

(No Model.)

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F. H. D. NEWHARD.

CAR BRAKE.

No. 335,379.

Patented Feb. 2, 1886.

Fig. 1.

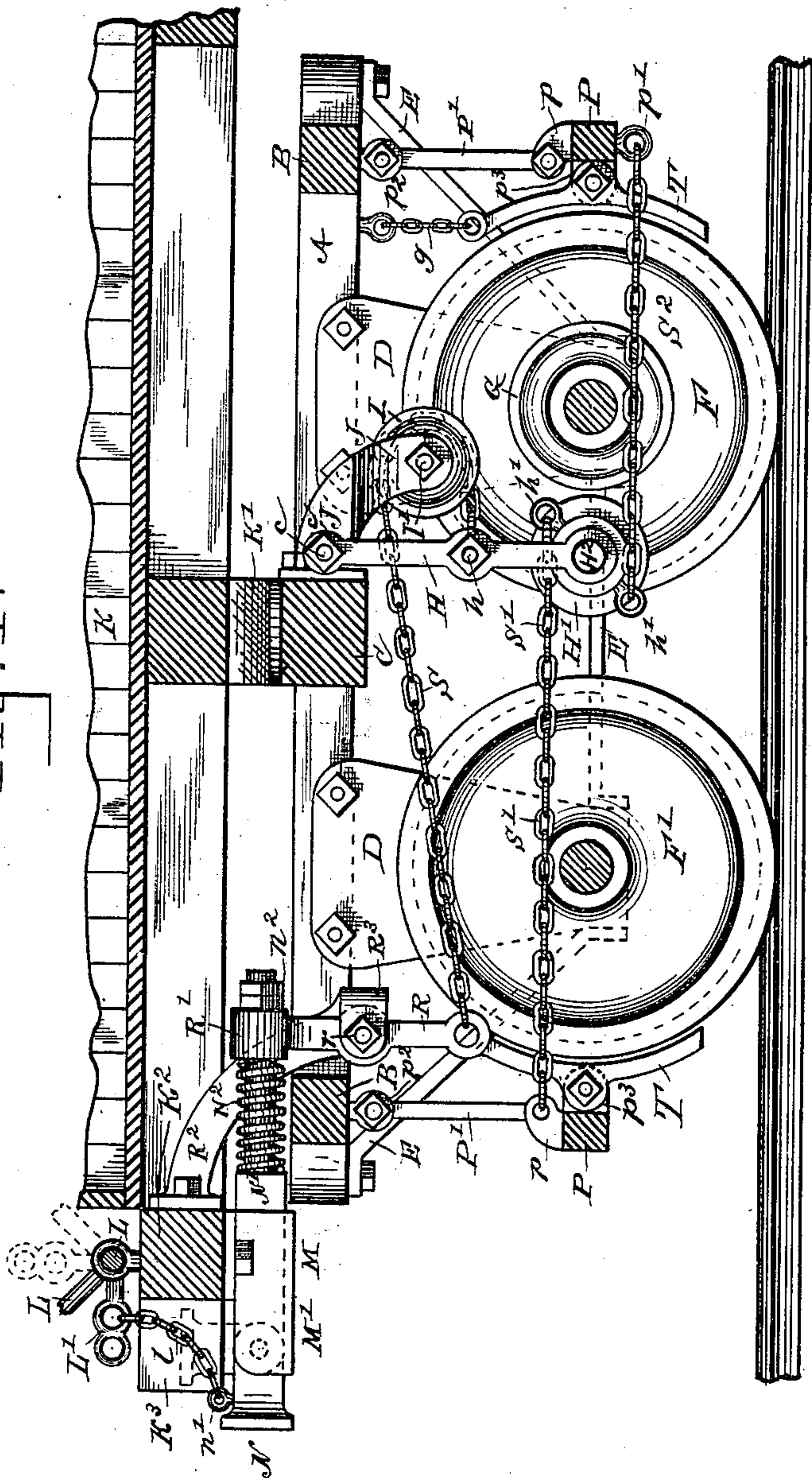
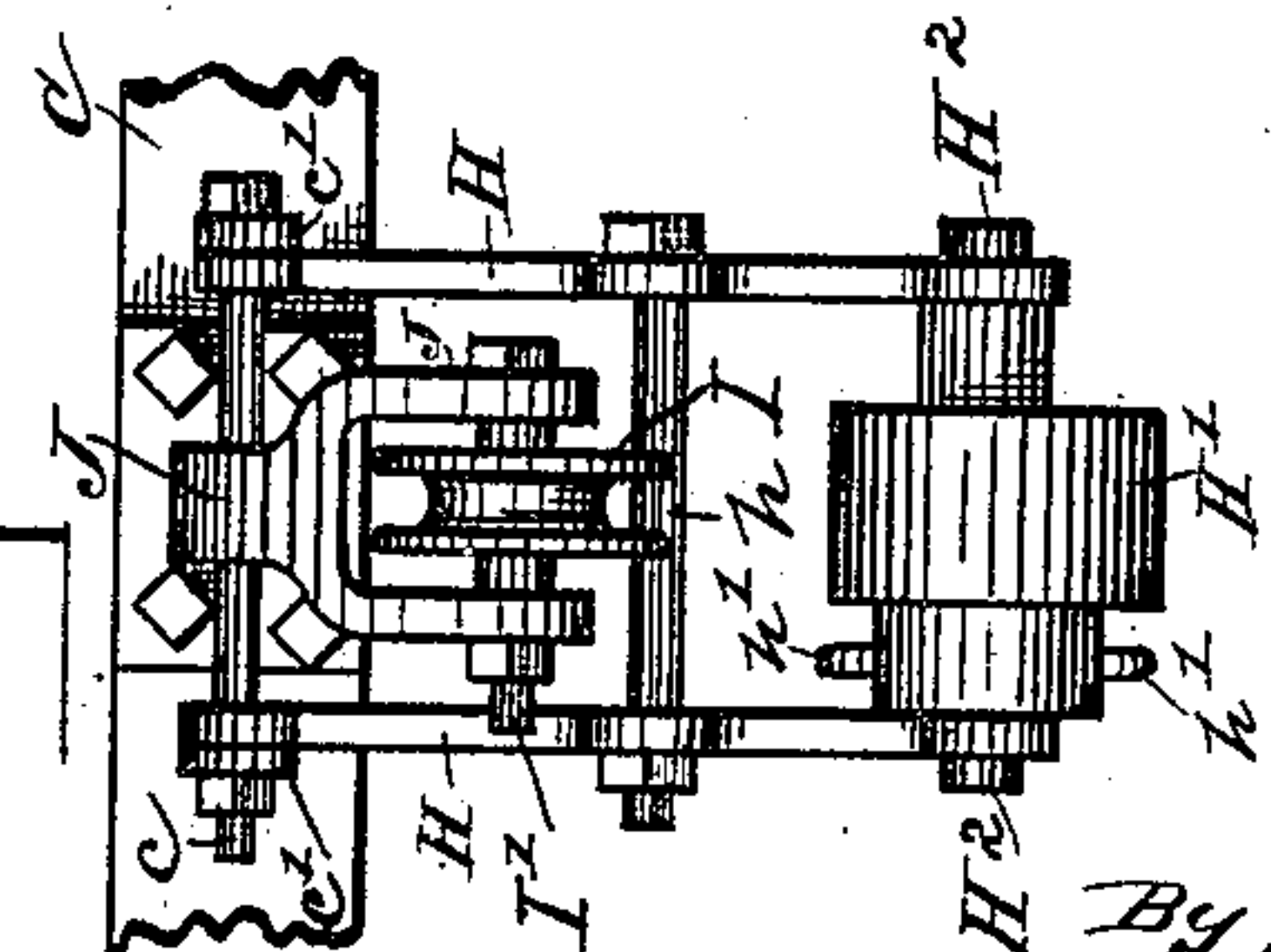


