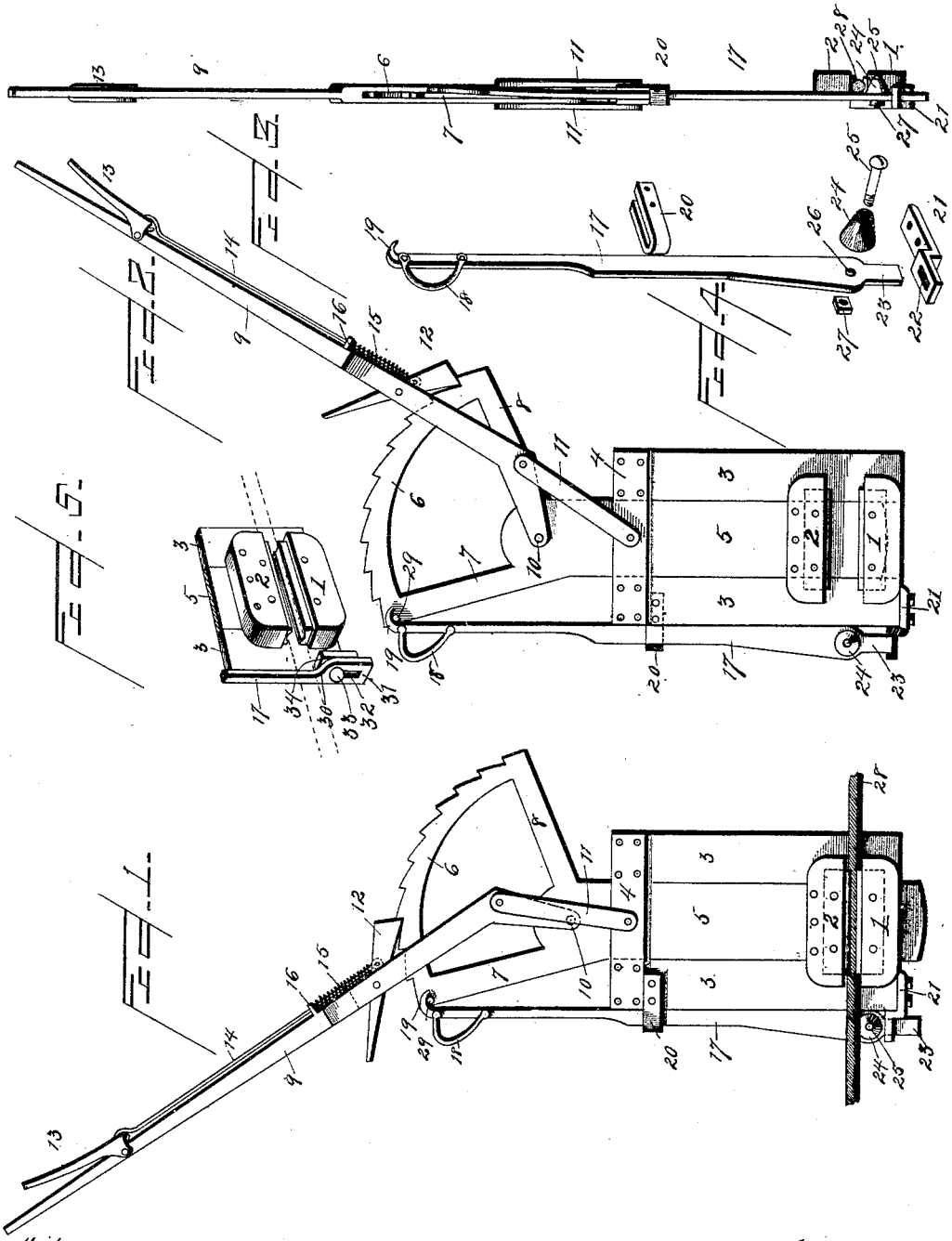
(No Model.)

A. O. WARNER.

CABLE GRIP ATTACHMENT.

No. 459,073. Patented Sept. 8, 1891.



Witnesses:
G. L. Lodge.
Jno. L. Condron

Inventor.
A. O. Warner.
By Bigelow & Bigelow
Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT O. WARNER, OF KANSAS CITY, MISSOURI.

CABLE-GRIP ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 459,073, dated September 8, 1891.

Application filed March 30, 1891. Serial No. 387,039. (No model.)

To all whom it may concern:

Be it known that I, ALBERT O. WARNER, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Cable-Grip Attachments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to the grips which are used for grasping the cables of cable-railway systems for the purpose of connecting the cars to the cables so that the latter shall propel the cars; and the object of my invention is to produce an attachment which shall be applicable to various forms of grips and which shall serve to quickly throw the cable outward from between the jaws or dies of the grips whenever it is necessary or desirable to disconnect the car from the cable; also produce an attachment which shall so operate, either simultaneously with the opening of the grip, dies, or jaws or separately after the said dies or jaws have been previously opened.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a cable-grip with one form of my improved attachment applied thereto, the grip being in closed position. Fig. 2 is a similar view of the same, the grip being in open position. Fig. 3 is a rear elevation of the same, the grip being closed, as shown in Fig. 1. Fig. 4 comprises detached perspective views of several details of construction hereinafter described. Fig. 5 is a detached perspective view of the lower part of a cable-grip with a modified form of my improved attachment applied thereto.

