

(No Model.)

L. KUPFERSCHMID.

CAR BRAKE.

No. 376,100.

Patented Jan. 10, 1888.

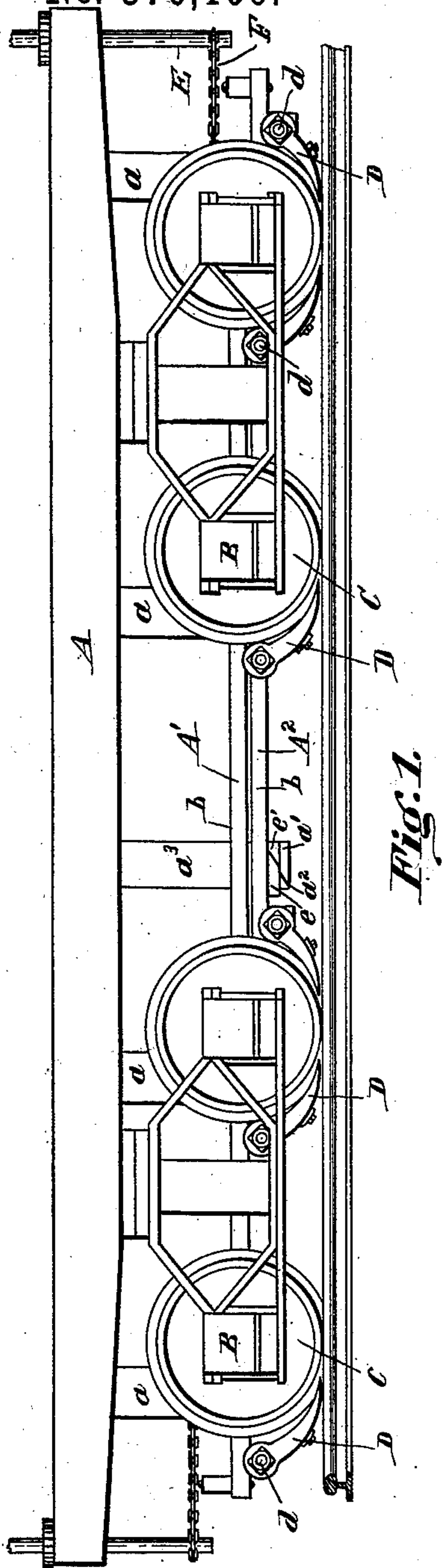


Fig. 1.

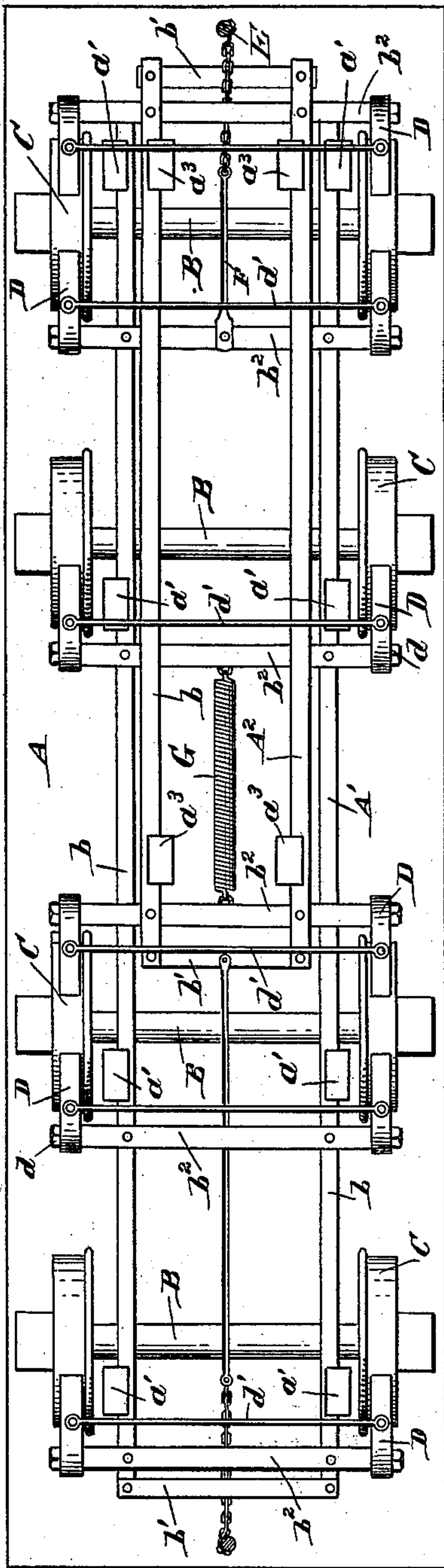


Fig. 2.

