

T. POTTER.
Automatic Railway-Brake.

No. 217,144.

Patented July 1, 1879.

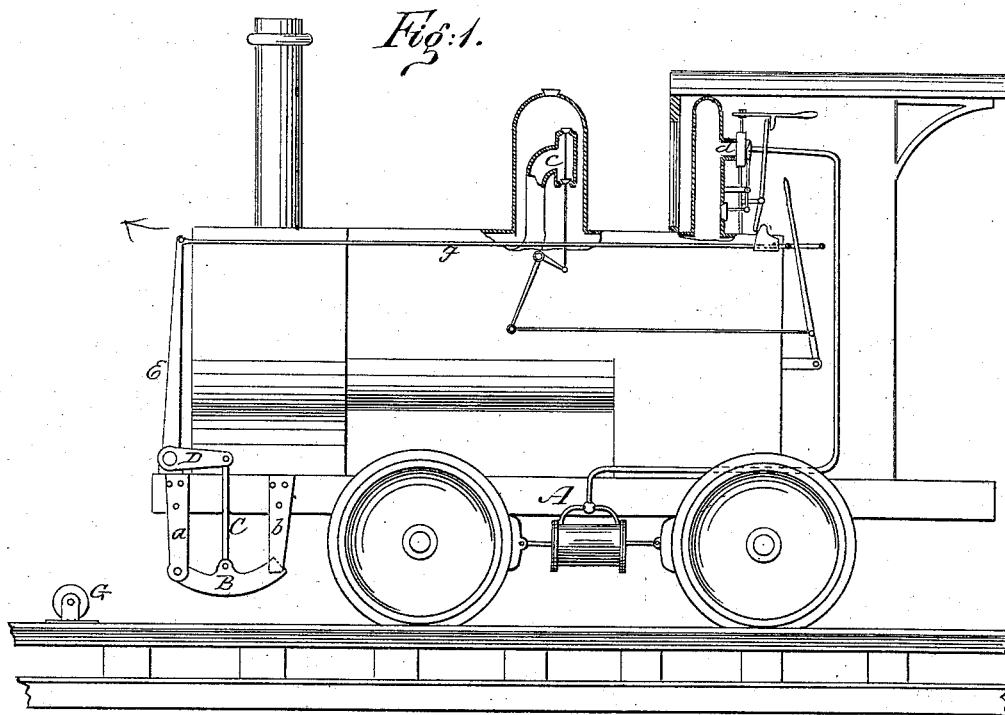
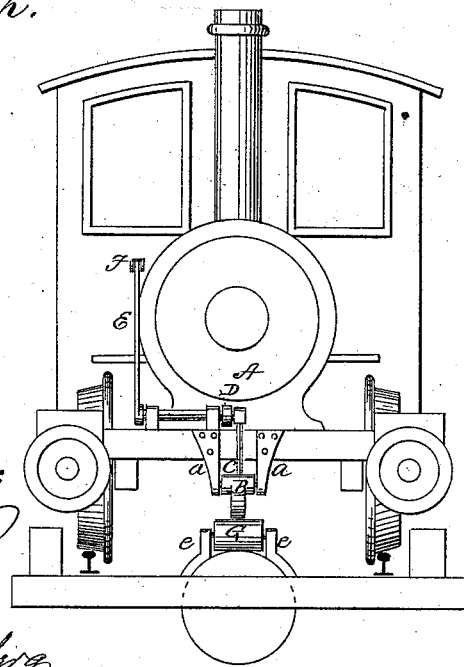


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS POTTER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN AUTOMATIC RAILWAY-BRAKES.

Specification forming part of Letters Patent No. **217,144**, dated July 1, 1879; application filed April 21, 1879.

To all whom it may concern:

Be it known that I, THOMAS POTTER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Automatic Railway-Brake; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of a safety appliance for locomotives, whereby the train may be automatically stopped at a road-crossing, or in the event of a misplaced switch, or at any given place; and the invention consists in combining with an atmospheric or steam brake and the throttle-valve of the locomotive a series of levers with an obstacle located between the track or otherwise, whereby the levers are operated by coming in contact with said obstacle, and the brakes applied and the steam cut off on the locomotive automatically, as is more particularly hereinafter described.

