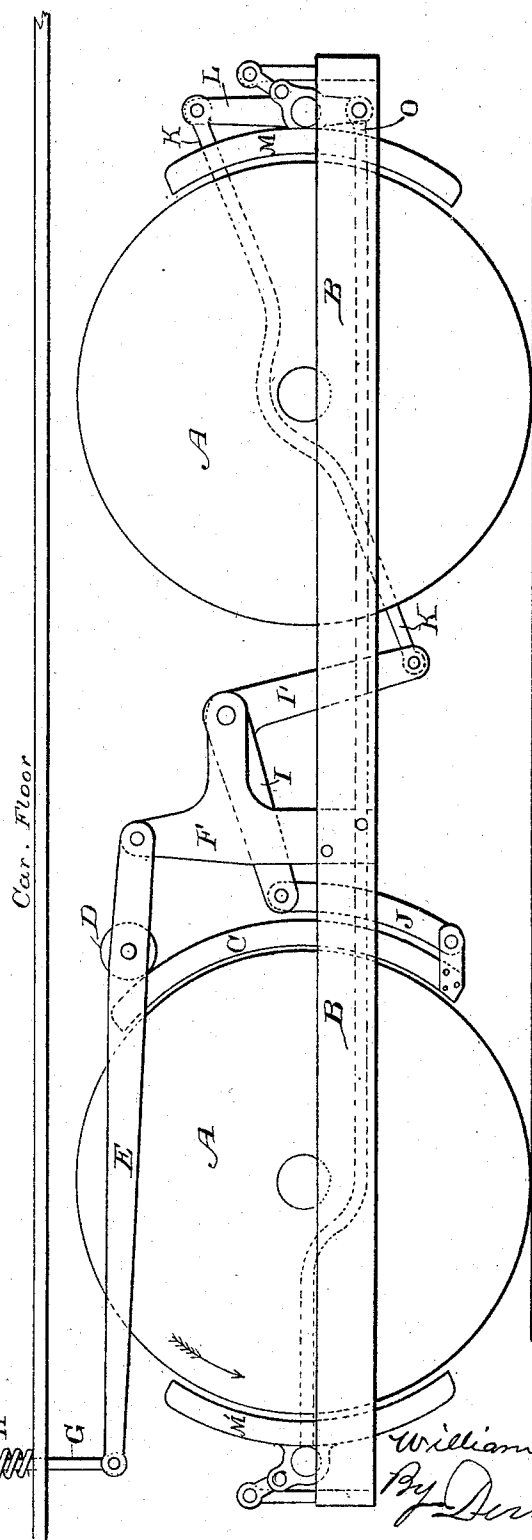


(No Model.)

W. H. MASTERMAN.
CAR BRAKE.

No. 542,089.

Patented July 2, 1895.



Witnesses,
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UNITED STATES PATENT OFFICE.

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MASTERMAN CAR EQUIPMENT COMPANY.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 542,089, dated July 2, 1895.

Application filed March 4, 1895. Serial No. 540,511. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MASTERMAN, a citizen of the United States, residing in Oakland, county of Alameda, State of California, have invented an Improvement in Car-Brakes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for applying brakes to car-wheels.

It consists of a sliding shoe adapted to be brought into contact with the periphery of the moving wheel, so that it is advanced by such frictional contact, and mechanism intermediate between it and the brake-shoes, whereby the latter are effectively applied to the wheels.

Referring to the accompanying drawing for a more complete explanation of my invention, the figure is a side elevation showing a means for applying my invention.

In the present case I have illustrated my invention as arranged to apply the brake upon the wheels A of a four-wheeled truck, the axles of said wheels being properly journaled upon the truck-frame B.

C is a curved shoe, the inner face of which is normally held by gravitation or a spring at a short distance out of contact with the periphery of one of the wheels A. Exterior to this shoe is an antifriction-roller D or equivalent pressure-plate, which is adapted to be forced against the back of the shoe C, whereby the inner face of the shoe is pressed against the periphery of the wheel, and the friction between the two parts, caused by the rotation of the wheel, advances the shoe C between the wheel and the roller D, causing it to travel a certain distance around the wheel. This movement of the shoe is communicated to the brake-shoes by intermediate levers and connecting-rods in any desired or suitable manner, and the roller is pressed against the back of the shoe C to force it into contact with the wheel by any foot or hand lever through which the power may be applied. There being a great variety of well-known mechanisms by which these applications may be made, I do not wish to confine myself to any one. In the present case I have shown a lever E fulcrumed to a standard or bracket F and

having the roller D journaled to it at a point where the depression or movement of the lever will force the roller against the back of the shoe C. In this present case the long arm of the lever is shown as being actuated by a foot-rod G within easy reach of the operator, and a spring H returns the foot rod and lever whenever released from pressure, thus lifting the roller D from the shoe C and allowing the latter to be forced or lifted away from the wheel by a spring or other power, as previously described.

It will be manifest that the same application may be made by the various forms of hand-levers.

Fulcrumed upon the standard or bracket F is a bell-crank lever or levers arranged with relation to each other, as shown at I and I'. The outer end of the lever I is connected by a link or rod J with the movable frictional shoe C, and the end of the lever I' is similarly connected by a link or rod K with the lever L, through which the brake-shoe M is forced against the periphery of one of the wheels A. A connecting-rod O extends from one arm of the lever L to the brake-shoe M', so mounted as to act upon the opposite side of the other wheel A of the truck, and thus apply the brake simultaneously.

The operation will then be as follows: The lever E, which represents any means for acting upon the roller D, being depressed, forces the shoe C into contact with the revolving wheel A. The friction between the surfaces of the shoe and the wheel is such that the shoe immediately commences to travel with the wheel in the direction of motion of its periphery, and thus acts through the link J upon the levers I I', connecting-rods K and O, and intermediate mechanism upon the brake-shoes M and M', thus forcing the latter against the peripheries of the wheels and applying the brakes with any desired force, the momentum of the car supplying the necessary power to apply the brakes with any desired degree of force and as instantaneously as it is possible to apply the brakes by any power.

One advantage gained by this method of applying the brakes, aside from this use of power, is that as the car gradually comes to a state of rest the power applied through the

wheel and frictional shoe is decreased until the car comes to a standstill without any of the disagreeable back action and movement which occur when brakes are applied in the ordinary manner.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device for applying brakes to cars, consisting of a slidable shoe pivotally held at one end, a means including a pressure device whereby said shoe is positively forced into contact with the revolving wheel of the car, a mechanism intermediate between this sliding shoe and the brake shoes whereby the latter are forced into contact with their respective wheels by the movement of the sliding shoe.

2. A device for applying brakes to cars con-

sisting of a segmental shoe movable to and from the periphery of a wheel of the car, an anti-friction roller adapted to press upon the back of the shoe, and mechanism by which it may be thus pressed upon the shoe, and the latter forced into contact with the periphery of the wheel whereby the shoe is caused to travel in the direction of movement of the wheel, and connecting rods and levers intermediate between the sliding shoe and the brake shoes whereby the movement of the sliding shoe is transmitted and the brakes applied.

In witness whereof I have hereunto set my hand.

WILLIAM H. MASTERMAN.

Witnesses:

S. H. NOURSE,

JESSIE C. BRODIE.