E. FARNSWORTH.

Car-Brakes.

No. 138,141. Patented April 22, 1873.

Fig. 1.

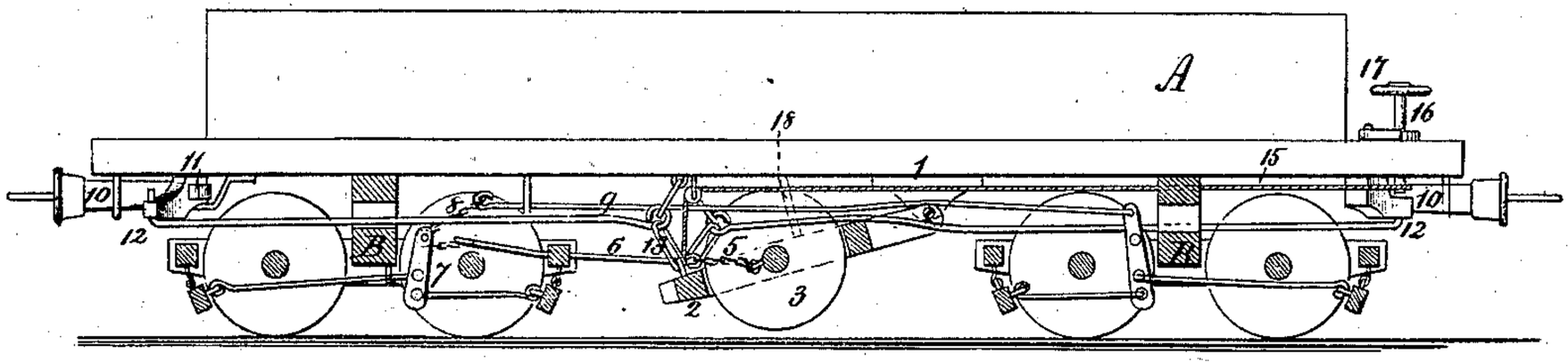


Fig. 2.

