

(No Model.)

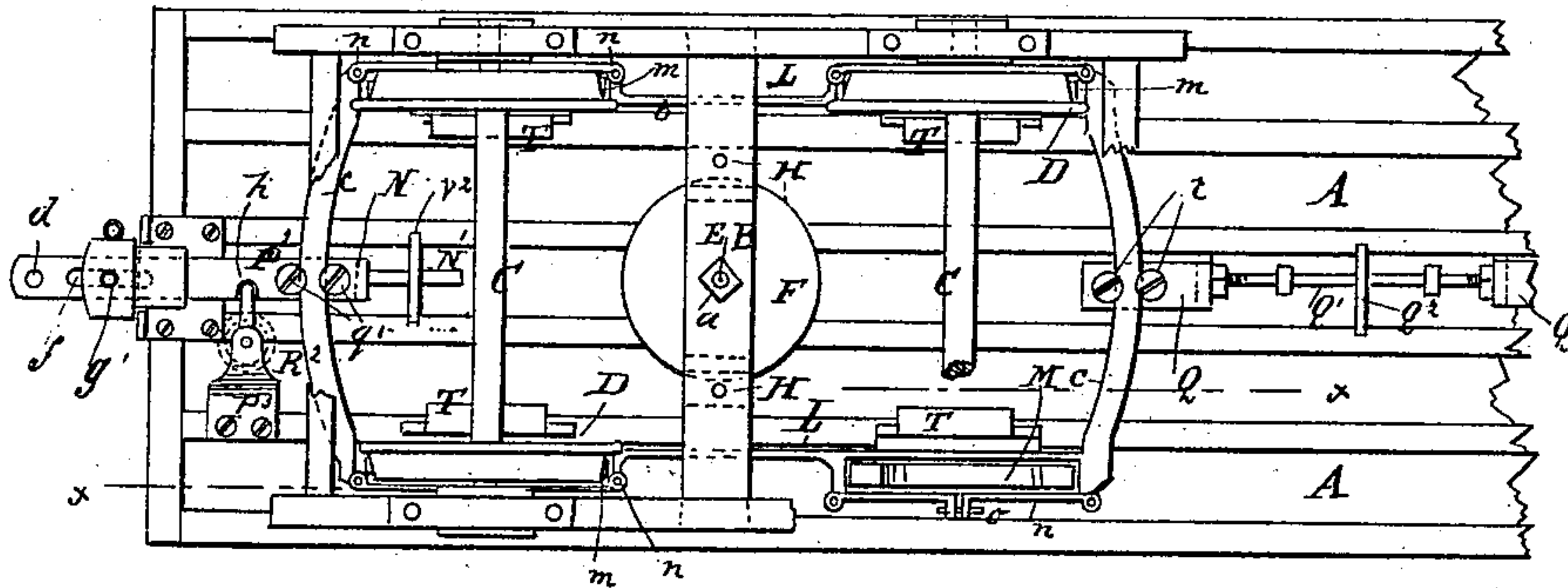
J. MEISSNER.

CAR BRAKE.

