

(No Model.)

2 Sheets—Sheet 1.

M. J. DALY.
CAR GUARD.

No. 460,082.

Patented Sept. 22, 1891.

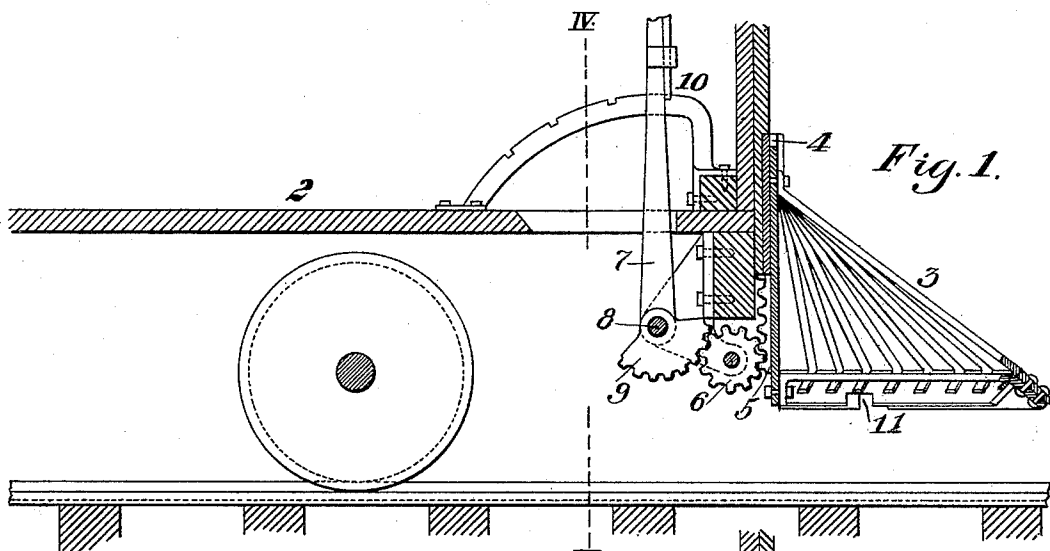


Fig. 1.

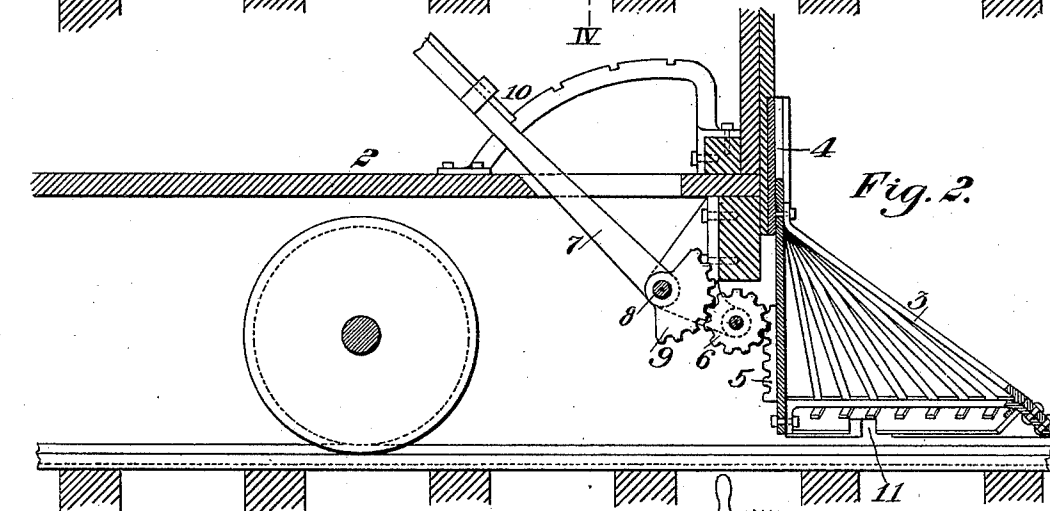


Fig. 2.

