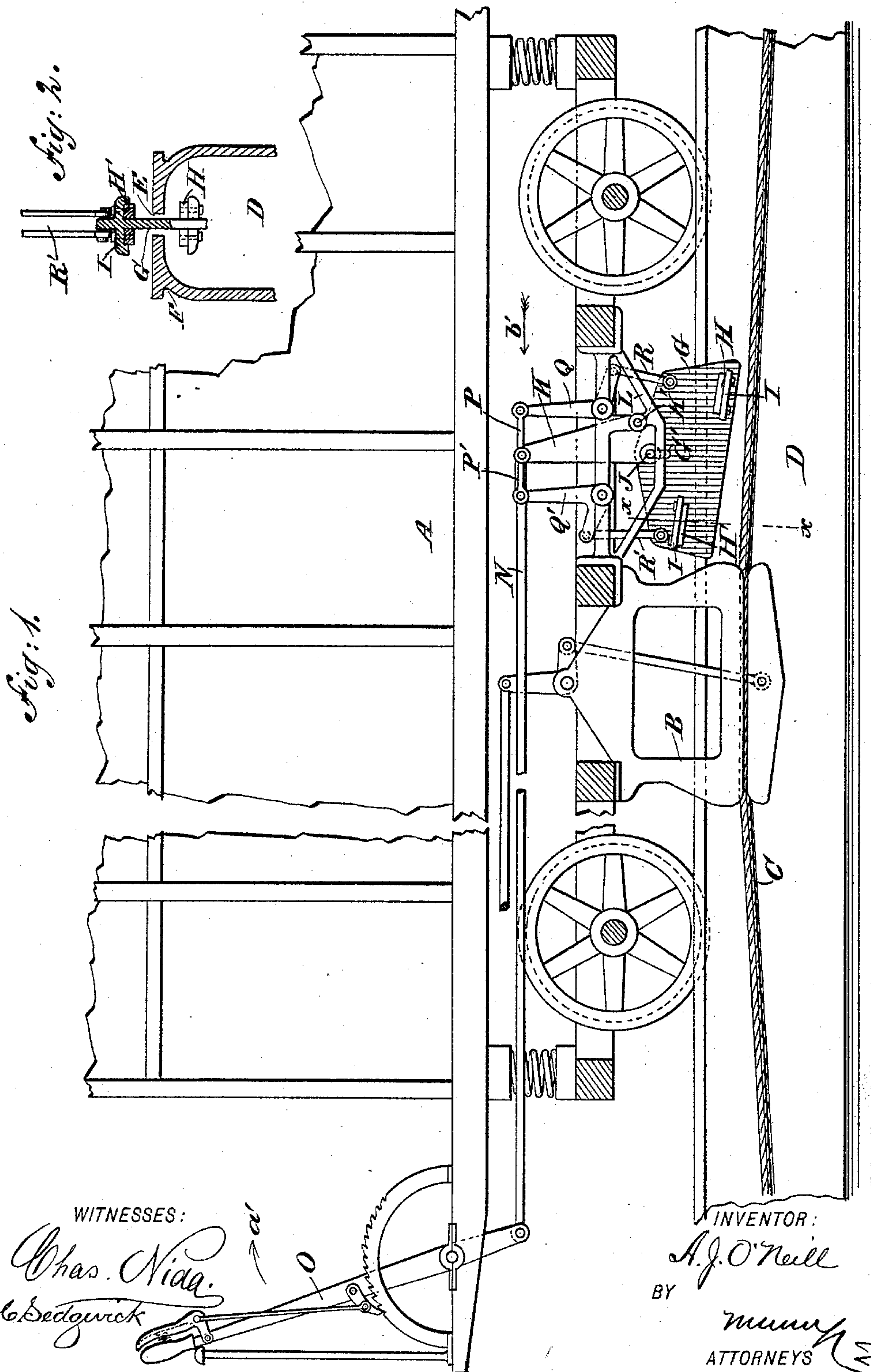


(No Model.)

A. J. O'NEILL.  
CAR BRAKE.

No. 462,989.

Patented Nov. 10, 1891.





# UNITED STATES PATENT OFFICE.

AUGUSTUS J. O'NEILL, OF BUTTE CITY, MONTANA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 462,989, dated November 10, 1891.

