

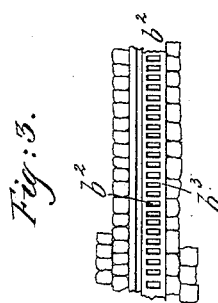
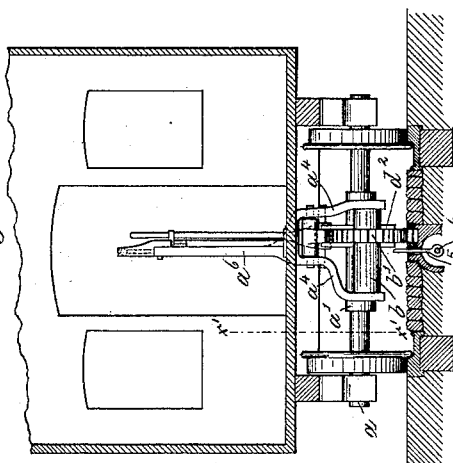
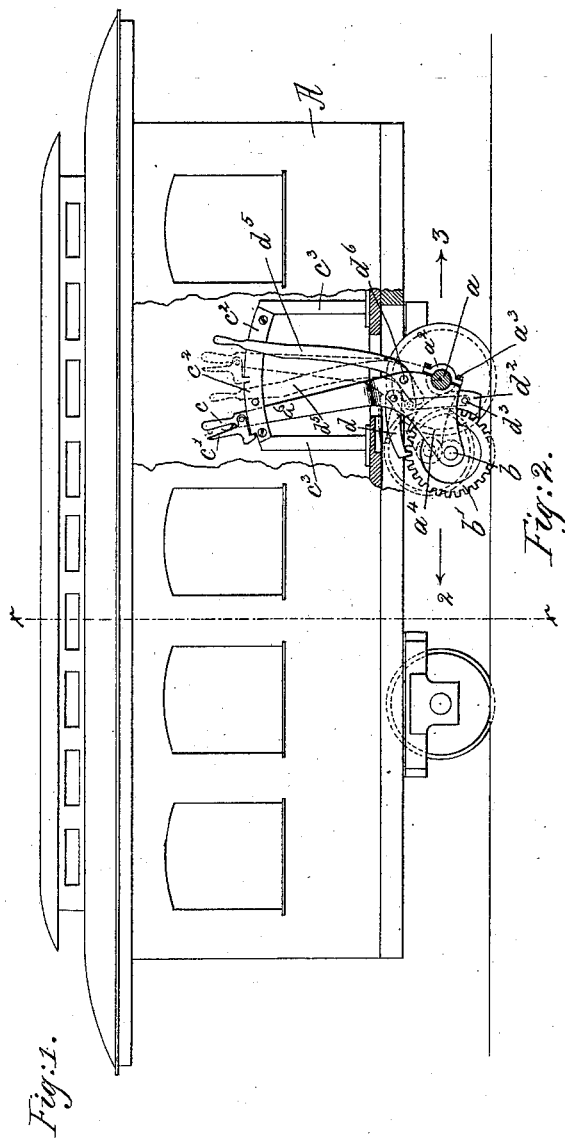
(No Model.)

A. VAN WAGENEN & L. GODDU.

SAFETY DEVICE FOR CABLE CARS.

No. 342,273.

Patented May 18, 1886.



Witnesses.

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UNITED STATES PATENT OFFICE.

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SAFETY DEVICE FOR CABLE CARS.

SPECIFICATION forming part of Letters Patent No. 342,273, dated May 18, 1886.

Application filed January 2, 1886. Serial No. 187,374. (No model.)

To all whom it may concern:

Be it known that we, ALBERT VAN WAGENEN, of Boston, county of Suffolk, and State of Massachusetts, and LOUIS GODDU, of Winchester, county of Middlesex, and State of Massachusetts, have invented an Improvement in Safety Devices for Cable Railways, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to a safety device for cable railways, and is designed to be operated and controlled by the driver operating the usual gripping device from within the car.

Our invention is especially designed to be used when the ordinary gripping device common to cable roads fails to perform its duty, the said invention being more especially adapted to be employed on ascending or descending grades.

Cable railways as now constructed are wanting in reliable means to stop the car in case of accident to the gripping device; and the object of this invention is to furnish means whereby the cars may be immediately stopped in case of accident to the gripping devices, or for other causes.

