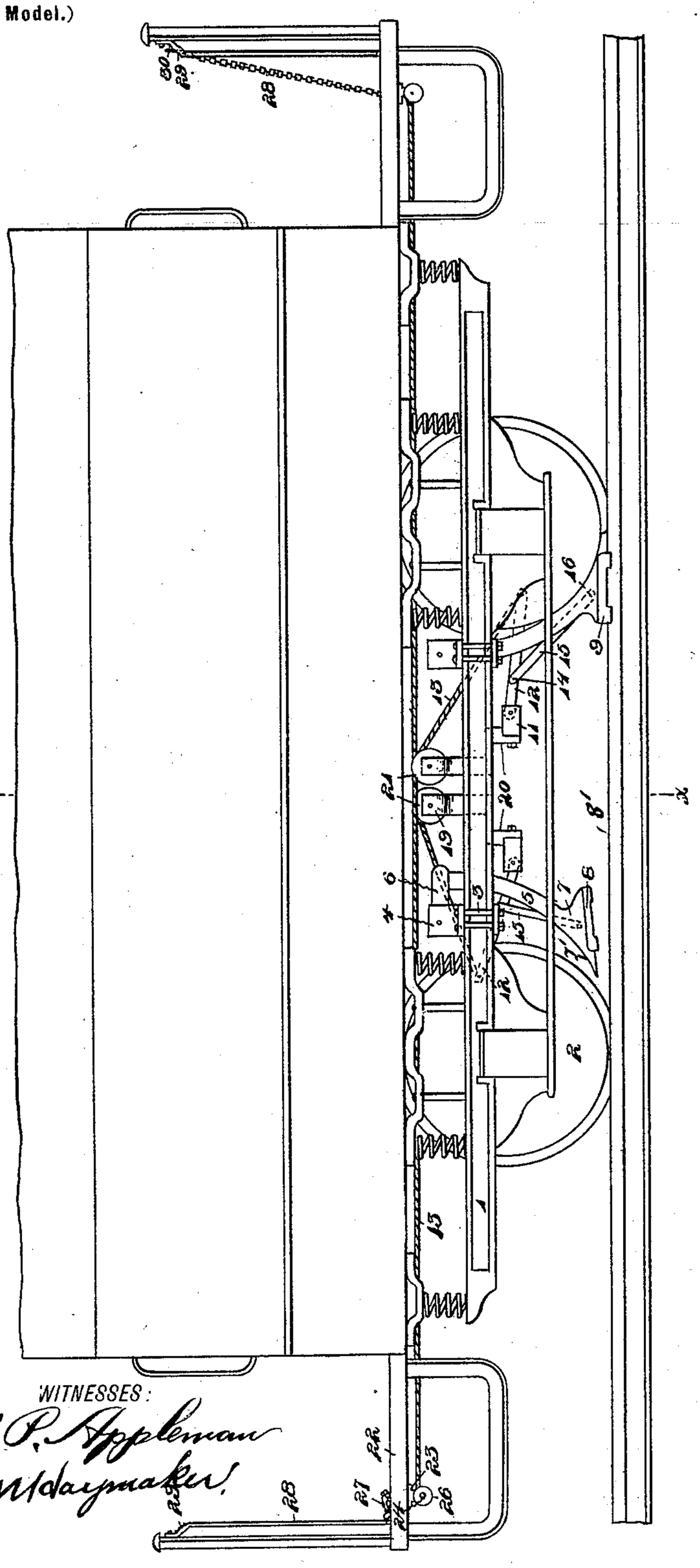
No. 622,930. Patented Apr. 11, 1899.

J. G. SCHUMANN.

STREET CAR BRAKE.

(Application filed Nov. 21, 1898.)

(No Model.) 2 Sheets—Sheet 1.



WITNESSES:

J. P. Appleman

A. M. Claymaker.

INVENTOR

J. G. Schumann

BY

N. C. Evert & Co.

ATTORNEYS.

No. 622,930. Patented Apr. 11, 1899.

J. G. SCHUMANN.

STREET CAR BRAKE.

