

(No Model.)

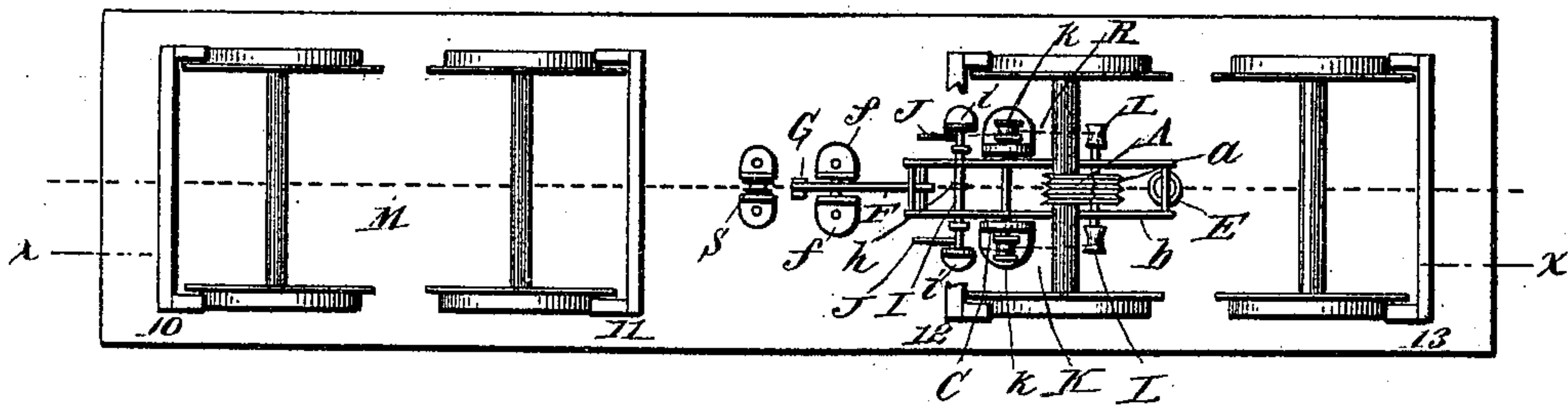
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P. WALSH.  
CAR BRAKE.

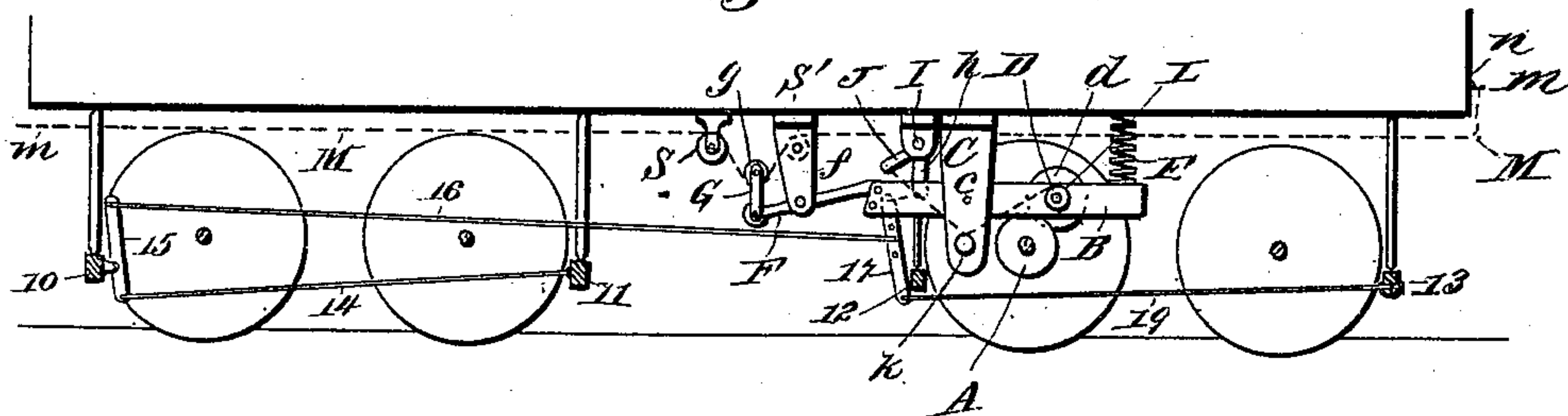
No. 497,561.

