

(No Model.)

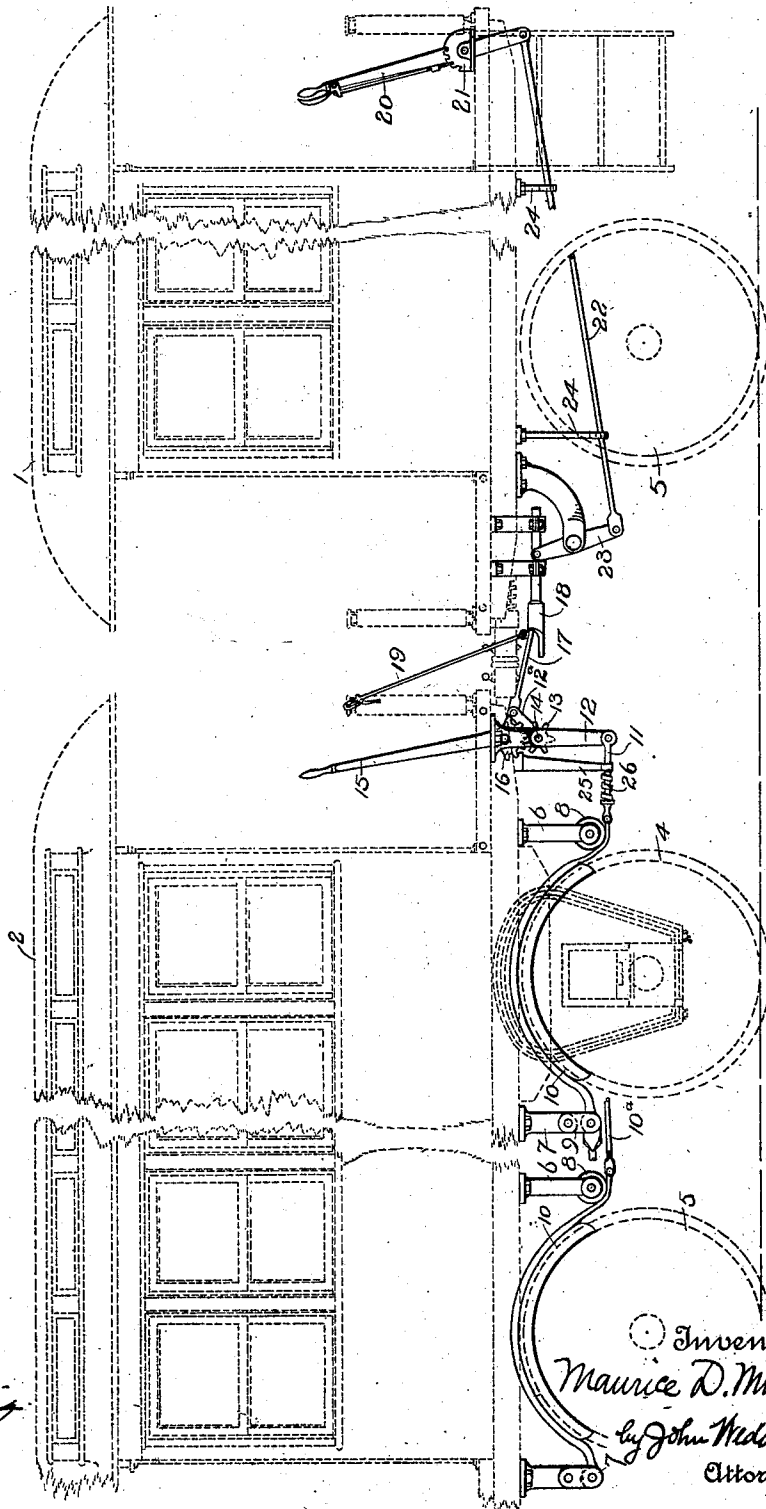
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M. D. MURPHY.
CAR BRAKE.

