

(No Model.)

H. S. PARMELEE.

CAR BRAKE.

No. 273,762.

Patented Mar. 13, 1883.

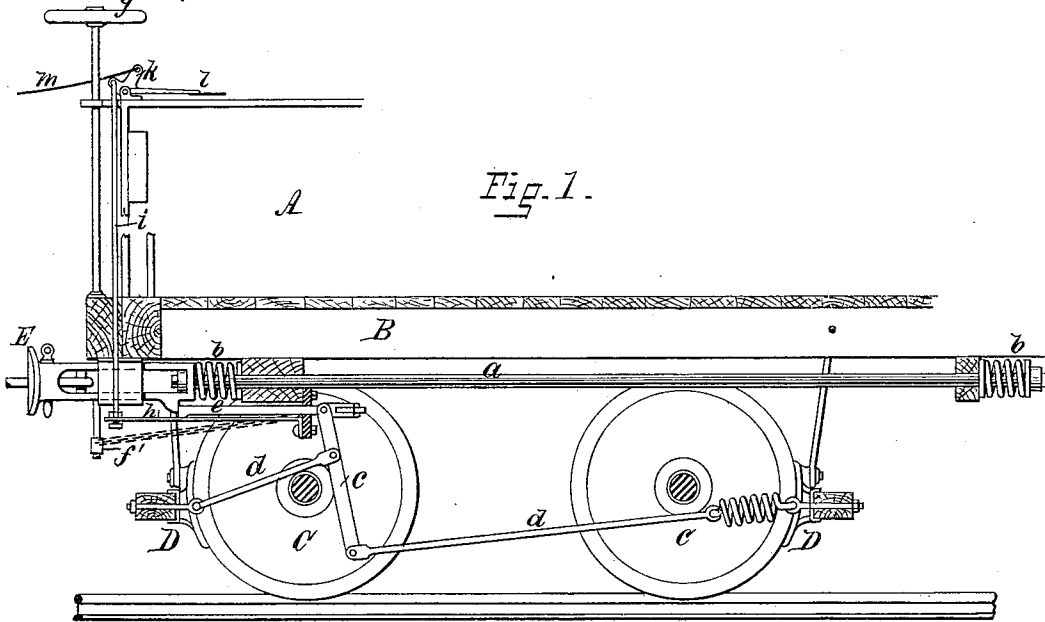


Fig. 1.

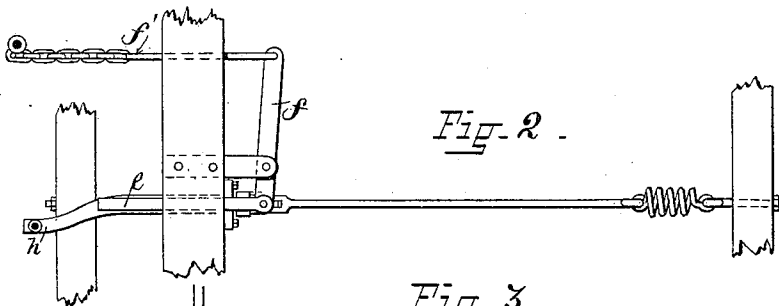


Fig. 2.

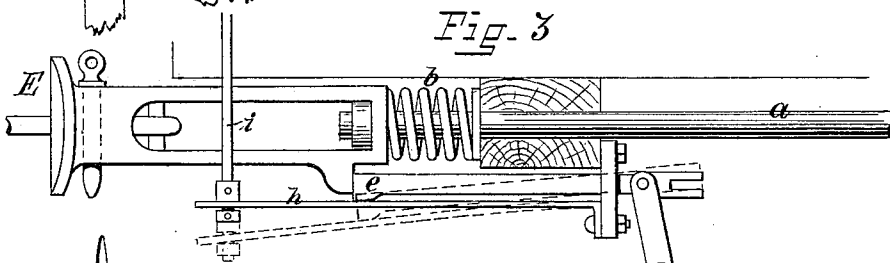


Fig. 3.

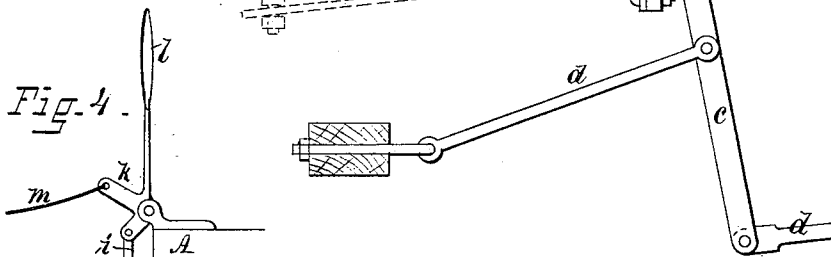


Fig. 4.

WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

HENRY S. PARMELEE, OF NEW HAVEN, CONNECTICUT.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 273,762, dated March 13, 1883.

Application filed April 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. PARMELEE, of the city and county of New Haven, and State of Connecticut, have invented a new and useful Improvement in Car-Brakes; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in railroad-car brakes; and it consists in the novel construction, in connection with the ordinary car-brakes, of a buffer, or a connection with a buffer, by which the brakes are operated when the speed of the train is diminished, and of a device by means of which the brakes can be disconnected from the buffer, all of which will be more fully set forth hereinafter.