Patented May 16, 1893.

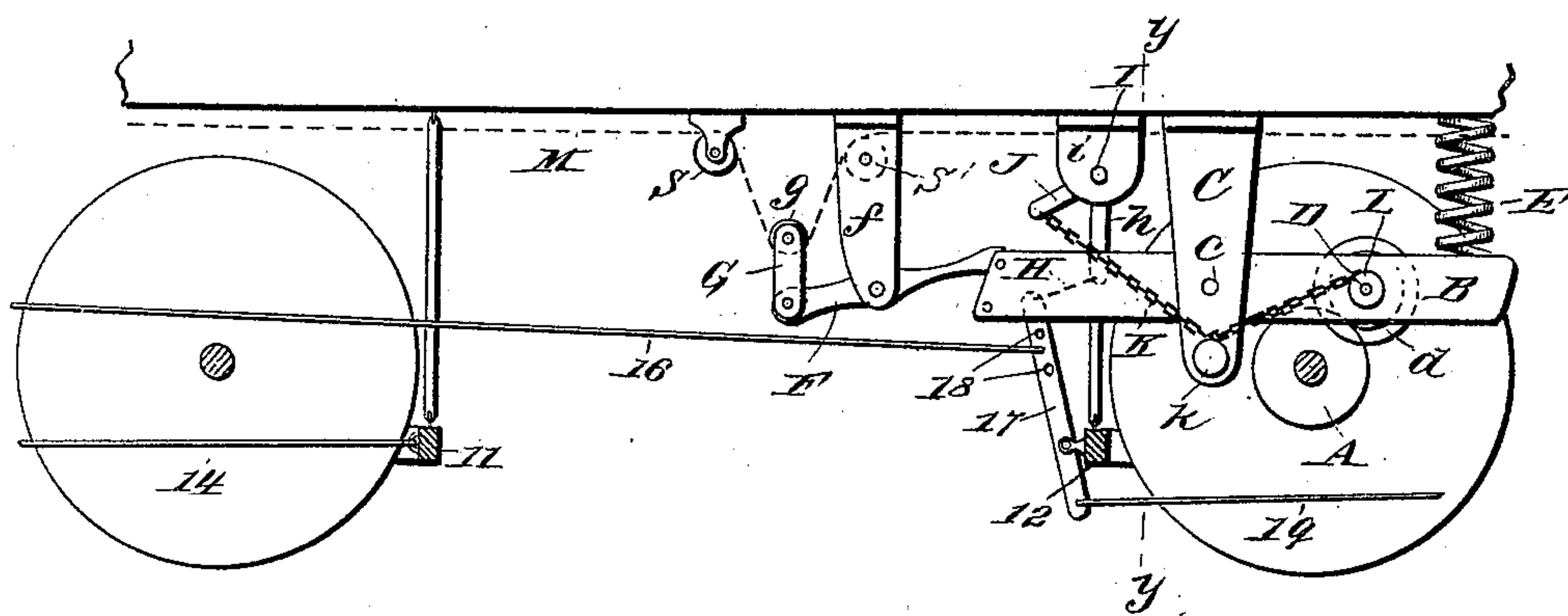
Fig. 1.



*Fig. 2.*



*Fig. 3,*



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(No Model.)

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Fig. 4.

