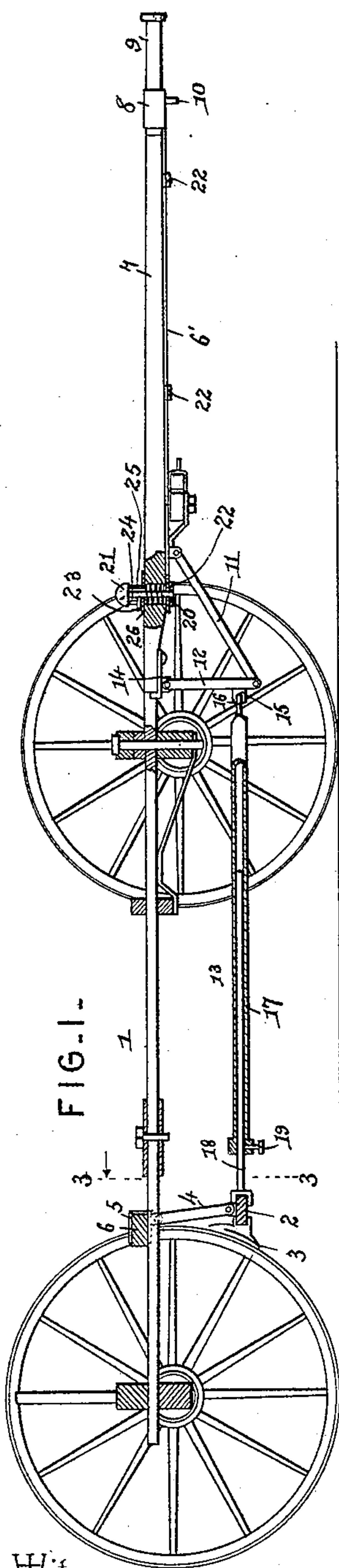


(No Model.)

W. H. ARNOLD.
WAGON BRAKE.

No. 464,057.

Patented Dec. 1, 1891.



