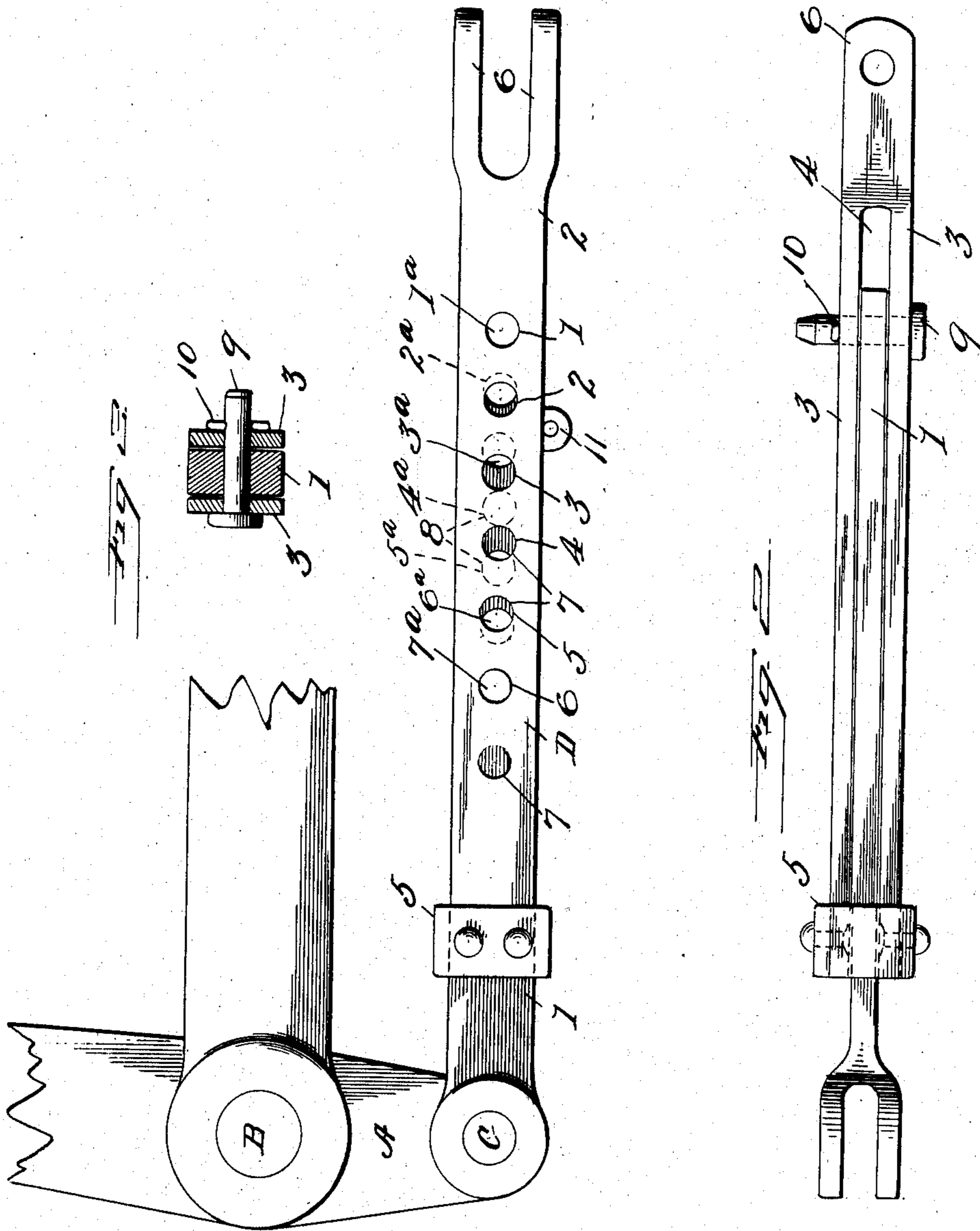


No. 864,329.

PATENTED AUG. 27, 1907.

W. C. NORTH.  
BRAKE ROD ADJUSTER.  
APPLICATION FILED JAN. 22, 1907.



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# UNITED STATES PATENT OFFICE.

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## BRAKE-ROD ADJUSTER.

No. 864,329.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed January 22, 1907. Serial No. 353,549.

*To all whom it may concern:*

Be it known that I, WILLIAM C. NORTH, residing at Durango, Durango, Mexico, have invented certain new and useful Improvements in Brake-Rod Adjusters, of which the following is a specification.

This invention relates to new and useful improvements in slack adjusters for brake rods and it particularly contemplates the provision of novel adjustable connections between the main lever and the brake shoe.

10 The primary object of the present invention is to provide mechanism in which the adjustment may be as minute as desired and may be effected in a very short time.

The attainment of the above objects has long been a desideratum in this art for the reason, that in the devices ordinarily employed at the present time, the mechanism is intricate and involves numerous screws and other interlocked elements which are not readily accessible and which become loose from vibration and are oftentimes affected by the natural elements, so that they get rusty. It is due to these causes that an entire hour is sometimes consumed in removing a single screw and it will be readily appreciated from the foregoing conditions now existent, that a great expenditure of labor and loss of time are the result.

In addition to the main object above named, the invention aims to provide a device, which shall be simple and inexpensive to manufacture, practical and efficient in use and strong and durable.