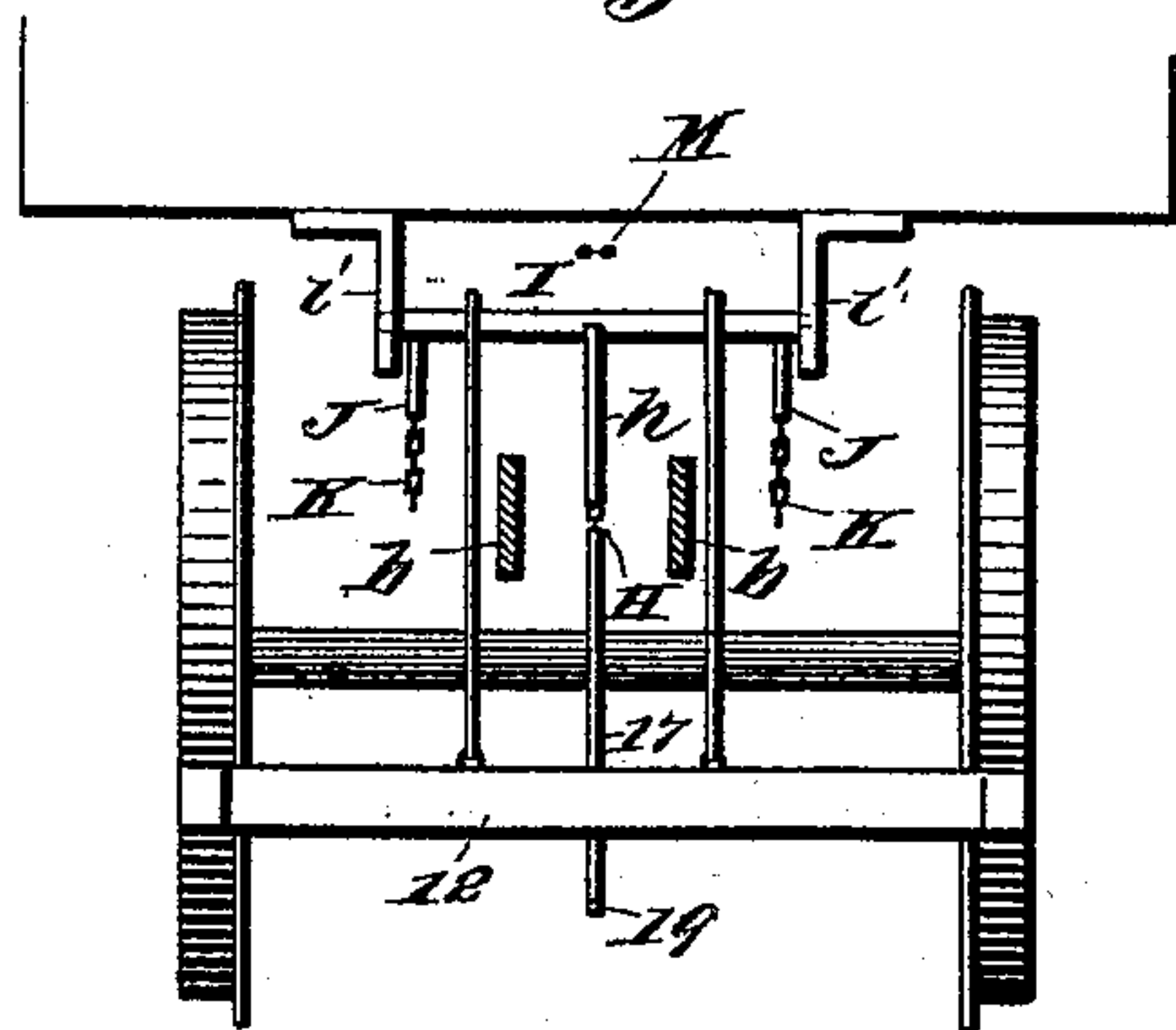


Fig. 5.

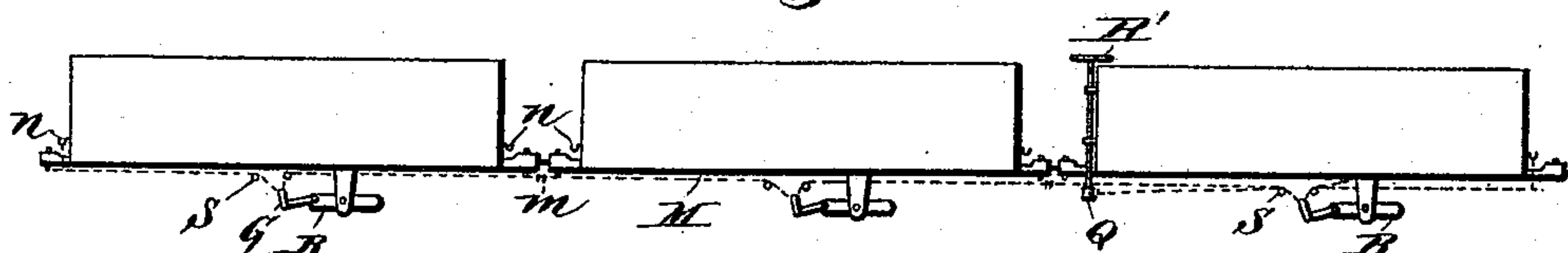


Fig. 6.

