(No Model.)

W. J. E. CARR.

CABLE GRIP.

No. 381,904. Patented May 1, 1888.

Fig: 1.

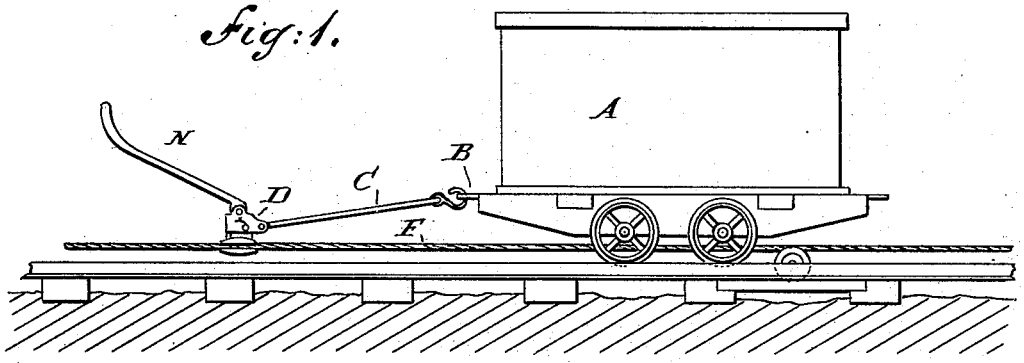


Fig: 3.

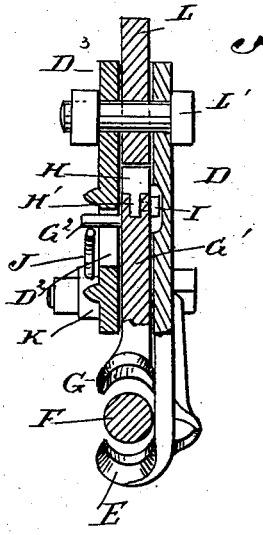


Fig: 2.

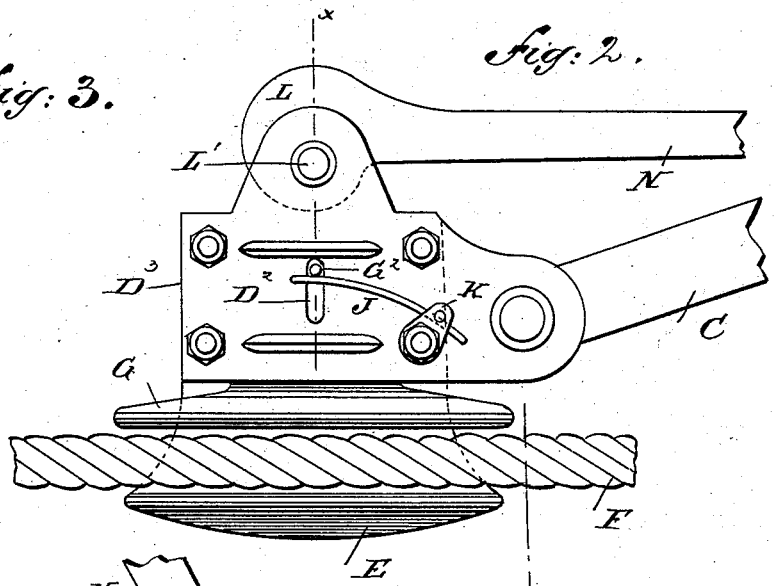
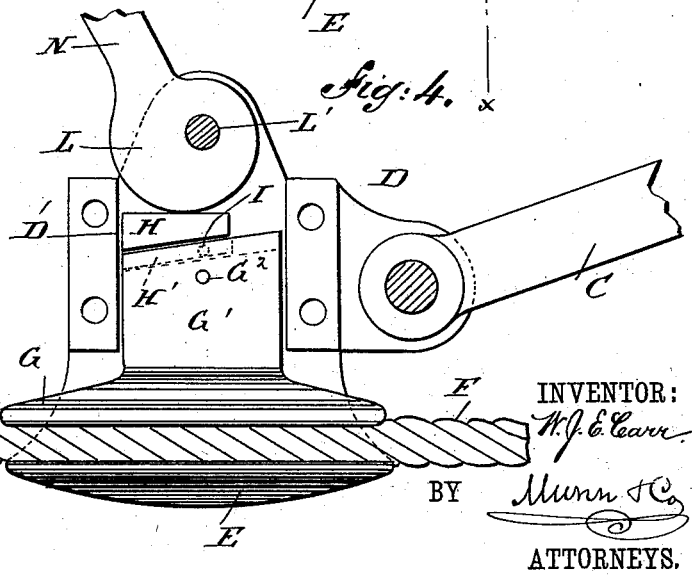


Fig: 4.



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CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 381,904, dated May 1, 1888.

Application filed April 5, 1887. Serial No. 233,725. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOSEPH EADINGTON CARR, of Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and Improved Cable-Grip, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved cable grip which is simple and durable in construction and very effective in operation.

