

(No Model.)

2 Sheets—Sheet 1.

F. H. D. NEWHARD.

CAR BRAKE.

No. 348,039.

Patented Aug. 24, 1886.

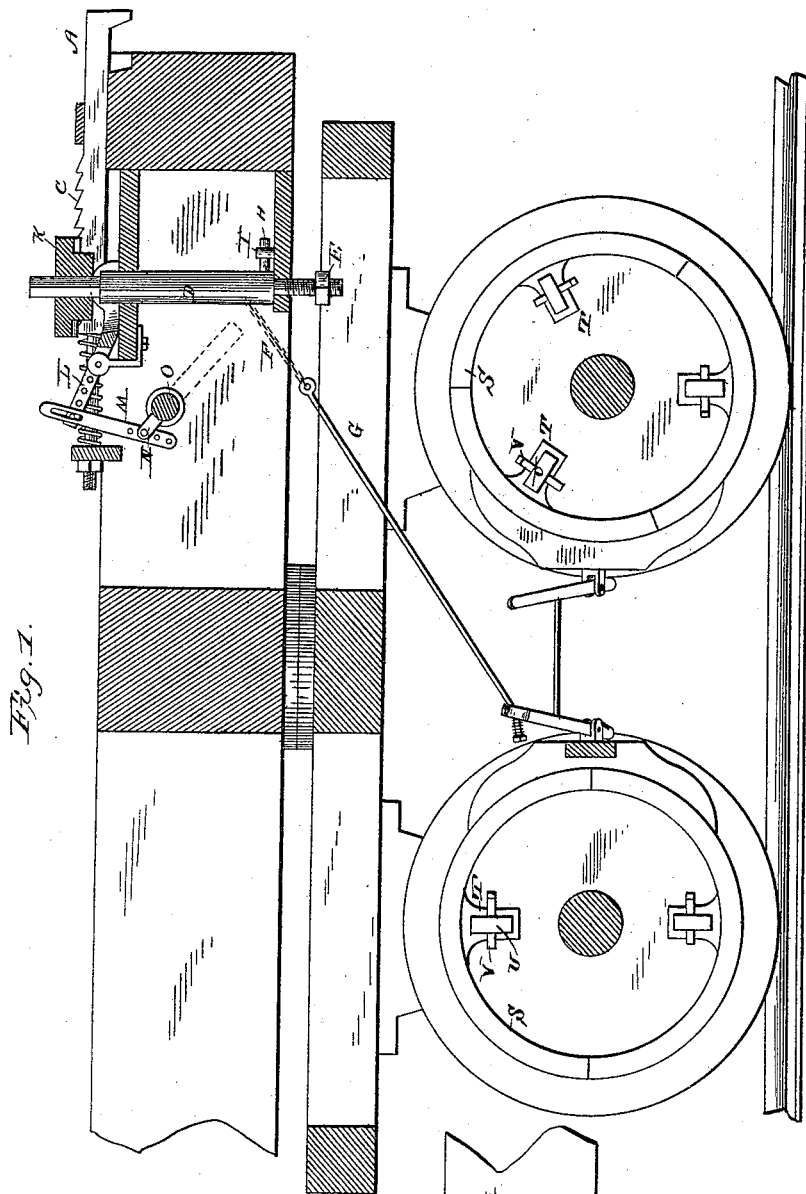
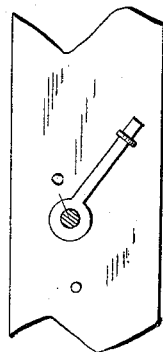


Fig. 1.

Fig. 2.



WITNESSES  
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INVENTOR  
*F. H. D. Newhard*  
By *C. M. Alexander*  
his Attorney

(No Model.)

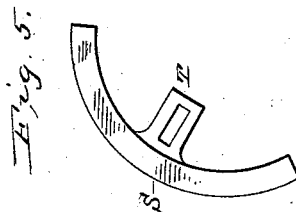
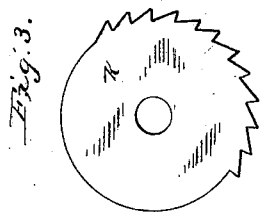
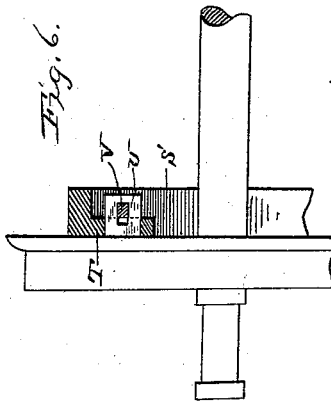
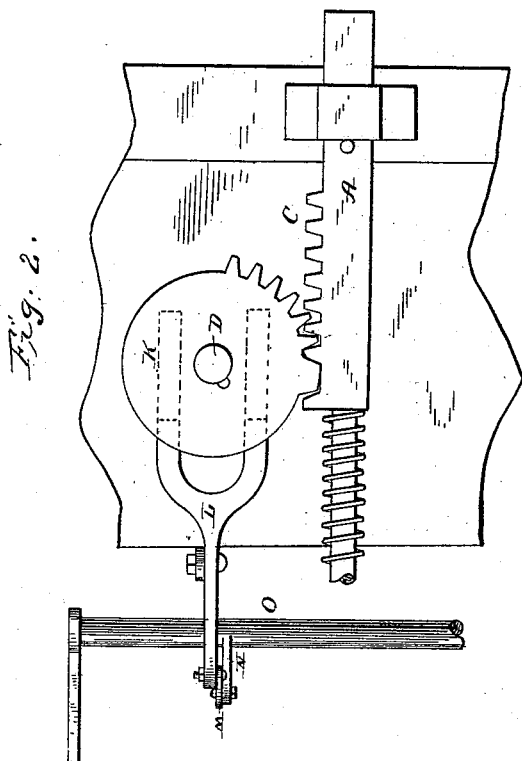
2 Sheets—Sheet 2.

