(No Model.)

L. GODDU.

SAFETY BRAKE FOR CABLE CARS.

No. 370,388. Patented Sept. 27, 1887.

Fig. 1.

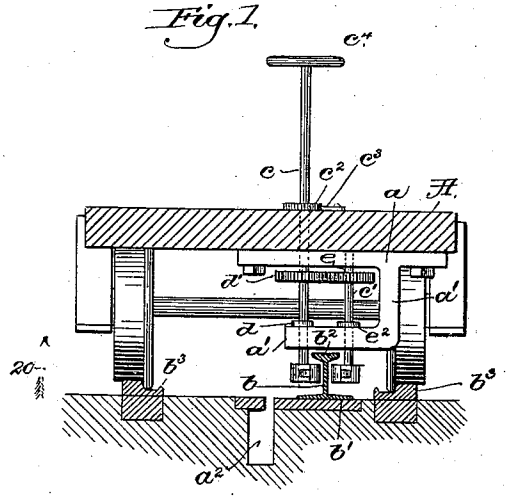
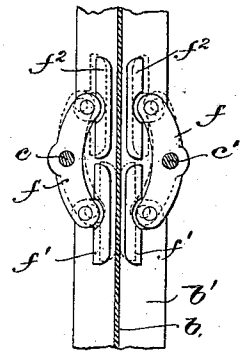


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

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SAFETY-BRAKE FOR CABLE CARS.

SPECIFICATION forming part of Letters Patent No. 370,388, dated September 27, 1887.

Application filed December 2, 1886. Serial No. 220,492. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GODDU, of Winchester, county of Middlesex, and State of Massachusetts, have invented an Improvement in Safety Devices for Cable Roads, 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 safety stopping devices for cable or other railways, and is an improvement upon the safety device shown and described in United States Patent No. 349,344, granted to me September 21, 1886.

My improved safety stopping device may be used alone or in conjunction with the means now commonly employed to stop the motion of the car.

The particular features of my invention will be pointed out in the claims at the end of this specification.

Figure 1 is a sectional view of a railway and car thereon to enable my invention to be understood, and Fig. 2 a sectional detail on an enlarged scale, to be referred to, the section being taken on line *x x* of Fig. 1.

The floor A of a car, which may be of any ordinary construction and such as commonly used on cable or other railroads, has secured, as herein shown, to its under side a bracket, *a*, having a bent arm, *a'*, extended, as shown, toward the center of the road-bed A^2, the said car being adapted to be moved in the usual manner by a cable, not herein shown, but which is located in the conduit a^2, wherein it is gripped by the usual gripping device (not shown) to place the car in motion.

In accordance with this my present invention, I have secured to the road-bed by spikes or in other suitable manner a rail or girder, *b*, provided with a broad base, *b'*, and a head, b^2, the said rail or girder being for the best results located between the rails b^3, comprising the track. The arm *a'* of the bracket *a* extends transversely over the rail or girder, and on opposite sides of the said rail the said arm is provided with holes, through which are extended rods *c c'*. The rod *c* (shown as extended up through the car-floor A) is provided with a pinion, c^2, to be engaged by a pawl, c^3, and a wheel or handle, c^4, by which to turn said rod. The rod *c*, below the car-floor and between it and the arm *a'* of the bracket, has a collar, d^4, of a gear, *d'*, secured to or made integral therewith, the said collar resting upon the arm *a'* of the bracket *a*, and maintaining the rod *c* at the desired distance above the road-bed. The gear *d'* meshes with a similar gear, *e*, on the rod *c'*, which, as shown, is extended up through the bracket *a*, and which is provided with a collar, e^2, fitted thereon, so as to maintain the rod *c'* at substantially the same distance above the road-bed as the rod *c*. Each rod *c c'* at its end has secured to or forming part of it an arm, *f*, (see Fig. 2,) which is secured, as herein shown, near its center. Each arm *f* has preferably pivoted to its opposite ends brake-shoes *f' f²*, which in their normal position, as shown in Fig. 1 and by full lines, Fig. 2, are at such distance from the sides of the rail or girder *b* as to permit the car to be moved by the cable.

If for any reason—such as the slipping on the cable of the usual apparatus or gripping device for moving the car—it is desired to stop the car, the brakeman or operator from within the car or upon the car-platform, according to the location of the rod *c*, turns the wheel or handle c^4 so as to turn the arms *f* to move the brake-shoes *f' f²* from their full to their dotted line position, (shown in Fig. 2,) the brake-shoe *f'* in this instance being brought into contact with sides of the rail or girder, the friction between the said sides and rail being sufficient to stop the car substantially in an instant.

To illustrate my invention, let it be supposed that the car is ascending a grade in the direction of arrow 20. Then in this case the brake-shoe *f'* will be brought into engagement with the rail or girder; but if the car is running in the same direction on a descending grade, the brake-shoes *f²* will be brought into engagement with the said rail or girder. In either case it will be noticed that the weight of the car acts upon the brake-shoes to wedge them against the sides of the rail or girder, thus increasing the effectiveness of the gripping device.

The brake-shoes are held in contact with the rail or girder by the pawl c^3, engaging the pinion c^2, as usual. The brake-shoes may be released from frictional contact with the rail or girder by disengaging the pawl c^3 from the pin-

ion c^2 and turning the rod c in a reverse or opposite direction. The upper flange or flanges on the rail or girder prevents the car from being tipped over longitudinally when the car is stopped on a steep descent, the car being thus prevented from leaving the track, the said flange or flanges co-operating with the brake shoe or shoes to lock the car to the track.

I do not desire to limit my invention to the particular mechanism shown for operating the arms, so as to bring the brake-shoes in contact with the sides of the rail or girder, as other mechanical devices may be applied equally well to accomplish this result; nor do I desire to limit my invention to a rail or girder, as any stationary object secured to the road-bed and with which the brake shoes may be brought in contact may be used equally well.

I have herein shown the arm f as having two brake-shoes, $f' f^2$; but it is evident one of the said brake-shoes, as f^2, might be dispensed with, and a single set of brake-shoes, as f', be depended upon to stop the car; but I prefer the construction shown.

I claim—

1. In a cable or other railway, one or more rails or girders supported above and distributed as desired in the direction of the length of the road-bed, combined with a gripping mechanism consisting of a rod supported on each side of the rail or girder and provided with an arm, f, brake-shoes $f' f^2$, mounted on the end of each arm, and gears to rotate the rods and move the said arms to place the brake-shoes in operation, substantially as described.

2. In a cable or other railway, one or more rails or girders supported above and distributed as desired in the direction of the length of the road-bed and provided with an upper longitudinal flange or flanges, combined with arms f on opposite sides of the said rail or girder, and provided with brake-shoes $f' f^2$, located below the said flange and adapted in all positions to engage the said flange and lock the car to the track, and with means, substantially as described, to operate the said arms, as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS GODDU.

Witnesses:
G. W. GREGORY,
JAS. H. CHURCHILL.