Witnesses

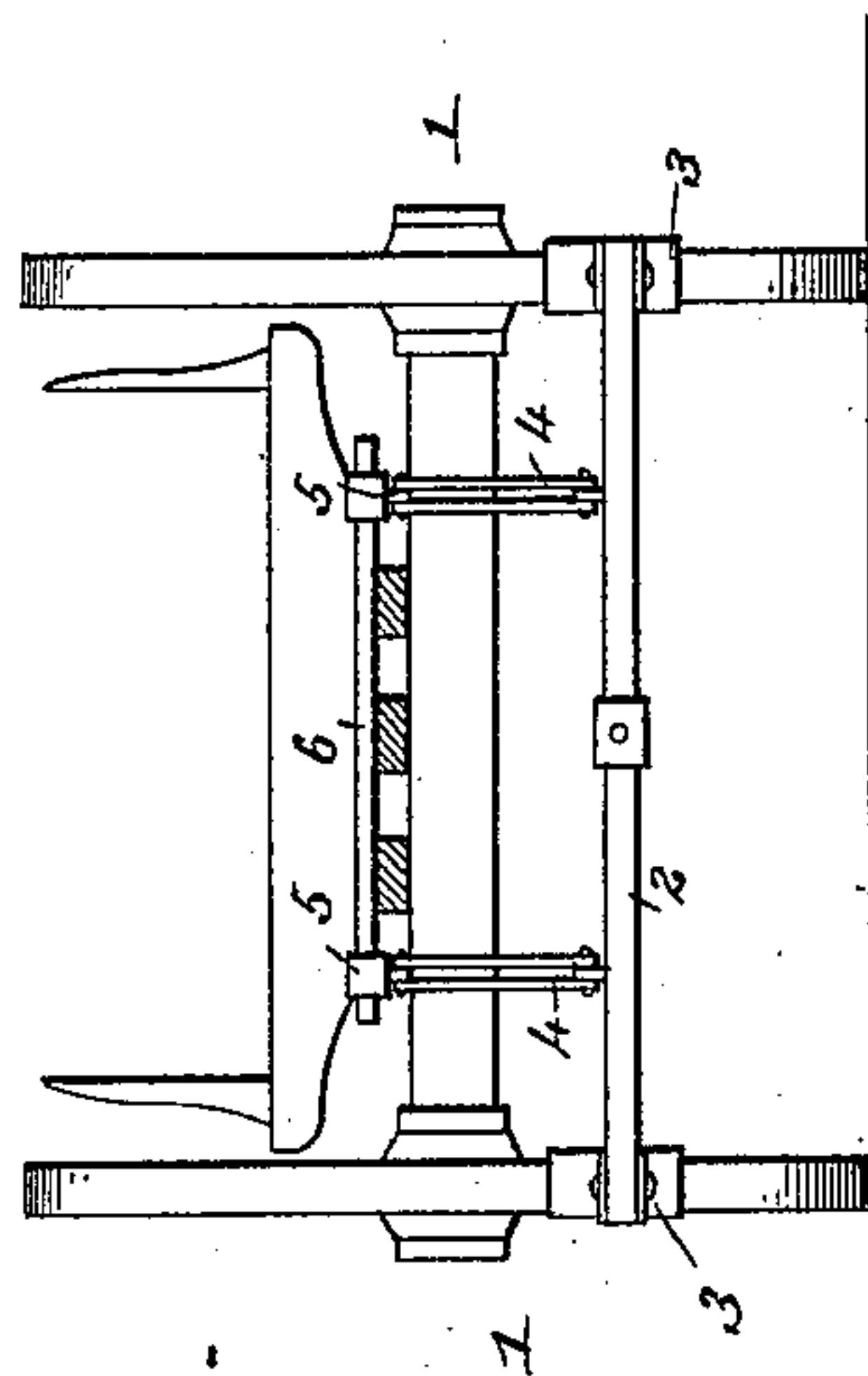


FIG. 3-

FIG. 5-

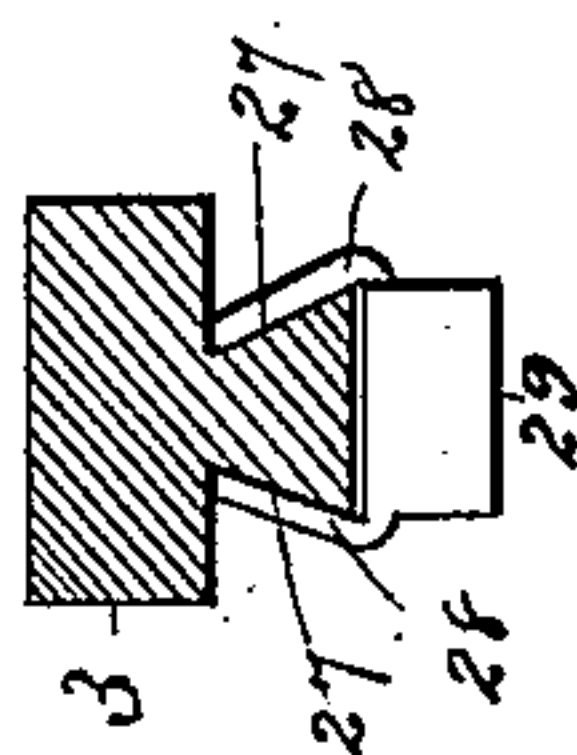


FIG. 4-

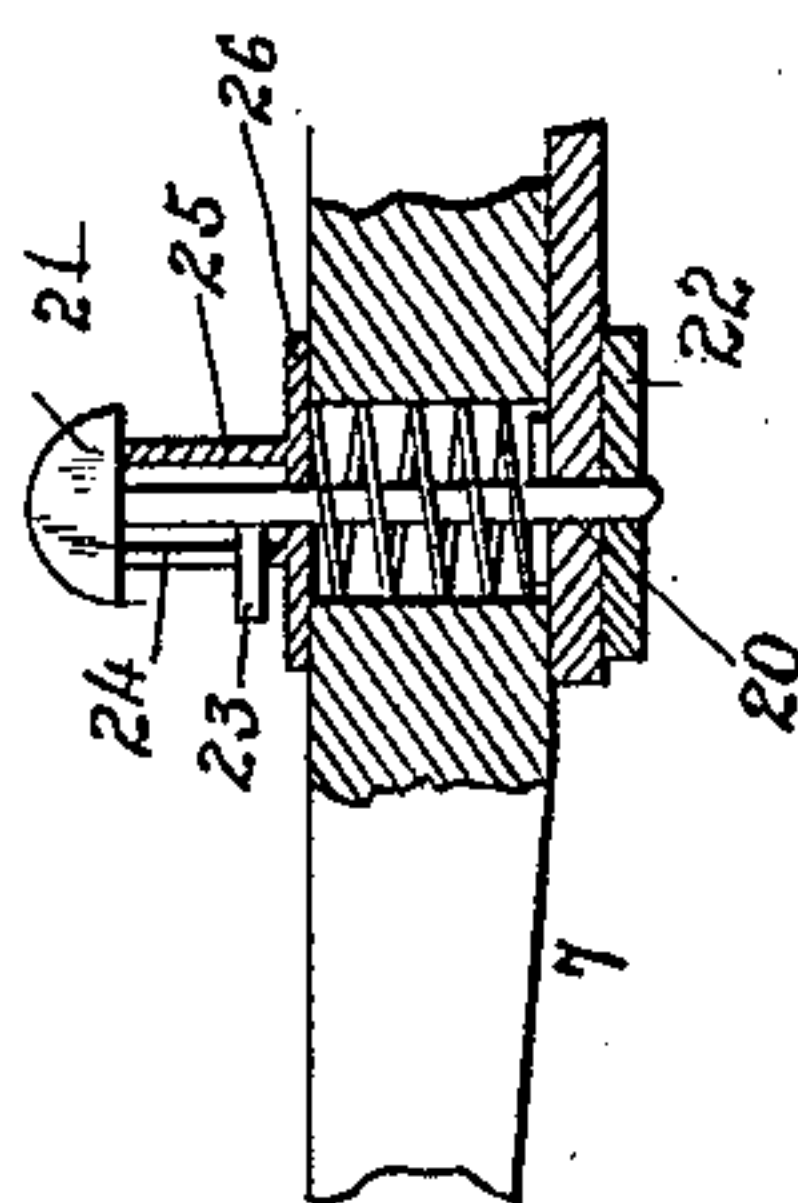
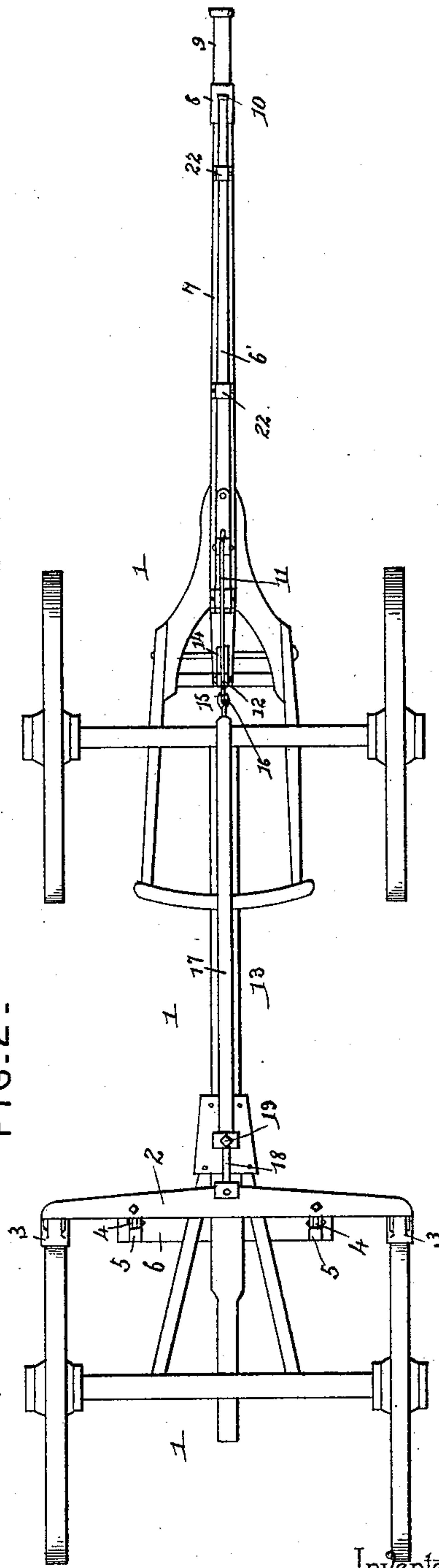


FIG. 2-



Inventor

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UNITED STATES PATENT OFFICE.

WILLIE H. ARNOLD, OF WEST BANGOR, NEW YORK, ASSIGNOR TO BURTON L. REYNOLDS AND HERBERT H. REYNOLDS, BOTH OF SAME PLACE.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 464,057, dated December 1, 1891.

Application filed May 23, 1891. Serial No. 393,880. (No model.)

To all whom it may concern:

Be it known that I, WILLIE H. ARNOLD, a citizen of the United States, residing at West Bangor, in the county of Franklin and State of New York, have invented a new and useful Wagon-Brake, of which the following is a specification.

The invention relates to improvements in brakes.

10 The object of the present invention is to provide an automatic brake adapted to be readily adjusted to suit the running-gear of any vehicle and capable of exerting great pressure on the wheels at the expense of little force.

A further object of the invention is to arrange the parts of the brake so that there will be comparatively little strain on the necks of the draft-animals.

20 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

25 In the drawings, Figure 1 is a longitudinal sectional view. Fig. 2 is a reverse plan view. Fig. 3 is a transverse sectional view on line x of Fig. 1. Figs. 4 and 5 are detail sectional views.

30 Referring to the accompanying drawings, 1 designates a vehicle having suspended from its running-gear a brake-bar 2, which is arranged below the center of the wheels and is provided at its ends with brake-shoes 3, and is adapted to exert great pressure on the wheels at the expense of small force on the part of the team. The brake-bar is suspended by link-plates 4, which have their upper ends pivoted to ears of clips 5, arranged at the end of a cross-bar 6, secured to the upper faces of the rear hounds, and the lower ends of the link-bars are pivoted to ears projecting from the upper face of the brake-bar.