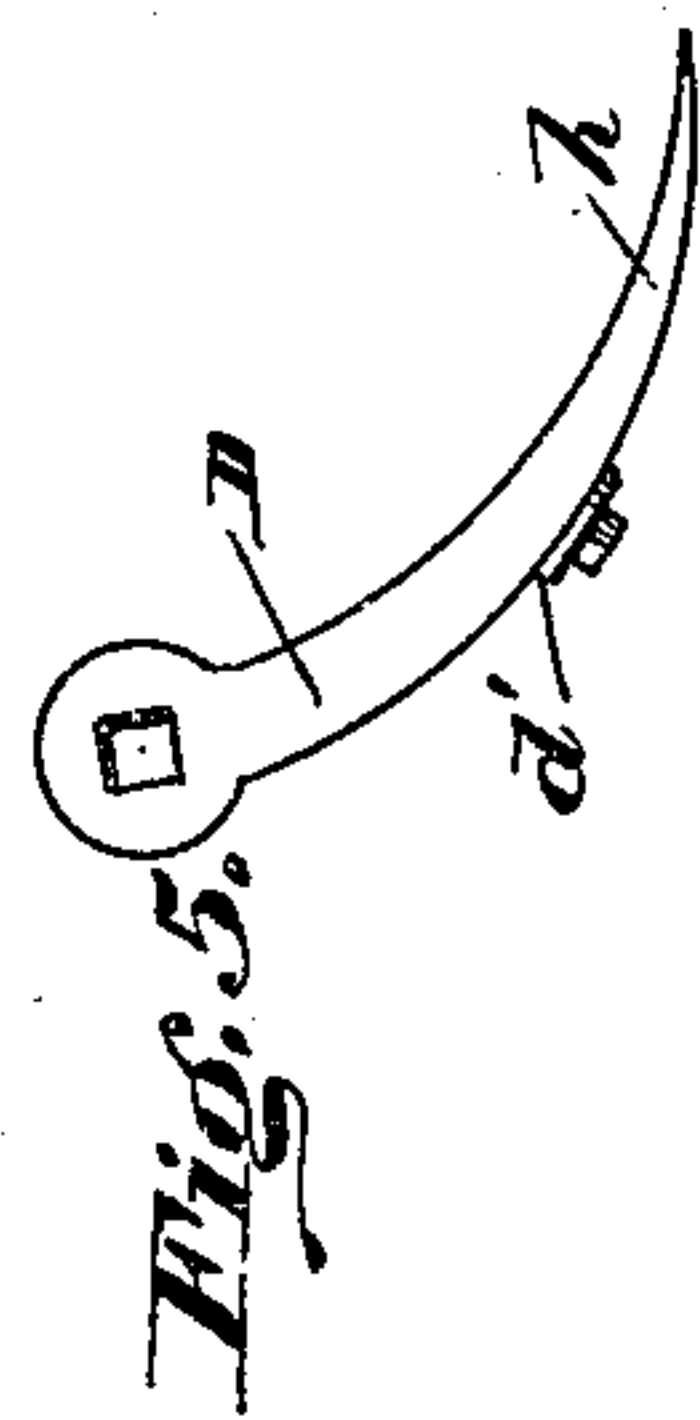


Fig. 3.

