

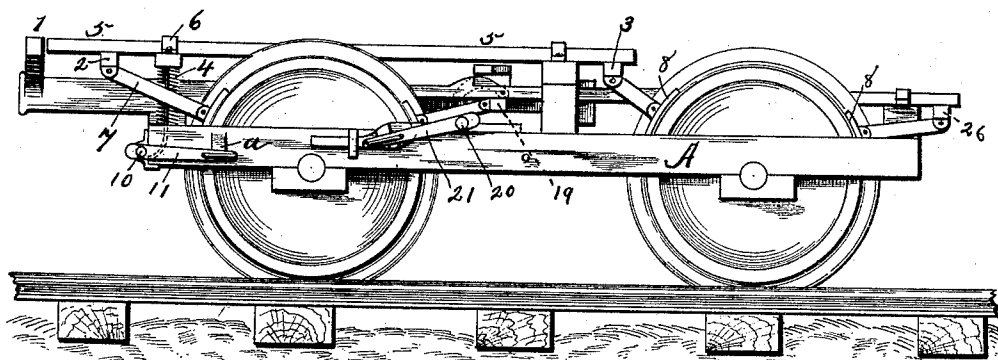
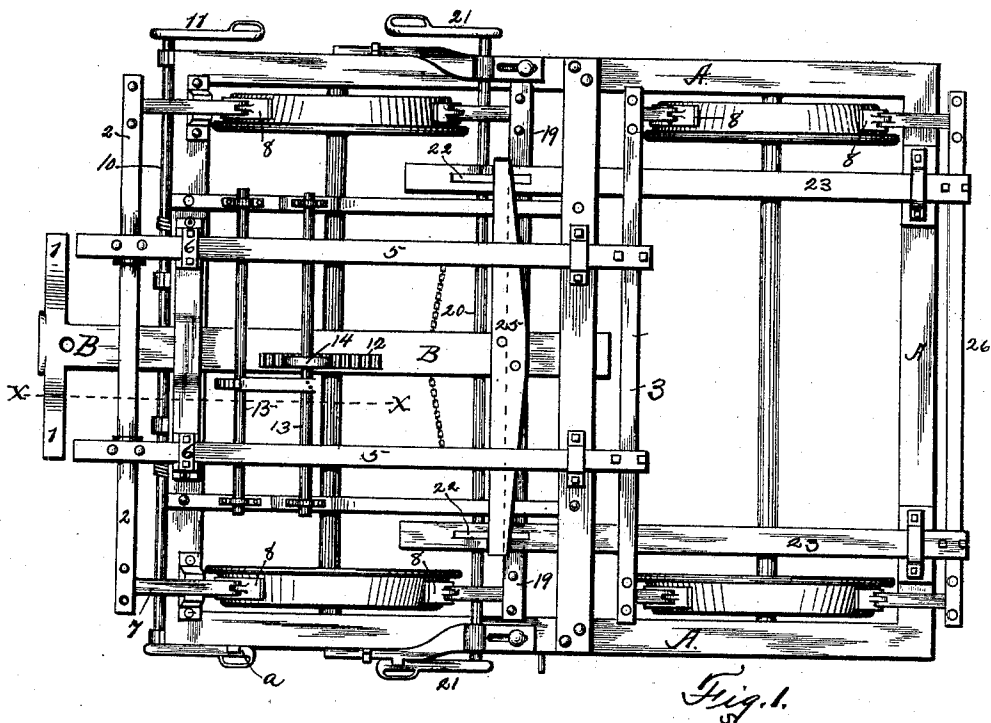
(No Model.)

2 Sheets—Sheet 1.

T. F. CLARK.
CAR BRAKE.

No. 476,871.

Patented June 14, 1892.



WITNESSES:
H. A. Cackart.
C. B. Kinne.