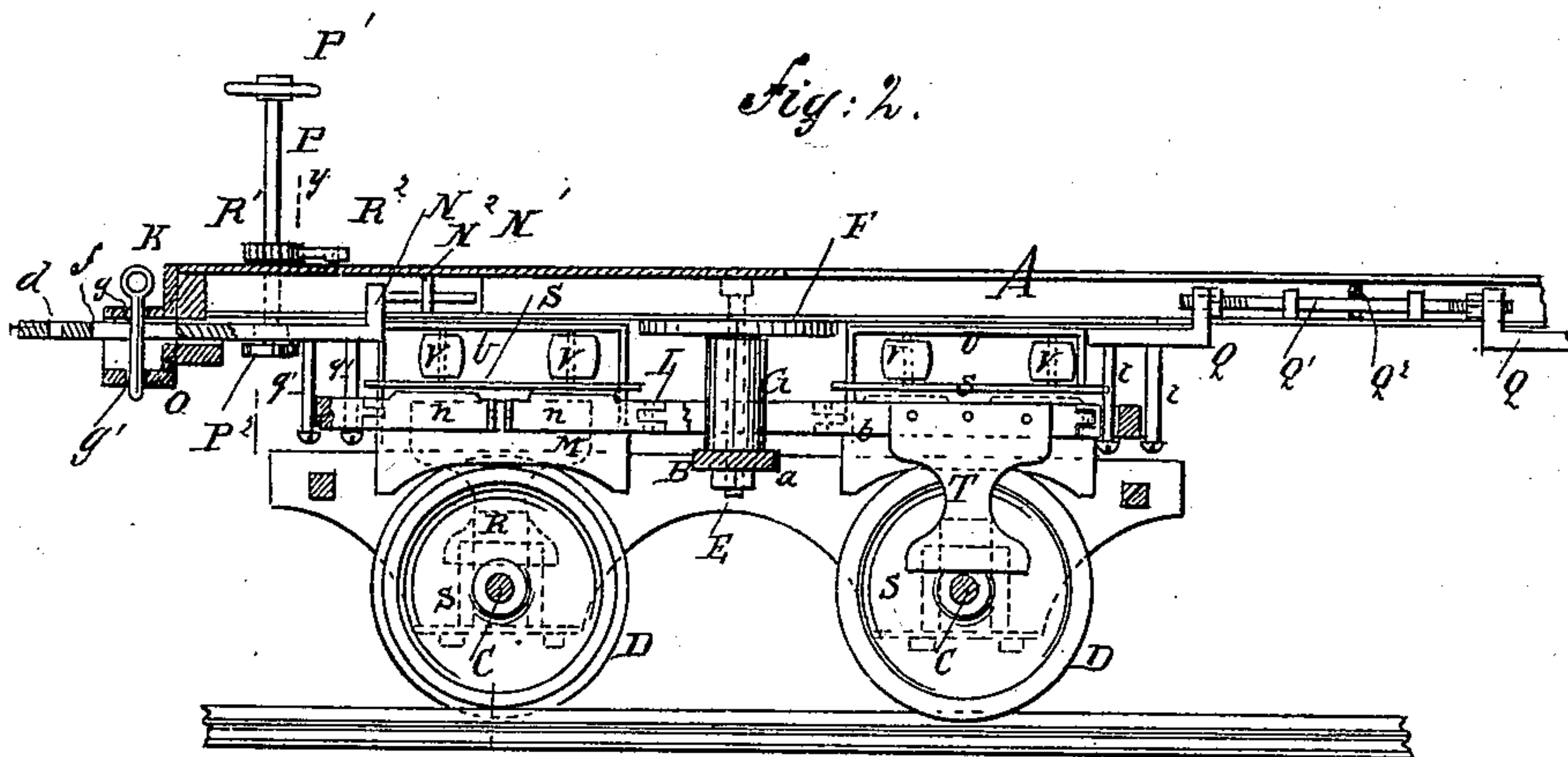
No. 256,720.

Patented Apr. 18, 1882.

