

(No Model.)

H. H. & B. L. REYNOLDS.  
WAGON BRAKE.

No. 489,036.

Patented Jan. 3, 1893.

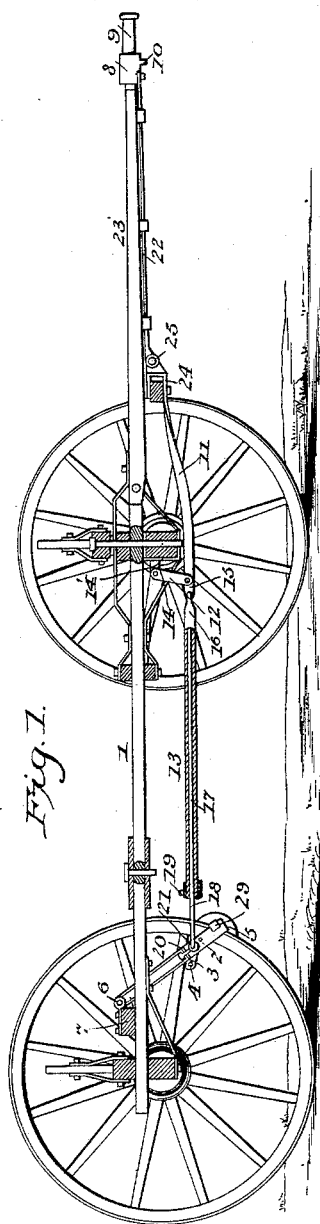


Fig. 1.

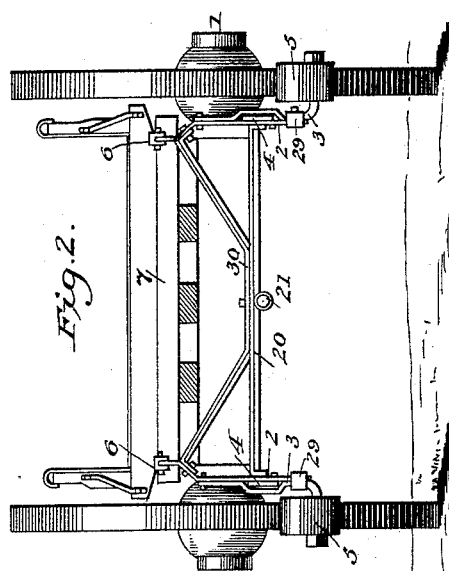


Fig. 2.

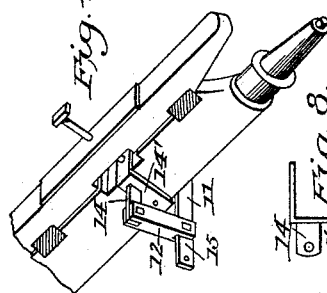


Fig. 3.

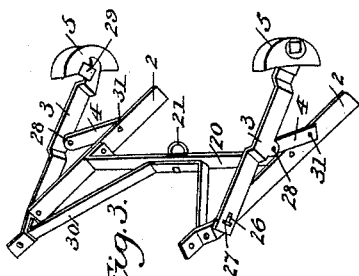


Fig. 4.



Fig. 5.



Fig. 6.

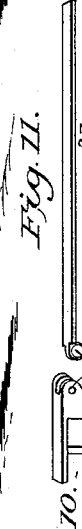


Fig. 7.



Fig. 8.



Fig. 9.

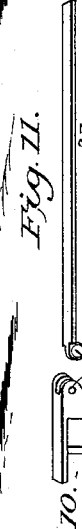


Fig. 10.

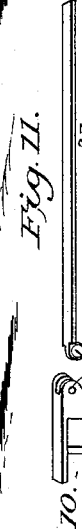


Fig. 11.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

HERBERT H. REYNOLDS AND BERTON L. REYNOLDS, OF WEST BANGOR,  
NEW YORK.

## WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 489,036, dated January 3, 1893.

Application filed August 12, 1892. Serial No. 442,938. (No model.)

*To all whom it may concern:*

Be it known that we, HERBERT H. REYNOLDS and BERTON L. REYNOLDS, citizens 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  
10 brakes.

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  
15 pressure on the wheels and utilizing the friction of the wheel tires on the brake-shoes in a drawing-on pressure as a powerful agent in applying brake, making it necessary to use but little force from the team.

20 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.

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

In the drawings Figure 1 is a longitudinal  
30 sectional view, Fig. 2 is a transverse sectional view, Fig. 3 is a longitudinal view of the automatic back-up arrangement showing it in the position it assumes when team is backing, Fig. 4 is a diagonal sectional view, showing  
35 the manner of fastening the suspending draw-lever to the rear side of front axle, Figs. 5, 6, 7, 8, 9, 10 and 11 are detail sectional views.

Referring to the accompanying drawings, 1 designates a vehicle having suspended from  
40 its running gear brake-arms 2 attached to brake-braces 20 and 30 upon which are suspended lifting brake-shoe arms 3 which are provided at their lower ends with brake shoes 5 which are arranged below the center of the  
45 wheels.

