

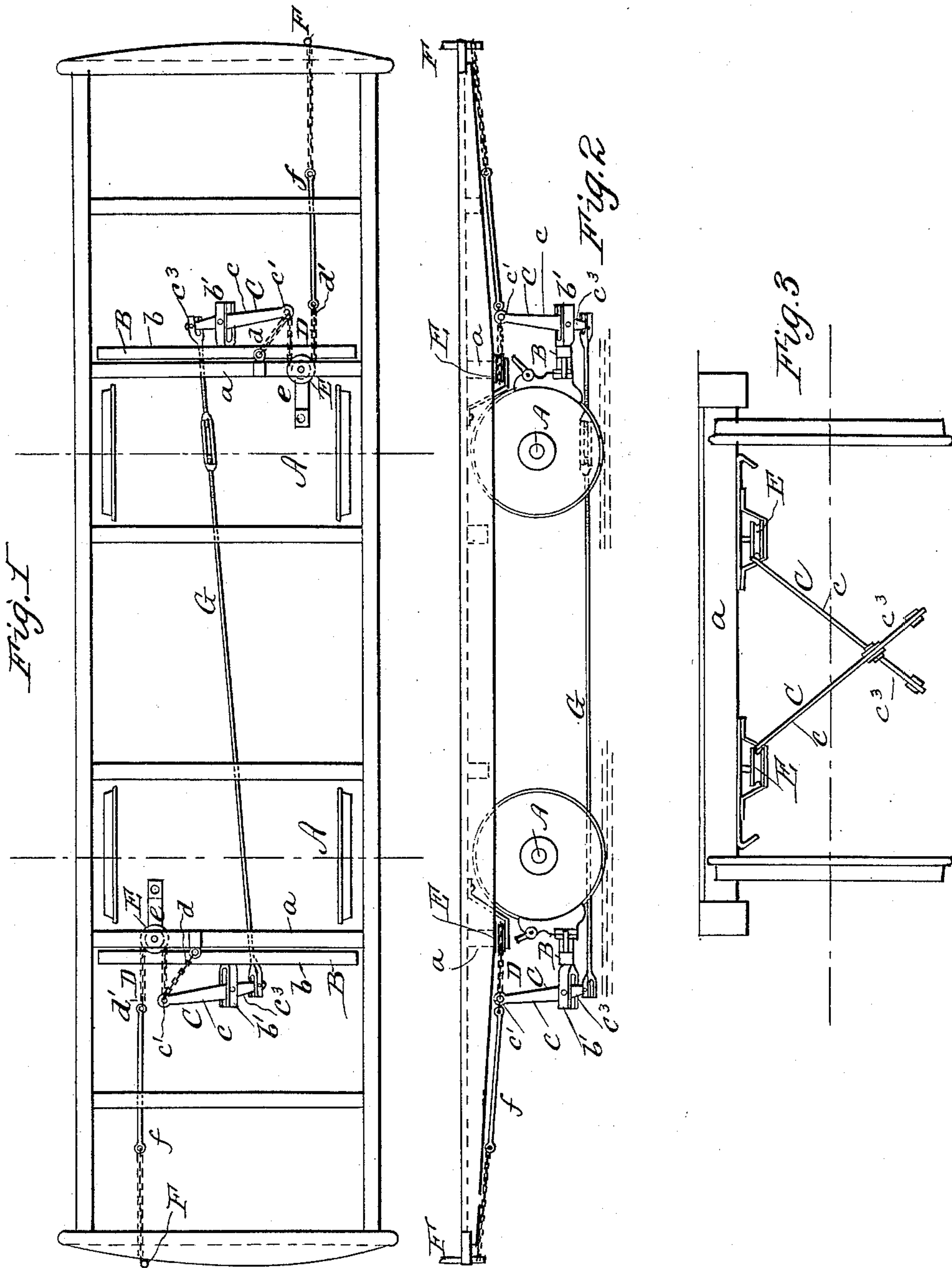
(No Model.)

2 Sheets—Sheet 1.

G. M. BRILL.
RAILWAY CAR BRAKE.

No. 418,438.

Patented Dec. 31, 1889.



