

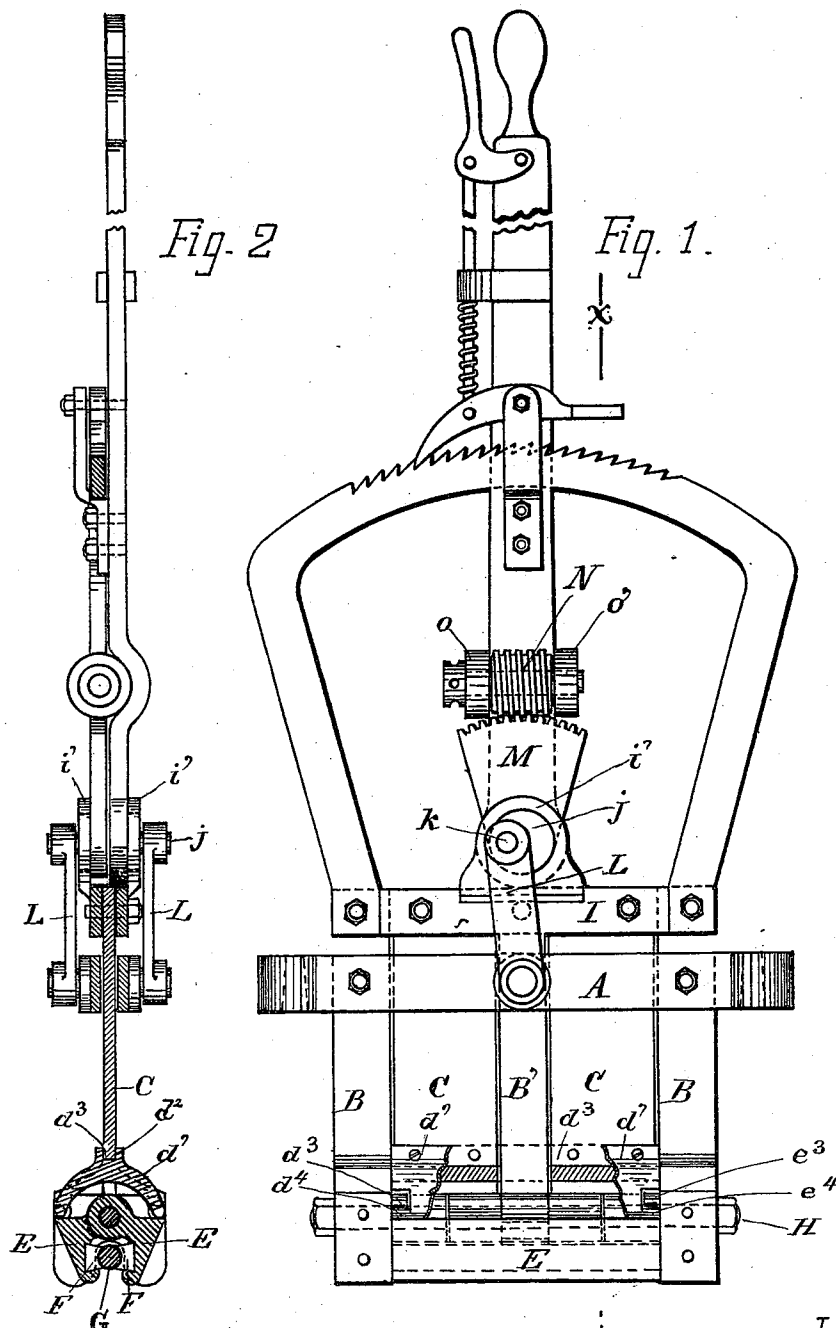
(No Model.)

2 Sheets—Sheet 1.

R. A. McLELLAN.
CABLE GRIP.

No. 501,467.

Patented July 11, 1893.



Witnesses
T. M. Hughes
Guy G. Willis

Inventor.
Robert A. McLellan
by *Pfeister*
his Attorney.

(No Model.)

