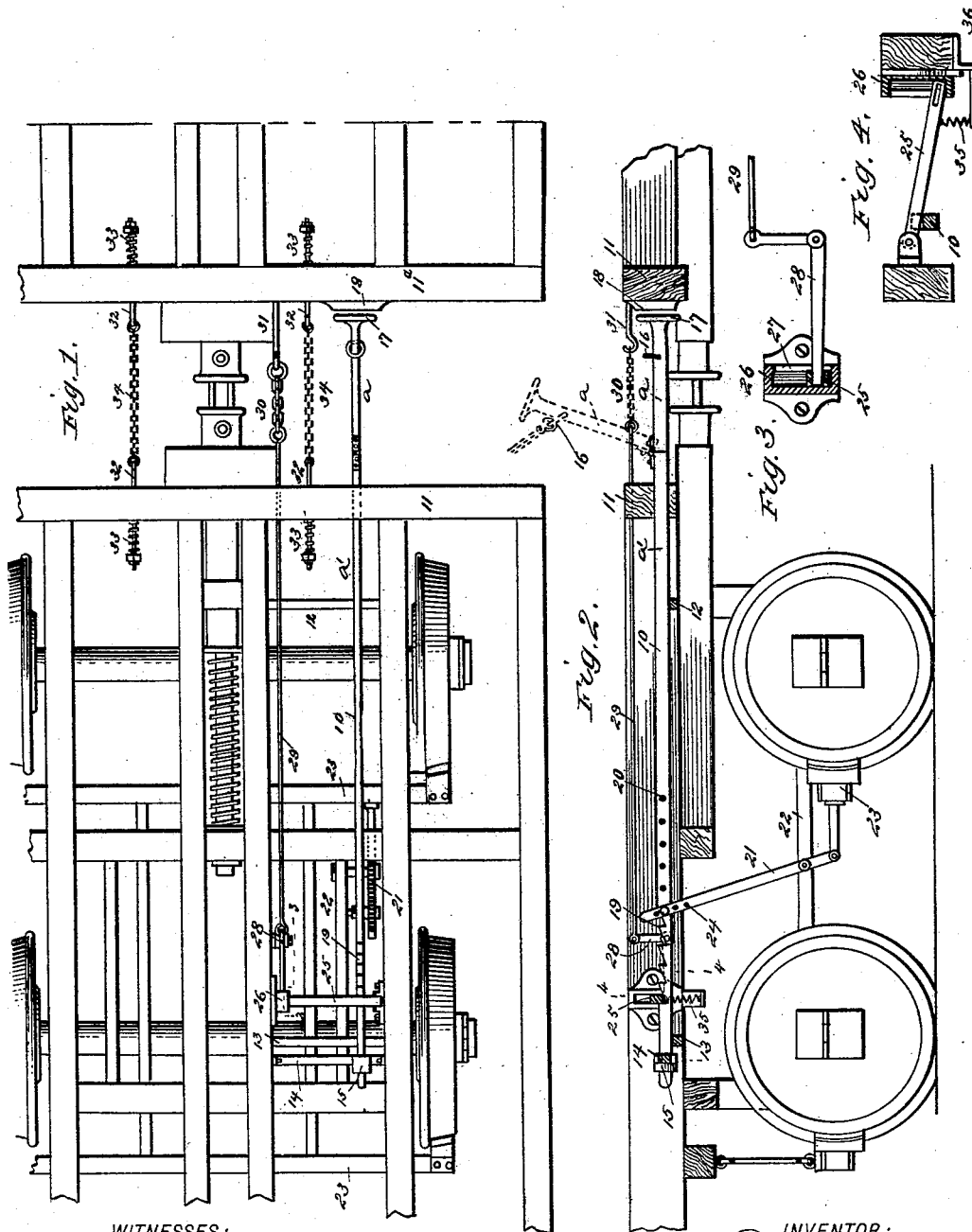


(No Model.)

J. MAROLD.  
CAR BRAKE.

No. 453,910.

Patented June 9, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN MAROLD, OF NEW DECATUR, ALABAMA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 453,910, dated June 9, 1891.

Application filed February 24, 1891. Serial No. 382,443. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MAROLD, of New Decatur, in the county of Morgan and State of Alabama, have invented a new and useful  
5 Improvement in Car-Brakes, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-brakes, and has for its object to provide an attachment to a brake whereby the brakes  
10 may be applied when the cars of a train are brought together and made to engage one with the other, and wherein, also, when the train is moved forward the brakes will be released from engagement with the wheels.

A further object of the invention is to provide devices adapted to accomplish the above results, which will be simple and durable in construction, and which may be expeditiously and conveniently connected with any car.

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  
25 drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the bottom foundations or frames of two coupled cars. Fig. 2 is a vertical longitudinal section through the cars. Fig. 3 is a longitudinal section on the line 3 3 of Fig. 1, and Fig. 4 is a vertical section on the line 4 4 of Fig. 2.

At one side of the draw-bar a rack-bar 10 is located, adapted to slide in the front sill 11 of the car upon intermediate supporting-beams 12 and 13, and also upon a rear guide-beam 14, which latter beam is provided with  
40 a socket 15, through which the bar passes. The rack-bar extends some distance beyond the front sill 11 of the car, and the outer end of the said bar is made in two sections, the short section *a* being hinged to the body-section *a'* in such manner that it may be lifted out of a horizontal position when occasion may demand. To that end the smaller hinged  
45 section *a* is provided with an eye 16, with which a length of chain, a lifting-lever, or an equivalent device is connected. The outer extremity of the smaller hinged section *a* has formed integral therewith a flat head 17,

adapted at times to engage with a wear-plate 18 upon the sill 11<sup>a</sup> of an opposed car. The projecting end of the rack-bar is of such  
55 length that a space intervenes the head 17 and the wear-plate 18 while coupled cars are being drawn forward.