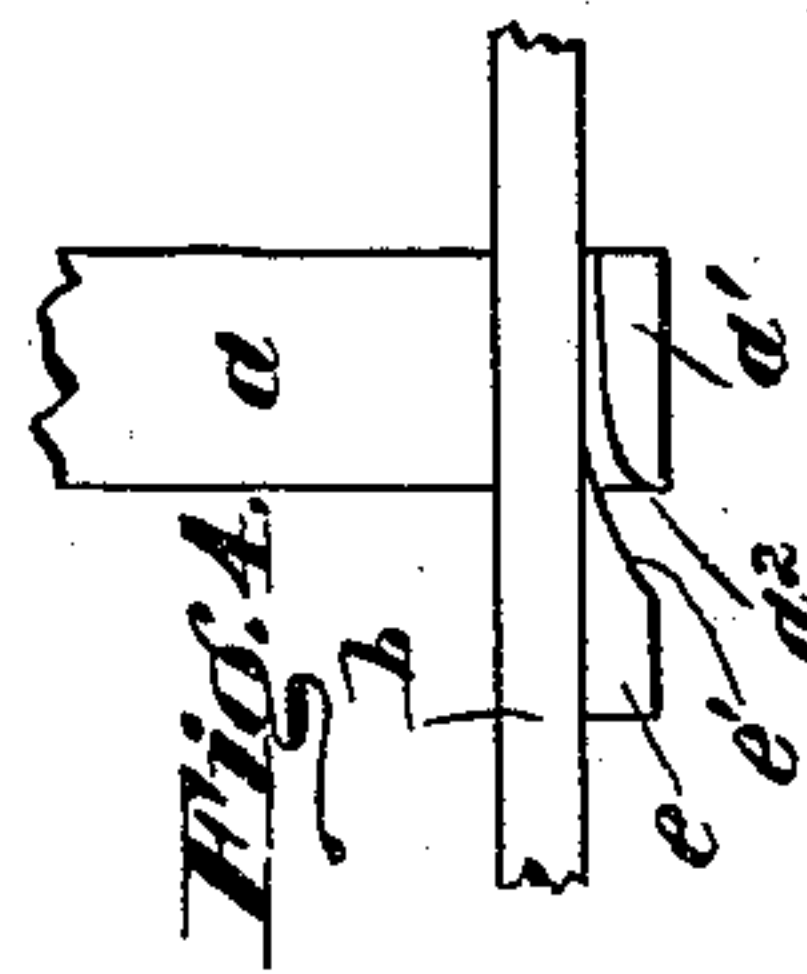


Fig. 4.

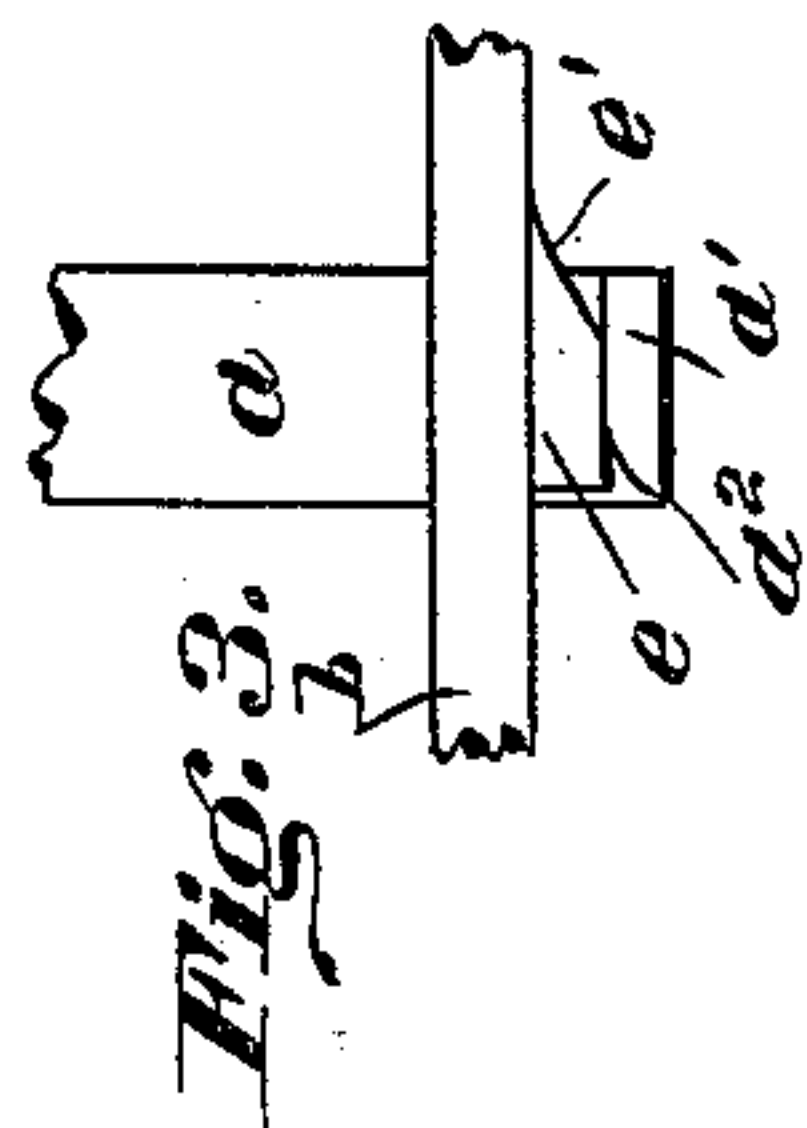


Fig. 5.

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# UNITED STATES PATENT OFFICE.

LEO KUPFERSCHMID, OF CINCINNATI, OHIO.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 376,100, dated January 10, 1888.

Application filed October 21, 1887. Serial No. 252,951. (No model.)

