A. E. ZIMMER.

NON-CHATTERING BRAKE HANGER.

APPLICATION FILED MAR. 6, 1908.

910,160. Patented Jan. 19, 1909.

FIG. 2

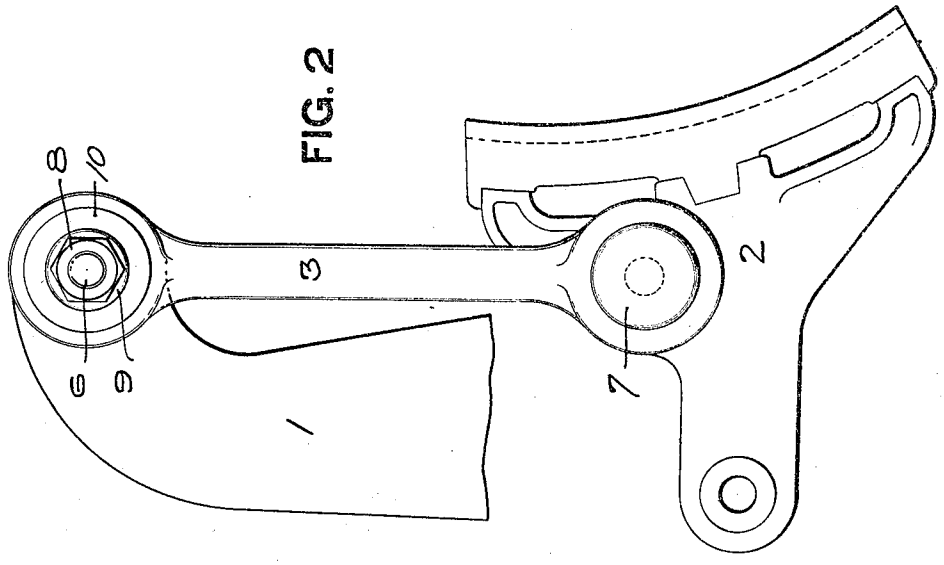
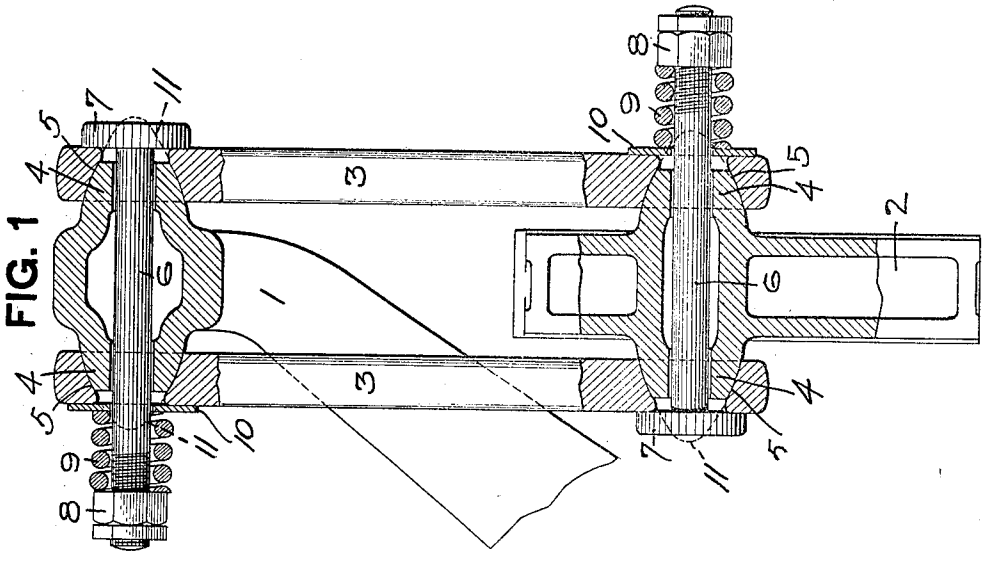


FIG. 1



WITNESSES.

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UNITED STATES PATENT OFFICE.

ALBERT E. ZIMMER, OF BUTLER, PENNSYLVANIA, ASSIGNOR TO STANDARD STEEL CAR COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

NON-CHATTERING BRAKE-HANGER.

No. 910,160. Specification of Letters Patent. Patented Jan. 19, 1909.

Application filed March 6, 1908. Serial No. 419,608.

To all whom it may concern:

Be it known that I, ALBERT E. ZIMMER, a resident of Butler, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Non-Chattering Brake-Hangers; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to brake hangers for car trucks.

The object of the invention is to provide a hanger so connected to the supporting bracket and the brake shoe or brake rigging as to prevent the chattering noise which is often produced when the brakes are applied.

A further object is to provide such a hanger with means for automatically taking up wear at the points where the hangers contact with the bracket and brake shoe.

