

(No Model.)

2 Sheets—Sheet 1.

J. STEPHENSON.
CABLE CAR TRUCK.

No. 414,733.

Patented Nov. 12, 1889.

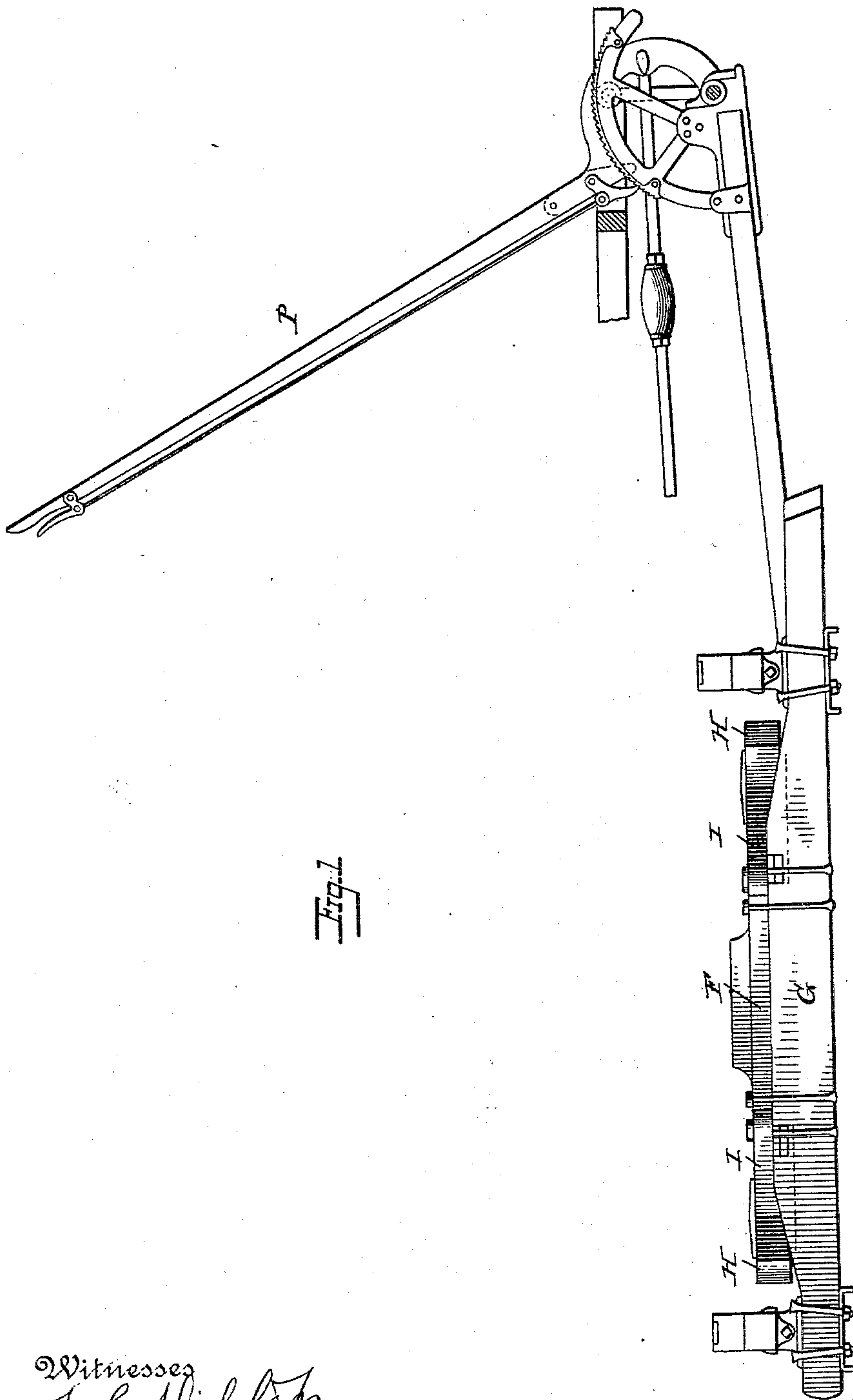


Fig. 1

Witnesses
Geo. G. Hinkel, Jr.
Georgia P. Kramer.

