(No Model.) 3 Sheets—Sheet 1.

L. HACHENBERG.

CABLE GRIP.

No. 536,425. Patented Mar. 26, 1895.

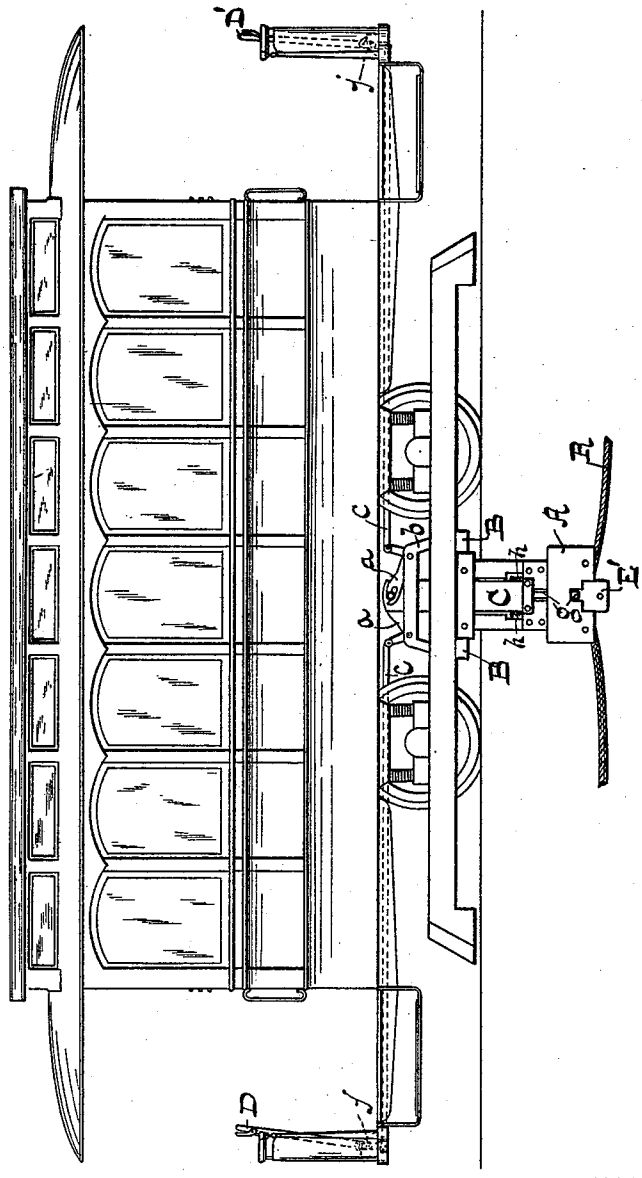

Fig. 1.

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INVENTOR:
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(No Model.) 3 Sheets—Sheet 2.

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Fig. IV.

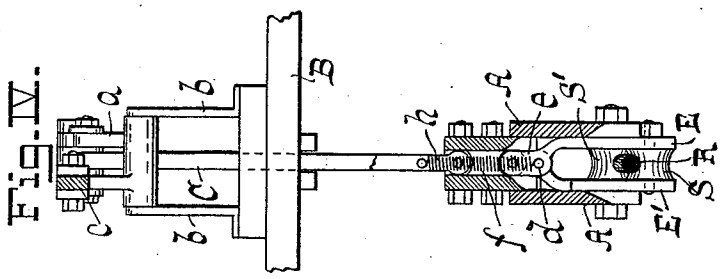


Fig. VI.

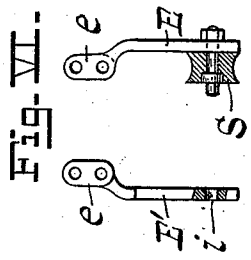


Fig. III.

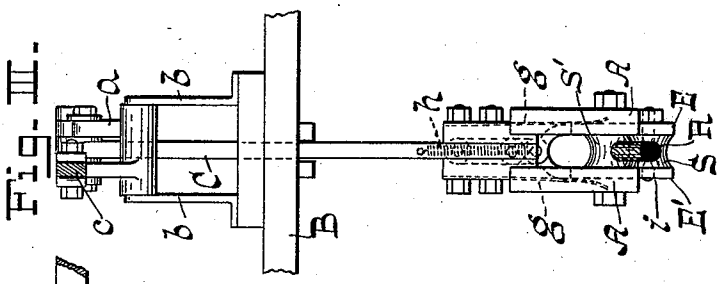


Fig. II.

