

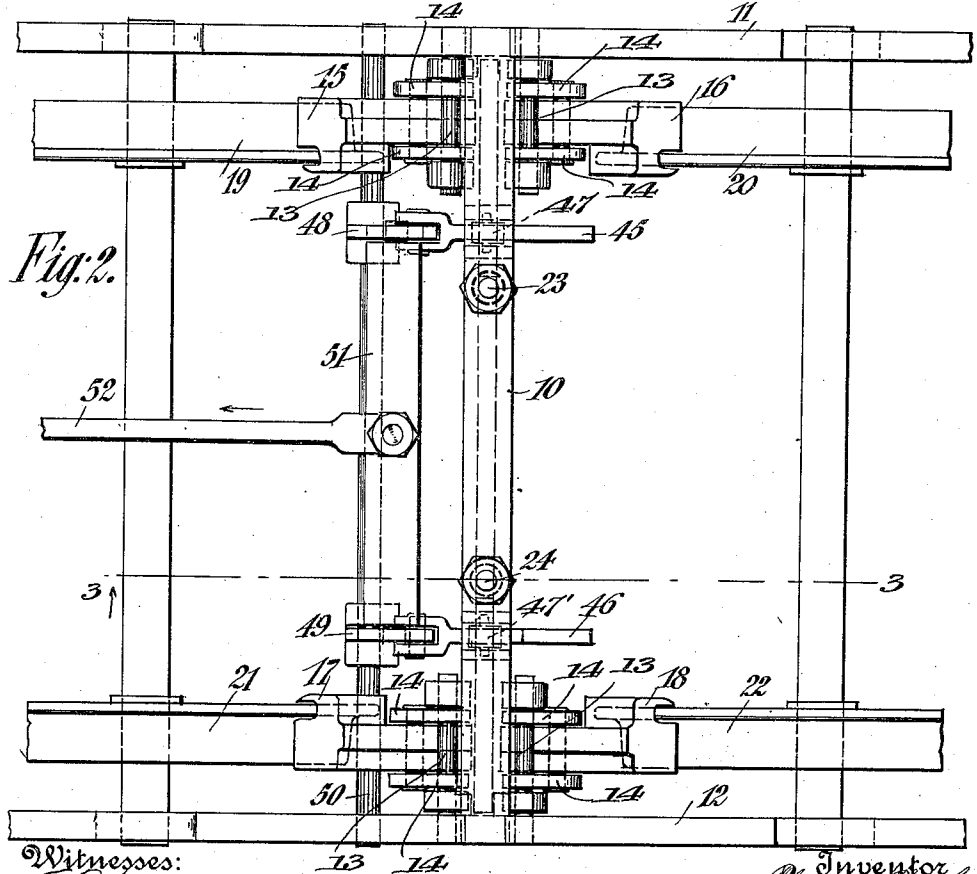
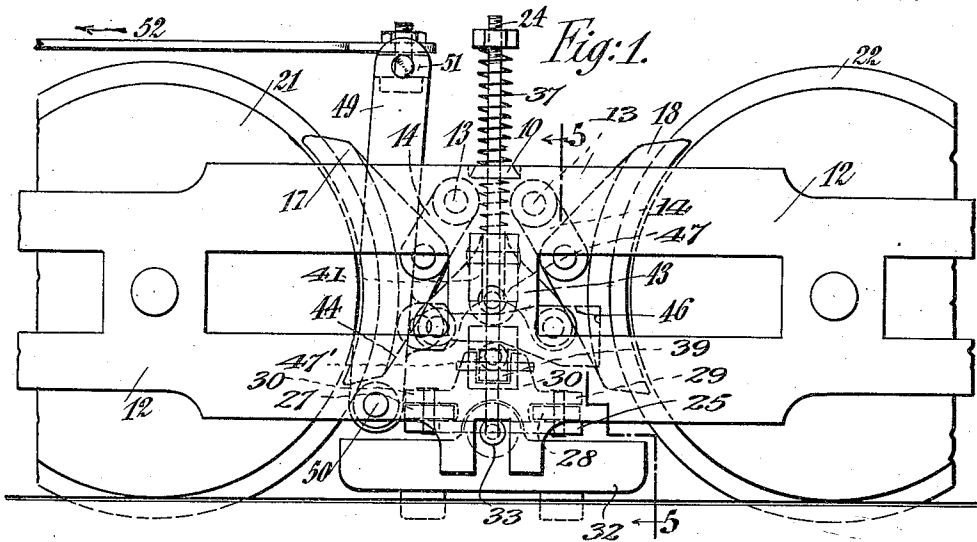
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CAR BRAKE.