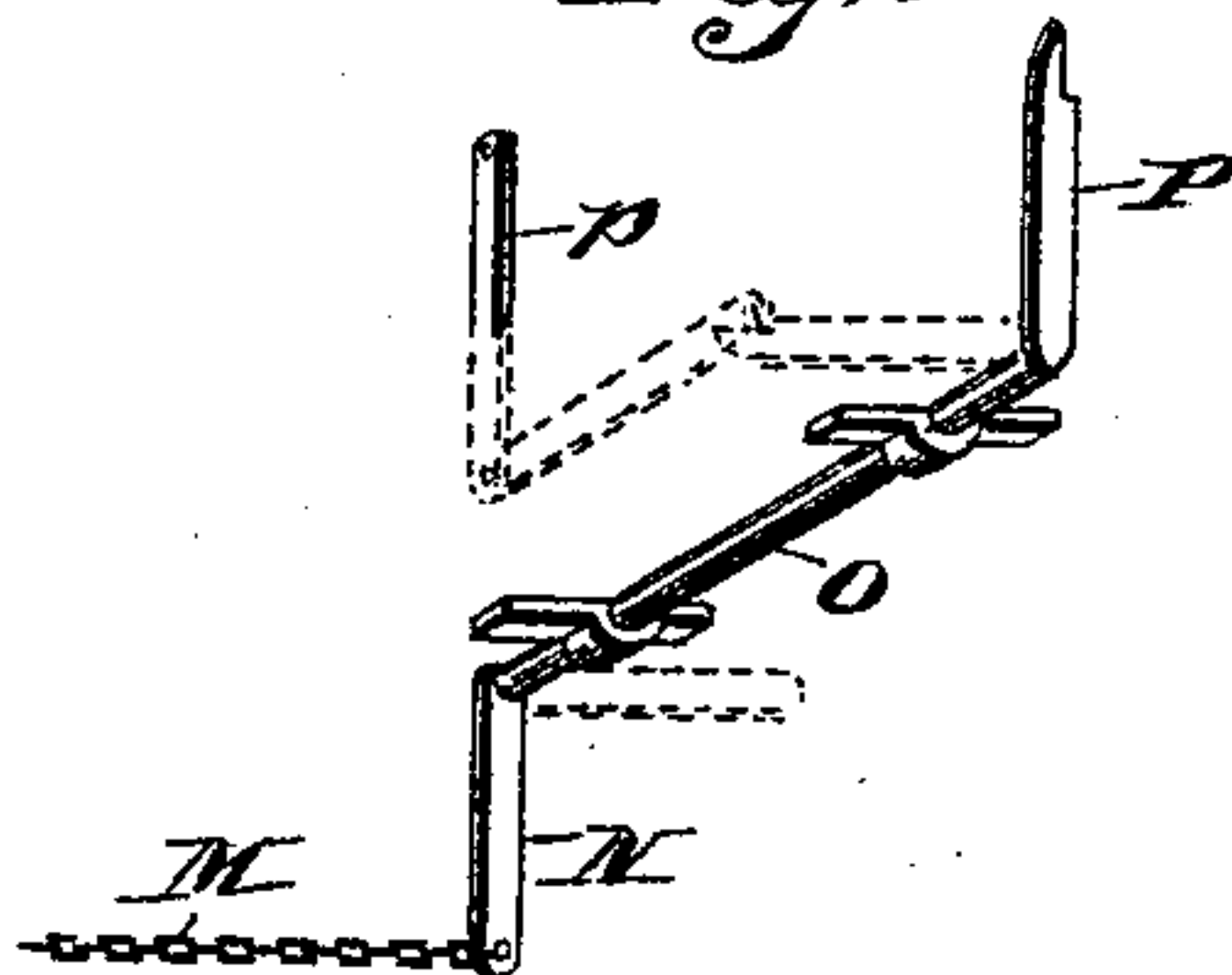


Fig. 7.

