

(No Model.)

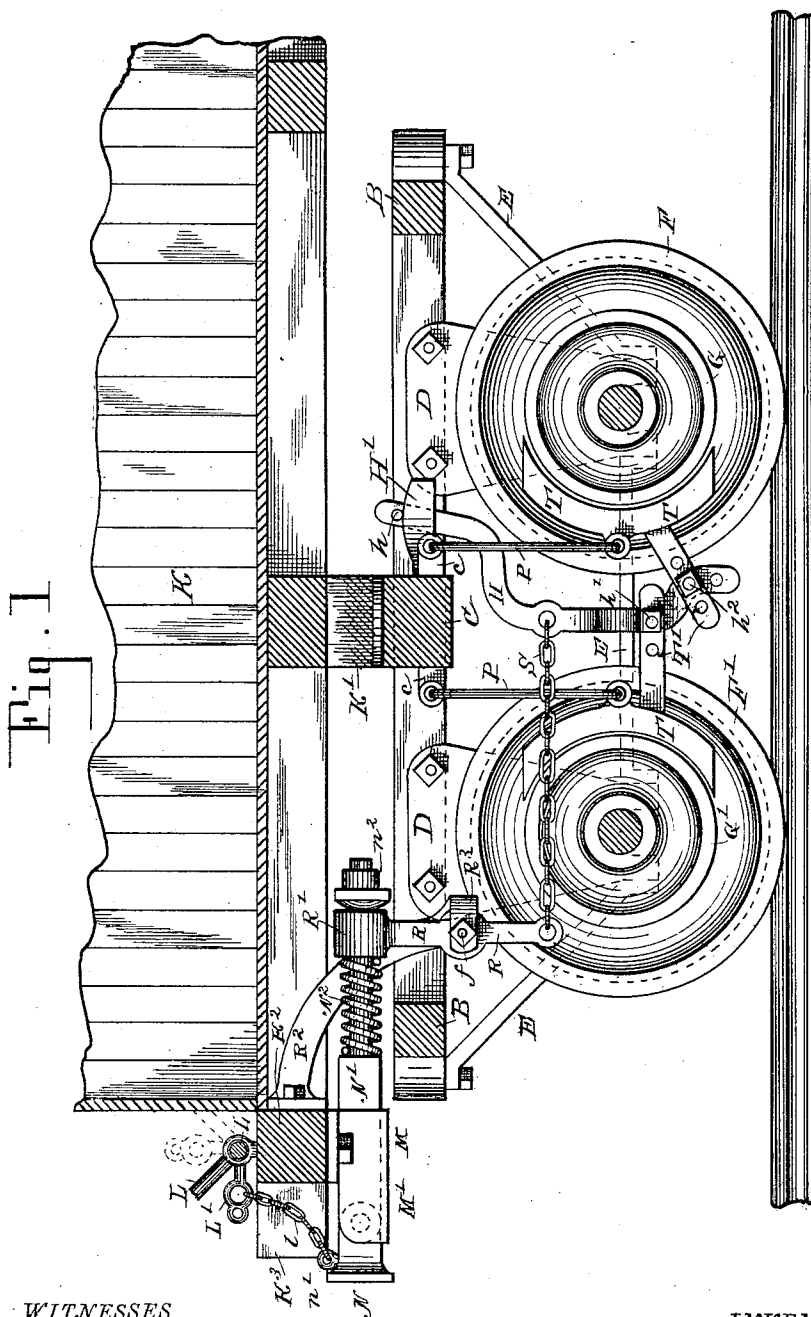
2 Sheets—Sheet 1.

F. H. D. NEWHARD.

CAR BRAKE.

No. 335,378.

Patented Feb. 2, 1886.



WITNESSES

John C. Miller
Percy White.

