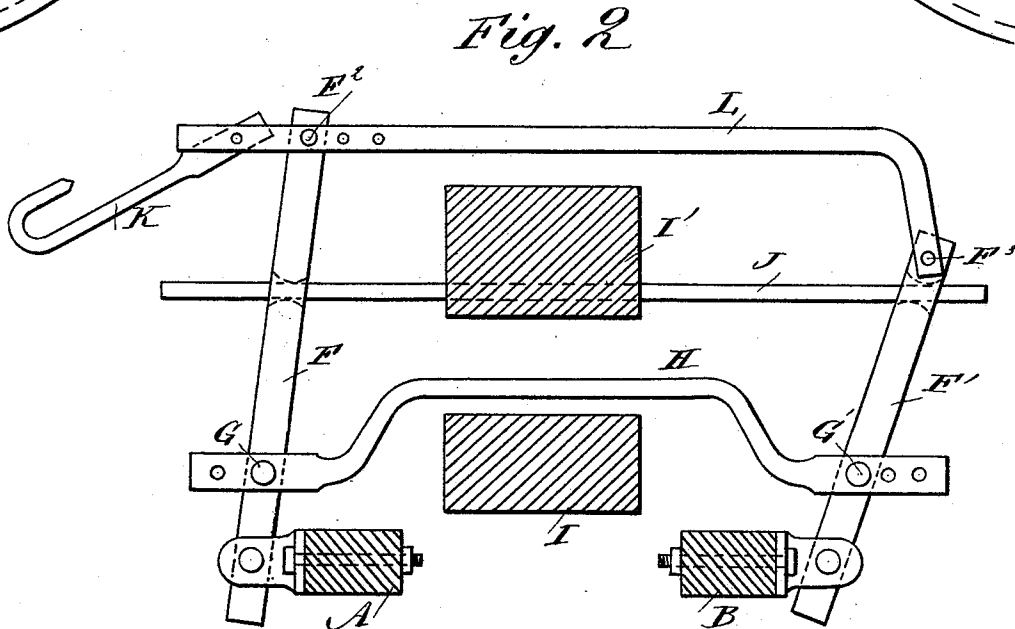
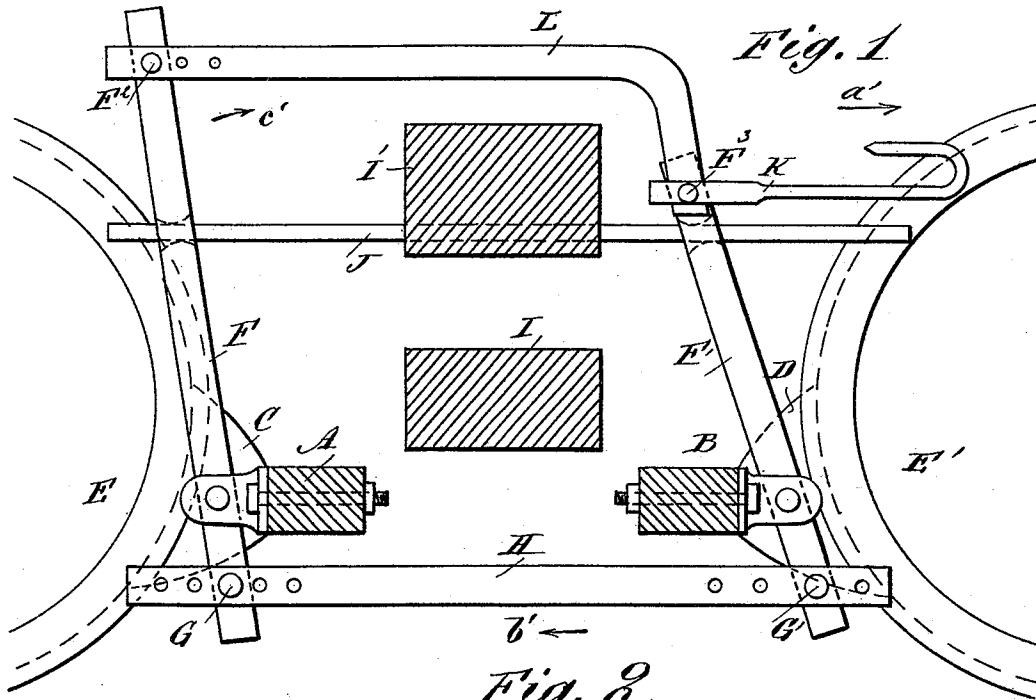


(No Model.)

