E. A. BOLE.

BRAKE MECHANISM.

APPLICATION FILED OCT. 19, 1910.

993,339. Patented May 30, 1911.

Fig. 1.

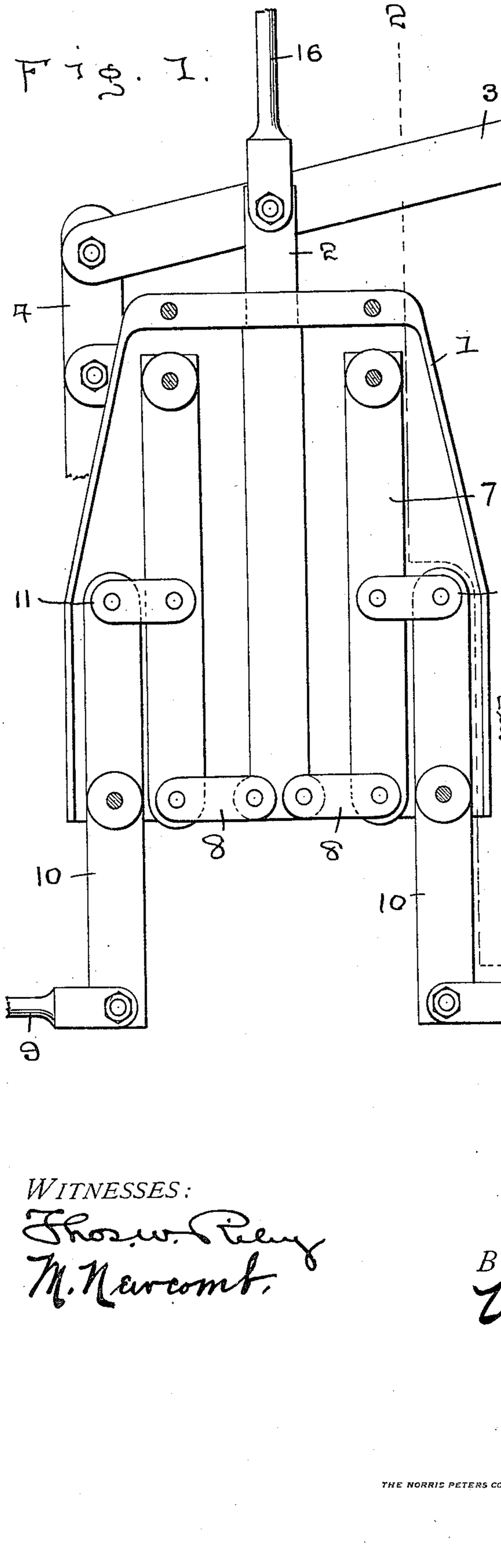


Fig. 2.

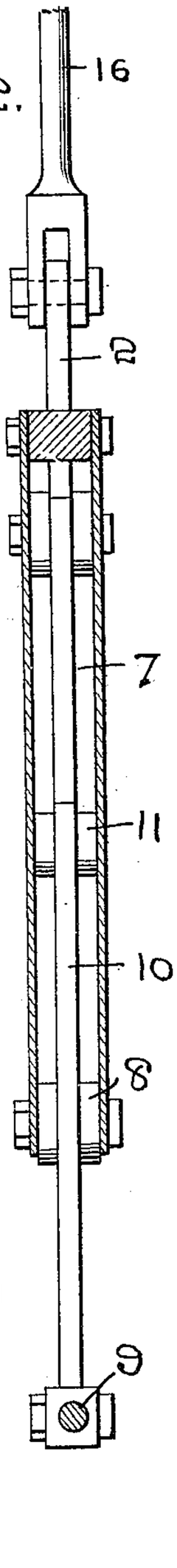


Fig. 3.

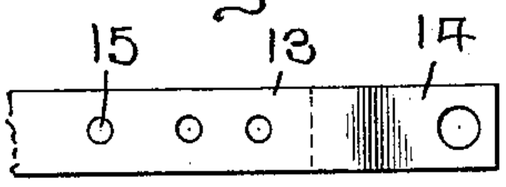
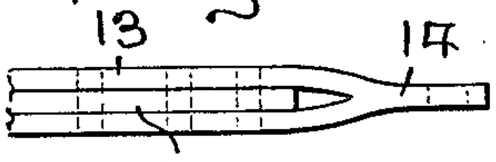


Fig. 4.



