(No Model.)

J. CROLLARD.

Car Brake.

No. 235,749. Patented Dec. 21, 1880.

Fig. 1.

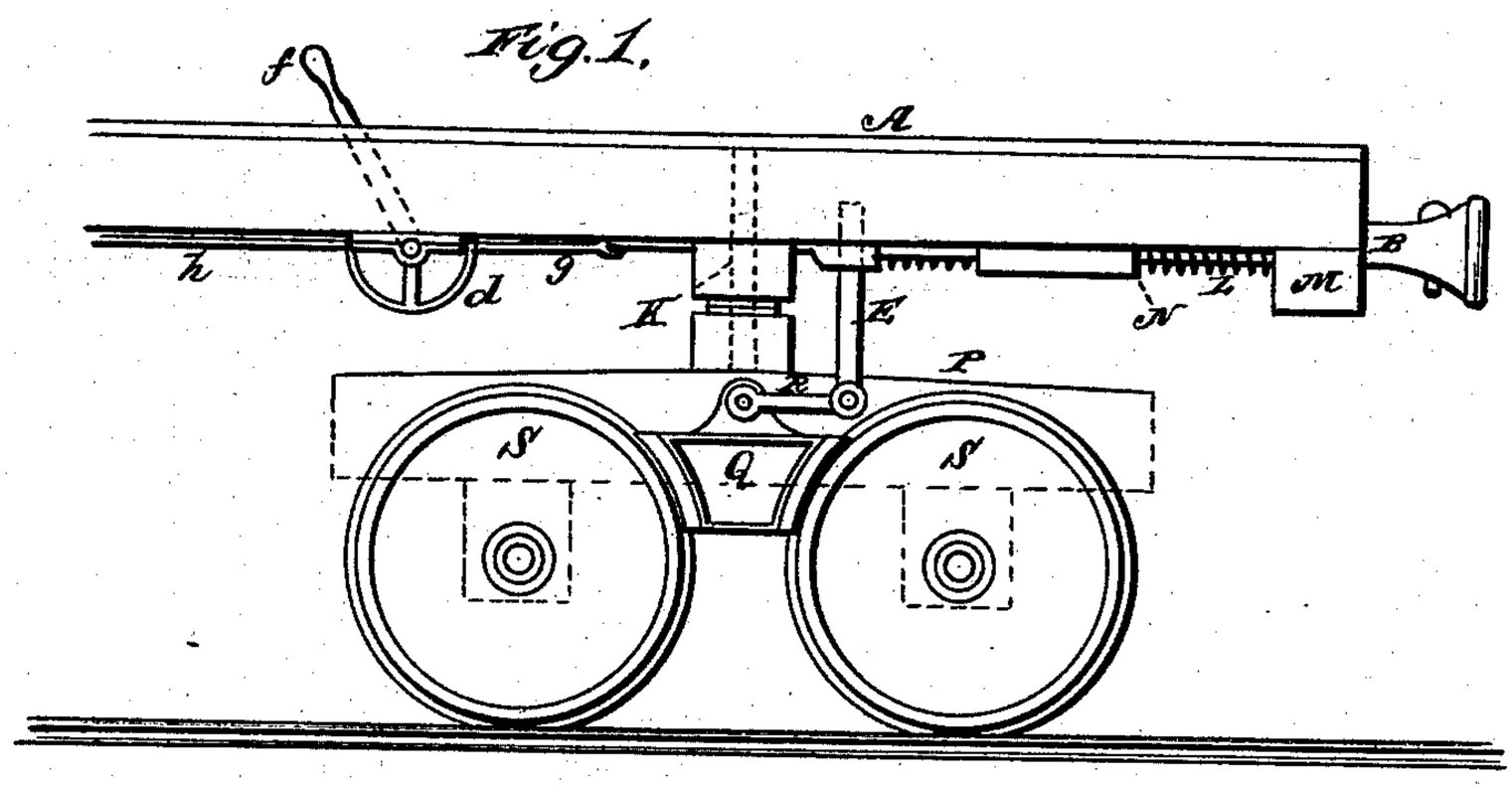


Fig. 2.

