

W. S. ADAMS.

TRUCK BRAKE.

APPLICATION FILED SEPT. 14, 1908.

914,101.

Patented Mar. 2, 1909.

3 SHEETS—SHEET 1.

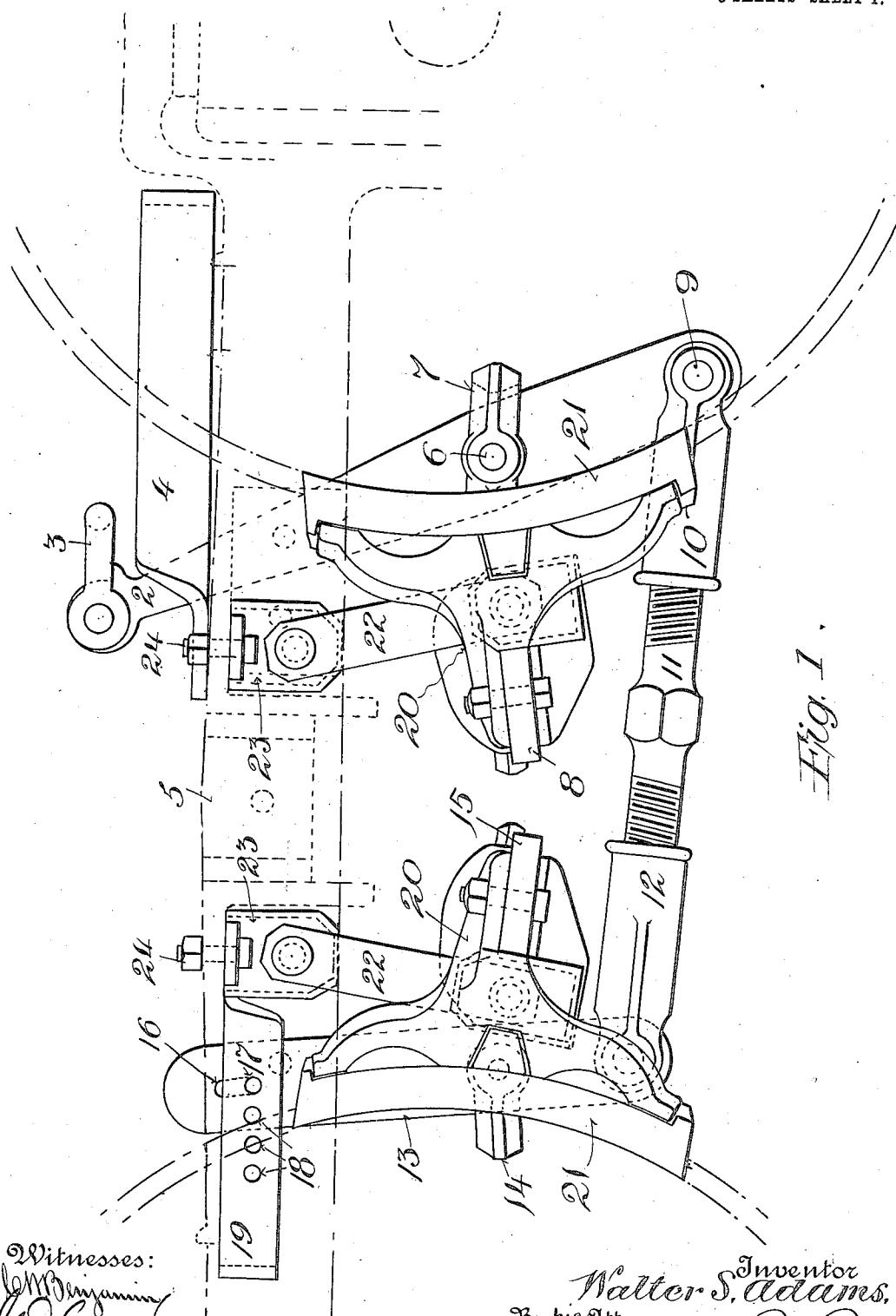


Fig. 1.

Witnesses:

W. M. Benjamin  
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Walter S. Adams, Inventor  
By his Attorney  
John L. Levy

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3 SHEETS—SHEET 2.

