N. BERKELEY.

Railway Car Brake.

No. 93,166. Patented Aug. 3, 1869.

Fig. 2.

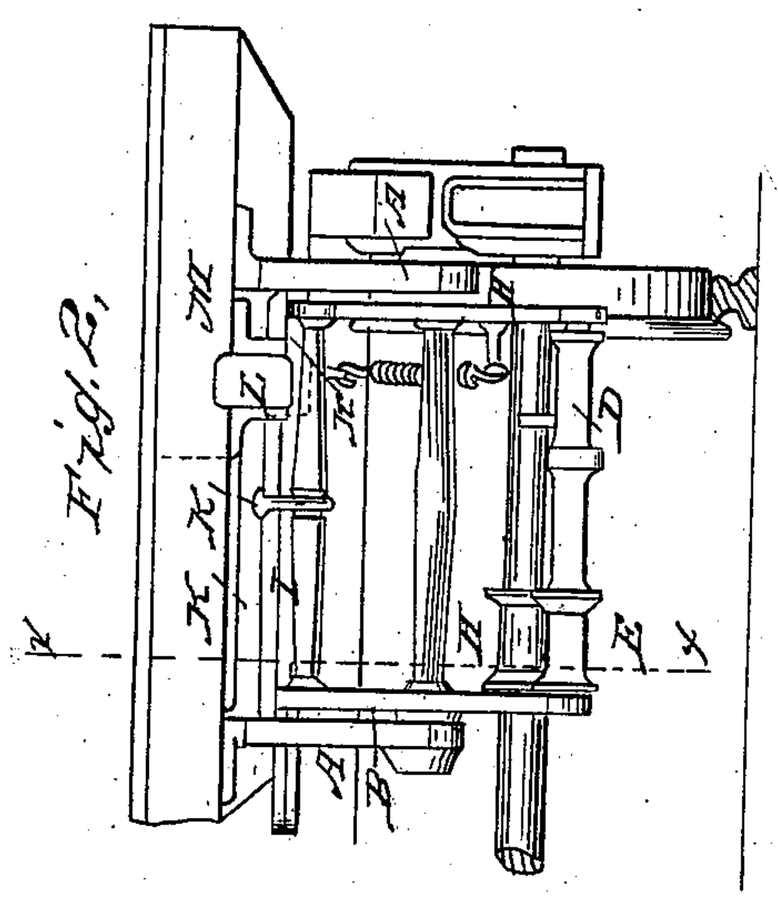


Fig. 4.

Fig. 1.

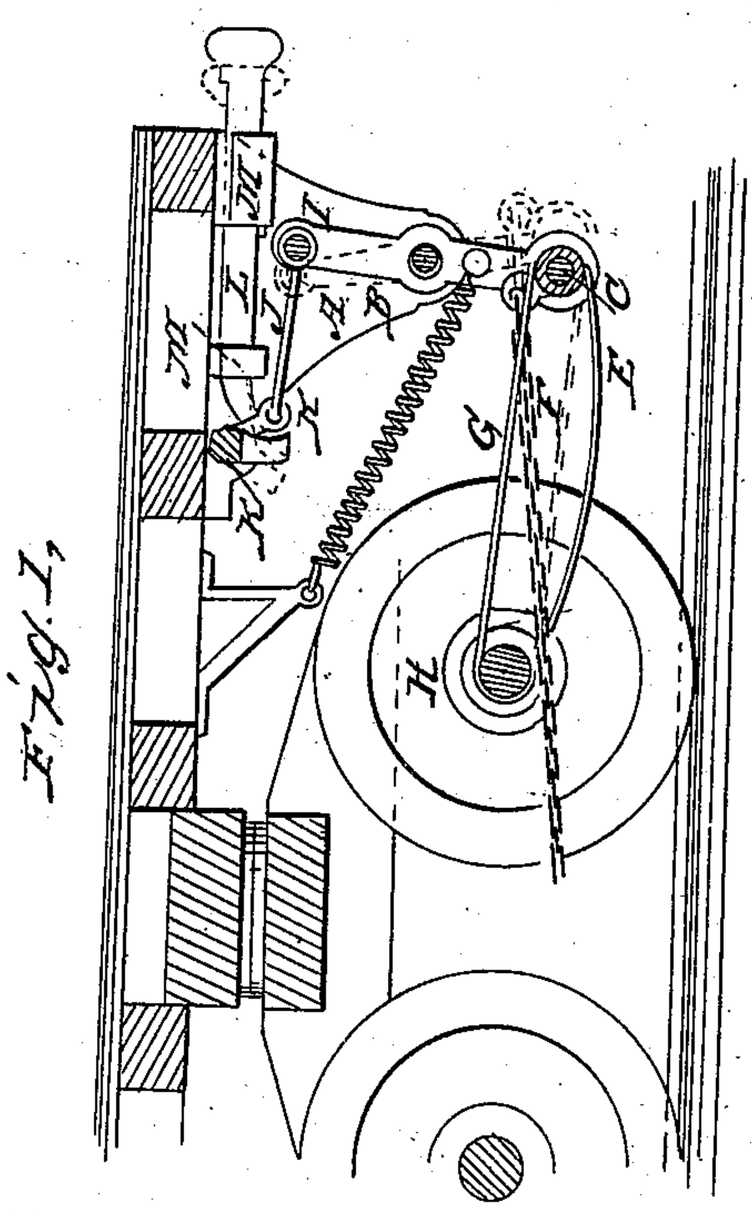
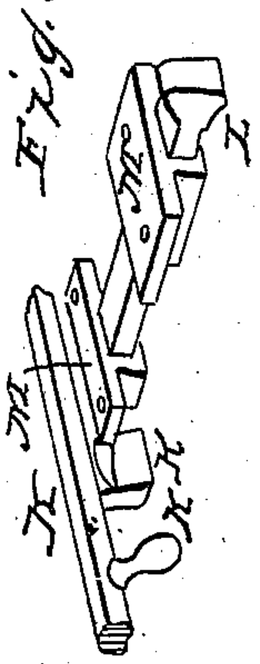


Fig. 3.