In the said drawings, 1 designates the lower jaw or die of the grip, and 2 the upper jaw or die of the same. These parts are either of the precise form shown or of any other suitable or preferred form, as desired. To the ends of the lower jaw or die 1 are rigidly attached two vertical parallel plates or bars 3, the upper ends of which are connected by transverse parallel cross-bars 4.

5 designates the slide which carries the upper or movable jaw or die 2, and the upper portion of which works between the cross-bars 4. The upper end of this slide 5 carries the segmental rack 6, the extremities of which are connected to the slide by the inclined arms 7 and 8.

9 designates the grip-operating lever, the lower end of which is shown as bent backward and pivoted at 10 to the upper end of the slide 5, links 11 being also shown as pivotally connected at their lower ends to the cross-bars 4 and at their upper ends to the lever 9 at the point of union of its lower end with its inclined portion. A pawl 12 is pivoted to the lever 9 just above the segment 6, so that the tip of the pawl can engage the teeth of the segment 6 when desired. A pawl-operating lever 13 is shown as pivoted upon the upper end of the grip-lever 9, and a rod 14 is shown as connecting the pawl with the lever 13, a retracting-spring 15, surrounding the lower part of the rod 14 and interposed between the upper side of the pawl and the under side of a lug 16 on the lever 9, serving to throw the pawl 12 into engagement with the rack 6.

It is to be understood that the parts above described are shown as constituting one form of grip and its operating mechanism; but it is to be observed, and it will be readily understood from the following description, that my improved attachment is designed to be applied to a grip either constructed and arranged as shown or to any other suitable or preferred type of grip.

Referring now to Figs. 1, 2, 3, and 4, 17 designates an elongated bar, which is of such length as to project at its upper part above the cross-bar 4, so that its upper end can be conveniently reached by the person operating the grip. The upper extremity of this bar is formed or provided with a suitable handle 18 to be grasped by the operator at times, as hereinafter described. The said upper extremity of the bar 17 is also shown as provided with a hook 19, for a purpose to be hereinafter explained. To the upper part of the rear vertical bar 3 is secured a metal strap or loop 20, which embraces the adjacent part of the bar 17, and to the lower part of the said bar 3 is secured a plate 21, having at

its outer end an eye or opening 22, through which extends the lower end 23 of the bar 17. To the lower part of this bar 17 is attached a roller 24, which is of conical form and the upper side of the periphery of which inclines outwardly and downwardly from the side of the bar 17. This roller is attached to the bar 17 by a bolt 25, which passes centrally through the roller and also through an eye or opening 26 in the lower part of the bar 17, and the end of which is threaded to receive a nut 27. Now by reference to Fig. 1 it will be seen that when the bar 17 is in normal or depressed position the roller 24 lies just beneath the cable 28. If now the bar 17 be raised, the roller 24 will come into contact with the under side of the cable, and the grip being opened the inclined periphery of the roller will force the cable out from between the dies or jaws 1 and 2. This raised position of the bar 17 is shown in Fig. 2, and it is evident that this movement of the bar 17 can be produced by grasping the handle 18 at the upper end of the bar 17.

The grip above described and almost all of the present types of grips are so arranged that when the upper die is raised to free the grip the segment or rack 6 is raised also, and in order to utilize this rising movement of the segment for raising the bar 17 a stud is mounted upon one side of the segment, and when the grip is closed the upper end of the bar 17 is sprung to one side, as shown in Fig. 3, so as to bring the hook 19 into engagement over the said stud. It will thus be seen that when the lever 9 is thrown forward to open the grip the upper jaw or die 2 will rise and the segment 6 will also rise and lift the bar 17 with it, thus automatically throwing the cable outward from between the dies.

The arrangement shown in Fig. 5 is essentially the same as that above described, excepting that the roller 24 is dispensed with, and in lieu thereof a downwardly and outwardly inclined portion 30 is used to throw the cable. This inclined portion 30 is formed upon the upper end of a lateral enlargement 31 of the lower end of the bar 17. This enlargement 31 is formed with a vertical slot 32, through which passes a bolt 33, which also enters an offset 34 on the lower end of the bar 3.

It will thus be seen that I have devised a simple and easily-operated attachment for cable-grips, by means of which the cable can be quickly thrown outward from between the dies or jaws of the grip when desired. It will also be seen that the attachment can be applied to various forms or types of grips, and that it is compact and inexpensive in construction.

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

1. An improved attachment for cable-grips, comprising a bar having an inclined contact-surface at its lower portion to engage the cable and provided at its upper end with a hook to engage the segment of the grip, substantially as set forth.

2. The combination, with a cable-grip having guides upon its rear portion and a movable rack-segment, of a bar working vertically through said guides and having an inclined contact-surface on its lower part to engage the cable and provided at its upper end with a handle and also with a hook to engage a projection on the segment, substantially as set forth.

3. An improved attachment for cable-grips, consisting of a bar working vertically through guides at the rear of a cable-grip, said bar having at its lower end an inclined surface to engage the cable and to throw the same out from between the gripping-jaws and having also at its lower end a vertical slot to receive a bolt or stud, the said bolt or stud projecting from one of the bars of the grip and extending through said slot, substantially as set forth.

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

ALBERT O. WARNER.

Witnesses:
JNO. L. CONDRON,
H. E. PRICE.