*To all whom it may concern:*

Be it known that I, LEO KUPFERSCHMID, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

The object of my invention is to provide a brake for railroad, cable, or other cars, which shall be cheap of manufacture, simple in construction, and effective in use. In cable cars especially, the brakes now in use are very defective, and no brake has as yet been put in use on such cars which is effective and practical, particularly on an incline. My improved brake will stop the car on any incline and at any speed. The brakes now in use are also complicated and expensive.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of a platform railway-car with my improved brake attached. Fig. 2 is a bottom view of the car with my brake attached. Figs. 3 and 4 are views of the inclined surfaces I employ to bring the brake-shoes on and off the car-wheels. When the brake is not in use, the inclined surfaces appear as shown in Fig. 3, and when in use and applied these surfaces appear as shown in Fig. 4; and Fig. 5 is a view of the brake-shoe.

A represents the platform of the car, B the axles, and C the wheels. Opposite each wheel are preferably placed the posts  $a$ , which are attached to the platform of the car in any suitable manner. Attached in any convenient manner to these posts  $a$  are the blocks  $a'$ , having the inclined surfaces or faces  $a^2$ . In the drawings these posts  $a$  are shown used in connection with the brake which operates against all the wheels. In connection with the short brake, which operates only against either the two front or rear wheels of each truck, I use the posts  $a^3$ . These posts  $a^3$  are also each provided with a block, as  $a'$ , having an inclined surface,  $a^2$ , similar to the posts  $a$ .

$A'$  represents the long frame-work which carries brakes for each wheel, and  $A^2$  the short frame-work carrying brakes for a lesser number of wheels. These frame-works  $A'$  and  $A^2$

have each two long bars,  $b$ , connected at each end in any preferable manner—in my case by the cross-bars  $b'$ . At any desired points I attach, in any preferable manner, to the bars  $b$  the bars  $b^2$ . To the ends of these bars  $b^2$ , I attach the brake-shoes D, preferably by screw-and-nut connection  $d$ . To keep the brake-shoes D in proper position and properly adjusted, I usually connect them by the rod  $d'$ . At suitable points on the bars  $b$ , I locate, in any suitable manner, the blocks  $e$ , having the inclined faces  $e'$ . These blocks  $e$  are so located on said bars  $b$  that they will coact with the inclined faces on the blocks  $a'$  on the posts  $a$  and  $a^3$  at the proper time to bring the brake-shoe away from or on the wheels.

The brake frame-work is suitably attached to the brake-spindle E by the rod-and-chain connection F. The posts are not only useful to support the blocks  $a'$ , but also to act as guides for the bars  $b$ . I may, when desired, provide additional guides. G represents a spring attached to one of the bars  $b^2$  of each of the frame-works  $A'$  and  $A^2$ , as shown in Fig. 2. This spring assists in throwing the brakes off the wheels.

The brake shoes D are preferably of the peculiar wedge-shape construction shown in Fig. 5; but they may be of any other suitable shape. Usually the ends or tips  $h$  of these shoes D are made of steel, and the rest of the shoe is cast. When not in use, the brake-shoes D are up and away from the wheels, and the inclined blocks  $e$  rest on the blocks  $a'$ , as shown in Fig. 3. When it is desired to apply the brake, the frame-work  $A'$  or  $A^2$ , through the agency of any desired mechanism, is moved forward or backward, according to the direction in which the train or car is moving, and the inclined faces  $e'$  on the blocks  $e$  ride over the inclined faces  $a^2$  of blocks  $a'$ , (see Fig. 4,) thus bringing the brake-shoes D on the wheels and stopping the car. When the brake is released, the blocks  $e$  ride back on the blocks  $a'$ , the spring G assisting.

The brake-shoes D are the main feature of my invention, and when applied to the wheels the car must stop, as they wedge in between the wheel and the track. They can be used

in connection with any other form of brake mechanism, and one or more of them may be used, as desired.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In a car-brake, the frame-work A, parts A' A<sup>2</sup>, working on inclined surfaces *a*<sup>2</sup> and *e*' on blocks *a*' and *e*, and shoes D, said shoes being rigidly attached to the bars *b*<sup>2</sup>, substantially as and for the purposes set forth.

2. In a car-brake frame-work A, parts A' and A<sup>2</sup>, posts *a* and *a*<sup>3</sup>, blocks *a*' and *e*, having inclined faces *a*<sup>2</sup> and *e*', spring G, and bars *b*<sup>2</sup>, having rigidly attached to them the brake-shoes D, substantially as set forth.

LEO KUPFERSCHMID.

Witnesses:

HENRY WOOST,  
J. M. EDWARDS.