Witnesses:

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NORBORNE BERKELEY, OF ALDIE, VIRGINIA.

Letters Patent No. 93,166, *dated August* 3, 1869.

IMPROVED RAILWAY-CAR BRAKE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, NORBORNE BERKELEY, of Aldie, in the county of Loudoun, and State of Virginia, have invented a new and useful Improvement in Self-Acting Railroad-Car Brakes; and I do hereby declare the following to be a sufficiently full, clear, and exact description to enable one skilled in the art to which my invention appertains, to carry it into effect, reference being had to the accompanying drawings, which are made part of this specification.

My invention consists in the employment or use, for operating the brakes, of a centrally-pivoted frame, supporting at one end a shaft, on which are mounted a drum, to which the chains from the brake-shoes are attached, and a pulley, connected to said drum by a suitable clutch, and to a corresponding pulley on one of the axles of the car, by a belt or band, and engaged at the other end by the bar or stem of a buffer, so as when the cars are running regularly, by the collision of the buffers, on the checking of the locomotive, and the consequent backward movement of the bars or stems, and with them the ends of said frames with which they engage, by pressing outward the other ends of said frames, to tighten the belts connecting the pulleys therein and the axles of the cars, and thus cause the motion of the latter to be imparted through the clutches named to the chain-winding drums, and thus stop the cars.

The clutches are to prevent the actuation of the brakes when the buffers are forced back in "backing."

The frames are held in a position to project the buffers and loosen the belts by suitably-applied springs or weights.

In the drawings—

Figure 1 represents a sectional elevation of an illustrative form of the apparatus applied to a car, a portion of which is represented in vertical longitudinal section.

Figure 2 is a front elevation of the same with certain parts omitted, and represents, by the line *x x*, the section in fig. 1.

Figures 3 and 4 are sectional perspective views of portions of the apparatus detached.

A A represent brackets attached to the under side of the frame-work or rails of the car.

B represents the "frame," which is pivoted centrally between the brackets A A, (or their equivalent,) as shown.

C represents a shaft, preferably stationary, mounted between the sides of the frame B, at their lower end.

Mounted loosely on the shaft C, are a chain-drum D and a belt-pulley E, connected by a clutch, *d e*, composed of two intermeshing ratchets, on their contiguous faces, as represented in figs. 2 and 3, allowed sufficient longitudinal motion to separate said clutch, and pressed together, if necessary, by suitable springs.

They are individually connected respectively by a chain, F, and belt G, (fig. 1,) to the immediate operating-mechanism of the brake-shoes, which may be of any usual or suitable construction, and to a pulley, H, on the axle, from which it is desired to take the movement.

I represents a bar, connecting the upper ends of the sides of the frame A, and connected, by a link, J, to an arm, *k*, of a parallel rock-shaft, K, mounted in fixed bearings, which may also be in the brackets A A, as shown in fig. 1.

L represents the buffer, which, arranged on one side of the centre of the car, may be employed exclusively for operating the brakes, as hereinafter described, or may constitute the draw-head proper, or one of the usual side bumpers. It is adapted to slide in suitable guides, M M, and its rear end is so bevelled and bent, as shown, or otherwise constructed so as to adapt it to readily engage with a suitable arm, *k'*, of the rock-shaft K, in its backward movement, and oscillate said shaft, said movement being transmitted to the pivoted frame B, through the arm *k*, link J, and rod I, forcing outward the lower end of said frame, and tightening the belt G, which is thus made to transmit, from the pulley H, on the axle, motion corresponding therewith to the pulley E, and, if this motion be forward, through the clutch *d e*, to the chain-drum D, winding up the chain F, and stopping the car. When the collision of the buffers results from "backing" the cars, the pulley E and drum D separate, owing to their clutch-connection.

N represents a spring, which may be of any suitable form, and applied in any preferred position, to hold the frame B in the position represented in fig. 1, to loosen the belt G and project the buffer L.

The apparatus may preferably be arranged inside of the truck. More than one for each car may be employed, if preferred, and two or more buffers may be employed to actuate each frame.

The end or extension of the buffer may obviously engage directly with the frames or an attachment thereto. A suitable weight may take the place of the spring N, or the frame may be so balanced or weighted as to obviate the necessity for either, as a separate appliance.

A removable locking-pin, or other suitable appliance, may take the place of the clutch *d e*, to prevent the operation of the device in backing, by preventing any backward movement of the buffers, or otherwise.

The details of construction of the various parts may also obviously be varied.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The self-acting brake-operating device, consisting of the buffer L, pivoted frame B, pulleys E H, belt G, and chain-drum D, constructed, arranged, and operating substantially as represented and described.

2. The combination, with the pulley E and chain-drum D, employed and operating substantially as described, of the clutch *d e*, as and for the purpose set forth.

To the above specification of my self-acting rail-road-car brake, I have signed my hand, this 19th day of June, A. D. 1869.

NORBORNE BERKELEY.

Witnesses:

JOEL O. ADAM,

J. B. LOCKHART.