The brake-shoes are automatically applied by the team by means of a sliding bar 22 arranged in guides along the lower face of tongue 23 and having its front end provided  
50 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 22 is connected by an inclined bar 11 with adjustable rod 13 which is connected at  
55 its rear end with brake-brace 20. The inclined bar 11 is connected at its front end to sliding bar 22 by means of a hinge joint 25 and has a hammer-strap 24 near that point adapted to hold the whiffletrees and eveners.  
60 At its rear end 15 is provided a perforation which is engaged by the hook 16 of the adjustable rod 13 and directly in front and near this point is another perforation through which it is pivoted to suspending lever 12.  
65 Suspend lever 12 has its ends divided and its upper end is pivoted to a perforated flange 14 of plate 14' which is secured to the center of the rear side of front axle. The top of plate 14' is bent, passing under the front end  
70 of the reach and engaging by a perforation the king-bolt, adapting it to any strain that may come upon it.

The team when drawing slides forward inclined bar 11 bringing the lower end of suspending lever 12 against the lower end of  
75 plate 14' at the center of the lower edge of rear side of front axle, thus bringing the draft at that point.

The adjustable-connecting rod 13 consists  
80 of a tubular section 17 provided at its front end with hook 16 and at its rear end with a set-screw 19 and the rod 18 arranged within the tubular section and adapted to be clamped by the set-screw whereby the connecting rod  
85 may be increased or diminished in length to suit the running gear of any vehicle. The rear end of rod 18 is provided with an eye which is engaged by eye 21 in the center of brake-brace 20.

The swinging brake frame, consisting of  
90 arms 2 and braces 20 and 30, is pivoted to ears or clips 6 arranged near the ends of cross-bar 7 which is secured to the upper faces of rear hounds near the rear bunk or rocker.  
95

The lifting brake arms 3 have at their upper ends slots 26, through which pass bolts 27, pivoting them to swinging arms 2 near their upper ends adapting them to both turning and sliding movements in slots 26. Intermediate between the ends of lifting brake  
100 arms 3 are ears extending from lower edges

provided with perforations 28 and at lower ends of same are provided catches 29 and also brake-shoes 5 arranged to be fastened by nut and screw. The center levers 4 are pivoted at upper ends to lifting brake-shoe arms 3 through perforations 28 and at lower ends to swinging frame-arms 2 through perforations 31, located near their upper edges.

The brake frame arms 2 and lever 12 work in unison and force the brake-shoes directly against the wheels and the drawing-on power, obtained by placing the upper brake-bar 7 near the rear bunk, holds them there until released by the team.

The whiffletrees are arranged below the tongue and the eveners is pivotally mounted on the inclined sliding bar 11 and moves with the same thereby maintaining the traces at the same tension at all times and by arranging the draft at the rear of front axle the load may be started and drawn with less power and less strain on the necks of the draft animals.

In backing the vehicle, with or without load, it is always desirable that the brake-shoes should not be forced into engagement with the wheels and to overcome this difficulty, are arranged swinging frame-arms 2 and lifting brake-shoe arms 3 pivoted to center lever 4. When the team starts a backward movement with or without load the brake-shoes 5 attached to lifting arms 3 are forced into engagement with the wheels and the turning-backward movement of the wheels lifts the lifting arms 3 and moves them forward out of engagement and when the team starts forward they, being pivoted on center levers 4, will of their own weight move backward and drop into catches 29 of their holding position.

In order that the brake-shoes may not be thrown out of engagement with the wheels, when it is desired to hold load, the center levers 4 are arranged so that the upper ends, pivoted to lifting arms 3 through perforations 28 shall fall below a center, making it necessary for brake-shoes to come nearer to upper ends of swing arms 2 in order that they be lifted out of engagement, and this is prevented by the drawing-down pressure of the wheels.

It will be seen that the brake is simple and comparatively inexpensive in construction and can be readily applied to the running gear of any vehicle and that the whiffletrees are arranged below the tongue and mounted

on the inclined bar 11 near its upper end thereby reducing the strain on the necks of the draft animals and maintaining the traces at the same tension at all times, whether the vehicle is moving or stationary and causing the team to draw the brake-shoes from the wheels and preventing the brakes being accidentally applied.

The brake is so arranged that in case of accident to the vehicle—such as the breaking of the neck-yoke or the falling of a horse—the dropping of the tongue will slide the inclined bar 11 rearward and apply the brake.

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

We are aware that prior to our invention, automatic wagon brakes have been made with a sleeve at tip of tongue and sliding bar under tongue with inclined bar connecting same with extension rod and brake bar, we therefore do not claim such a combination broadly; but

What we do claim as our invention and desire to secure by Letters Patent, is

The combination, with a running gear having a tongue with a tip, of a brake-frame and automatic back-up suspended from the running gear and provided with brake shoes, the hinge-joint connection in front of whiffletrees and eveners, between the sliding bar on the lower face of the tongue and the inclined bar 11 thereby bringing the attachment for whiffletrees and eveners upon the front of said sliding bar, the connection of lever 12 to plate 14' and the fastenings of plate 14' to the center of the rear side of front axle with the engagement of king-bolt, the engagement of suspending lever 12 near its lower end with plate 14' at the center of the lower side of front axle, bringing the draft at this point, and connections between the inclined bar 11 and suspending lever 12 and extension rod 13 and brake frame substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HERBERT H. REYNOLDS.  
BERTON L. REYNOLDS.

Witnesses:

F. B. REYNOLDS,  
STANLEY I. PIERCE.