APPLICATION FILED JUNE 20, 1914.

1,153,151.

Patented Sept. 7, 1915.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 3.

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Fig. 5.

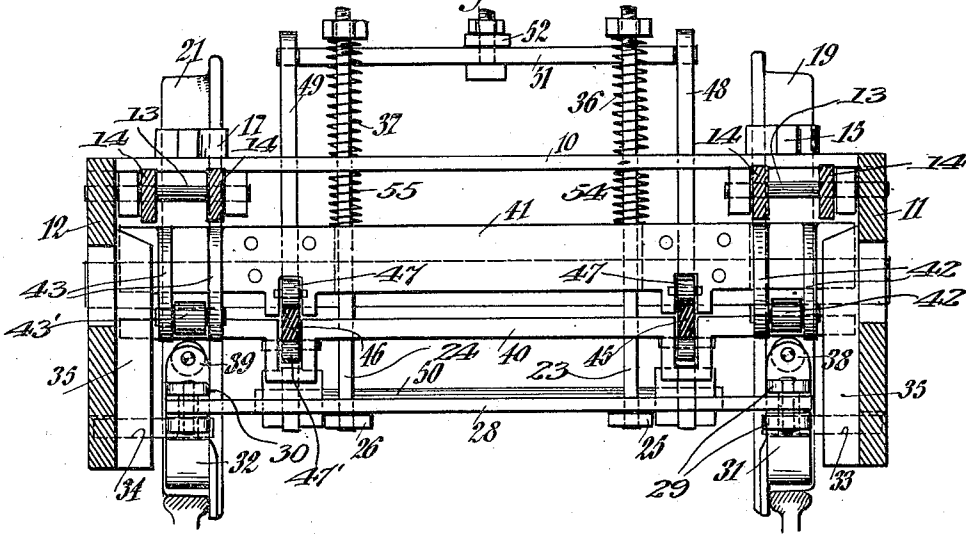


Fig. 6.

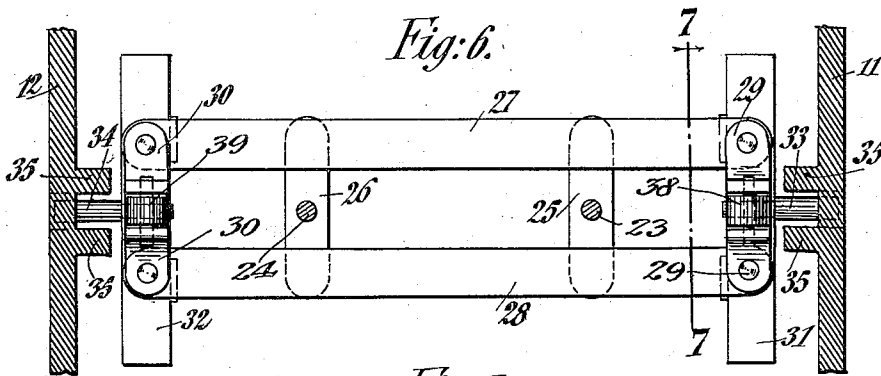
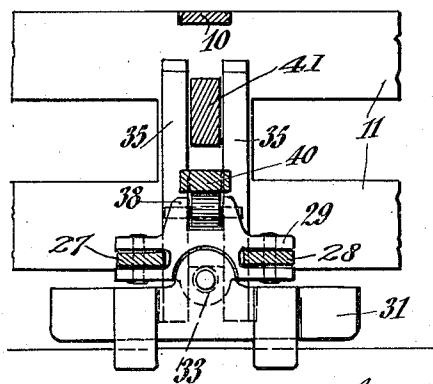


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CAR-BRAKE.

1,153,151.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PHILIPP BOCH, a citizen of the United States of America, residing in New York, in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

This invention relates to a car brake embodying both wheel and rail brakes and mechanism for the simultaneous operation thereof.

