

(No Model.)

H. ROOT & F. A. TUCKER.

PAWL FOR CABLE GRIP LEVERS.

No. 297,452.

Patented Apr. 22, 1884.

FIG. 1

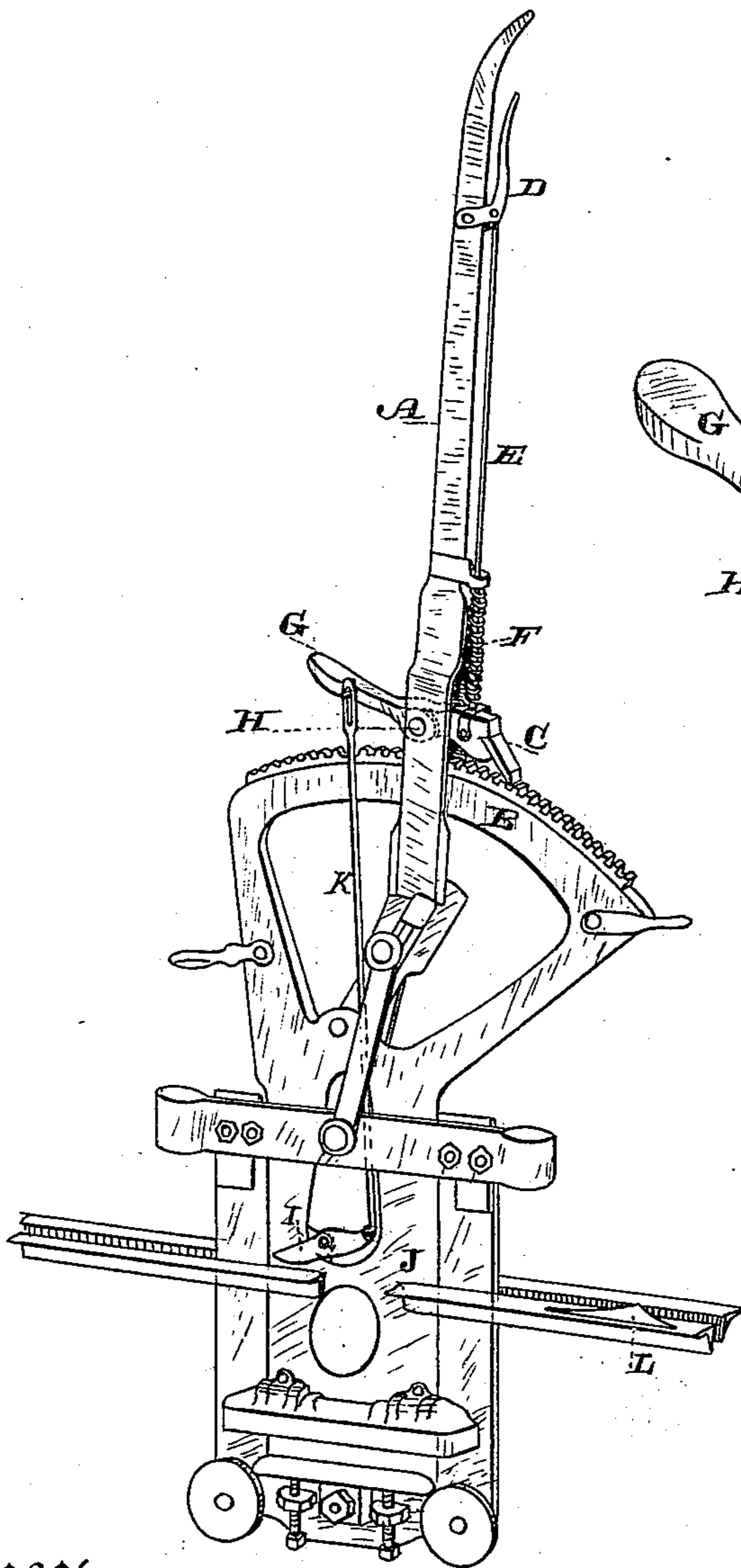


FIG. 2.

