

No. 711,280.

Patented Oct. 14, 1902.

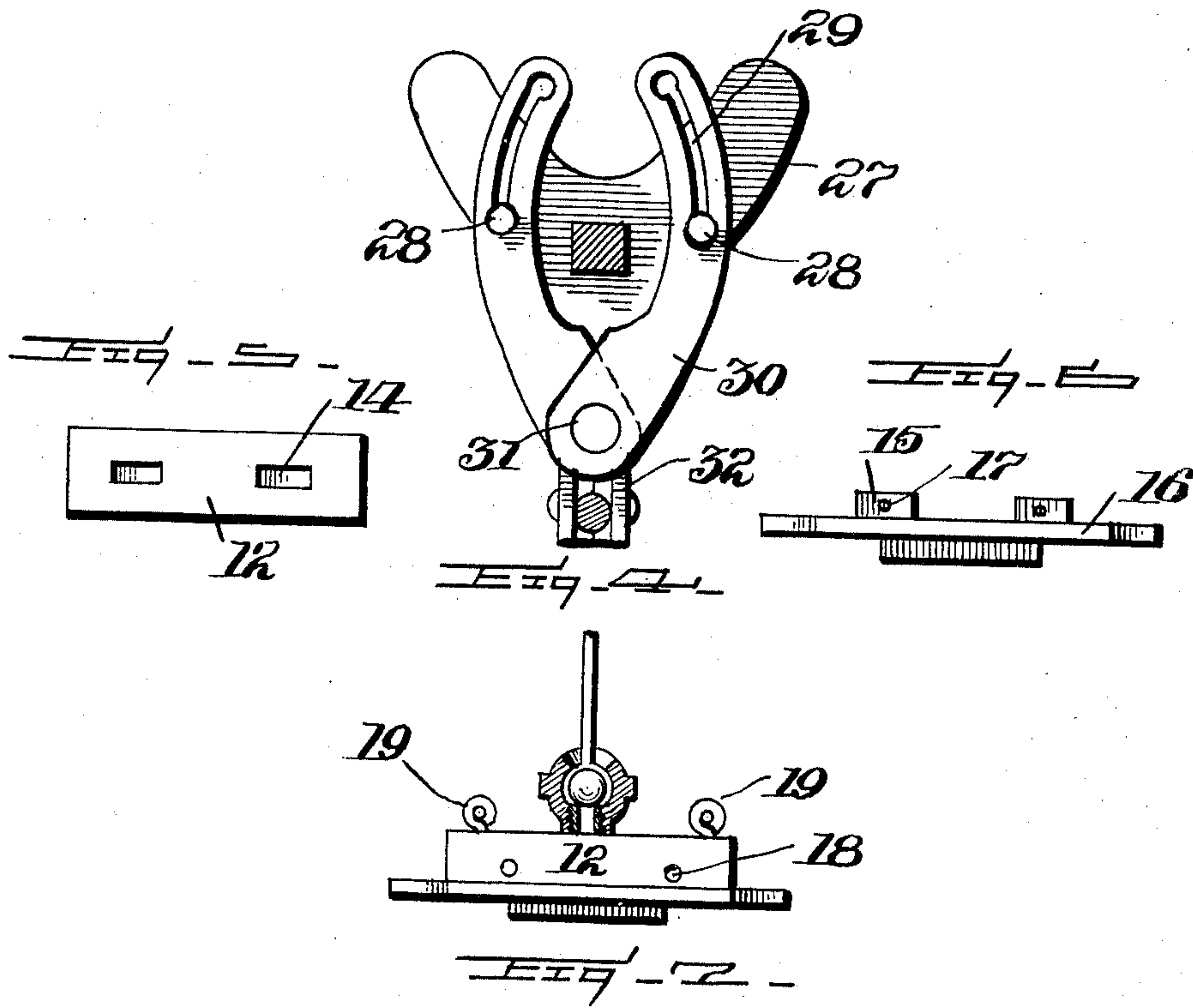