INVENTOR
Thomas F. Clark
By Smith & Benson
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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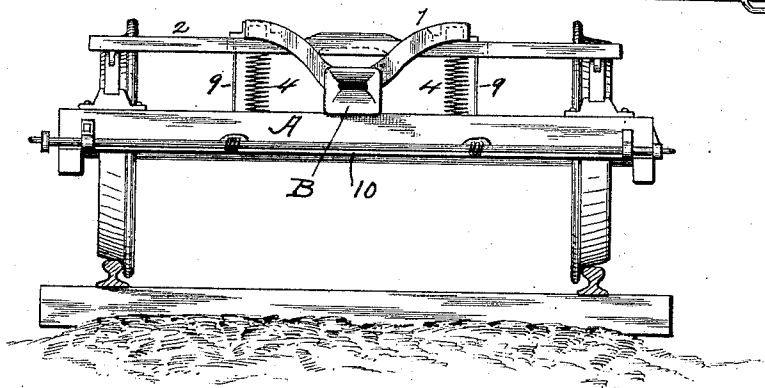
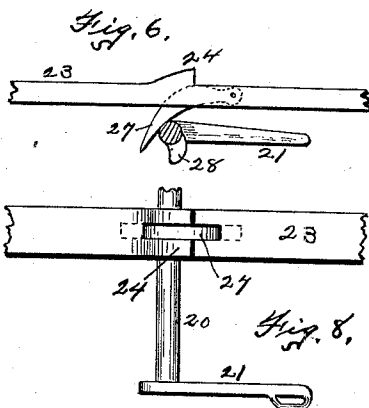
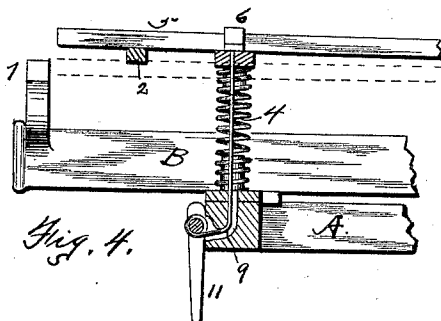
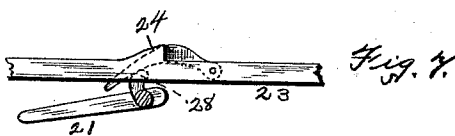
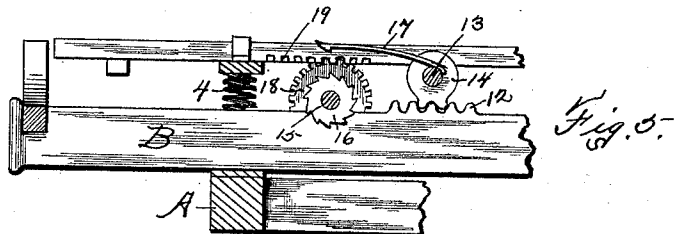


Fig. 3.

WITNESSES:

H. A. Carhart.
C. B. Kinne.

INVENTOR

Thomas Clark
By Smith & Dimson
ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS F. CLARK, OF LANCASTER, NEW HAMPSHIRE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 476,871, dated June 14, 1892.

Application filed January 7, 1892. Serial No. 417,243. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. CLARK, of Lancaster, in the county of Coos, in the State of New Hampshire, have invented new and useful Improvements in Car-Brakes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to the construction and operation of car-brakes as an improvement over the invention described in the application heretofore filed by me under date of June 19, 1891, Serial No. 396,846.

My object is to construct a car-brake which may be operated automatically by utilizing the force caused by the bumpers upon the draw-bars chucking together when the motive power is stopped or reversed.

My invention consists, first, in providing the car-brake with a system of levers and gears, to which are attached brakes adapted to engage with the tread of the wheel, and, second, in so arranging the several parts that the brakes will be set by the backward motion of the draw-bar and bumper incident to the cessation of or the reverse motion of the motive power, which is simple, effective, and positive in its construction, and in these several other novel features of construction and operation hereinafter described, and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a car-truck complete provided with my improved car-brake and mechanism for operating the same. Fig. 2 is a side view thereof with the upper frame depressed for being automatically operated. Fig. 3 is a front end view thereof. Fig. 4 is a side view of the front end of the brake, showing the spring released, whereby the upper frame-bars are thrown out of engagement with the draw-bar and bumper, so that the brakes will not operate. Fig. 5 is a longitudinal view on line *xx*, showing the mechanism by which the brakes are held on and released. Fig. 6 is a side view of the mechanism for operating the opposite set of brakes when the cars are being backed. Fig. 7 is a similar view showing the dog in a po-

sition to allow the cross-bar to pass over the lug and keep the rear brakes from operating. Fig. 8 is a top plan view thereof.

A is the frame of an ordinary car-brake, constructed and mounted in the usual way.

B is the draw-bar centrally mounted and provided at its forward ends with lateral projecting arms 1 1.

2 and 3 are cross-bars mounted yieldingly and vertically upon springs 4 4, which are suitably mounted upon the outward end of the frame A.

5 5 are bars which are at right angles longitudinally with a car and at right angles to the cross-bars 2 and 3, and are adapted to slide freely through the straps 6.

The cross-bars 2 3 are provided with downwardly-extending arms loosely secured thereto, which are provided with shoes or brakes 8 and which are held in close proximity to the tread of the wheel and adapted to travel thereon when set.