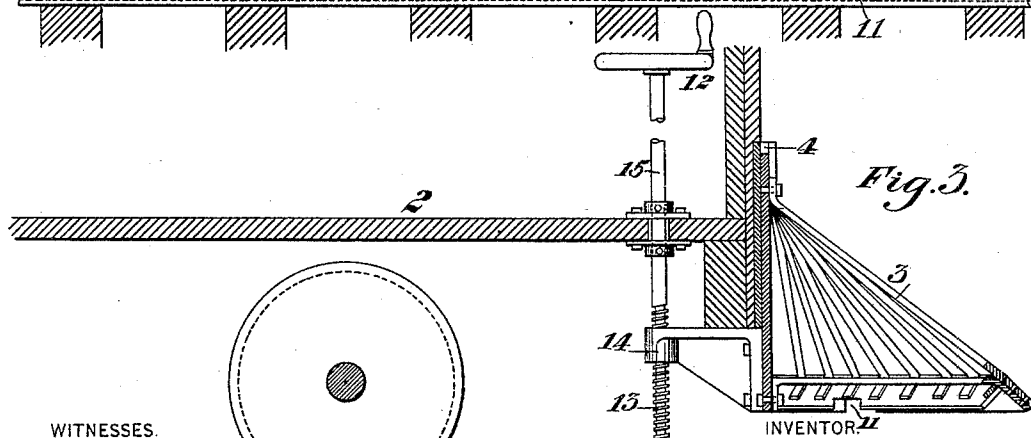


Fig. 3.

WITNESSES.

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Fig. 4.

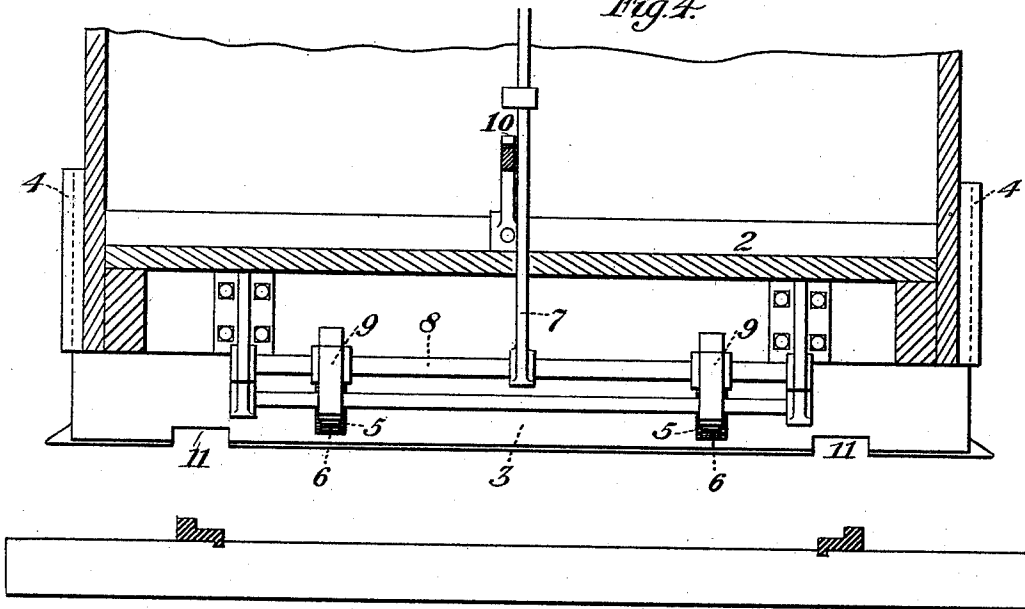
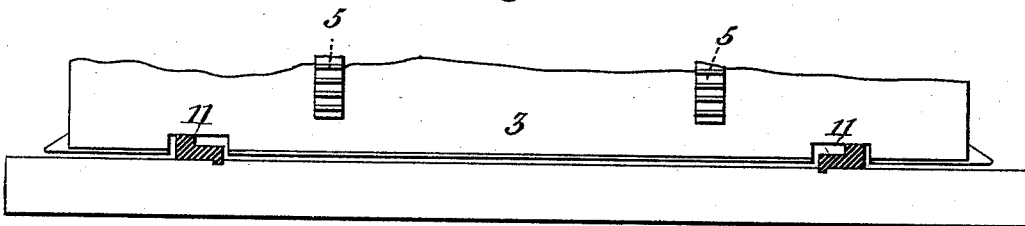