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Fig. 3

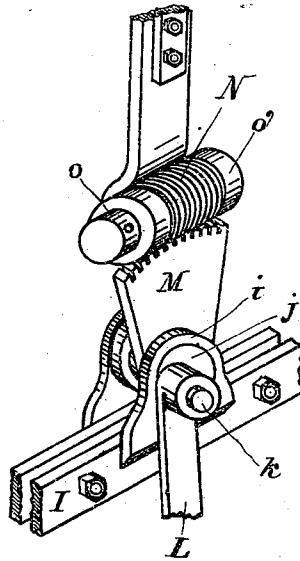
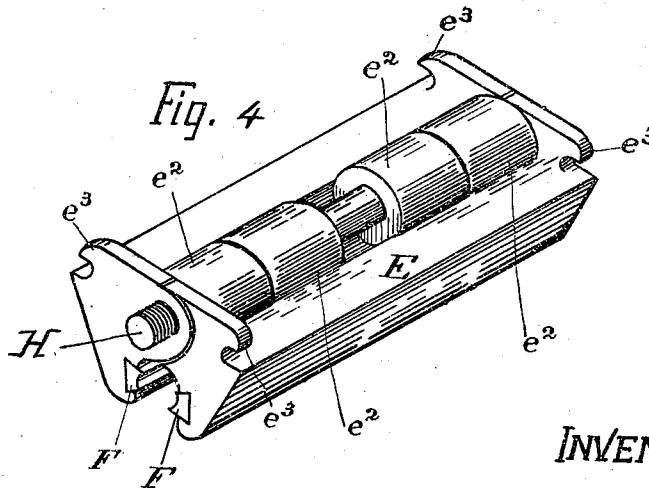


Fig. 4



WITNESSES

T. M. Hughes
Guy G. Willis

INVENTOR

Robert A. McLellan

by J. Preisle
his Attorney.

UNITED STATES PATENT OFFICE.

ROBERT A. MCLELLAN, OF PORTLAND, OREGON, ASSIGNOR OF ONE-HALF
TO FRANKLIN I. FULLER, OF SAME PLACE.

CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 501,467, dated July 11, 1893.

Application filed January 31, 1893. Serial No. 460,442. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. MCLELLAN, a citizen of the United States, residing at Portland, Multnomah county, and State of Oregon, have invented a new and useful Improvement in Cable-Grips, of which the following is a specification, reference being had to the accompanying drawings, constituting a part hereof.

My invention relates to that class of cable grips known as "center" or "bottom" grips, and the common characteristic features of which are pivoted jaws, adapted to be under the control of a lever, so as to close upon or release the cable, which such jaws overhang. An illustration of a grip of this class is seen in the drawings forming a part of Letters Patent No. 390,882, dated October 9, 1888, granted to me for an improvement in cable grips, and to the drawings and specification of which Letters Patent I hereby refer for an explanation of such of the usual mechanical parts as may not be herein fully described. And now the objects of my present invention are of a three fold nature, namely, a center bearing for the pin on which the cable-gripping jaws are hinged, for the obvious purpose of increasing the resisting strength of such pin when the power of the lever is applied to close the jaws; a modification in the structure of such gripping jaws, and the means for operating the same, for the purpose of obtaining greater strength; and, a compensating device, or, what is frequently called a "take-up," being a device by means of which the incidental wear of the dies in the gripping jaws is compensated for. It has been thought that such compensating contrivance was unnecessary, but I have convinced myself to the contrary after practical tests, for if there is no "take up" of the wear of said dies, the position of the lever itself will be shifted to make up for such wear, finally inclining the lever at such awkward angle, as to be even dangerous, in this, that the lever of the grip and brake will become separated to such an extent that they are no longer both within the reach of the gripman at the same time, which is absolutely necessary in case of an emergency.

The means employed by me for carrying

my invention into effect are illustrated in the accompanying drawings, above referred to, the figures of which show as follows:

Figure 1 is a side elevation of a grip embodying my improvements. Fig. 2 is an end view, and partial section, through a line $x-x$ of Fig. 1. Fig. 3 is a perspective view of my compensating or "take-up" device; and Fig. 4, is a perspective view of my cable gripping-jaws.

Referring to the letters, A is the "beam" of the fixed hanging frame, and B B the outside or guide plates. The vertically movable center-plate C moves within said parts as usual, but in order to furnish a third, central, bearing for the pintle of the hinged cable gripping jaws, my central plate has a portion of its center part removed, to make room for the center-bearing or hanger B'. To the bottom of the center plate C is fastened a semi-circular foot d' , a cross-section of which is shown in Fig. 2. The said foot is provided with a longitudinal recess d^2 in which is inserted the bottom edge d^3 of the center-plate, and the foot being then secured in place by screws, as seen in Fig. 1, in which the central portion of such foot is removed to illustrate the construction described. Such foot is further provided with a central slot, or opening, to accommodate the central bearing B'. The foot transmits the motion of the center-plate C to the cable gripping-jaws E, closing or opening these as will be explained.

