(No Model.) 4 Sheets—Sheet 1.

T. WRIGHT.

GRIP FOR CARS FOR CABLE RAILWAYS.

No. 342,312. Patented May 18, 1886.

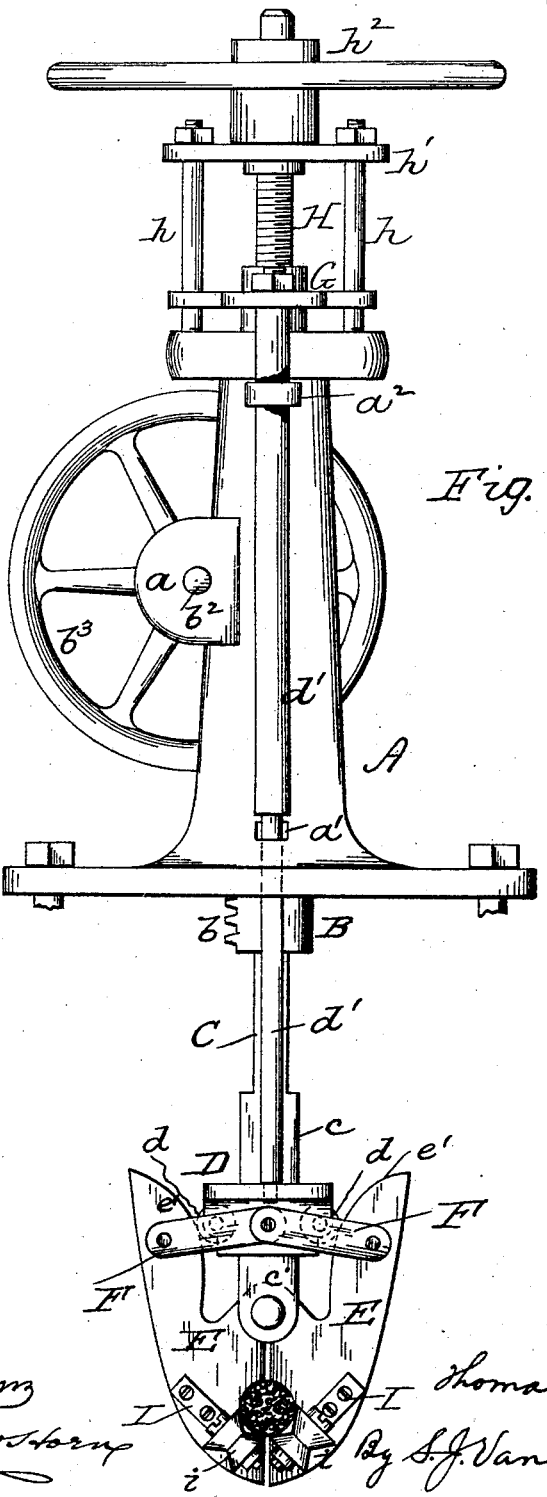


Fig. 1

WITNESSES:
C. W. Williams
Chas. F. Ezwostorm

INVENTOR,
Thomas Wright
By S. J. VanStavoren
ATTORNEY,

(No Model.) 4 Sheets—Sheet 2.

T. WRIGHT.

GRIP FOR CARS FOR CABLE RAILWAYS.

No. 342,312. Patented May 18, 1886.