9 is a chain or cord secured to the upper frame, which frame consists of the cross-bars 2 and 3 and the bars 5 5, and having the lowered end of said chain secured to the shaft 10, which is provided upon its end with crank-arms 11 for the purpose of rotating the shaft and winding the chain thereon, which compresses the spring and draws the upper frame down, so that its forward end will engage with the arms 1 1 upon the forward end of the draw-bar. The object of this is to allow the upper frame to be normally out of engagement with the draw-bar, so that the brakes will not operate until the upper frame has been drawn down into engagement therewith. When the upper frame has been drawn down into engagement with the arms of the draw-bar, as shown in dotted lines in Fig. 4, the frame is held in its depressed condition by putting the free end of the crank-arm under the lug upon the outer face of the frame A, as shown at *a* in Figs. 1 and 2. Then the backward movement of the draw-bar incident to the chucking together of the cars and bumpers will force the upper frame backward and set the shoes 8 against the tread of the wheel.

For the purpose of holding the brake in engagement with the tread of the wheel I construct a ratchet 12 near or upon the draw-

bar, and just above it I secure the shaft 13 and wheel 14, having ratchets in its lower periphery and adapted to engage with the ratchets on the draw-bar.

5 Parallel to the shaft 13 and just in front of it I mount the shaft 15, having a ratchet-wheel 16, adapted to engage with the lug upon the free end of the strap-spring 17, which is secured to the shaft 13 and adapted to be raised
10 or lowered by the rotation thereof for the purpose of throwing said lug in and out of engagement with the wheel 16.

Upon the shaft 15 I secure ratchet-wheels 18, locating them directly under the bars 5 5, 15 the under side of which is provided with ratchets 19, adapted to engage with the ratchets upon said wheel 18 when the frame has been drawn down or depressed.

From the mechanism it will be seen that
20 when the draw-bar B is forced backward the lug upon the strap 17 will be drawn into engagement with the ratchet-wheel 16, which acts as a dog to hold the upper frame in any rearward position which it may assume, thus
25 holding the brakes onto the tread of the wheel. It will also be seen that when the draw-bar is pulled forward by the starting of the train the lug upon the strap or dog 17 will be drawn out of engagement with the ratchet 16, and
30 this in turn, with the intermediate connection, will release the shoe from the tread of the wheel by allowing the upper frame to move forward.

To the rear end of the bar B, I secure the
35 cross-bar 19, to which are attached frames having shoes or brakes similar to those on the cross-bars 2 and 3 and are adapted to operate simultaneously upon the rear wheels of the trucks.

40 When it is desired to apply these automatic brakes to local cars, in which it oftentimes happens that the cars are pushed ahead of the engine, I provide the truck with the shaft 20, having crank-arms 21 upon its outer ends, and
45 directly under the slots 22 in the bars 23 I construct an upwardly-extending lug 24, adapted to receive the cross-bar 25 and force forward the bars 23, upon which are secured the cross-bars 3 and 26, and to these are secured
50 downwardly-extending arms provided with shoes upon their outer ends, as before described.

When it is desired to operate these brakes, the dog 27 is thrown down, as shown in Fig. 6, and when it is desired to dispense with their
55 use the crank-arm 21 is thrown over, as in Fig. 7, and thereby throwing the lug 28 up against the dog 27, thereby forming a bridge for the purpose of allowing the cross-bar 25 to slide upon and over the lug 24, as shown in Fig. 7. 60

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a car-truck, of a draw-bar having laterally-projecting arms, the upper frame mounted slidably upon said
65 truck, provided with brakes adapted to travel upon the tread of the wheel, and the springs 4, the chain 9, having one end secured to the upper frame and the other end to the shaft 10, the shaft 10, and means for rotating said
70 shaft, as set forth.

2. The combination, with a car-truck, of a draw-bar having laterally-projecting frames upon its forward end, a ratchet upon its upper
75 face, the shaft 13, having a ratchet-wheel 14, adapted to engage with the aforesaid ratchet, and a spring-strap having a lug upon its outer end, adapted to engage with the ratchet-wheel 16, the wheel 16, secured to the shaft 15, the shaft 15, having ratchet-wheels 18 located di-
80 rectly under the bars 5 5, said bars 5 5 having ratchets adapted to engage with said ratchet-wheels, the upper frame mounted slidably upon said truck, provided with brakes and adapted to travel upon the tread of the wheel, 85 the spring 4, the chain 9, having one end secured to the upper frame and the other end to the shaft 10, the shaft 10, and means for rotating said shaft, as set forth.

3. The combination, with a car-truck, of a
90 draw-bar having the cross-bar 25 secured adjacent to its rear end, the frame-bars 23, secured to said cross-arm and provided on its forward end with slots 22 and the lugs 24, the dog 27, adapted to be raised and lowered
95 by the lug 28, located upon the shaft 20, and means for rotating said shaft, substantially as described, for the purposes set forth.

In witness whereof I have hereunto set my hand this 26th day of December, 1891.

THOMAS F. CLARK.

In presence of—

CHESTER B. JORDAN,
W. P. BUCKLEY.