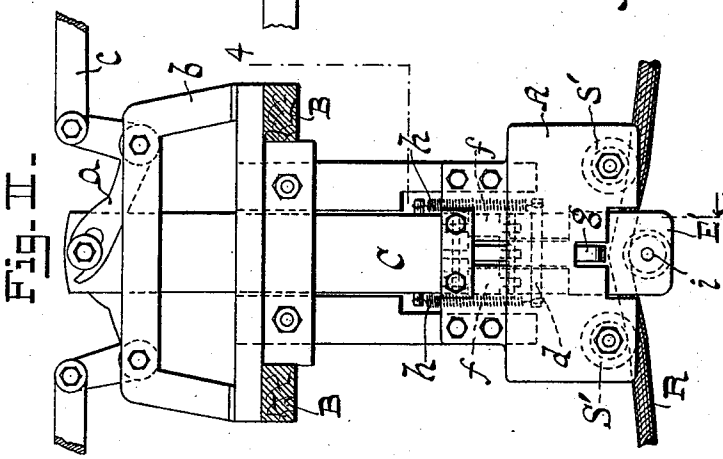
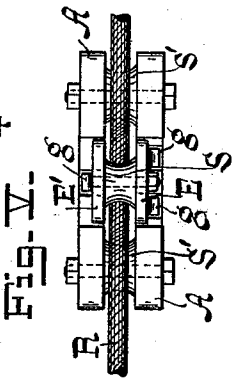


Fig. V.



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CABLE GRIP.

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Fig. IX.

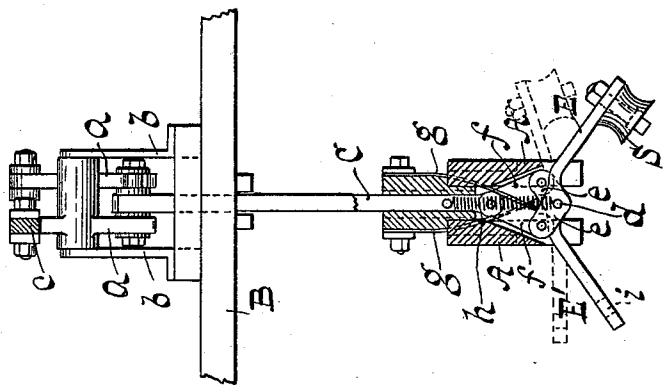


Fig. VIII.

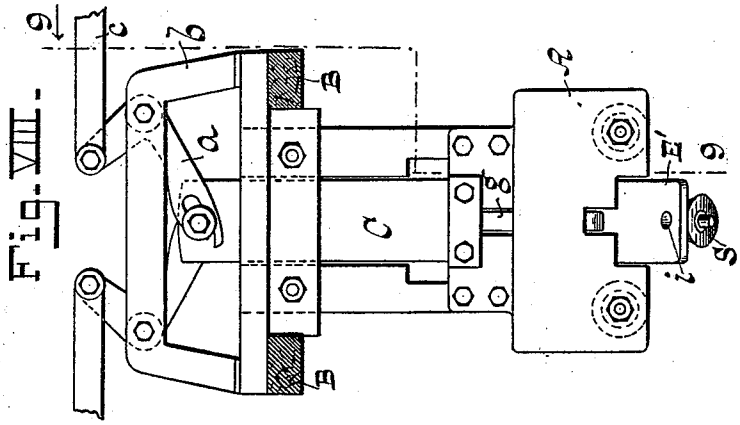


Fig. X.

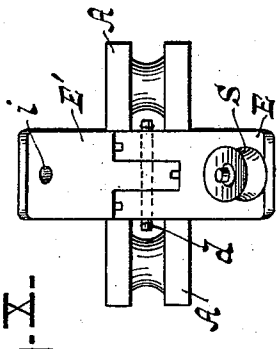
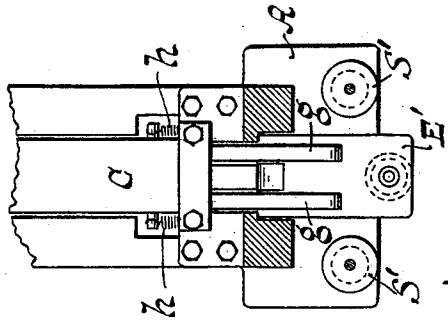


Fig. VII.



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INVENTOR:

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UNITED STATES PATENT OFFICE.

LOUIS HACHENBERG, OF NEW YORK, N. Y.

CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 536,425, dated March 26, 1895.

Application filed February 16, 1895. Serial No. 538,602. (No model.)

To all whom it may concern:

Be it known that I, LOUIS HACHENBERG, a citizen of the United States of America, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Cable-Grips, of which the following is a specification.

My invention has reference to a cable-grip for cables running in underground conduits and has for its object to provide means whereby the cable can be quickly lifted and gripped by the use of a single operating lever with little or no injury to the cable itself with continued use.

To this end my invention consists essentially in the combination with a grip-body, of hinged wings having a link connection with the shank, a lifting sheave mounted on one of said wings, two wedging surfaces located in the grip-body on opposite sides of the grip-shank, an operating lever, intermediate connections between said lever and the grip-shank for reciprocating the same, and springs acting on the wings for spreading the same on the depression of the grip-shank.

