(No Model.) 2 Sheets—Sheet 1.

J. H. ROONEY.

CAR BRAKE.

No. 596,666. Patented Jan. 4, 1898.

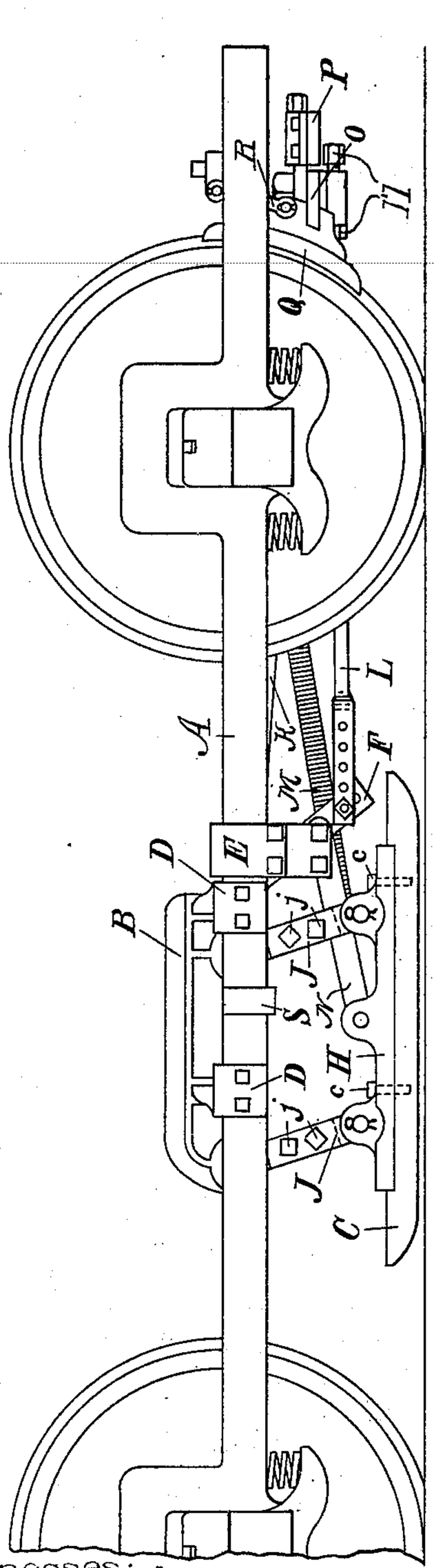

FIG. 1.

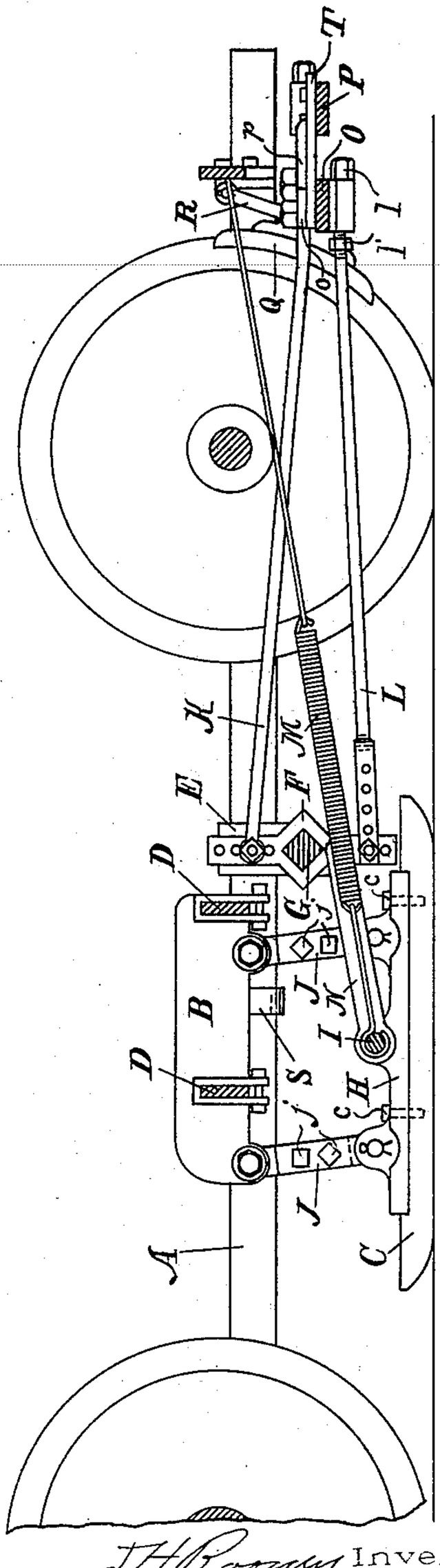

FIG. 2.

Witnesses:
Ford Stanning
Otis Gifford

J. H. Rooney Inventor.

(No Model.) 2 Sheets—Sheet 2.

