

No. 768,399.

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A. PFOSER & A. NEHREN.
CAR BRAKE.

APPLICATION FILED JAN. 5, 1904.

NO MODEL.

Fig. 1

A-B

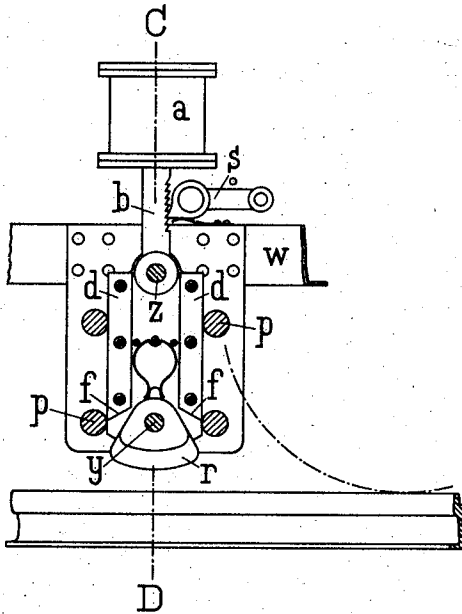


Fig. 2

C-D

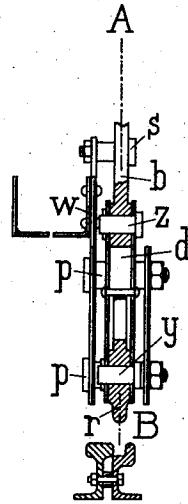


Fig. 3

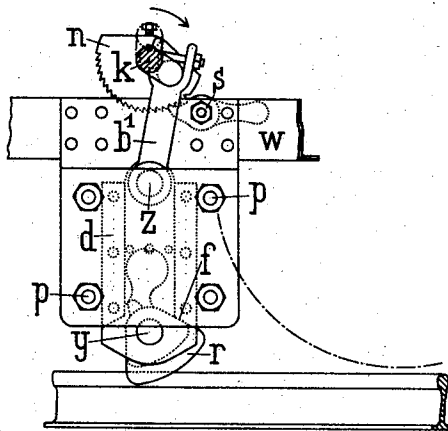
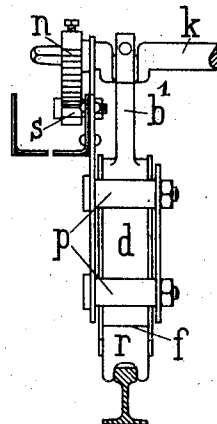


Fig. 4



Witnesses

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UNITED STATES PATENT OFFICE.

ADOLF PFOSER AND AMBROS NEHREN, OF ACHERN, GERMANY.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 768,399, dated August 23, 1904.

Application filed January 5, 1904. Serial No. 187,854. (No model.)

To all whom it may concern:

Be it known that we, ADOLF PFOSER and AMBROS NEHREN, subjects of the Emperor of Germany, and residents of Achern, Badenia, German Empire, have invented certain new and useful Improvements in Car-Brakes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The purpose of our new brake is to quickly stop the rolling-stock to which it is applied. Its maximum effect is reached when after the brake has been applied the car rises automatically and presses with its own weight upon the brake.

The new brake differs from prior constructions, inasmuch as the point of support of the car rises and falls with the brake-block.

The brake is shown in the accompanying drawings, in which—

Figure 1 is a vertical section taken on the line A B of Fig. 2 and showing the brake in position of rest. Fig. 2 is a vertical section on the line C D of Fig. 1 seen from the left hand. Fig. 3 is a side elevation showing a brake fitted with a forked shoe in operation. Fig. 4 is an end elevation of Fig. 3.

In Figs. 3 and 4 it will be observed that the brake is applied by means of a crank-shaft, whereas in Figs. 1 and 2 it is applied by the ordinary air or vacuum brake, in which case the instantaneous brake is provided with a special air-pipe running adjacent to or in the ordinary air-pipe on the cars.

A railway-car is usually fitted with four and a street-car with two such brakes either with wedge or fork shoes, and each brake is guided on a cheek riveted to the frame *w* between strong pins *p*. The brake-shoe *r* is not rigidly mounted, but turns on a bolt *y* in a slide *d* and is connected by the latter with the piston-rod *b*, Fig. 1, projecting from the air-cylinder *a*, or with the crank-shaft *k* by means of a crank-rod *b'*, Fig. 3.

In order to be able to apply the brake for both directions of travel of the car, the shoe *r* is symmetrically shaped on either side of the center line passing through the bolt *y*, and

the sides of the slide *d* are chamfered below at *f f*.

If the ordinary brake is found to be insufficient or if there is danger through delay in braking, the air-pipe of the instantaneous brake is brought into use, Fig. 1, or the crank-shaft *k* is turned, Fig. 3, whereby each slide *d*, with the brake-shoe *r*, will descend, and the wedge end of the shoe *r* comes between the rails, Fig. 2, or the fork-shaped end *r* grips over the head of the rail, Fig. 4, and slides thereon. As the frictional contact between the two surfaces becomes more intimate (that is, supposing the braking action is to be increased) the shoe *r*, acting as wedge, owing to the rigid frictional resistance acting oppositely to the direction of travel will force itself below the adjacent surface *f*, Fig. 3. Since this surface slides along the inclined face of the wedge owing to the *vis viva*, the entire car will in the next moment rise on the two (or four) brake-shoes and will slide with them for a short distance only, as these shoes support the car freely, so that the car forces the sliding member between (or on) the head of the rail with maximum pressure. This lift of the car is indicated in Fig. 3 by the broken line representing the contour of a portion of the wheel.

In order to prevent the shoe *r* from rising after the brake has been applied, the piston-rod *b*, which is connected to the slide at *z*, is provided with ratchet-teeth in which a dog *s* engages. The crank-shaft, Fig. 3, for the same purpose carries a ratchet-toothed segment *n*, in which the dog *s* engages immediately the crank on application of the brake is turned in the direction of the arrow, Fig. 3, from the vertical position into the position of braking. In order to be able to return the brake-shoe to the position of rest after the car has been stopped, the dog *s* must be released.

This brake is naturally only applied, for instance, when in the case of street-cars life is in danger or in the case of railway traffic a collision is imminent. It will be observed that the wear of the tire has no influence upon the action of the brake, as the surfaces

of support, sink with the shoe, such as is the case with no other brake.

Having thus described our invention, we claim as new—

- 5 A car-brake comprising a slide having lower inclined surfaces of support, slide-guides secured to the car-frame, a rod connected to the slide and supporting the same, a brake-shoe pivoted to the slide and on application of the
10 brake frictionally engaging the rail, and wedging itself between the same and one of the said inclined surfaces, in combination with

means for causing descent of the rod connected to the slide and means for preventing release of the brake after application, substantially as described. 15

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

ADOLF PFOSER.
AMBROS NEHREN.

Witnesses:

JOSEPH ROHMER,
GUSTAV SCHWEISS.