

UNITED STATES PATENT OFFICE.

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AUTOMATIC VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 700,287, dated May 20, 1902.

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To all whom it may concern:

Be it known that I, JAMES E. AUSTIN, a citizen of the United States, residing at Coldwater, in the county of Tate and State of Mississippi, have invented a new and useful Automatic Vehicle-Brake, of which the following is a specification.

This invention relates to improvements in automatic vehicle-brakes; and the object is to provide a simple and effective construction of brake which will be held inoperative while the draft is applied, but will be automatically applied when the draft is slackened, as when the vehicle is descending an incline.

A further object is to provide means for rendering said automatic brake mechanism inoperative when it is desired to dispense with a brake.

With the above objects in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of the front portion of the running-gear of a vehicle with my improved brake applied thereto; Fig. 2, a bottom plan view of the same; Fig. 3, a vertical longitudinal sectional view taken centrally through Fig. 2, and Fig. 4 a detail view of the operating-lever and the connection between the same and the brake-releasing levers.

Referring now more particularly to the accompanying drawings, A designates the tongue of the vehicle, B the hounds, C the bar connecting the rear ends of the hounds, D the front axle, E the front wheels positioned upon said axle, and F the doubletree, all of the well-known construction and forming no part of my present invention.

Secured to the rear ends of the hounds and disposed rearwardly therefrom are stirrups G, which form slideways for the brake-beam H, which is movable therein and which carries at its ends brake-shoes I, adapted to engage the front wheels when said brake-beam is moved forwardly.

Coiled springs J, connected at their respective ends to the axle and to the brake-beam, have a tendency to hold said brake-beam in its forward position, with the shoes in con-

tact with the wheels. These springs are connected with the brake-beam by means of an adjustable eyebolt K, which permits of the adjustment of the springs to vary their tension.

Secured centrally to the cross-bar C of the hounds and extending rearwardly therefrom is an arm L, having at its outer end a pivot M. This arm constitutes a fulcrum for brake-releasing levers N, which are intermediately mounted upon said pivot M. Said levers are crossed, and the pivotal point thereof is nearer one end than the other. The inner short ends of said levers are connected by links O with eye-bands P, secured to the brake-beam on opposite sides of the fulcrum, while their outer longer ends are pivotally connected with operating-rods Q, which extend forwardly through openings in the cross-bar C of the hounds and over the axle.

Rods Q are screw-threaded at their forward ends and extend through perforations in a cross-piece R, formed on the inner end of the connecting-iron S. Nuts T are positioned upon the threaded portions of these rods, one on each side of the cross-piece, so that the rods may be adjusted as may be necessary or desirable.

Coupling-iron S is bent to extend on the under side of tongue A and is formed at its forward end with a vertically-disposed stem U, which is screw-threaded at its upper end and which extends upwardly through a slot V, formed in the tongue, and in which it is movable back and forth. Stem U also extends through the doubletree F upon the upper side of the tongue and through a slot W in a strap W', which is secured to the upper side of the tongue, and which constitutes a guide to permit the backward and forward movement of the doubletree to release and permit the application of the brake. The projecting screw-threaded end of said stem receives a nut X and a suitable washer. Before receiving the nut X said stem also passes through a slot formed in a plate Y, which is disposed on the upper side of strap W. Pivotaly attached to plate Y is a link Y', attached at its opposite end to a lever Z, which is pivotally mounted upon the tongue.

For preventing longitudinal movement of the brake-beam through the stirrups G pins

a are provided, which are disposed on the inner sides of the stirrups, as illustrated.

The operation of my improved automatic brake is as follows: The coiled springs J hold the brake-shoes normally in contact with the front wheels of the vehicle when the draft is not applied. Upon application of the draft the doubletree is moved forwardly, which through its connection with the operating-rods effects the movement of the levers N, which in turn move the brake-beam rearwardly against the tension of said springs and release the wheels. As soon, however, as the draft slackens the springs act to move the brake-beam forwardly and apply the brake-shoes to the wheels. This would occur whenever the traces become slack—as, for instance, when the vehicle is descending an incline or when the vehicle is stationary. Should it not be desirable to have the brake operative—as, for instance, in backing the vehicle—the operating-lever Z is swung forwardly in contact with the tongue, which moves the doubletree also forwardly, operating the levers, as before set forth, and moving the brake to release the wheels. Thus the mechanism is held in inoperative position, to be instantly rendered operative by reversing the position of said lever.

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

1. In an automatic vehicle-brake, the combination with a sliding draft-bar, of a brake-beam carrying shoes, springs holding said brake-beam with the shoes in engagement with the wheels, the cross-levers, an operative connection between one end of said levers and the brake-beam, forwardly-extending rods pivotally connected with the other end of said levers, a coupling-iron movable

upon the tongue of the vehicle and to which the rods are connected at their opposite ends, and to which the draft-bar is pivotally connected, substantially as described.

2. In an automatic vehicle-brake, the combination of stirrups secured to the rear ends of the hounds and projecting rearwardly therefrom, a brake-beam movable in said stirrups and carrying brake-shoes, springs connected at their respective ends to the axle and said brake-beam, a rearwardly-extending arm centrally secured to the cross-bar of the hounds, levers intermediately pivoted to said arm, links connecting one end of said levers, to the brake-beam, operating-rods pivotally connected to the opposite ends of said levers and extending forwardly, a coupling-iron to which the forward ends of the rods are connected, and a sliding draft-bar mounted upon said coupling-iron, substantially as described.

3. In an automatic vehicle-brake, the combination with the slotted tongue and draft-bar, of a coupling-iron having a stem projecting through the slot in the tongue and also through the draft-bar, a slotted strap or plate attached to the tongue and extending across the draft-bar, a slotted plate arranged upon the slotted strap having a link pivotally connected thereto, a nut screwed upon the stem of the coupling-iron and adapted to hold the slotted plate in place upon the slotted strap, a lever connected to the link, the rods connected to the rear end of the coupling-iron, spring-actuated brake-beam, the levers connected to the said brake-beam and to the operating-rods, substantially as set forth.

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Witnesses:

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