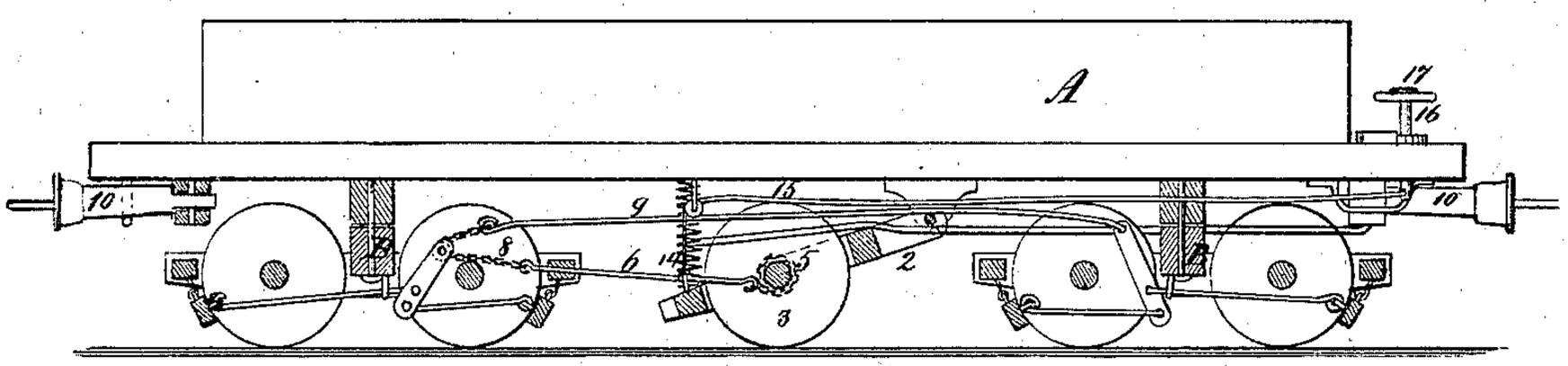
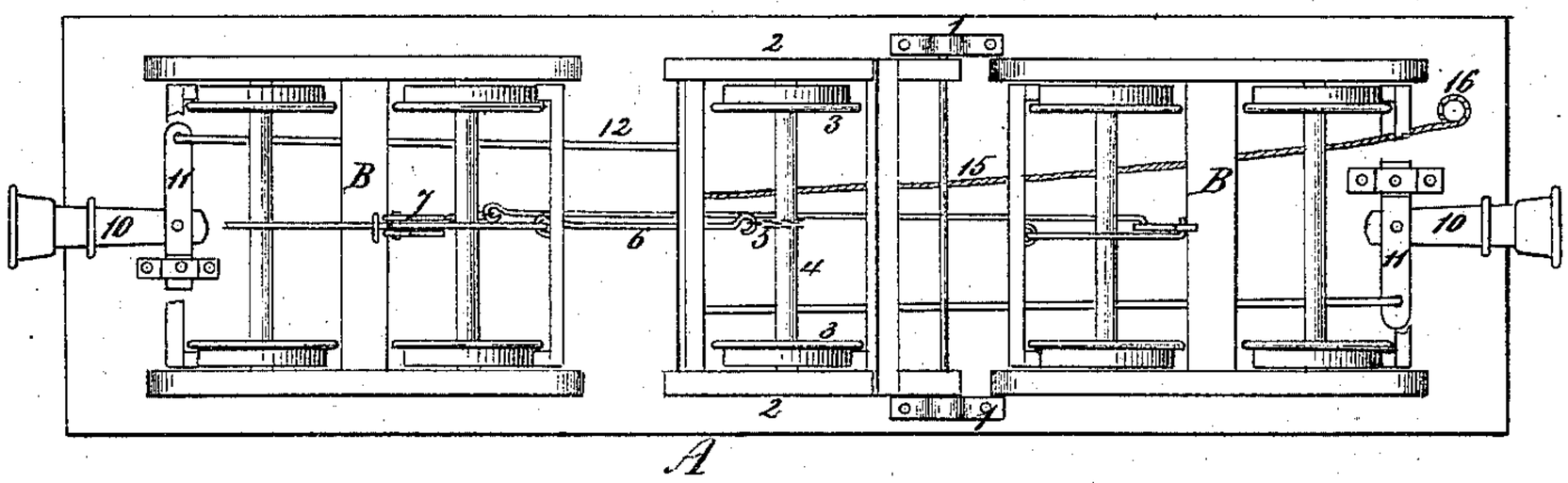


Fig. 3.



Witnesses.

A. Ruppert.

Wm M. Lynch

Inventor.

Enoch Farnsworth

Edson Brothers

Attys

UNITED STATES PATENT OFFICE.

ENOCH FARNSWORTH, OF TIPTON, PENNSYLVANIA.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **138,141**, dated April 22, 1873; application filed August 31, 1872.

To all whom it may concern:

Be it known that I, ENOCH FARNSWORTH, residing in Tipton, in the county of Blair and State of Pennsylvania, have invented a certain new and useful Improvement in Car-Brakes, of which the following is a specification:

In the annexed drawing, Figure 1 is an elevation of a car having my improved brake attached, the lower portion being in section, and showing the parts in the positions which they assume when the car is running and when the brakes are not applied. Fig. 2 is a similar view, showing the position of the parts when the brake is applied; and Fig. 3 is a bottom view, showing the arrangement of the brake-rods and of the levers to which the draw-heads are attached.

Corresponding letters refer to corresponding parts in the several figures.

This invention relates to that class of brakes which are to be applied automatically by the momentum of the train as the speed of the engine is suddenly checked and the cars are caused to approach nearer to each other; and it consists in the combination and arrangement of some of the parts of which it is composed, as will be more fully explained hereinafter.