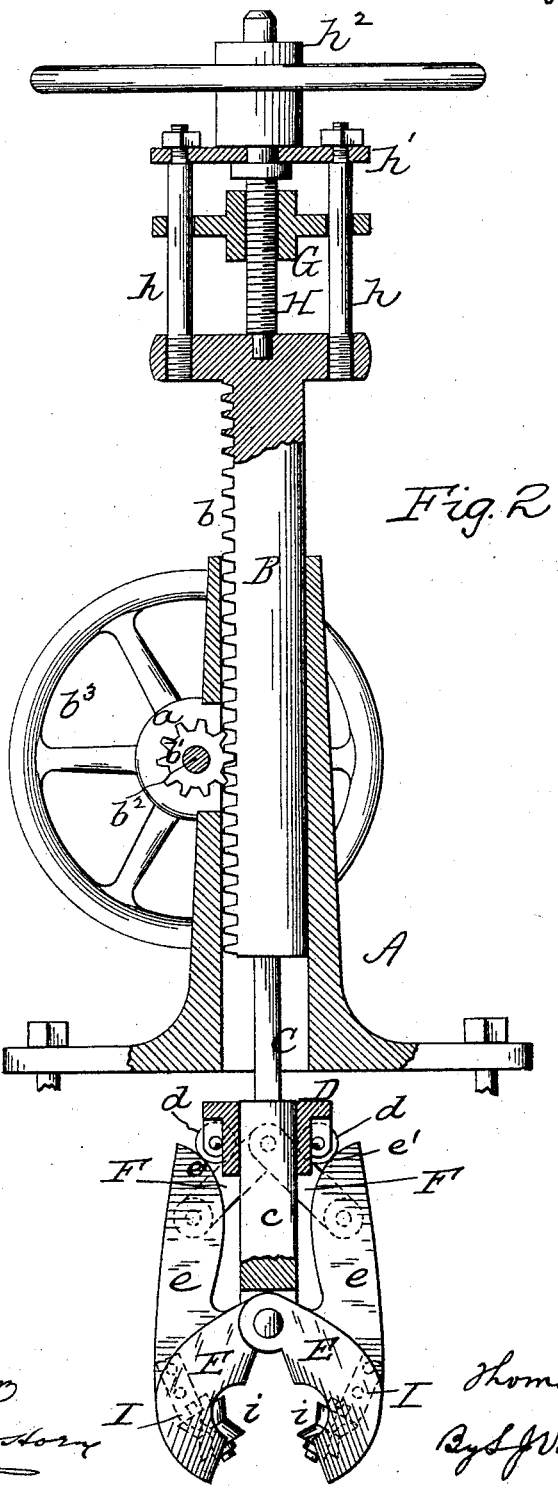


Fig. 2.

WITNESSES:
C. W. William
Chas F. Dawson

INVENTOR,
Thomas Wright
By J. J. Vanstavoren
ATTORNEY,

(No Model.)

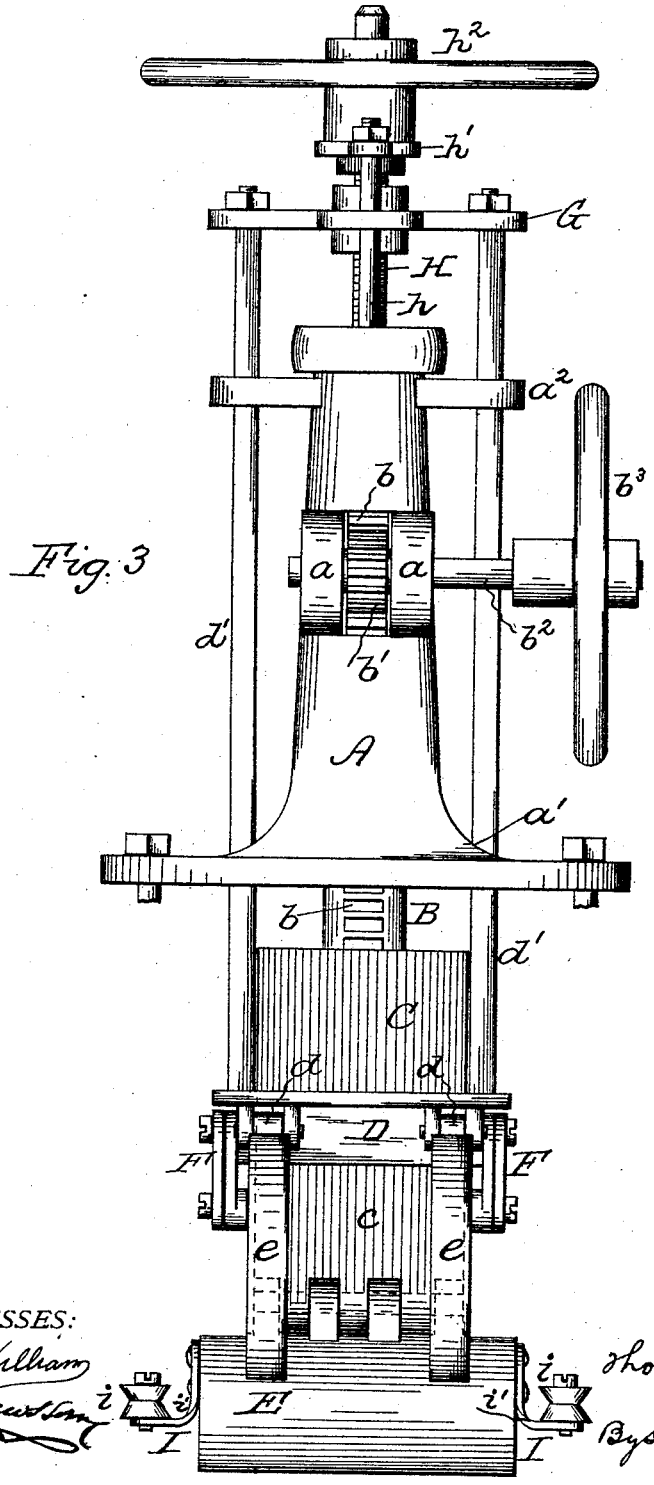
4 Sheets—Sheet 3.

