

(No Model.)

W. MARTIN.

TRACTION CABLE GRIP.

No. 303,535.

Patented Aug. 12, 1884.

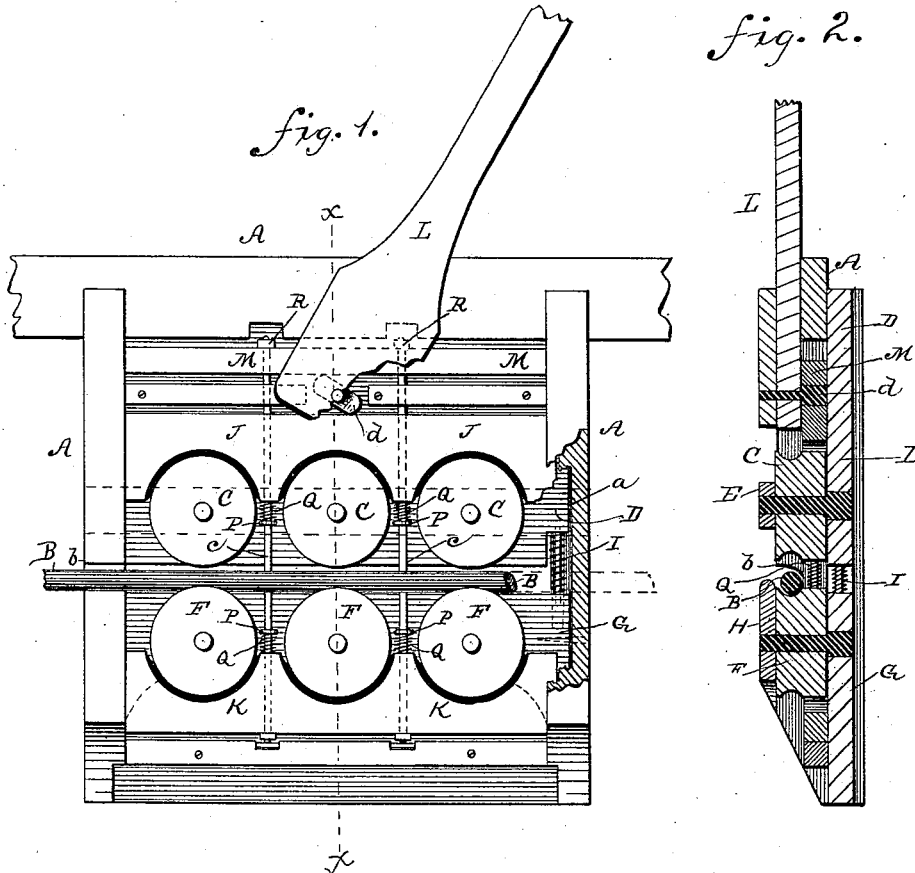
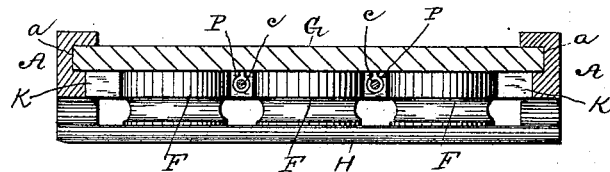


fig. 3.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

WILLIAM MARTIN, OF SAN FRANCISCO, CALIFORNIA.

## TRACTION-CABLE GRIP.

SPECIFICATION forming part of Letters Patent No. 303,535, dated August 12, 1884.

Application filed May 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MARTIN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented an Improvement in Traction-Cable Grips, of which the following is a description.

This invention relates to that class of devices used to connect cars with traction-cables, which are kept running along the line of the road as endless belts by means independent of the car.

The object of the invention is to take hold of a running cable gradually without wear thereto and without shock on the car; also, to let go the cable gradually by a simple action of the car-driver.

To this end my invention consists in the construction and combination of parts forming a traction-cable grip, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my invention, parts being broken away to show the interior. Fig. 2 is a transverse vertical section of the same at *x x*, Fig. 1; and Fig. 3 is a horizontal section in the plane of the traction-rope.

A represents the frame or body of my device, which is to be attached very firmly to the car in any suitable manner—such as by bolting it to the timbers of the car-bottom—so that the car may be drawn along thereby.

