No. 651,603.

Patented June 12, 1900.

# H. S. GOUGHNOUR.

## CAR BRAKE.

(Application filed Sept. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.

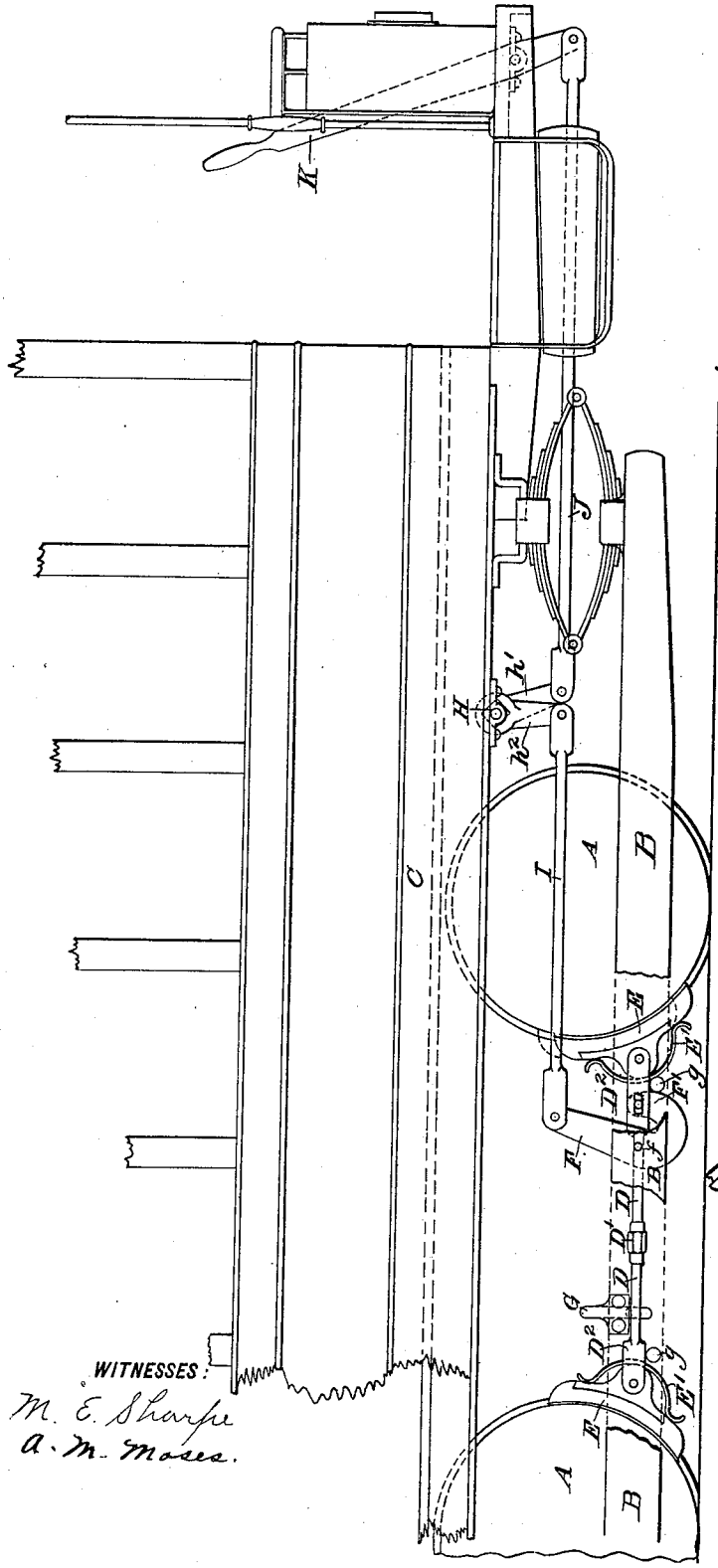



Fig. 1

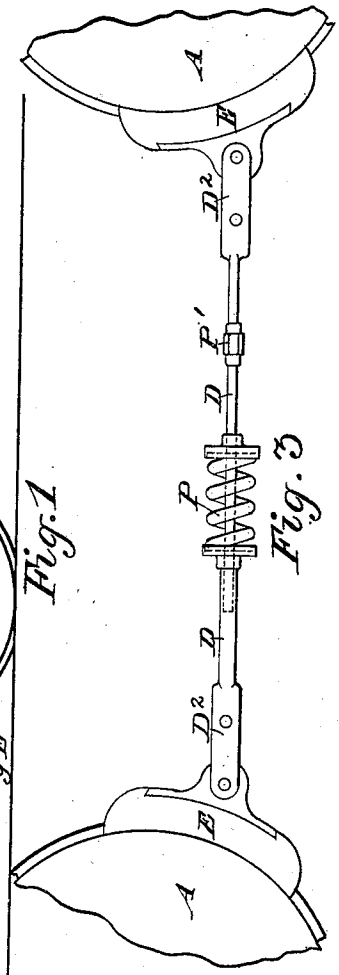



Fig. 3

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H. S. GOUGHNOUR.

CAR BRAKE.

(Application filed Sept. 23, 1899.)

(No Model.) 2 Sheets—Sheet 2.

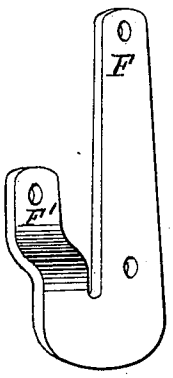



Fig. 4

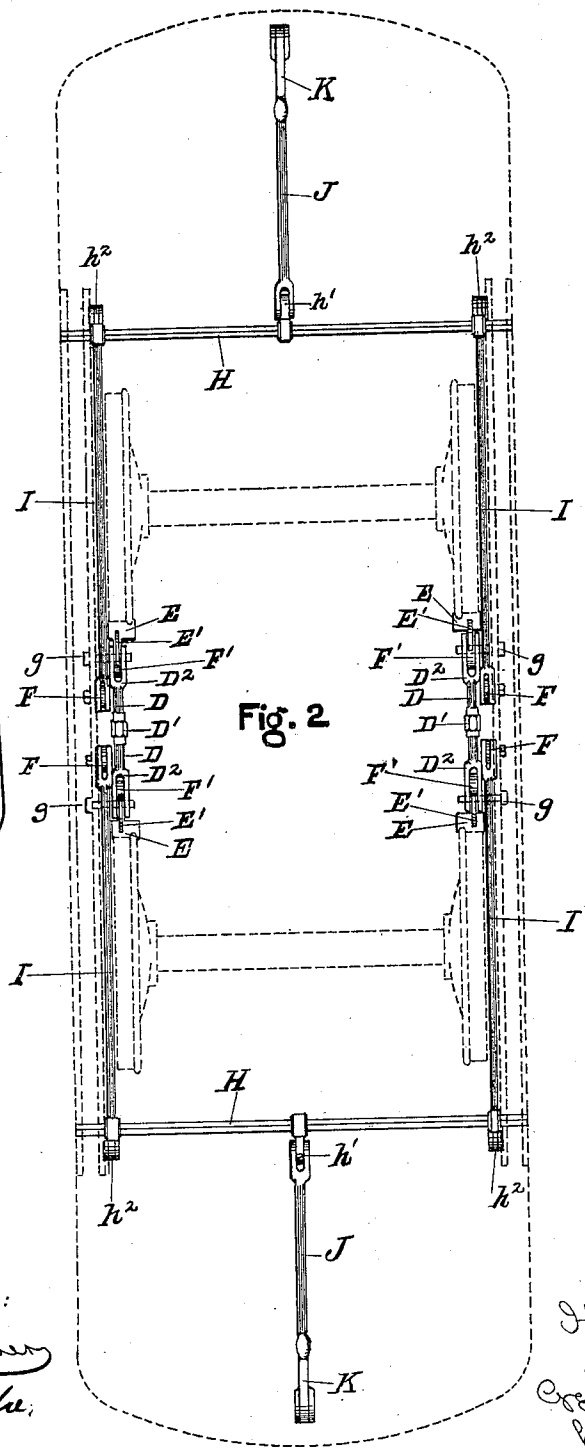



Fig. 2

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# UNITED STATES PATENT OFFICE.

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## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 651,603, dated June 12, 1900.

Application filed September 23, 1899. Serial No. 731,484. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY S. GOUGHNOUR, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Car-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to car-brakes, and particularly to that class of brakes wherein the brake-shoes are hung between the truck-wheels and known as "inside" brakes.

