May 13, 1958 W. R. POLANIN 2,834,439

ROTOR BRAKE MOUNTING

Filed May 20, 1954

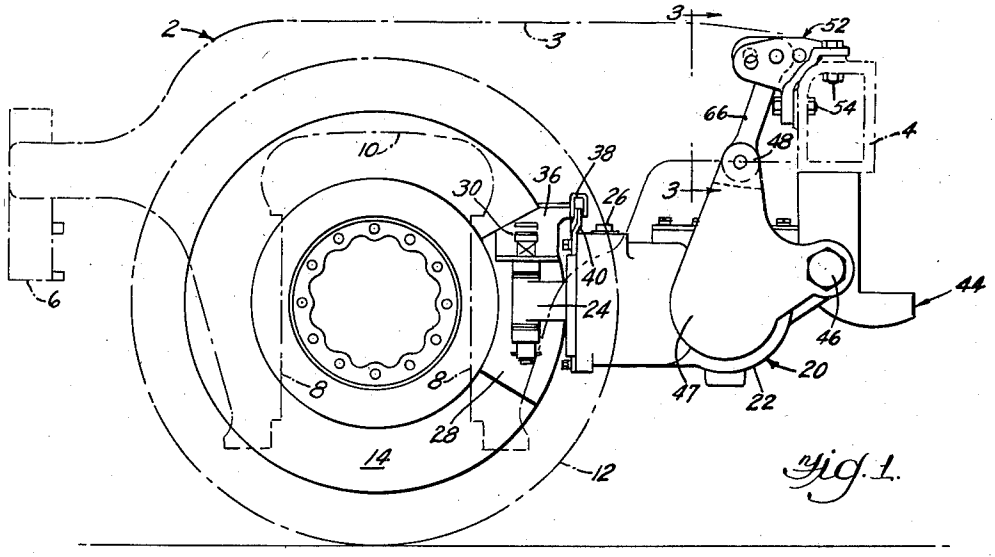


Fig. 1.

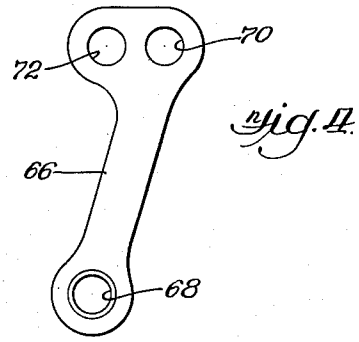


Fig. 4.

Fig. 2.

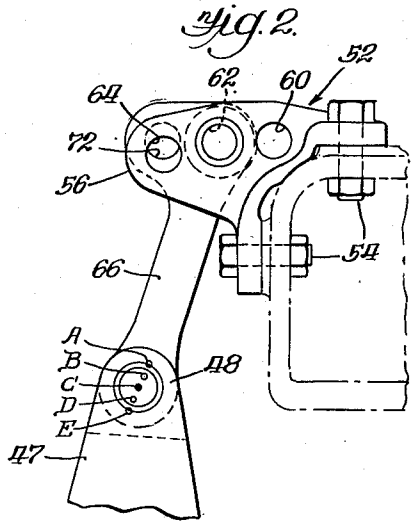
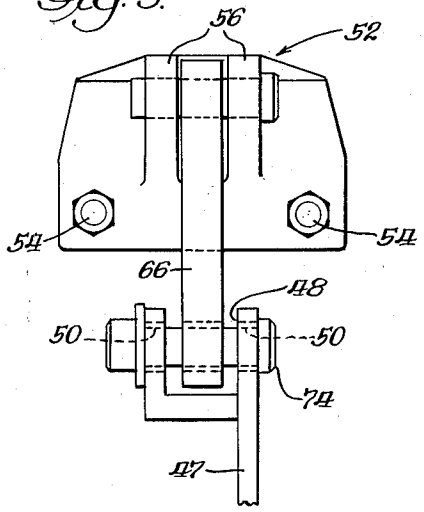


Fig. 3.



Inventor:
Walter R. Polanin
By. Olin O. C. Garner Atty.