WITNESSES:

Wm H. Starns
Chas. H. Walker

INVENTOR,

George Martin Brill

By S. J. Van Stavern

ATTORNEY

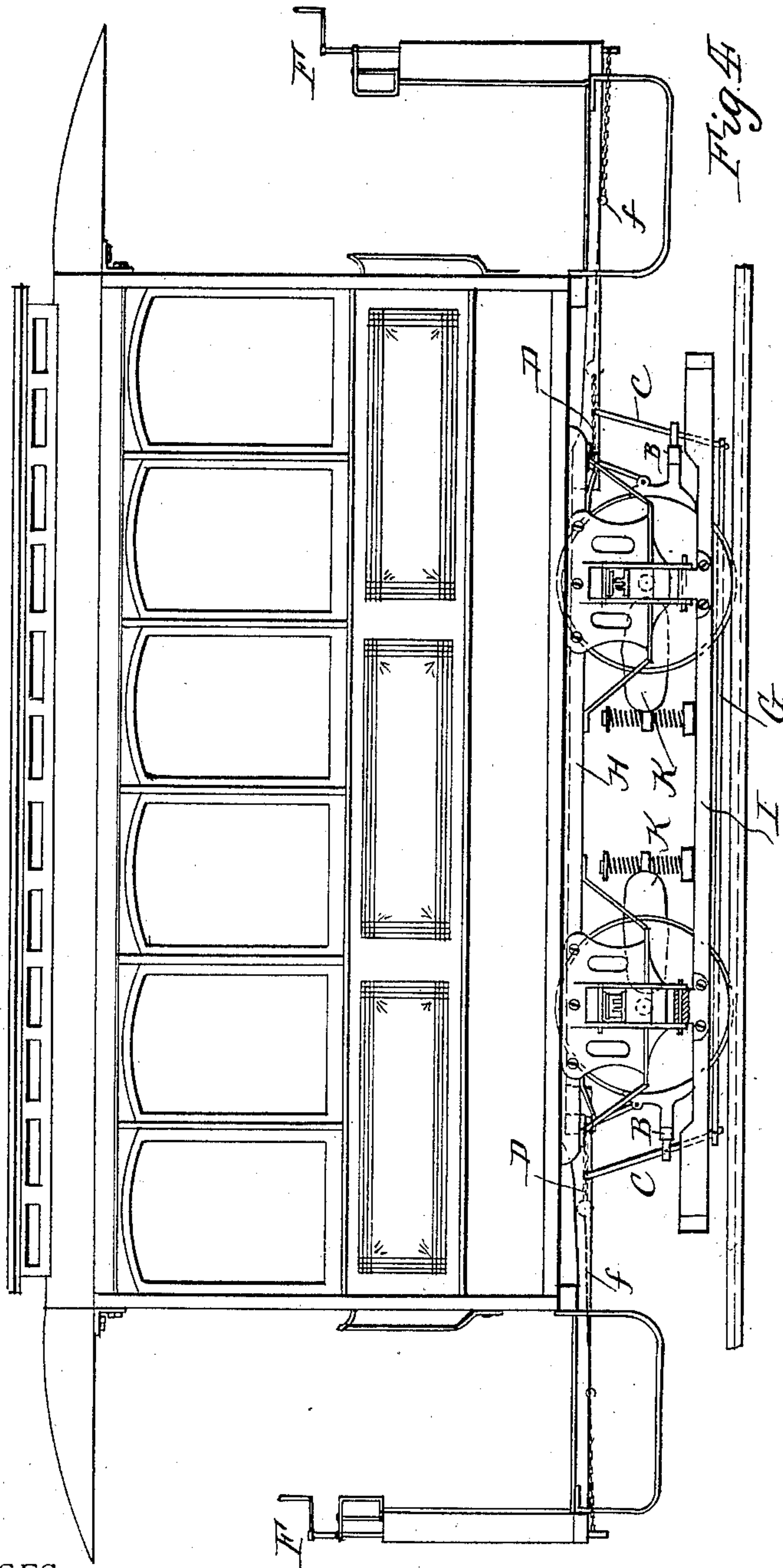
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WITNESSES:

Wm. Van Horn
M. H. Walker

INVENTOR

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ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE MARTIN BRILL, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-CAR BRAKE.

SPECIFICATION forming part of Letters Patent No. 418,438, dated December 31, 1889.

Application filed October 2, 1888. Serial No. 286,940. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MARTIN BRILL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Car Brakes, of which the following is a specification.

My invention has relation to the connecting and actuating mechanism for the brake-shoes of street or other railway cars having an electric or other motor suitably supported, so as to depend from or be located below the floor of the car.

In building street-railway cars with the electric or other motors located thereon, as described, the customary manner of locating the brake-beam connecting rods or chains above the car-axle to either side of and adjacent to the motor has heretofore been followed, but it has been found that the same is objectionable because of want of proper clearance or space for the same and of the difficulty of obtaining access to the brake appliances and to the motor, and for the further reason that said brake appliances being close to the motor they are subject to inductive influences therefrom and become inductively magnetized.