(Application filed Nov. 21, 1898.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

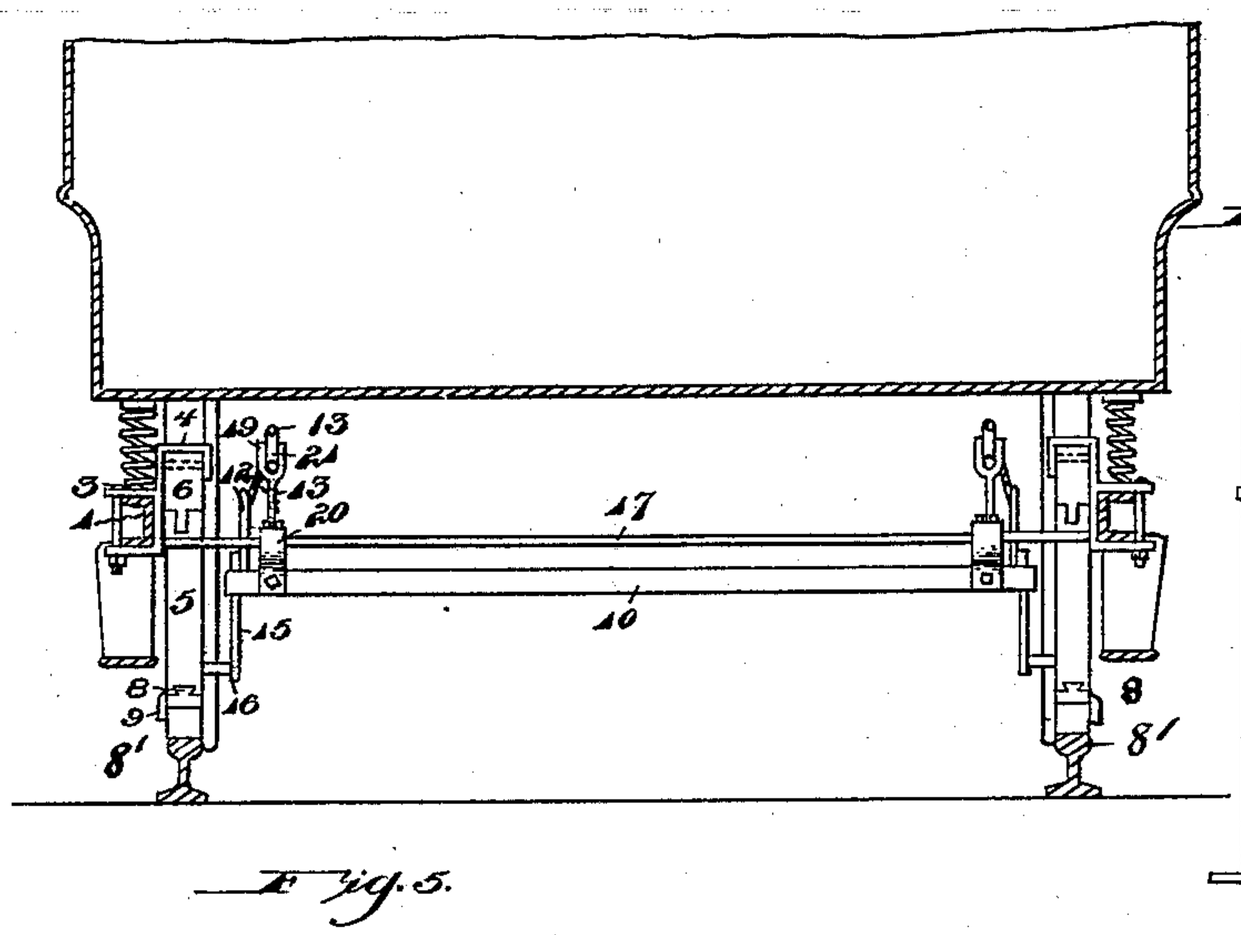
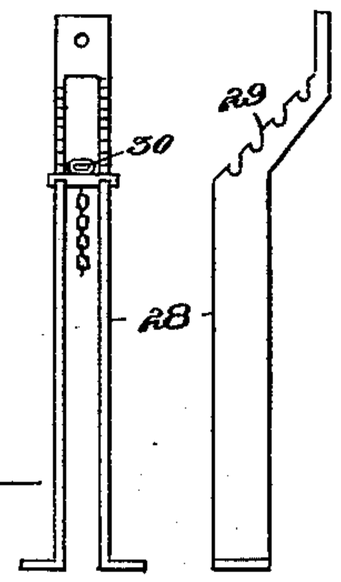


Fig. 5.

Fig. 3. Fig. 4.



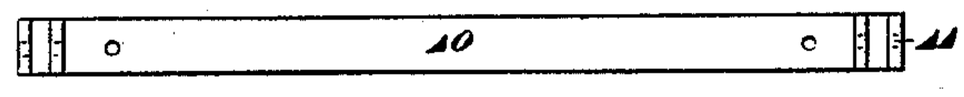


Fig. 6.