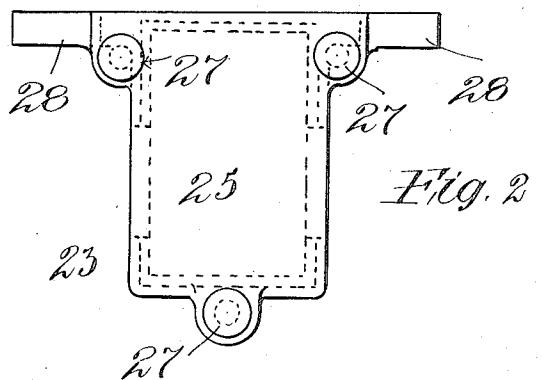


Fig. 2.

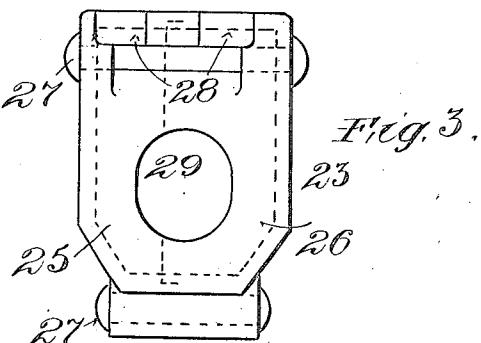


Fig. 3.

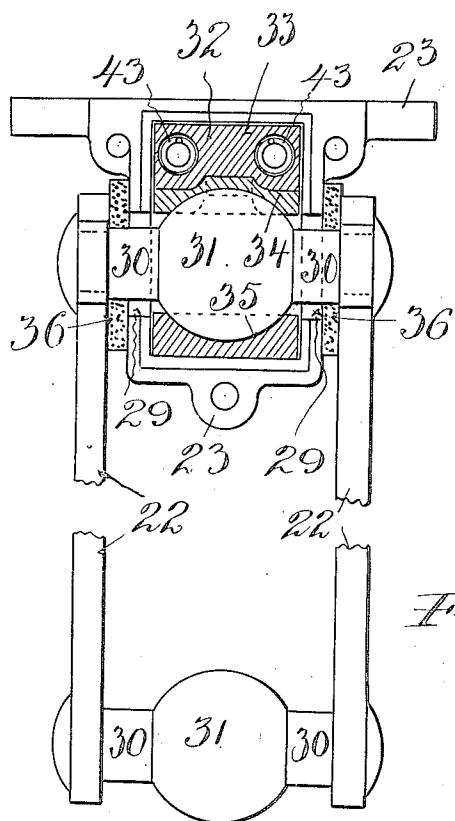


Fig. 4.

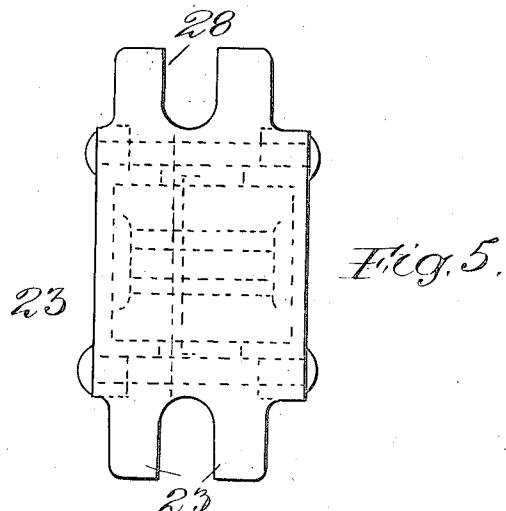


Fig. 5.

Witnesses:

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By his Attorney  
John L. Lewis

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3 SHEETS—SHEET 3.

