(No Model.)

H. R. TAYLOR.

CABLE RAILWAY GRIP.

No. 373,106. Patented Nov. 15, 1887.

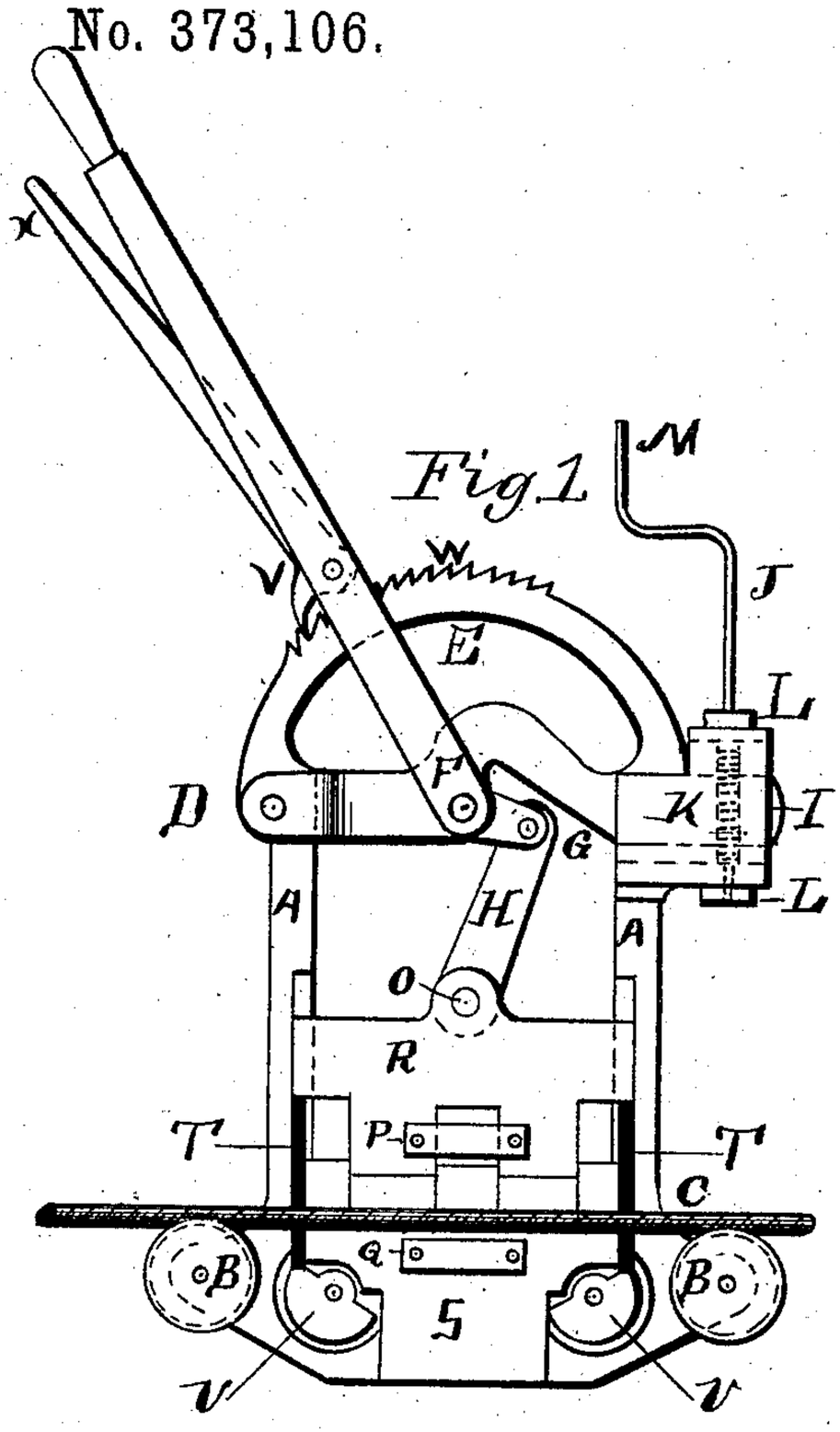


Fig. 1

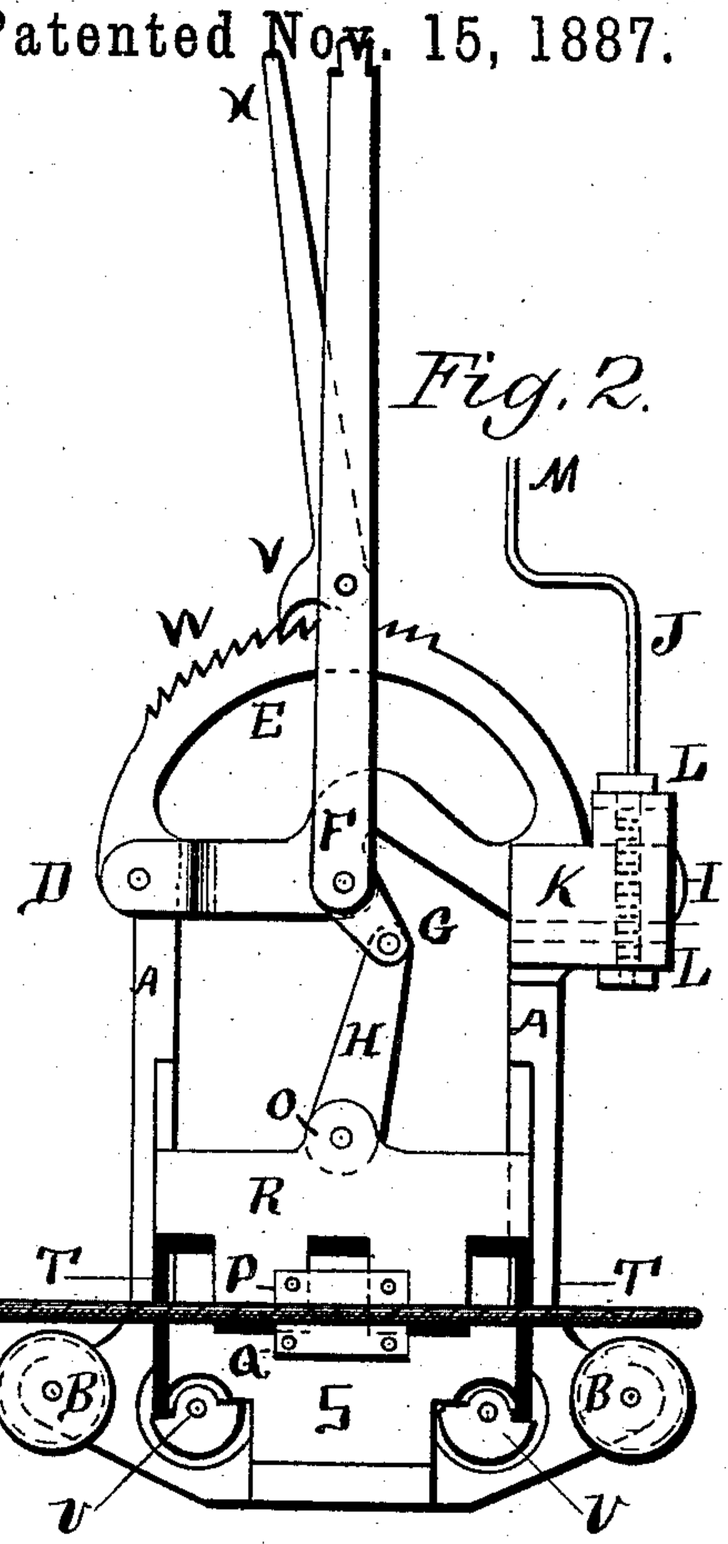
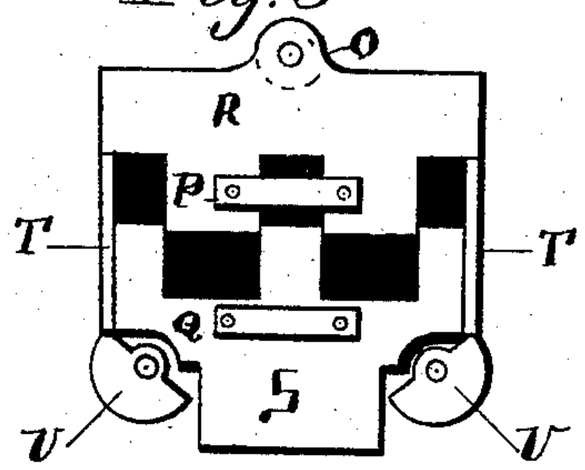


Fig. 2.

Fig. 3



Witnesses:
N. L. Berdan.
Thomas Hammond.

Inventor.
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Attor.

UNITED STATES PATENT OFFICE.

HENRY R. TAYLOR, OF OAKLAND, CALIFORNIA.

CABLE-RAILWAY GRIP.

SPECIFICATION forming part of Letters Patent No. 373,106, dated November 15, 1887.