Our invention consists of a rod or bar, as will be described, secured to the road-bed, combined with a toothed wheel to engage said rail or bar, and with a pawl and a brake-shoe to stop the motion of the car at any desired moment.

Figure 1 is a partial side elevation and section of a car provided with our improved clutching mechanism, the side of the car being broken out to show the operating-levers, the section being taken on the line $x' x'$ of Fig. 2, looking toward the right; Fig. 2, a sectional view of Fig. 1 in line $x x$, looking toward the right, showing the road-bed and the tunnel below the same in which the cable runs, the gripping device being broken off; and Fig. 3, a detail to be referred to.

The passenger-car A, of any usual construction and of the kind commonly employed on

cable railways, and in which the engineer or driver is stationed, has preferably mounted on one of its axles, as a , and preferably near the center of the same, a semi-cylindrical hub, a' , secured to said axle by caps a'' , one at each end of said hub, said caps being secured to said hub by screws a''' . The semi-cylindrical hub a' has secured to it near its ends a yoke, a' , having an attached lever, a^b , said yoke being herein shown as cast integral with said hub. The yoke a' of the said lever forms bearings for an arbor, b , said arbor having mounted upon it a toothed wheel or gear, b' . The toothed wheel b' is herein shown as adapted to have its teeth enter slots b^2 in a preferably flat rail, b^3 , said rail forming one kind of a rack, being secured to the road-bed, and preferably between the rails upon which the car-wheels revolve. The toothed wheel b' is adapted to be lifted out of engagement with the slots b^2 in the rail b^3 by moving the lever a^b from its full into its dotted line position, Fig. 1, the said lever having pivoted to it, near the handle c , a usual spring-pressed latch, c' , adapted to enter a niche in a bar, c'' , secured to uprights c''' , said latch serving to lock the lever in the position desired. When the car is running upon a level portion of the road-bed, the toothed wheel b' may or may not, as desired, be lifted out of engagement with the slotted rail b^3 ; but when either ascending or descending a grade in said road-bed said wheel will be kept in engagement with said rail by moving the lever a^b into its full-line position. When the car, moving in the direction indicated by the arrow 2, Fig. 1, is ascending a steep grade in the road-bed, the pawl d , pivoted on an arbor supported by the yoke a' , will slip the teeth of the wheel b' ; but if for a reason, such as accident to the device c , which grips the cable c' , (see Fig. 2,) the car starts backward—that is, in the direction indicated by arrow 3—the pawl d will engage a tooth of the wheel b' , thus effectually stopping the car. If an accident to the gripping device referred to should happen while the car was descending a grade, the rotation of the wheel b' , and there-

by the motion of the car, would be stopped by means of a brake-shoe, d^2 , pivoted to a link, d^3 , said link being pivoted to a lever, d^5 , in turn pivoted at d^6 on the yoke a^4 , said brake-shoe being made to preferably hug the toothed wheel b' by moving the lever d^5 from the dotted to the full line position shown in Fig. 1, the back of said brake-shoe bearing upon the semi-cylindrical hub a' .

10 Instead of a flat rail having slots, we may employ a rack-bar having teeth; but we prefer the construction shown, as the slots permit dirt, snow, rubbish, &c., to fall through into the tunnel below, thereby preventing said slots 15 from becoming filled, which would prevent the teeth of the wheel from engaging said slots.

Instead of employing a single slotted rail or bar in the center of the road-bed, one or both rails may have their flat portion slotted 20 and the toothed wheel arranged substantially in line with the car-wheel to engage said slots.

Instead of having the brake-shoe bear upon the toothed wheel b' , it may be so placed as to

engage a flange on the hub of the toothed wheel.

We claim--

1. In a cable railway, a rail or bar, substantially as described, secured to the road-bed, combined with a toothed wheel to engage said rail or bar and with a pawl and a brake-shoe to stop the motion of the car, substantially as set forth. 25 30

2. The yoke a^4 , having an attached lever, the toothed wheel b' , and the pawl to engage it, combined with the lever d^5 , link d^3 , and brake-shoe secured to said link, substantially as described. 35

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

ALBERT VAN WAGENEN.
LOUIS GODDU.

Witnesses:

J. H. CHURCHILL,
C. M. CONE.