

No. 808,314.

C. H. SHANER.  
CAR BRAKE.

PATENTED DEC. 26, 1905.

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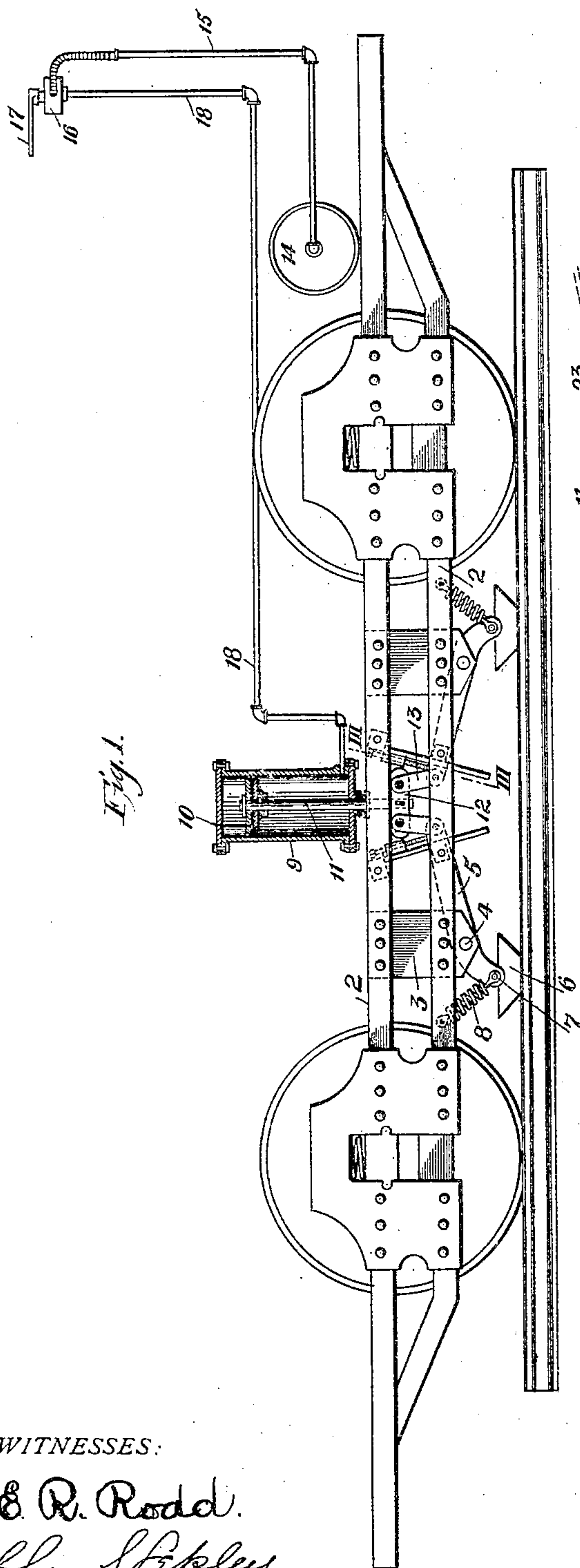


Fig. 1.