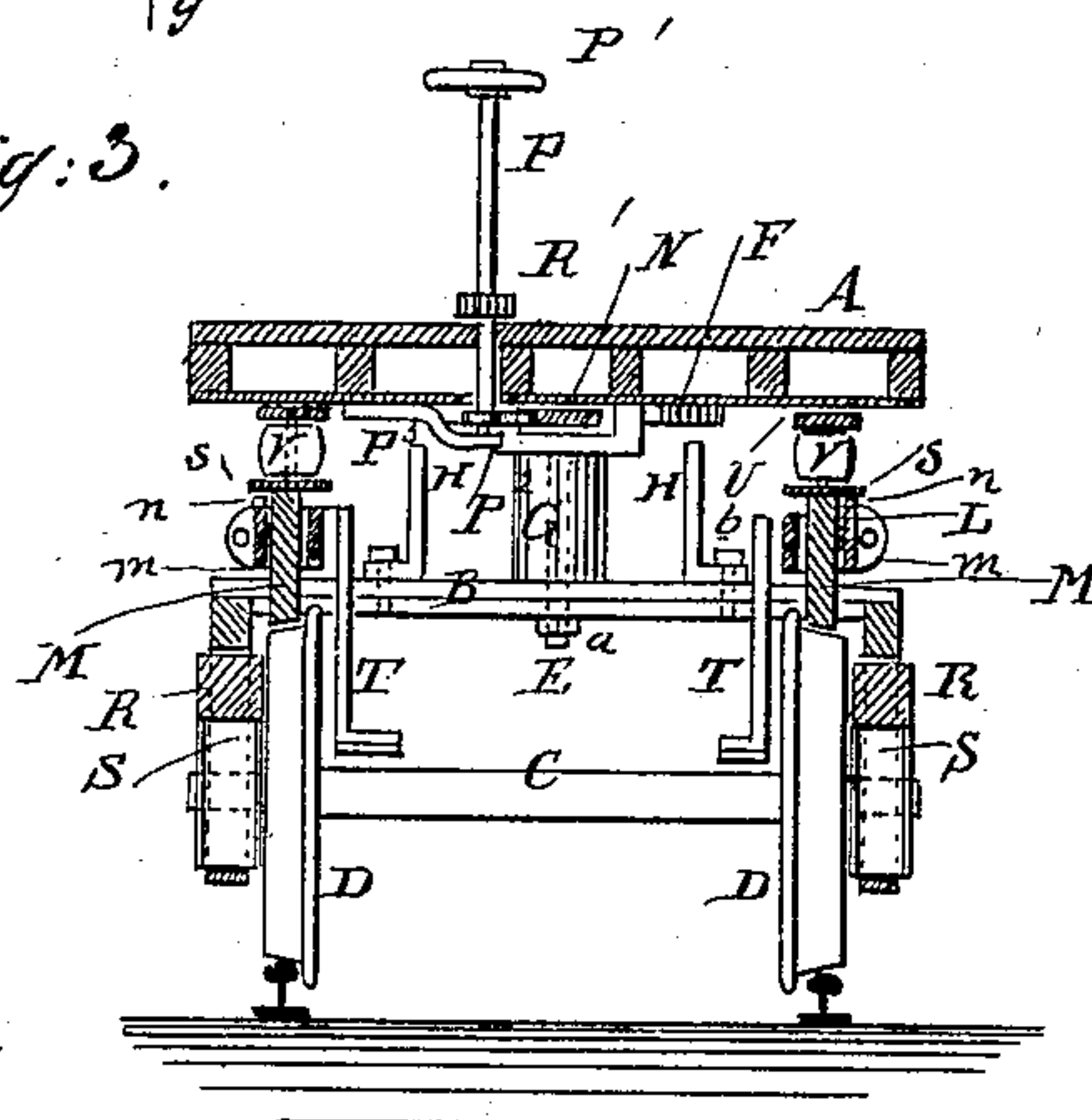
*Fig: 1.*



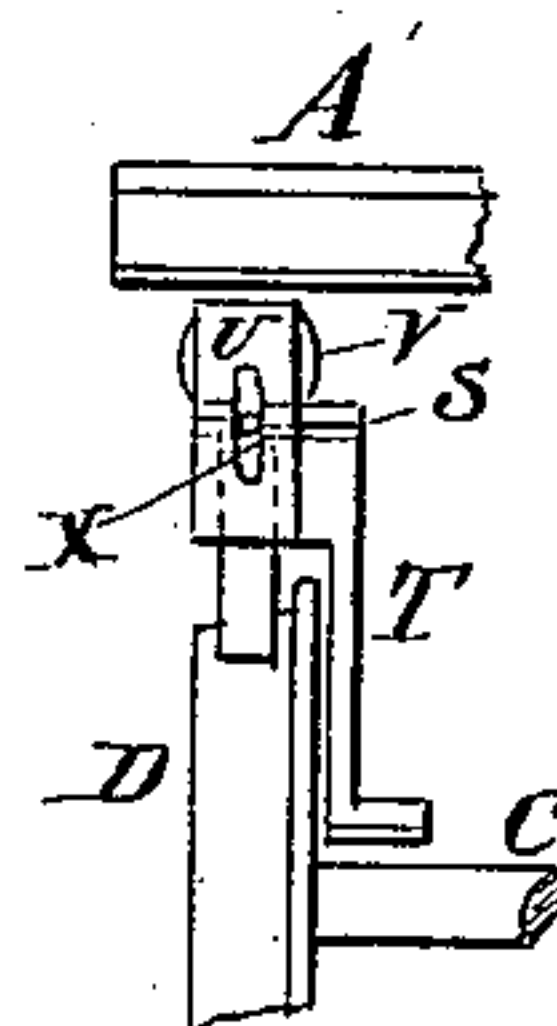
*Fig: 2.*



*Fig: 3.*



*Fig: 4.*



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# UNITED STATES PATENT OFFICE.