Application filed January 18, 1887. Serial No. 224,738. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. TAYLOR, a citizen of the United States, residing in the city of Oakland, county of Alameda, and State of California, have invented new and useful Improvements in Cable-Railroad Gripping Apparatus, of which the following is a specification.

The objects of my improvements are, first, to provide some convenient, expeditious, and reliable method of adjusting the toggle-joint, whereby the jaws of the grip can be quickly accommodated to different-sized cables, resulting by switching from one cable to another when roads form a junction, and, second, to so construct and arrange the jaws of the gripping device that, when open, they will not be in contact with the fast-moving cable, thereby avoiding any unnecessary wear and tear of both. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation representing the jaws of the grip open, the cable resting upon the two guide-pulleys running loose, and are attached to the frame of the grip, while neither of the jaws are in contact with the cable. Fig. 2 is also an elevation exhibiting the jaws of the grip closed, having raised the cable from off the loose guide or carrying pulleys; and Fig. 3 shows the upper and lower jaws, cams, and connecting-bars apart from the frame or other mechanism of the grip.

Similar letters refer to similar parts in the several views.

A is a strong iron frame carrying the two loose guide-pulleys B, upon which the cable C rests or travels when the grip is disengaged, as shown in Fig. 1. At the top of this frame is hinged at D the sector E, to the center of which is attached the lever F, whose lower end serves as the short link G, which, when connected with the link H, forms the toggle-joint. Opposite the joint D, and attached to the sector E, is the lug I, passing through the slot in the frame A. Said lug serves as a nut through which passes the rod J, the lower end of which carries a screw, K, and is held in position by the two set-collars L and caused to rotate by the hand on the crank M. Said rod is allowed to move freely in the holes on top and bottom of said slot, to compensate for the circular motion of the lug, having D for its center as the sector is raised or lowered by the screw.

Now it is evident that when the lug I is raised or lowered by said screw the center at F is also raised or lowered, but in a less degree, but sufficient to change the distance between F and O and shorten or lengthen the travel of the jaws P and Q. To change the jaws from a large to a smaller cable will require to shorten the distance between the two extreme ends of the toggle-joint, and thereby lengthen the travel of the jaws. I am well aware that toggle-joints have been made adjustable by a screw. For instance, the Root grip is so made, but it is very inconvenient and slow to operate, the adjustment requiring some time to make; but with my device the above objections are obviated and the adjustment made easy. A trunk road having four or five branches, (as the Market street system in this city,) where some of the cables are older and some stretched more than others, necessitates many changes per day, and it will readily be seen that when the three points of the toggle are in line and the grip does not hold one or two turns of the crank M will shorten the distance and cause the grip to hold.

Between the sides of the frame A, set in grooves, are located two plates, R and S, to which are attached the jaws P and Q. The plate R is connected to the long link H of the toggle-joint, and is raised and lowered by it as the lever F is thrown forward or backward. In their respective slots are bars T, the lower ends of which rest upon one end of the cams U. The other ends of said cams rest against the bottom side of the plate S, to which is attached the lower jaw, Q, while the upper plate, R, carries the jaw P and rests upon the top ends of the sliding bars T, so that if the upper plate is forced down by the toggle-joint, through the instrumentality of the bars T and the cams U, the lower plate, with its jaw, is forced upward, and the two jaws continue to approach each other until they grip upon the cable, which the lower jaw has raised above the guide-pulleys B and held firmly by the lever F and the pawl V, engaging the ratchet W, which is controlled by the lever X; and by being disengaged and the lever F thrown forward, the tog-

gle-joint lifting the plate R, with the jaw P, the lower plate, S, and the jaw Q drop of their own weight, depositing the cable upon the guide-pulleys B, while the jaw Q has dropped sufficiently below the cable so that no wear can take place between them. The arrows show the direction run by the cables, and that direction will be considered as forward.

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

1. A cable-railroad gripping apparatus having an adjustable sector carrying the operating-lever and controlled by the screw K and crank M, for the purpose of shortening or lengthening the distance between the extreme ends of the toggle-joint, substantially as and for the purpose described.

2. A cable-railroad gripping apparatus having the plate S, the cams U, and bars T, in combination with the plate R, attached to and controlled by the toggle-joint and the lever F, substantially as herein set forth.

In testimony whereof I affix my signature, in presence of two witnesses, in the city of San Francisco, on this 10th day of January, 1887.

HENRY R. TAYLOR.

Witnesses:

G. L. PIERCE,

JAMES MASON.