

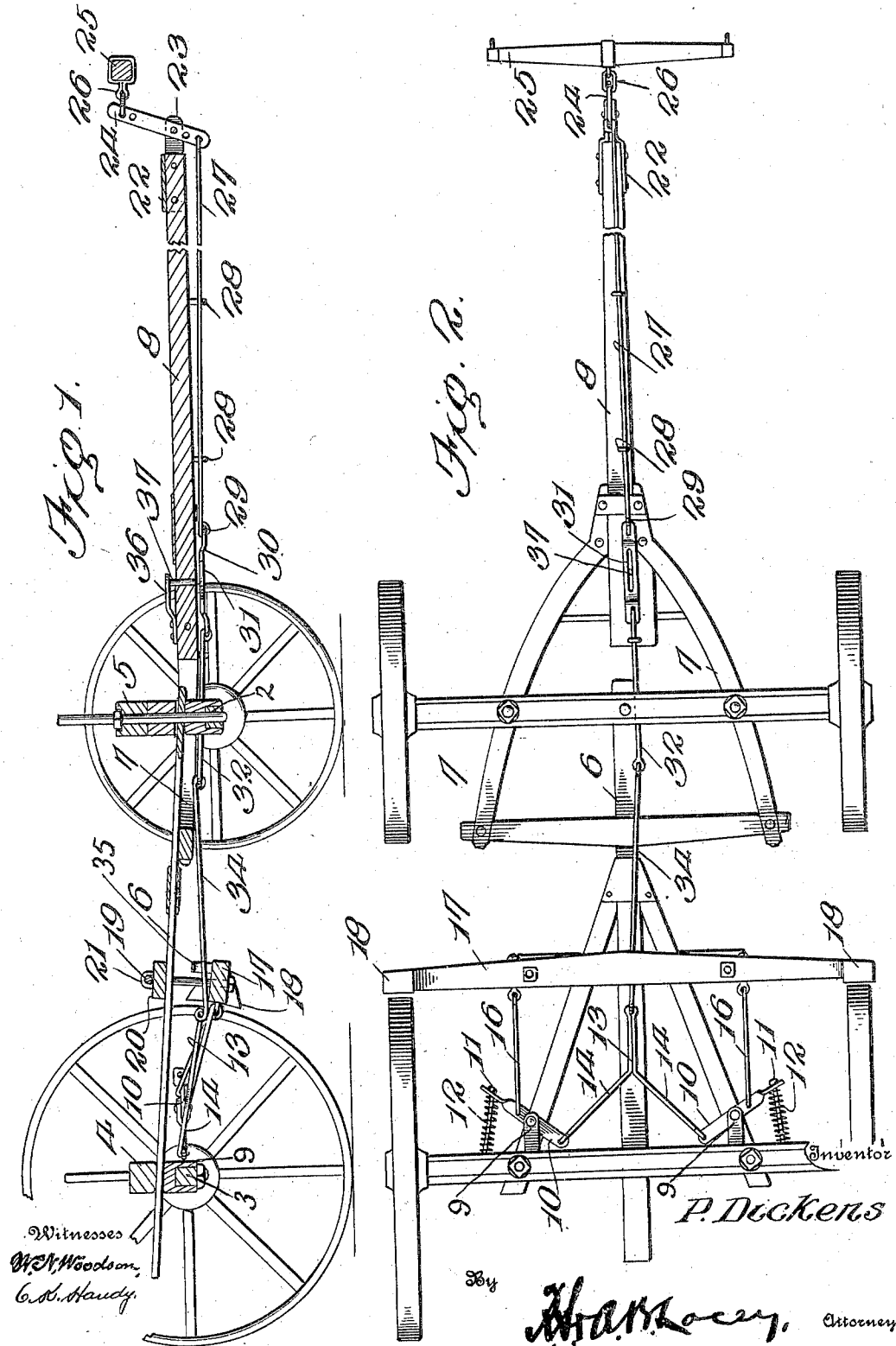
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WAGON BRAKE.

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2 SHEETS—SHEET 1.

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# UNITED STATES PATENT OFFICE.

PRIESTON DICKENS, OF FANCY GAP, VIRGINIA.

## WAGON-BRAKE.

948,090.

Specification of Letters Patent.

Patented Feb. 1, 1910.

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*To all whom it may concern:*

Be it known that I, PRIESTON DICKENS, citizen of the United States, residing at Fancy Gap, in the county of Carroll and State of Virginia, have invented certain new and useful Improvements in Wagon-Brakes, of which the following is a specification.

My invention relates to brakes for wagons, and particularly to that class of brakes wherein the brake shoe is forced into contact with the wheels of the vehicle upon a backing movement of the horses.

