C. W. TIERNEY.

Car Brake.

No. 111,584. Patented Feb. 7, 1871.

Fig. 1.

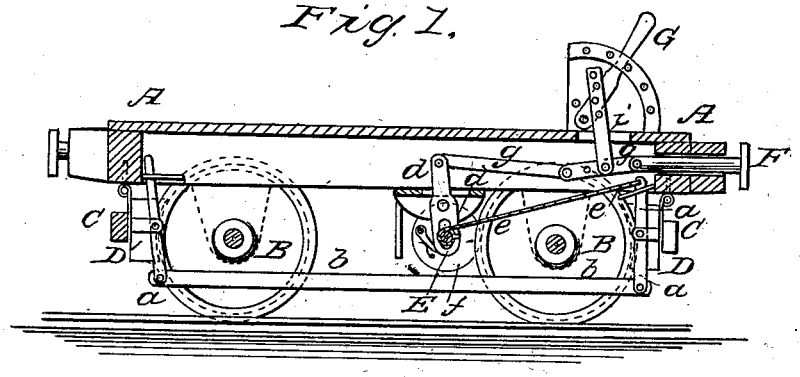
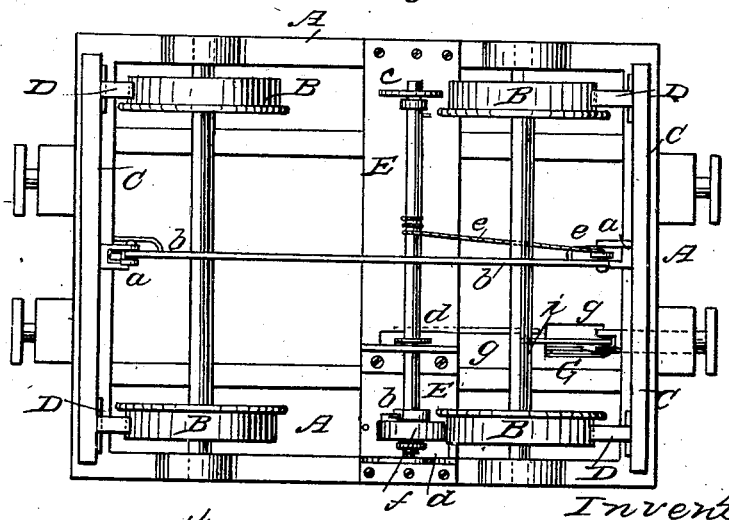


Fig. 2.



Witnesses:

E. Raetig

E. S. Mabee

Inventor:

C. W. Tierney

per Munn & Co

UNITED STATES PATENT OFFICE.

CHARLES W. TIERNEY, OF ALTOONA, PENNSYLVANIA.

IMPROVEMENT IN BRAKES FOR RAILWAY-CARS.

Specification forming part of Letters Patent No. **111,584**, dated February 7, 1871.

To all whom it may concern:

Be it known that I, CHARLES W. TIERNEY, of Altoona, in the county of Blair and State of Pennsylvania, have invented a new and Improved Brake for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 represents a vertical longitudinal section of a car-truck provided with my new brake mechanism. Fig. 2 is an inverted plan view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new arrangement of mechanism for controlling the action of brakes automatically applied to the wheels of railroad-cars, so that the friction may be increased or diminished according to necessity on each and every occasion.

This mechanism is hereinafter fully described.

A in the drawing represents a car-truck of suitable construction, supported by wheels B B, in the ordinary or suitable manner. C C are the brake-heads, carrying the shoes D D, and hinged to the truck-frame as ordinarily. The heads are provided each with a pivoted lever, *a*, the two levers being connected with each other by a rod, *b*.

E is a transverse shaft hung in pendants *c* and *d*, that project from the under side of the truck-frame or car-body. The pendant *c* at one end of the shaft E is fixed; but the others, *d d*, are pivoted to the frame, to enable the other end of the shaft to be swung toward the wheel B, near which it is arranged. The shaft E is, by means of a rope or chain, *e*, connected with one of the levers *a*.

f is a small pulley hung or mounted upon the shaft E in line with the wheel B. When the shaft is swung up so as to carry the edge of the pulley *f* against that of the wheel B, the latter, when in motion, will revolve the shaft E, wind up the rope *e*, and thereby swing the levers *a* to draw the brake-shoes against the wheels B.

One of the pivoted pendants *d* is, by means of a pivoted rod, *g*, connected with the sliding buffer F of the car. When the buffer is pushed inwardly by the light collision of two cars, the shaft E will be swung so as to carry the friction-wheel *f* in gear and apply the brakes. Thus, whenever the motion of the locomotive is arrested in such manner as to cause the cars to come together, the brakes will be immediately and automatically applied. The wheel *f* may be hung loose and connected with the shaft by pawl and ratchet-wheel *h*, as indicated, in order to cause the application of the brakes only during the forward motion of the car, while it will slip loose on the shaft when the car is backing.

G is a lever pivoted to the car platform or body, and connected by a link, *i*, with the jointed rod *g*, so that by its means the said rod can be more or less straightened, for the purpose of preventing the buffer from influencing the brakes in the manner specified. The lever can also be used, by contracting the jointed rods, to apply the brakes by hand, together with or independent of the buffer action.

The shaft E, instead of being made to swing at but one end, may be made to swing throughout its length, or caused to slide in its bearings instead of swinging, as stated. It may carry two wheels, *f f*, one near each end, and the same may have their pawls, if they carry such, so arranged that one will slip loose in one direction and the other in the opposite. This will, together with a suitable apparatus for throwing either one of the friction-wheels in or out of gear, enable the backing of the car with either end, as the case may be.

The shaft E may furthermore be directly connected with the brake-heads or with a different system of levers from that hereinbefore represented, the arrangement of which does not constitute part of my claim.

I claim and desire to secure by Letters Patent—

The lever G, connected with the jointed or flexible connection between the buffer and friction-shaft E of a car-truck, so that it will serve to control the effect of the buffer upon the said shaft, and of the latter upon the brakes, as specified.

CHARLES W. TIERNEY.

Witnesses:
A. MCCORMICK,
MARIA SHOEMAKER.