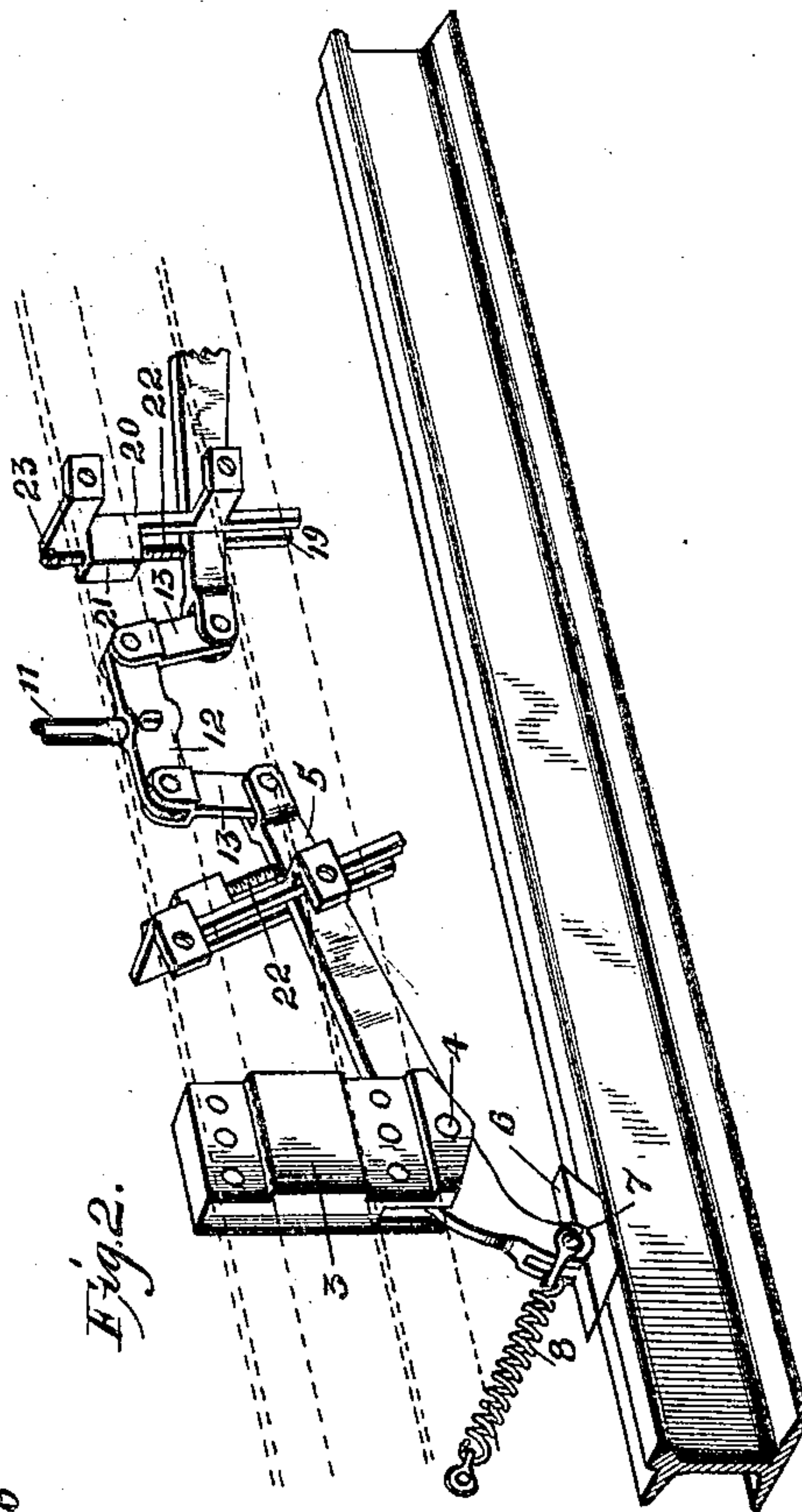


Fig. 2.