In the accompanying drawings, Figure 1 is a side elevation of a car truck having applied thereto a brake embodying the invention, Fig. 2 is a top view of the same, Fig. 3 is a vertical longitudinal section on line 3-3, Fig. 2, Fig. 4 is a similar section showing the parts in a different position, Fig. 5 is a vertical section on line 5-5, Fig. 1, Fig. 6 is a top view on a larger scale showing the means of mounting and guiding the rail-shoes, and Fig. 7 is a vertical section on line 7-7 of Fig. 6.

Similar reference numerals indicate the same parts in the various figures.

A main supporting cross-bar 10 is carried at its ends on the side frames 11, 12, of the car truck. On suitable gudgeons 13, projecting inwardly from the side frames, are pivoted links 14 which support independently the wheel brake-shoes 15, 16, 17, 18, in proper position for being swung, each pair in opposite directions, into and out of contact with the wheels 19, 20, 21, 22, respectively. Guided in the cross bar 10 are two vertically movable rods 23, 24, which have at their lower ends supporting cross-pieces 25, 26. On said cross-pieces or feet 25, 26, rest two connecting links 27, 28, which extend transversely of the truck and are pivoted at their ends to pillow-blocks 29, and 30. To the pillow-blocks 29 and 30 are pivoted the rail brake-shoes 31, 32. Said rail brake-shoes are provided with laterally extending guide-pins 33, 34, which are guided vertically between guide lugs 35 on the side frames of the car truck. Said pins, as shown, have considerable play between said lugs, and this, combined with the play which exists between the inner faces of the lugs and the rail-shoes, permits lateral movement of the brake-shoes as well as slight angular displacement of the same out of true alinement between the wheels, which movement

is advantageous for riding obstructions upon, or inequalities in the rail surface. Upward movement of the rail-shoes, under the influence of the brake retracting springs 36, 37, which are arranged on the rods 23, 24, is limited by abutment of antifric-tion rollers 38, 39, against the rail brake-beam 40, which extends across the truck above said pillow-blocks, and which is itself limited in upward movement by the wheel brake-beam 41, as hereinafter described. The wheel brake-beam 41 extends across the truck beneath the cross-bar 10, and carries at each end a wedge-shaped member, said members 42 and 43 carrying each at its lower portion two spaced antifric-tion rollers 42' and 43' adapted to bear against the converging rear faces 44 of the wheel shoes. The two brake-beams are in proximity transversely of the car truck. Between the same are located two wedges 45, 46, one at each side.

The wheel brake beam 41 and the rail brake beam 40 engage at their opposite ends the vertical guide ways 35 at opposite sides of the truck, and are movable vertically in said guide ways, being disposed one above the other. The rail brake beam 41 is provided on its lower side with antifric-tion rollers 47 disposed near opposite sides of the truck inside the wheel-shoe actuating members 42 and 43 and the rail brake beam 40 is provided with antifric-tion rollers 47' disposed in vertical alinement with the antifric-tion rollers of the wheel-brake beam 41, and the actuating wedges 45 and 46 slide between said rollers 47 and 47'.

When it is desired to apply the brakes, the brake-rod 52 is moved in the direction of the arrow in Fig. 1. Thereby the wedges 45, 46, are advanced between the brake-beams and the wheel brake-beam is elevated, while the rail brake-beam is lowered. An intermediate position in which the brakes are not fully applied, as shown in Fig. 3. In Fig. 4 the wedges are still further advanced and the brakes are thereby fully applied, the wheel brake-beam 41 being so far lifted as to bring its wedge-members 42, 43, which preferably carry contact rollers 42' and 43', into forcible contact with the converging rear faces of the wheel shoes, thereby forcing them apart and against the wheels while the lower rail brake-beam 40 is so far depressed as to force down the pillow-blocks

29 and 30 and thereby the rail-shoes until the latter are in strong frictional contact with the rail. Thus, both brakes are simultaneously applied. For releasing the brakes, the brake-rod 52 is moved in the opposite direction, thereby the wedges are forced back, that is to say, outwardly from between the brake-beams, whereby the beams are permitted to come together, which they do reliably under the tension of the retracting-springs 36, 37, and all the parts resume their former position shown in Fig. 1.