My invention consists in a brake of the character above described, wherein a series of levers is used, which are connected by link rods to the draft appliances of the wagon so that upon a backing movement of the draft animals, the brake shoe will be drawn into contact with the wheel, provision being made, however, whereby the movement of the connecting links may be blocked or stopped so that the backing movement of the horses will not apply the brake, but will act in the usual manner and move the vehicle rearward.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a longitudinal section through the tongue and reach of a wagon showing my improved brake; Fig. 2 is an under-side plan view of Fig. 1; Fig. 3 is a top view of a single-horse wagon; Fig. 4 is an enlarged detail, showing the attachment of the thills to the front axle; and, Fig. 5 is a perspective view of the construction shown in Figs. 1 and 2 detached from the wagon.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In Figs. 1 and 2, I have shown a form of my invention as applied to a wagon having a tongue. In these figures, 2 and 3 designate the forward and rear axles respectively of a vehicle, 4 the rear bolster, 5 the front bolster, and 6 the reach, all of any ordinary or usual construction.

7 indicates bounds between which the tongue 8 is pivoted as usual, this tongue being of any usual construction, except that it is preferably provided at its rear end with a spring and depending pin, as will be

hereinafter described. The rear axle is provided with the forwardly projecting bifurcated brackets 9 between which are pivoted the levers 10, both alike, and both guided at their outer ends by pins 11 around which are located the coil springs 12, to force the levers 10 outwardly, and to force the inner ends inwardly or toward the rear axle.

13 designates a link which is preferably made of one piece of metal rod bent upon itself at the middle, and the ends of which are outwardly deflected as at 14. The middle portion thus formed provides an eye 15, and the ends are downwardly turned and extend through openings or eyes in the inner ends of the levers 10. Pivottally attached to each of the levers 10, just beyond or outward of the point of their pivotal attachment to the brackets 9, are the links 16 which are connected to a brake beam 17 which is located transversely across the vehicle and carries on its ends the brake shoes 18 which may be of rubber, leather, or other suitable material, these brake shoes of course contacting with the periphery of the rear wheels. The brake beam 17 is supported by a U-shaped hanger 19 which passes longitudinally over a transverse cross bar 20. This hanger is held to the cross bar by loops 21, thereby providing a pivotal support for the hanger upon the cross bar, so that the brake beam may move forward and rearward as desired. It will of course be obvious that the springs 12 normally act to force the brake beam away from the wheels, or in its forward position.

The forward end of the tongue is provided with a cap 22 having a forwardly projecting bifurcated arm 23 in which is pivoted the vertically extending lever 24. The upper end of this lever 24 is connected to a breast yoke 25 of any usual construction, the clevis of the breast yoke being attached to the lever 24 by a ring 26. The lower end of the lever 24 is formed with an eye in which is engaged the hooked end of a rearwardly extending rod 27 which is of approximately the same length as the tongue and extends backwardly slightly beyond the pivotal connection of the tongue with the bounds. This rod 27 is supported in guide eyes 28, and at its rear end is formed with a hook 29. This hook engages with a flat link 30 which is slotted longitudinally along its extent as at 31. At its rear end, the link

30 is engaged with the hooked end of a link 32 which passes through a slot formed in the forward axle and has at its rear end an eye which is engaged by the downwardly turned end of a link 34. The link 34 extends rearwardly beneath the reach through a guide eye 35 on the brake beam, and is connected to the yoke 13.

As before stated, a spring tongue 36 is mounted in any convenient position where it may be operated by the foot of the driver, as upon the rear end of the tongue provided with a downwardly extending pin 37 which, when the spring tongue is depressed, passes through the member upon which the spring tongue is mounted, and into the slot 31 in the link 30, thereby preventing a full backward movement of the link, and hence preventing the brake shoes from being forced against the rear wheels.

The operation of the construction described, is entirely obvious. Upon a backing movement of the horses, or upon a forward movement of the wagon in relation to the horses, as when going down hill, the breast yoke will be forced backward, and thus will operate the forward lever 24 which will draw upon the system of levers beneath the tongue and wagon, which in turn draw upon the inner ends of the rear levers 10 and against the force of the springs at the other ends of these levers. This movement will, as before stated, act to draw the brake beam rearward and force the brake shoes against the periphery of the wheel. When it is desired, however, that the wagon shall be backed, but without any actuation of the brake, it is only necessary to depress the spring tongue 36, whereupon the pin will enter the slot 31 and prevent any further rearward movement of the links and rods connecting the breast yoke with the brake beam. It will be obvious that the link rod 34 may be removed when it is desired to lengthen or shorten the wagon, and that a longer or shorter link rod may be substituted in its place, or that means might be provided for lengthening or shortening this rod in accordance with the lengthening or shortening of the reach of the wagon. The forward lever 24 may also be formed with a plurality of holes for engagement with the rod 27, so that a greater or less leverage may be secured and also a greater or less movement of the rod 27. I do not wish to be limited to these details of construction nor to the precise arrangement of parts that I have indicated, as it is obvious that the arrangement might be modified in many ways.