No. 576,143.

Patented Feb. 2, 1897.

FIG. 1.



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(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

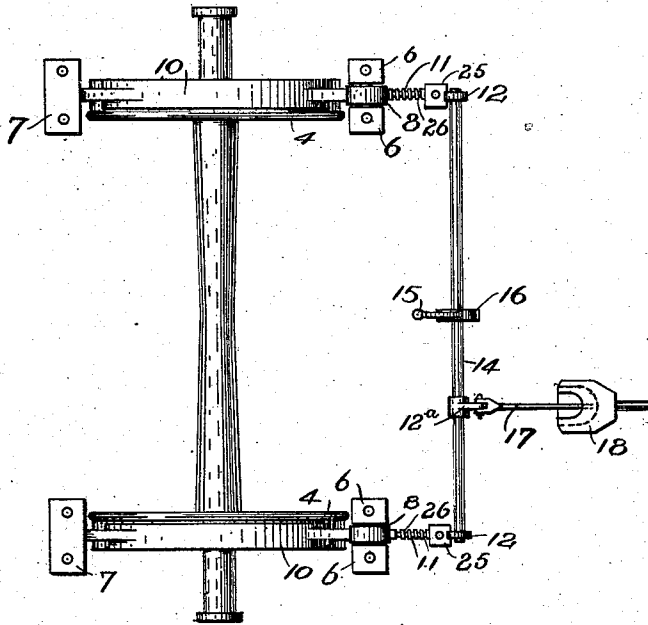
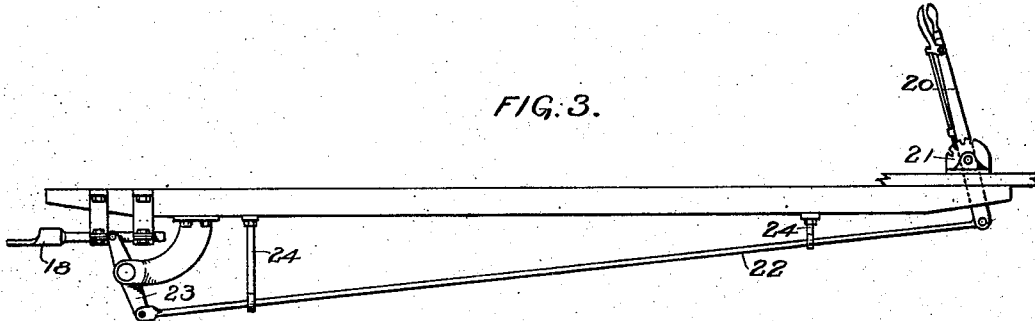


FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

MAURICE D. MURPHY, OF JOHNSTOWN, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 576,143, dated February 2, 1897.

Application filed July 10, 1896. Serial No. 598,733. (No model.)

To all whom it may concern:

Be it known that I, MAURICE D. MURPHY, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes; 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 certain new and useful improvements in wheel-brakes for cars, the object of the same being to provide a simple device for this purpose which is effective in operation and which is adapted to be automatically thrown into action from the platform of the front car of a train when the brakes have been applied to said front car.

The invention consists of uprights or standards on a car-truck, one on each side of the wheel, a guide roller or pulley in one of said standards, a link in the other of said standards, a brake-shoe attached to said link and passing beneath said pulley, having a circular bearing-surface, a spring for normally holding said shoe out of contact with the periphery of the wheel, an operating-lever having a toothed lower end, a segmental rack engaged by the toothed end of said lever, a rod or bar connected to said rod, a pitman connecting one arm of said rod with the forward end of said brake-shoe, and a forwardly-projecting bar adapted to be engaged by a stop on the front car.

The invention also consists in other details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 represents a side elevation of two cars having my improvements applied thereto. Fig. 2 is a top plan view of the truck of one of said cars. Fig. 3 is a sectional view showing the means of adjusting the position of the stop on the front car.

