(No Model.) 3 Sheets—Sheet 1.

J. A. McGRATH.

CAR BRAKE.

No. 550,419. Patented Nov. 26, 1895.

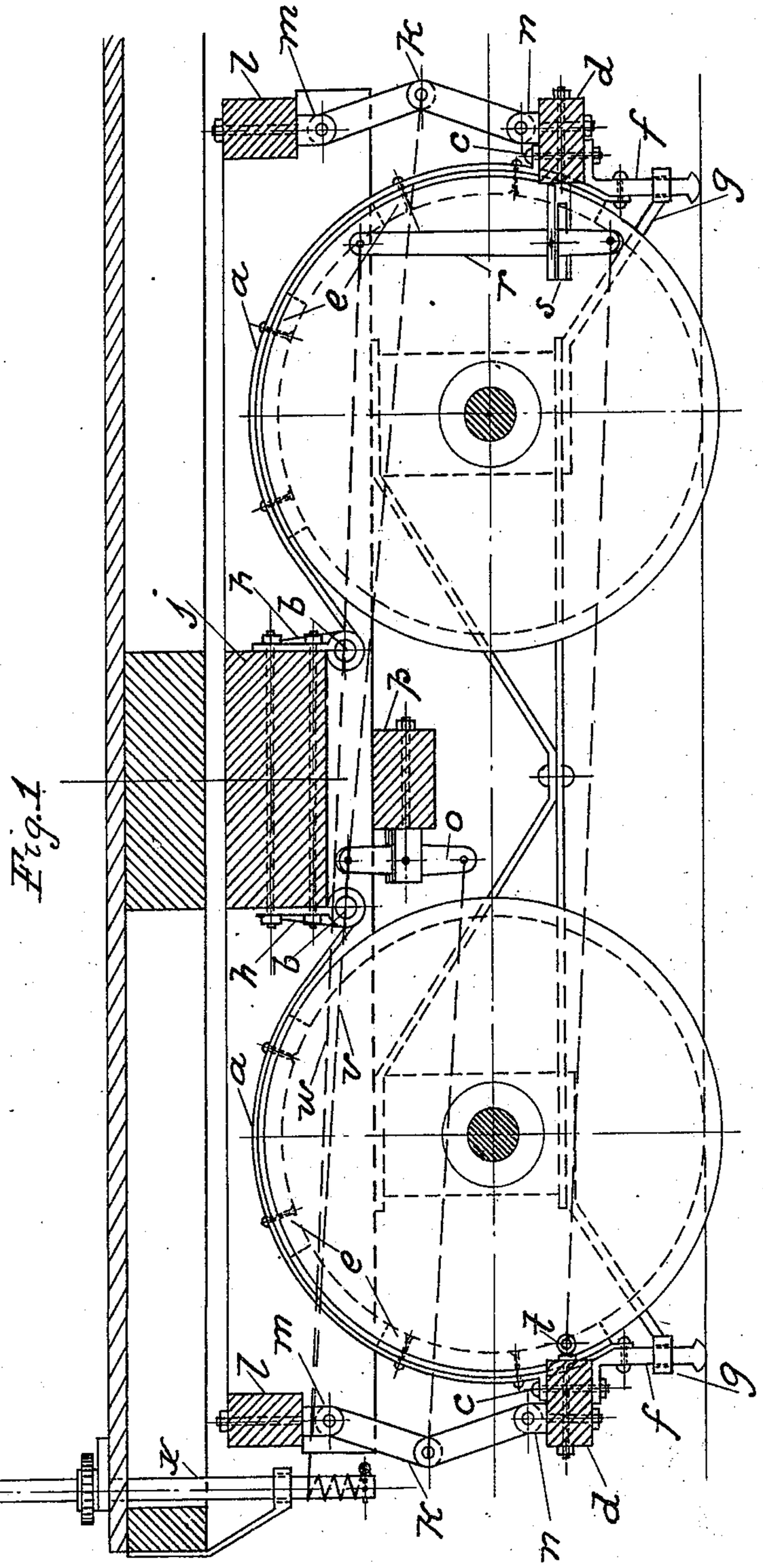

Fig. 1.

WITNESSES:

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(No Model.) 3 Sheets—Sheet 2.