Figure 1 is a sectional view of a railroad-car, the box or body being shown reduced in height, but the platform, running-gear, and brakes in the usual proportion. Fig. 2 is a plan view, showing the connection of the hand-wheel with the brakes. Fig. 3 is an enlarged sectional view, showing the connection of the brake-levers with the buffer and draw-head. Fig. 4 is an enlarged view of the disconnecting device and the signal.

In the drawings, A is the body of the car, such as the ordinary freight-cars. B is the platform of the car. C C are the car-wheels. D D are the brakes. E is the draw-head and buffer. *a* is the draw-bar, secured to the draw-head, and provided with the springs *b b*, one of which bears against the draw-head and cushions the impact on the buffer, while the other gradually resists the strain in drawing the cars. *c* is the lever operating the brakes, which are connected thereto by the rods *d d*. *e* is a bar to which the upper end of the lever *c* is connected, and *f* a lever connected at one end with the lever *c* and at the other, by means of a chain, to the worm of a shaft of the hand-wheel *g*, usually placed on the top of the car. *h* is a spring-bar, or it may be a hinged bar, the free end of which is secured to the rod *i*, the upper end of which is connected with the bell-crank lever *k*. To one end of the bell-crank lever *k* a line, *m*, is secured, and such a line may extend over the whole length of a train. *l* is an arm extending from the bell-crank lever *k*, or

connected with the same. It is provided with a suitable signal, which will be raised when, by means of the cord *m*, the bell-crank lever is operated.

The bar *e* bears against the draw-head or buffer E; or it may be provided with a separate buffer. It rests on the bar *h*, and is kept in contact with the buffer by the same. When, however, the bell-crank lever is operated by the cord *m*, the bar *h* is depressed and the bar *e* drops below the projection on the draw-head or buffer E, as is shown in Fig. 3 in broken lines, and in this position the brakes are operated in the usual manner by the hand-wheel *g*. When the brakes are thus disconnected from the buffer the signal *l* is raised, thus indicating the condition in which the brakes are at any time.

The operation of this automatic brake is as follows: The cars provided with the brake would have the automatic device disconnected and the signal raised, as during the making up of a train considerable switching and braking have to be done, and during these operations the automatic brakes have to be disconnected, as the pressure on the buffer will put on the brakes. The train having been made up and ready to start, all the signals *l* on the cars will be lowered, and the bar *e* will thereby be placed behind the buffer or draw-head, or behind a separate buffer provided for this purpose. The strain of the locomotive on the draw-heads, as also the spring by which the buffer or draw-head is forced outward, prevent the buffer or draw-head from coming in contact with the bar *e*. As soon, however, as from any cause the speed of the train is slackened, the momentum of the cars will bring the buffers together, and will operate the brakes through the bar *e* and the brake-levers. On a downgrade the force of the train resisted by the locomotive will force the brakes of all the cars automatically on the wheels, and will brake up the whole train with a force proportioned to the weight of the train and the inclination of the grade. A train provided with these brakes will be therefore under the complete control of the engineer. When he increases the speed of the locomotive a pulling strain is exerted on each car in succession, owing to the play of the couplings, and one car after the other will automatically release the brakes. When, however,

he slows the speed, the first car will push its buffer against the buffer of the tender, and will thus bring the brake to bear on its wheels and each succeeding car in quick succession. This play between the cars is of great value in long trains supplied with these brakes, as on a down-grade the engineer can readily regulate the speed, so that while the brakes of all the cars are in contact with the wheels he can release some of the forward cars of the brakes without affecting the brakes on the rest of the train, and thus he can control the speed more easily than can be done by hand-brakes or by any of the power-brakes operated either by pressure or vacuum, as in these all the brakes are operated alike.

Any of the now existing cars can be quickly changed into cars provided with my automatic brakes, as the only addition required is the bar *e*, spring-bar *h*, rod *i*, bell-crank lever *k*, and signal *l*, which can be readily secured.

When it becomes necessary to back the train a pull on the cord *m* will release all the brakes from the buffers, and the cars are then operated in the usual way by the hand-wheel *g*.

I am aware that car-brakes have been arranged for connection with and disconnection from a buffer by intermediate mechanism, and I do not claim such an arrangement or combination of devices, broadly.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the brakes and yielding buffer, of mechanism arranged to be operated by the buffer for applying the brakes, and devices arranged to be operated from the top of the car for connecting said mechanism with or disconnecting it from the buffer, said connecting and disconnecting devices being adapted and arranged for operative connection by cords from car to car along the top of a train, substantially as described.

2. The combination, with an automatic brake operated by the compression on a buffer, of the bell-crank lever *k* and signal *l*, constructed to indicate the connection or disconnection of the automatic brake, as described.

3. The combination, with the brakes *D D*, constructed to be operated by hand, of the bar *e*, the bar *h*, the rod *i*, and bell-crank lever *k*, constructed to connect the brake with the buffer, or disconnect the same, as and for the purpose described.

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Witnesses:

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