

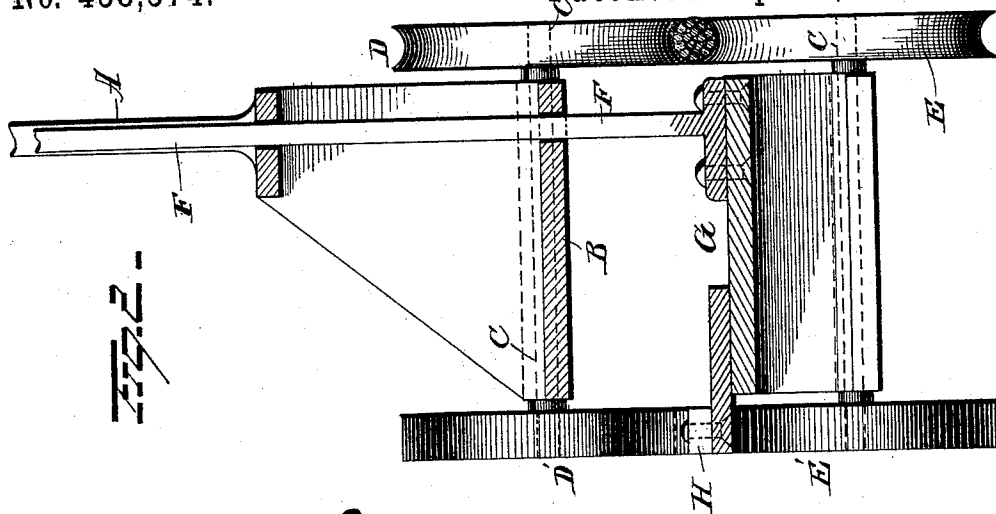
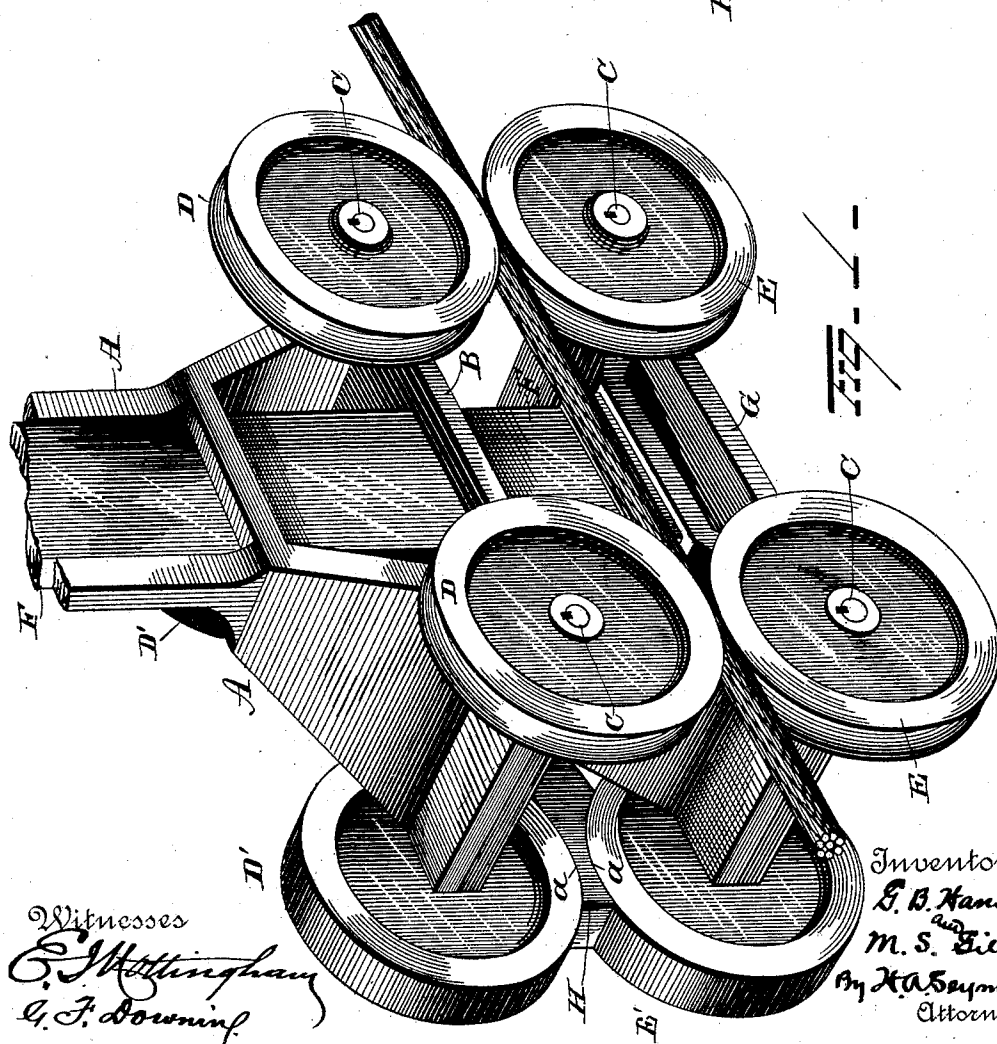
(No Model.)

