(No Model.) 2 Sheets—Sheet 1.

# W. D. SARGENT.

## CAR BRAKE.

No. 423,279. Patented Mar. 11, 1890.

Fig. 1.

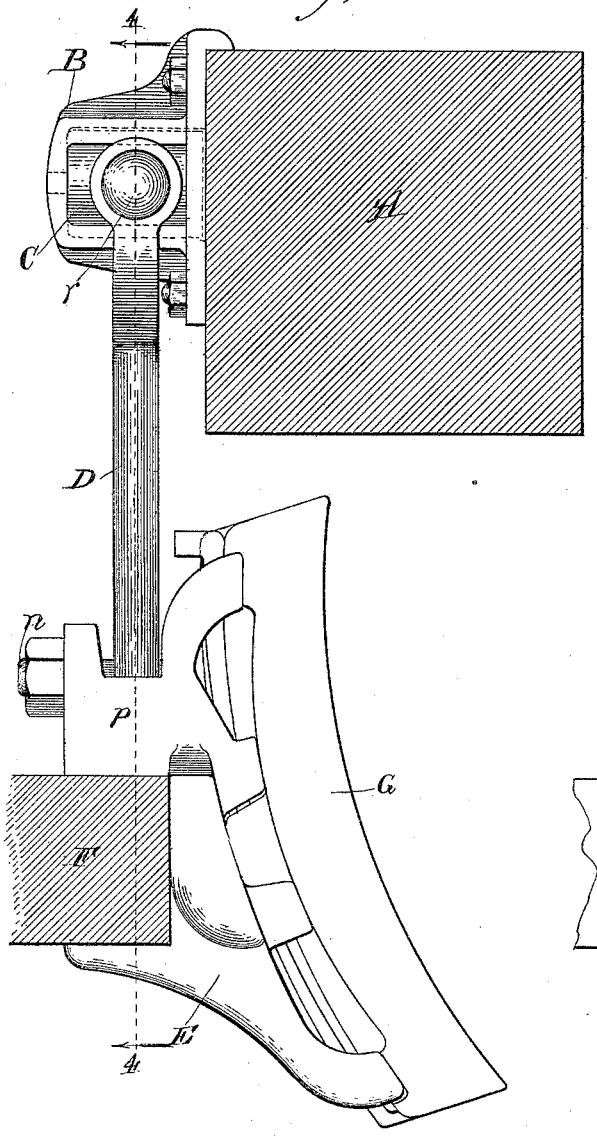
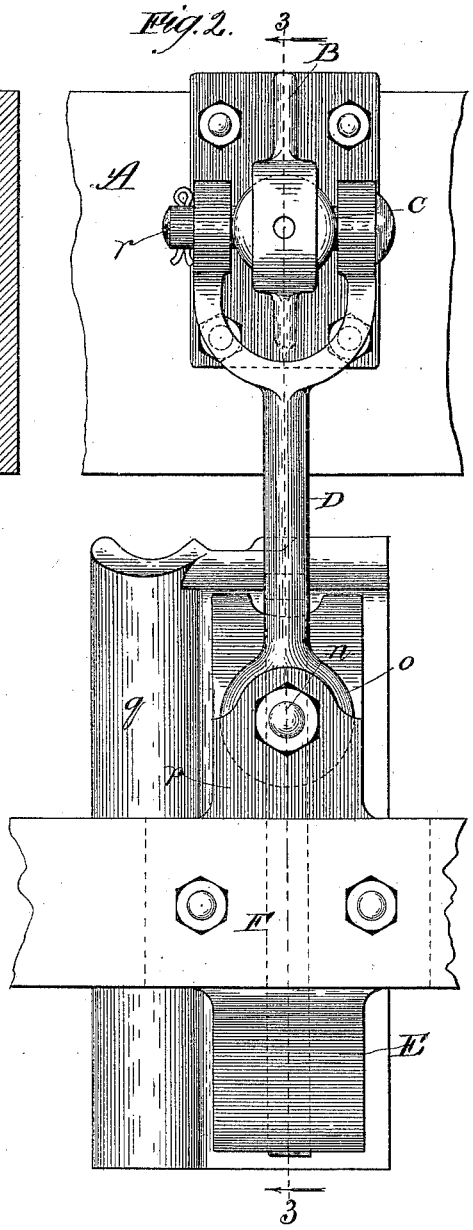



Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

# W. D. SARGENT.

## CAR BRAKE.

No. 423,279. Patented Mar. 11, 1890.

Fig. 3.