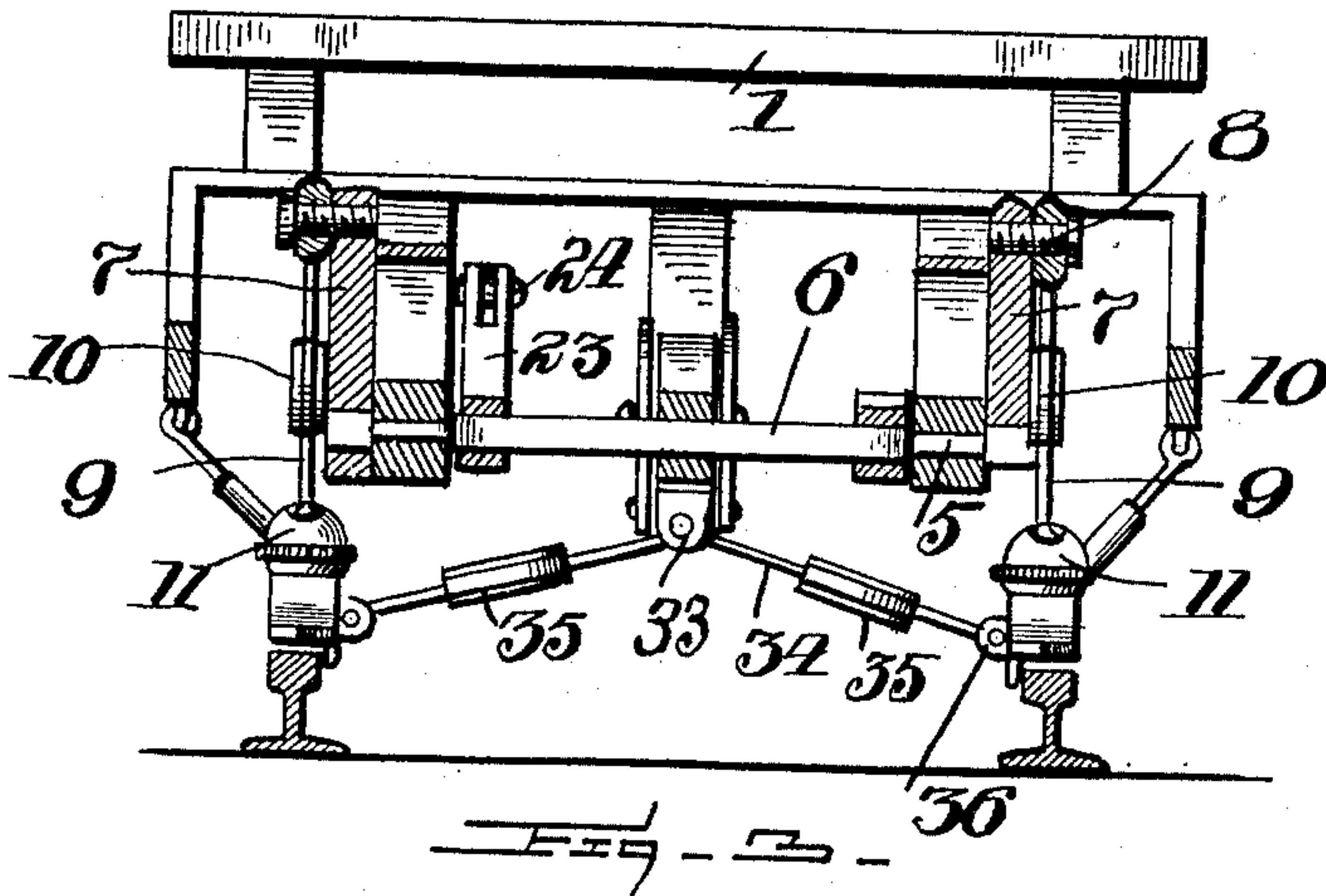
H. T. BROWN.