Like reference-numerals indicate like parts in the different views.

The cars 1 and 2 are each mounted upon suitable trucks 3 3, having wheels 4 5 thereon. Secured to the truck 3 of one or both of said cars are standards 6 and 7, the standard

6 being located just in advance of the front wheel 4 and having a pulley 8 mounted in the upper end thereof. The standard 7 is located just in the rear of the front wheel 4 and has a link 9 pivoted to its upper end, to the lower end of which link is pivotally connected one end of a brake-shoe 10, constructed of stiff inflexible material, having a circular bearing-surface, as shown, with the outer ends thereof angularly arranged.

If it be desired to apply the brake to both the front and rear wheels of the car, similar standards and brake-shoes may be attached to the truck 3 on each side of the rear wheel 5, with a pitman 10^a connecting the forward end of the rear brake-shoe with the rear end of the front brake-shoe. Pivotally connected to the forward end of the shoe 10 is a pitman 11, which is in turn attached to one arm of a rod or bar 12, secured to one side of a segmental rack 13, which is mounted upon a suitable shaft 14 and is adapted to be rotated by a lever 15, having teeth 16 upon its lower end, which mesh with the teeth of said rack. The other end of the rod 12 has connected to it a forwardly-extending push-bar 17, which normally lies within a box 18, adjustably secured to the under side of the car 1. The said bar 17 may be elevated by the operator by means of a cord 19 to throw the same out of engagement with the box 18, or said box may be shifted back and forth and adjusted by the mortorman at the forward end of the car 1.

It will be understood that the object I have in view in providing the push-bar 17 and the box 18, with which it is adapted to engage, is to provide means for automatically throwing into operation the brake-shoe 10 upon the car 2 when the brakes have been applied to the front car 1 and the motion of said front car has been slightly retarded. In going downhill, however, it is desirable not to apply the brake to the rear car 2, so some means must be provided for releasing the push-bar 17 from engagement with the stop on the front car 1. In Fig. 3 the preferred form of my invention, whereby I accomplish this object, is illustrated. In this view an operating-lever 20 is fulcrumed in the forward end of the car 1 and is adapted to be thrown into engagement with one or the other of the

notches in a toothed bar or sector 21. The lower arm of the lever 20 is connected through a pitman 22 with a lever 23, which carries the box 18 in its outer end. The pitman 22 is slidingly mounted in suitable bearings 24 on the under side of the car, and it will be seen that by operating the lever 20 the relative position of the box 18 may be readily and conveniently regulated. If it be desired to throw off the automatic switch, it can be done by pushing forward the upper end of the lever 20, which, through the mechanism described, will draw the box 18 forwardly, so that when the two draw-heads of the cars 1 and 2 are brought into contact one with the other the forward end of the push-bar 17 will meet with no obstruction. When it is desired, however, to operate the automatic brake, the lever 20 is forced rearwardly, throwing the box 18 into its outer position into the line of movement of the push-bar 17.

From the foregoing description it is thought that the operation of my invention will be readily understood. Briefly stated, however, it is as follows:

If it be desired to throw on the brake on the car 2 by hand, the lever 15 is thrown forwardly by the operator, which action, through the segmental rack 13, the rod 12, connected thereto, and the pitman 11, draws forwardly the brake-shoe 10. When this is done, the forwardly-inclined ends of the shoe 10, passing beneath the pulley 8 in the upper end of the standard 6 and the rear end of said shoe connected with the link 9, force said shoe down into close contact with the outer rim of the wheel 4 and stops the movement of the car. Of course if a similar brake-shoe is provided for the rear wheel 5 the same operation of the brake-shoe will take place, the motion being transmitted through the pitman 9. The brake on the rear car 2 is operated automatically when the motion of the front car 1 has been partially stopped by the engagement of the forward end of the push-bar 17 with the box 18 on said car. The said push-bar being connected to the upper end of the rod 12 acts to rotate the segmental rack 13 in the same manner as was done by hand.