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WITNESSES  
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# UNITED STATES PATENT OFFICE.

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

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 348,039, dated August 24, 1886.

Application filed June 9, 1886. Serial No. 204,638. (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.

This invention relates to that class of car-brakes in which the operation of applying the brakes is automatically performed by the contacting of the cars; and it consists in certain appliances, constructions, and combinations, fully hereinafter described.

In the annexed drawings, Figure 1 represents a longitudinal section of a portion of a car and one of the trucks, showing the parts embraced in the improvement in position; Fig. 2, a plan view of a portion of the brake-operating mechanism; Fig. 3, a detail showing a modification, and Figs. 4, 5, and 6, further details.

I deem a detail description of the truck and car-frame as immaterial since both are or may be of any ordinary or known construction suitable to the purpose. Also, the brake-shoes and their connections, one to the other, are of common construction, as shown in the drawings.

This invention consists particularly in a mechanism whereby the brakes are automatically applied.

To this end I arrange in suitable bearings in the car-frame a buffer-bar, A, having a head projecting sufficiently far from the end of the car to engage a similar buffer on the contiguous end of another car—for instance, the next preceeding car in a train. This bar A is provided with a suitable spring to take up the shock of contact, and also to advance the bar when the pressure thereon is released. The said bar A is provided on top, near one edge, with teeth C, as in Fig. 1; or the teeth may be formed or secured on one side, as in Fig. 2.

To one side of the said bar is journaled an upright shaft, D, the upper end of which is preferably squared and the lower end preferably threaded, and a retaining-nut, E, applied to prevent any longitudinal movement of said shaft.

The body of the shaft D is adapted to receive and wind thereon the chain F, which is connected by a rod, G, to the brakes, as is shown

in Fig. 1. The said shaft D is also provided with a pin, H, which engages with a stop, I, in the car-frame or on the bearings of said shaft, and prevents the said shaft from rotating too far.

On the squared end of the shaft D is carried a wheel, K, provided with teeth, which engage with those on the bar A. The wheel, as shown in Fig. 1, contains teeth on its under side. These teeth, as shown in Fig. 1, consist of short inclines with the shoulders toward the rear of the buffer-bar. This arrangement permits the said bar to move forward without moving the wheel, while it will readily engage the said wheel when moving backward.

In Fig. 2 the teeth are shown on the side, and the wheel has peripheral teeth, and the said bar and wheel operate as do a rack and pinion.

Other forms of teeth may be used—as, for instance, the peripheral teeth may be formed of short inclines, as in Fig. 3, and the side teeth on the buffer-bar may be formed similarly.

As shown in Fig. 2, one of the teeth near the rear end is omitted, and one tooth of the wheel is double, and thus the movement of both bar and wheel is restricted.

To the rear of the shaft D is fulcrumed a lever, L, having one end bifurcated and straddling the said shaft under the wheel and supporting the latter, and the other end connected by a link, M, to an arm, N, on a rock-shaft, O, extending through and journaled in the sides of the car-frame, the shaft being provided on the projecting ends with handles, as shown in detail in Fig. 4. The rock-shaft is restricted by stops on the outer side of the frame, and with which the handle engages. The link and also the lever are provided with series of holes by means of which the point of connection may be varied. The upper end of the link is slotted, so that handles on the shaft O may move from one side of the vertical to the other side.

The operation of the device is as follows: As the buffer is forced rearward, the teeth thereon engage with those of the wheel and cause the said wheel to turn, which operation also causes the shaft D to turn in its bearings, winding up the chain, and thereby applying the brakes. The slackening in the speed of the train may be one cause of the rearward

movement of the buffer. When it is desirable to release the brakes independent of the forward movement of the buffer-bar, the shaft O is moved by means of one of the handles, 5 and the rear end of the lever depressed. This movement causes the forward end of the lever to be raised, thus carrying the wheel upward on the shaft, and releasing the same from the teeth on the buffer-bar, thereby relieving the 10 brakes. When the pressure is taken from the buffer-bar, the spring will carry the same forward.

I do not broadly claim the manner of operating the brakes by means of a moving 15 buffer-bar and an upright shaft, as such constructions are described and claimed in an application filed by me on even date with this application.

In Figs. 5 and 6 I have shown in detail a 20 portion of a rim, S, for the brake-shoes to bear against. This rim has inwardly projecting slotted lugs T, through which ears U on the inner face of the wheel pass. Through the ears U pass keys V, which hold the rims 25 in place, and yet permit their ready removal.

Without limiting myself to the precise construction shown, I claim--

1. In combination with the vertical shaft D, journaled in suitable bearings, and having its upper end squared, of the brake-shoe and connection, the movable wheel mounted upon the squared head, and provided with suitable teeth, and the ratcheted buffer-bar and spring, all arranged to operate substantially as and for the purposes specified. 30 35

2. The combination, with the movable wheel, the ratcheted buffer-bar, and spring, of the lever L, link M, lever N, and shaft O, provided with handles at its ends, whereby the wheel may be elevated to release the buffer-bar and brakes, substantially as specified. 40

3. The combination, with the wheels, of the ears projecting therefrom and the rims provided with slotted lugs and fastening devices, whereby the rim is held in place, substantially as specified. 45

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

FRANKLIN H. D. NEWHARD.

Witnesses:

JAMES B. SNYDER,  
THOMAS F. BUTZ.