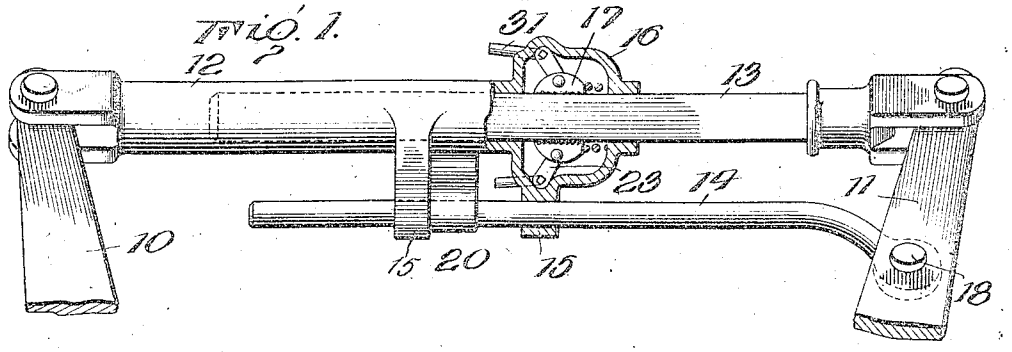
W. H. SAUVAGE.

SLACK ADJUSTER.

APPLICATION FILED JAN. 25, 1916.

1,227,941. Patented May 29, 1917.

FIG. 1.



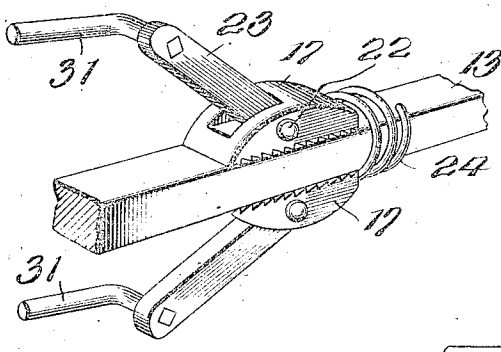
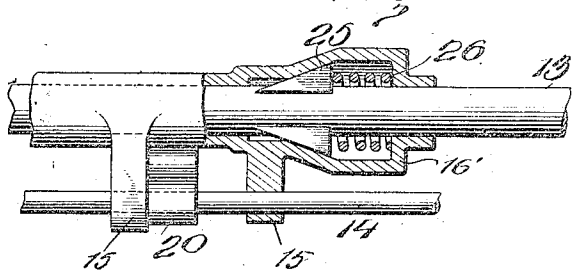


FIG. 2.

FIG. 3.



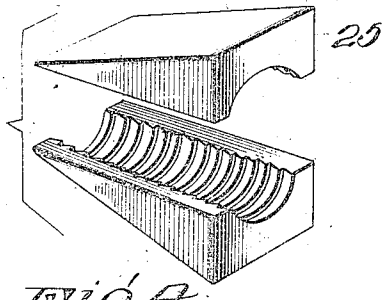


FIG. 4.

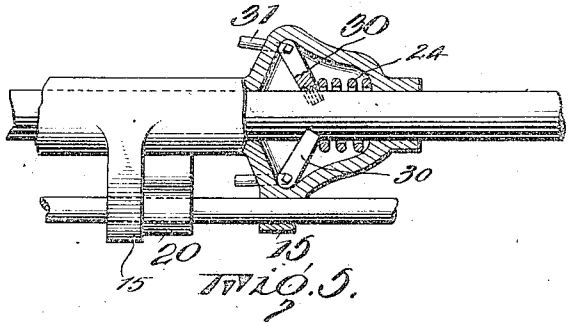


FIG. 5.

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SLACK-ADJUSTER.

1,227,941. Specification of Letters Patent. Patented May 29, 1917.

Application filed January 25, 1916. Serial No. 74,177.

To all whom it may concern:

Be it known that I, WILLIAM H. SAUVAGE, a citizen of the United States, and resident of Flushing, in the county of Queens and State of New York, have invented certain new and useful Improvements in Slack-Adjusters, of which the following is a specification.

This invention relates to slack adjusters for the brake rigging of railway cars and the like, and in its more intense aspect to various types of holding means associated more particularly with the push bar for taking up and holding the slack due to wear of the parts of the rigging.