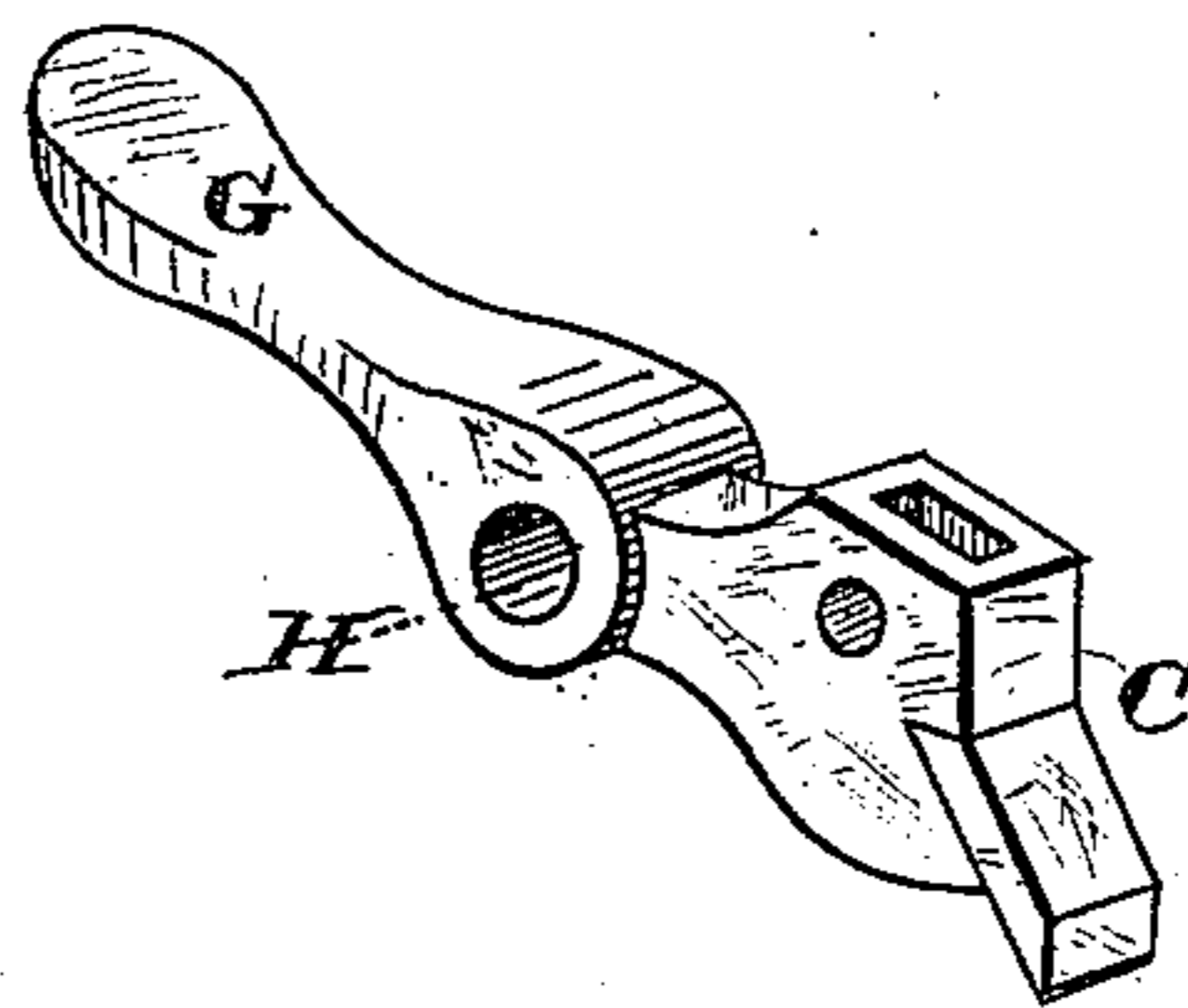
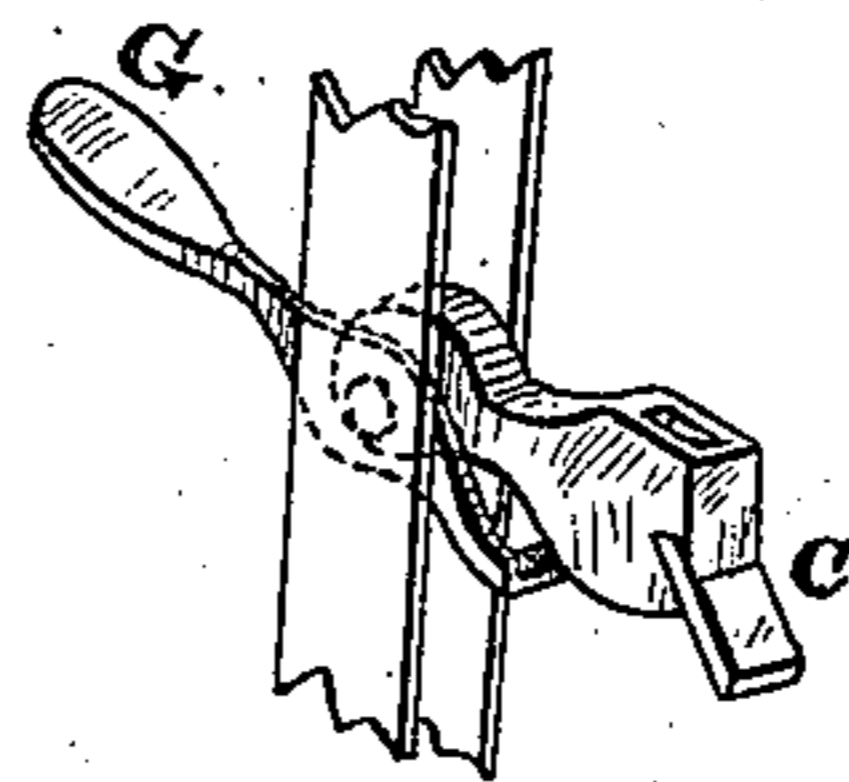


FIG. 3.