The bar 10, in its upper edge near its inner end, is provided with a series of teeth 19, and  
60 forward of the teeth a series of holes 20 is produced. The rack-bar is connected with a lever 21, the said lever being fulcrumed near its lower end upon a beam 22 of the truck, and the lower extremity of the lever is con-  
65 nected with one of the brake-beams 23 of the truck, the two brake-beams of the truck being united in any suitable or approved manner, whereby they move in unison. The lever 21 is provided with a series of holes 24  
70 near its upper end, and the connection between the rack and the brake-levers is effected by passing a bolt through registering-apertures 20 and 24, and the degree of tension to be exerted upon the brake may be regu-  
75 lated by adjusting the lever upon the rack-bar. The teeth of the rack-bar are engaged by a dog 25, pivoted at one end to one of the longitudinal beams of the car-bed, the other end of said dog being made to enter and  
80 be held to slide in a socket 26, attached to an opposite longitudinal beam of the car-bed, as illustrated in detail in Figs. 3 and 4. The socket 26 is provided with a slot 27 in its outer side face, and the horizontal member  
85 of an elbow or crank trip-lever 28 enters the slot 27 of the socket and is attached to that portion of the dog 25 having movement therein. The lever 28 is fulcrumed upon one of the longitudinal beams of the car-bed, as  
90 illustrated in Fig. 1, and to the vertical member of the lever a rod 29 is secured, which rod extends through an aperture in the front beam 11 of the car-bed, and beyond said beam, the outer extremity of the rod being provided  
95 with a length of chain 30, a link of said chain being adapted to pass over a hook 31 or its equivalent attached to the sill of an opposed car, as is shown in Figs. 1 and 2.

In order that the cars may not become separated in the event a coupling-pin should  
100 break or an accident happen to either of the draw-heads, bolts 32 are employed, arranged one at each side of the draw-head, which bolts

are held to slide in the sills 11 and have a bearing against a spring-cushion 33. The spring-controlled bolts 32 of one car are connected with corresponding bolts upon an opposed car by chains 34 or their equivalents, the said chains being of sufficient length to slightly sag when the cars, after being coupled, are being drawn forward. The dog 25 is normally held in engagement with the teeth of the rack-bar by a spring 35, attached near its movable end and to a bracket secured to one of the car-beams, as illustrated in Figs. 2 and 4.

In operation, when it is desired to apply the brakes, the progress of the train is suddenly stopped, causing the bars 10 of one car to engage with the wear-plate 18 upon the next car. Thus the rack-bar is pressed inward and the brakes attached thereto are applied to the wheels through the medium of the lever 21. The brake is held thus applied by the dog 25, which prevents the bar from moving outward again until released, and the release is effected by drawing the cars forward, whereupon, as the cars take their proper intervals, tension is exerted upon the link 29, the angled lever 28 is manipulated and the horizontal member thereof forced upward, which movement of the member causes the dog 25 to be elevated a sufficient distance to clear the teeth of the rack, thus enabling the brakes to leave the wheels.

When the cars are to be shunted or backed, the sections *a* of the racks 10 connected with the cars are elevated, as shown in dotted lines in Fig. 2.

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

1. The combination, with a car-brake and a lever connected therewith, of a rack-bar held to slide beneath a car-truck and adjustably connected with the lever, a spring-controlled pawl engaging the teeth of the rack-bar, and a trip-lever engaging with the pawl, substantially as and for the purpose specified.

2. The combination, with a car-brake and a lever connected therewith, of a sliding rack-

bar adapted to be located beneath the car and constructed in hinged sections, one section being adapted to extend beyond the sill of the car, a spring-controlled pawl engaging the teeth of the rack-bar, and a trip-lever connected with the pawl, as and for the purpose set forth.

3. The combination, with a car-bed, the brakes of the car-wheels, and a lever connected with the brakes, of a rack-bar held to slide in the bed, adjustably connected with the brake-lever and constructed in two hinged sections, the outer hinged section being located beyond the end sill of the car, a spring-controlled pawl engaging the teeth of the rack-bar, a trip-lever connected with the pawl, and means for operating the said lever, substantially as and for the purpose specified.

4. The combination, with the bottom of a car, its brakes, a lever attached to the brakes, a rack-bar held to slide in the bottom of the car and adjustably connected with the brake-lever, a pawl engaging the teeth of the rack-bar, and an angled lever connected with the pawl, of an opposed car provided with a wear-plate adapted to engage the outer end of the rack-bar, a retaining device, and a rod-and-chain connection between the angled lever and the retaining device, as and for the purpose specified.

5. The combination, with the bottom of a car, the wheels, the brakes, and a lever attached to the brakes, of a wear-plate located at one end of the car, a retaining device attached to the car near the wear-plate, a rack-bar constructed in hinged sections extending beyond the opposite end of the car and capable of a sliding movement, said rack-bar being connected with the brake-lever, a spring-pressed pawl engaging the teeth of the rack-bar, a trip-lever connected with the pawl, and means for operating said lever, substantially as and for the purpose specified.

JOHN MAROLD.

Witnesses:

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