

(No Model.)

C. VOGEL.

SAFETY CATCH FOR CABLE RAILWAYS.

No. 383,159.

Patented May 22, 1888.

FIG. 1.

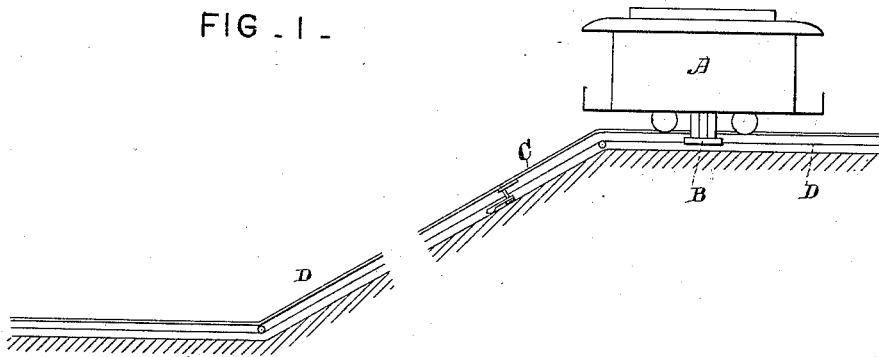


FIG. 2.

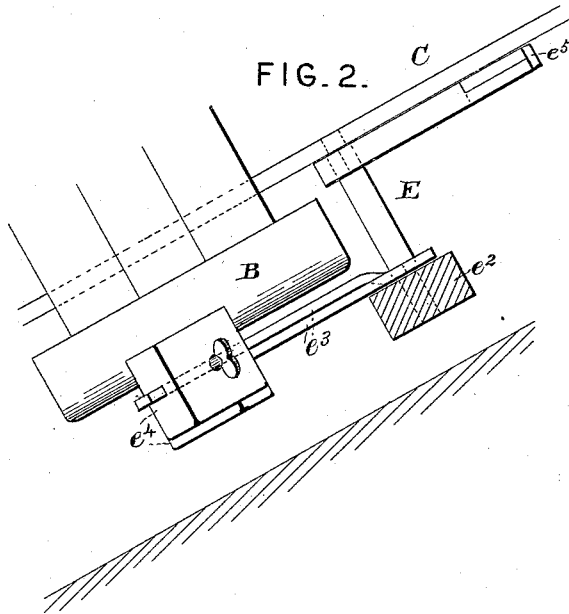
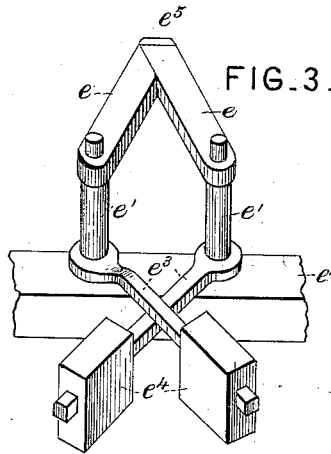


FIG. 3.



Attest:  
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# UNITED STATES PATENT OFFICE.

CHARLES VOGEL, OF SAN FRANCISCO, CALIFORNIA.

## SAFETY-CATCH FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 383,159, dated May 22, 1888.

Application filed August 24, 1887. Serial No. 247,770. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES VOGEL, of the city and county of San Francisco, State of California, have invented a new and Improved Safety-Catch for Cable Railroads, of which the following is a specification.

The invention relates to cable railways having underground slotted tubes; and it consists in a peculiar latch or lock, hereinafter described, which is arranged in connection with the slot in the tube, so as to permit the grip-shank to pass freely in one direction, but firmly blocks its passage when moving in the opposite direction, the object being to prevent the car rolling backward down steep inclines where the ordinary brakes might not be effective.

In the accompanying drawings, Figure 1 is a sectional view of a road-bed, showing catch in position. Fig. 2 is a side elevation of the catch in position. Fig. 3 is a rear view of same.

In each figure the same letters of reference represent the same parts.

In Fig. 1, A is the car; B, the grip; C, the slot-iron of the tube; D, the cable.

The level portion of the roadway is shown as may be at a street crossing at the top of a steep grade, where it may be necessary to release the grip from the cable, because the cable has to be led under a crossing cable—a matter of frequent occurrence. At such a crossing as the grip-man would be required to “hold the cable” until he reached the top of the grade, and as he then would be required to release it almost instantly, there is great danger of his prematurely acting, and should the car not be fairly landed on the level before it is released from the cable it would roll backward despite the application of the brakes if the grade were very steep. To prevent this the lock or catch E is applied at a point near the top of the grade, or at more than one point if thought necessary in dangerous positions, so that if the car is freed from the cable before it reaches the level ground it may not under any contingency roll back more than a few feet, for

the lock will block the passage of the grip-shank through the slot.

The catch or lock E is composed of the two swinging levers *e*, which meet at their points in the center of the slot. They have their fulcrums on the spindles *e'*, which are firmly held in bearings *e''*, anchored or otherwise fastened to the frame of the tube. On the lower end of the spindles there will be secured the arms *e'''*, having weight *e''''* upon their ends. Upon the points of the levers *e* there may be secured pads of rubber or leather, *e''''*, to deaden the force of the shock when the grip shank strikes the catch.

When the car passes up the grade, the grip-shank freely passes through the lock, pushing the levers *e* aside easily; but after the grip has passed the counter-weights return the levers to their normal position instantly, effectually stopping any retrograde movement of the car.

Other means than the counter-balance-weight may be employed to close the lock—as, for instance—a spring might be arranged to do the service, but where the grade is sufficiently steep to permit the weighted lever to operate promptly it is to be preferred.

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

1. In cable railways, the catch or lock E, consisting, essentially, of the levers *e*, overlapping the slot in the tube, arranged to be opened by the grip-shank passing by and closed automatically by means substantially as described, and for the purpose set forth.

2. In cable railways with underground slotted tubes, the safety device herein described, consisting of the combination of levers *e*, spindles *e'*, arms *e'''*, and weights *e''''*, the whole being arranged in connection with the slot of the tube, substantially as and for the purpose herein described.

CHARLES VOGEL.

Witnesses:

GEO. PARDY,  
GEO. T. SMALLWOOD.