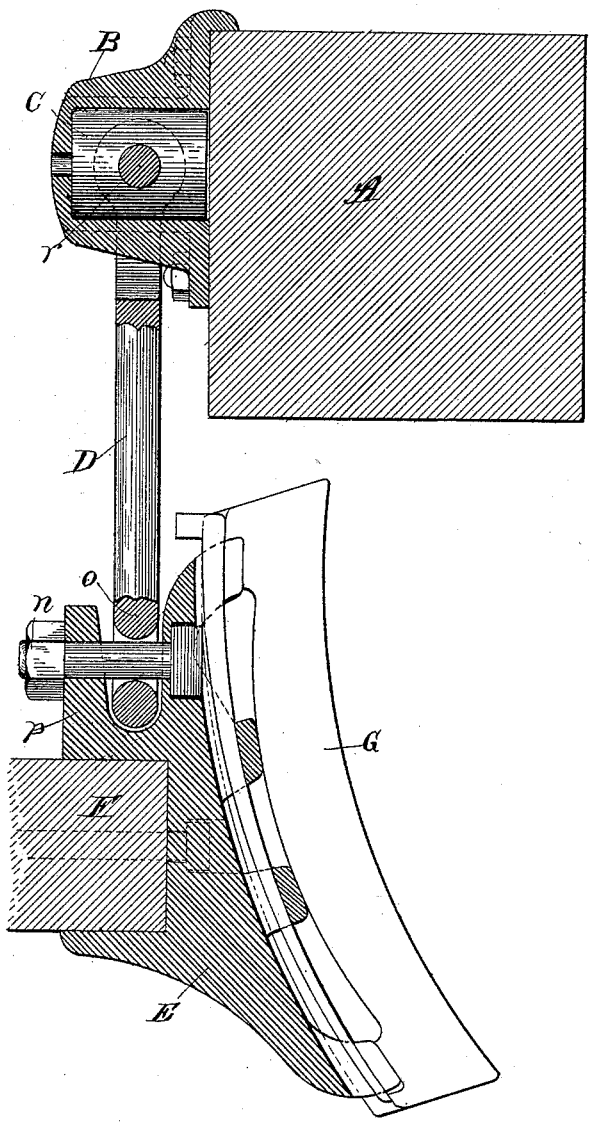
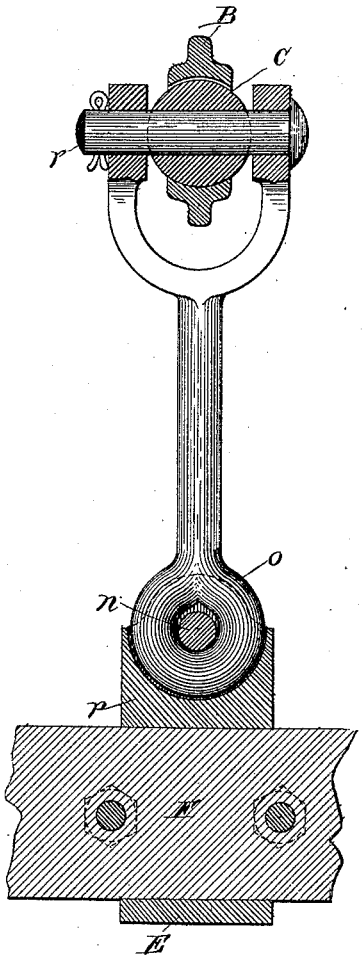



Fig. 4




Witnesses:
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# UNITED STATES PATENT OFFICE.

WILLIAM D. SARGENT, OF EVANSTON, ILLINOIS.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 423,279, dated March 11, 1890.

Application filed November 8, 1889. Serial No. 329,621. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. SARGENT, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Brakes, of which the following is a specification.

My invention relates, more particularly stated, to improvement in the mechanism which immediately supports the shoe of a car-brake, whereby the shoe shall be rendered adjustable to adapt itself to its wheel, whatever the variation of the latter may be from its true or proper position, owing either to original imperfect setting thereof, or to lateral vibration when in use, or to turning on a curve in the track.

Although my improvement affords advantages when employed in connection with brake-shoes generally its advantages are especially marked in connection with the flanged brake-shoe more recently introduced for the wheels of railroad-cars, and involving, besides the part conforming on its face to the contour of the tread of a wheel, a flange on the inner edge thereof and recessed longitudinally to fit over the flange of the wheel.

As brake-shoes have hitherto been adjusted, the manner of securing them in place has been such as to prevent them from always maintaining a vertical plane at any point of lateral oscillation. As a consequence, especially in the use of flanged brake-shoes, if the wheel be for any reason out of true position when the brake-shoe is applied to it the recessed flange of the shoe will not strike accurately the flange of the wheel, but will grind against its peripheral surface and thereby cause injury both to the wheel and shoe. In a lesser degree the efficiency of the more common or unflanged shoe is for the same reason also diminished, since, unless the tread of the wheel and concave face of the shoe coincide when the brake is applied a part of the shoe-surface will not come into contact with the wheel.

The object of my improvement is to render the brake-shoe self-adjusting to adapt it always to maintain a vertical plane at any point of lateral oscillation.