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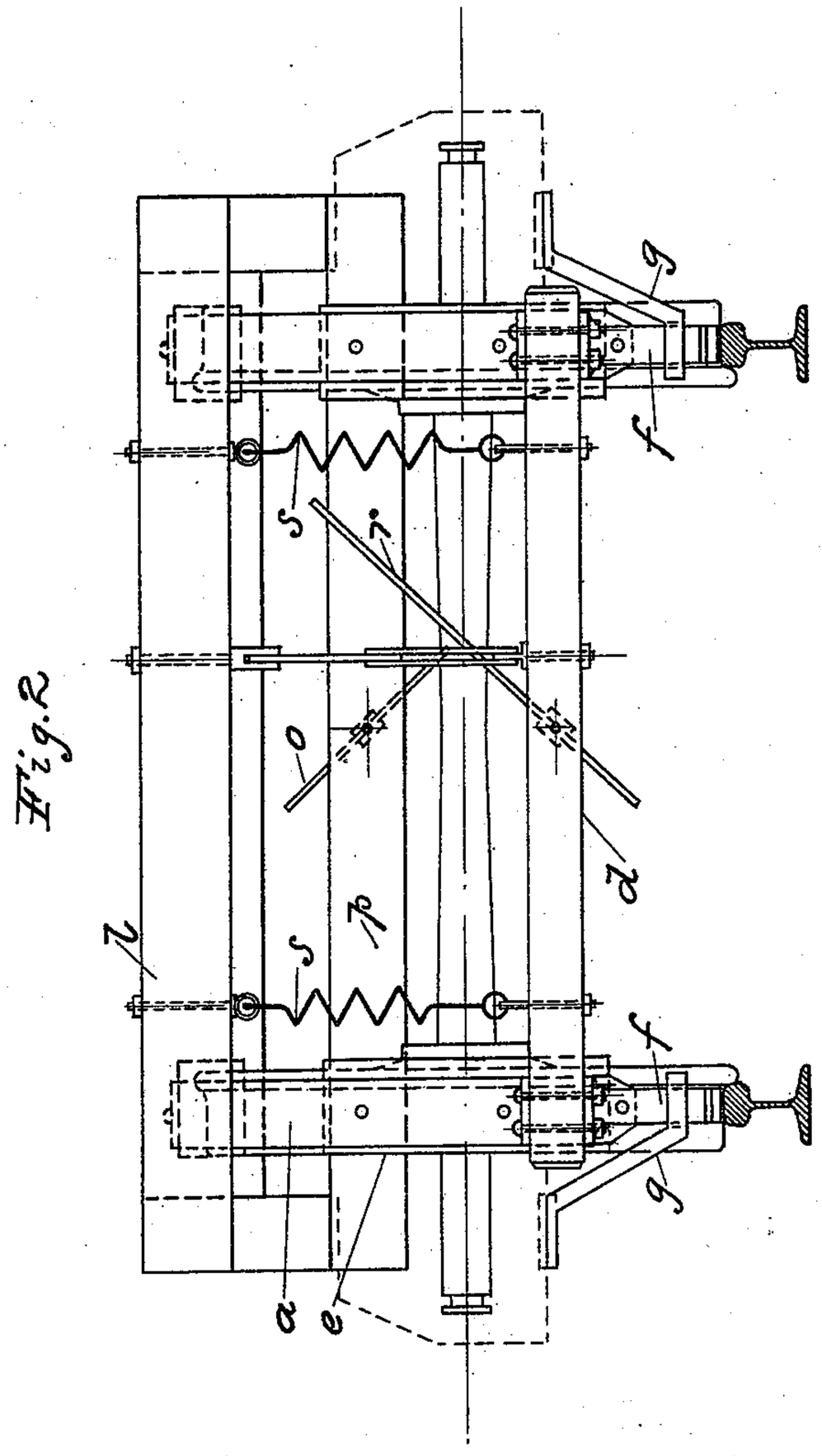

Fig. 2.

