an operating-bar, and cams for engagement with the opposite ends of said bar, one cam serving to move the jaws to gripping position, and the other cam to effect release of said jaws.

6. In a cable-grip, the combination with a frame-plate, of a pair of sets of gripping-jaws, swinging links connecting the jaws to the plate, the links being inclined in opposite directions, respectively, a bar-and-socket connection between the jaws of each pair, pivotally-connected links connecting said bars, an operating-bar pivotally connected to the links and arranged to move in the direction of its length, and to transmit movement to both pairs of jaws.

7. In a cable-grip, a frame-plate having end flanges turned parallel with the plate, a pair of sets of gripping-jaws, links having one end pivoted between the plate and flange, the opposite ends of the links being connected to the jaws, bar-and-socket connections between the jaws of each set, a transversely-disposed operating-bar guided at the rear of the frame, a pin carried by said bar, a pair of links pivoted on said pin and having their opposite ends connected to said bars, said links being provided with abutting shoulders to prevent excessive movement, and springs extending between the pivotal connections of the bars and links.

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

ERNEST B. MERRY.

Witnesses:

JOE J. CRUMP,
H. A. ROYNON.