BRAKE FOR STREET CAR RAILWAYS, &c.

(Application filed Mar. 28, 1902.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

HENRY T. BROWN, OF WILKINSBURG, PENNSYLVANIA.

BRAKE FOR STREET-CAR RAILWAYS, &c.

SPECIFICATION forming part of Letters Patent No. 711,280, dated October 14, 1902.

Application filed March 28, 1902. Serial No. 100,444. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. BROWN, a citizen of the United States of America, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Brakes for Street-Car Railways and the Like, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in brakes for street-railways and the like, and relates more particularly to rail-brakes.

The present invention has for its object the provision of novel means whereby a car may be brought to a gradual stop or in the case of an emergency may be brought to almost an instantaneous stop.

My present invention further aims to provide a brake that will operate upon both the face of the rail and the inner side thereof, thereby obtaining a larger gripping-surface and producing a wedging action of the brake-shoes against the inner face of the rails.

The present invention also contemplates to entirely dispense with wheel-brakes, thereby preventing the wheels from skidding, which produces flat wheels in many instances.

The present invention still further aims to provide a device of the above-described character that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its use.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a side elevation of a truck equipped with my improved brake. Fig. 2 is a top plan view thereof. Fig. 3 is a transverse vertical sectional view of the same. Fig. 4 is a side elevation of the V-shaped central lever. Fig. 5 is a top plan view of the

casing carrying the brake-shoes. Fig. 6 is a side elevation of the brake-shoe. Fig. 7 is a side elevation of the brake-shoe holder and brake-shoe and a vertical sectional view showing the action of the brake-shoe holder.

In the drawings the reference-numeral 1 represents the body portion of the car, and 2 the trucks thereof.

3 represents the wheels. A frame 4 is rigidly secured to the trucks attached to the car, and in said frame are secured the rounded ends 5 of the square shaft 6. The said shaft extends through suitable bearings secured upon the frame and carries on each end crank-arms 7, to which are pivotally secured at 8, at the upper end of the crank-arms, operating-rods 9, having secured therein turn-buckles 10 to permit of the accurate adjustment of the rods 9. At the lower end of said rods 9 a ball-and-socket joint 11 is formed, which carries a shoe-holder 12, said shoe-holder having formed in its upper face openings 14, through which extend lugs 15 of the shoe 16, said lugs 15 having formed therein openings 17, which are adapted to receive suitable fastening means. Corresponding openings 18 are also formed in the side of the shoe-holder to receive pins or other suitable fastening means which extend through the openings 17 and 18, serving as means to securely fasten the shoe. The said shoe-holder 12 also carries eyes 19 to receive rods 20, which are provided with casings 21, having secured therein springs. The other ends of the rods 20 are secured at 22 to the body portion of the truck-frame. Upon the square shaft 6 are secured levers 23, carrying bifurcated ends 24, in which are pivotally secured operating-rods 25, the latter being connected to the chain operating upon the ordinary crank-shaft 26 in order to apply the brakes. A central V-shaped lever 27 is secured upon the shaft 6, and pins 28 are also secured on each side of said V-shaped lever, said pins riding in slots 29, formed in the toggle-levers 30, which are pivotally secured together, as shown at 31. The lower ends of said toggle-levers carry lugs 32, in which are pivotally secured at 33 spreaders 34, having turn-buckles 35 secured therein, the other end of said spreaders being pivotally secured at 36 to the inner face of the shoe-holder 12. It

will be seen in Fig. 3 of the drawings that the levers 30 are secured on each side of the V-shaped lever 27.

The operation of my improved brake is as follows: When the brake-shaft is turned, thereby operating the rods 25, which in turn operate the levers 23, thereby turning the shaft 6, the brake-shoes will be lowered to the rails through the medium of the arms 7 and the rods 9. Simultaneously with this operation the spreaders will operate through the medium of the V-shaped lever 27 and the levers 30, pressing the spreaders outwardly and forcing the flange of the shoe against the inner face of the rail.

The many advantages obtained by the use of my improved brake will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a rail-brake, the combination of the car-trucks, a transversely - arranged shaft, crank-arms arranged at the opposite ends of the said shaft, brake-shoes, rods connecting said crank-arms and brake-shoes, rods connecting the said brake-shoes and trucks, means for rocking the said shaft, and means for operating the said brake-shoes laterally simultaneously with their vertical movement.

2. In a rail-brake, the combination of a truck, a transversely-arranged shaft, crank-arms arranged on the opposite ends of the said shafts, brake-shoes, rods connected to the said crank-arms, universal connections between the said rods and shoes, means for

rocking the said shaft whereby the shoes will be raised and lowered, and means for moving the shoes laterally simultaneously with their vertical movement.

3. In a rail-brake, the combination of a truck, a central shaft, arms carried by said shaft, rods carried by said arms, shoe-holders secured to said rods, a universal-joint connection between said rods and shoe-holders, and spreaders connected to said shoe-holders, substantially as described.

4. In a rail-brake, the combination with a truck, a central shaft, arms connected to said shaft, rods connected to said arms, means to adjust said rods, shoe-holders, a universal-joint connection between said shoe-holders and the lower ends of said rods, a central lever, spreaders connected to said central lever, shoes secured in said shoe-holders, means connected to said central lever to operate the shoes outwardly against the inner face of the rail, substantially as described.

5. In a rail-brake, the combination with a truck, a central shaft, arms carried by said shaft, rods connected to said arms, shoe-holders, a universal-joint connection between said shoe-holders and rods, shoes secured in said shoe-holders, a central V-shaped lever secured to said shaft, levers having guideways formed therein connected to said V-shaped lever, spreaders connected to said last-named lever and said shoe-holders, all parts being arranged and operating substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

HENRY T. BROWN.

Witnesses:

JOHN NOLAND,
E. E. POTTER.