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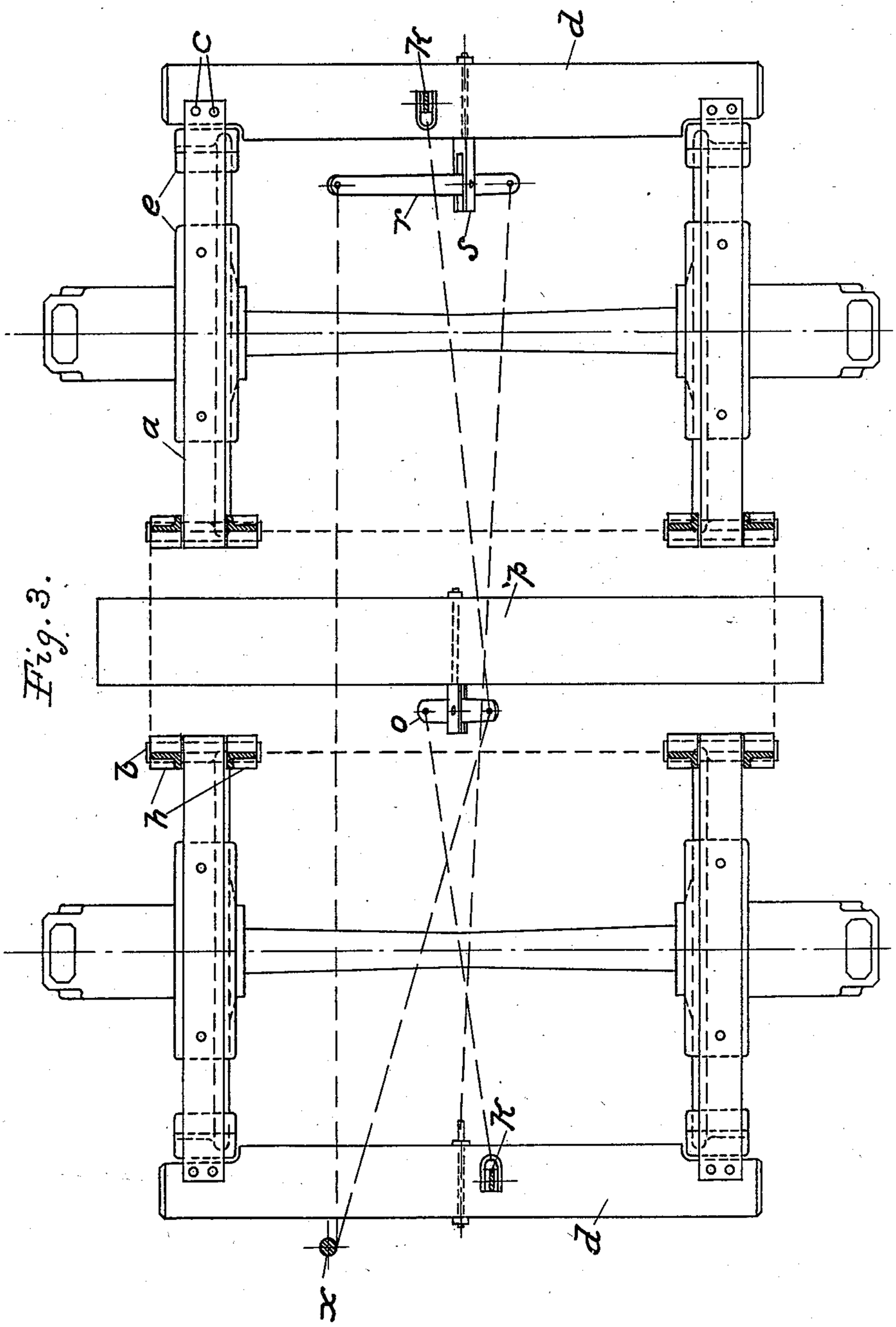

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN A. McGRATH, OF NEW ORLEANS, LOUISIANA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 550,419, dated November 26, 1895.

Application filed April 19, 1895. Serial No. 546,448. (No model.)

To all whom it may concern

Be it known that I, JOHN ALLEN MCGRATH, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Railway-Car Brakes, of which the following is a specification.

My invention relates to certain improvements in railway-car brakes, and the purpose of which is to provide a novel construction and arrangement in which, first, a largely-increased frictional surface is acted upon by the brake and a correspondingly-increased retarding effect produced; second, means are to be provided for setting the brake whereby the brake-spindle shall exert a much greater power in action, and, third, means are also to be provided whereby the slipping of the wheels upon the rails shall be prevented when the brakes are set with full power. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of a car-truck equipped with my invention. Fig. 2 is an end view of same. Fig. 3 is a plan of same.

