Sept. 27, 1927. 1,643,837

A. CHRISTIANSON ET AL

BRAKE STRUCTURE

Filed Sept. 2, 1926

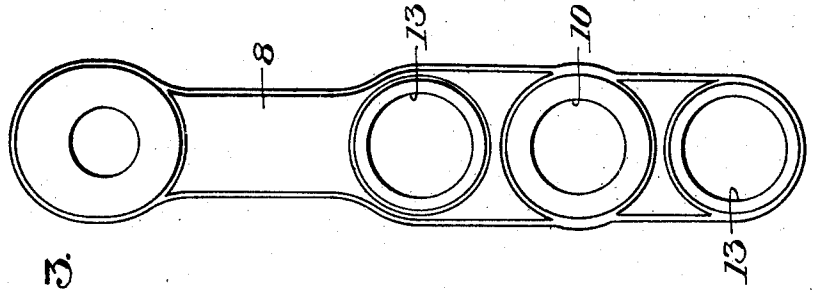


Fig. 3.

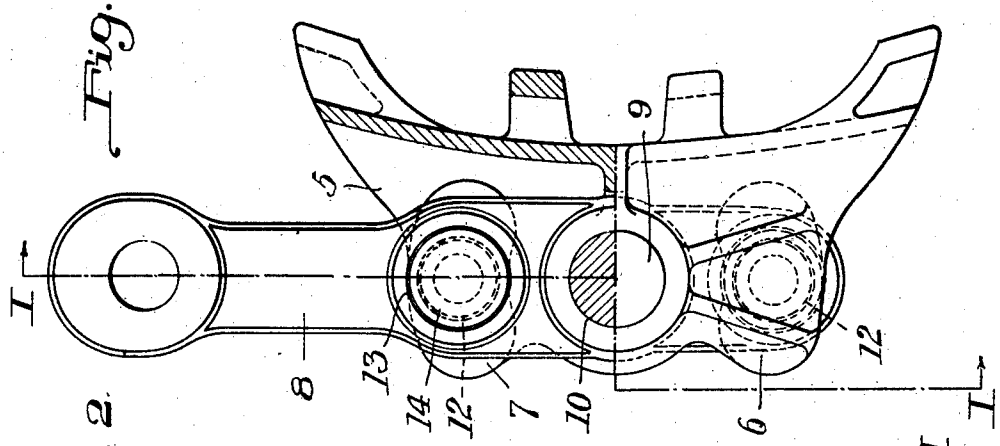


Fig. 2.

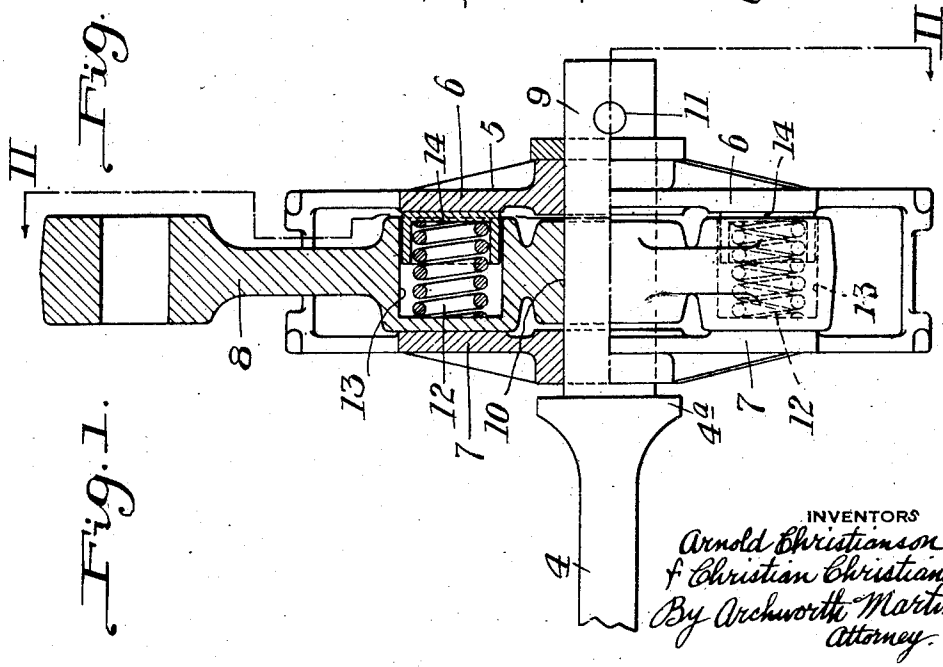


Fig. 1.

INVENTORS
Arnold Christianson
& Christian Christianson
By Archworth Martin,
Attorney.

Patented Sept. 27, 1927. 1,643,837

UNITED STATES PATENT OFFICE.

ARNOLD CHRISTIANSON AND CHRISTIAN CHRISTIANSON, OF HAMMOND, INDIANA.

BRAKE STRUCTURE.

Application filed September 2, 1926. Serial No. 133,146.

Our invention relates to brake structures and particularly to structures especially applicable to the brakes of railway cars.

