

(No Model.)

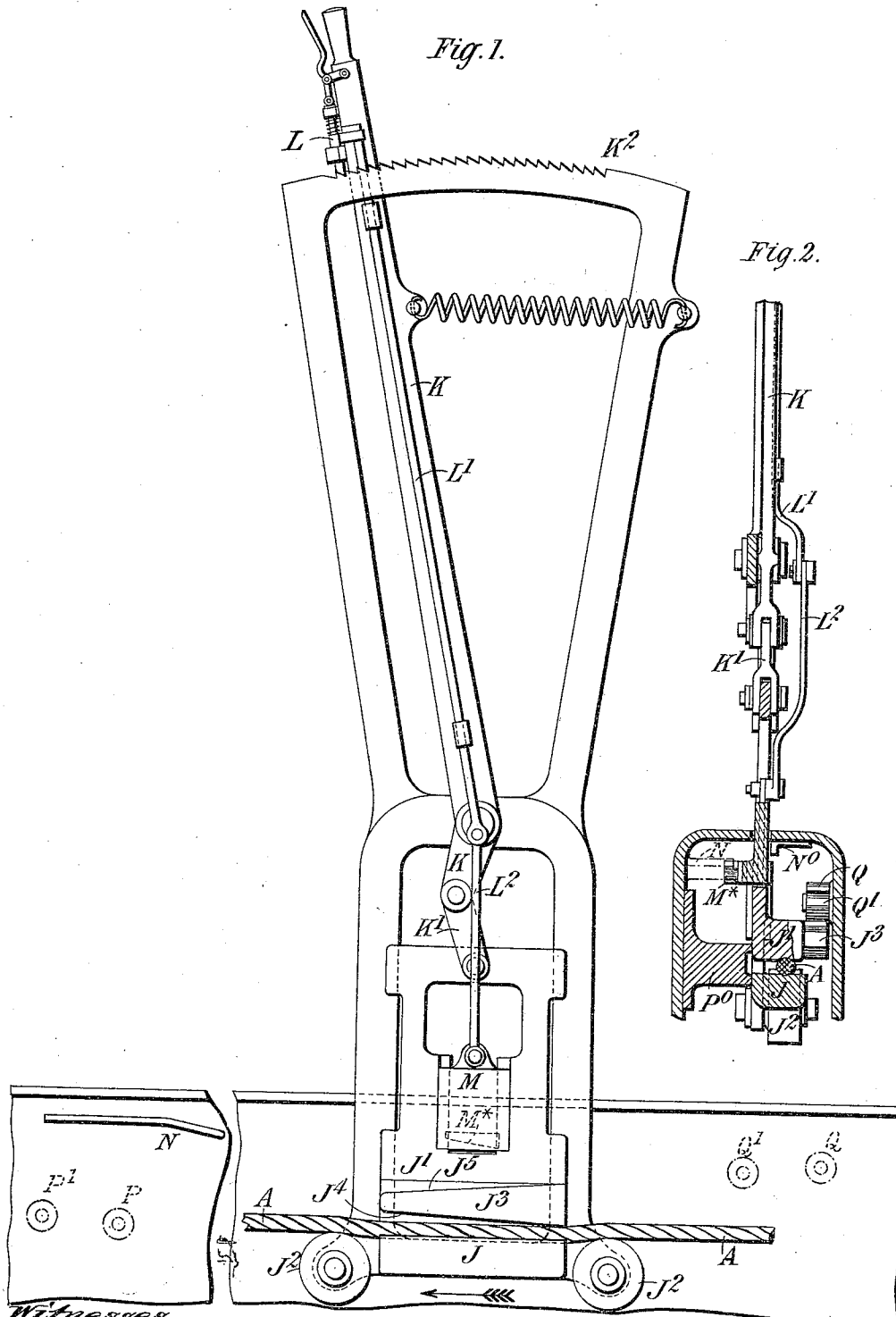
2 Sheets—Sheet 1.

R. W. WALLACE.

GRIPPING MECHANISM FOR CABLE TRACTION.

No. 543,760.

Patented July 30, 1895.



Witnesses,
H. A. Shepherd.
Robert C. Smith.

Inventor,
Roger W. Wallace.
By
Wm. W. Norris.