Fig. 4.



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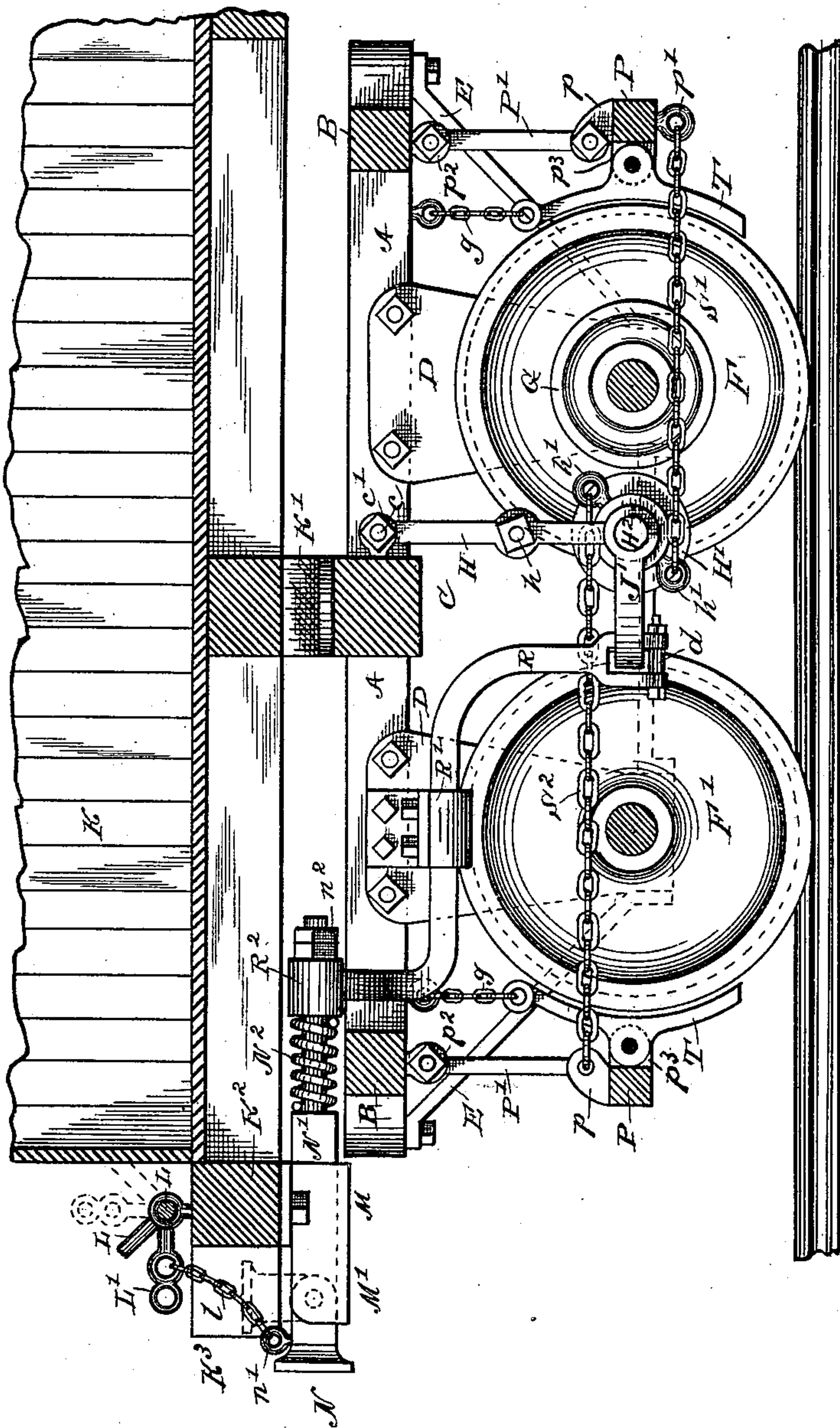
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Fig. 2.



