

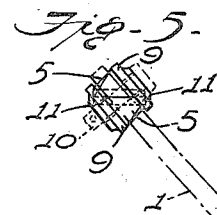
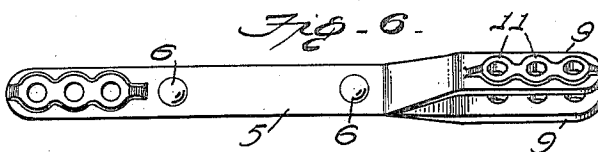
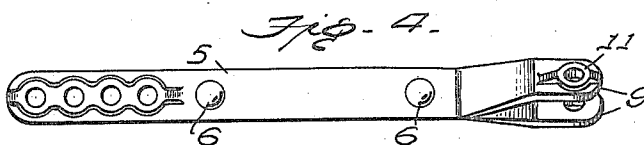
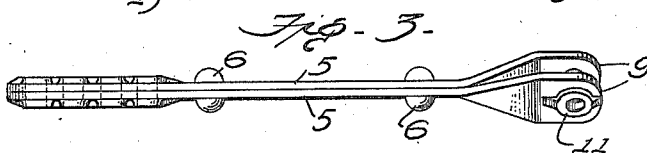
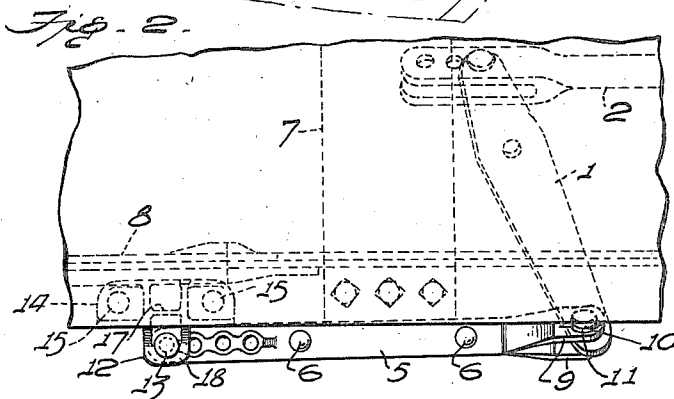
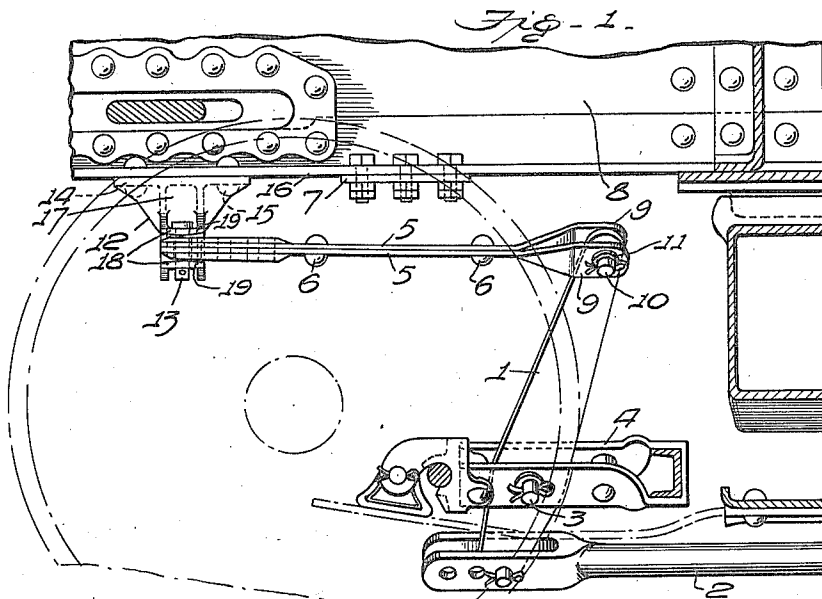
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BRAKE RIGGING FOR RAILWAY CARS

Original Filed Oct. 31, 1931



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BRAKE RIGGING FOR RAILWAY CARS

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6 Claims. (Cl. 188—206)

My invention relates to railway cars and more particularly to improvements in the brake rigging thereof.

A principal object of the invention is to provide simple and rugged means for connecting the upper end of the dead lever of the brake rigging to the car underframe in such a manner that the lever may be free to move in a plurality of intersecting planes with respect to the underframe to compensate for relative movement between the latter and the car truck.

A primary feature of the invention consists in providing means for movably connecting the upper end of the dead lever to a bracket carried by the car underframe so as to permit the lever to move in a plurality of intersecting planes, said means involving a rigid plate-like member integrally formed with angularly disposed portions which are respectively pivotally connected to the dead lever and the bracket.