A. H. KIRKER.  
CAR BRAKE.

No. 499,553.

Patented June 13, 1893.



WITNESSES:

*C. Naveux*  
*C. Sedgewick*

INVENTOR

*A. H. Kirker*  
BY *Munn & Co*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ALBERT HOWARD KIRKER, OF AVALON, PENNSYLVANIA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 499,553, dated June 13, 1893.

Application filed September 5, 1892. Serial No. 445,038. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT HOWARD KIRKER, of Avalon, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Car-Brake, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car brake, which is simple and durable in construction, applicable to all kinds of cars, and more especially designed for use on heavy cars to powerfully apply the brake shoes.

The invention consists of two differential brake levers, and a link connecting the levers with each other.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter described and then pointed out in the claims.

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

Figure 1 is a sectional side elevation of the improvement as applied; and Fig. 2 is a like view of a modified form of the improvement.

The improved car brake is provided with the usual brake beams A and B, carrying the brake shoes C and D, respectively, adapted to engage the rims of the car-wheels E and E', respectively, so as to brake the latter. The brake beams A and B are pivotally connected with the brake levers F and F', respectively, pivotally connected with each other at G and G', respectively, by a bar H, or other device arranged below or between the bottom and top bolster I and I', of the car truck. The brake levers F and F' are of different lengths and are pivotally connected with each other at their free ends at F<sup>2</sup> and F<sup>3</sup>, respectively with a link L, bent as shown in the drawings so as to move unobstructed over the top bolster I'. A hook K, is pivotally connected with one of the brake levers or with the link L, as illustrated in the drawings, the said hook K being connected with the device for applying the brakes from the end of the car. The brake levers F and F' are guided on a guide rod J supported on the top bolster I'. Now, it will be seen that by making the brake levers F

and F' for one pair of brake beams of different lengths and connecting the same by the bar H, the shoes C and D can be very powerfully applied owing to the difference in leverage of the said brake levers. When a pull is exerted on the hook K in the direction of the arrow a', then the brake lever F' will swing and the bar H will be shifted in the direction of the arrow b' so that the brake shoe C is moved in contact with the wheel E, and the shoe D moved in contact with the wheel E', owing to the push of the link L on the lever F'; the latter then swinging from the point G', as a center.

It is understood that when the power is applied on the hook K the pull on the lever F' is augmented by the push of the link L, causing the free end of the brake lever F to swing in the direction of the arrow c', so that the brake shoes C and D are both very powerfully applied on the wheels E and E', respectively.

It is further understood that as soon as the brake shoe C moves in contact with the wheel, the other brake beam B is moved forwardly in the inverse direction of the arrow b' by the link L so that its brake shoe D is very powerfully applied on the wheel E'.

It is further understood that by employing connected differential brake levers for operating a pair of brake beams, a very high brake power can be applied on the wheels.

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

1. A car brake provided with two differential brake levers for connection with a pair of brake beams, substantially as shown and described.

2. A car brake provided with two differential brake levers adapted to be connected with a pair of brake beams, a bar for pivotally connecting the levers with each other near the said brake beams, and a link connecting the free ends of the said levers with each other, substantially as shown and described.

3. A car brake provided with two differential brake levers adapted to be connected with a pair of brake beams, a bar for pivotally connecting the levers with each other near the said brake beams, a link connecting the free ends

of the said levers with each other, and means for supporting the said levers, substantially as shown and described.

5 4. A car brake provided with two differential brake levers adapted to be connected with a pair of brake beams, a bar for pivotally connecting the levers with each other near the said brake beams, a link connecting the free ends

of the said levers with each other, and means for actuating the brake levers, substantially as shown and described.

ALBERT HOWARD KIRKER.

Witnesses:

A. Z. BYERS,  
C. Y. MERCER.