2 Sheets—Sheet 1.

G. B. HANSELL & M. S. GILL.
GRIP FOR CABLE CARS.

No. 458,574.

Patented Sept. 1, 1891.



Witnesses
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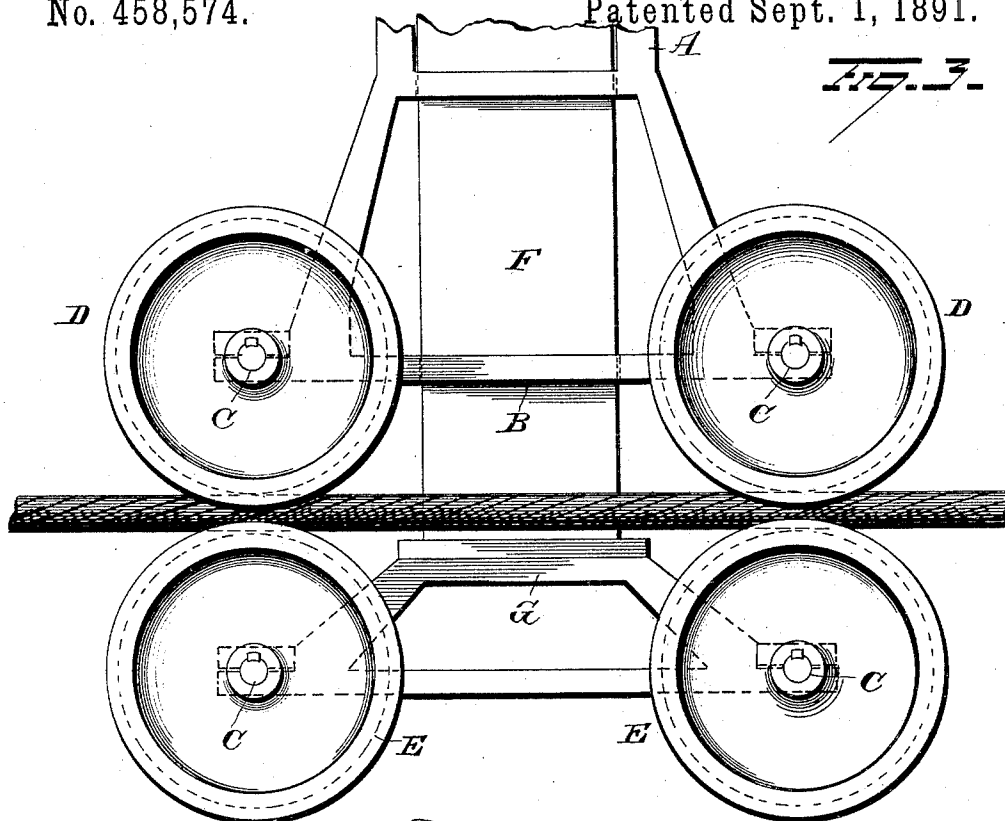
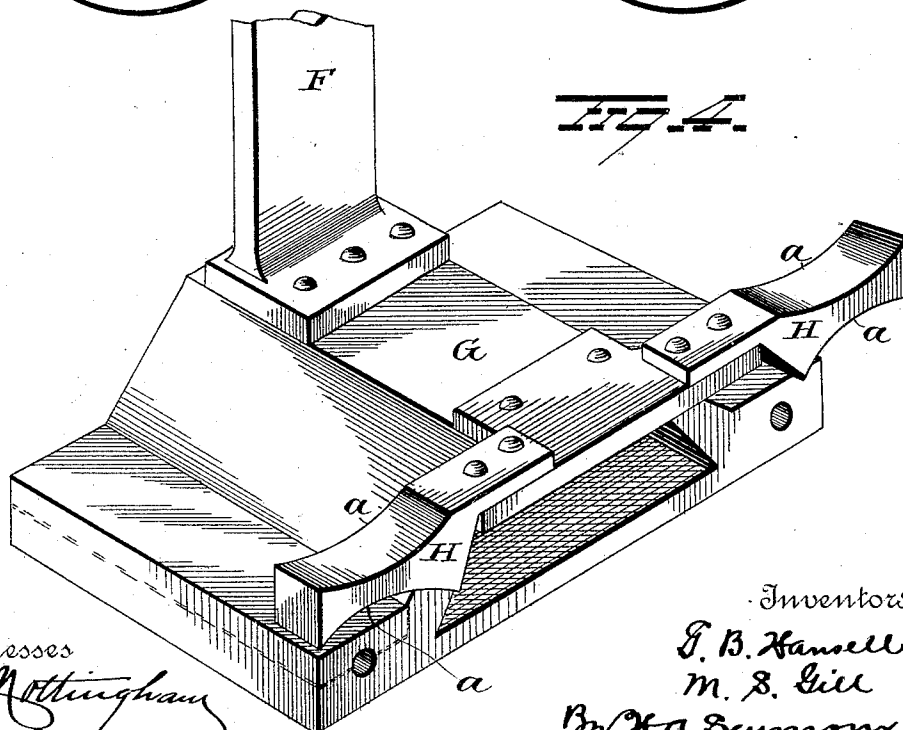
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UNITED STATES PATENT OFFICE.