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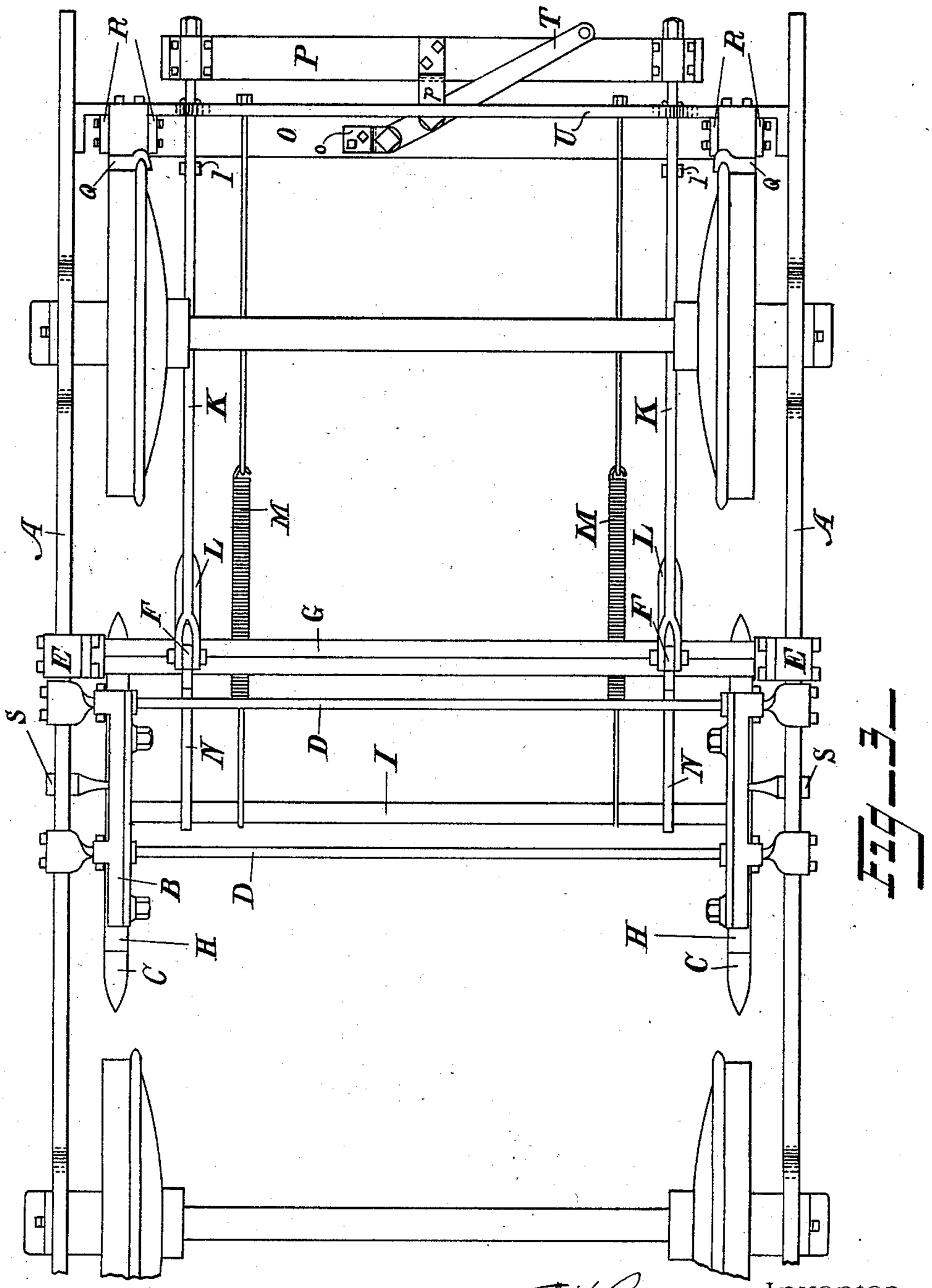

FIG. 3.

Witnesses:
Ford Stanning
Chas. Eppard

J. H. Rooney Inventor.

UNITED STATES PATENT OFFICE.

JAMES H. ROONEY, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-THIRD TO FORD STARRING, OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 596,666, dated January 4, 1898.

Application filed November 20, 1896. Serial No. 612,807. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. ROONEY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the construction of a car-brake especially designed for electric street-cars, and particularly in the construc- of a track-brake; further, in the combining of a track-brake and a wheel-brake and in so arranging them that the wheel-brake is applied by and proportionately with the track-brake, and, further, in the construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of my device as applied to a truck, showing it in its operative position. Fig. 2 is a section through the truck, showing the parts of my brake in elevation as being applied. Fig. 3 is a plan view of the truck with the brake attached.

A is the truck-frame, on the cross-bars D of which are supported the saddle-blocks B.

J are links made in two parts, which are clamped together by the bolts *j*, by means of which the length of the links may be adjusted. At the lower end the links support the shoe-supports H, to which is detachably connected the wear block or shoe C (preferably of wood) by means of screw-bolts *c*. These parts are alike on both sides of the car, and the two shoe-supports H are connected by a connecting bar or rod I, preferably connecting the middle portions of such support.

M are springs connected at one end to the car-frame and at the other end to the bar I, acting to hold the shoes normally out of contact with the track, as shown in Fig. 1.