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BRAKE MECHANISM.

993,339. Specification of Letters Patent. **Patented May 30, 1911.**

Application filed October 19, 1910. Serial No. 587,917.

To all whom it may concern:

Be it known that I, EDWARD A. BOLE, a citizen of the United States, residing at Follansbee, in the county of Brooke and State of West Virginia, have invented certain new and useful Improvements in Brake Mechanism; and I 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.

My invention relates to new and useful improvements in brake mechanisms and more particularly to that class to be used in connection with railway or street car trains and my object is to provide means for obtaining a direct pressure on the brakes from the air cylinder.

A further object is to provide means for compensating for wear upon the brakes.

Other objects and advantages will be hereinafter set forth and pointed out in the specification.

In the accompanying drawings, which are made a part of this application, Figure 1 is a plan view of the brake mechanism with a portion of the covering therefor removed. Fig. 2 is a sectional view as seen on line 2—2, Fig. 1. Fig. 3 is a detail elevation of one end of the brake shoe rod, and, Fig. 4 is an edge elevation thereof.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a casing in which is slidably mounted a thrust bar 2, one end of the thrust bar projecting through one end of the casing and has pivoted thereto a lever 3, said lever projecting a distance on each side of the thrust bar. One end of the lever 3 is pivoted to a bracket 4, while the opposite end thereof is pivotally attached to a piston rod 5, which rod coöperates with the usual or any preferred form of air cylinder 6 and as the air mechanism is operated in the usual manner to operate the brakes the lever 3 will pivot with respect to the bracket 4 to move the thrust bar 2 lengthwise.

Pivotally mounted within the casing 1 and adjacent that end of the casing through which the thrust bar 2 extends, are swinging bars 7, one on each side of the thrust bar and at equal distance therefrom, the pivot points of said swinging bars being at one end thereof. The opposite end of the said swinging bars are connected to the thrust bar 2 by means of links 8, said links being pivoted to the free ends of the swinging bars and the end of the thrust bar, whereby when the thrust bar is moved lengthwise the bars 7 will be caused to swing toward or from the thrust bar. The movement of the swinging bars 7 is employed for operating the brake shoe rods 9, by placing adjacent the outer edges of the casing, rocking bars 10, which bars are pivoted to the casing 1 at a point adjacent their longitudinal centers, said pivotal points being substantially in line with the pivotal points of the links 8 the inner ends of the rocking bars being engaged with the swinging bars by links 11, said links 11 engaging the swinging bars at a point adjacent the longitudinal length of the bars. By this construction it will be seen that when the thrust bar is moved inwardly the bars 7 will be swung toward the thrust bar, while the bars 10 will be rocked on their pivots and the brake shoes (not shown) moved into engagement with the wheels of the car.

In order to compensate for the wear of the brake shoes one end of the rods 9 is preferably flattened, as shown at 12, which flattened portions extend between the arms 13 of yokes 14, the flattened portions and the arms having a plurality of openings 15, through which any suitable form of pins may be introduced to hold the yokes and rods in engagement with each other and by providing a plurality of the openings the yokes may be adjusted lengthwise of the rods to take up any wear that may occur.

Where two sets of brakes are used on the same car a connecting rod 16 is attached to that end of the thrust bar projecting through the casing and extended into engagement with the thrust bar of the other set of brakes.

By providing this form of brake operating mechanism it can readily be seen that a direct thrust is given to the brakes and the usual form of chains and hanging rods dispensed with. It will further be seen that this device, in view of its simplicity, can be very cheaply constructed and at the same time rendered extremely strong and durable, and, it will likewise be seen that the wear incident to the brake shoes engaging the

surface of the wheels can be readily compensated for by the adjusting means disclosed.

What I claim is:

In a brake operating mechanism, the combination with a thrust bar, a pivotally mounted lever connected to the thrust bar and means to swing said lever on its pivot to move the thrust bar lengthwise, of a pair of swinging bars pivoted at one end, links at the opposite ends of the swinging bars connecting with the thrust bar, a pair of rocking bars pivoted in their length, links connecting one end of the rocking bars with the swinging bars at a point between the ends of the swinging bars and brake shoe rods connected to the opposite ends of the rocking bars adapted to be operated by the movement of the thrust bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD A. BOLE.

Witnesses:
ROBT. L. RAMSEY,
CECIL S. BOLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."