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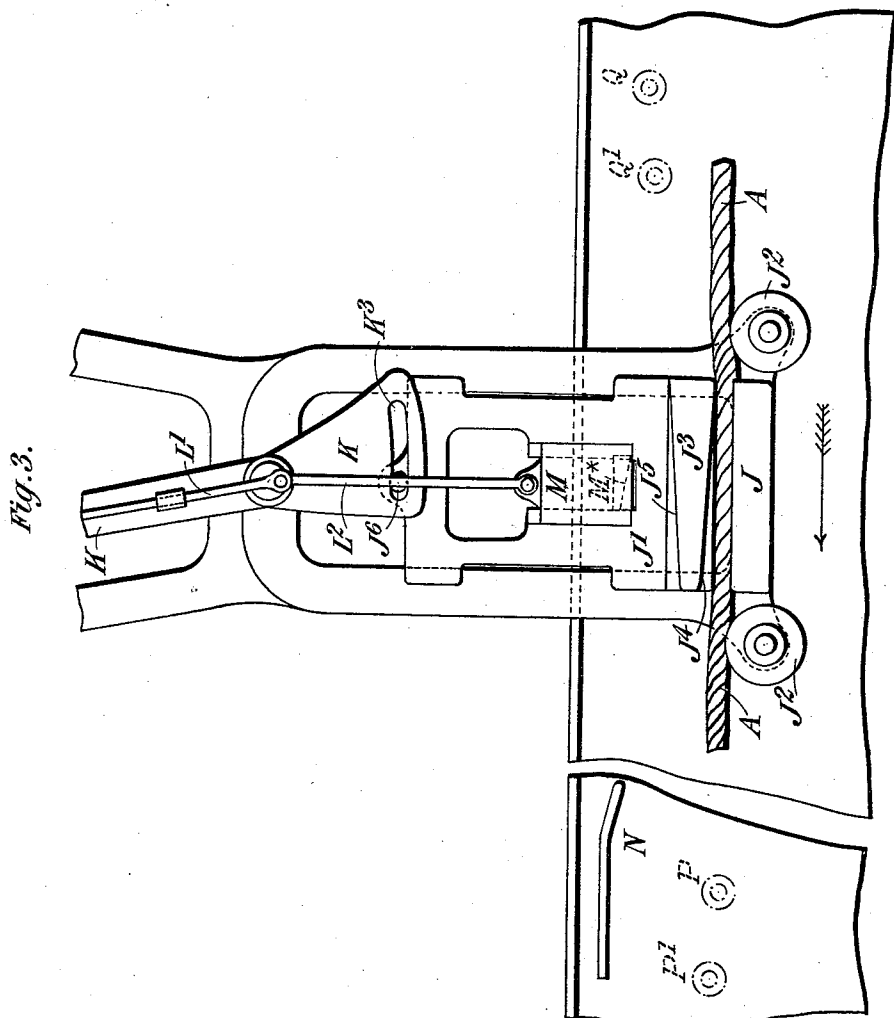
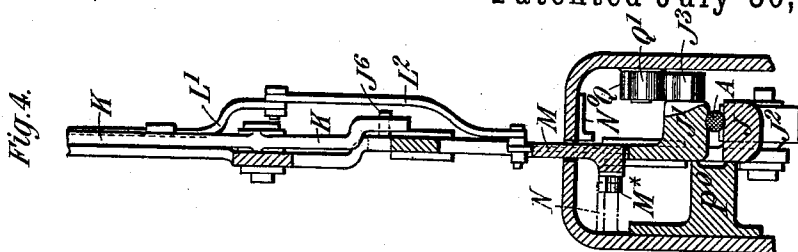
2 Sheets—Sheet 2.

R. W. WALLACE.

GRIPPING MECHANISM FOR CABLE TRACTION.

No. 543,760.

Patented July 30, 1895.



Witnesses:
H. A. Shepherd,
Robert Everett.

Inventor:
Roger W. Wallace.
By *William L. Norris*,
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UNITED STATES PATENT OFFICE.

ROGER W. WALLACE, OF LONDON, ENGLAND.

GRIPPING MECHANISM FOR CABLE TRACTION.

SPECIFICATION forming part of Letters Patent No. 543,760, dated July 30, 1895.

Original application filed June 14, 1892, Serial No. 436,880. Divided and this application filed December 8, 1892. Serial No. 454,527. (No model.) Patented in England June 24, 1891, No. 10,793; in Austria-Hungary May 27, 1892, No. 43/467; in Italy May 31, 1892; in Germany June 2, 1892, No. 72,105; in France June 8, 1892, No. 222,218; in Belgium June 9, 1892, No. 100,062; in Spain June 9, 1892, No. 13,432; in Switzerland June 13, 1892, No. 5,529, and in Canada July 14, 1892, No. 39,335.