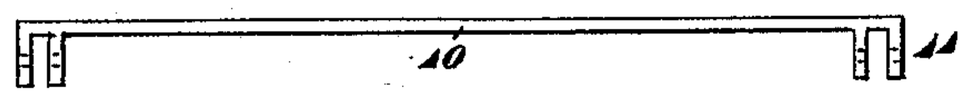
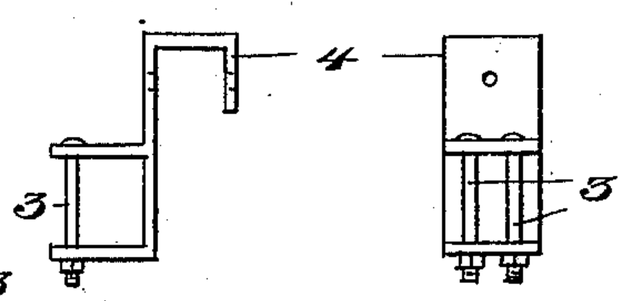


Fig. 9.

Fig. 7. Fig. 8.



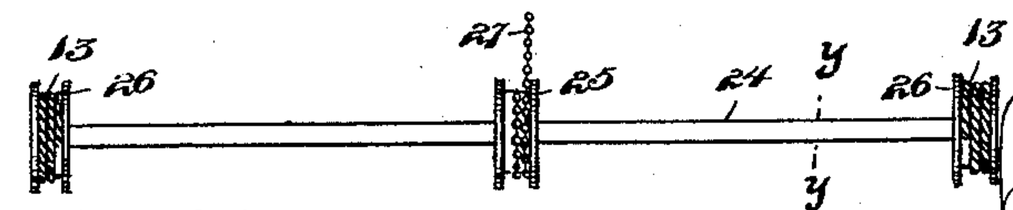
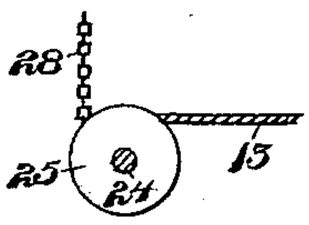


Fig. 10. Fig. 11.



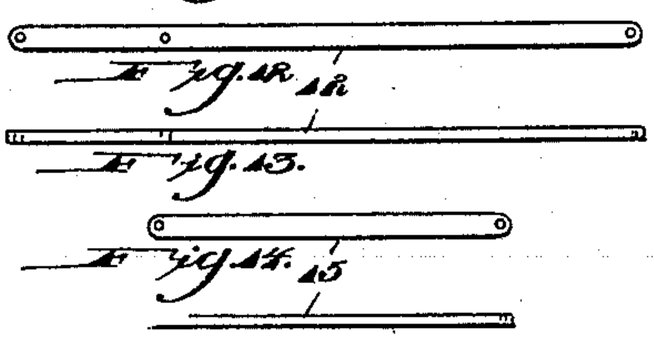


Fig. 12. Fig. 13. Fig. 14.

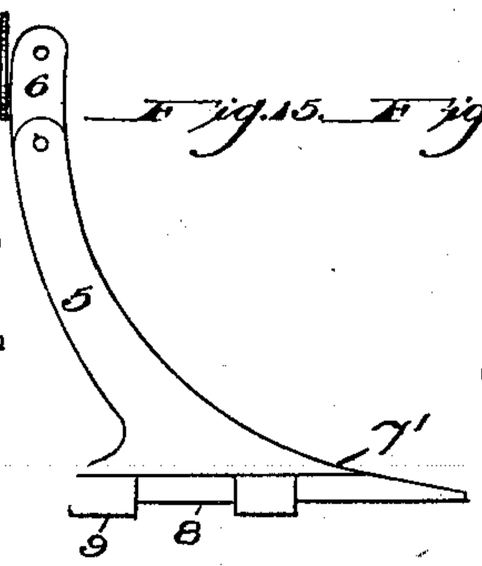
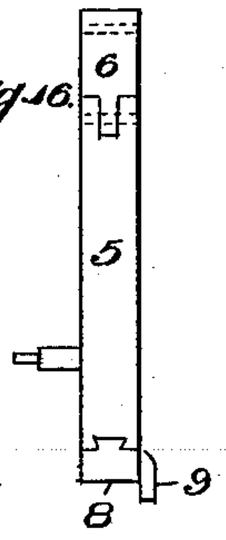


Fig. 15. Fig. 16.