The nature of my said invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a side elevation of a cable car provided with my improved grip. Fig. 2 is a side elevation of the grip drawn on an enlarged scale. Fig. 3 is a sectional end elevation. Fig. 4 is a vertical section on the line 4—4, Fig. 2. Fig 5 is a bottom view of Fig. 2. Fig. 6 represents the two wings of the grip in detail. Fig. 7 is a sectional side elevation, part being broken away. Fig. 8 is side elevation showing the grip-shank partially depressed. Fig. 9 is a vertical section on the line 9—9, Fig. 8. Fig. 10 is a bottom view of Fig. 9.

Similar letters of reference designate corresponding parts thoughout the several views of the drawings.

Referring now to the drawings, the letter A designates the grip-body suspended from the frame of the truck B in any suitable manner. Within said body is mounted, and guided to reciprocate vertically, the grip-shank C, the upper end of which is engaged by bell crank levers *a a* pivoted to frames *b* attached to the grip-body. The bell crank levers *a a* are vibrated by means of either of the operating levers D D′ (Fig. 1) located on the opposite platforms of the car, as usual, and to which they are connected by links *c c*.

E E′ designate two wings pivoted to swing about a common shaft *d*. The ends of the wings are provided with upwardly projecting arms *e* which are connected by links *f* to the lower end of the grip-shank C. The wings, when brought together, fit snugly in the bifurcated, or yoke-shape, end of the grip-body (Figs. 3 and 4), and, in addition thereto, are held together by flat springs *g g* located in vertical grooves in the grip-body and bearing upon the backs of said wings. The wings are, furthermore, acted on by two spiral springs *h h* attached to the ends of the shaft *d* and to the grip-shank. In the wing E is mounted a lifting sheave S, the pintle of which is adapted to enter a bearing *i* in the opposite wing E′ when the two wings are brought together.

Within the bifurcated end of the grip-body A are mounted two wedging surfaces S′ S′ located respectively on opposite sides of the grip-shank C and in the plane of the lifting sheave S when the latter is in its operative position. In the present example I have shown the wedging surfaces in the form of rotatable sheaves, but I do not wish to restrict myself to the use of the same. The general object of the present construction is to lift the cable R when the car is to be started and to wedge it between the lifting sheave S and the wedging sheaves S′ S′; while at other times the parts are above the cable, and the car can pass over cross cables without interterference.

The operation of the grip is as follows: Assuming the parts to be in the position shown in Figs. 8 and 9 and that it is desired to start the car, the lever D is thrown over in the proper direction to lift the grip-shank C, thereby drawing the wings E E′ together and upwardly by means of the link connection *f* and the arms *e e*. The lifting sheave S engages with and lifts the cable, drawing it up firmly between the two wedging sheaves S′ S′, and it is held in this position by a usual pawl and segment *j* in connection with the operating lever. To release the grip the operating lever is turned in the opposite direc-

tion causing the grip-shank to be lowered and freeing the wings from the grip-body (Fig. 9). On the downward movement of the wings the free ends of the flat springs *g g* leave the body of the wings and engage with and press upon the arms *e e* thereof, thereby turning said wings about their shaft *d* to open the same. Simultaneously therewith the spiral springs, *h*, acting on the shaft *d*, assist in opening the wings to release the cable and then hold the same open.

What I claim as new is—

1. A grip for cable cars comprising in its structure a grip-body, a reciprocating grip-shank moving vertically within said body, hinged wings in connection with said shank, a lifting sheave mounted on one of said wings, two wedging surfaces on the grip-body located on opposite sides of the grip-shank, springs adapted to act on said wings for opening the same, and means for operating the grip-shank, substantially as described.

2. A grip for cable cars comprising in its structure a grip-body, a reciprocating grip-shank moving vertically within said body, hinged wings provided with upwardly projecting arms, links connecting said arms with the grip-shank, a lifting sheave mounted on one of said wings, two wedging sheaves on the grip-body located on opposite sides of the shank, springs adapted to act on said wings for opening the same, and means for operating the grip-shank, substantially as described.

3. A grip for cable cars comprising in its structure a grip-body, a reciprocating grip-shank moving vertically within said body, hinged wings provided with upwardly projecting arms, links connecting said arms with the grip-shank, a lifting sheave mounted on one of said wings, two wedging surfaces on the grip-body located on opposite sides of the shank, flat springs secured in the body and acting on the wings to open the same, spiral springs attached to the grip-shank and to the shaft of the wings, and means for operating the grip-shank, substantially as described.

4. A grip for cable cars comprising in its structure a grip-body, a reciprocating grip-shank moving vertically within said body, hinged wings in connection with said shank, a lifting sheave mounted on one of said wings, two wedging surfaces on the grip-body located on opposite sides of the same, an operating lever, and a link and bell crank lever connecting the latter with the grip-shank, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of the two subscribing witnesses.

LOUIS HACHENBERG.

Witnesses:

A. FABER DU FAUR, Jr.,

EUGENIE A. PERSIDES.