Application filed April 14, 1891. Serial No. 388,834. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS J. O'NEILL, of Butte City, in the county of Silver Bow and State of Montana, 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, very effective in operation, completely under the control of the brakeman, and is more especially designed for use on cable roads.

The invention consists of a pivoted plate provided with brake-shoes adapted to engage the cable-conduit.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, 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 figures.

Figure 1 is a side elevation of the improvement as applied, parts of the car-brake being in section; and Fig. 2 is a transverse section of the same on the line *x x* of Fig. 1.

The car A, of any approved construction, is provided with a suitable grip B, adapted to engage the cable C, held in the cable-conduit D, provided at its upper end F with the usual slot E for the passage of the grip B and the brake mechanism. The brake mechanism is provided with a plate G, arranged vertically and adapted to pass partly into the slot E, the said slot being provided at its ends with sets of brake-shoes H and H', adapted to engage the under side and top of the upper end F of the conduit D on both sides of the slot E. The brake-shoes H and H' are secured by bolts or other suitable means on projecting flanges I, held on the plate G in such a manner that the brake-shoes H engage the upper end F of the conduit D on the under side, while the brake-shoes H' are adapted to engage the top of the upper end F. The plate G is provided in its middle with an elongated vertically-extending slot G', into which extends a pivot J, held on an arm K, pivoted at K' to a frame L, secured to the car-brake. The upper end of the arm K is pivotally connected by a rod N with the brake-lever O, of

any approved construction and located on the platform of the car, as is plainly shown in Fig. 1. From the upper end of the arm K also extend in opposite directions the links P and P', connected with bell-crank levers Q and Q', respectively, pivoted on the frame L and pivotally connected by links R and R', respectively, with the ends of the plate G.

The operation is as follows: When the brake is applied, as illustrated in Fig. 1, the several parts are in the position shown—that is, the shoes H and H' are out of contact with the upper end F of the conduit D. When the operator desires to apply the brakes, he pulls the lever O in the direction of the arrow *a'*, so that the arm K swings in the direction of the arrow *b'*, whereby the bell-crank lever Q pulls upward on the link R, so as to raise the right-hand end of the plate G, and at the same time the bell-crank lever Q' pushes its link R' downward, so that the left-hand end of the plate G swings downward, the said plate turning on the pivot J. The swinging motion of the plate G causes the brake-shoes H to engage the under side of the upper end F of the conduit D, while the shoes H' engage the top of the said upper end. The brake-shoes thus brake the car on the upper end F of the conduit. When it is desired to release the brake, the operator moves the lever O in the inverse direction of the arrow *a'*, so that the plate G swings to its former normal position, the brake-shoes H and H' moving out of contact with the end F of the conduit.

In order to compensate for irregularities in the conduit the plate G is free to slide upward on account of having the pivot J, extending into the slot G'. The plate is thus free to move up and down without the brake-shoes binding on the upper end F of the conduit D.

It will be seen that a car-brake constructed in this manner is very effective, is completely under the control of the brakeman, and has the superior advantage of holding the car A to the track when braked in contradistinction to the brakes now in use, which have the tendency to lift the car off the track.

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

1. In a car-brake, the combination, with a



plate adapted to extend into the slot of the cable-conduit and provided with brake-shoes adapted to engage the said cable-conduit, of an arm pivoted on the car-brake and carrying the pivot of the said plate, the said arm being under the control of the operator, bell-crank levers pivotally connected with the said arm, and links pivotally connected with the said bell-crank levers and the said plate, substantially as shown and described.

2. In a car-brake, the combination, with a plate adapted to extend into the slot of the cable-conduit and provided with a vertical slot, of brake-shoes held on the said plate and adapted to engage the said conduit, and a pivoted arm under the control of the operator and carrying a pivot extending into the

vertical slot of the said plate, substantially as shown and described.

3. The car-brake comprising a frame, an arm or lever pivoted thereto, a brake-plate having a pin-and-slot connection with said arm or lever and provided with two sets of brake-shoes, the bell-crank levers  $Q Q'$ , pivoted on said frame in front and rear of the said arm or lever and connected therewith at their upper ends and at their lower ends linked to the brake-plate, substantially as shown and described.

AUGUSTUS J. O'NEILL.

Witnesses:

EDWIN H. IRVINE,  
SAMUEL HANCOCK.