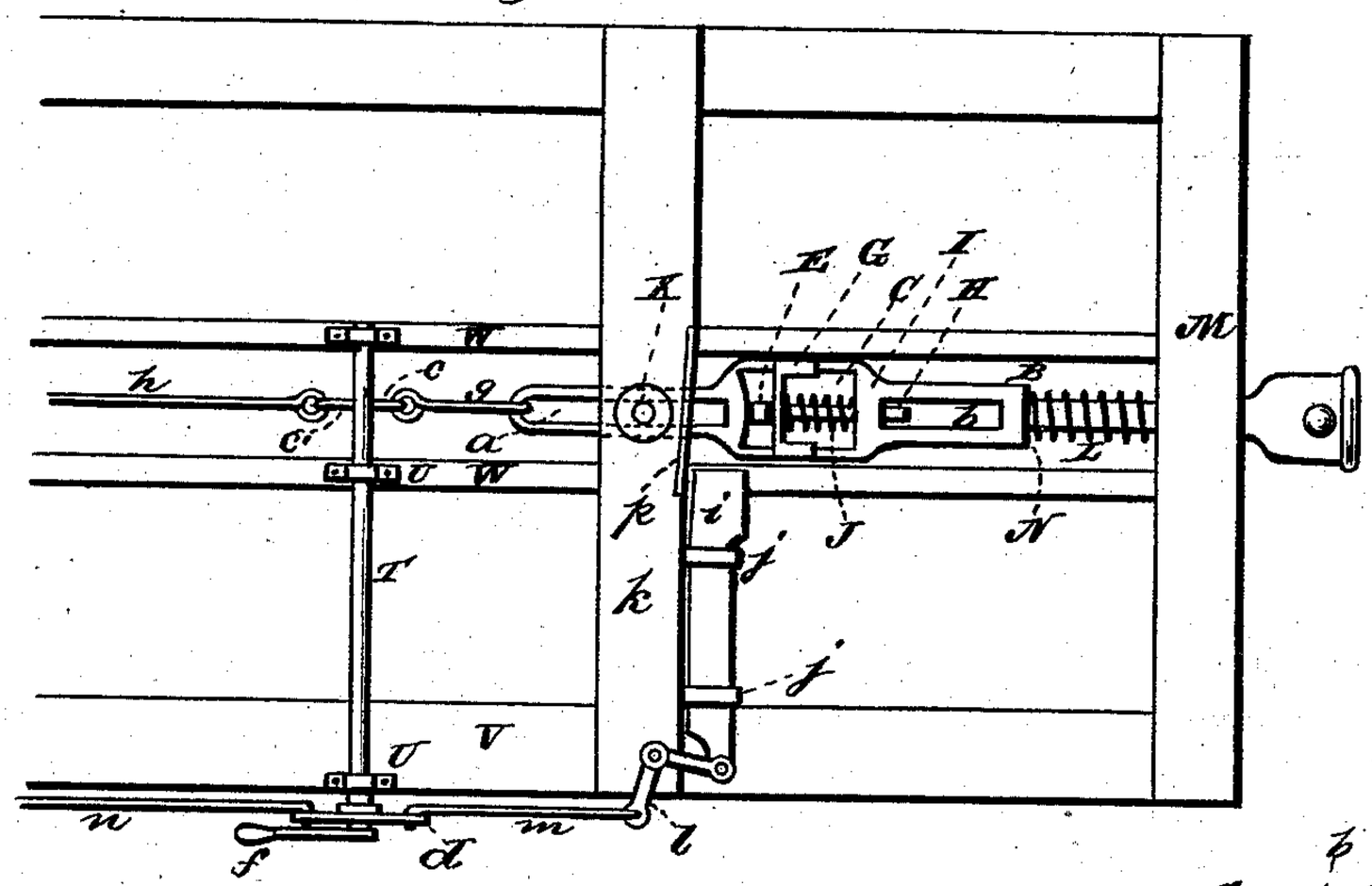


Fig. 4.