T. WRIGHT.

GRIP FOR CARS FOR CABLE RAILWAYS.

No. 342,312. Patented May 18, 1886.

Fig. 3



WITNESSES:

C. W. William

Chas. F. Townsend

INVENTOR,

Thomas Wright

By S. J. Van Staveren

ATTORNEY

(No Model.) 4 Sheets—Sheet 4.

T. WRIGHT.

GRIP FOR CARS FOR CABLE RAILWAYS.

No. 342,312. Patented May 18, 1886.

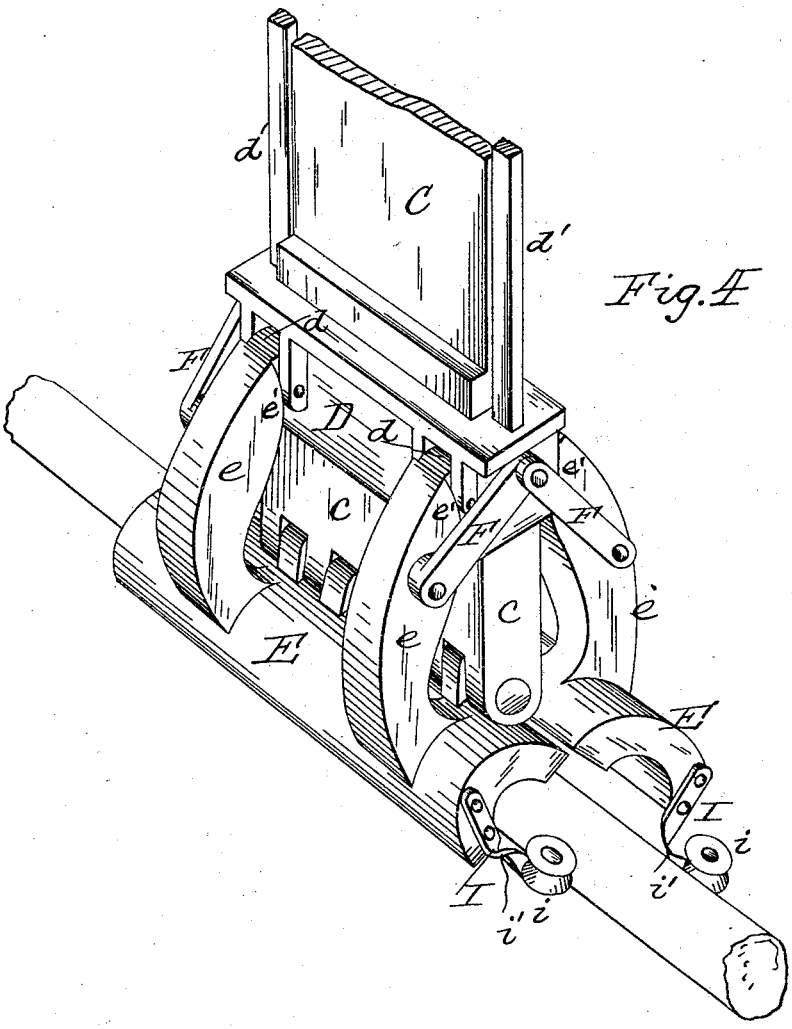


Fig. 4

WITNESSES:
C. W. Williams
Chas F. Crawford

INVENTOR,
Thomas Wright
By S. J. Vanstavoren
ATTORNEY

UNITED STATES PATENT OFFICE.

THOMAS WRIGHT, OF CAMDEN, NEW JERSEY.

GRIP FOR CARS FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 342,312, dated May 18, 1886.

Application filed November 25, 1884. Serial No. 148,810. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WRIGHT, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Grips for Cars for Cable Railways, of which the following is a specification, reference being had therein to the accompanying drawings, wherein—

Figure 1 is an end elevation of the grip and its operating mechanism, showing the grip in its depressed or lowered position and the gripping-jaws closed for engagement with the cable. Fig. 2 is a vertical section of same, representing the grip in its raised position and the gripping-jaws expanded or in their ungripped condition. Fig. 3 is a side elevation of the grip and operating mechanism; and Fig. 4 is a perspective of the grip, showing the jaws moved out of gripping engagement with the cable.

My invention has relation to grips and their operating mechanism for the cars of cable railroads; and it has for its object to provide a simple, durable, and powerful grip, the jaws of which can be easily and quickly operated to effect a powerful grip upon or with the cable, be instantly released from such engagement, and they and their supporting devices quickly inserted into and withdrawn from the cable-conduit.