Another feature of the invention consists in providing a rigid member for movably connecting the upper end of the dead lever to a bracket carried by the underframe of the car, said rigid member being twisted intermediate its ends to provide angularly disposed end portions one of which is pivotally connected directly to the bracket and the other of which is pivotally connected to the upper end of the dead lever.

Another feature of the invention consists in forming the rigid plate-like member employed for connecting the upper end of the dead lever to the underframe of the car so that its major portion is substantially horizontal to provide increased clearance between the rigid member and appurtenances such as draft gear supporting members which may be carried by the underframe.

A still further feature of the invention consists in providing rigid means for movably connecting the upper end of the dead lever to a bracket carried by the car underframe, the rigid means including a plurality of substantially coextensive plate-like members, the plate-like members being twisted adjacent one end of said means and spread apart to provide jaws to receive the upper end of the dead lever.

Other and more specific features of the invention residing in advantageous forms, combinations and relations of parts will hereinafter appear and be pointed out in the claims.

In the drawing illustrating a preferred embodiment of the invention:

Figure 1 is a fragmentary vertical sectional

view of a railway car showing my invention applied thereto.

Figure 2 is a plan view of a portion of the construction illustrated in Figure 1.

Figure 3 is an enlarged side elevational view of the member employed for connecting the upper end of the dead lever to the car underframe.

Figure 4 is a plan view of the member illustrated in Figure 3.

Figure 5 is an end view of the connecting member as viewed from the right hand side of Figure 3 and showing in dotted lines the upper end of the dead lever and the cooperating pivot pin.

Figure 6 is a plan view of a modified form of the connecting member.

As is well known the conventional brake rigging of railway cars consists of a fluid pressure cylinder rigidly mounted on the underframe of the car and a system of connected rods and levers for transmitting force from the cylinder to brake beams which are provided with shoes adapted to engage the wheels of the car trucks. The brake beams are pivotally connected to and actuated by brake levers which are usually inclined at an angle of approximately forty degrees to the vertical. Each of the trucks of the car is provided with two brake beams and consequently two brake levers, one of these brake levers, namely the one to which the brake applying force is first transmitted from the brake cylinder is commonly called the live lever, while the other lever, namely, the one anchored to some part of the car is commonly termed the dead lever. As the invention relates only to means for connecting or anchoring the dead lever to the car, only a portion of the brake rigging and associated parts of the car underframe have been illustrated.

Referring more particularly to the drawing: 1 indicates the dead lever of the brake rigging, and 2, a push rod which connects the lower end of the dead lever with the live lever (not shown). As is customary, the dead lever is pivotally connected by a pin 3 to a brake beam 4.

The upper end of the dead lever is connected to the underframe of the car by rigid means formed of two substantially coextensive plate-like members 5. These members are rigidly connected and although they may be thus connected by any means, I have found that two suitably spaced rivets 6 may be advantageously employed for this purpose. For their major portions the plate-like members 5 are substantially horizontal so that a maximum clearance may be obtained

between them and any appurtenances such as a draft gear supporting member 7 which may be carried by the center sill 8 of the car underframe.

5 Adjacent one end of the rigid means the plate members 5 are twisted so that their end portions are angularly offset. On one side of the twist the plate members are spaced apart to afford jaws 9 which are disposed in a plane substantially parallel with the dead lever to receive the upper end of the latter. The jaws 9 and the interposed portion of the dead lever are formed with apertures for receiving a connecting pivot pin 10. If desired, the jaws may be reinforced by bosses 11 which project from the outer faces thereof and surround the aperture for receiving the pivot pin 10. As may be perceived the axis of the pivot pin is substantially normal to the dead lever to permit the latter to move in the direction of its length with respect to the plate-like connecting members 5.

The opposite end of the rigid means is pivotally connected by a substantially vertical pin 13 to a bracket 12 rigid with the underframe. The bracket may advantageously be formed with a top flange or plate portion 14 which may be secured by rivets 15 to the underside of the bottom flange 16 of the center sill. Extending downwardly from the top flange is a substantially vertical web or plate portion 17 which is integrally formed adjacent its lower end with laterally projecting vertically spaced jaws 18 between which the adjacent ends of the plate-like members 5 are interposed. The jaws as well as the plate-like members are apertured for receiving the substantially vertical pivot pin 13. Instead of forming the rigid means with only one aperture for receiving the pin 13, it is preferably formed with a plurality of such apertures, any one of which is adapted to receive the pin so that the rigid means may be pivotally connected to the bracket in a number of different positions of adjustment.