United States Patent Office 2,834,439 Patented May 13, 1958

2,834,439

ROTOR BRAKE MOUNTING

Walter R. Polanin, Chicago, Ill., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey

Application May 20, 1954, Serial No. 431,075

2 Claims. (Cl. 188—206)

The invention relates to railway car braking mechanism and more particularly to a novel mounting and adjusting means for that type of braking mechanism known in the art as a rotor brake.

The invention comprehends an off wheel brake package arrangement more commonly referred as a rotor brake and more particularly a novel link to accommodate vertical adjustment of the brake package, said link being simple and inexpensive to manufacture, easily installed and reliable in use. Through the use of this novel adjustment link, full face engagement may be obtained between the friction surface rotatable with the wheel and axle assembly and the brake shoes carried by the associated brake arrangement.

Accordingly, it is the primary object of the invention to provide a rotor brake adjustment link that is simple and inexpensive to manufacture and reliable in use and that is strong and will accommodate the severe shock of railway operation and still afford a sufficient vertical adjustment to meet normal railway requirements.

These and other novel features of the invention will become apparent in the course of the following description and from an examination of the drawings, wherein:

Figure 1 is a fragmentary side elevational view of a railway car truck embodying the invention,

Figure 2 is an enlarged fragmentary side elevational view illustrating in detail certain features of the invention,

Figure 3 is a fragmentary sectional view taken approximately along line 3—3 of Figure 1, and

Figure 4 is a detailed view illustrating in side elevation the novel adjustment link here employed.

Referring now to the drawings wherein an embodiment of the present invention is illustrated and is shown as applied to a conventional railway car truck having a frame 2 with side rails 3 (only one of which is shown), said side rails being interconnected intermediate their ends by transverse members 4 and at their ends by end rails 6. Adjacent the ends of the side rails, the frame is provided with depending pedestal jaws 8, 8 defining journal openings 10 which receive journal boxes (not shown) adapted to engage the related ends of wheel and axle assembly 12. A friction disk 14 may be secured to each wheel by any suitable means such as studs and nuts (not shown) thereby providing for common rotational movement of the disk with the wheel and axle. The disks 14 present friction faces on opposite sides thereof as is well understood by those skilled in the art.

A brake package, indicated generally at 20, comprises a housing 22, said housing having a pair of brake levers 24 (only one of which is shown) pivotally mounted thereon as at 26 and projecting outwardly along opposite sides of the friction disk 14. Brake heads 28 (only one of which is shown) are pivotally mounted on the outer ends of the brake levers 24, said brake heads being provided with shoes for frictional engagement with the related friction surfaces on opposite sides of the disk 14.

A brake cylinder (not shown) is conventionally

mounted within the housing 22, and as is well known to those skilled in the art, offers an actuating power source for the brake levers 24. A guide plate 36 is secured in abutting engagement against the outer side of each brake head 28 by means of bolt 30 and is formed with a channel shaped portion 38 to slidably receive a flange 40 projecting upwardly from the housing 22. Construction and operation of the guide plates 36 and the related flange 40 is not per se part of the herein disclosed invention, hence will not be considered in detail.

The transom 4 may be provided with a bracket mounting 44 which is rigidly secured thereto, as by welding, and which bracket may be in substantial longitudinal alignment with its respective friction disk 14. Pivotally secured to the bracket 44, as by a pin 46, may be a wing 47. Wing 47 may be rigidly attached to one side of the housing 22 in any appropriate manner and interconnects housing 22 and bracket 44 in order to provide for the possibility of pivotal movement of the bracket unit with respect to the frame.

The wing 47 also comprises an upstanding bifurcated portion 48 extending upwardly from the housing to a point whereat it presents a bifurcated portion 48 (Figure 3). The bifurcated portion 48 of the wing 47 presents aligned bush pivot holes 50, 50.

Referring to Figure 2, it will be seen that the transom member 4 has an upper bracket, indicated generally at 52, mounted thereon in any suitable manner, for example, as by bolts 54. The bracket 52 comprises the upwardly and forwardly projecting wings 56, 56. The wings 56 present horizontally aligned pin holes 60, 62 and 64. As best seen in Figure 2, the holes 60 have their centers located slightly vertically above the holes 62, and the holes 62, in turn, have their centers spaced vertically above the holes 64.