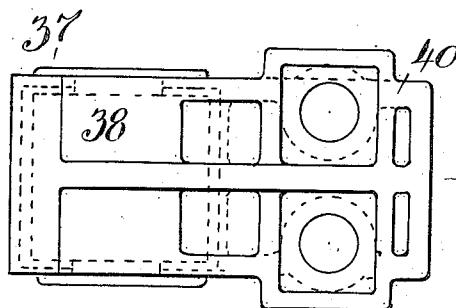
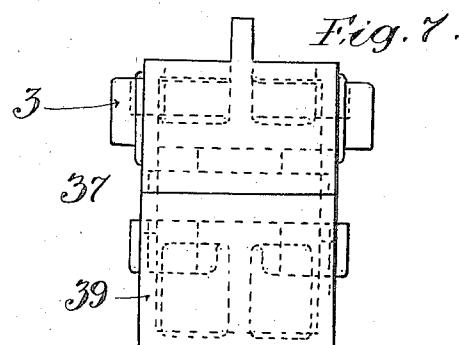
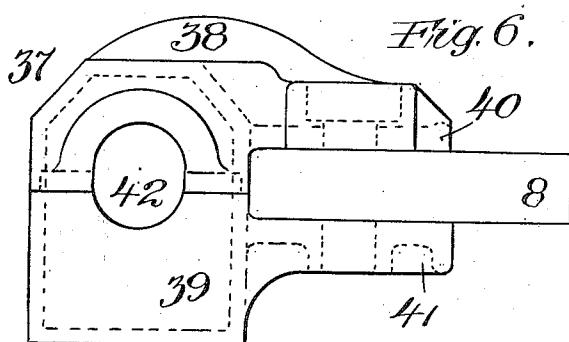


Fig. 8

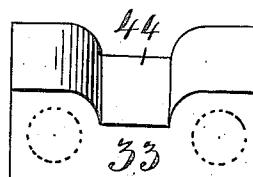


Fig. 9

Fig. 10.

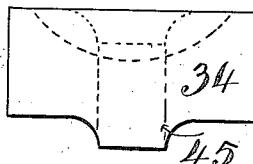


Fig. 10.

Fig. 12.

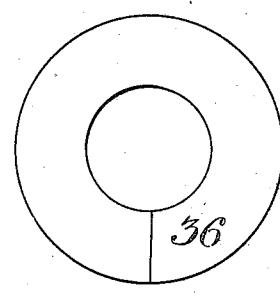
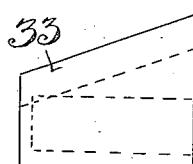


Fig. 15.

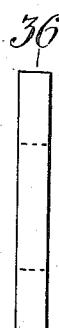


Fig. 11.

Fig. 13.

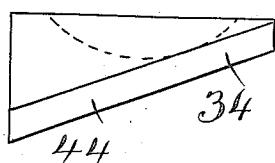


Fig. 14.

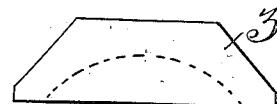


Fig. 17.



Fig. 18.

Witnesses:

*John M. Johnson*

Inventor  
Walter S. Adams  
By his Attorney  
Joseph L. Levy

# UNITED STATES PATENT OFFICE

WALTER S. ADAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE J. G. BRILL COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## TRUCK-BRAKE.

No. 914,101.

Specification of Letters Patent. Patented March 2, 1909.

Application filed September 14, 1908. Serial No. 452,971.

To all whom it may concern:

Be it known that I, WALTER S. ADAMS, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Truck-Brakes, of which the following is a specification.

The object of my invention is to simplify and improve the structure of car brakes so that the brakes will obtain more satisfactory results than those heretofore used. This object is accomplished by my invention, one embodiment of which is hereinafter set forth.

For a more particular description of my invention reference is to be had to the accompanying drawings forming a part hereof, in which:

Figure 1 is a side elevation of my improved brake, parts of truck being shown by dotted lines. Fig. 2 is an end view of housing. Fig. 3 is a side elevation of the same. Fig. 4 shows a housing in section and the hanger. Fig. 5 is a plan view of the structure shown in Figs. 2 and 3. Fig. 6 is a side elevation of the housing attached to a brake beam. Figs. 7 and 8 are end plan views of this housing, the brake beam being omitted. Figs. 9, 10, 11, 12, 13 and 14, are detail views showing portions of a socket. Fig. 15 shows a washer. Fig. 16 is a side elevation of a ball with trunnions adapted to fit in the socket above referred to. Figs. 17 and 18 are side and end elevations, respectively, of a portion of a hanger.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved brake 1 consists of an upright lever 2 which is connected to a brake chain or similar device by link 3 and the upper end of the upright lever 2 moves in a guide 4 secured to the truck 5 in any suitable manner. The lever 2 is fulcrumed at 6 in a crotch 7 secured to the brake beam 8 in any suitable manner, and the lower end of the upright lever 2 is pivoted at 9 to a sleeve 10 which is on a bolt 11 with screw threads of opposite pitch at its other end and on which is mounted a corresponding sleeve 12 which is pivotally connected to a second upright lever 13 which passes through a crotch 14 which is secured to a brake beam 15 by any suitable means and the upper end of the upright lever 13 has an elongated opening 16 through which passes a pivot 17 which may

