(No Model.) 2 Sheets—Sheet 1.

J. FRIEDRICHS.

CAR BRAKE.

No. 545,226. Patented Aug. 27, 1895.

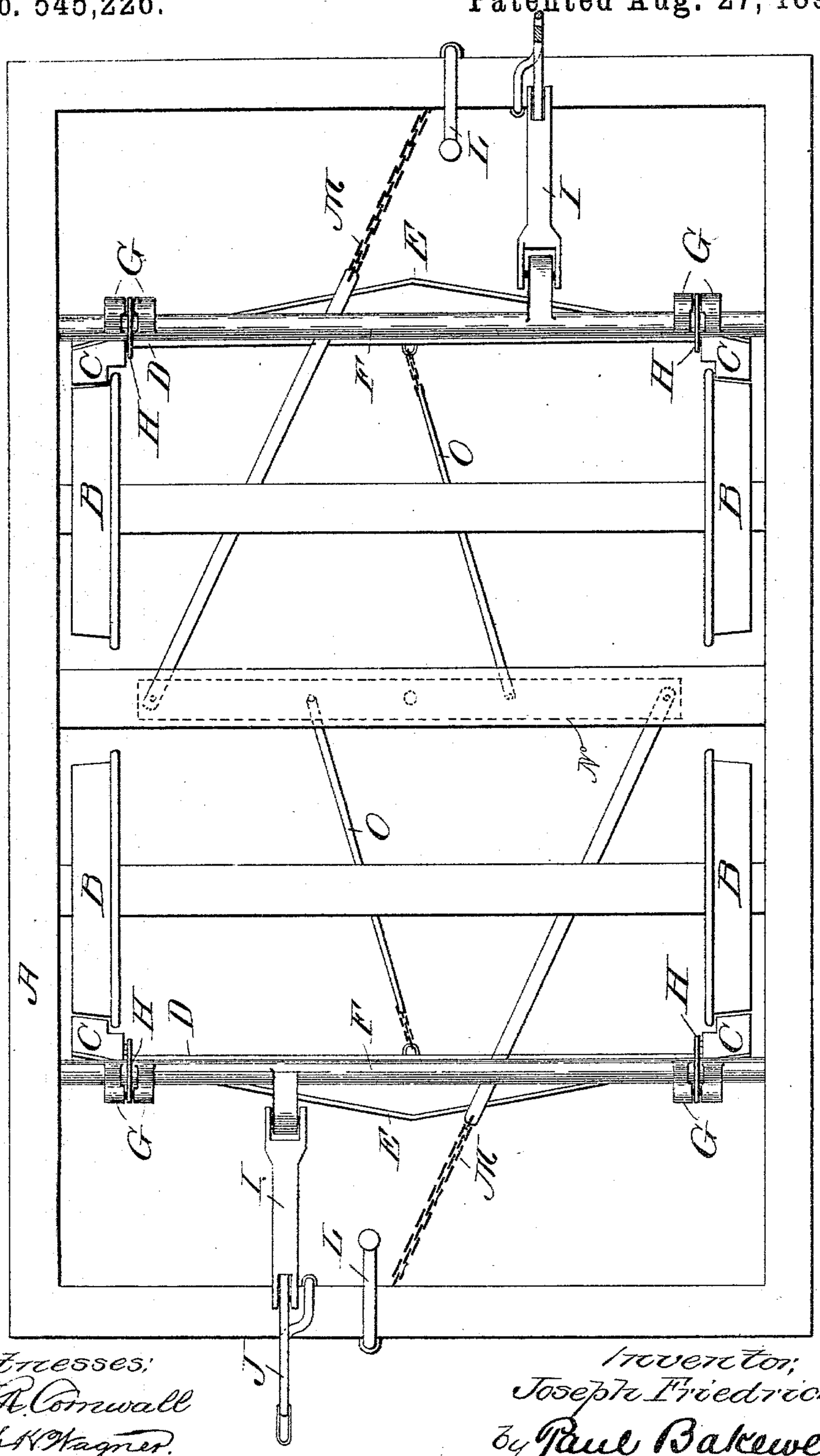

Fig. 1.

Witnesses:
F. R. Cornwall
Hugh K. Wagner.

Inventor:
Joseph Friedrichs
by Paul Bakewell
his atty.

