

R. D. CHATTERTON.
Car-Brake.

No. 213,171

Patented Mar. 11, 1879

Fig. 1.

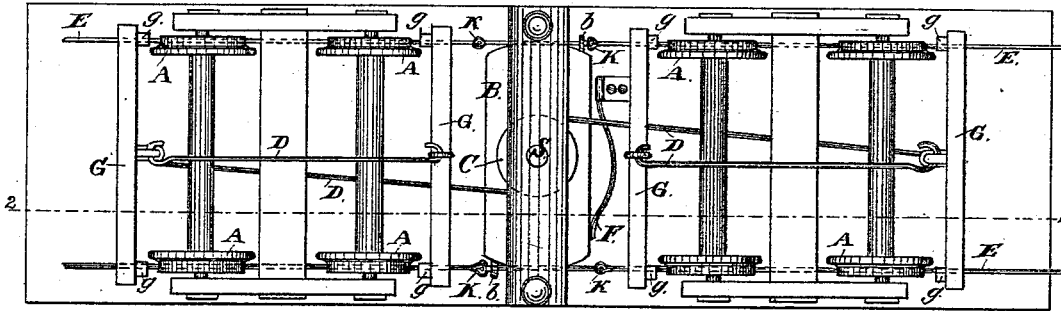
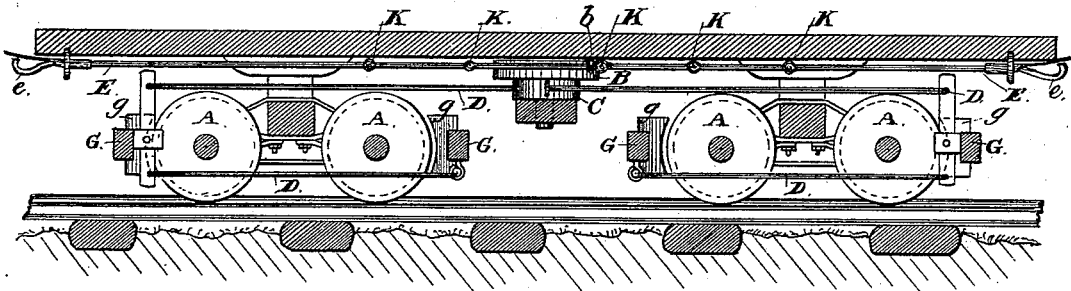


Fig. 2.



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UNITED STATES PATENT OFFICE

RICHARD D. CHATTERTON, OF COBOURG, ONTARIO, CANADA.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. 213,171, dated March 11, 1879; application filed January 11, 1879.

To all whom it may concern:

Be it known that I, RICHARD D. CHATTERTON, of the town of Cobourg, in the united counties of Northumberland and Durham, in the Province of Ontario and Dominion of Canada, have invented a new and useful Improvement in Car-Brakes; and I do hereby declare that the following is a clear and exact description of the same.

Beneath each car or carriage, in the center, between the trucks, I place a transverse horizontal double lever keyed upon a central vertical shaft in such manner that by means of wire ropes or other connection attached to its outer extremities and extending longitudinally from end to end of the car said lever may be readily turned forward or back, and so made to haul with power proportionate to its length, upon ropes or chains fastened to its vertical shaft and to the ordinary brake-levers and beams, drawing the latter tightly upon the wheels of both trucks of the car simultaneously.

By hooking or otherwise attaching the longitudinal ropes above mentioned to similar ones on the adjoining cars, the same effect may be produced *ad libitum* throughout a train, said ropes connecting fore and aft with friction-clutch reels upon the axles, respectively, of the engine tender or truck in front and the rear van or truck of the train, said reels being placed in gear for winding by levers at command of either the engineer or conductor, and so contrived that at an extreme pressure they will turn upon the axles without injuring them or breaking the ropes, yet still retaining hold upon the wheels. Obviously, by these means, both the engineer and conductor will have full control of the train, either being able at any moment to apply the brakes throughout upon every wheel perfectly and promptly; for by knots or blocks upon the longitudinal ropes the slack between the several cars is taken up simultaneously, as hereinafter described, being rendered uniform with the varying distance between the cars by stopper blocks or bolts in connection with the several draw-bars and springs controlling their range.

The system is available upon trains which may contain some "foreign" cars not so fitted by passing the longitudinal ropes beneath such cars without impairing the controlling power

of the engineer and conductor upon the others, whose collective brake-power would in all cases be amply sufficient to check and stop the train as surely and promptly as could be desired, with this decided advantage over any existing continuous brake—namely, that it is capable of individual as well as collective action, which, for freight-trains especially, is a desideratum where cars are constantly liable to change in number and position. Moreover, it will be found cheaper in construction and far less liable to serious injury than either the steam, air, or vacuum brakes now in use.

The brake appliance of each car is perfect in itself, and may be used independently by means of the ordinary winding shaft and ratchet, which I leave intact, but with increased power of leverage, so as to block easily the whole eight wheels of the car.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is an under-side view of the running-gear of a car with my invention applied. Fig. 2 is a vertical longitudinal section of the running-gear of a car on the line 2 2, Fig. 1, also showing the invention.

A A represent the wheels of a car. B is the double power-lever, firmly keyed upon a vertical shaft, S, and connected by wire ropes or chains D with the brake-beams G, which may be of ordinary construction, and are so arranged as to draw the brake-shoes *g* simultaneously upon all the wheels of each truck; and as the winding action of the lever B is made simultaneous in both directions by means of winding ropes running to the brake-beams of each truck, the braking action is applied simultaneously to all the wheels of the car.

The double levers B are actuated in either direction by longitudinal wire ropes or other connections E, upon which are formed knots or stop-blocks K, engaging with eyes *b* in the extremities of the levers B, so that by adjusting the proper knot or stop-block to the particular lever the longitudinal wire ropes E, which are extended from end to end of the train by suitable couplings, are caused to take up the slack between all the successive cars simultaneously in order that the braking ac-

tion may be made uniform and instantaneous throughout the train.

F is a spring for restoring the lever B to its central or normal position when released.

The longitudinal ropes, rods, or chains E are designed to be connected from end to end of the train by suitable couplings, one form of which is illustrated at *e* in Fig. 2. The draft on the said ropes, rods, or chains to apply the brakes is effected by a clutch-windlass located at either end of the train, one of them connected with an axle of the engine or tender, and the other with an axle of the rear car or cab or caboose.

Having thus described my invention, the

following is what I claim as new therein and desire to secure by Letters Patent:

The combination of the double lever B, the shaft C, attached thereto, the brake-chains D, the beams G, and the operating ropes, chains, or rods E, connected adjustably to eyes or hooks *b* at the respective ends of the double lever B by means of knots or stop-blocks K, arranged at intervals along said operating-ropes to permit the taking up of the slack, as described.

R. D. CHATTERTON.

Witnesses:

R. RUTTAN,
ROE BUCK.