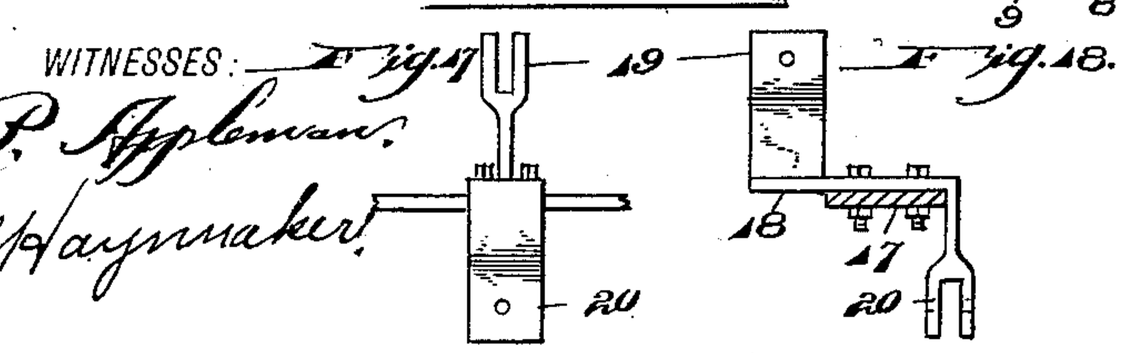


Fig. 17. Fig. 18.

WITNESSES:

J. P. Appleman.

A. M. Haymaker.

INVENTOR

J. G. Schumann

BY

N. C. Evert & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN G. SCHUMANN, OF PITTSBURG, PENNSYLVANIA.

STREET-CAR BRAKE.

SPECIFICATION forming part of Letters Patent No. 622,930, dated April 11, 1899.

Application filed November 21, 1898. Serial No. 696,968. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. SCHUMANN, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Street-Car Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in brakes.

My invention particularly relates to what are known as "emergency-brakes," adapted to be applied only when it is desired to quickly check the car and when the ordinary car-brakes are unable to accomplish the desired result.

The object of my invention is to construct a brake of this character having a grip attached to the brake-shoe to engage the rail when the brake-shoe is brought into contact with the wheels and to lock the same in such a manner as to raise the wheels slightly from the track.

My invention further consists in the novel combination and arrangement of parts hereinafter more fully described, and particularly pointed out in the claims.

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

Figure 1 is a side view of a portion of a car and car-truck, showing my improved brake in an operative and an inoperative position. Fig. 2 is a cross-sectional view on the line *x x*, Fig. 1. Fig. 3 is a front view of the securing-posts for the operating-chain. Fig. 4 is a side view thereof. Fig. 5 is a bottom plan view of the supporting-rod. Fig. 6 is a side view thereof. Fig. 7 is a side view of the supporting-bracket for the supporting-rod and brake-shoe. Fig. 8 is a front view thereof. Fig. 9 is a front view of the operating-shaft. Fig. 10 is a cross-sectional view on the line *y y*, Fig. 9. Figs. 11, 12, 13, and 14 are side views of the operating-levers. Fig. 15 is a side view of the brake-shoe, showing the grip for the rail. Fig. 16 is a front view thereof. Fig. 17 is an end view of the supporting-bracket for the supporting-rod and brake-shoe. Fig. 18 is a front view thereof.

Referring to the drawings by reference-numerals, 1 indicates the beam of the car-truck, and 2 the wheels. Secured to the side rails 1 of the truck-frame by means of bolts 3 is a support 4, from which the brake-shoe is pivotally supported. This brake-shoe has formed integral therewith a hanger 5, which may have formed integral with its upper end or suitably connected thereto an extending arm 6, that is pivotally connected to the support 4. The brake-shoe hanger comprises a curved block 5, which is enlarged at its lower end, as at 7, to form the brake-shoe proper, having a tapering extension 7′. The lower face of the brake-shoe has secured thereto a grip 8, the gripping-face of which is of substantially the same shape as the tread of the rail 8′, said grip being secured to the brake-shoe by means of guides or keepers, which are formed integral with the grip and engage the shoe. By reason of the brake-shoe being formed with the tapering extension 7′ the car-wheel is permitted to ride upon the same as the shoe is brought into operative position, and the wheel thus elevated from the track.

10 indicates the brake-beam, having on each of its ends the extending arm 11. The extending arms 11 are pivotally connected to the one end of the lever-rod 12, while the opposite or free end of the lever-rod 12 is connected to the brake rope or cable 13. Pivotally secured, as at 14, to the lever-rod 12 is an operative lever 15 for the brake-shoe. The opposite end of the lever 15 is pivotally connected to the brake-shoe, as at 16.

