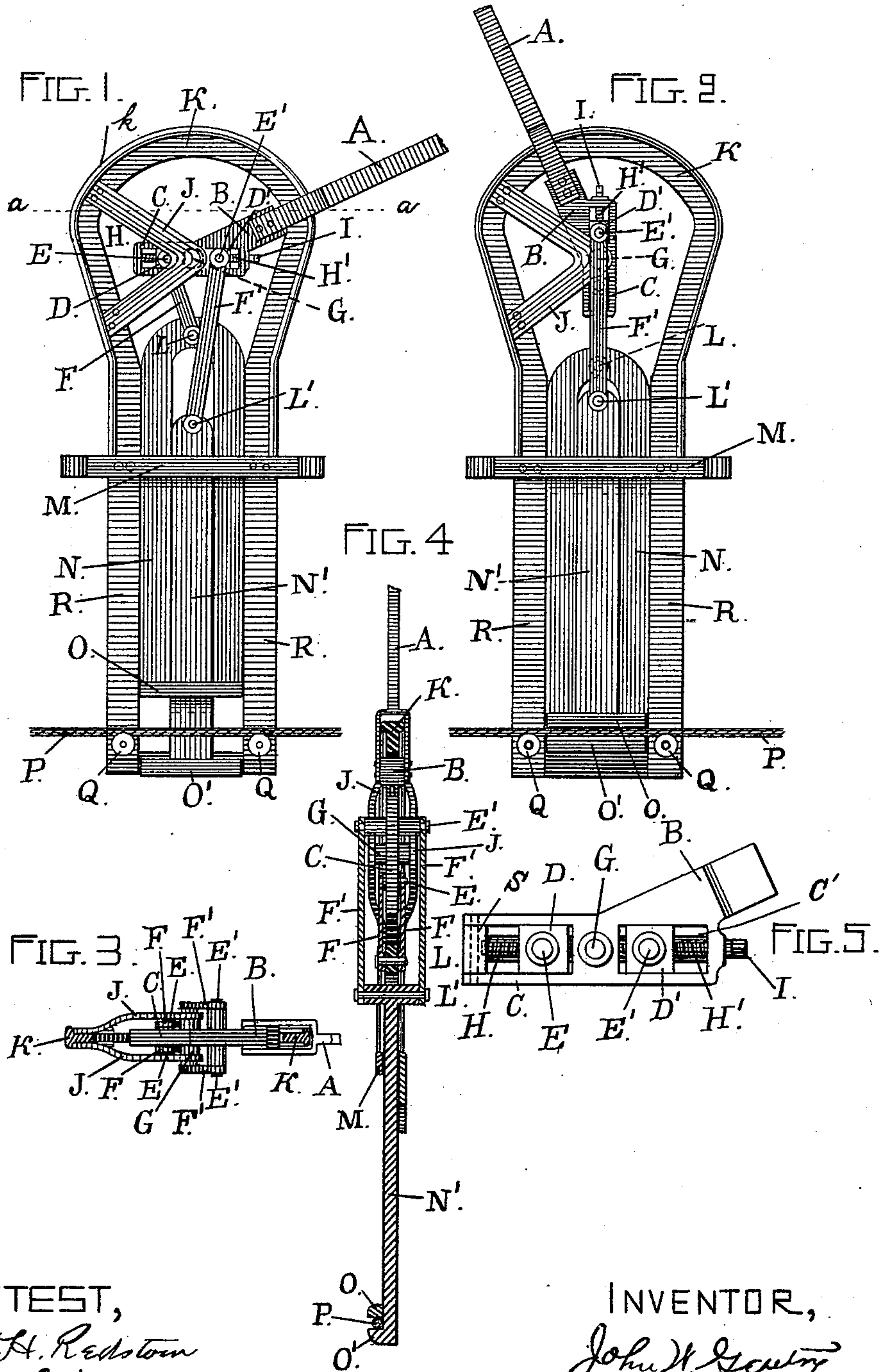


(No Model.)

J. W. GENTRY.
RAILROAD CABLE GRIP

No. 438,761.

Patented Oct. 21, 1890.



ATTEST,
John H. Redstone
Marcus Leve.

INVENTOR,
John W. Gentry

UNITED STATES PATENT OFFICE.

JOHN W. GENTRY, OF OAKLAND, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
JEFFREY JACOB, OF SAME PLACE.

RAILROAD CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 438,761, dated October 21, 1890.

Application filed November 29, 1889. Serial No. 331,983. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. GENTRY, a citizen of the United States, residing in the city of Oakland, in the county of Alameda and State of California, have invented a new and useful Improvement in Railroad Cable-Grips, of which the following is a specification, reference being had to the accompanying drawings and the letters referring thereto.

My invention relates to "cable-grips" for "street-cars;" and it consists in the construction, combination, and arrangement of a certain device for tightening the grip-dies upon the cable and in the manner of operating an upper and lower movable grip-die in connection with an outer and inner sliding frame and a pivoted guide-box and lever, which will be more fully explained.

Figure 1 is a side elevation showing the grip-dies opened and the cable running freely upon the rolls or idlers. Fig. 2 is a side elevation showing the grip-dies closed upon the cable. Fig. 3 is a sectional view showing the grip cut horizontally through the top of the grip-frame at the dotted lines *a a*. Fig. 4 is a sectional view showing the grip cut vertically through the center, and Fig. 5 is a side elevation of the lever-foot and pivot-blocks and adjusting-screw.