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UNITED STATES PATENT OFFICE.

HENRY ROOT AND FREDERICK A. TUCKER, OF SAN FRANCISCO, CAL.

PAWL FOR CABLE-GRIP LEVERS.

SPECIFICATION forming part of Letters Patent No. 297,452, dated April 22, 1884.

Application filed February 18, 1884. (No model.)

To all whom it may concern:

Be it known that we, HENRY ROOT and FREDERICK A. TUCKER, of the city and county of San Francisco, and State of California, have invented an Improvement in Pawls for Cable-Grip Levers; and we hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to an improvement in pawls, such as are used upon the grip-levers of cable-railway cars. These pawls engage teeth upon curved racks, so that when the lever is thrown back to act upon the gripping-jaws and cause them to grip the rope or cable the lever may be held in place. The pawl, as ordinarily made, projects in front of the lever close to the rack, and is pressed down by a spring, while a rod extends up from it to a short hand-lever pivoted to the handle, so that by its use the pawl can be detached to allow the lever to be thrown forward to release the grip.

Our invention consists of an extension to the rear of the lever, so that the pawl may be raised by the foot, this extension forming a part of the pawl itself, or being separate therefrom, and so formed as to act upon it when pressed by the foot.

It also consists in a connection with a lever, which is pivoted to the grip-frame in such a manner as to be operated automatically by a lug on the slot-irons to disengage the pawl at certain points.

Referring to the accompanying drawings for a more complete explanation of our invention, Figure 1 is a view of our device, showing its application to a grip. Fig. 2 is a view of the device separate. Fig. 3 is a modification of the device.

A is the lever as commonly used upon cable railways to open and close the gripping-jaws about the traveling cable, which runs in an underground tunnel, and by which the cars are driven.

B is a curved toothed rack, so placed with relation to the lever that a pawl, C, which is pivoted to the lever, will pass over the teeth of the rack, and may fall into them at a point where it will cause the jaws to grip the cable firmly enough to cause it to propel the car.

The usual method for relieving the pawl or raising it from the ratchet is by means of a short hand grip-lever, D, which extends up close to the handle, so that the operator may clasp it with the same hand which holds the handle, and by pressing it against the handle cause the connecting-rod E to draw the pawl up free from the ratchet-teeth. The pawl is held down by a spring, F. In our invention, an extension, G, projects to the rear of the lever A sufficiently to allow the foot to be placed upon it and raise the pawl. This extension is preferably formed as a part of the pawl, which is pivoted in the lever at H; but it may be made, as shown in Fig. 3, as a separate piece supported upon the same pivot-pin with the pawl, and having an arm which extends beneath the front portion of the pawl, so that when the foot is placed upon the extension it will at once raise the pawl. This device is of especial use if a pivot-pin should come out or the hand-lever become temporarily disabled, so that the pawl could not be detached, and as the grip could not be let go serious accidents might occur.

This invention provides a direct connection with the pawl, which may be operated by the foot, and may be used either with or without the hand-lever device. In some cases it is necessary to let go the rope at certain points, as when the line of the cable is to be left by the grip, and to insure this we pivot a lever, I, to the grip-frame J, so that it will run close to the slot-irons of the cable-tube. One end of this lever is connected with the extension G by a rod, K, and the other will strike a raised lug or projection, L, upon the slot-iron or roadway at the point where it is desired to let go the rope, and thus throw the pawl out of the ratchet and let go the rope without the attention of the grip-man.

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

1. A pawl for cable-grip levers, having an extension to the rear of the lever, substantially as herein described.

2. A cable-grip lever having a pawl hinged or pivoted to it so as to engage a curved rack, in combination with an extension or foot-piece

projecting upon the opposite side of the lever from the pawl, and forming a part or connected with it, substantially as herein described.

3. A pawl for cable-grip levers, having an
5 extension to the rear of the lever, in combination with a short supplemental lever pivoted to the grip-frame, and connected with the pawl by a rod, and lugs fixed to the slot-iron so as to act upon the supplemental lever and disen-

gage the pawl, substantially as herein described.

In witness whereof we have hereunto set our hands.

HENRY ROOT.

FREDERICK A. TUCKER.

Witnesses:

S. H. NOURSE,

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