E. SQUIRE.

CAR-BRAKE.

No. 188,313. Patented March 13, 1877.

Fig. 3.

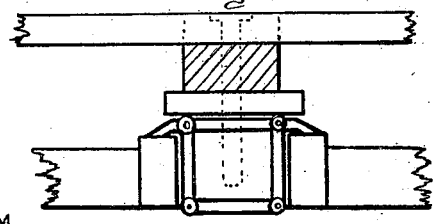


Fig. 4.

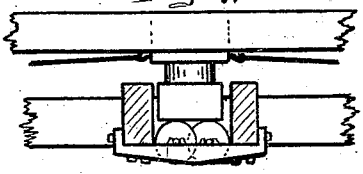


Fig. 2.

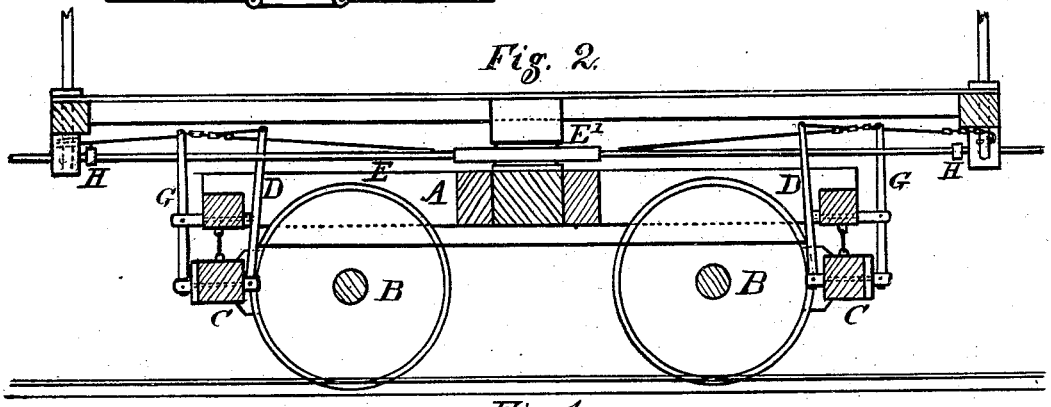
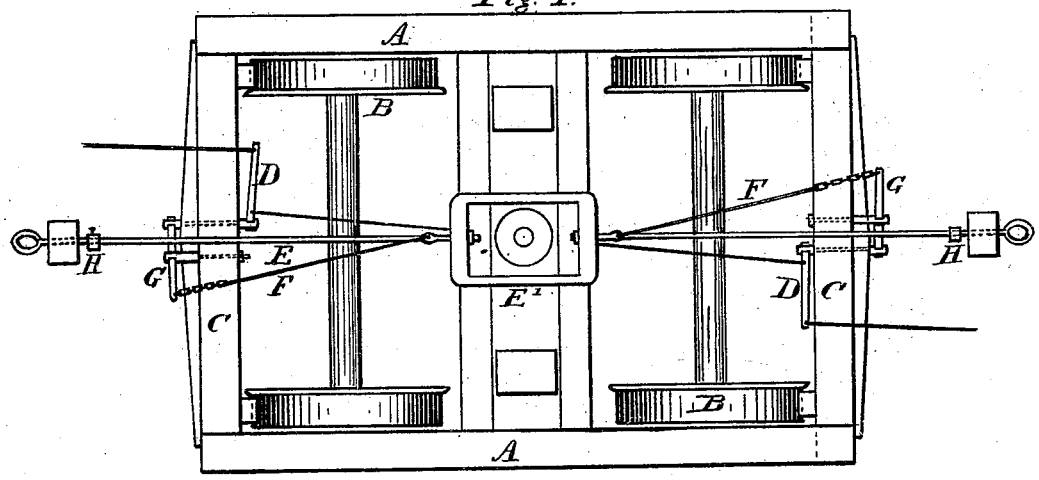


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWIN SQUIRE, OF CLEVELAND, OHIO.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **188,313**, dated March 13, 1877; application filed October 31, 1876.

To all whom it may concern:

Be it known that I, EDWIN SQUIRE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Railroad-Car Brakes, of which the following is a specification:

The object of my invention is to furnish a device, in combination with the ordinary brake mechanism, by which to regulate the pressure of the brake-shoes on the wheels, so that the difference of adhesion of the front pair of wheels and the rear pair of wheels in the truck to the track shall be governed in accordance with the circumstances, as follows:

It is found that when the speed of a train is checked the momentum of the body of the car has a tendency to tilt the truck forward, resulting in a greater or increased adhesion of the forward pair of wheels, and a lessening of the adhesion of the rear pair of wheels, to the track. This causes the rear wheels to slide on the rails, because the proportion of force applied to both the front and rear wheels being equal the revolution of the rear wheels is soonest checked, and the full effect of the brakes is thereby not obtained.

To overcome this defect is the object of my invention, which I accomplish by the introduction of, and the combination with, the brake mechanism of compensating-levers and connecting-rods, whereby the aforesaid momentum of the train is employed, through the means of the said levers, to relieve the pressure on the rear wheels, and increase the pressure on the forward pair, just in proportion to the power of that momentum, and thus effect an equal adhesion of the wheels to the rails. I propose to connect the said levers by connecting-rods to a continuous draw-bar, or to the body of the car, by either of the plans shown in the drawings.

This improvement consists in the combination, with the ordinary brake mechanism of a car-truck, of the draw-bar E, or its substantial equivalent, connecting-rods F F, and levers G G, in such a manner as to accomplish the result above stated.

In the accompanying drawing, Figure 1 is a top or plan view of a car-truck having my improvement embodied. Fig. 2 is a vertical longitudinal section of the same. Figs. 3 and 4 are views of modified forms of making connection of the compensating-levers with their operating power.

A is the frame of the truck; B B are the wheels; C C, the brakes, and D D the brake-levers. These are all of the ordinary construction. My improvement consists in combining with these a continuous draw-bar, E, connected with the draw-head of the car, provided with a frame, E′, which surrounds the bolster. Attached to said draw-bar are two connecting-rods, F F, which connect it to two levers, G G, having their fulcrums on the outside of and at ends of the truck-frame, and connected at their lower ends to the brake-bars C C. The said draw-bar has two stops, H H, upon it, just inside the supporting-blocks, for the purpose of limiting its movement. The operation of this is as follows: When the brakes are applied to the wheels, and their motion is checked, there is a tendency from the pulling of the car to lift the rear wheels from the track; they therefore require less brake-force to check their motion, or else they would slide on the track first, or before the two forward wheels. By my arrangement the pull on the draw-bar E acts through the rods F F and levers G G to hold off the brake from the rear wheels, and causes a correspondingly-increased force to be exerted upon the forward wheels. In this manner the force of the brakes is regulated and adjusted to suit the requirements automatically.

In Figs. 3 and 4 are shown different plans of imparting power to the aforesaid compensating-levers, which consist of resting the bolster in a swing, as seen in Fig. 3, or on friction-rolls, as in Fig. 4, fixed in the truck-frame, and attaching the connecting-rods to the transom, and thereby dispensing with the draw-bar. The truck by this method has a little oscillating movement, which effects the same result as the draw-bar.

Having described my invention, I claim—

In combination with the brake mechanism of railway-car truck, the levers G G and the connecting-rods F F, when connected by a continuous draw-bar, E, or otherwise, for operating substantially as and for the purpose set forth.

EDWIN SQUIRE.

Witnesses:
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