In Figs. 3 and 4, I have shown views of my invention as applied to a single wagon having shafts. As far as the rear end of the wagon is concerned, the construction of the wagon is similar to that already described, except that cuffs 40 are attached

to the rear axle 41, these cuffs extend forwardly and form a pivotal support for the two levers 42 which are exactly similar to the levers 10 heretofore described. The outer ends of these levers are connected by rods 43 to the brake beam 44 which carries at its ends the brake shoes 45. At their inner ends, the levers 42 are connected to a yoke link 46 which at its forward end is arranged for hooked engagement with a link to be later described. The forward axle 47 is provided with the cuffs 48 having the upwardly and forwardly extending bifurcated ears 49 between which are pivoted the vertical levers 50. The lower ends of these levers are connected by a transverse rod 51 to which is attached the forward end of a link 52, the rear end of this link having a hooked engagement with a slotted link 53 which is of the same construction and has the same purpose as the slotted link 31 previously described. The rear end of this slotted link 53 has a hooked engagement with a link 54 whose rear end is hooked into the forward end of the V-shaped yoke 46. It is to be noted, as shown in Fig. 4, that the levers 50 have their lower ends below their pivotal point adjacent to the axle, and thus upon a forward draft upon these levers, the lower portion of the lever will contact with the axle. Thus, the lower ends of the levers are limited in their rearward movement. The upper ends of the levers 50 are bifurcated, as at 55, for the reception of coupling eyes 56 formed upon or attached to the rear ends of the shafts 57. The shafts are of ordinary construction, as are the coupling eyes 56 at the rear ends thereof, the usual bolt 58 holding the shaft into engagement with the bifurcated ends 55 of the lever 50. It will be seen now that a backing of the horse within the shafts 57 will cause the lower ends of the levers 50 to move forward, thus drawing upon the links 52, 53 and 54 and the yoke 46, and drawing upon the brake beam 44, causing the brake shoes 45 to engage the rear wheels of the wagon. In order to permit the backing of the wagon without setting the brakes, I use the same mechanism which is before described. That is, I use the slotted link 53, and attach to the body of the carriage a spring of exactly the same nature as that designated 36 and shown in Fig. 5, this spring having a pin extending down into the slot of the link 53. This pin I have designated 58. When the pin is depressed, it will prevent any movement of the link 53. Thus, the brakes cannot be set, and the wagon may be backed in the usual manner.

My invention is simple and is easy of application to wagons of ordinary construction, and it provides means whereby the power of a team or of a draft animal may be applied to set the brake. In going down

hill, it will be seen that the brakes are automatically applied and automatically relieved when the level ground is reached or when the wagon is going up hill. I have shown my device as applied to a two-horse wagon and to a single wagon.

It will be obvious that the details of the device may be varied to suit all varieties of carriages or other vehicles, and I do not wish to be limited to the exact application of my construction which I have illustrated.

Having thus described the invention, what is claimed as new is:—

1. In a wagon, a swinging brake beam, a lever supported upon the forward end of the wagon, connections attached to one end of said lever and connected to the brake beam so that as the other end of the lever is moved rearward, the brake beam will be drawn into engagement with the wheels of the wagon, one of said connections being formed with a slot, a spring tongue supported above the said connection between the brake beam and the lever, and a pin on the free extremity of the tongue adapted to be forced into said slot to prevent the rearward movement of said connections.

2. In a wagon, a pivotally supported brake beam, opposed levers pivotally mounted upon the rear axle of the wagon, links connecting said brake beam to the levers, springs holding the brake beam, a vertically extending brake-operating lever supported on the forward portion of the wagon, a connection from one end of the forward lever to the ends of said rearmost levers, consisting of a plurality of links loosely engaged with each other for a lateral turning movement, a draft appliance connected to the other end of said forward lever, and a stop movable into position to prevent any movement of the forward lever.

3. In a wagon, a front axle, a rear axle, a frame supported on the front and rear axles, a brake beam pivotally depending from the frame and having brake shoes engaging with the rear wheel, opposed levers pivotally mounted on the rear axle and connected at

their outer ends to the brake beam, springs for forcing the outer ends of the levers away from the axle, a yoke connecting the rear levers, a tongue supported on the forward axle, a vertically arranged lever pivoted to the forward end of the tongue, links coupled to each other and attached to the lower end of said lever and extending beneath the tongue to a point just rearward of the front axle, a link loosely connected to the rear end of said last named link and extending rearward to and having a loose connection with the rear yoke, and manually operable means normally held out of engagement but adapted to be forced into the path of movement of said connecting links and to engage one of the same to prevent the rearward movement of said links.

4. In a wagon, a rear axle, a front axle, a frame connecting the two, a tongue projecting from the front axle, a brake beam pivotally supported upon the frame and having shoes adapted to engage with the rear wheels, opposed levers pivotally mounted on the rear axle, links connecting the outer ends of the levers within the brake beam, a double-armed yoke attached to the inner ends of the levers, a link loosely connected to said yoke and extending forward to a point rearward of the front axle, a link loosely connected to said first named link and extending forward past the axle to a point beneath the butt end of the tongue, a slotted link loosely attached thereto, a rod loosely connected to said slotted link and extending forward in guides beneath the tongue, a forward lever pivotally mounted on the forward end of the tongue and loosely connected to said rod, a draft appliance connected to the upper end of said lever, and a spring-supported stop pin adapted to be depressed into engagement with the slotted link.

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

PRIESTON DICKENS. [L. s.]

Witnesses:

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