INVENTOR

F. H. D. Newhard
By C. W. Alexander
Attorney

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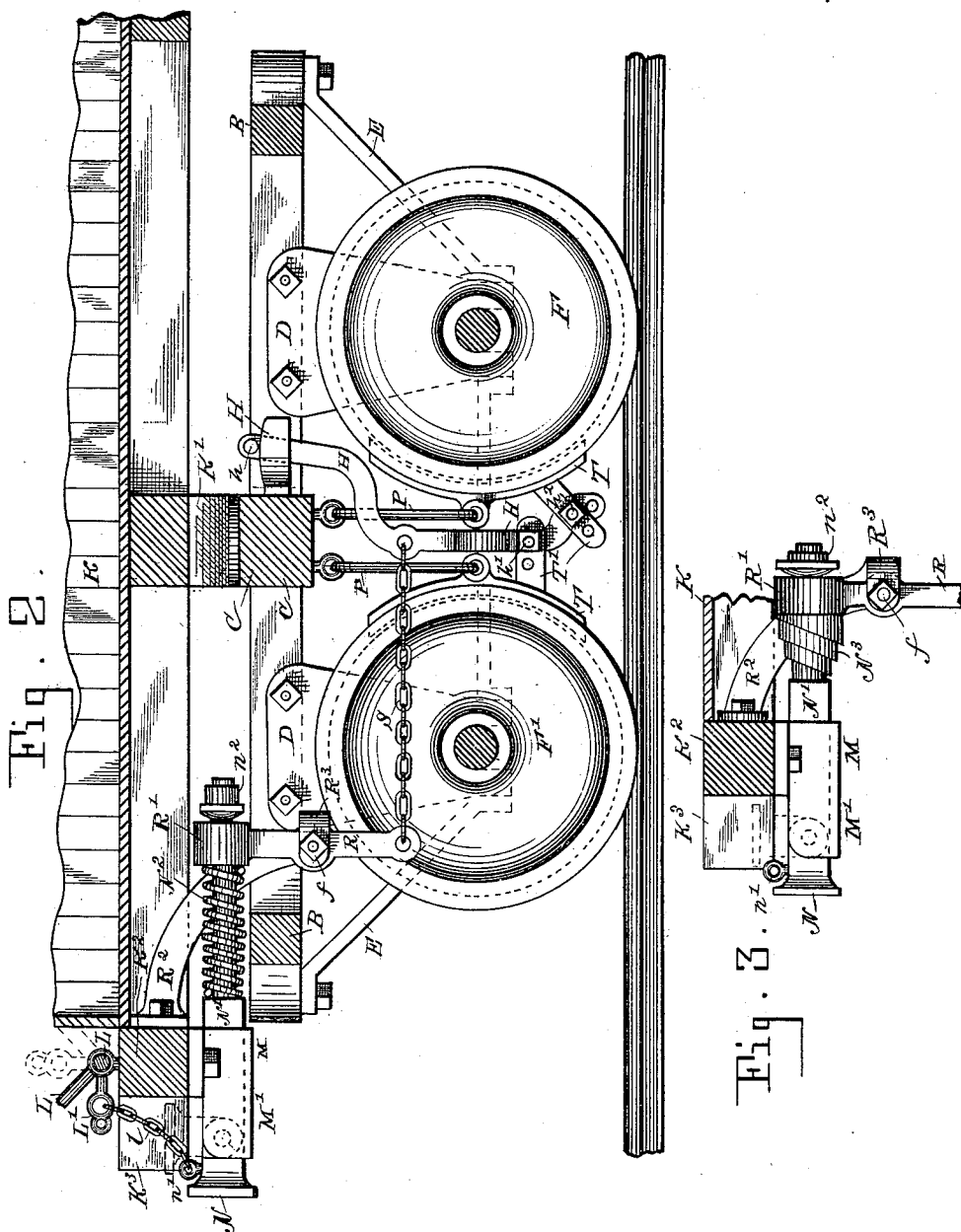
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UNITED STATES PATENT OFFICE.

FRANKLIN H. D. NEWHARD, OF HOKENDAUQUA, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 335,378, dated February 2, 1886.

Application filed November 11, 1885. Serial No. 182,438. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN H. D. NEWHARD, a citizen of the United States, residing at Hokendauqua, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this improvement is to provide railroad-cars with automatic brake mechanism that will be operated by the momentum of the cars when the train is moving forward, and that can be readily made inactive in order that the same may be prevented from interfering with the backward movement of the train as occasion may require, or when shifting cars in making up trains, or for other purposes. These results are attained by the mechanism illustrated in the drawings herewith filed as part hereof, in which the same letters of reference denote the same parts in the different views.

Figure 1 is a sectional side elevation of a freight-car and truck provided with brake mechanism embodying the features of my improvement. Fig. 2 is a similar representation showing the application of my brake mechanism to the truck-wheels. Fig. 3 is a sectional illustration representing a modification of one of the parts.

A B C D E is an ordinary truck-frame.

F F' are the truck-wheels.

G G' are friction-disks suitably secured to the truck-wheel axles.

T T are brake-shoes suspended from the bearing-beam C of the truck-frame by means of eyes *c* and rods P, adjacent to the disks G G' or truck-wheels F F'.

T' are bifurcated arms of (suitably secured to or made integral with) the brake-shoes T T, and provided with a series of perforations, for a purpose hereinafter set forth.

H is a lever pivotally connected at *h'* and *h''* to the bifurcated shoe-arms T'.

H' is a bifurcated plate or stud, affixed to the truck-beam C, for the reception of the upper end of the lever H, which is provided with a transverse pin, *h*, arranged to bear up on the upper edges of the bifurcated stud H', and prevent the weight of the lever H from bearing on the arms T' of the brake-shoes T,

for which purpose the upper edges of the stud H' are curved to correspond with the arc described by the pin *h* of the lever H in the movement of the latter. Another purpose of this arrangement is to prevent the possibility of the weight of the lever H causing the brake-shoes to bear against the friction-disks G G', when not desirable.