G is a rock-shaft journaled in bearings in the brackets E on the frame, its intermediate portion being preferably of polygonal cross-section.

F are rock-arms on the rock-shaft G, extending above and below the same. These rock-arms are connected by the connecting-bars N with the bar I. The lower pair of rock-arms are connected by the connecting-rods L with the brake-beam O of the forward wheels. This is the preferred construction, as these connecting-rods may be connected to the frame of the car in case the wheel-brake is not desired.

The rod L has nuts *l l'* on opposite sides of the beam O, giving a slight lost motion and for adjusting the relation of the brake-beam and the shoe.

The bars L preferably have means for adjusting their length and the point at which they are attached to the rock-arms. The nuts *l l'* also may adjust the amount of lost motion.

P is the draw-bar, connected at opposite ends by the pull-rods K to the upper rock-arms F, suitable adjustment being provided.

T is a lever for actuating the draw-bar and having suitable connections (not shown) by which the motorman can operate the brake.

The brake-beam has the shoes Q and is supported by the links R. The pull-bars are preferably supported on the bar U of the frame.

The parts being thus constructed their operation is as follows: The normal or inoperative position of the parts is as in Fig. 1, the spring holding the links forward. The shoe from the track and the nuts *l'* in contact with the brake-beam O hold the shoes Q out of contact with the forward wheels. The motorman applying the brake pulls on the lever T, which moves the draw-bar P and through the pull-rods K rocks the shaft G, the lower arms F thereon swinging the links J toward the vertical (against the tension of the springs M) until the shoes strike the track. The forward movement of the car aids the power of the motorman to further swing the links toward the vertical, and this increases the braking effect. The connecting-rods L are moved by the movement of the rock-arms and, after the nuts *l* strike the brake-beam, move this beam toward the front wheels. When the track-brake approaches its maximum application, the shoes Q^3 contact the wheels and thus limit or act as a stop to the movement of the track-brake, and just in proportion as the track-brake is applied so is the wheel-

brake applied. The motion of the car after the track-brake is applied serves to apply the wheel-brake.

The parts are shown in operating position in Fig. 2. At no time do I desire to have the links J assume a vertical position. Thus when the car is stopped the weight of the car on the track-brake will, (together with the spring M,) as soon as the motorman releases the operating device, rock the links into the position shown in Fig. 1.

Practical trials of this device determine that the motorman has simply to apply sufficient power to overcome the springs M and cause the shoes C to control the track, when the motion of the car will do the rest.

Experience shows that the bulk of the weight of the car rests on the front wheels after the brake is applied, and that it is more difficult to "skid" those wheels, so that the wheel-brake can safely be applied to the front wheels without danger of their being flattened.

By maintaining the links J, even at the extremity of their movement, in an inclined position they will release their braking action without any effort of the motorman as soon as the brake is released, even though the weight of the car is practically upon the track-brakes.

What I claim as my invention is—

1. In a car-brake, track brake-shoes, forwardly-inclined links suspending the same, means for lowering the shoes into contact with the track and a stop for the track-shoe applied before the links assume the vertical.

2. In a car-brake, track brake-shoes, forwardly-inclined links suspending the same, means for lowering the shoes into contact with the track, a wheel-brake and a connection between the track-shoes and wheel-brake whereby the application of the wheel-brake acts as a stop for the track-brake.

3. In a car-brake, a rearwardly and downwardly movable rail-shoe applied when in contact with the rail automatically by the momentum of the car, means for holding said shoe normally out of contact with the rail, means for lowering the shoe into contact with the rail, and stop mechanism for limiting the rearward and downward movement of the rail-shoe.

4. In a car-brake, an automatic friction-operated rail-shoe, means for holding the shoe normally out of contact with the rail, means for moving the rail-shoe to contact with the rail, a wheel brake-shoe, and connecting means between the said rail and wheel shoes whereby the wheel-shoe is applied by the movement of the rail-shoe and the movement of the rail-shoe is limited by the application of the wheel-shoe.

5. In a car-brake, the combination of the car-frame having the cross-bars such as D, of the saddle-blocks B having bearings to engage the cross-bars, the adjustable links J pivoted on said blocks and the shoe-supports carried at the lower ends of the links.

6. In a car-brake, the combination of the shoe supported by inclined links, of the rock-shaft G connected to the shoes, oppositely-extending rock-arms thereon, a wheel-brake connection from one rock-arm to the wheel-brake, connection from the other rock-arm to the actuating mechanism and the rock-arm connection between the shaft and the shoe, substantially as described.

7. The combination of the two shoes H, the inclined links supporting the same, a connecting-bar between the shoes, a transverse rock-shaft, rock-arm connections between said shaft and the connecting-bar between the shoes, two rock-arms on the rock-shaft connected respectively to a stop and to the actuating mechanism, substantially as described.

8. The combination of the track-brakes, the wheel-brake and the actuating mechanism, of a connecting mechanism between the two comprising the rod L with the lost motion, such as is effected by the two separated nuts *l l'*, for the purpose described.

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

JAMES H. ROONEY.

Witnesses:

JAMES WHITTEMORE,

M. B. O'DOGHERTY.