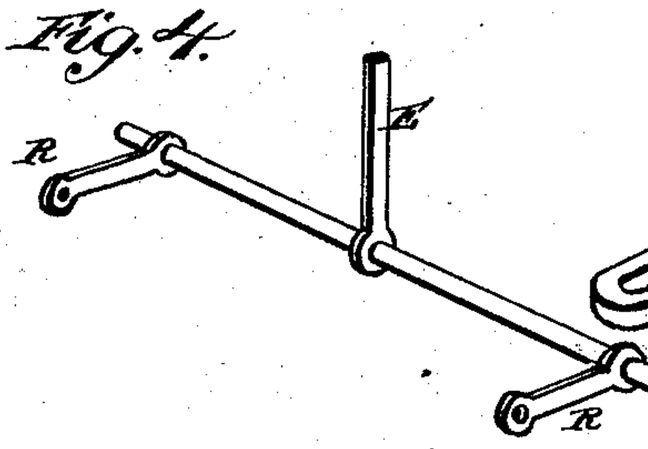
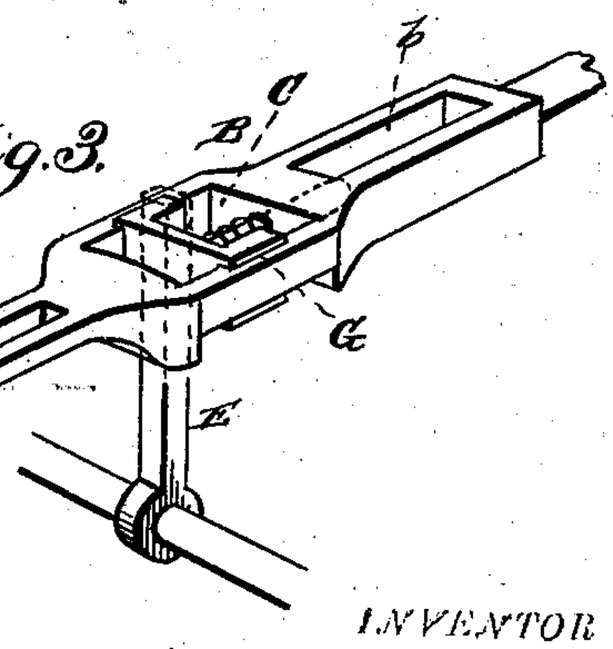


Fig. 3.



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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 235,749, dated December 21, 1880.

Application filed October 25, 1880. (No model.)

To all whom it may concern:

Be it known that I, JULES CROLLARD, a citizen of France, resident at Leadville, in the county of Lake and State of Colorado, have invented certain new and useful Improvements in Car-Braking Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in car-braking apparatus applicable to horse-cars as well as to railroad-cars.

The objects I desire to attain by it are four in number, viz: first, to release the brakes from a car or cars by the pulling action of the starting-power; secondly, to brake a car or cars in motion by the resistance of the reversed motive power, which resistance is applied to close down the brakes; thirdly, to lock the brakes of a car or cars to prevent the pushing action of motive power to close down the brakes; and, fourthly, to allow brakemen to use the brake even when the car or cars are disconnected from the motive power. These objects are accomplished by the mechanism illustrated in the accompanying drawings.

Figure 1 is a side elevation of a portion of a railroad-car having the improved car-brake applied. Fig. 2 is a bottom-plan view of the same. Fig. 3 is an enlarged detail view of a portion of the draw-bar and the brake-lever. Fig. 4 is a detail view of the rocking lever.