Similar letters refer to similar parts throughout the several views.

a a, Fig. 1, is a metal bar or strap bent to conform to the circumference of the car-wheels and bent at one end around a pin *b*. Near the other end it is provided with a lug, by means of which it is secured by bolts *c* to the brake-beams *d d*, the brake-shoes *e e* being fastened to strap *a* by means of rivets or bolts. Fastened to the bottom side of brake-beams *d d*, directly over each rail, are the feet *f f*, which are held to brake-beams by bolts *c c*, and, further, to straps *a a* by means of rivets or bolts. The lower ends of feet *f f* are rounded, so as to enable them to slide over any inequalities of the rails. The feet are further kept from being bent by means of the braces *g g*, projecting from the bottom of the journal, boxes of truck and having at the projecting ends a loop or eye, in which the foot *f* works easily up and down. The pins *b b* are kept in position by brackets *h h*, one at each end of pin and bolted to truck-bolster *j*.

The toggle-levers *k k* are held to brake-beams *d d* at one end and to transverse truck beams *l l* by hinge-bolts *m m* and *n n*, and are operated by the equal-armed lever *o*, which is held in position on truck-frame by a timber *p*, specially provided for that purpose. The brake-beams are operated by means of lever *r*, fulcrumed to one of the brake-beams *d* by hinge-bolt *s*. The other brake-beam is provided with an eyebolt *t* to hold one end of chain, the other end being fastened to the short end of lever *r*. The springs *s s*, Fig. 2, are fixed to transverse truck-beams *l l* and to brake-beams *d d*.

The operation of the complete device is as follows: When it is desired to apply the brakes, the chains *v* and *w* are wound up on the brake-spindle *x*, fixed to the car-body, the chain *v* operating lever *o*, which in turn draws together the two toggles *k k*, which, acting upon the brake-beams *d d*, draw the straps *a a* and the brake-shoes upon the periphery of the car-wheels and tend to stop them from turning. The action of the toggles is further supplemented by the lever *r*, which draws the brake-beams together by means of the chains, while the toggles are acting downward. When the brake is released, the brake-beams are drawn up by the springs *s s*, thus lifting the brake-shoes off the wheels.

The feet *f f* are provided for the express purpose of limiting the action of the toggles upon the brake-beams. The feet being brought into contact with the rails hold the brake-shoes at the point where their full frictional power is exerted, but without checking the rotation of the wheels entirely, and thereby not causing them to slip upon the rails.

By this construction and arrangement of parts I obtain a large increase of surface upon which the frictional resistance of the brakes is exerted, and as they are set entirely by the toggle-levers I am able to operate the brakes from the brake-spindle with a small exertion of power, due to the considerable advantage at which the power is applied.

What I claim for my invention is as follows:

1. In a car brake, the combination with the truck bolster, of brake shoes and straps, connected at one end to said bolster and at their other ends to brake beams which are sustained by springs, and toggle levers connected at one end to said brake beams and at their other

end to the frame of truck, substantially as described.

2. In a car brake, the combination with a central transverse truck bolster, rigidly mounted on the truck, of brake shoes and straps, pivotally connected to said beam at one end and extending partly around the wheels and flanges, toggle levers pivotally connected to beams upon the movable ends of said straps and to the car trucks, a double brake lever fulcrumed upon one of the brake beams and connected to the other brake beam by means of a chain substantially as described.

3. In a car brake the combination of a central transverse beam, secured to the truck frame, of brake shoes and straps and brake beams with toggle levers, said toggles being operated in connection with an equal armed lever, fulcrumed upon the aforesaid transverse beam, said lever being operated by chain and brake wheel substantially as described.

4. In a car brake, the combination with a suitable central transverse, support, having brake shoes and straps pivoted thereto and connected at their other ends to spring supported brake beams, toggle levers connected to said brake beams and to the frame of truck, of means for operating said toggle levers, to set the brakes, the movable end of each strap being provided with a depending foot, adapted to ride on the rail, when brake is set, said foot being held in position, by braces projecting from journal boxes, substantially as described.

J. A. McGRATH.

Witnesses:
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AUG. RIEHL.