45 The brake-bar is automatically applied by the team by means of a sliding bar 6', arranged in guides on the lower face of the tongue 7, and having its front end provided with a sleeve 8, arranged to slide on a tip 9 of the tongue, and provided with a depending projection 10, adapted to be engaged by the neck-yoke center. The rear end of the sliding bar is connected by an inclined bar 11 with the lower

end of a lever 12, which is connected by an adjustable rod 13 with the brake-bar. The lever 12 has its ends bifurcated and its upper 55 end is pivoted to a perforated flange of a plate 14, secured to the rear end of the tongue, and the lower end of the lever receives the rear end of an inclined bar, which has its front end pivoted between depending ears of the sliding 60 bar 6'. The lever 12 is provided intermediate its ends with an ear 15, which is provided with a perforation, and is engaged by the hook 16 of the adjustable connecting-rod 13. The adjustable connecting-rod 13 consists of a tubu- 65 lar section 17, provided at its end with the hook 16 and at its rear end with a set-screw, and the rod 18, arranged within the tubular section and adapted to be clamped by the set-screw 19, whereby the connecting-rod may be 70 increased or diminished in length to suit the running-gear of any vehicle. The rear end of the rod 19 is provided with a U-shaped clip-plate, which is secured centrally to the brake-bar. The link-plates 4 and the lever 12 work 75 in unison and force the brake-shoes directly against the wheels, and the link-plates 4 prevent the brake-shoes from rising. The whiffletrees are arranged below the tongue and are pivotally mounted on the sliding bar and move 80 with the same, thereby maintaining the traces at the same tension at all times, and by arranging the draft below the tongue the strain on the necks of the draft-animals is reduced. The brake bar and shoes are arranged con- 85 siderably below the center of the wheels, and when the latter are rotating forwardly they hold the brake-shoes into engagement with them; but when the vehicle is being backed the wheels tend to throw the brake-shoes away 90 from them and out of engagement. The team holds the brake away from the wheels, and there is no danger of the brake being accidentally applied.

In backing heavy loads it is often desirable 95 to hold the brake-shoes entirely away from the wheels, and the rear end of the sliding bar is provided with a perforation 20, which is engaged by a spring-actuated pin 21 to hold the sliding bar 6' rigid with the tongue. The 100 spring-actuated pin is arranged in an opening of the tongue, and when the bar is held rigid with the tongue the lower end of the pin engages a perforation in one of the guides 22,

and the pin is provided intermediate of its ends with a projection 23, which engages a notch 24 of a socket 25, formed integral with a plate 26, and the projection 22 works in a vertical slot of the socket. The plate 26 is secured to the upper face of the tongue, and when the pin engages the sliding bar the projection is arranged in a notch of the socket, and the pin, which is spring-actuated, is held out of engagement with the bar by lifting the pin and turning the same so that the projection will rest on the upper edge of the socket.

It will be seen that the brake is simple and comparatively inexpensive in construction, and that it may be adjusted to suit the running-gear of any vehicle, and that the whiffletrees are arranged below the tongue and mounted on the sliding bar, thereby reducing the strain on the necks of draft-animals, and maintaining the traces at the same tension at all times, whether the vehicle is moving or is stationary, and causing the animal to draw the brake-shoes from the wheels and preventing brakes being accidentally applied.

The brake-shoes 3 are provided in their sides with dovetailed-grooves 27, which are arranged at an angle to each other and are adapted to be engaged by inwardly-bent flanges 28 of plates 29, secured to the brake-bar. By this construction the brake-shoes can be readily secured to the brake-bar and removed therefrom.

The sleeve sliding back and forth on the pole-tip prevents the neck-yoke cramping the tongue, and gives a free movement and avoids any wear of the tongue. The connection at the base of the tongue is directly under the

center of the front axle, thereby making the brake work freely when cramping the wagon at any angle.

The brake may be set so that in case of accident to a vehicle—such as the breaking of the neck-yoke or the falling of a horse, or the like—the dropping or depression of the tongue will throw the lower end of the lever 12 rearward and apply the brake.

The brake is such that it can be readily applied to any wagon without additional mechanism.

What I claim is—

The combination, with a running-gear having a tongue provided with a tip, of a brake-bar suspended from the running-gear and provided with brake-shoes, the sliding bar arranged in guides on the lower face of the tongue and having its rear end connected with said lever and its front end provided with a sleeve arranged on the tip of the tongue, and connections between the sliding bar and the brake-bar, the plate 26, secured to the tongue and having a socket provided with a vertical slot in its side and with a notch in its top, and the pin 21, arranged in the socket and having a projection 22 and adapted to engage the sliding bar, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIE H. ARNOLD.

Witnesses:

B. L. REYNOLDS.

J. S. QUINN.