be placed in any of several holes 18 in a bracket 19 carried by the truck 5. The sleeves 10 and 12 may be considered with the bolt 11 as a turn buckle, as by turning this bolt the sleeves 10 and 12 may be either drawn together or separated, as may be necessary for adjustment. The brake beams 8 and 15 also carry suitable brake shoe holders 20 which carry brake shoes 21 in the conventional manner.

The brake beams 8 and 15 are supported by suitable hangers 22 mounted near each end of each beam in the following manner. Housings 23 are secured to the truck 5 and preferably to the transoms thereof by bolts 24 or other suitable means. The housings 23 each consisting of two castings 25 and 26 are held together by rivets or other suitable means 27 and they are also provided with suitable ears 28 to which bolts 24 are secured. Between the castings 25 and 26 are the elongated openings 29 through which extend the trunnions 30 of the ball 31. The hangers 22 are riveted or otherwise secured to trunnions 30 as shown in Fig. 4. The housings 23 also carry sockets 32 which sockets are composed of the wedges 33 and top casting 34, and the bottom castings 35. These socket castings are put on to the ball 31 and then the parts of the housings 23 are placed over these castings and then the parts 25 and 26 of the housings are riveted together by the rivets 27 leaving the trunnions 30 of the ball 31 projecting through the openings 29. These openings 29 are covered by washer 36, so that dust, water or other injurious matter cannot enter the ball and socket joint and a large bearing surface will always be available for said joint so that wear is reduced to a minimum. The wear is taken up automatically by the wedges 33 which have coiled springs 43 which also press against the housings. The wedge 33 has a groove 44 and the socket 34 has a tongue 45 so that these parts will be held in proper relation.

In the preceding paragraph has been described the ball and socket joint for the upper end of the hanger. The lower end of the hanger supports the brake beam with the same identical ball 31 and trunnions 30 and sockets 32, but the housing 32 is different. The lower housings 37 are divided into two castings 38 and 39 with projecting ears 40 and 41 respectively, through which bolts pass to secure them to the brake beam 8 or the

brake beam 15. The castings 38 and 39 have elongated openings 42 between them through which trunnions 30 are adapted to pass.

As shown in Fig. 1 the hangers 22 do not hang vertically, but are splayed towards wheels at their lower ends so that when the brakes are released the weight of the shoes, shoe-holders and beams will be sufficient to make the brake shoes leave the wheels without the action of any spring if such an action should be desired.

As my improved brake is used in the conventional manner, it is not necessary to describe its action in detail. It is sufficient to say that the ball and socket connections of the hangers to the housings permit the brake beams to have a limited universal movement so that they will always adjust themselves to any small inequalities and enable the brake shoes to rub firm and true against the wheels. The structure is also such that the ball and socket joints will be kept absolutely free from dirt or other matter that would tend to corrode or injure them.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but that it is broad enough to cover all structures that come within the scope of the annexed claims.

Having thus described my invention, what I claim is:

1. In a device of the class described, a hanger composed of a pair of links connected

at each end by a ball and trunnions, a socket round one of said balls and a housing inclosing said socket.

2. In a device of the class described, a hanger composed of two parallel links united at each end by a ball and trunnions, a socket round one of said balls and a housing inclosing said socket, said housing being adapted to be secured to a truck and means supporting said housing and links for preventing dirt from entering between said ball and socket.

3. In a device of the class described, a pair of links connected at each end by a ball and trunnions, a socket on one of said balls and a housing surrounding said socket adapted to be secured to a truck and another socket on the other said ball and a housing surrounding this socket with means for securing the same to a brake beam.

4. In a device of the class described, a housing composed of two castings having an opening between them and a three part socket, two parts of said socket being adapted to press against a ball and a third part being provided with springs and adapted to force one of said parts against said ball.

Signed at Philadelphia, Pa., the 9th day of September, 1908.

WALTER S. ADAMS.

Witnesses:

HARRY F. MCKILLIP.  
HENRY C. ESLING.