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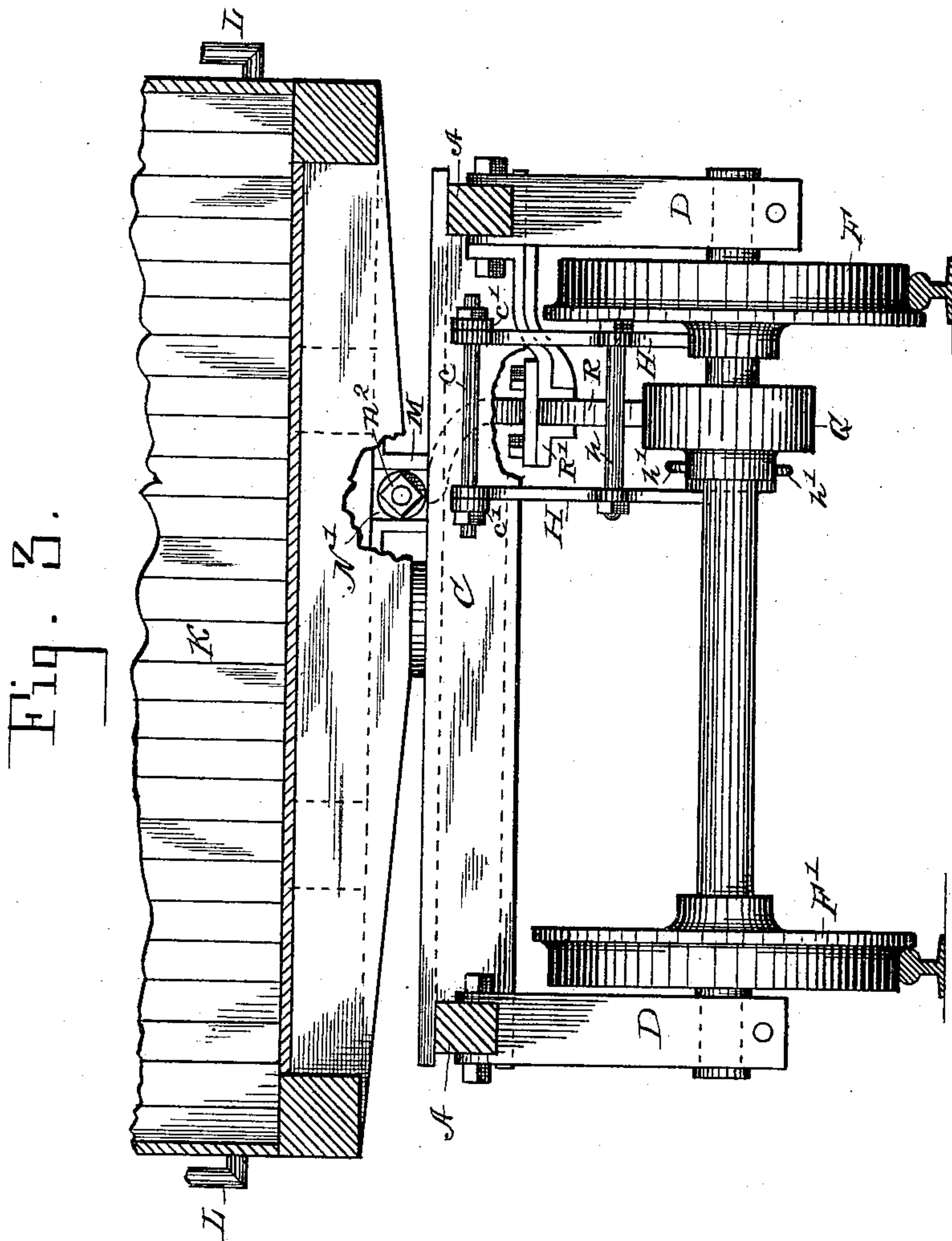
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# UNITED STATES PATENT OFFICE.

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

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 335,379, dated February 2, 1886.

Application filed November 11, 1885. Serial No. 182,439. (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 to prevent the same from interfering with the backward movement of the train, as occasion may require, or for shifting the cars in making up trains, or for other purposes. These results are attained by the means 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 a modification of the mechanism. Fig. 3 is a sectional rear elevation of the same, more fully showing the relation of the parts thereof. Fig. 4 is a rear elevation of part of the mechanism shown in Fig. 1.

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

F F' are the truck-wheels.

G is a friction-disk suitably secured to the truck-wheel axle substantially in the position shown in Fig. 3.

H' is a friction-roller journaled at H<sup>2</sup> to hangers H, articulated to the truck-beam C by means of eyes c' and bolt c, and transversely connected to each other by bolt h.

J is a bracket suitably secured to the truck-beam, and provided with a sheave, I, arranged to turn on a bolt, I', connecting the parts. The bracket J is provided with a perforation for the passage of the rod c, connected to the eyes c', and h' are eyes affixed to a reduction of the roller H', which latter is suspended from the truck-beam C in line with and adjacent to the friction-disk G on the truck-wheel axle.

P P are shoe-supporting bars or beams articulated by eyes p to hangers P', which are

similarly connected, as shown at p<sup>2</sup>, to the truck-beams B.

T T are the shoes articulated to perforated projections p<sup>2</sup> of the beams P, in line with and adjacent to the part of the truck-wheels which bears upon the rails, and g g are chains connecting the shoes T T in the usual manner to the truck-frame.

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

K<sup>2</sup> is the pulling-beam of the car.

K<sup>3</sup> represents the usual bumpers.

N is a buffer articulated to a bar, N', which is arranged to slide in a bracket, M, bolted to the pulling-beam K<sup>2</sup>, and provided with an extension, M', which is made open at the top, for a purpose hereinafter set forth.

R<sup>2</sup> is a bracket bolted, as shown, to the pulling-beam of the car, and bifurcated at its lower end, R<sup>3</sup>, for the reception of a lever, R, pivoted thereto by bolt r, and provided at its upper end with a slotted enlargement, R', for the reception and passage of the rounded part of the buffer-bar N', which is provided with a spiral spring, N<sup>2</sup>, and at its end with nuts n<sup>2</sup>, for a purpose hereinafter set forth.