The construction of the jaws E is in the form of a hinge (see Fig. 4) each jaw being provided with perforated lugs e^2 and a pair of such jaws placed opposite to each other, and secured by the pintle H, the two ends of such pintle being hung in the bearings B, B, and the center thereof in the bearing or hanger B'. The advantages derived from a center-bearing for the pintle H are obvious. Without such center-bearing the strain on the pintle is too great, causing the same to be frequently bent and broken. The jaws are also provided with the lugs e^3 which are engaged by the lug-pins e^4 on the foot d' , so that as such foot d' is lifted, it raises and separates the jaws E with the result of releasing the cable (G). On the other hand, when the foot d' is depressed the bottom-edges thereof, through-

out their length, bear down upon the top of the jaws E, and close the same upon the cable with an immense force.

It will be observed that in the construction and arrangement of the jaws E, and their immediate operating means, the foot d' , the hinge pintle H from which the jaws are hung on one side, and the points of engagement of the lugs e^3 and e^4 , sustaining the opposite sides of the jaws, are practically within the same horizontal plane.

By the use of the semi-circular foot d' , as a transmitter of the power of the grip lever to the gripping-jaws E, I am enabled to apply the said power at a greater length from the fulcrum pintle H, thus largely increasing the leverage power exerted on the jaws, in closing the same upon the cable, without enlarging the width of the grip. And by the means employed by me for hinging and operating the jaws E, the same are easily accessible for the purpose of replacing worn dies by new ones, the withdrawal of the pintle H, being all that is required to remove the jaws so as to get at the same.

The other element of my present invention remaining to be described is the compensating device, or "take-up," which is best seen in Fig. 3. As described in the beginning of this specification, as the dies (F) in the jaws wear away the latter would necessarily have to be brought closer together, and under ordinary circumstances, without a contrivance of the character about to be described or fulfilling the functions thereof, the angle at which the grip-lever would have to be set would shift from time to time. I, therefore, to maintain the action of such grip-lever within a desirable range have made the following modification in the structure of grips heretofore in use: The side-plates I, secured to the top of the center-plate, are provided with upwardly projecting lugs i' providing bearings for short journal-ends j , on the foot of the segment-plate M. The journals j , are provided with eccentrically fixed pins k , on which the top ends of the links L, are pivoted. The upper periphery of the segment-plate M, is toothed and meshes with the worm N, which is supported on a pin in the lug-bearings o, o' , welded to the shank of the lever, as seen, the pin being adapted to rigidly engage the worm, so that as the former is turned the latter will co-act therewith. If, therefore, the worm N,

is turned the position of the segment-plate M, and with it the pins k , may be adjusted; and thus, as the dies in the jaws wear away the center plate C, may be dropped to compensate for such wear, as described.

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

1. In a cable grip, the combination of a fixed hanging frame consisting substantially of a beam A, having sides plates as B, depending therefrom and furnishing bearings for the two ends of the pintle on which the cable gripping jaws are hinged, a central hanger as B', also depending from the beam and furnishing a center bearing for said pintle, for the purposes described, and a center-plate adapted to operate within said frame, substantially as set forth.

2. In a cable grip, the combination of jaws hinged oppositely on a pintle supported in suitable bearings therefor provided in the fixed hanging-frame, and a semi-circular foot as d' , rigidly attached to the center-plate, to operate said jaws, such jaws and the said foot being respectively provided with means enabling the latter to engage the outer edges of the former, so that by the upward or downward movement of such foot the jaws will be opened or closed, substantially as set forth.

3. In a cable grip, in combination, a vertically movable center-plate provided at its top with bearings as i' , a plate or arm as M having short journals j seated in said bearings i' and provided with eccentrically fixed link-pins k , links L the upper ends of which are pivoted on said pins k and the lower ends thereof being pivoted to the beam of the fixed hanging-frame, and a lever also pivoted at its foot on one of said short journals j and provided with means for adjusting and holding in suitable adjustment the said plate or arm M, so that the position of said link-pins k may be vertically adjusted, and with them the drop of the center-plate, said plate M being adapted to cooperate with said adjusting means on the lever, all substantially as set forth.

In testimony whereof I have hereunto set my signature in the presence of two witnesses.

ROBERT A. McLELLAN.

Witnesses:

CHAS. W. BROWN,
T. J. GEISLER.