While the invention will hereinafter be described more particularly with regard to its relation and application to a railway truck, it is, of course, to be understood that it may be transferred bodily and used in other relations such, for example, as between the live and dead levers of the foundation brake rigging beneath the car.

One of the objects of the present invention is to provide an efficient and reliable holding device for slack adjusters which will be simple in construction and practical in its operation. Another object is to provide a mechanism of the above general character adapted permanently to hold the excess slack of the brake rigging due to wear of the parts and to insure a predetermined piston travel at all times. A further object is to provide a mechanism of the above general character having few parts which will be cheap to manufacture and install. A further object is to provide improved holding devices which may be easily and quickly released when desired to permit return of the parts to their original positions.

Other objects will be in part obvious from the annexed drawings, and in part indicated in connection therewith by the following analysis of this invention.

This invention accordingly consists in the features of construction, in combination of parts in the unique relations of the members and in the relative proportioning and disposition thereof; all as more completely outlined herein.

To enable others skilled in the art so fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, drawings depicting a preferred form have been annexed as a part of this disclosure, and in such drawings, like characters of reference denote corresponding parts throughout all the views, of which:—

Figure 1 is a detail plan view of such parts of a slack adjuster mechanism as are necessary to understand the present invention, certain parts being shown broken away or in section;

Fig. 2 is a detail perspective view of certain parts of the mechanism shown in Fig. 1;

Fig. 3 is a fragmentary sectional view similar to Fig. 1 showing one modification;

Fig. 4 is a detail perspective view of the holding dogs of the mechanism shown in Fig. 3;

Fig. 5 is a view similar to Fig. 3 showing another modification.

Referring now to the drawings in detail and more particularly to Fig. 1, 10 denotes a dead lever which may be applied to the brake rigging of a truck or to the foundation brake rigging adjacent the power cylinder beneath the car, and 11 denotes a coöperating live lever located at the opposite side of the truck. The corresponding ends of these levers are connected by a push bar which in the present instance comprises two telescopic members, consisting of a hollow casting 12 pivotally connected with the dead lever 10 and an interfitting push rod 13 which may be square in cross section similarly connected to the corresponding end of the live lever 11. These parts in the form shown are adapted to telescope one within another and be gradually pulled apart as the wear of the brake rigging takes place.

An automatic adjusting rod 14 passes through openings or holes in lugs 15, preferably cast integral with the member 12 closely adjacent a housing 16 carrying one or more spring holding dogs 17. This housing is preferably open on its underside as shown in Fig. 1 to admit the insertion of the dogs and associated parts. One end of this adjusting rod 14 is pivotally connected at 18 to the live lever 11 near the point where the brake beams would be attached if the mechanism is applied to the truck brake rigging.

A device of this character operates substantially as follows: As the power is applied, the power end of the live lever 11

moves toward the right, causing a reaction through the push rod and an opposite movement to the lower end of the dead lever 10 in the usual manner. If excess travel takes place above the predetermined lost motion, occurring between the stop lugs 15 and a coacting intervening friction clamp 20 gripping the adjusting rod 14, a relative slipping will take place between the clamp 20 and the adjusting rod 14 an amount exactly equal to the wear of the parts.

On release of the power the brakes tend to return to normal position since the friction between the clamp 20 which may be in the form of a split ring and the adjusting rod is sufficient to hold against slipping, the point 18 will act as a fulcrum, and when the live lever returns to full normal position it will cause a relative extension of the parts 12 and 13. The rod 13 is free to move outwardly with respect to the dogs 17 coöperating between the effective ends of the parts 12 and 13 but these dogs will positively prevent an inward movement of the part 13 due to their peculiar toggle action thereon, as will now be explained.

Thus having described broadly one application of the present invention, attention is called to Fig. 2 showing the dogs 17 gripping the upper and lower surfaces of a square push rod. These dogs 17 are pivotally supported at 22 from the lower ends of rectangular links 23, the opposite ends of which coact with recesses in the housing 16. A spiral spring 24 normally holds these dogs in operative position to bear with sufficient friction upon the surfaces of the push rod 13 to bite thereinto when application of the brakes takes place. It will be noted that the surfaces of the holding dogs 17 engaging the part 13 are roughened or provided with teeth, thereby to coact more efficiently with the push rod.