My invention has for its object to avoid these objections, and to this end I provide a construction of actuating mechanism for the brake-shoes which admits of locating the brake-beam connecting-rods or other appliances therefor below the car-axles, near to the surface of the roadway, so as to obtain ample space therefor and be as far as possible removed from the influence of magnetic induction of the motor.

My invention has for its further object to apply my present improvements to a form of removable truck for a street-car, so that the truck with its brake-shoes, actuating and connecting mechanism therefor, can readily be removed from the car for repairs, replacement, or for other purposes.

My invention accordingly consists of the combinations, constructions, and arrangements of parts, as hereinafter described in the specification, and pointed out in the

claims, reference being had to the accompanying drawings, wherein—

Figure 1 represents a plan of a street-car frame, showing brake-shoes and connecting and actuating mechanism embodying my improvements. Fig. 2 is a side elevation of same. Fig. 3 is an end view, drawn to an enlarged scale, of part of same; and Fig. 4 is an elevation of a car having removable truck, showing my improvements applied thereto.

A A represent the axles or the running-gear for the car; B B, the usually-suspended or movable brake-shoe beams, having secured, preferably, to their outer sides *b* brackets *b'*, for pivoted levers C C, respectively. The long arms *c* of levers C C have openings *c'* at their ends, through which pass chains or ropes D, which are fastened at one end *d* to cross-timber *a* or other fixture of the car or its truck, and after passing through the ends of the levers C C, as above noted, are conducted around grooved pulleys or sheaves E E, suitably journaled in brackets secured to the car or its truck, as indicated at *e*, Fig. 1. The other ends *d'* of the chain D are hooked or otherwise connected, as desired, to the rods or chains *f f*, leading to the brake-rod F, located upon the platforms of the car. The short ends *c''* of levers C are connected by a rod G, and as levers C are located either in a direct vertical position or in one inclined thereto the short ends *c''* of the levers approach to the surface of the roadway to correspondingly locate rod G, which is then below the axles and out of the way of the motor, and is not subject to inductive influences therefrom.

The levers C C, when inclined as shown in Figs. 1 and 2, are reversely directed toward the connections *f*, (see Fig. 3,) and I prefer this construction, as it gives a straight pull on the connections *f* from the brake-rods F to the pulleys E; but, if desired, however, the levers C may be vertically located and the chains *f* angularly directed to said levers. A movement of either of the brake-rods F actuates both levers C C to apply all the brakes of the car.

In Fig. 4 I have shown the brake mechanism applied to a car having a truck H rigidly secured to it and adapted to be removed there-

from, as fully set forth and claimed in another pending application, filed by John A. Brill and George M. Brill the 25th day of June, 1888, Serial No. 278,160, said truck having a
 5 frame I suspended from the axle-boxes and electric motors K partly supported thereon and upon the axles, as set forth in said application.

By disconnecting the ends d' of chains D
 10 from rods or chains f , when the truck is about to be removed from the car, the actuating and connecting mechanism for the brake-beams remain in their normal positions ready to be again connected to the brake-rod connections
 15 f , when the truck is secured to the car-body.

From the foregoing it will be noted that the position of the levers C C and rod G are such that easy access may be had thereto and also to the motors K for repairs or replacement.

20 Where only one brake handle or rod F is used one of the levers C is dispensed with, and the connecting-rod G is secured directly to the brake-beam, at which the lever C is dispensed with.

25 What I claim is—

1. In combination with the brake-shoe beams B B of a car, levers C C, pivoted to said beams and having their short ends c^3 extending below the axles, connecting-rod G
 30 for said ends, pulleys E, chains D, fastened at one end to the car or truck frame, passing through an eye in the long end of levers C C and thence around pulleys E E, and brake-

rods for the other end of said chains, substantially as set forth. 35

2. In combination with a brake-shoe beam B of a car, lever C, pivoted to said beam and having its short end extending below the axles of the car, pulley E, chain D, fastened at one end to the car or truck frame, connected
 40 to the long end of said lever, passing around pulley E, and its other end being in connection with a brake-rod on the car, substantially as set forth.

3. In combination with a car and its axle-boxes, a frame I, supported upon said axle-boxes, electric motor on said frame and in gear with an axle, brake-beams B B, having actuating devices connected by a bar G, located below said frame I, and electric motor,
 50 substantially as set forth.

4. In combination with a car-body, a truck-frame rigidly secured to said body, a frame I, supported on the axle-boxes, electric motor on said frame I and in gear with an axle,
 55 brake-beams B B, with connecting actuating devices mounted or supported upon the truck-frame, and brake-handles connected to said actuating devices and mounted upon the car-body platforms, substantially as set forth. 60

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

GEO. MARTIN BRILL.

Witnesses:

S. J. VAN STAVOREN,
 H. RANDALL.