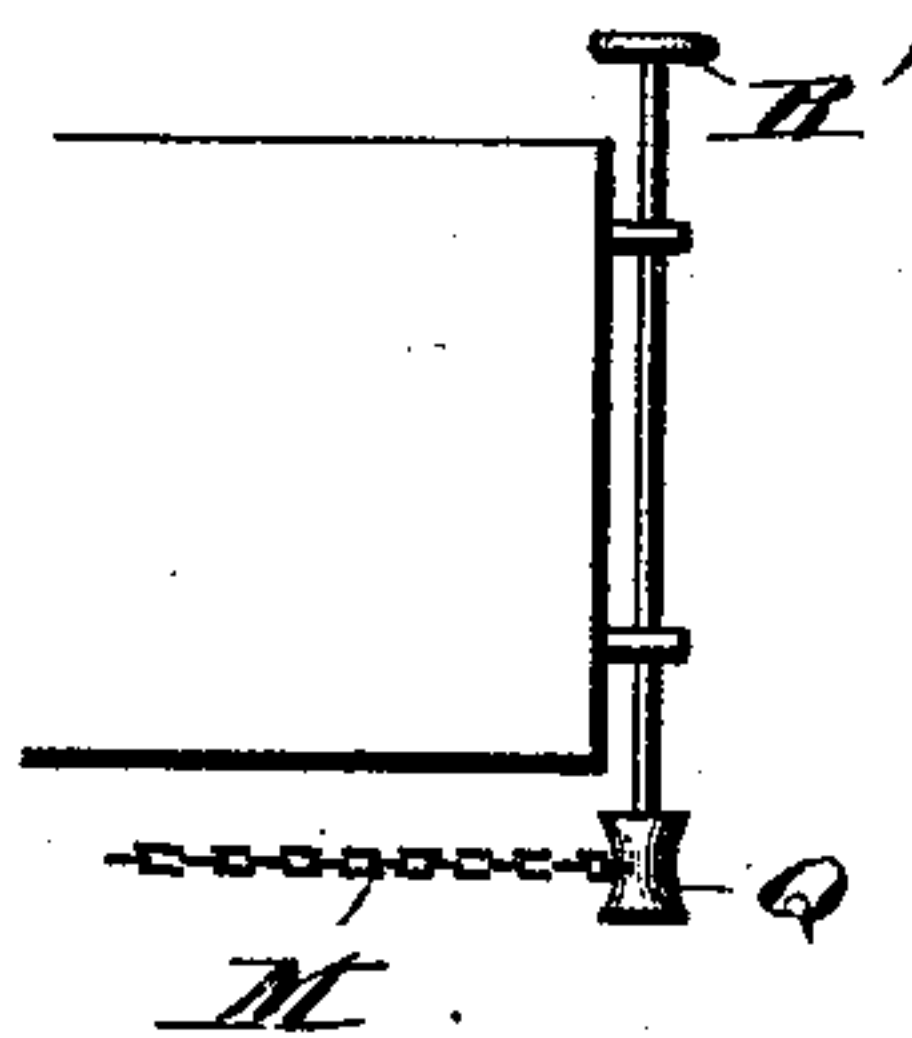
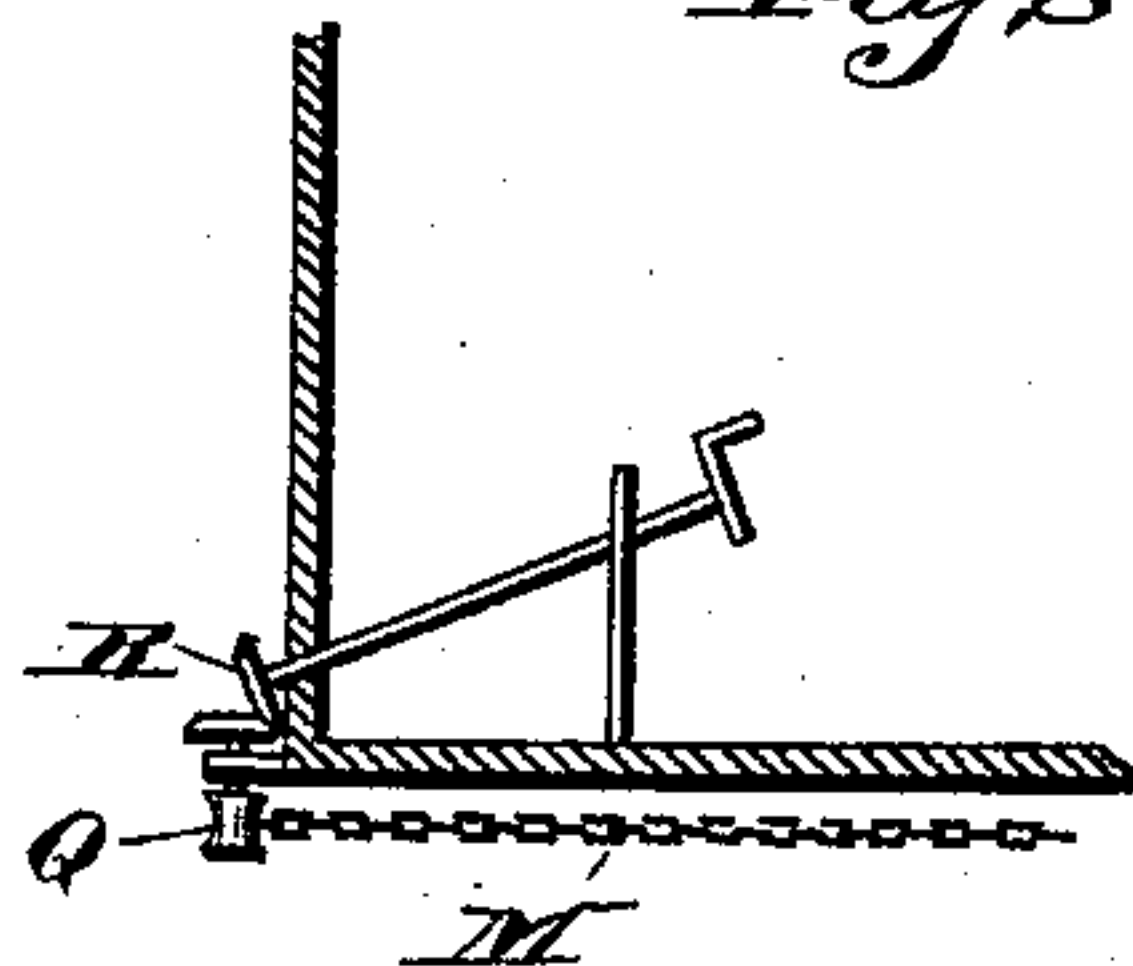