17 indicates the brace or supporting bar, which is secured at each of its ends in the side rails 1 of the car-truck, and mounted upon this brace or supporting rod are the brackets or supports 18, having their upper and lower ends bifurcated, as shown at 19 20. The lower end of the bracket 18 is adapted to secure in position the supporting-rod 10, while the upper end thereof is adapted to receive the friction-pulley 21 for the brake rope or cable 13.

Suitably secured to the underneath face of the platform 22 by means of the keepers 23 and operating in the said keepers is the operating-shaft 24, having a pulley-wheel 25

mounted centrally thereon and a pulley-wheel 26 mounted on each end. The pulley 25 is adapted to have wound thereon the operating-chain 27, while the pulleys 26 have connected thereto the brake cables or ropes 13.

Mounted upon the platform 22 is the securing-post 28, provided with a rack 29, which is adapted to receive the handle 30 of the operating-chain and securely hold the same in the desired position.

The brake is applied to the wheels or to one end of the truck at a time and always on the rear wheels of the truck from the direction in which the car is moving, so that when the operating-chain is drawn upward the brake rope or cable will actuate and move the brake-shoe from the position shown in the left of Fig. 1, and when the operating-chain is released it will actuate or move the brake-shoe to the engaging position, as shown in the right of Fig. 1. The grip will then be forced into engagement with the rails and the car-wheels will ride upon the inclined portion of the brake-shoe, which serves to lift the same off the track.

It will be observed that the brake is applied in such a manner as to be operated from either end of the car, and it will also be noted that any suitable mechanism may be used for applying the brake and that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In an emergency-brake, the combination of the brake-shoes, hangers formed integral with said shoes and pivotally connected at their upper end to supports carried on the truck-frame, a pair of brake-beams having arms formed integral with each end thereof, lever-rods pivotally connected at their one end to said arms, operating-levers pivotally connected to said lever-rods and to the brake-shoes, a pair of operating-shafts, pulleys mounted on each end of said shafts, brackets mounted on the truck-frames, friction-pulleys journaled in said brackets, operating-cords connected to the lever-rods and to the pulleys on the operating-shaft and passing over said friction-pulleys, operating-chains connected to the operating-shaft, and means for supporting said chain so as to retain the brake-shoes in the elevated or inoperative position, substantially as described.

2. In an emergency-brake, the combination with the brake-shoes, a rail-grip secured to the under face of said shoes, hangers formed integral with the brake-shoes, a pair of operating-shafts, pulley-wheels mounted on each end of said shafts, a pulley-wheel mounted centrally on each of said shafts, an operating-chain connected to said central pulley-wheel, lever-rods pivotally supported from the truck-frame, operating-shafts pivotally connected to said lever-rods and brake-shoes, and operating-cables connected to said lever-rods and to the end pulley-wheels on the operating-shafts, substantially as described.

3. In an emergency-brake, the combination of a car-truck, of supports mounted on the frame of said truck, brake-shoes pivotally supported from said supports, lever-rods pivotally supported from the truck-frame, operating-rods pivotally connected to the brake-shoes and to the operating-levers, a pair of operating-shafts, pulley-wheels mounted centrally of and upon each end of said shafts, cables connecting the lever-rods and end pulley-wheels of the operating-shafts, and an operating-chain connected to the central pulley of said shaft, substantially as described.

4. In an emergency-brake, the combination of the brake-shoes having a tapering extension which receives the car-wheel when the brake-shoes are in the operative position, supports secured to the truck-frame, hangers formed integral with the brake-shoes and pivotally suspended from said supports, operating-levers pivotally supported at their one end from the truck-frame, operating-rods connected to said operating-levers and to the brake-shoes, operating-shafts supported from the car-platform, pulley-wheels mounted on each end of said shafts, cables connecting said pulley-wheels and the operating-levers, an operating-chain connected to the operating-shafts, and a support for said chain secured on the car-platform, substantially as described.

5. In an emergency-brake, the combination of the brake-shoes having a tapering extension to receive the car-wheels when the brake-shoes are in the operative position, grips secured to the underneath face of said brake-shoes, hangers connected to the shoes and pivotally suspended from supports secured to the car-frame, brackets connected to said frame, friction-pulleys journaled in the upper end of said brackets, operating-levers pivotally supported from the car-frame, a pair of operating-shafts, cables passing over said friction-pulleys and connecting operating-shafts and operating-levers, operating-rods connecting said levers with the brake-shoes, and an operating-chain connected to said operating-shafts, substantially as described.

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

JOHN G. SCHUMANN.

Witnesses:
JOHN NOLAND,
ALBERT J. WALKER.