S is a chain connecting the lever R over the sheave I with the transverse bolt h of the hangers H, which support the roller H', which is connected by means of eyes h' and chains S' S<sup>2</sup> and eyes p p' with the shoe-supporting beams P.

L is a shifting-rod, affixed by eyes, as shown, to the pulling-beam, and provided with a perforated arm, L', connected by means of a chain, l, and eye n' with the buffer N. The shifting-rod L projects slightly beyond each side of the car, as shown in Fig. 3, for a purpose hereinafter explained.

Referring to the modification shown in Fig. 2, the bracket R<sup>2</sup>, lever R, chain S, bracket J, and sheave I are dispensed with and the roller H' and hangers H connected with the buffer-bar N' by means of a suitably-curved push-bar, R, having a perforated enlargement, R<sup>2</sup>, for the reception and passage of the rounded part of the buffer-bar, and bifurcated at its lower end for the reception of a curved link-plate, J', supported in the bifurcation mentioned by bolt d, and connected with the hangers H and roller H' by means of eyes, which



fit over the journals of the latter, as shown at H<sup>2</sup> in Fig. 1.

R' is a bracket bolted to the truck-frame, and projecting therefrom, to form a support for the push-bar R, which is arranged to slide therein.

The other parts of the mechanism shown in Fig. 2 are the same in construction and relation to each other.

The brake mechanism herein described may, if deemed advisable, be applied to both ends of the car. Additional bumpers should be affixed to the pulling-beam K<sup>2</sup> in positions to correspond with that of the buffer N, affixed to the bar N' on the adjacent car.

Referring to Fig. 1, the operation is as follows: When the steam is shut off from the engine and the brakes 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 upper end of the lever R will be moved backward by the inward motion of the buffer-bar, resulting from the contact, the lower end of the lever R will be moved outward and force the roller H against the friction-disk G on the truck-axle with the power involved in the tension of the spring on the buffer-bar N'. The contact of the disk G and roller H' will cause the latter to turn and effectively apply the brake-shoes to the truck-wheels by means of the chains S' S<sup>2</sup>, connecting the motion of the same. The tension of the spring on the buffer-bar will also relieve the jar of the contact of the buffers and bumpers, and thereby prevent breakage of the parts. The slot in the enlargement R' of the lever R will allow motion of the same corresponding with that of the buffer-bar. After the train is stopped and the bearings of the buffers and bumpers are relieved the tension of the spring N<sup>2</sup> and the weight of the hangers H and roller H' will cause the parts to react and take the positions shown.

Referring to Fig. 2, the operation is as follows: When the buffers come in contact with the bumpers of the adjacent cars, the inward movement of the buffer-bar resulting therefrom will force the roller H' against the adjacent friction-disk G, by means of the push-bar R and link J', with the power involved in the tension of the spring N<sup>2</sup>. Motion will thus be imparted to the roller H', which by reason of its chain-connections S' S<sup>2</sup> with the brake-shoe beams P will effectively apply the shoes to

the truck-wheels for the purpose set forth. Reaction of the parts to the positions shown will result from the same causes as above mentioned. By the backward adjustment of the shifting-rod L, affixed to the pulling-beam, as indicated by the dotted lines, the buffer N, by reason of opening in top of bracket M, will be given a vertical position, which will prevent contact of the same with the bumpers on the adjacent cars, 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 connection of the shifting-rod arm L' may be made with the top of the car, in order that the brakes may be made inactive or active, without the operator descending to the shifting-rod on the pulling-beam, which is intended for use for the purpose mentioned when the operator is on the ground. The pulling-beam K<sup>2</sup> is provided with a metal plate intermediate of the same and the sliding buffer-bar N', in order to prevent wear of the beam by friction with the bar. Such plate is obscured from view by the bracket which supports the buffer-bar.

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

1. The combination of the roller suspended from the bearing-beam of the truck by vertical hangers and connected over and under the truck-axles with the shoe-supporting beams by chains in the manner shown, the friction-disk on the truck-axle, the sliding buffer-bar, and the intermediate mechanism, arranged to operate as specified, for forcing the roller against the friction-disk on the truck-axle and applying the brake-shoes to the truck-wheels, as and for the purpose set forth.

2. The roller suspended from the bearing-beam of the truck by vertical hangers and connected over and under the truck-axles with the shoe supporting beams by chains in the manner shown, in combination with the friction-disk on the truck-axle, as 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.