In applying this improvement to cars I use any approved form of car-body, A, which may be mounted upon any desired form of trucks, B B, the wheels, axles, jaws, and boxes, as well as the brake-hangers, levers, and shoes, being of the usual form. The parts above referred to do not separately form any part of my present invention, and hence need not be more particularly referred to or described here, as their construction is well known. The parts which constitute my improvement consist of an extra pair of wheels mounted upon an axle which is secured in a swinging frame placed about midway between the trucks of the car, and have combined with them certain rods, chains, and levers, the parts being so arranged as that when the car is being drawn forward by the locomotive the brake-wheels will be lifted from the track by the action thereof, but will be caused to descend and rest upon the rails when the cars have been relieved from the power that propelled them, in which position they will have a rotary movement imparted to them that will cause a chain or rope to be wound around their axle, which will at once apply the brakes to all of the wheels of both of the trucks of the car. In constructing brakes of this character I attach to the frame of the car suitable hangers, 1, to which a frame, 2, is hinged, as shown in Figs. 1, 2, and 3. This frame is pivoted at one end to the hangers 1 in such a manner that its opposite end can play up and down freely. As near the free end of this frame as convenient a pair of wheels, 3 3, are placed, which have been securely fastened to an axle, 4, said axle having its bearings in the frame 2. Into the axle 4 there is inserted an eye, or other form of fastening, to which to attach the end of a chain or rope, 5, which connects it by means of a rod, 6, with the brake-lever 7, in order that when the wheels 3 are resting and rotating upon the rails the chain 5 may be wound around the axle 4, and thus cause the brakes to be applied. The lever 7 has a grooved roller attached to its upper end, on which the chain or rope 8 passes, which is a continuation of the rod 6. From the chain 8 a rod, 9, passes to, and is connected with, the upper end of the brake-lever of the other truck of the car, and thus the rotation of the shaft 4 is made to apply the brakes to both trucks at one and the same time. The buffers or draw-heads 10 are attached to the levers 11, one end of which is pivoted to the frame-work of the car, as shown in Fig. 3. To the free end of this lever ropes or chains 12 are attached, which extend therefrom to the links or chains 13 which are attached to the free or swinging end of the frame 2 and to the frame of the car in such a manner that, when the power of the locomotive is exerted to draw the cars, the free end of frame 2 will be elevated and its wheels will be lifted from the rails, and the brakes will be released from contact with the wheels; but the moment that the steam is shut off from the engine, and the buffer-heads of the different cars are elevated to come in contact with each other, the buffers will be forced inward, which will bring the links 13 into nearly a vertical position, and allow the spring 14 to press the free end of the frame 2 and its wheels, 3, down upon the rails, which will cause the

wheels and their axle to be rotated, and, through the medium of the ropes or chains, rods, and levers above described, the brakes to be applied to all of the truck-wheels. In order that the time of applying the brakes may be under the control of the brakesmen, or other persons employed on the train, and in order that they may be relieved from contact with the truck-wheels at any time when the car is in motion, a rope or chain, 15, is attached to the free end of the frame 2, and passed upward to and through an eye-bolt, or over a pulley which is attached to the body of the car, and thence forward and around a brake-shaft, 16, which is secured to the platform or to the body of the car in the usual manner, so that, by turning said rod by means of the wheel 17 upon its upper end the free end of frame 2 and its wheels may be raised and relieved from contact with the rails, which operation will cause the brakes to relax their hold upon the truck-wheels. In order that frame 2, when elevated as above described, may be held firmly in position, and not be allowed to change its position as a consequence of the vertical or lateral motion of the car, stops, 18, are secured to the under side of the car-body in such position that, when frame 2 is so elevated, its free end will rest upon said stops and there be held firmly in its position.

Having thus described my invention, what I claim is—

The combination of the car-body A, frame 2, wheels 3, axle 4, suitable ropes or chains, and rods 5 and 6, and lever 7, with its friction-roller and rod or chain, 9, for applying the brakes, substantially in the manner set forth.

In testimony whereof I have hereunto signed my name this 23d day of July, A. D. 1872, in presence of two subscribing witnesses.

ENOCH FARNSWORTH.

Witnesses:

J. W. MISTER,

WM. M. LYNCH.