GEORGE B. HANSELL AND MIDDLETON S. GILL, OF SAN FRANCISCO,
CALIFORNIA.

GRIP FOR CABLE CARS.

SPECIFICATION forming part of Letters Patent No. 458,574, dated September 1, 1891.

Application filed April 23, 1891. Serial No. 390,085. (No model.)

To all whom it may concern:

Be it known that we, GEORGE B. HANSELL and MIDDLETON S. GILL, of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Grips for Cable Cars; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in grips for cable cars, the object being to provide an improved device constructed to grip the cable with a gradually increasing pressure, whereby the car is started slowly and its speed gradually increased until it attains the speed of the cable.

With these ends in view our invention consists in the parts and combination of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a grip embodying our invention. Fig. 2 is a view in vertical section of same. Fig. 3 is a side view, and Fig. 4 a view in perspective, of the lower or movable part of the grip.

A represents a depending support adapted to be firmly secured to a car body or truck and transmit motion from the cable to the car-body. This support A, if desired, can be removably secured in place, so as to enable the grip to be removed from the cable-conduit and from the car when necessity demands its removal, and should preferably be secured in such a manner as to permit it to swing laterally, for a purpose to be hereinafter described. This support A terminates at its lower end in a horizontal frame B, adapted to support the axles C, carrying the gripping-rollers D and the brake-rollers D'. The gripping-rollers D are located on same side of the frame in a line with each other and immediately above the lower gripping-rollers E. The axles C are journaled in the frame B, and each carries one gripping-roller D and one brake-roller D', both rollers being rigidly secured to the axle, so that when for any cause whatever the brake-roller is prevented from rotating the gripping-roller on the same axle therewith is