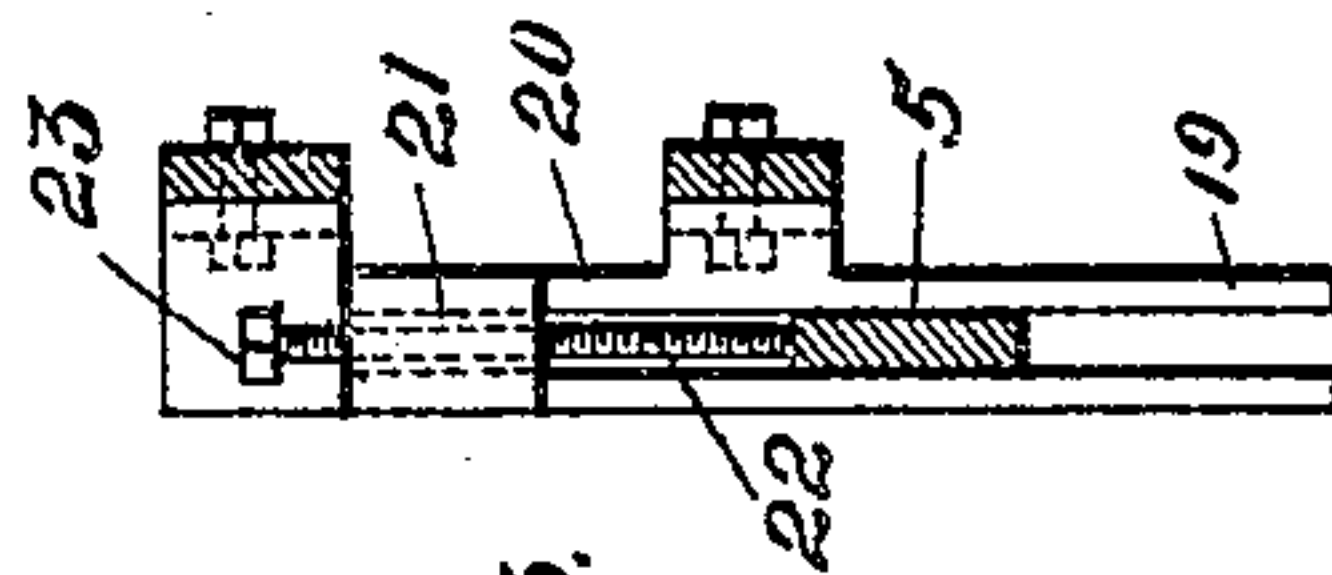


Fig. 3.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## CAR-BRAKE.

No. 808,314.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed March 31, 1905. Serial No. 253,078.

*To all whom it may concern:*

Be it known that I, CHARLES H. SHANER, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of the specification, in which—

Figure 1 is a partial view of a car-truck equipped with my improved brake mechanism. Fig. 2 is a perspective view showing the lever arrangement and mounting. Fig. 3 is a vertical cross-section on the line III III of Fig. 1, showing the lever guiding and adjusting means.

My invention refers to improvements in street-car brakes of that class wherein braking power is applied to the rail as contrasted with the application of the brakes to the wheel-periphery. An especial advantage in track-brakes is that it avoids locking and resulting flattening of the wheels, while being more effective and capable of holding the car with greater certainty on grades.

My present invention is designed to operate by compressed air or other power independent of the electric current, thereby rendering the brake entirely independent of the power-supply. An especial advantage of such construction is that when the car is stopped on a grade and the current switched off the brakes are still operative independent of the current, whereas in an electric track-brake the brake can only be applied during the time when the current is switched on.

Various other advantages of the invention will be observed and appreciated by all those familiar with this class of mechanism.

Referring now to the drawings, 2 represents the framing of the car-truck, which, as shown, consists of upper and lower main bars, although the truck may be of any other suitable form or design, and my brake is adaptable to any of the various constructions. Secured upon the bars 2 of the frame are fulcrum-blocks 3, to which at 4 are pivoted the brake-levers 5, carrying on their lower ends brake-shoes 6, which are preferably pivotally connected by means of cross-pins 7. The track-shoes 6 are preferably tapered upwardly at each end, as shown, in the form of sled-runners, so as to more readily cross over switch-points, crossings, or other obstructions in the track. The shoe and its supporting end of the

lever 5 are normally raised out of contact by a tension-spring 8 of any suitable construction, by which the shoe end of the lever is thus held up, while the longer bar end is by the same means thrown down to its lowermost position, which position is normally maintained. The levers and shoes are arranged in pairs, as shown, at each side of the center of the car adjacent to each wheel, the same construction being duplicated on the other side of the car.

Midway of the car-frame between the pivotal bearings 4 and mounted on any suitable supporting-framework is a fluid-cylinder 9, provided with a piston 10 and piston-rod 11, projecting downwardly through a suitable stuffing-box and attached to a yoke 12, secured by a key or otherwise to the lower end of the piston-rod. To each end of the yoke are connected links 13 13, depending downwardly and attached to the inner end of levers 5 5, respectively, as clearly shown.