In the accompanying sheet of drawings, Figure 1 is a side view of locomotive and track with my invention applied, and Fig. 2 an end view of same.

Similar letters of reference indicate like parts in the two figures.

By reason of this invention it is believed that the danger of collisions between trains where one road crosses the other and the danger of derailment from a misplaced switch are obviated and rendered impossible without trusting to the vigilance of the engineer or the carefulness of switch-tenders. To that end I affix to a locomotive, A, in any suitable manner, and either beneath, at the side, or above the locomotive, a curved or segmental lever, B. This lever is pivoted at one end to a hanger, *a*, or device of similar construction, and its other end works freely in a guide or guard, *b*. To this lever B, at its upper edge or otherwise, is pivoted a lever, C, at one end, and to the other end of this last-named lever is pivoted a lever, D, at one of its ends. The other end of the lever D has also pivoted to it a lever, E, and from the upper end of this lever E extends a lever-rod, F, which is connected in any desirable manner to the throttle-valve *c* of the engine, and likewise to the

atmospheric or other brake *d*. These connections, however, with the throttle-valve and the brake are made in such manner as not to interfere with the proper working of these parts in the ordinary manner by the engineer.

At the side of the track, or between it, as may be desired, is firmly fixed an obstacle or trip, G. This trip may be of any desired size or shape, but is preferably made of steel and journaled to bearings *ee*, so that it may freely turn.

Now, my devices, constructed and applied substantially as above described, are operated in this wise.

The trip G being located at a suitable distance from a road-crossing, either at the side of the track, between it, or otherwise, or being located at a suitable distance from the entrance to a switch, as the locomotive proceeds the segmental lever B comes in contact with the surface of the trip G, which causes this lever to be raised, and, through the levers C, D, and E and the lever-rod F, applies the atmospheric or steam brake *d*, and closes the throttle-valve of the engine, in this way applying the brakes and shutting off the steam from the engine, the brakes remaining applied and the steam remaining shut off until the train is stopped, when the brakes may be taken off and the throttle opened by the engineer in the ordinary manner, this operation on the part of the engineer restoring the position of the segmental lever B ready for action when meeting the next trip, located elsewhere on the track.

In locating the trip so as to bring the train to a full stop before reaching a road-crossing, it may be immovably fixed for that purpose; but in fixing it to stop a train when arriving at the entrance of a switch, it should be fixed to the switch in such manner as will throw the trip G in position to stop the engine when the switch is misplaced; and in locating the position of the trip G, whether for a road-crossing or a switch, it should be located at such a distance from those points as will cause the train to lose its headway after it has passed the trip G and before it has arrived at the places of danger.

If desired, the trip G may be located at given points on the road and operated by electricity, so that by making or breaking an electric cir-

cuit the trip may be thrown in position to act on the throttle and brakes of the engine at pleasure, and when so operated and connected they will constitute an effectual block system, whereby the trains, or rather the intervals of time between the trains, will be preserved with certainty. This electric operation of the trips may be effected automatically by the passing trains or from the office of the superintendent, or otherwise; and in case of a wash-out or a bridge carried away the train may be stopped at any given point on the road where a trip is located.

As before stated, the segmental lever B, instead of being placed below the engine, may be located above it or at its side, its change of position, however, requiring, as is obvious, a change in the location of the trip.

In some latitudes, where ice and snow prevail to a large extent, it may be desirable to locate the trip on a gallows-frame or otherwise over the track, so that it will operate on the segmental lever as the train passes beneath it.

I do not wish to confine myself to any particular manner of connecting the atmospheric brakes and throttle with the segmental lever, nor to any particular manner of fixing the trip in position, either to the road-bed or to the switch, since many merely mechanical devices may be employed for that purpose; but

What I do claim as new, and desire to secure by Letters Patent, is—

A device projecting from a locomotive-engine, and connected with the power-brake and throttle-valve on the engine, in combination with a tripping device fixed to the road-bed of a railway or otherwise, whereby the brakes of the train are applied and the throttle-valve of the engine closed automatically, substantially as and for the purpose hereinbefore described.

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Witnesses:

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