

(No Model.)

J. H. CORE.
CAR BRAKE.

No. 545,849.

Patented Sept. 3, 1895.

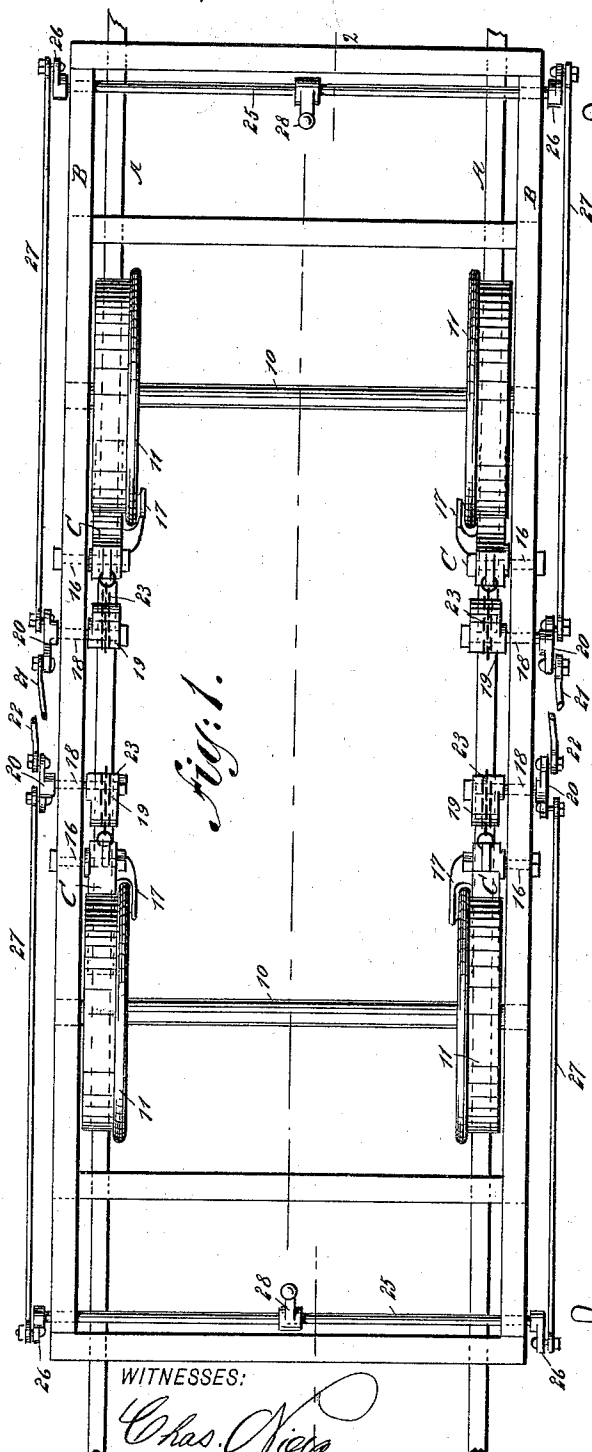


Fig. 1.

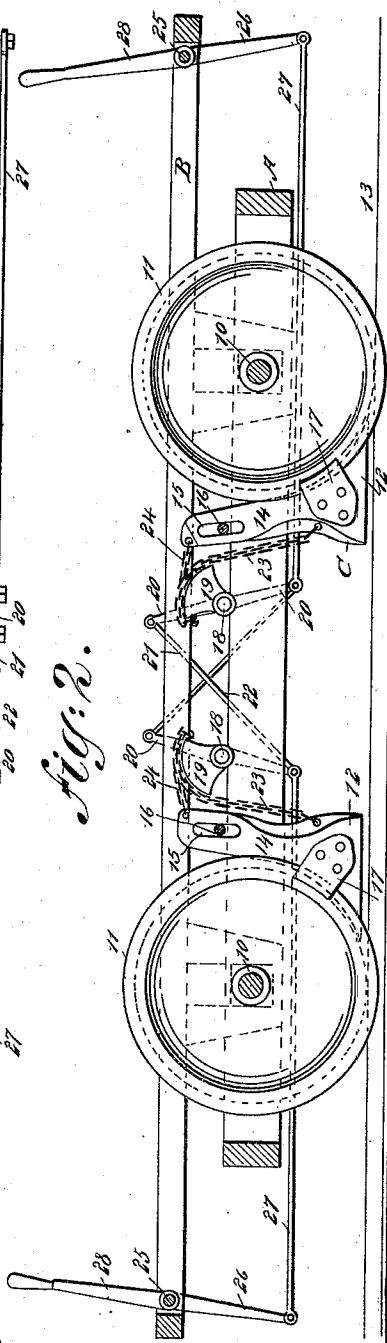


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 545,849, dated September 3, 1895.

Application filed April 29, 1895. Serial No. 547,505. (No model.)

To all whom it may concern:

Be it known that I, JAMES HAYES CORE, of Etna, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Brake, of which the following is a full, clear, and exact description.

My invention relates to an improvement in brakes, and especially to an improvement in car-brakes, the object of the invention being to provide a safety-brake for electric or street cars to be used as an emergency-brake in the event of impending collisions with obstructions on the track, or when a car is to be suddenly stopped and the ordinary brakes fail to act quickly enough to accomplish the desired result.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the running-gear of a car, illustrating the application of the improved brake to the wheels thereof; and Fig. 2 is a longitudinal section on the line 2 2 of Fig. 1.