30 The detailed construction will appear in the course of the following description, in which reference is had to the accompanying drawings forming a part of my invention, like numerals designating like parts throughout the several views, wherein,

35 Figure 1 is a side elevation of a device constructed in accordance with my invention, and shown in its relation to the appurtenant operating elements. Fig. 2 is a top plan view thereof. Fig. 3 is a transverse section on the line 3—3 of Fig. 2.

40 The invention is especially adapted for use with locomotive driven brakes, in which the brake shoes in the course of time, decrease considerably in thickness owing to the wear and friction, and in which new shoes have to be applied, from time to time to the main brake rod embodying the adjustable connections.

45 In the practical embodiment of the invention, the letter A designates the main lever which is oscillated upon its stationary pivot B by an operating piston working in a fluid pressure cylinder in the well known manner. The lever A has pivoted connection at its lower end, as at C, with the brake rod D which constitutes the preferred embodiment of my invention. The rod D comprises adjustably connected sections 1 and 2, the section 1 being mounted upon the pivot C as above intimated and being movable with relation

to the section 2. To this end the section 2, for the major portion of its arms embodies parallel legs 3 between which a space 4 occurs, the end of said legs 3 having rigid connection with a collar 5 of rectangular proportions, through which the section 1 passes in its adjustably connected relation to the section 2. The opposite end of the section 2 is bifurcated, as at 6, for connection with the brake shoe. The section 2 is formed in its legs 3 with a series of alined apertures 7 arranged in horizontal series and designated severally 1, 2, 3, 4, 5, 6 and 7 reading from right to left. The section 1 is formed with a horizontal series of apertures distinguished from those above recited by the exponent *a*, and, reading from right to left, severally designated 1<sup>a</sup>, 2<sup>a</sup>, 3<sup>a</sup>, 4<sup>a</sup>, 5<sup>a</sup>, 6<sup>a</sup>, and 7<sup>a</sup>.

70 The arrangement of the apertures 7 and 8 permits of the relative adjustment of the sections 1 and 2 and in their relatively adjusted positions. Said sections are positively connected by a transverse locking pin 9 which is held in operative position by a cotter 10. The slack, due to the wear of the brake shoe, is taken up by lengthening the rod C and the spaces between the apertures 7, are constant with relation to one another, but are greater than the spaces between the apertures 8, which are likewise constant with relation to one another. It is to be understood that the apertures 7 and 8 are coextensive and for the sake of example we will assume that the apertures 7 are spaced from one another two inches and the apertures 8, one and two-thirds inches, the constant difference between the spaces being one-third of an inch.

85 As shown in the drawing the apertures 1 and 1<sup>a</sup> and 6 and 7<sup>a</sup> are in registry, six of the apertures 7 and the entire 7 of the apertures 8 being serially of the same lineal extent. When the brake shoe is first applied, the pin 9 is inserted through the apertures 1 and 1<sup>a</sup>. When the apertures 2 and 2<sup>a</sup> are in registry  $\frac{1}{3}$  of an inch of slack is taken up and so on in mathematical progression, until when the apertures 7 and 7<sup>a</sup> are in registry the rod D has been lengthened by two inches. It is very rarely desirable to take up more than two inches of slack, but when such adjustment is desired, the apertures 2 and 1<sup>a</sup> are brought into registry, giving added length to the rod D of two and one third inches, 3 and 2<sup>a</sup>, two and two thirds and 7 and 6<sup>a</sup>, four inches in the manner described. When the pin 9 is removed for the purposes of adjustment the sections 1 and 2 are held from accidental displacement by a locking pin 11 of approved form.

105 While the elements herein shown and described are well adapted to serve the purpose set forth, it is obvious that various minor changes may be made in the proportions, shape and arrangement of the several parts without departing from the spirit and scope of my invention as defined in the appended claims.

Having fully described my invention, I claim.

1. In a device of the character described, the combination with the brake lever and its pivot, of a two-part brake rod pivotally connected thereto, one of said parts being adapted to be adjustably carried within the other, a guide carried by the outer one of said parts, said parts being each provided with a series of apertures, and a locking element engaging a selected pair of said apertures in registering relation, substantially as described.
2. In a device of the character described, the combination with the brake lever and its pivot, of a two-part brake rod pivotally connected thereto, one of said parts having a bifurcated outer end adapted to be associated with a brake shoe and comprising parallel legs closed adjacent said bifurcation, a collar formed about the open end thereof, forming a guide for the other of said parts adapted to be relatively adjusted between the legs of said first named part, said parts being provided with a series of apertures and a locking element engaging a selected set of said apertures in registering relation, substantially as described.

3. In a device of the character described, the combination with the brake lever and its pivot, of a two-part brake rod pivotally connected thereto, one of said parts having a bifurcated outer end adapted to be associated with a brake shoe and comprising parallel legs closed adjacent said bifurcation, a collar formed about the open end thereof, forming a guide for the other of said parts adapted to be relatively adjusted between the legs of said first named part, said parts being provided with a lineal series of apertures, equidistant from the adjacent apertures in the same section, but having a constant difference of spacing from the apertures in the remaining section, and a locking element engaging a selected set of said apertures in registering relation, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM C. NORTH.

Witnesses:

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