Fig. 8.



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# UNITED STATES PATENT OFFICE.

PHILIP WALSH, OF PRESCOTT, CANADA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 497,561, dated May 16, 1893.

Application filed June 27, 1892. Serial No. 438,229. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP WALSH, a citizen of Canada, and a resident of Prescott, in the county of Grenville, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Automatic Friction Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

The object of my invention is to provide a brake that is simple in construction, and may be applied to a whole train simultaneously from the engine or caboose, or to separate cars, the power being furnished from the axles of the cars by means of friction gear.

In the drawings, Figure 1 is a view of a car fitted with my improved brake, looking from the underside. Fig. 2 is a section of the same on line *x x* Fig. 1. Fig. 3 is an enlarged section showing a portion of the mechanism. Fig. 4 is a transverse section on line *y y* Fig. 3, showing the friction gear. Fig. 5 is a diagram showing part of a train equipped with my invention. Fig. 6 shows a device for applying the brake to a whole train from the engine. Fig. 7 shows the same as attached to a single car. Fig. 8 shows the manner of applying the brake from the interior of a caboose or covered car.

Referring to the drawings,—A is a grooved friction pulley secured to one of the axles of a car.

B is a lever composed of the two side pieces suitably connected a small distance apart; this lever is pivoted at *a* in the brackets C secured to the under side of the car. This lever carries near one end on a shaft D a grooved friction pulley *d* adapted to engage the friction pulley A on the axle. At the extreme end of the lever B is a spring E. This spring exerts a pressure against the lever and brings the friction gear in contact. The other end of this lever B is pivoted to a lever F which is pivoted in brackets *f*. To the free end of this lever is pivoted a link G. This link carries at its free end a grooved pulley *g* the object of which will be hereinafter explained.

The numerals 10, 11, 12, and 13 indicate the four brake beams of the car, each being provided with shoes engaging the car wheels.