The nature of my invention consists in a certain device for operating the dies, whereby the effect of the toggle-joint in closing the grip upon the cable (by simple device, which allows the taking up of all lost motion caused by wear) is effected.

A represents the lever or handle by which the operator opens and closes the grip-dies, said lever or handle being provided with a lever-foot B, which is provided with two longitudinal slots C and C', slot C forming an outer guide-frame for the pivot-block D, and slot C' forming an inner guide-frame for the pivot-block D'. These blocks are provided, respectively, with pivots E and E', to the former of which are secured links or bars F, while to the latter are likewise secured links or bars F', which, however, are somewhat longer than the former. Projecting laterally from the sides of the central portion of the foot B are journal-stems G, which form a ful-

crum for the operating-lever A B. A screw I passes longitudinally through the foot-block and through the pivot-blocks and is provided with right and left hand threads H' and H, which serve as a means for adjusting said blocks, so that they may be brought closer to or farther away from the central point.

It will be noticed that the main frame in its upper portion is provided with a flanged edge *k*, or is of an approximate T shape in cross-section. To the web of this T-shaped edge are secured angular pivot frames or brackets J J, the angles of which receive the lateral pivot stems G of the foot B'. These brackets or frames, it will be noticed, bulge out at their inner portion so as to readily receive the stems.

The links or rods F, which have their upper ends connected to the outer pivot-block D, are pivotally connected at their lower ends by means of a wrist or pin L to an outer grip-plate N, which is of an inverted-U shape. Working within this U-shaped grip-plate is an inner plate N', which articulates with the links F' F' by means of a wrist or pin L'.

The letter M indicates the attaching-frame.

Secured transversely to the ends of the outer grip-plate is the upper grip-die O, while the end of the inner grip-plate is formed or provided with a lower grip-die O'.

The letter P indicates the cable, which runs freely upon the idlers or anti-friction rolls Q when the dies are opened, as shown in Fig. 1.

The lower outer or fixed part of the grip-frame I have indicated by the letter R. This portion of the frame serves as a guide or way for the grip-plate N, and also supports the rolls Q, which in turn support the cable when not clutched by the dies.

It will of course be understood that the center of the lever-foot is bored sufficiently large to receive the screw freely, and the pivot-block D' is placed close to one end of the guide-frame C'. The adjusting-screw I is then passed in through the center of the foot-block B and into the pivot-block D', so as to permit the screw portion of the adjusting-rod I to register with the threads of the pivot-block D'. After this the block D is passed into the guide-frame C, and the adjusting-rod

I is likewise passed through the same. A journal-box S is then set on, and the adjusting-screw thus held from moving endwise. It will be readily seen that by this arrangement whenever the grip-jaws become worn and cease to take proper hold of the cable this wear may be compensated for by simply turning the screw I, so as to properly adjust the nuts located thereon. It will also be seen that by moving the pivot-blocks D D' at different positions upon the screw the point at which the dies close upon the cable relatively higher or lower than a given point may be regulated. This will of course also provide for regulating the degree of force by which the cable is gripped, thus entirely avoiding the danger of having the cable gripped too hard and thereby injured by inexperienced "gripmen."

In operating the device so as to effectually grip the cable all that is necessary is to simply turn the lever from the position illustrated in Fig. 1 to that shown in Fig. 2, the lever-foot being changed from a horizontal to a vertical position. As this is done, the inner grip-plate is raised by the action of the links F', while the outer grip-plate is forced downward by the action of the links F.

In devices as ordinarily constructed the gripmen have but little purchase with the kind of lever provided. It will be seen, however, that by my construction a purchase is obtained by bringing the five centers E, E', L, L', and G into line. I have also provided means whereby I am enabled to dispense with the dog and ratchet of the ordinary grip, and which, so far as I am aware, has not heretofore been accomplished. By my improved construction, also, I can hold the cable tightly

enough to draw the heaviest loads or longest trains without danger of the cable slipping through the grip-jaws, and by dispensing with the ratchet and dog can release the cable instantaneously and thereby prevent accidents.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a cable-grip, the combination of a cable-grip frame, an operating fulcrumed lever provided with a foot portion formed with longitudinal slots therein, pivot-blocks fitted in said slots, a screw passing through the head and pivot-blocks, and links forming a pivotal connection between the pivot-blocks and the grip-plates, substantially as set forth.

2. In a cable-grip, the combination of a cable-grip frame, an operating-lever provided with a foot portion formed with longitudinal slots therein, the central portion of said head provided with lateral journal-stems, pivot-blocks fitted in said slots, a screw passing through the head and pivot-blocks, links forming a pivotal connection between the pivot-blocks and the grip-plates, and brackets or frames secured to the cable-grip frame and adapted to receive the journal-stems of the head, substantially as set forth.

3. In combination with a grip-lever, the lever-foot B, having the guide-frames C and C', and the pivot-blocks D and D', with connecting-pivots E and E', constructed, arranged, and operated substantially as and for the purposes set forth.

JOHN W. GENTRY.

Witnesses:

J. H. REDSTONE,
MARCUS LEVI.