In these drawings similar letters of reference indicate corresponding parts in the several figures.

A designates the floor of a platform-car. B designates the draw-bar, slotted at *a* and *b*, and having an opening, C, through which the arm D of the rocking lever E projects upwardly. The opening C is provided with a flanged guide-slide, G, fixed to a pin, H, projecting through a hole in the partition I of the draw-bar B, and operated by a combined rubber and spiral spring, J, to soften the commencement of the action of the brakes. The king-bolt K is passed through the slot *a* at the rear end of the draw-bar, and serves as a guide for that end of the draw-bar. The draw-bar B is also provided with a combined rubber and spiral spring, L, between the cross-beam M of the car and the shoulder N of the draw-bar. The ends of the rocking lever E are journaled in the side beam, P, of the truck-frame, and the brake-shoes Q are pivoted to the ends of the arms R of said lever E and suspended between the wheels S, as shown. A shaft, T, is supported in boxes U, secured to the under side of longitudinal beams V and W W, and is provided with arms *c c'*, a loose wheel, *d*, and a fixed hand-lever, *f*. A rod, *g*, connects the arm *c* of the shaft T with the rear end of the draw-bar B, and a rod, *h*, connects the arm *c'* similarly to the rear end of the draw-bar at the other end of the car. A bolt, *i*, wedge-shaped, slides in hasps or guides *j*, secured to the front of the cross-bar *k* of the car-floor, and is connected with a bell-crank lever, *l*, which latter is connected by a rod, *m*, with the wheel *d* on the shaft T. A rod, *n*, is similarly connected to a bell-crank at the other end of the car, (only one set of the brakes being shown in the drawings.) A face-plate, *p*, which, if required, will receive one or more vertical rollers, is secured to the front of the cross-bar *k*, against which the bolt *i* slides when pushed to lock the brake open.

The operation of the device is as follows: When the motive power pulls upon the draw-bar B, the spring L yields and permits the draw-bar to move forward and carry with it the arm D of the rocking lever E, which raises the brake-shoes and unbrakes the cars of the train. The train being in motion, if the motive power is caused to be reversed, being connected to cars only by the draw-bar B, it pushes the draw-bar under the car, causing the arm D of the rocking lever E to turn down the brakes and retard the train.

In depots, when cars must be backed, then, by the means of the hand-wheel *d* and the rods *m* and *n*, the bell-crank *l* causes the locking-bolt *i* to slide in between the arm D of the rocking lever E and the front of the cross-bar *k*, and locks the brakes open.

To brake disconnected cars the brakeman stands near the wheel *d*, and the lever *f* turns the wheel *d* to unlock the brakes of the car on

which he stands, and, by means of the lever *f*, turns the shaft T, which, by the eyed arms *c c'* and the rods *g* and *h*, pulls the draw-bar, and consequently sets the brakes. The shaft T can be set at any convenient place under the car.

This system dispenses with the necessity of any additional connection of the motive power with the car or of one car to another. It provides for the accidental inattention of the brakeman, as well as to dispense with any additional work from the engineer, the brake being truly automatic. It also provides for intermittence in the action of the brake, thereby obtaining the maximum of the effect desired, together with the minimum wearing or flattening of the wheels at one point by sliding upon the rails, and it employs, as part of the brake's motive power, the momentum which, in the absence of the brake, might wreck the train.

I am aware that an automatic car-brake is not broadly new, and I desire protection only for the construction herein shown and described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In an automatic car-brake, the combination of the draw-bar B, slotted at *a* and *b* and having the rectangular opening C, provided with the guide-slide having rod H, spring J, the shoulder N, and spring L, the king-bolt K, and shaft T, having fixed arms *c c'*, and loose wheel *d*, rods *g h m n*, bell-crank *l*, sliding bolt *i*, and the rocking lever E, having arms R R, and brake-shoes Q, all constructed and operating substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JULES CROLLARD.

Witnesses:

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