14 is a compressed-air tank located in any suitable position on the car-framing, connected with which is a pipe 15, leading to a controlling-valve 16, having an operating-handle 17, by which the supply and exhaust of the compressed air to cylinder 9 may be controlled by the motorman.

18 is a pipe leading from the valve 16 to the lower portion of cylinder 9, and it will be understood that the same construction of pipes and valves is preferably duplicated at the other end of the car, so that the brakes may be operated from either end.

The levers 5 are embraced between the downwardly-extending guides 19 of a frame 20, bolted to the car-frame 2, and provided with a threaded lug-bearing 21, in which is mounted a threaded screw 22, bearing downwardly into contacting range of the lever 5 and provided with an upper terminal nut extremity 23, by which the screw may be adjusted. By this means, which is provided for each lever, the travel of the levers is limited and may be very accurately adjusted, so as to prevent undue pressure upon the track, while the contacting action of the shoes may be nicely regulated from time to time, so as to take up wear or provide for any other contingencies requiring such adjustment. By means of the lever 17 it will be seen also that the braking pressure of the shoes may be readily controlled and that the pressure may be immediately thrown on with full force for an emergency stop or may be gradually applied,



as in making a service stop, the entire operation being within the control of the operator.

It will be understood that the size of the shoes, their bearing area, the lever proportions, the arrangement, and various other features of detail construction or application of the invention may be widely changed by the skilled mechanic within the principle of the invention; but all such changes are to be considered as within the scope of the following claims.

What I claim is—

1. In braking apparatus, the combination with a car-frame, of lever-fulcrums, vertically-movable levers mounted therein provided with track-bearing shoes and adjacent lifting-terminals, a vertically-arranged pneumatic cylinder provided with a piston having a yoke, adjacent links connecting the yoke with the lever-terminals, means for retracting the shoes from track contact, and means located in position for operation by the motorman for controlling the supply to and from the pneumatic cylinder, substantially as set forth.

2. In braking apparatus, the combination with a car-frame, of levers pivotally mounted thereon provided with terminal arms having downwardly - pressing track - shoes, a pneumatic cylinder and piston adapted to exert lifting pressure upon the inner ends of said levers, means for controlling the pressure to said cylinder, and means for vertically guiding the levers, substantially as set forth.

3. In braking apparatus, the combination with a car-frame, of levers pivotally mounted thereon provided with terminal arms having downwardly - pressing track - shoes, a pneumatic cylinder and piston adapted to exert lifting pressure upon the inner ends of said levers, means for controlling the pressure to

said cylinder, and means for vertically guiding the levers, with means for regulating the movement thereof, substantially as set forth.

4. In braking apparatus, the combination of oppositely-disposed pivotally-mounted levers provided with terminal rail-contact shoes, a pneumatic cylinder provided with a piston having a yoke connected with the inner ends of said levers, guiding devices for the levers, and threaded adjusting-screws adapted to limit their movement, substantially as set forth.

5. In braking apparatus, the combination of oppositely-disposed pivotally-mounted levers provided with terminal rail-contact shoes, a pneumatic cylinder provided with a piston having a yoke connected with the inner ends of said levers, guiding devices for the levers, and threaded adjusting-screws adapted to limit their movement, with retracting-springs connected with the shoe-carrying extremities of said levers, substantially as set forth.

6. In braking apparatus, the combination of oppositely-disposed pivotally-mounted levers provided with terminal rail-contact shoes, a pneumatic cylinder provided with a piston having a yoke connected with the inner ends of said levers, guiding devices for the levers, threaded adjusting-screws adapted to limit their movement, a compressed-air reservoir, a controlling-valve, and connections between said reservoir, valve and cylinder, substantially as set forth.

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

CHARLES H. SHANER.

Witnesses:

C. M. CLARKE,

CHAS. S. LEPLEY.