K is the car supported on the truck by the bearing-beam K'.

K² is the pulling-beam of the car, provided with the usual buffers, K³.

M is a bracket bolted to the pulling-beam, as shown, and having a projection, M', open at the top, for a purpose hereinafter set forth.

R² is a bracket bolted to the pulling-beam K², and bifurcated at its lower end, R³, for the reception of a lever, R, which is pivoted there to at *f*.

N is a buffer articulated to the bar N', which is arranged to slide in the bracket M M'. By reason of the buffer being articulated to the bar N', and by reason of the part M' of the bracket M being open at the top, the buffer may be adjusted to a vertical position, for a purpose hereinafter fully explained.

N² is a spiral spring on the rounded part of the buffer-bar N', which passes through a slotted enlargement, R', of the lever R, and *n''* is a nut rigidly affixed to the end of the buffer-bar by any suitable means.

L is a shifting-rod affixed to the pulling-beam K², by means of eyes, as shown, and provided with a perforated arm, L', which is connected by a chain, *l*, and eye *n'* with the buffer N.

Referring to the modification shown in Fig. 3, the construction and arrangement of the parts are the same as shown in Figs. 1 and 2, excepting the spring N², which is formed of a convolutely and conically coiled steel plate. Springs of this form give great rigidity of tension and can be efficiently used where quick and positive action are required.

The brake mechanism herein described, if deemed advisable, may be applied to both ends of the car. Additional bumpers should be affixed to the pulling-beam K² in positions to correspond with that of the buffer N, affixed to the sliding buffer-bar N' on the opposite car.

The operation is as follows: When the steam is shut off from the engine and the brakes are

applied to the latter, the cars in the train will advance on each other. The buffers N will engage with the bumpers on the adjacent cars, the buffer-bar N' will slide inward, and, by
 5 operating the lever R, apply the brake-shoes with the force involved in the tension of the spring N² to the friction-disks G G' or the truck-wheels F F' by means of the chain S, which connects the lever R with the lever H.
 10 The slot in the enlargement R' of the lever R will allow suitable movement of the lever R, according to the action of the buffer-bar N'. The tension of the spring N² or N³ will also relieve the jar of the contact of the buffers and
 15 bumpers and prevent the concussion from breaking the parts. After the train is stopped and the bearings of the buffers on the bumpers are relieved, the tension of the spring N² or N³ will cause the parts to react and take the
 20 positions shown in the figures. By adjusting backward the shifting-rod L, which projects slightly beyond each side of the car, the buffer N will be given a vertical position, which will prevent contact with the bumper on the ad-
 25 jacent car, in which case the mechanism will be made inactive, and the entire train may be moved backward, and any or all of the cars shifted from one track or train to another, as occasion may require. Chain or rod connec-
 30 tion may be made from the perforated arm I' of the shifting-rod L to the top of the car, in order that the brakes may be made inactive or active without the operator descending to the shifting-rod L, which is intended for use
 35 for the purpose mentioned when the operator is on the ground. The pulling-beam is provided with a metal plate intermediate thereof and the buffer-bar, to prevent wear of the parts by friction with each other. The plate men-
 40 tioned is obscured from view by the buffer-bar's supporting bracket.

By reason of the perforations in the brake-shoe lever and the bifurcated arms of the brake-shoes connection of the parts may be changed to compensate for wear by friction 45 or any changes that may accrue or become necessary from other causes.

Having explained the features of my improvement, what I claim as new, and desire to secure by Letters Patent, is— 50

1. The combination of the brake-shoe suspended from the bearing-beam of the truck-frame and provided with arms, as shown, the brake-shoe-operating lever and the friction-disks on the truck-axes, as and for the pur- 55 pose set forth.

2. In combination with the brake-shoe lever and brake-shoe suspended from the bearing-beam of the truck, the sliding buffer-bar, the lever suspended vertically from the pulling- 60 beam of the car, as shown, and the chain connecting said lever with the shoe-operating lever and arranged to operate the brake-shoes, as and for the purpose set forth.

3. The transverse pin in the upper end of 65 the brake-shoe-operating lever, and the bifurcated stud affixed to the bearing-beam of the truck-frame, in combination with said lever, as and for the purpose set forth.

4. The combination, in a car-brake, of the 70 sliding buffer-bar with the vertical adjustable buffer-head pivotally secured thereto, substantially as and for the purpose specified.

5. The sliding buffer-bar-supporting bracket provided with projection open at the top, as 75 and for the purpose set forth.

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

FRANKLIN H. D. NEWHARD.

Witnesses:

THOMAS F. BUTZ,
 JAMES B. SNYDER.