One object of our invention is to provide means for maintaining brake heads under tension with respect to their supporting hangers, to enable them to automatically adjust themselves to the wearing surfaces of the car wheels and to prevent rattling in their supports.

Another object of our invention is to provide a structure wherein a brake head will have axial movement on its beam or other supporting bar and will be yieldably held against rotative movement relative to the brake hangers.

Another object of our invention is to simplify and improve generally the structure and operation of brake heads and other supports.

One form which our invention may take is shown in the accompanying drawing wherein Figure 1 is a view, partially in section and partially in elevation, of brake structure embodying our invention and taken on the line I—I of Fig. 2; Fig. 2 is a view taken on the line II—II of Fig. 1, and Fig. 3 is a side elevational view of the hanger shown in Figs. 1 and 2.

For the purpose of simplicity in description, we have shown only one end of a brake beam 4 upon which a brake head 5 is mounted in accordance with our invention. It will be understood that the opposite end of the brake beam will be provided with a brake head mounted in the same manner as brake head 5.

The brake head is provided with two rearwardly extending wing portions 6 and 7 between which the lower end of a hanger 8 is disposed, and the upper end of the hanger 8 is pivotally supported upon a car structure (not shown) in any well known manner and the brake beam is moved toward and from the car wheels (not shown) by suitable brake levers.

The rounded end 9 of the beam 4 extends through a perforation 10 in the hanger 8 and through alined perforations in the wing portions 6 and 7 of the brake head. The hanger and the brake head may thus have rotative movement with respect to the beam 4. An opening 11 is provided in the end of the beam 4 for a retaining pin which will hold the brake head and the hanger in assembled position with respect to the brake beam. Sufficient space is provided between the opening 11 and the shoulder portion 4^a of the brake beam 4 to permit floating movement of the brake head axially of the beam.

A brake shoe (not shown) may be fastened to the front of the brake head 5 by suitable retaining lugs, and the brake head has rotative movement with respect to the hanger 8, as well as upon the beam 4, so that the wearing face of the shoe will have engagement throughout its length with the tread of the car wheel. Movement of the brake head with respect to the hanger is frictionally resisted by a pair of compression springs 12 which are disposed in pockets 13 formed in the hanger 8. Cups 14 are placed over the outer ends of the springs 12 and serve as wearing plates. The outer ends of the cups 14 seat against the wing portion 6, and, as the springs are under compression, rotative movement of the brake head 5 independently of the hanger 8 is frictionally resisted.

It will thus be seen that the brake heads will be automatically adjusted about their axes to cause the wearing face of the brake shoes to have proper contact with the treads of the car wheels, independently of the brake hangers and of the brake beams, and that the brake heads will have proper axial movement independently of the beam so that the shoes can properly engage the tread of the wheel in a direction axially thereof.

We claim as our invention:

1. The combination with a brake beam and a hanger therefor, of a brake head having pivotal connection with said beam and said hanger, and means for yieldably holding said head against pivotal movement relative to the hanger, the said head being so supported on the beam as to have floating movement axially thereof.

2. The combination with a brake beam and a hanger therefor, of a brake head pivotally mounted upon the brake beam, and means for effecting frictional engagement between said head and the hanger for resisting movement of the head about its pivot, the said head having lost motion connection with the beam in a direction longitudinally of the beam.

3. The combination with a brake beam, of a brake head, a connection between said head and said beam permitting rotative and axial movements of the head relative to the beam, and means for frictionally holding

the brake head against rotative movement relative to the brake beam.

4. The combination with a brake beam, of a hanger pivotally connected to said beam and having an elongated recess disposed axially thereof, the recess being open at one end and its axially-extending walls adapted to support a helical compression spring, and a brake head connected to said beam and having wing portions between which said recessed portion of the hanger is disposed, whereby a helical spring placed within the said recess will frictionally hold said head against rotative movement relative to the hanger.

5. The combination with a brake beam, of a hanger pivotally connected thereto and having a recess disposed axially thereof, the recess being open at one end for the reception of a helical compression spring and its axially-extending walls supporting the spring against displacement, and a brake head connected to said beam having a wing portion disposed opposite to the open end of said recess, whereby a helical spring placed within the said recess will frictionally hold said head against rotative movement relative to the hanger.

6. Brake structure, comprising a brake head having rearwardly extending wing portions, a hanger having its lower portion disposed between said wing portions and provided with an axially extending recess, means for pivotally connecting said head to the hanger, a yieldable member disposed within said recess, a cup-like member extending into the open end of said recess and partially enclosing the yieldable member, the outer end of said cup being held against one of the wing portions by said yieldable member.

7. The combination with a supporting member and a brake head member, of a pivotal connection between said head and the supporting member, at a point intermediate the ends of the head, a wing portion on each of said members, overlapping the wing portion of the other member, one of the wing portions having an axially-extending recess that is open at one end for the reception of a yieldable member, and a cup-like member extending into the recess, to partially enclose the outer end of the yieldable member, the bottom of the cup abutting against the adjacent wing member.

In testimony whereof we the said ARNOLD CHRISTIANSON and CHRISTIAN CHRISTIANSON have hereunto set our hands.

ARNOLD CHRISTIANSON.
CHRISTIAN CHRISTIANSON.