Figure 4 illustrates in detail a torque link 66 employed in the invention. Directing attention to that figure, it will be seen that the torque link comprises a lower extremity having a more or less centrally located bushed pin hole 68 and at its upper extremity comprises an enlarged segment having a pair of pin holes 70 and 72 formed therein. The pin hole 70 is spaced vertically above the pin hole 72 when considering vertical distance as being the longitudinal axis of the torque link 66.

Referring again to Figures 2 and 3, it will be seen that the torque link 66 has its lower end disposed intermediate the bifurcated portion 48 of the wing 47, the lower end of the torque link being secured to said bifurcated portion by means of the pivotal pin 74 which is received within the holes 50 of the bifurcated portion and the holes 68 of the torque link. At its upper extremity either of the holes 70 or 72 may be connected to one of the holes 60, 62 or 64 by means of an appropriate pivot pin. In this connection it will be noted that the hole 70 may be pinned to the holes 60, 62 or 64, each alternative connection providing a new adjustment of the brake package 20. Considering hole 72 of the torque link 66 it will be seen that from the arrangement of the wings 56 on the bracket 52, hole 72 may only be pinned to holes 62 or 64 of the bracket. Again each of these two pinned arrangements affords a new vertical position for the connected brake package 20.

Thus the entire arrangement offers five convenient steps or vertical adjustments in the position of the brake package. To illustrate, if the hole 70 is pinned to the holes 60 of the wings 56 the center of the connection between the holes 68 and the holes 50 on the brake package is located at position A. Similarly if the hole 70 is pinned to the holes 62, the center of the hole 68 is located at position C and if the hole 70 is pinned to the holes 64, the center of hole 68 is located at position E. In the alternative, if the hole 72 is pinned to hole 62 the center

of the pivot hole 68 is located at position B and if the hole 72 is pinned to the holes 64, the center of the hole 68 is located at position D. It has been discovered that these five vertical positions afforded by this arrangement are sufficient to accommodate normal railway operation and to provide for any vertical positioning normally incident to such railway operation.

Thus it will be seen that the invention provides a novel inexpensively manufactured torque link which will satisfy the normal requirements for railway operation and still be simple and easy to operate while being of such strength and rigidity as to withstand the severe stress and impacts normally associated with railway operation.

I claim:

1. In a brake arrangement for a railway car truck having a truck frame and a supporting wheel and axle assembly including a brake surface which is approximately radial to the rotational axis of said assembly; the combination of: a brake support pivoted to the frame for pivotal movement relative thereto or a substantially horizontal axis, brake means carried by said support for braking cooperation with said surface, a bracket on said frame comprising a plurality of openings arranged in a series extending toward said surface, a torque link having a pivotal connection to the support on another substantially horizontal axis, said link having at least two holes arranged one closer than the other to said surface, the openings of said series having their axes at different heights and being formed and arranged to register with one or the other of said holes to adjust the height of said other axis to one of a plurality of points along a path extending upwardly and away from said surface, and a readily removable retainer extending through one of said openings and one of said holes registered therewith.

2. In a brake arrangement for a railway car truck having a truck frame and a supporting wheel and axle assembly including a brake surface disposed approximately radially about the axle of said assembly; the combination of: a brake unit pivotally connected to the frame on a substantially horizontal axis and carried between the axle and the frame, said unit being selectively movable about said pivotal connection, friction means carried by the unit and engageable with said surface, a bracket vertically disposed above said unit and being rigidly secured to the frame, said bracket having a plurality of openings extending away from the frame and towards the axle, a vertical torque link pivotally connected along a substantially horizontal axis at the lower end thereof to the upper portion of the unit, the link having at least two openings at the upper end thereof extending away from the frame and towards the axle, said last-mentioned openings being formed to register with the first-mentioned openings whereby selective registry of the openings in the torque link with the openings of the bracket affords selective vertical positioning of the axis at the lower end of the torque link, and a pin for maintaining registry between the openings of the link and bracket.

References Cited in the file of this patent

UNITED STATES PATENTS

2,159,366	Baselt	May 23, 1939
2,343,342	Tack	Mar. 7, 1944
2,377,190	Tack	May 29, 1945
2,423,055	Tarbox	June 24, 1947
2,655,226	Tack et al.	Oct. 13, 1953