(No Model.) 2 Sheets—Sheet 2.

J. FRIEDRICHS.

CAR BRAKE.

No. 545,226. Patented Aug. 27, 1895.

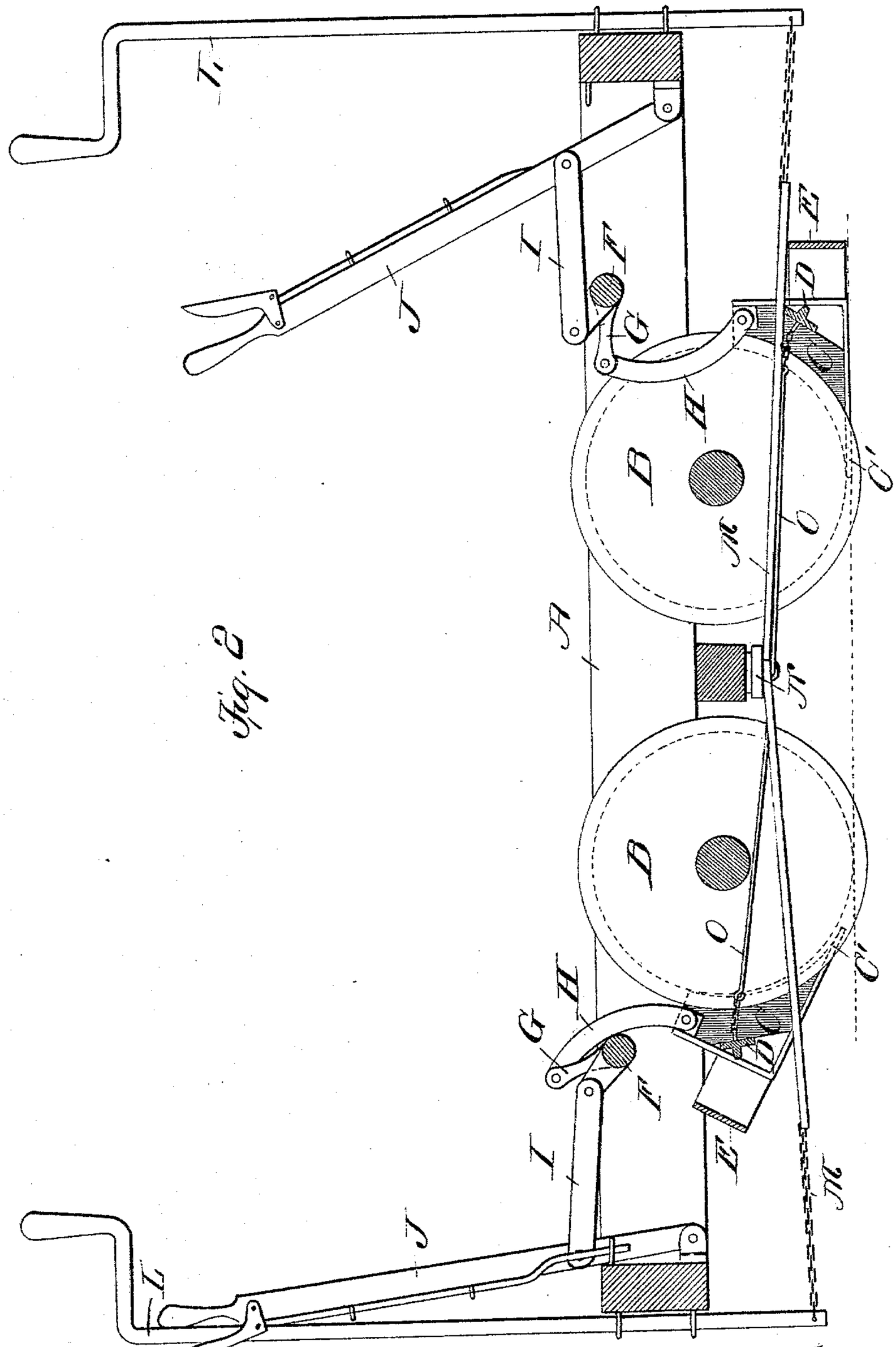

Fig. 2

Witnesses:
F. R. Cornwall
Hugh K. Wagner.

Inventor
Joseph Friedrichs
by Paul Bakewell
his Atty.