To permit the connecting members 5 to angle vertically with respect to the bracket 12 the inner faces of the jaws 18 are preferably beveled or inclined as indicated at 19, and the pivot pin 13 is of somewhat less diameter than the apertures in the connecting members through which the pin is adapted to selectively extend. As the dead lever may angle vertically with respect to the bracket and as the axes of the pivot pins for connecting the members 5 to the dead lever and bracket are angularly disposed, it will be perceived that the dead lever is free to move with respect to the underframe in substantially all directions necessary to compensate for movement between the car truck and the underframe. Instead of forming the jaw portions of the connecting members 5 with only one pair of apertures for receiving the pivot pin 10 they may, as shown in Figure 6 be formed with a plurality of pairs of apertures so that the dead lever and members 5 may be connected in different positions of adjustment. Of course, under these conditions it will be unnecessary to provide the other ends of the members 5 with as many apertures for receiving the pivot pin 13 as are shown in the principal figures of the drawing. Each of the apertured portions of the members 5 may be reinforced with outwardly projecting bosses similar to those designated by the reference numeral 11.

From the foregoing it will be appreciated that simple and rugged means has been provided for movably connecting the upper end of the dead

lever to the underframe of the car so that the dead lever may move relatively to the underframe to compensate for relative movement between the latter and the car truck.

I claim:

1. Mechanism for connecting the upper end of a dead lever of a railway car brake rigging to a bracket rigid with the car underframe, said mechanism being adapted to permit the dead lever to move in a plurality of intersecting planes and involving a rigid member of plate-like form twisted intermediate its ends to provide angularly disposed end portions, and pivot pins for respectively connecting said end portions directly to the bracket and the upper end of the dead lever, the axes of said pins being angularly disposed.

2. A device for connecting the upper end of a dead lever of a railway car brake rigging to a bracket rigid with the car underframe, said device being adapted to permit the dead lever to move in a plurality of intersecting planes and comprising a rigid member of plate-like form twisted intermediate its ends to provide angularly disposed end portions, one of said end portions being substantially horizontal and being adapted to be directly pivotally connected to the bracket, the other of said end portions being disposed in a plane substantially parallel with the dead lever and being adapted to be directly pivotally connected to the upper end of the latter.

3. Mechanism for connecting the upper end of a dead lever of a railway car brake rigging to a bracket rigid with the car underframe, said mechanism being adapted to permit the dead lever to move in a plurality of intersecting planes and involving a rigid member of plate-like form, the major portion of said member being substantially horizontal and being twisted adjacent one of its ends to provide a portion disposed in a plane substantially parallel with the dead lever, and pivot pins respectively connecting said rigid member directly to the bracket and to the upper end of the dead lever.

4. A device for connecting the upper end of a dead lever of a railway car brake rigging to a bracket rigid with the car underframe, said device being adapted to permit the dead lever to move in a plurality of intersecting planes and comprising a plurality of substantially coextensive rigidly connected plate-like members, said plate-like members being adapted to be pivotally connected to the bracket and to the dead lever, the portions of the plate-like members connected to the dead lever being spaced apart to provide jaws for receiving the upper end of the latter.

5. Mechanism for connecting the upper end of a dead lever of a railway car brake rigging to a bracket rigid with the car underframe, said mechanism being adapted to permit the dead lever to move in a plurality of intersecting planes and involving a plurality of substantially coextensive rigidly connected plate-like members, the major portion of said plate-like members being substantially horizontal and being adapted to be pivotally connected at one end to said bracket, said plate-like members being twisted adjacent their other ends and being spaced apart to provide jaws for receiving the upper end of the dead lever, and a pin pivotally connecting the dead lever to the jaws.

6. Mechanism for connecting the upper end of a dead lever of a railway car brake rigging to a bracket having vertically spaced jaws rigid with the car underframe, said mechanism being

adapted to permit the dead lever to move in a plurality of intersecting planes and involving a rigid member of plate-like form twisted intermediate its ends to provide angularly disposed end portions, one of said end portions and the
5 major portion of said member being substantially horizontal, said horizontal end portion being adapted to be interposed between the jaws of the bracket and each of said end portions being provided with an aperture, and pivot pins extending
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through said apertures adapted to respectively connect said end portions directly to the dead lever and to the bracket, the thickness of said horizontal end portion being substantially less than the distance between said jaws and the diameter of the aperture in said end portion being greater than the diameter of the pin extending therethrough so that the rigid member may angle vertically with respect to the bracket.

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