JOHN MEISSNER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO HENRY FLEISCHMAN, OF SAME PLACE.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 256,720, dated April 18, 1882.

Application filed September 30, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MEISSNER, of New York, in the county of New York and State of New York, have invented a new and Improved Combined Car Brake and Coupling, of which the following is a specification.

This invention is designed as an improvement on the car-brake for which Letters Patent No. 214,418 and No. 242,673 were issued to me April, 15, 1879, and June 7, 1881, respectively; and it consists, in combination with the said brake, of a lever-actuated draw-bar, that serves also as a brake-rod, by means of which the brake may be operated and the car coupled.

Figure 1 is a reverse plan view with parts broken away to exhibit other parts, showing the improved device in position on the bottom of a car. Fig. 2 is a partly-sectional side elevation of the same, with parts broken away to exhibit other parts, on line *x x*, Fig. 1. Fig. 3 is a sectional end elevation of the same on line *y y*, Fig. 2. Fig. 4 is an end elevation, showing the device for preventing the accidental setting of the brake.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a car-floor; B, the truck-frame; C, a car-axle, and D the car-wheels. A bolt, E, passing down through the floor A, centrally through a circular anti-friction plate, F, through a strut, G, and truck-frame B, and having a nut, *a*, on its end, holds these parts together and in position. Angle-lugs H, bolted on the cross-bar of the frame B, have their upper ends in contact with the anti-friction plate F, and thereby afford bearing-points for steadying the frame B when the car is in motion.

L is the brake-shoe frame, having straight parallelsides *b* and bowed ends *c* hinged thereto, as shown, and having in each of its sides two sockets, *m*, for holding the brake-shoes M, said sockets *m* having hinged outer sides, *n*, that may be thrown open for the placing or removal of the shoes M, and that are secured, closed, in place by screw or other device, as shown at *o*. The hinging of the bowed ends *c* to the sides *b* of the brake-shoe frame L is designed to facilitate the movement and adjustment of the said brake-shoe frame relatively to the car-wheels.

The wooden brake-shoes M, which are cut out on their lower edges to correspond, or nearly so, with the curves of the peripheries of the car-wheels D, are provided with broad metallic caps *s s* to strengthen and make them more durable, and when inserted in the sockets *m* of the frame L these caps *s* rest on the upper edge of the sockets *m*, and the shoes M are thereby held just above the rims of the wheels D.

To the inner face of the frame L, on the sockets *m*, are rigidly secured depending angle-plates or guards T, that reach nearly to but are not in contact with the axles C. When the car A is running on a curve, where one side of the track is higher than the other, the higher ends of the axles C will press upward against the bottoms of the guards T on that side, and thereby elevate the frame L and the brake-shoes M on that side, and thus prevent the braking of wheels D, which would otherwise occur, there being also, as parts of this preventive device, yokes U, holding elastic springs V on top of the caps *s*, which yokes U have their ends slotted, as shown at *x*, and engaging over the projecting ends of the caps *s*, so that said yokes U can move freely up and down with the elastic movements of the springs V. These springs V serve by their elasticity not only to keep the car-body in a horizontal plane when running where one side of the track is higher than the other, but serve also to prevent any sudden jar as the axles C come in contact with the guards T.

The parts hereinabove described are not new, but are the subjects of the patents above referred to.

