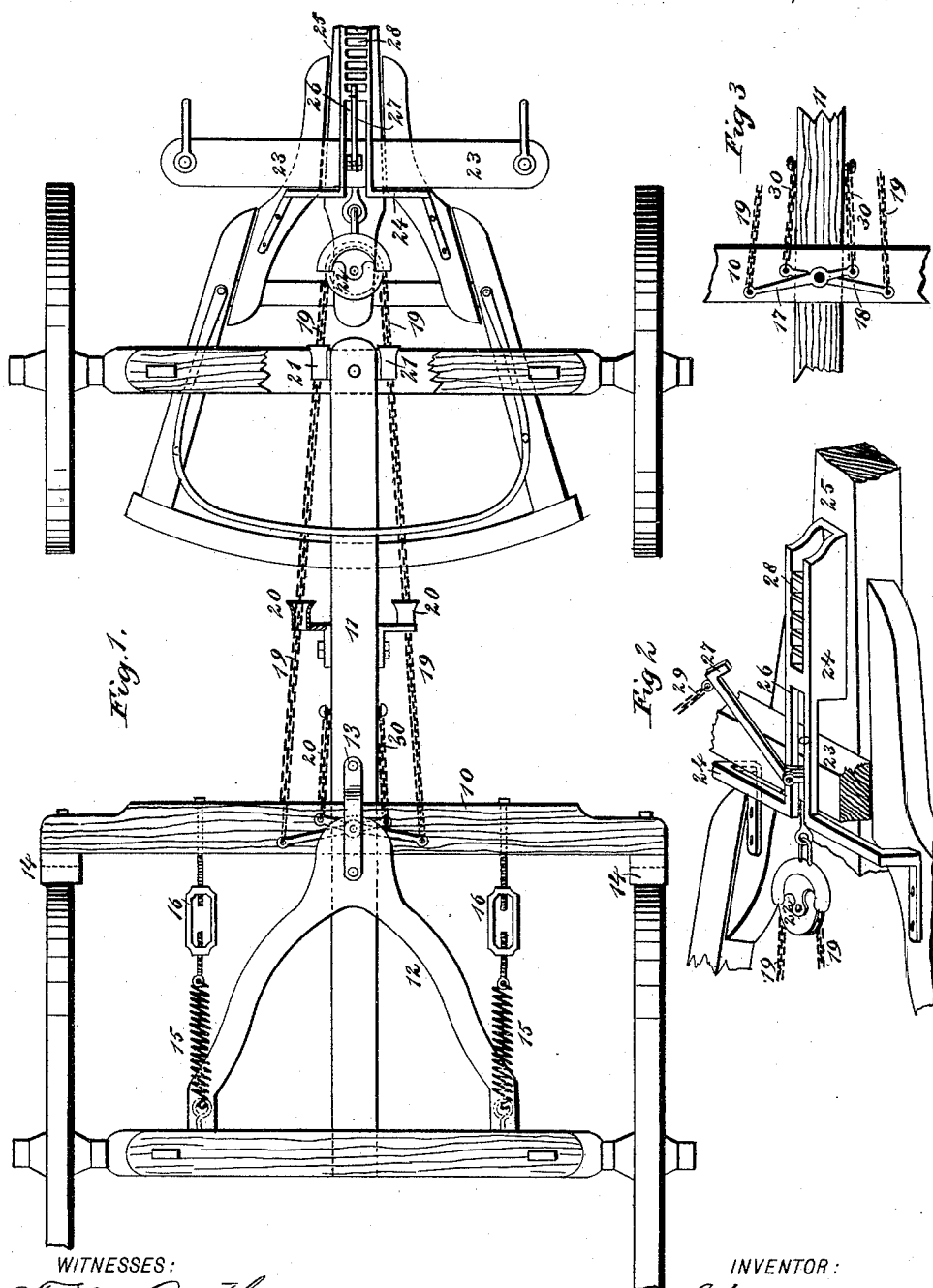


(No Model.)

G. BOWLER.
AUTOMATIC BRAKE.

No. 469,535.

Patented Feb. 23, 1892.



WITNESSES:

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GILES BOWLER, OF LAYTON, UTAH TERRITORY.

AUTOMATIC BRAKE.

SPECIFICATION forming part of Letters Patent No. 469,535, dated February 23, 1892.

Application filed July 15, 1891. Serial No. 399,614. (No model.)

To all whom it may concern:

Be it known that I, GILES BOWLER, of Layton, in the county of Davis and Territory of Utah, have invented a new and Improved Automatic Brake, of which the following is a full, clear, and exact description.

My invention relates to an improvement in brakes, especially to an improvement in vehicle-brakes, and has for its object to provide a brake which will be automatic in its action, and to provide a means whereby the brake will be constantly in engagement with the wheels of the vehicle when the vehicle is at rest, and whereby the moment the vehicle is drawn forward by the team or other motive power the brakes will be disengaged from the wheels and remain so until the vehicle is stopped.