A further object is to provide connections between the hangers and brackets and shoes which permit lateral movement of the brake shoes without unduly straining or wearing the contacting parts.

These several objects are attained by the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawings Figure 1 is a view partly in elevation and partly in transverse section showing the supporting bracket, the hangers and the brake shoe head; Fig. 2 is a view in side elevation showing the same parts.

The hanger supporting bracket is shown at 1, the brake shoe head at 2, and the hangers at 3. Two such hangers are shown for the purpose of balancing the brake shoe. The latter may be used with or without a brake beam. When a brake beam is employed, one hanger at each end of the beam, or at each brake shoe head suffices.

The bracket at its upper end is provided with oppositely disposed trunnions 4 projecting into openings or sockets 5 in the upper ends of the hangers. A hole extends transversely through the bracket and its trunnions 4, and extending through this hole and through the openings in the hangers is a bolt 6 provided at one end with a head 7 and at its opposite end with a nut 8, or its equivalent. Between the nut and one of the hangers is a spring 9 tending constantly to press the hangers against the trunnions on the bracket. A washer 10 provides a seat for the inner end of said spring.

The outer faces of the trunnions 4, and the inner faces of the sockets 5 are of special shape, being formed, in planes parallel to and lying in the axis of the trunnions, on parabolic curves, indicated at 11. The spring 9 holds these parabolic faces constantly in contact so that the hangers cannot chatter when the brakes are applied, due to the fact that there is no lost motion between the hangers and bracket. The parabolic curves, however, permit the hangers to swing sidewise without binding or creating undue wear on the contacting faces, such lateral movement being necessary to permit the brake shoe to fit against the tread of the wheel in all positions of the latter, it being well known that wheels and axles have some movement transversely of the track or truck frame.

Obviously the arrangement shown in the drawings might be reversed. For instance, the trunnions 4 might be formed on the hangers and the sockets 5 in the bracket, and also the spring 9 might be placed on the other end of the bolt 6 that is, between the head 7 and one of the hangers. The connections above described are also provided between the brake shoe and hangers, as shown, the brake shoe having trunnions 4 similar to the trunnions on the bracket and the hangers having at their lower ends sockets 5 similar to the sockets in their upper ends.

The construction described provides a brake hanger which is absolutely non-chattering, due to the fact that the parabolic surfaces are always in contact, one in which the wear between said surfaces is automatically taken up by the spring 9, and one which permits lateral movement of the hangers and brake shoes without excessive friction or wear. The parabolic surfaces have largely the same effect as a ball and socket connection in providing for transverse movement as well as the usual swinging movement, but have the advantage of being more tapering so that they prevent chattering, which would not be effected by the flatter curve of a ball and socket connection.

What I claim is:

1. In a brake hanger, the combination of a hanger, and a coöperating member to which said hanger is connected, said hanger and member being provided, the one with a socket

and the other with a trunnion fitting into said socket, said socket and trunnion having their contacting faces, in planes parallel to and lying in the axis of the trunnion, formed on parabolic curves.

2. In a brake hanger, the combination of a hanger and a coöperating member to which said hanger is connected, said hanger and member being provided, the one with a socket and the other with a trunnion fitting into said socket, said socket and trunnion having their contacting faces, in planes parallel to and lying in the axis of the trunnion, formed on parabolic curves, and means exerting a constant pressure holding said surfaces in contact.

3. In a brake hanger, the combination of a hanger, a member to which said hanger is connected, said hanger and member being provided the one with a socket and the other with a trunnion fitting in said socket, said socket and trunnion having their contacting surfaces, in planes parallel to and lying in the axis of the trunnion, formed on parabolic curves, a bolt extending axially through said trunnion and the hanger, and a spring acting to exert pressure holding the surfaces of said trunnion and socket in contact.

4. In a brake hanger, the combination of a pair of hangers, and a member between said hangers and connected thereto, said member and hangers being provided with oppositely disposed sockets and oppositely disposed trunnions seating in said sockets, said trunnions and sockets having their contacting surfaces, in planes parallel to and lying in the axis of the trunnions, formed on parabolic curves.

5. In a brake hanger, the combination of a pair of hangers, a member between said hangers and to which they are connected, said hangers and members being provided, the one with sockets and the other with trunnions fitting in said sockets, said trunnions and sockets having their contacting surfaces, in planes parallel to and lying in the axis of the trunnions, formed on parabolic curves, a bolt extending axially through the sockets and trunnions, and a spring interposed between a nut on the bolt and one of said hangers and exerting pressure holding the surfaces of the trunnions and sockets in contact.

In testimony whereof, I the said ALBERT E. ZIMMER, have hereunto set my hand.

ALBERT E. ZIMMER.

Witnesses:
ROBERT C. TOTTEN,
J. R. KELLER.