

UNITED STATES PATENT OFFICE

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IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. 190,689, dated May 15, 1877; application filed
October 25, 1876.

To all whom it may concern:

Be it known that I, ISAAC R. OAKFORD, of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Car-Brakes; which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

My invention relates to certain improvements in railway-car brakes, which act by grasping collars fixed on the axles of the wheels.

The object of my present invention is to dispense with the crossed levers heretofore employed, and substituting therefor semicircular hinged clamps, which are much lighter in weight, less cumbersome than the levers, and which are suspended loosely upon a single chain underneath the body of the car, in such a manner as not to interfere with any vertical or lateral movement of the car-body upon its springs when the brakes are slightly applied to check the momentum of the car on down grades.

Figure 1 is a side elevation of the lower portion of a railway-car with the wheels removed on the front side, showing my invention applied. Fig. 2 is a plan view of the under side of the same. Fig. 3 is a side view (enlarged) of my invention. Fig. 4 represents a side and front view of one of the shoes, and a side and front view of one of the hinged clamps.

Each of the semicircular clamps A and A' are hinged at the point *b*, as shown in Figs. 1 and 3, and are provided with shoes C and C', which act upon the collars D and D', on the axles. The said clamps are suspended upon a horizontal chain, E, which passes through suitable openings made in their free ends *f* and *f'*, and connects with rods F F F, leading to brake-levers at each end of the car.

The hangers G and G' for supporting the chain E, are each provided with a cross-bar, *h*, in which a slot is formed to accommodate the free ends *f* and *f'* of the clamps, and act as a guide to maintain them (the clamps) in proper position on a line with the chain. The

slot in the bar is of proper length to permit the two halves of the clamp to open, by the expansion of a spring, I, placed between them, sufficiently to clear the collar on the axle, and at the same time either end of the slot forms a stop for one end of the clamp when the opposite end is drawn upon to close the two halves. Pins or stops *i* and *i'*, Fig. 3, are secured to the chain E on the outside of the projections *f* and *f'* of the clamps, so that when the chain is drawn upon from either end of the car one of the said pins will bear against and close the clamp.

It will be observed that in suspending the clamps upon a single chain, as shown, the chain will yield sufficiently to allow for any vertical or lateral movement of the car.

The shoes C and C', Figs. 3 and 4, which may be made of cast metal or wood, are provided with lugs *k* and *k'*, and a stud or bolt, *l*, on the back part, which pass through openings *m*, *m'*, and *m''*, made in each half of the clamp A. A nut screwed on the end of the bolt *l* secures the parts together and forms, in connection with the lugs, a simple means of attachment.

I do not wish to claim the V-shaped shoes or the corresponding depression in the collar; neither do I wish to claim the clamps, as I am aware that encircling steel bands lined with wood and drawn around friction-wheels secured on the axles are old; but

What I do claim is—

1. In combination with the chain E, and end *f f* of the clamp A, the hangers G G', secured to the under side of the car-body over each axle, adapted to support the chain and receive and guide the free ends of the clamp, substantially as set forth.

2. The combination of the free ends *f f*, of the semicircular clamp A, chain E, pins or stops *i* and *i'*, and spring I, with the slot and cross-bar *h*, of the hanger G, substantially as set forth.

ISAAC R. OAKFORD.

Witnesses:

ALEX. H. MORGAN,
A. A. FREEMAN.