By his Attorneys

Inventor
John Stephenson,

Forster & Leeman

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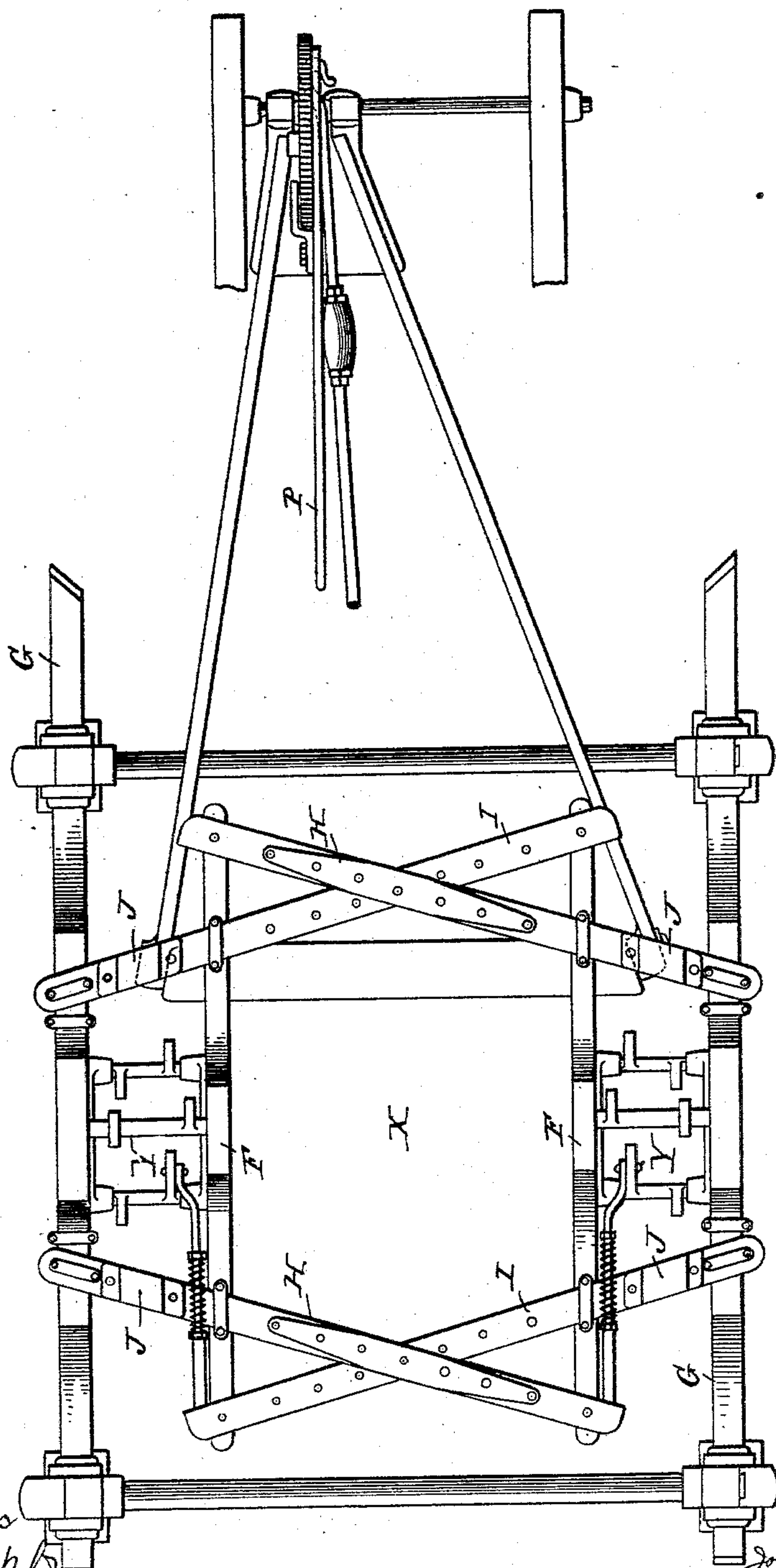
2 Sheets—Sheet 2.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

CABLE-CAR TRUCK.

SPECIFICATION forming part of Letters Patent No. 414,733, dated November 12, 1889.

Application filed July 20, 1889. Serial No. 318,111. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Cable-Car Trucks, of which the following is a specification.

Tram-cars impelled by cable operate best when the cable-grip is central with the wheel-base, and for convenience it has been the practice for the gripman to stand immediately above the grip, with his operating-lever directly connecting with the grip mechanism. This arrangement consumes space desirable for passengers, and also prevents the operator from having so good outlook and view of the road as public interests require. Attempts have been made, and with some success, to locate the operator at the car-front; but these efforts have been attended with difficulties not necessary here to rehearse.

Experience has already shown that my invention, hereinafter described, and illustrated in the accompanying drawings, has satisfactorily overcome the difficulties and met the wants hitherto developed.

In said drawings, Figure 1 is an elevation of sufficient of a tram-car truck to show my improvements. Fig. 2 is a plan of Fig. 1.

Cable-tramways have in their construction several elements to which the car-builder must defer, among which are, first, the gage of track or distance between the rail-heads, varying usually from three feet six inches to five feet six inches; second, curves at ordinary street-corners of small radii necessitating short wheel-base and cars of less capacity; third, cable-grip-machine dimensions, mode of operation, method of attaching to and separating from the cable, and also of removal from the car; fourth, freedom for the grip to be controlled by the slot-rail in its deviations from central line of the tram-rails; fifth, the operator's position, whether central to the car or at the car-front with convenient control of the lever-handles of grip, wheel-brake, and track-brake.