B represents a cable in position to draw the car.

C represents a series of grooved rollers journaled in a frame consisting of the plank D, which is fitted to slide in vertical grooves *a* in the frame A, and a cross-bar, E, which slides vertically against the face of the frame A.

F represents another series of rollers journaled in a plank, G, similar to and sliding in the same grooves as plank D, and in a bar, H, similar to bar E. The end pieces, *b*, of frame A are notched at one side to receive the traction-cable B, which runs freely between the two sets of rollers C and F so long as the same are kept separated. This separation is effected by springs I I, acting between the planks D and G.

J is a brake, consisting of a plank having a series of arches in its edge to fit upon the series of rollers C. K is a similar brake acting on the

series of rollers F. These brakes are fitted to slide an inch or so in the frame A, in order that they may press the rollers upon the cable, and by continued pressure stop the rollers from revolving, thus gripping them hard upon the cable, to be pulled along thereby. Force is applied by the driver to produce the said pressure by means of the lever L, which is armed with a flat lug, *d*, which acts as a pry between the brake J and the bar M, which latter is connected with the brake K by means of screw-bolts *e*. Thus the two brakes will be pressed upon their respective sets of rollers by one act of the driver, and tipping the lever L, either forward or backward, will cause the pressure.

P represents staples fastened to the planks, D and G, to serve as bases, against which the springs Q may act at one end, while their other ends act against the brakes. Thus, when the lever L is tipped either way from a vertical position, the first action will be to draw the brakes toward each other, and as the springs Q transfer this motion to the planks D and G, which carry the rollers, the rollers will first be pressed upon the cable, and, as the movement of the lever is continued, more and more force will be applied to close the rollers on the cable until the springs Q close sufficiently to permit the brakes to begin to bear on the rollers. Then the gradual arresting of the motion of the rollers while gripping them tightly on the running cable will easily start the car in motion. The revolving of the rollers prevents wearing the cable, and the combined action of the brakes and springs prevents any shock either upon the car or upon the cable-driving mechanism. The nuts R on the screw-bolts *e* permit the length of the bolts to be so adjusted as to permit the brakes to bear upon the rollers sooner or later relatively to the time of the rollers bearing on the cable. The lower edge of the frame is wedge-shaped, to guide the cable over into its groove in the grip, and the bar H serves to guide the cable over the rollers.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a frame, A, having grooves *a*, of the planks D and G, fitted to slide therein, the series of rollers C and F, mounted on said planks, brakes for the said rollers, and means, substantially as described,

for forcing the rollers upon a cable and the brakes upon the rollers, as and for the purpose specified.

2. The combination, with the grooved frame  
5 A, the planks D and G, fitted to slide therein, and the series of rollers C and F, mounted on said planks, of the brakes J and K, the bar M, connected with brake K, and the lever L, having the lug *d* to act between the brake J and  
10 the bar M, substantially as shown and described.

3. The combination, with the grooved frame  
A, the planks D and G, fitted to slide therein, the series of rollers C and F, mounted on said  
15 planks, the brakes J and K, the bar M, connected with the brake K, and the lever L, having lug *d* to act between the brake J and the bar M, of the staples P, secured to planks D and G, and the springs Q, acting between the  
20 brakes and the said staples to move the planks D and G ahead of the brakes, as shown and described.

4. The combination, with the grooved frame  
A, the planks D and G, fitted to slide therein,  
25 the series of rollers C and F, mounted on said

planks, the brakes J and K, the bar M, connected with brake K, the lever L, having lug *d* to act between the brake J and the bar M, the staples P, secured to planks D and G, and the springs Q, acting between the brakes and  
30 the said staples, of the springs I, acting to press the planks D and G away from the cable, as and for the purpose specified.

5. The combination, with the grooved frame  
A, the planks D and G, fitted to slide therein, 35 the series of rollers C and F, mounted on said planks, the brakes J and K, the bar M, the lever L, having the lug *d*, and the staples P, secured to planks D and G, and the springs Q, acting between the brakes and the said  
40 staples, of the screw-bolts *c*, connecting the brake K with the bar M adjustably, whereby the relation between the rollers, brakes, and cable may be regulated at will, for the purpose specified, as shown and described.

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Witnesses:

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JAMES O. JOHNSTON.