Another object of the invention is to provide a means for operating the brake which will act somewhat in the capacity of an equalizer, and to so construct the brake mechanism that the brake may be held for any desired length of time out of engagement with the wheels or in engagement therewith even when a team attempts to draw the vehicle ahead or to back the same.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the running-gear of a vehicle, illustrating the application thereof of the brake. Fig. 2 is a perspective view of the locking mechanism of the brake, and Fig. 3 is a detail plan view of the brake-levers.

The brake-beam 10 is held to slide in any suitable or approved manner either above or below the reach 11. In the drawings the brake-beam is represented as located between the forward portion of the rear hound 12 and the upper face of the reach, its movement being limited by a strap 13. The brake-beam is provided at its extremities with the usual shoes 14, having a bearing against the rear wheels of the rear axle, and the shoes are held normally in engagement with the rear wheels through the medium of springs 15, secured at

their rear ends to the rear axle and attached at their forward ends to turn-buckles 16, the said turn-buckles being secured to the brake-beam, one at each side of its center, as is best shown in Fig. 1.

Upon the brake-beam beneath the strap 13 two levers 17 and 18 are pivoted, one pivot-pin being employed for both levers. The fulcrum of each lever is at one side of its center. The levers are crossed, as shown in Fig. 3, and their rear portions are of greater length from their rear extremities to the fulcrum than from the fulcrum to their forward extremities, as is likewise best shown in Fig. 3.

To the rearwardly-extending portions of the levers 17 and 18 the ends of the chain 19 are secured. The chain runs preferably through guide-eyes 20, located one at each side of the reach 11 near the central portion thereof, and also through a second set of guide-eyes 21, located at or near the forward end of the reach. The chain passes over a pulley 22, which pulley is attached, preferably, to the central rear portion of a single or double tree 23, capable of lateral movement. The movement of the double or single tree is limited by a yoke 24, under which it is located, the said yoke being somewhat T-shaped, and the head portion thereof is attached to the forward hounds, while the shank-section extends over upon the tongue 25 of the vehicle, as is best shown in Fig. 2. The rear portion of the shank is provided with a slot 26, and beneath this slot the single or double tree is located, the said single or double tree being provided with a hinged or pivoted dog 27, preferable L-shaped, and the post to which the dog is pivoted extends upward through the slot 26 of the yoke. The forward end of the shank-section of the yoke 26 is given a box-like contour and is provided with a series of compartments 28, produced in any suitable or approved manner. The dog 27 has usually secured thereto one end of a rope or chain 29, which is preferably led upward within convenient reach of the driver.

Normally, as heretofore stated, the springs 15 maintain the brake-shoes of the brake-beam in engagement with the rear wheels of the vehicle. When the beam attached to the vehicle through the medium of the doubletree 23 starts forward, the doubletree is drawn for-

ward its full distance, carrying with it the pulley 22. Thus the chain 19 is also carried forward, and such tension is exerted upon the rearwardly-extending portions of the levers 5 17 and 18 as to carry the said portions forward and their forward or shorter ends rearward, and as the said shorter ends are attached by chains 30 to opposite sides of the reach 11 the brake-beam is forced forward against the 10 tension of the springs 15 until the brake-shoes have altogether disengaged from the wheels. The very moment that the team stops the springs 15 act and the brake-beam is drawn into a locking position again.

15 When the horses are drawing the vehicle and it is desired to keep the brake off from the wheels, the dog 27 is dropped downward until it enters, for instance, the forward compartment 28 in the yoke. When this is done, 20 if the team stops the brakes are not applied; but, on the other hand, if it is desired to lock the wheels, so that the brakes cannot be removed if the team should start ahead, the dog is permitted to enter one of the rear compartments in the yoke; but when the dog is 25 entirely disengaged from the yoke the action of the brake is thoroughly automatic.

Having thus described my invention, I claim as new and desire to secure by Letters 30 Patent—

1. In a brake for vehicles, the combination, with a brake-beam capable of lateral movement, springs normally maintaining the brake-shoes of the beam in engagement with 35 the wheels of the vehicle, and cross-levers pivoted at one side of their centers to the

brake-beam, of a sliding draft-tree, chains secured to rigid supports and to the shorter ends of the cross-levers, and a chain attached at its extremities to the longer ends of the 40 cross-levers, and a pulley around which the chain passes, which pulley is connected with the draft-bar, substantially as shown and described.

2. In a brake for vehicles, the combination, 45 with the rear axle, the reach, a brake-beam having lateral movement upon the reach, and springs and turn-buckles connecting the rear axle with the brake-beam, of cross-levers fulcrumed at one side of their centers upon the 50 brake-beam, chains connecting the shorter ends of the levers with the reach, a chain the extremities of which are secured to the longer ends of the levers, a sliding draft-tree, and a connection between the draft-tree and the 55 single chain, as and for the purpose set forth.

3. In a brake for vehicles, the combination, with a sliding draft-tree, a brake-beam, and a connection between the draft-tree and the 60 brake beam, of a yoke, under which the draft-tree passes, provided with a slot over the draft-tree and compartments at one side of it, a dog pivoted upon the draft-tree and extending upward through the yoke, the said dog being adapted to enter one of the compart- 65 ments of the yoke, and a means, substantially as described, for manipulating the dog, as and for the purpose set forth.

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Witnesses:

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