In carrying out the invention the truck A of the car may be of any improved construction, and likewise the sills B, and the axles 10 of the car-wheels 11 are mounted, as ordinarily, in suitable journals carried by the truck. The brakes C are applied to the inner peripheral surfaces of the car-wheels, and each brake consists of a shoe 12, the lower portion of which is flat and adapted to engage with a rail 13 of the track, or the bottom surfaces of the shoes may be grooved, if desired, and the faces of the shoes that are opposite the periphery or the wheel are concaved to fit closely to the said peripheries. The shoe 12 is connected with or is made integral with a stem or shank 14, and the stem or shank of each brake is provided with a slot 15, made longitudinally therein, and each brake is limited in its up-and-down movement by a rod or pin 16, passed through the slot 15 in the brake-shank, the said rods being attached to the truck A.

Each brake-shoe is provided, preferably,

upon its inner face with a guide-block 17, the said block being so placed and so recessed as to receive the flange of the wheel to which the brake belongs, thereby maintaining the brake-shoe constantly in position for engagement by the wheel.

Between each forward and rear set of brakes a shaft 18 is journaled upon suitable supports, ordinarily upon boxes placed on the truck. Each of these shafts is provided with a segmental block 19, the blocks being made to face the shanks of the brake-shoes, and the upper edges of the blocks are substantially on a level with the tops of the shanks of the brake-shoes.

At the outer end of each shaft 18 a lever 20 is secured at or near its center, these levers being outside of the running-gear, and the levers at each side of the car are connected by rods 21 and 22, the rods extending from the lower end of one lever to the upper end of the opposing lever, and consequently they cross one another. Each of the segmental blocks 19 has one end of a lifting-chain 23 firmly attached to it. These lifting-chains pass over the cylindrical surfaces of the said blocks and are carried downward to an engagement with the brake-shoes at the heel portion thereof, and guide-chains 24 may be, and preferably are, secured to the upper ends of the shanks of the brake-shoes.

At each end of the car a shaft 25 is journaled, preferably in the sill B. These shafts extend beyond both sides of the car and terminate at their extremities in crank-arms 26, the crank-arms being connected by links 27 with the lower ends of the levers 20. Each shaft is also provided with a hand-lever 28, extending upward, preferably through the platform of the car, and any approved form of rack or fastening device may be employed for these hand-levers.

In operation the rear manipulating-lever 28 will be left free to move, and when the brakes are inoperative they will be in the position shown in Fig. 2, raised a slight distance from the track, the front manipulating-lever being locked to hold the brakes in that position. When the car is to be stopped suddenly, the front lever is released from its locking device and both front and rear brakes will immediately fall to the track and the

rear wheels will run up upon them and cannot proceed farther, and in the event that the car is going up an inclined surface and the power should fail the car may be prevented from backing downward by dropping the brakes in the same manner as above set forth; but in this latter event the front set of brake-shoes will be the ones that will stop the car, the forward wheels being brought immediately to a locking-contact with said brakes. It will be understood that any equivalent of the hand-lever 20 may be employed for operating the shafts 25.

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

1. The combination, with the wheels of a car, of a brake mechanism, the same consisting of brake shoes adapted for contact with the wheels and having their faces opposed to the wheels concaved to receive the peripheries of the same, each brake shoe being provided with a link shank, guides passing through the links of the brake shoe shanks, shafts located between the brake shoes, lifting chains connected with the said shoes and with said shafts, levers fulcrumed upon the said shafts, opposing levers having crossed link connections, rock shafts adapted to be located at the ends of the car, and link connections between the said rock shafts and the said levers, as and for the purpose set forth.

2. In a car brake, the combination, with the wheels of a car and the supports for the said wheels, of brake shoes adapted for engagement with the inner peripheral surfaces of the wheels and for engagement with the track, the said shoes being provided with link shanks and guides passing through the shanks, shafts located between the link shanks of the brake shoes, segments secured to the said shafts, lifting chains attached to the said shoes and to the said segments, extending over their cylindrical surfaces, levers attached to the shafts carrying the segments and extending both above and below the shafts, a crossed link connection between opposing levers, rock shafts adapted to be journaled at the ends of the car,

terminating in crank arms, and link connections between the said crank arms and the lower ends of the said levers, as and for the purpose specified.

3. In a brake, the combination, with the wheels of a car and supports for the same, of brake shoes provided with link shanks, the said shoes being adapted to engage with the track and having one of their faces concaved to fit to the periphery of the wheel, guides secured to the said shoes, receiving the flanges of the wheels, rods passed through the links of the shoe shanks, and shafts journaled between the shoe shanks, lifting chains attached to the said shafts, extending both above and below the same, a crossed link connection between opposing levers, and means, substantially as described, for operating the said levers from the ends of the car, as and for the purpose set forth.

4. In a brake, the combination, with the wheels of a car and supports for the same, of brake shoes provided with link shanks, the said shoes being adapted to engage with the track and having one of their faces concaved to fit to the periphery of the wheel, guides secured to the said shoes, receiving the flanges of the wheels, and rods passed through the links of the shoe shanks, of shafts journaled between the shoe shanks, lifting chains attached to the said brake shoes and to the said shafts, levers attached to the said shafts, extending both above and below the same, a crossed link connection between opposing levers, means, substantially as described, for operating the said levers from the ends of the car, hand levers adapted to be fulcrumed at the ends of the car, shafts operated by the said hand levers, link connections between the said shafts and the lower extremities of the levers of the lifting shafts of the brakes, and guide chains connected with the lifting chains and with the upper ends of the shoe shanks, as and for the purpose set forth.

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Witnesses:

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