My invention has for its further object to prevent the cable impinging against or running in contact with the gripping-faces of the jaws when expanded or released from the cable.

My invention accordingly consists of the combination, construction, and arrangement of parts comprising a cable-motor grip and operating mechanism, as hereinafter described and claimed.

In the drawings, A represents a tubular or other suitable bracket or pedestal having a sliding stem, B, one side of which is furnished with a rack, *b*, in gear with a pinion, *b'*, supported in brackets or ears *a*, formed on the pedestal A. The shaft b^2 for pinion *b'* is provided with a power or hand wheel, b^3, as shown, so that a rotation of wheel *b'* in the proper direction either raises or lowers the stem B and all parts attached thereto or supported thereby. The lower end of stem B is formed with or has attached thereto the slot-plate C, which is thickened up at *c* to receive and upon which slides a frame, D. To the lower end of plate C is pivoted or hinged, as shown, or otherwise, as desired, a pair of jaws, E E, of any suitable configuration and construction. The jaws E have outside upwardly-projecting arms, *e e*, with cam ends *e' e'* in line with anti-friction rollers *d*, having bearings in sliding frame D, as shown. The arms *e e* of jaws E are connected to or in gear with frame D by means of toggle links or levers F, as illustrated, or which are made and arranged in any suitable or desired way, so that as frame D is either raised or lowered, as hereinafter described, the links F are drawn together or spread apart, to respectively either close or grip the jaws upon the cable or spread them apart to ungrip them therefrom. The frame D is provided or formed with upwardly-projecting bars *d'*, which are in line with the slot-plate C, as shown more plainly in Fig. 4, and pass through openings *a'* in pedestal A, and also through openings in ears a^2, formed on the pedestal, which therefore forms a guide for said bars *d'*. The upper ends of the latter are connected to a traveling nut or screw-plate, G, adapted to move up and down on the guides or posts *h h*, secured in the top of stem B, and connected at their upper ends by a cross-plate, *h'*, in which is swiveled a screw, H, having a power or hand wheel, h^2. This screw H passes through or is in gear with screw-plate G, as shown, and has a lower end bearing in the top of stem B, as more plainly shown in Fig. 2. By turning screw H the nut G is raised or lowered on its guides *h*, and as the nut G moves the bars *d'* and frame D move therewith to effect a movement of the toggle-bars F, for either opening or closing jaws E E, as above described.

From the foregoing it will be noted that both jaws are hinged to the slot-plate C of stem B, to effect an even gripping pressure on opposite or both sides of the cable for maintaining its alignment; that the gripping and releasing of the jaws are accomplished by means of a screw-pressure, whereby more steady and gradually-increasing or powerful pressure is obtained for gripping without requiring undue manual exertion; that the stem B has independent operating mechanism for elevating and lowering it, and that the grip-operating

devices, although independent of said stem and its operating mechanism, are yet attached thereto and move therewith to effect their insertion into and withdrawal from the cable-conduit.

At each end of both jaws E is a bracket, I, carrying a grooved anti-friction roller, *i*. These brackets are yielding or formed with an elastic twist or spring, *i'*, the tendency of which is to keep the rollers *i* at all times normally in contact with the cable, so that when the jaws E are opened or ungripped from the cable the rollers *i*, still maintaining their contact with the cable, as indicated in Fig. 4, will keep the latter out of contact with or prevent it running against the gripping-surfaces of the jaws, thereby preserving the cable and jaws from undue wear when the grips of the cars are off the cable.

What I claim is—

1. In a grip, the jaws E in gear with a sliding frame, D, having bars *d'*, screw-nut G, guides *h*, and screw H, substantially as shown and described.

2. In a grip, the stem B, having plate C, mechanism for raising and lowering said stem, frame D, having rollers *d*, jaws E, having arms *e*, with cams *e'*, adapted to rollers *d*, link-connections F between said arms and frame, and separate mechanism supported upon stem B for raising and lowering frame D on and independent of stem B, to close or open said jaws, as set forth.

3. In a grip, the stem B, having plate C, mechanism for raising and lowering said stem and plate, frame D, having rollers *d*, jaws E, having side arms, *e*, with cam ends *e'*, adapted to rollers *d*, link-connections F between arms *e* and frame D, screw H, guides *h*, and screw-nut G, supported upon stem B, and bars *d'*, connecting nut G and frame D, substantially as shown and described.

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

THOMAS WRIGHT.

Witnesses:

JOHN RODGERS,

S. J. VAN STAVOREN.