The object of my invention is to provide a brake mechanism which is largely automatic in its character—that is to say, in which after a certain initial movement imparted manually through the brake-rigging the rotary movement of the wheels is utilized to set the shoes in positive braking contact with said wheels.

A further object is to provide brake mechanism which is composed of but few parts so disposed upon the truck as not to interfere with the support of driving-motors, thereby making the invention particularly useful in connection with the trucks of electric-railway cars.

With these objects in view my invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view of a car-truck and portion of a car-body, showing my invention applied thereto. Fig. 2 is a plan view of the same with the car-body removed and also showing means for operating the brakes from both ends of the car. Fig. 3 is a side view showing a modification. Fig. 4 is a detail view.

The letter A designates the truck-wheels, B the side frames of the truck, and C the vehicle-body.

D D designate brake-carrying rods. There are two of these rods, one at each side of the truck between the two wheels. As the arrangement upon the two sides are duplicates it will be sufficient to describe that at one side and show how the two are simultaneously operated. Each of said rods is formed in two parts or sections united by a turnbuckle or sleeve-nut D′, by means of which adjustment may be made to compensate for the wear of the brake-shoes. Each end of the rod has a bifurcated head $D^2$, in which is hung a brake-shoe. E′ E′ are springs seated in said heads and bearing against the shoes to prevent vibration thereof when inactive and to keep their upper portions from rubbing the wheels.

F designates a lever which has a fulcrum at its lower end at *f* upon the truck-frame and which is provided with a short bent arm F′, pivoted to the head of the rod D. G, Fig. 1, is a link which suspends the opposite end portion of the brake-rod to the truck-frame. For a double-end car a second lever F is provided at this end, as shown in Fig. 2, and the operating devices, presently to be described, are duplicated at each end of the car.

*g* designates stops on the truck-frame for limiting the downward movement of the brake-rods and supporting them when at rest.

H designates a rocker-shaft journaled transversely to the under side of the car-body and having end rocker-arms *h* and a central rocker-arm *h′*. Connecting each of the end rocker-arms with the corresponding lever F is a rod I, and connecting the central arm *h′* with the lower arm of an operating-lever K is a rod J.

The operation will be readily understood. When the lever K is moved toward the adjacent end of the car, the shaft H is rocked in its bearings, thereby giving a rearward thrust to both the rods I and rearward movement to the levers F. This movement of the levers F causes their arms F′ to lift the adjacent ends of the brake-carrying rod and shoes and brings the latter into contact with the wheel. The rotary movement of the latter, now in frictional contact with the shoe, tends to further raise the latter against its periphery and thrusts the rods D rearwardly, also setting the shoe at that end into positive braking engagement with its wheel. When the operating-lever is moved back to normal position, the shoes are released. This may be readily done as soon as the wheels are brought to a stop.

In the modification shown in Fig. 3 a spring P is interposed between the two sections of each of the brake-carrying rods D

for the purpose of relieving somewhat the positive action of the brakes and rendering their application more gradual, and provision for adjustment is made at P'.

I do not wish to limit myself to the particular means which I have herein shown and described, for operating the brakes from the car platform or platforms, as connections of various kinds may be employed; nor do I wish to limit myself in other respects to the details which I have herein shown and described, as the same may be varied without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a car-brake, the combination with a car-truck frame and running-gear, of a brake-carrying rod extending longitudinally between two of the car-wheels, and formed in two sections, a spring interposed between the said sections, brake-shoes secured to the said rods, means for adjusting said shoes relatively to the wheels, and means for raising an end portion of said rod, substantially as described.

2. In a car-brake, the combination of a brake-carrying rod extending longitudinally between the side wheels of the car-truck, said rod being formed in two sections, a spring interposed between said sections, brake-shoes secured to the ends of the said rods and means for raising an end portion of the said rod, substantially as described.

3. In brake mechanism for car-trucks, the combination of the brake-carrying rods extending longitudinally between the side wheels of the truck, and free to move vertically, the stops on which said rods normally rest, the brake-shoes pivotally connected to said rod, the springs therefor, the levers pivoted to the side frame of the truck and connected to the said rod, the transverse rock-shaft, connections between the said shaft and the said levers, and an operating-lever also connected to said shaft, substantially as described.

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

HENRY S. GOUGHNOUR.

Witnesses:

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H. W. SMITH.