UNITED STATES PATENT OFFICE.

JOSEPH FRIEDRICHS, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO HENRY A. BOECKELER, OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 545,226, dated August 27, 1895.

Application filed March 5, 1895. Serial No. 540,571. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH FRIEDRICHS, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain 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, forming part of this specification, wherein—

Figure 1 is a plan view of a car-truck, illustrating my improved brake mounted thereon. Fig. 2 is a side elevational view, partly in section, on line 2 2, Fig. 1.

This invention relates to a new and useful improvement in car-brakes, the object being to construct a brake which can be used in service-stops and in cases of emergency can be used to stop the car within a short distance.

In the drawings, A indicates the truck-frame, and B the wheels.

C indicates the brake-shoes, which are connected by a brake-beam D, as is common, said shoes having an extension C′ on their lower edges concentric to the tread of the wheel. This shoe is also formed with a flat lower face, which is adapted in certain applications of the brake—such as an emergency-stop—to ride upon the rail and wedge the wheel. In this emergency-stop the extension C′ is adapted to project beyond the wheel-base, so that the whole weight of the wheel rests thereupon, thus making the brake more efficient to accomplish the object desired when applied in this manner.

E indicates a fender, which is arranged in front of the brake-beam, and when the brakes are applied in an emergency-stop guards the track and prevents the car from passing over any obstruction.

F indicates a rock-shaft mounted in the truck-frame, which shaft is provided with arms G. H indicates links which are connected to the free end of arms G and to the brake-shoes. These links are bent or formed with a jog, which enables them to pass beyond the rock-shaft in such manner that the weight of the brake-shoes will be past dead-center, which of itself will tend to hold the arms G in an elevated position. In order to insure this position, however, I connect an offset on the rock-shaft to a link I, whose other end is connected to a lever J, said lever carrying a dog to hold it in its proper position, or that position in which the rock-arms G are elevated.

From the above construction it will be seen that the brake-shoes can be used in ordinary practice for service-stops by being swung on the links H from the ends of the arms G, and to so apply the brake-shoes to service-stops I have illustrated the ordinary brake handle and rod L, chain M, lever N, and brake-rod O, connecting the lever with the brake-beam. This construction of applying the brake in service-stops acts equally on the brake at both ends of the car; but in the case of emergency, when it is desired to drop the brake-shoes on the rails, the lever J is operated at either end of the car, throwing such pair of brake-shoes, as the rock-shaft which it controls in turn controls the brake-shoes. In other words, the emergency-stops can be effected at either end of the car, but are under control only at that end of the car at which they are operated. It is often desirable when going up steep grades to permit the brake-shoes at the rear end of the car to slide on the rail. This will not impede the forward movement of the car, but will stop any back movement.

From the above it will be seen that by my construction the car may be braked in ordinary service-stops in the usual way. In the case of emergency, lever J may be operated and the car brought to a full stop, even when the brakes are applied through the chain of levers L, M, N, and O.

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

1. In a car brake, the combination with rock arms, of brake shoes, links by which the brake shoes are suspended from the rock arms, said links permitting the rock arms to swing past dead center while suspending the brake shoes, a lever for controlling the rock arms, and means for applying the brakes in service stops, independently of the rock arms, substantially as described.

2. In a car brake, the combination with rock shafts provided with rock arms, of brake shoes, curved links by which the brake shoes are suspended from the rock arms, said links, by their curvature, carrying the pivotal points of

connection therebetween and the rock arms, past dead center when the rock-arms are in their normal positions, thus throwing the weight of the brake shoes on the rock shafts, and means for rocking said shafts; substantially as described.

3. In a car brake, the combination with rock-shafts provided with rock-arms, of brake-shoes, curved links by which the brake-shoes are suspended from the rock-arms, said links, by their curvature, carrying the pivotal points of connection therebetween and the rock-arms, past dead center when the rock-arms are in their normal position, thus throwing the weight of the brake-shoes on the rock-shafts, levers for rocking said shafts and lowering the brake-shoes, as for emergency stops, and means for applying the brakes, while in their elevated position, as in service stops; substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 26th day of February, 1895.

JOSEPH FRIEDRICHS.

Witnesses:
F. R. CORNWALL,
HUGH K. WAGNER.