To all whom it may concern:

Be it known that I, ROGER WILLIAM WALLACE, barrister at law, a subject of the Queen of Great Britain, and a resident of London, England, have invented certain new and useful Improvements Relating to Gripping Mechanism for Use in Cable Traction, (for which I have obtained Letters Patent as follows: Great Britain, No. 10,793, dated June 24, 1891; Austria-Hungary, No. 43/467, dated May 27, 1892; Italy, dated May 31, 1892; Germany, No. 72,105, dated June 2, 1892; France, No. 222,218, dated June 8, 1892; Belgium, No. 100,062, dated June 9, 1892; Spain, No. 13,432, dated June 9, 1892; Switzerland, No. 5,529, dated June 13, 1892, and Canada, No. 39,335, dated July 14, 1892,) which invention was formerly included in my application for Letters Patent of the United States, Serial No. 436,880, filed on June 14, 1892, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to gripping mechanism for use in cable traction.

It is particularly adapted to a system of traction wherein a number of short endless cables are placed in succession along the route. In such a system of traction it is necessary for the cars to be disengaged from the cable when the end of a section is reached and connected again with the cable of the next succeeding section.

By my invention I provide gripping mechanism which is attached to the car, and which may either be operated by hand or will act to automatically release one cable and grip the next succeeding cable, as above described. By these means I obviate the liability to accident in case the driver should neglect to disconnect the vehicle from a cable before it arrives at the termination of any section.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 an edge view, partly in vertical section, showing one form of my improved gripper. Figs. 3 and 4 are similar views showing a modification of the same.

The gripper shown in Figs. 1 and 2 is constructed with a fixed lower jaw J and a mov-

able upper jaw J', and with rollers J² for supporting the cable and keeping it from contact with the fixed jaw J when the gripper is open. The movable jaw J' is connected by a link K' with a lever K, which is arranged to be operated by hand to open and close the gripper. This lever is provided with a spring bolt or catch L, which is adapted to engage with teeth on the segment K², so as to lock the lever K in any position to which it may be adjusted. The locking-bolt L is coupled by a rod L' and link L² to a sliding piece M, provided with an inclined projection M^x, which is arranged to come in contact at the proper time with an inclined surface on a projection N, formed on or attached to the interior of the underground tube, so that before the car arrives at the end of a cable-section the lever K will be unlocked to permit the automatic opening of the gripper.

To provide for the automatic opening and closing of the gripper the movable jaw J' is made with a projection J³, having an inclined surface J⁴, which is adapted to come in contact with rollers P P', mounted on pins or studs fixed in the underground tube or arranged in any other convenient manner. The gripper is thus opened before the car arrives at the end of a cable-section. The projection J³ is also provided with an inclined surface J⁵, adapted to come in contact with rollers Q Q', also mounted on suitable pins or studs, and whereby the gripper is closed when the car arrives in the proper position over the next cable-section, the lever K being then automatically locked in position by the bolt L.

I provide inclined projecting pieces N⁰ P⁰ on the sides of the conduit opposite the cam-pieces N and rollers P P', so as to insure the parts M^x, J⁴ J⁵ of the gripper encountering the said piece N and rollers P P', as shown in the figures.

In the gripper shown in Figs. 3 and 4 the movable jaw J' is connected with the lever K by means of a pin or stud J⁶ working in a cam-groove K³ in the short arm of the said lever.

What I claim is—

1. In a gripper for use in cable traction, the

combination of a jaw fixed to the lower part of the frame, a movable upper jaw, an operating lever K connected with the movable jaw, a sliding spring bolt L attached to said
5 operating lever engaging with a ratchet on the frame, a sliding cam piece M adapted to engage with inclines located inside the cable tube, and links L', L², connecting the said cam piece to the sliding spring bolt, substantially as, and for the purposes specified.
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2. In a gripper for use in cable traction, the combination of a jaw fixed to the lower part of the frame a movable upper jaw, an operating lever K connected with the movable
15 jaw, a sliding spring bolt L attached to said operating lever and engaging with a ratchet on the frame, a sliding cam piece M adapted

to engage with inclines located in the cable tube, links L' L² connecting said cam piece to the sliding bolt, a projecting piece J³ secured
20 to the said movable jaw and having inclined faces J⁴ J⁵ and rollers P, Q, located inside the cable tube and adapted to engage with said inclined faces J⁴ J⁵ and automatically operate
25 the movable jaw of the gripper to release and grip the cable when necessary, substantially as, and for the purposes specified.

In witness whereof I have hereunto set my hand this 23d day of November, 1892.

ROGER W. WALLACE.

Witnesses:

GEO. HARRISON,
THOMAS LAKE.