In order that the springs 36, 37, shall not, by their lifting action when the brake is off, continue to lift the wheel brake-beam to such an extent as to apply the wheel brake-shoes, which would be the case were the upward movement of the brake-beams unlimited, arresting springs 54, 55, are employed which are located between the main cross-bar 10 and the brake-beam 41. By their compression they serve to limit the upward movement of the parts at such point that the wheel shoes have no effective pressure on the wheels when the brake is off.

The brake described provides effective, reliable, and durable means for quickly arresting the movement of cars.

One embodiment of the invention has been described, but it is obvious that changes may be made therein without departing from the spirit of the invention.

I claim:

1. A car-brake comprising a main supporting cross-bar secured at its ends to the car truck, wheel brake-shoes between the truck wheels, said wheel brake-shoes having opposed converging rear faces, rail brake-shoes one at each side of the truck between the wheel brake-shoes, a wheel brake-beam having at each end a wedge-shaped member adapted when the beam is moved to engage the converging faces of the wheel brake-shoes and force them against the wheels, a rail brake-beam movable in opposite direction to the wheel brake-beam for applying the rail brake-shoes, and means for moving said brake-beams simultaneously in opposite directions.

2. A car-brake comprising a main supporting cross-bar secured at its ends to the car truck, wheel brake-shoes between the truck wheels, said wheel brake-shoes having opposed converging rear faces, rail brake-shoes one at each side of the truck between the wheel brake-shoes, a wheel brake-beam having at each end a wedge-shaped member adapted when the beam is moved to engage the converging faces of the wheel brake-shoes and force them against the wheels, a rail brake-beam movable in opposite direction to the wheel brake-beam for applying the rail brake-shoes, means for moving said brake-beams simultaneously in opposite directions, and means for returning the brake-

beams toward each other for releasing the shoes.

3. The combination of a truck frame provided with vertical guideways on its opposite sides, pillow blocks disposed at opposite sides of said truck and provided with guide studs loosely engaging said guideways, transverse links pivoted to opposite ends of said pillow blocks, rail brakes pivoted to said pillow blocks, a brake beam engaging said pillow blocks, and means for lifting and lowering said brake beam to set and release said brakes.

4. The combination of a truck frame provided with vertical guideways on its opposite sides, pillow blocks disposed at opposite sides of said truck frame and provided with guide studs loosely engaging said guideways, transverse links pivoted to the opposite ends of said pillow blocks, rail brakes pivoted to said pillow blocks, yielding supports for said links, a vertically sliding brake beam engaging said guideways and means for depressing said sliding brake beam for setting the rail brakes.

5. The combination of a truck frame provided with vertical guideways on its opposite sides, pillow blocks disposed at opposite sides of said truck and provided with guide studs loosely engaging said guideways, transverse links pivoted to opposite ends of said pillow blocks, rail brakes pivoted to said pillow blocks, yielding supports for said links, a vertically sliding brake beam engaging said guideways and means for depressing said sliding brake beam for setting the rail brakes.

6. A car brake comprising a main supporting cross-bar secured at its ends to the car-truck, wheel-brake-shoes between the truck-wheels, said wheel brake shoes having opposed converging rear faces, rail-brake-shoes, one at each side of the truck between the wheel-brake-shoes, a wheel-brake-beam having at each end a wedge-shaped member carrying spaced antifriction rollers adapted when the beam is raised to engage the converging faces of the wheel-brake shoes and force them against the wheels, a rail-brake-beam, upwardly spring-actuated rods guided in the cross-bar and extending through the brake-beams and having below the rail-brake-beam spaced supporting members, links supported on said members, pillow-blocks one at each side pivoted to the rail-brake-shoe, said links being pivoted to said pillow-blocks, an antifriction roller carried by each pillow block between the same and the rail-brake beam, operating wedges between the brake beams, brake-levers connected with said wedges, and an operating rod connected with said levers.

7. The combination of a truck frame having vertical guideways at its opposite sides, transverse brake beams disposed one above

the other and movable upward and downward in said guideways, pillow blocks disposed at opposite sides of said truck frame and provided with studs engaging said
5 guideways below said brake beams, a yielding support for said pillow blocks, rail brakes connected with said pillow blocks and actuated by the lower brake beam, wheel
10 brakes operable by the upper brake beam, and a wedge mechanism movable between

said brake beams for simultaneously setting them.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

PHILIPP BOCH.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."