The invention consists in the construction and arrangement of various parts and details, and combinations of the same, which will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a car provided with my improvement. Fig. 2 is an enlarged side elevation of the gripping-jaws in an open position. Fig. 3 is a vertical cross-section of the same on the line *x x* of Fig. 2. Fig. 4 is an enlarged side elevation of the gripping-jaws with the front plate removed and the jaws in a closed position.

The car A, which is to be provided with my improved cable-grip, is provided with an ear, B, on which hooks the link or rod C, pivotally connected with the jaw-casing D, on which is permanently formed the stationary lower jaw, E, grooved on its upper side to correspond with the cable F, held in the groove of the jaw E, and adapted to be clamped therein by the movable jaw G, grooved on its under side. The jaw G is provided with the upwardly-extending plate G′, inclined at its upper edge and provided on top in the center with a longitudinal groove, into which fits the tongue H′ of the wedge H, held on the inclined end of the plate G′ by a set-screw, I, screwing into the plate G′ against the said tongue H′. The upper edge of the wedge H is parallel with the face of the jaw G, and the plate G′ of the latter and the said wedge H are fitted into a recess, D′, of the casing D to slide up and down.

From the plate G′ projects a pin or lug, G^2, through a slot, D^2, in the cover-plate D^3 of the casing D, and on the under side of the outer end of the pin or lug G^2 presses the free end of a spring, J, held with its other end in a keeper, K, secured to the cover-plate D^3. On the upper horizontal edge of the wedge H operates a cam, L, pivoted at L′ to the casing D, and provided with the handle N, slightly curved at its outer end. The cover-plate D^3, the casing D, and the jaw E are strengthened by suitable ribs.

The operation is as follows: In the position shown in Figs. 2 and 3, the movable jaw G and its wedge H are held in their uppermost position against the cam L by the spring J pressing against the pin G^2 of the plate G′ of the jaw G. The cable F passes loosely through the jaws E and F, and the lever-arm N of the cam L extends toward the car A. When it is desirable to grip the cable F, then the operator throws the lever-arm N forward into the position shown in Fig. 1, whereby the cam L presses the wedge H, the plate G′, and its jaw G downward, so that the latter clamps the cable F firmly against the permanent jaw E. The movement of the cable F now propels the car A, or a train of cars coupled to the said car A, as the grip is connected by the link or rod C with the said car A. The spring J is compressed by the downward motion of the plate G′, so that when the operator desires to uncouple the grip from the cable F he throws the lever-arm N rearwardly, so that the spring J forces the plate G′ upward, thereby disengaging the jaws G and E from the cable F. When the grip is engaged with the cable F and the lever N strikes against an obstacle in the roadway the lever N is thrown rearwardly automatically, thus disengaging the grip and preventing a collision of the car A with the obstacle in the roadway. The wear and tear of the cam L on the wedge H is taken up by adjusting the latter on the inclined upper edge of the plate G′ by the set-screw I.

The grip is placed onto the cable F sidewise, as the jaws G and E are open on one side, and the grip can be detached from the cable F by removing the link or rod C from its hook B on the car A.

The use of my improved grip permits of starting the car or train of cars without jar to train or cable. It can pull or push cars, and can be used for holding cars back when the latter travel down an incline.

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

1. In a cable-grip, the combination, with a casing and a fixed jaw formed thereon, of a movable jaw adapted to slide in the said casing, a wedge held on the upper inclined end of the said movable jaw, and a cam pivoted on the said casing and operating on the said wedge, substantially as shown and described.

2. In a cable-grip, the combination, with a casing and a fixed clamp held thereon, of a movable clamp adapted to slide in the said casing, a wedge held adjustable on the upper inclined edge of the said movable jaw, a cam pivoted on the said casing and operating on the said wedge, and a spring operating on the said movable jaw, substantially as shown and described.

3. In a cable-grip, the combination, with a slotted casing carrying a fixed jaw, of a movable jaw fitted in a recess of the casing and provided with a pin projecting through the slot of the casing, a spring secured to the casing and having its free end resting under the said pin, and a cam for operating the movable jaw, substantially as herein shown and described.

4. In a cable-grip, the combination, with a casing, a fixed jaw formed thereon, and a movable jaw sliding in the said casing, of a cam pivoted on the said casing and operating on the said movable jaw, and a lever-arm secured to the said cam and slightly curved at its outer end, substantially as shown and described.

5. In a cable-grip, the combination, with the movable jaw G and the plate G′, formed on the said jaw G and having an inclined and grooved upper end, of a wedge, H, held on the said inclined end of the plate G′ and provided with a tongue, H′, fitting into the groove on the plate G′, and means for fastening the said wedge H to the said plate G′, substantially as shown and described.

6. In a cable-grip, the combination, with the cam L, of the adjustable wedge H, on which operates the said cam L, the plate G′, on which the said wedge H is held adjustably, and the jaw G, fixed on the said plate G′, substantially as shown and described.

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