also held against movement. This support A is preferably grooved on one face for the reception of the sliding bar F, and the top of frame B immediately under the groove in standard A is open or provided with a slot for the passage of the sliding bar F. This bar F can be moved vertically by any approved devices located in the grip-car, and carries at its lower end the frame G. The bar F is connected to frame G at one side of the longitudinal center thereof and nearer the side carrying the gripping-wheels E, and as the frame G should have a slight lateral movement on the bar F it follows that the greater pressure exerted on the bar F falls directly on the gripping-rollers, and as the pressure of the gripping-rollers against the cable increases the frame G is tilted and the brake-rollers forced upwardly into contact with brake-shoes H, located between the upper and lower brake-rollers D' E'. The lower grip-rollers E and corresponding brake-rollers E' are rigidly secured on the axles C, so that one cannot revolve without the other. The rollers D and E are grooved to receive the cable between them, and the brake-rollers D' E' have, preferably, smooth flat faces. The brake H is preferably a long bar made of metal or wood, or two short sections secured at their inner ends to frame G, and provided near its opposite ends with concaved sections a, against which the peripheries of the wheels D' and E' bear. This bar or section can be secured to the upper frame B or to the lower frame G; but in either instance it should be so supported that it remains out of contact with the lower wheels E' when the latter are in their depressed position, or, in other words, when the cable is not gripped by the grooved rollers D and E. From the above it will be seen that when the cable is gripped it can be instantly released by releasing bar F and permitting same to descend by gravity or by forcing said bar down by mechanical devices.

To grasp the cable the frame G is elevated by simply elevating the bar F. This elevation of frame G compresses the cable between the upper and lower grooved wheels, and although the wheels are still revolving the friction between the parts is sufficient to cause the grip to move slowly in the direction of

movement of the cable. By gradually increasing the pressure the cable becomes more firmly gripped and the rollers D' and E' brought into contact with the brake-bar, which, when
 5 the friction is sufficient, stops the rotation of rollers D' and E', and consequently rollers D and E, thus causing the grip to move at full speed. The side of the grip adjacent to the grooved rollers is open. Hence by a
 10 slight lateral movement of the grip the latter can be made to clear the cable and be raised from the conduit for repairs. Again, where the cable is crossed by another cable running in a higher plane it is evident that by curv-
 15 ing the slot so as to deflect the grip and releasing the grip before the curve is reached the grip will pass the upper cable without contact.

It is evident that many slight changes may
 20 be made in the form and arrangement of the several parts described without departing from the spirit and scope of our invention, and hence we would have it understood that we do not confine ourselves to the exact construction herein shown and described, but reserve
 25 the right to make such slight changes and alterations as fairly fall within the spirit and scope of our invention.

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

1. In a grip for cable cars, the combination, with a depending fixed support, a series of
 35 axles journaled therein, and a gripping-roller on each axle, of a movable bar carrying a frame, axles journaled in said frame, a gripping-roller and a brake-roller rigidly secured on each axle, and a brake adapted to engage the brake-rollers for preventing the rotation
 40 of the axles, substantially as set forth.

2. In a grip for cable cars, the combination, with a depending fixed support carrying grooved rollers, of a movable bar carrying a frame, gripping-rollers carried by said frame,

a brake-roller rigidly connected with one of
 45 said gripping-rollers, and a brake for engaging the brake-roller, substantially as set forth.

3. In a grip for cable cars, the combination, with a depending support carrying axles, and a gripping-roller and a brake-roller rigidly
 50 secured to each axle, of a vertically-movable bar carrying a frame at its lower end, axles mounted in said frame, a gripping-roller and a brake-roller on each axle, and a brake interposed between the brake-rollers and adapt-
 55 ed to engage said rollers as the latter come together, substantially as set forth.

4. In a grip for cable cars, the combination, with a depending support carrying a frame
 60 at its lower end, axles journaled in said frame, and a gripping-roller and a brake-roller secured to each axle, of a lower frame, a vertically-movable bar secured thereto to one side of the center thereof, axles mounted in said
 65 frame, a gripping-roller and a brake-roller secured on each axle, and a brake interposed between the brake-rollers, substantially as set forth.

5. In a grip for cable cars, the combination, with a depending support having a frame at
 70 the lower end thereof, axles mounted in said frame, and gripping-rollers mounted on the axles, of a lower frame carrying gripping-rollers, a vertically-movable bar secured to said
 75 lower frame to one side of the center thereof, and means for locking the gripping-rollers against rotation as they approach each other during the act of clamping the cable, substantially as set forth.

In testimony whereof we have signed this
 80 specification in the presence of two subscribing witnesses.

GEORGE B. HANSELL.
 MIDDLETON S. GILL.

Witnesses:

MARK LANE,
 C. P. JONES.