In Fig. 3, there is shown a slight modification in which the general structure and operation are substantially the same as that already described. The housing 16′, is provided with a pair of wedge-shaped dogs 25 having concaved under surfaces adapted to closely fit around push rod 13, which dogs may also be serrated as shown in Fig. 4. It is, of course, to be understood that should this push rod be made square the surfaces of the wedge holding dogs would be modified accordingly. A spring 26 is so located to perform substantially the same function as spring 24, Fig. 2, that is, to hold the dogs in frictional engagement with the rod, 13. These dogs are preferably provided with lateral pins or the like extending through slots (not shown) in the housing whereby they may be actuated by any desired mechanism to release their hold on rod 13 as when returning the parts to normal position.

In Fig. 5, there is shown another modification somewhat similar to Fig. 1, in which the holding dogs 17 are dispensed with and the links 30 corresponding to links 23 in Fig. 1 are provided with serrated lower edges and shaped to conform to the periphery of the holding rod. The spring 24 operates in the same manner to perform the same function.

It is, of course, to be understood that in all of these modifications means are provided for releasing the dogs to permit an inward movement of the push rod 13 as when restoring the parts to normal position and applying new brake shoes. Any form of mechanism may be employed as for example, a projecting lever 31 coacting at its inner end with links 23 or 30, Figs. 1 and 5 respectively to move the dogs against the action of the spring 24 and release their hold upon the rod 13. These levers which only require pressing together are preferably operated from the side of the truck in order to avoid the necessity of a person passing beneath the car.

It will thus be seen that the persent invention provides simple, practical, reliable and efficient holding means for connecting the effective ends of the push rod or tie rod between the live and dead levers or equivalent parts of the brake rigging. The mechanisms comprise few parts which are cheap to manufacture and install, and in short, the invention is believed to accomplish, among others, all of the objects and advantages set forth.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

I claim:

1. In slack adjuster mechanism for brake rigging, in combination, a holding device adapted to be interposed between the effective ends of a two-part push rod comprising members adapted to engage substantially opposite sides of one part of the push rod and have a gripping action therewith when the brakes are applied.

2. In slack adjuster mechanism for brake rigging, in combination, supporting members, an intervening telescopic connection therebetween, and holding means carried by one and engaging the other adapted to prevent relative movement on application of the brakes, said means comprising a housing on the outer telescopic member, dogs therein engaging the inner telescopic mem-

ber, said dogs adapted to have a gripping action between the walls of the housing and the inner telescopic member as the brakes are applied.

3. In slack adjuster mechanism for brake rigging, in combination, live and dead levers, a plural part intervening telescopic connection, and holding means carried by one part and engaging another adapted to prevent relative movement on application of the brakes, said connection comprising an enlarged housing cast on the outer one of the telescopic members, and holding dogs within said housing adapted to engage the sides of the inner telescopic members.

4. In slack adjuster mechanism for brake rigging, in combination, live and dead levers, an intervening two-part telescopic connection, and holding means carried by one part of said connection and engaging the other adapted to prevent relative movement on application of the brakes, said connection comprising an enlarged housing on the outer one of the telescopic members, and holding dogs within said housing having roughened surfaces adapted to engage the inner telescopic member, and links connected with said holding dogs occupying an angular relation to each other adapted to have a toggle action upon the inner telescopic member as the brakes are applied.

5. In slack adjuster mechanism for brake rigging, in combination, live and dead levers, an intervening two-part telescopic connection, and holding means carried by one part and engaging the other adapted to prevent relative movement on application of the brakes, said means comprising an enlarged housing integral with the outer one of the telescopic members, holding members within said housing having roughened surfaces adapted to engage the opposite sides of the inner telescopic members, and means for holding said members in close engagement with the inner telescopic member.

6. In slack adjuster mechanism for brake rigging, in combination, a two-part telescopic push rod, and holding means carried by one part and engaging the other adapted to prevent relative movement on application of the brakes, said means comprising a housing on the outer one of said telescopic members, holding means within said housing having roughened surfaces adapted to engage the inner telescopic members, a spring for holding said holding means in close engagement with the inner telescopic member, and means without the housing adapted to release said holding means from their engagement with said inner member against the action of said spring.

Signed at New York in the county of New York and State of New York this 16th day of December A. D. 1915.

WILLIAM H. SAUVAGE.