In order to meet the requirements of these desirable conditions, I make the car-truck of the following pieces—viz., two sills G G, of length sufficient to couple the axle-boxes at

each side of the truck; two cheek-sills F F parallel to the sills G, but shorter; two composite cross-rails each made of two pieces H I, diagonally crossing each other, and when there is a very broad gage of truck there may be at each side of the truck a sub-sill interposed between the sill and cheek-sill adapted to shorten the rock-shafts of wheel-brake and track-brake. The six stated pieces F F H H I I put together make a sexagonal frame, the sills being the longest sides and parallel and apart to correspond with length of the axles, and united by the two composite cross-rails, whose members cross each other midway of the sills with the apex of their angles outward and their extended ends resting on the ends of the cheek-sills F F, which cheek-sills are separated to an extent determined by the necessities of the grip-machine to be located in the well X, inclosed in sexagonal form by the truck-frame. The junction of the cross-rails with the sills is sufficiently contractible for the shortest wheel-base, and the angular disposition of the members of the composite cross-rails increases the longitudinal diameter of the grip-well sufficient for necessities of the grip-machine and its carrier. On each cross-rail is an angular keeper J, adapted to hold the wheel-brake shoe-bar. The central six-sided well-hole X, formed by the two cheek-sills and parts of the two composite cross-rails, is adapted to receive the grip-carrier with its grip-machine, and the two smaller side wells Y, of four sides each, are adapted to receive the mechanisms of the wheel-brake or of the track-brake, or both these brake mechanisms. As shown, the sills G support the outer ends and the cheek-sills the inner ends of the rock-shafts of the wheel-brake mechanism, while the track-brake mechanism is supported below by the same sills.

The truck-frame thus made is adapted to the mechanisms of the wheel-brake, track-brake, grip-carrier and its extension, and also the track-guard. I prefer that the truck with its burden be suspended to the axle-boxes outside the wheels.

The operating-lever P is arranged at the end of the car and works through connecting-devices not necessary to be here described.

Without limiting myself to the precise con-

struction and arrangement of parts shown, I claim—

1. A car-truck composed of two sills of length sufficient to couple the axle-boxes for the desired wheel-base at each side of the truck, two cheek-sills, and two composite rails each of two parts, with the sills reaching the axle-boxes, and the whole making a frame with an internal sexagonal-shaped cable-grip well, substantially as and for the purpose described.

2. A car-truck having a six-sided grip-well, each cross-rail forming two sides of the inclosure, and the angles elongating the longitudinal axis of the well, substantially as and for the purpose described.

3. A car-truck having composite cross-rails, with an end of each half-rail framed to the sills and the opposite ends crossing each other and extending to the ends of the cheek-sills, substantially as and for the purpose described.

4. A car-truck with sills and cheek-sills united by composite cross-rails, each of two pieces and each piece united with a truck-sill at an angle tending endward crossing the cheek-sill, and with an angular keeper on the cross-rail adapted to hold the wheel-brake shoe-bar, substantially as and for the purpose described.

5. A car-truck suspended at the four corners by the ends of its two sills secured to the bottoms of the four axle-box shells, with its cheek-sills forming supports for the inner ends of the track-brake rock-shafts, and the truck-sills forming supports for the outer ends of said shafts, as and for the purpose set forth.

6. A car-truck suspended at the four corners by the ends of its two sills secured to the bottoms of the four axle-box shells, with its cheek-sills forming supports for the inner ends of the wheel-brake rock-shafts, and the truck-sills forming supports for the outer ends of said shafts, as and for the purpose described.

7. A car-truck with sills and cheek-sills united by composite cross-rails making angular connections with the sills, all adapted to hold the wheel-brake mechanism, and also below it to hold the mechanism of the track-brake, substantially as and for the purpose described.

8. A car-truck with sills and cheek-sills joined by composite cross-rails, each of two parts and each part framed to a sill at an angle tending endward of the truck, the two parts crossing the cheek-sills and crossing each other at the central line of the truck and each composite rail end continuing to and making union with the end of another cheek-sill, thus forming a truck with six-sided well and of a size adapted to a cable-grip machine, as and for the purpose described.

9. A car-truck suspended at the four corners by the ends of its two sills secured to the bottoms of the four axle-box shells and having composite cross-rails, with their loose ends lodged on the ends of the cheek-sills to receive the wheel-brake recoil-rods through springs and through the loose ends of the cross-rails, against which ends the springs abut for action, as and for the purpose described.

10. A car-truck with four wheels on two axles extending entirely across the truck and the axle-journals outside the wheels, on which journals are axle-boxes carrying beneath their bottoms the truck-sills, which with the cheek-sills form supports for the mechanism of the wheel-brake, the operating-lever of which is at the end of the car, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:

S. A. STEPHENSON,
JOSEPH B. STEPHENSON.