It should be stated that the box 18 is preferably formed semicircular with a flat bottom, upon which the forward end of the bar 17 may rest at all times, but with the upper end or top thereof cut away, as shown.

The pitman 11 passes between guides 25, secured to the under side of the car 2, and a coil-spring 26 is connected to one of said guides and to said pitman for the purpose of normally holding the latter in its rearward position, with the brake-shoe out of contact with the rim of the wheel 4.

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

1. The combination with a car mounted upon a suitable truck and wheels, of standards secured to said truck, one located upon

each side of said wheels, a pulley in one of said standards, a link in the other of said standards, a brake-shoe, having a circular bearing-surface and an outwardly-bent forward end, pivoted at its rear end to said link and passing beneath said pulley, and means for forcing said brake-shoe forwardly.

2. The combination with a car mounted upon a suitable truck and wheels, of standards secured to said truck, one located upon each side of said wheels, a pulley in one of said standards, a link in the other of said standards, a brake-shoe, having a circular bearing-surface and an outwardly-bent forward end, pivoted at its rear end to said link and passing beneath said pulley, and automatic means for forcing said brake-shoe forwardly.

3. The combination with a car mounted upon a suitable truck and wheels, of standards secured to said truck, one located upon each side of said wheels, a pulley in one of said standards, a link in the other of said standards, a brake-shoe, having a circular bearing-surface and an outwardly-bent forward end, pivoted at its rear end to said link and passing beneath said pulley, an operating-lever having a toothed lower end, a segmental rack with which said lever engages, and a pitman connecting said brake-shoe with said rack, substantially as and for the purpose described.

4. The combination with a car mounted upon a suitable truck and wheels, of standards secured to said truck, one located upon each side of said wheels, a pulley in one of said standards, a link in the other of said standards, a brake-shoe, having a circular bearing-surface and an outwardly-bent forward end, pivoted at its rear end to said link and passing beneath said pulley, an operating-lever having a toothed lower end, a segmental rack with which said lever engages, a pitman connecting said brake-shoe with said rack, a guide through which said pitman passes, and a spring attached to said guide and to said pitman for holding the latter normally in its rearward position.

5. The combination with a car mounted upon a suitable truck and wheels, of standards secured to said truck, one located upon each side of said wheels, a pulley in one of said standards, a link in the other of said standards, a brake-shoe, having a circular bearing-surface and an outwardly-bent forward end, pivoted at its rear end to said link and passing beneath said pulley, an operating-lever having a toothed lower end, a segmental rack mounted upon a transverse shaft on the under side of said car with which said lever engages, a rod or bar attached to said rack, and a pitman connecting said brake-shoe with one arm of said rod or bar.

6. The combination with a car mounted upon a suitable truck and wheels, of standards secured to said truck, one located upon each side of said wheels, a pulley in one of

said standards, a link in the other of said standards, a brake-shoe, having a circular bearing-surface and an outwardly-bent forward end, pivoted at its rear end to said link
5 and passing beneath said pulley, an operating-lever having a toothed lower end, a segmental rack mounted upon a transverse shaft on the under side of said car with which said lever engages, a rod or bar attached to said
10 rack, a pitman connecting said brake-shoe with one arm of said rod or bar, and a forwardly-extending push-bar, pivoted to the other arm of said rod or bar and adapted to engage a stop upon the car next adjacent
15 thereto.

7. The combination with two cars constituting a train, the rear car having a brake

thereon adapted to be thrown into operation by a push-bar extending forwardly therefrom, of a stop secured to the outer end of a lever
20 fulcrumed in the forward car, an operating-lever within reach of the motorman on the forward car, and a pitman connecting the free arms of said levers, whereby the position of said stop may be adjusted, substantially
25 as and for the purpose described.

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

MAURICE D. MURPHY.

Witnesses:

W. P. REESE,
JOHN A. HELLSTRONE.