These brake beams are hung in the usual manner. The beam 11 is connected by a rod 14 to a lever 15 pivoted to beam 10. The other end of this lever is connected by a rod 16 to a lever 17 pivoted to beam 12. The rod 16 is secured to the lever 17 at a point about midway between its pivoted point and its upper extremity, holes 18 being provided for adjusting its position. The shorter or lower arm of the lever 17 is connected by a rod 19 to the beams 13. The brake mechanism here described is the usual construction.

A chain H is secured at one end to the upper end of the lever 17. The other end of the chain is secured to an arm *h* on a rocking shaft I journaled in brackets *i*. This shaft is also provided with two arms J one on either side of the arm *h* and almost at right angles thereto. To these arms J are secured the chains K which pass around the pulley *k* journaled in the bracket C and are secured to drums L, which are secured to the projecting axle D of the friction pulley *d*.

From the description thus far given it will be seen that the spring E presses the friction gear into contact, which when the cars are traveling causes the axle D to revolve turning the drums L, which wind the chains K. These chains pass around the pulleys *k* to give them the right direction. These chains pull the arms J on the rocking shaft I moving therewith the arm *h*, pulling by means of the chain H the lever 17, of the brake which by means of the connecting rods puts on the whole of the brakes.

In order to keep the friction pulleys A and *d* out of engagement and the brakes off, a cord or chain M which may be continuous, connected by hooks *m* similar to those used for signal cords at the coupling, hooks *n* being provided at the ends of the cars and attached at one end to an arm N on a rocking shaft O journaled in some convenient position on the engine. The outer end of this rocking shaft is provided with an arm P which is adapted to be engaged and held when tension is on the chain or cord by a lever *p*. The outer end of this cord may be hooked up or secured to a drum Q operated by bevel gear R from the caboose. This chain or cord passes over a pulley S, then under the pulley *g* in the link G and then over another pulley S'. Thus it



will be seen that when the cord is tightened the link G is drawn up which by means of the lever F operates the lever B so as to disengage the friction gear and take off the  
5 brakes but when the cord is slackened the spring operates to put on the brakes.

In Fig. 7 the cord is operated by a drum for a separate car and consists simply of a drum Q' operated by a hand wheel R'.

10 In Fig. 8 the drum Q is operated from the interior of the car by means of the bevel gear R.

From the foregoing description it will be seen that the cord when held tight keeps off  
15 the brakes, but the brakes are instantly put on by the motion of the cars themselves when the tension on the cord is released. This may be done in various ways, of which I have shown a few of the most practical.

20 I claim as my invention—

1. A car brake consisting of a grooved friction pulley secured on one of the axles of a car, a grooved friction pulley journaled in a lever suitably pivoted in brackets, a drum or  
25 drums secured to the axle of the friction pulley carried in this lever, a chain or chains having one end secured to the said drum, the other end of the said chain or chains passing over a pulley and connected with an arm or  
30 arms on a rocking shaft, another arm on the said shaft being connected to a lever operating the brake beam, a spring pressing the grooved friction pulleys into contact and means for holding the said friction pulleys  
35 out of contact, substantially as set forth.

2. A car brake consisting of the friction

pulley A secured to the axle of a car, the lever B carrying another friction pulley d, the spring E, the lever F pivotally secured to the said lever B, the link G pivotally connected  
40 to the said lever F and carrying a pulley g, the chains K, the drums L on which said chains are adapted to be wound, the rocking shaft I, arms h and J, and chain H connecting one of the said arms with the lever 17 of  
45 the brake beams, a continuous cord M passing under the said pulley g, substantially as and for the purpose set forth.

3. In a car brake the combination with the lever B carrying a friction pulley, and means  
50 for operating the brakes of a car of the lever F, link G and pulley g, and guide pulleys S, S', the cord M passing under said pulley g, and means for operating said cord, substantially as set forth.

4. The combination in a car brake with a lever operating the lever carrying the friction pulley of the link G, pulley g and cord M  
55 having connecting hooks m one end of said cord being secured to the arm N, the rocking  
60 shaft O, the arm P and lever p, substantially as set forth.

5. The combination in a car brake with the cord M passing under the pulley g of the drum Q and gear for operating it R, substan-  
65 tially as set forth.

Signed at Prescott this 23d day of May, 1892.

PHILIP WALSH.

In presence of—  
N. WISSARD,  
T. J. LYONS.