(No Model.)

C. C. HIGHAM.

SLACK ADJUSTER FOR CAR BRAKES.

No. 398,257. Patented Feb. 19, 1889.

Fig: 1.

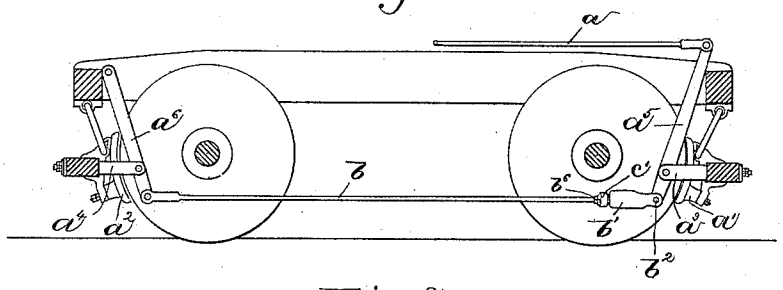


Fig: 2.

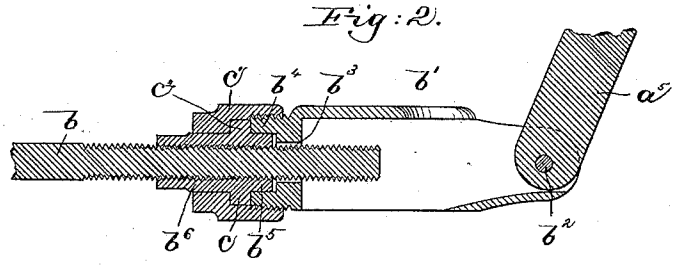


Fig: 3.

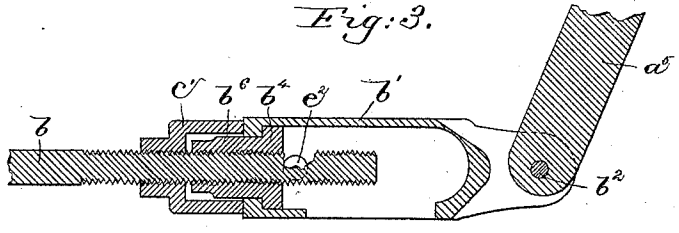
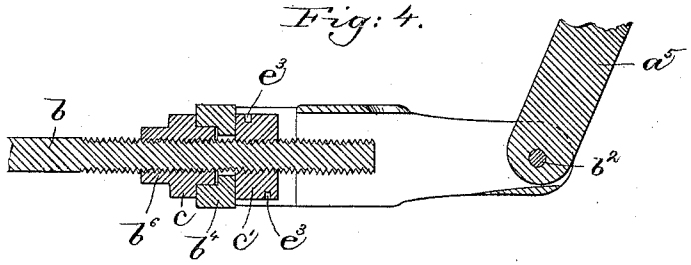


Fig: 4.



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UNITED STATES PATENT OFFICE.

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SLACK-ADJUSTER FOR CAR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 398,257, dated February 19, 1889.

Application filed May 7, 1888. Serial No. 273,123. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. HIGHAM, of Rome, county of Oneida, and State of New York, have invented an Improvement in Slack-Adjusters, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to slack-adjusters especially adapted, among other things, to be used on car-brakes, substantially as shown in my United States patent, No. 252,662, granted to me January 24, 1882, my present invention being an improvement upon the slack-adjuster shown and described in the said patent.

My invention therefore consists, essentially, in a slack-adjuster, a shell or case, and a rod having its end threaded and extended into said shell or case, combined with an adjusting-nut mounted on said rod and by which the said rod is moved with relation to the said shell or case, and with a locking-nut to secure said rod in adjusted position, substantially as will be described.

Other features of my invention will be pointed out in the claims at the end of this specification.

Figure 1 is a longitudinal section of a car-truck provided with a slack-adjuster embodying my invention; Fig. 2, a longitudinal section of the preferred form of slack-adjuster, the rod and lever being broken off; and Figs. 3 and 4 longitudinal sections of modified forms of slack-adjusters.

The link a, connected to the power for operating the brake-shoes a' a^2, the links a^3 a^4, and levers a^5 a^6 are all substantially as in the patent referred to. The link or rod b, jointed at one end to the lever a^6, has at its other end screw-threads which enter and co-operate with a shell or hollow case, b', pivoted at b^2 to the end of the lever a^5. The end of the shell or case b' farthest from its pivot b^2 is provided with an opening, b^3, to enable the rod b to be extended loosely into the shell or case, more or less, as may be desired, the threaded end of the rod not, however, engaging the shell or case directly. The shell or case b' is also provided with a flange or lip, as b^4, against which abuts a shoulder, c, of an adjusting-nut, b^6, screwed upon the screw-threaded end of rod b, the flange or lip b^4 in Figs. 1 and 2 being shown as threaded on its outer surface for the application to the shell or case of a locking-nut, c', which by its rotation upon or against a part of the flange or lip causes the shoulder c of the adjusting-nut to be drawn against the said flange or lip.