On the under side of the car-bottom A is the draw-bar N, whose forward end projects through the draw-head O, and whose rear end is prolonged or fashioned into a rod, N', which is held in a guide-plate, N<sup>2</sup>, secured on the said car-bottom A. This draw-bar N is provided with two downward-projecting screws or lugs, *q'*, that hold the forward-projecting bow *c* of the brake-shoe frame L between them in such a manner that the said front end of the frame L is thereby held up in position, while at the same time it can swing in a horizontal plane sufficiently to accommodate itself to the positions of the car-wheels D as they move on a



curve of the road. The rear end, *c*, of the brake-shoe frame *L* is held between lugs *r*, that project downward from an angle-plate, *Q*, that is secured on the end of a rod, *Q'*, which is held on  
 5 the under side of the car-bottom *A* centrally and longitudinally by a guide-plate, *Q<sup>2</sup>*, as shown, the opposite end of said plate *Q* being designed to be connected with a like plate pertaining to the brake attachment of the rear  
 10 truck of the car. The front end of this draw-bar *N* is provided with two holes, *d f*, the foremost one, *d*, of which is designed to facilitate the connection of the brake mechanism with that of another car by chain or other convenient device, while the hole *f* is slotted and designed  
 15 for the introduction of the coupling-pin *K*, which would be passed through the holes *g g'* in the draw-head *O* for coupling cars.

It is designed to use an ordinary coupling-link for coupling, which link (not shown) would be introduced into the draw-head *O* beneath the draw-bar *N*, and the hole *f* being slotted to permit a free longitudinal movement of the draw-bar *N*, even when the car is coupled, for the  
 20 purpose of applying the brake. A semicircular socket, *h*, is formed in one edge of the draw-bar *N*, in which socket is engaged the circular head of the horizontal lever *P<sup>2</sup>*, that is secured on the end of the brake-shaft *P*, whose lower  
 25 end is held in a brace, *P<sup>3</sup>*, on the car-bottom *A*. The brake-shaft *P* projects up through the car-bottom *A*, and has on its top the usual hand-wheel, *P'*. Fixed on the said brake-shaft *P* is a horizontal ratchet-wheel, *P'*, in which  
 30 engages a pawl, *R<sup>2</sup>*, that is pivoted on the car-bottom *A*, whereby said brake-shaft *P* may be held from turning.

It is designed to apply this coupling device to each end of a car.

40 To set the brakes, power is applied to turn the brake-shaft *P*, and this motion is transmitted through the lever *P<sup>2</sup>* to move the draw-bar *N*, that in this instance serves as a brake-rod, and thereby the brake-shoe frame *L* is moved  
 45 longitudinally, whereby the brake-shoes *M* are forced in contact with the rims of the car-wheels *D*, wedging said shoes *M* at the same time between the rims of said wheels *D* and the car-bottom *A*. In this position the said  
 50 shoes *M* brake the wheels *D* effectively, in which matter the force applied to the brake-

shaft *P* is supplemented by the weight of the car upon the upper surfaces of the yokes *U*, and thereby upon the brake-shoes *M*. Consequently it is obvious that the greater the weight  
 55 of a car and its load the greater will be the influence they exert in braking the wheels. As the frame *L* is free to swing within certain limits between the lugs *q' r*, and as the brake-shoes *M* extend below and outside the flanges  
 60 of the wheels *D*, it follows that when the car is running on a curve the wheel-flanges will bear against the sides of the said shoes *M*, and thereby keep them and the frame *L* in the same relative positions with the wheels *D*, so  
 65 that the said wheels *D* can be braked as readily when running on a curve as when running on a straight line.

*R* represents the rubber buffers or cushions held in the truck-frame *B*, above the journal-boxes *S*, that support the ends of the axle *C*. 70

I do not confine myself to the special form of draw-bar and its connected parts as herein shown, as it is manifest that they may be connected with the brake-shaft by other devices  
 75 and be of different design without departing from my invention.

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

1. The combination, with the brake-shoe 80 frame *L*, of the draw-bar *N*, provided with suitable devices for connecting it to said frame, substantially as herein shown and described.

2. The combination, with the brake-shoe 85 frame *L* and brake-shaft *P*, provided with lever *P<sup>2</sup>*, of the draw-bar *N*, having socket *h*, and provided with lugs *q'*, substantially as herein shown and described, whereby the brake is set, as set forth.

3. The combination, with the brake-shoe 90 frame *L*, brake-shaft *P*, provided with lever *P<sup>2</sup>*, and draw-head *O*, of the draw-bar *N*, provided with frame-connecting devices *q'*, and having slotted coupling-pin hole *f*, substantially as herein shown and described, where- 95 by the brakes may be set while the cars are coupled, as set forth.

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Witnesses:

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