Fig. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

MICHAEL J. DALY, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE NIMMO, OF SAME PLACE.

CAR-GUARD.

SPECIFICATION forming part of Letters Patent No. 460,082, dated September 22, 1891.

Application filed March 2, 1891. Serial No. 383,421. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. DALY, of Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Car-Guards, of which the following is a full, clear, and exact description.

My invention relates to that class of "cow-catchers" or guards for street-cars which are capable of being raised or lowered, and is designed to provide means for forcibly pressing the guard against the rails of the track, so that it may perform the function of a brake.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of a car provided with my improved device. Fig. 2 is a similar view showing the parts in a different position, and Fig. 3 is a similar view showing a modified construction of the operating mechanism. Fig. 4 is a vertical cross-section on the line IV IV of Fig. 1. Fig. 5 is a view similar to Fig. 4, showing the guard lowered on the rail.

Like symbols of reference indicate like parts in each.

In Figs. 1 and 2, 2 represents the car.

3 is a guard mounted in vertical slides 4 on the car.

5 are vertical toothed racks fixed to the guard.

6 are pinions in gear with the racks, and 7 is a lever pivoted at 8 and having a toothed segment 9 in gear with the pinion. The lever may also be provided with a latch and quadrant 10 for locking it in place. When the parts are thus constructed, it is evident that if the lever be moved backward from the position shown in Fig. 1 it will act on the racks through the intermediate gearing and will move the guard down toward the level of the track, as shown in Fig. 2, and that the guard may be raised by again moving the lever forward. The base of the guard is preferably provided with grooves 11, corresponding in position to the rails of the track, so as to permit the guard to be lowered somewhat below the level of the rails. These grooves should be made wide enough to clear the fish-plates and nuts.

In Fig. 3 I show other means for moving the guard—viz., a vertical shaft 15, having a hand-wheel or crank 12 and a screw-threaded portion 13, which works in a nut 14, fixed to the guard. By turning the shaft to the right or left the guard will be raised or lowered correspondingly.

In addition to its old function as a guard or cow-catcher, my apparatus is used also as an efficient brake, for if the guard be forced down so as to bear on the rails the friction thereby exerted will stop the car quickly. If desired, the lower rail of the guard which thus bears on the track-rails may be faced with some soft material, such as rubber or wood. It will be understood that if desired a suitable snow-plow may be attached to the guard.

The advantages of my invention will be appreciated by those skilled in the art.

The guard may be modified in form in various ways, and its operating mechanism may also be modified to suit the sort of car to which the mechanism is applied.

I am aware that vertically-reciprocating guards are old, and therefore do not claim them, broadly, herein, but consider myself the first to provide means for forcing the guard against the track, so that a braking action is produced.

I claim—

1. The combination, with a street-car, of a vertically-movable brake-guard arranged to press upon the rails when in its lowermost position, a lever within the car, and a rack-and-pinion connection between the lever and guard for forcing the guard against the rails, substantially as described.

2. The combination, with a car and a movable guard attached thereto, of a pair of racks fastened to the rear end of the guard, pinions engaging said racks, a lever within the car mounted upon a shaft, and segmental gears upon said shaft engaging said pinions, substantially as described.

In testimony whereof I have hereunto set my hand this 23d day of February, A. D. 1891.

MICHAEL J. DALY.

Witnesses:

W. B. CORWIN,
H. M. CORWIN.