The outer end of the adjusting-nut b^6 will preferably be made hexagonal, or other than round shape, to facilitate turning the same on the rod, the rotation of the nut b^6 enabling the effective length of the rod b to be lengthened or shortened, as desired.

As shown in Fig. 2, the locking-nut c' is threaded internally for a portion of its length to engage the threads on the flange or lip b^4, the rear portion on the said locking-nut being made thicker, as herein shown, to present a face or shoulder, c^2, to bear against the shoulder c of the adjusting-nut b^6 and compel the collar c to be seated against the flange or lip b^4 to lock the adjusting-nut in adjusted position, the outer surface of the rear portion of the locking-nut c' being made hexagonal, or other than round shape, to facilitate turning the same as with a wrench.

To compensate for the wear of the brake-shoes, the rod b may be drawn or extended into the shell b' by unscrewing or loosening the locking-nut c' on the rod b and then rotating the adjusting-nut b^6 in the proper direction to cause the end of the rod to extend for the proper distance into the shell or case, and after the adjusting-nut has been turned sufficiently to bring the brake-shoes again into proper position the locking-nut c' will be again brought into firm engagement with the flange or lip b^4 and turned until the collar c of the adjusting-nut is firmly seated and held against the flange or lip b^4 of the shell or case.

I prefer the construction shown in Fig. 2; but good results may be obtained with the construction shown in Figs. 3 and 4.

As shown in Fig. 3, the adjusting-nut b^6 is extended from within out through the end of the shell and the locking-nut is screwed on the rod b. The shell or bar b' may have extended through its opposite walls set-screws e^2, only one of which is shown, by which to take up the end-thrust of the adjusting-nut.

Referring to Fig. 4, the locking-nut c' is

placed inside the shell or case and bears against the flange or lip b^1 as the said nut c' is rotated on the threaded rod.

The nut c' in Fig. 4 has sockets c^3 for the reception of a pin or other rod by which to turn the said locking-nut.

With the slack-adjuster shown in Fig. 3 the locking-nut is turned down on the rod sufficiently to uncover the adjusting-nut, which is turned to move the rod b into the shell, and when the adjustment has been made the locking-nut is again screwed into the position shown to cover the adjusting-nut.

With the slack-adjuster shown in Fig. 4 the adjusting-nut is rotated and the rod and the locking-nut moved forward into the shell, the locking-nut being moved away from the end of the shell, and thereafter the locking-nut is rotated back upon the rod into the position shown—in contact with the end of the shell.

The opening in the shell or case, through which the threaded rod is extended, is made of larger diameter than the threaded end of the rod, so that the threads on the rod will not become jammed by vibrations of the car-trucks, the said jar being taken up by the projecting end b^5 of the adjusting-nut.

The lip or flange b^4, as shown in Figs. 2 and 4, is recessed to form a socket to receive the projecting end b^5 of the adjusting-nut, the said projecting end receiving the strain due to vibrations, thus preventing the threaded portion of the rod from becoming jammed.

I claim—

1. In a slack-adjuster, a shell or case and a rod having its end threaded and extended into said shell or case, combined with an adjusting-nut mounted on said rod and by which the said rod is moved with relation to the said shell or case, and with a locking-nut to secure said rod in adjusted position, substantially as described.

2. In a slack-adjuster, a rod, b, having one end threaded, and a shell or case having a projecting flange or lip, b^4, and provided with an opening through which is extended the threaded end of the said rod, the said opening being of greater diameter than the threaded end of the said rod, combined with an adjusting-nut having a shoulder, and with a locking-nut, the shoulder of the adjusting-nut and a part of the said locking-nut bearing against the said flange or lip and by the rotation of the locking-nut seating the shoulder firmly against the said flange or lip, substantially as described.

3. In a slack-adjuster, a rod, b, having one end threaded, and a shell or case having a flange or lip, b^4, recessed to form a socket, and provided with an opening through which is extended the threaded end of the said rod, the said opening being of greater diameter than the threaded end of the said rod, combined with an adjusting-nut and with a locking-nut, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES C. HIGHAM.

Witnesses:
W. H. GILLETTE,
GEO. B. HEWLETT.