My invention consists in the general construction whereby my object is attained; and it also consists in details of construction and combinations of parts.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved mechanism, showing the supporting-beam and the brake-beam in section; Fig. 2, a view of the same in rear elevation; Fig. 3, a section taken on the line 3 3 of Fig. 2 and viewed in the direction of the arrows, and Fig. 4 a section taken on the line 4 4 of Fig. 1 and viewed in the direction of the arrows.

Generally described, the construction I employ for accomplishing my object, and the parts of which are all of metal, involves the suspension of the brake-head, to which the brake-shoe may be permanently or removably secured by a hanger from the car—that is, directly from the body of the car or indirectly, as from the truck-frame, the latter being the supporting medium shown and hereinafter described, because preferred, though I do not wish to be understood as limiting my invention to any particular support or location of the supporting medium on the car from which to effect the suspension.

A is a beam of the truck-frame, having secured to it, to extend on one side, a bearing B, in the form of a bracket, in which is journaled a block or roller C. The roller is embraced transversely by the forked end of a hanger D, a bolt *r* passing through the block and prongs of the bifurcated end of the hanger to secure the latter pivotally to the block C. Thus, as will be seen, the hanger may oscillate with reference to the car both transversely and lengthwise thereof.

E is the brake-head, which may be, as to its general form, of a common or any suitable construction, and secured to the brake-beam F in any suitable or the ordinary manner, the head illustrated being of the form adapted to hold any brake-shoe of so-called "standard" make. The brake-shoe G shown is of the flanged variety referred to, the mechanism involved in my improvement being so placed with reference to the respective wheel for which the shoe is intended as to cause the flange *q* of the latter to coincide as accurately as practicable with the flange of the wheel.

On the rear side, near the upper end of the

head E, I provide a socket *p*, to receive the lower end of the hanger D, which is formed into an eye *o*, at which the hanger is pivotally and loosely connected with the brake-head by a bolt *n*, passed through the socket *p* and eye *o*, thereby affording pivotal movement to the head and shoe to enable the latter, whatever may be the angle from the perpendicular to which the hanger is moved, to meet the tread of its wheel flatwise, or, in other words, always to maintain a vertical plane at any point of lateral oscillation. It will thus be seen that when the brake is applied, if its coincidence with the tread of the wheel be true, the movement of the hanger D need be only lengthwise of the car; but if the wheel and the shoe be out of true coincidence when the shoe G (of the flanged variety) is applied the pressure exerted to set the brake, since it serves to bring into contact with each other the inclined face of the recessed flange *q* and the flange of the wheel, will cause the latter, by engaging with the recess of the flange, to swing the hanger in the direction necessary to bring the parts into their relation of exact coincidence, and also cause the entire bearing-surface of the shoe to coincide with the tread and flange of the wheel. If the brake-shoe be not of the flanged variety and it in its adjusted position and the wheels be not true with relation to each other, the rotation of the wheel when the brake is applied to it will tend to force the shoe, by its pivotal hanger and its pivotal connection therewith, into position to coincide with the tread and thus bring into contact with the latter the entire bearing-surface of the shoe.

I do not wish to be understood as intending to limit my improvement to the exact means for practicing it herein shown and described, though they are considered as best serving the purpose.

The construction shown and described may be variously modified without thereby departing from the spirit of my invention—namely, to provide hanger mechanism enabling the shoe always to maintain a vertical plane at any point of lateral oscillation, which object would also be subserved were the forms of universal joint at the opposite ends of the hanger changed or reversed.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a hanger D, provided at one end with a universal joint, adapted to be secured to a car, and which permits to the hanger lateral and longitudinal movement with relation to the car, and a brake-head E for a shoe G, connected with the opposite end of the hanger by means of a loose pivot, which permits the shoe always to maintain a vertical plane at any point of lateral oscillation, substantially as described.

2. In combination, a brake-head E for a shoe G, and having a socket *p*, a bearing B, having a block C journaled upon it, and a hanger D, pivoted at one end to the block between its journals and pivotally secured at its opposite end to the brake-head in the socket *p*, substantially as and for the purpose set forth.

3. In combination, a brake-head E for a shoe G, and having a socket *p*, a bearing B, having a block C journaled upon it, and a hanger D, bifurcated at one end to embrace the block between its journals and pivotally secured at its bifurcated end to the block, and inserted at its opposite extremity into the socket *p*, and pivoted therein to the brake-head, substantially as and for the purpose set forth.

4. In combination with a car, a bearing B, secured to a truck-beam A, and having journaled in it a block C, a brake-head E for a shoe G, secured to a brake-beam F, and having a socket *p* and a hanger D, bifurcated at one end to embrace the block C between its journals and pivotally secured at its bifurcated end to the block, and provided with an eye *o* at its opposite extremity, inserted into the socket *p*, and pivoted therein to the brake-head, substantially as and for the purpose set forth.

WILLIAM D. SARGENT.

In presence of—
J. W. DYRENFORTH,
M. J. FROST.