W. E. NORRIS.

TOOL FOR ADJUSTING JOURNALS.

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1,311,836.

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Fig. 1.

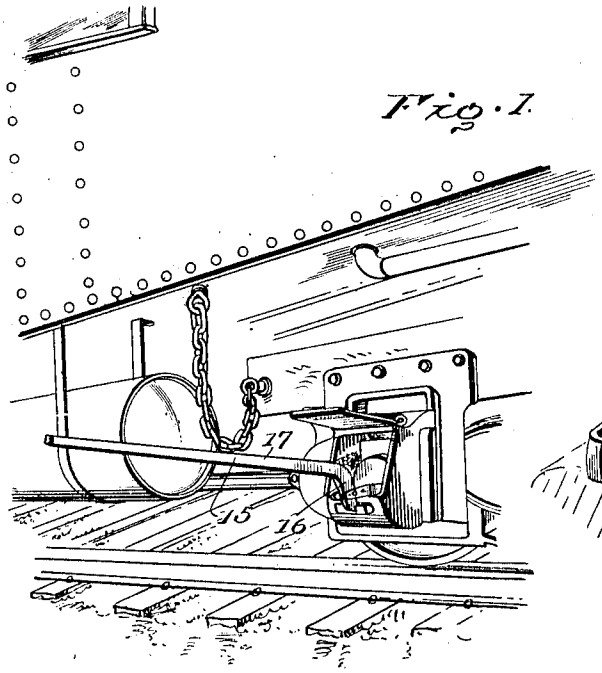


Fig. 3.

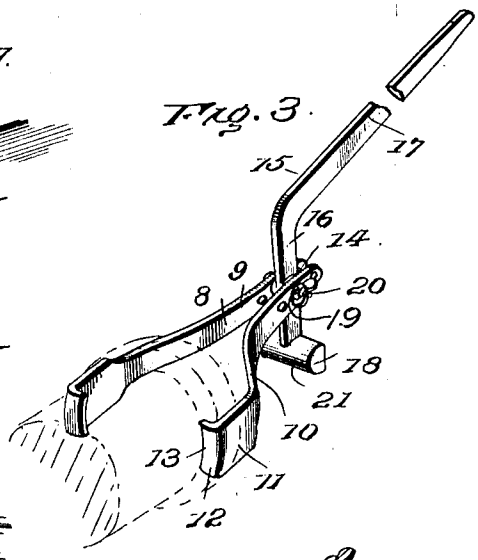
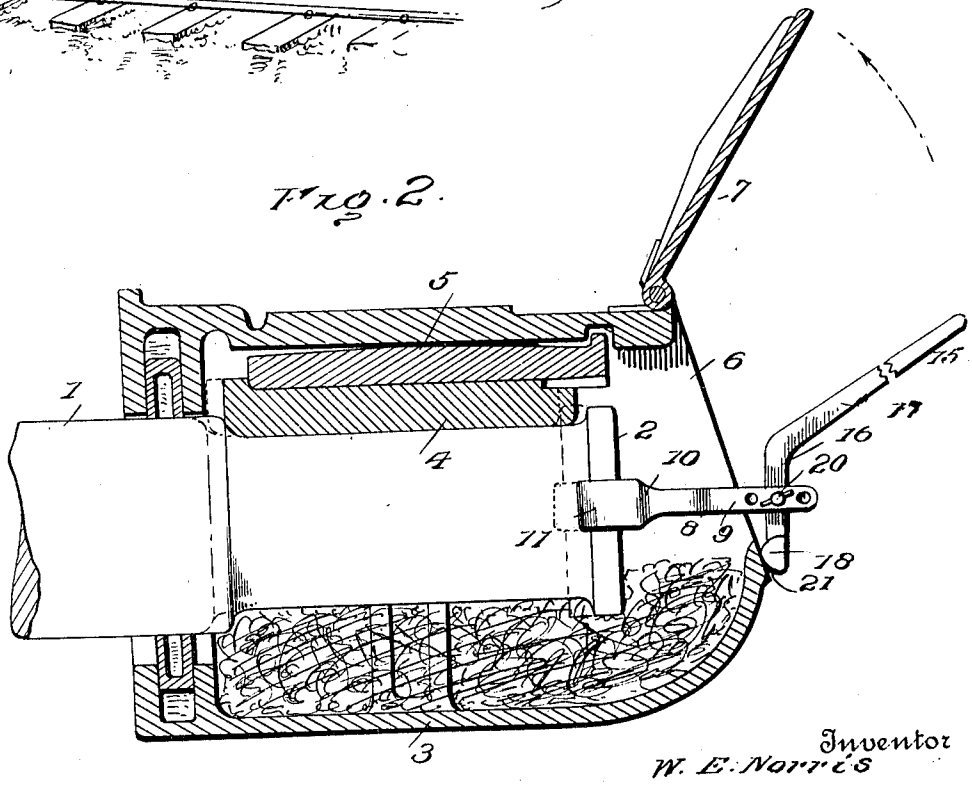


Fig. 2.



Inventor

W. E. Norris

By Lacey & Lacey, Attorneys

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM E. NORRIS, OF WASHINGTON, DISTRICT OF COLUMBIA.

TOOL FOR ADJUSTING JOURNALS.

1,311,836. Specification of Letters Patent. Patented July 29, 1919.

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To all whom it may concern:

Be it known that I, WILLIAM E. NORRIS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Tools for Adjusting Journals, of which the following is a specification.

This invention has as its object the provision of a tool designed for employment in relatively adjusting or positioning railway car journals and their bearing boxes in the removal and replacement of the brasses. It not infrequently happens that when occasion arises for renewing a journal box brass, the truck of the car to which such repair is to be made will be standing on a curved section of track, as for instance, on the siding and under these conditions, much trouble and annoyance has been caused heretofore for reasons which will now be explained. As the trucks of a car pass on to a curved section of a track or on to a siding, there is a side thrust which results in the ends of the journals being longitudinally displaced or moved to a slight extent in their respective boxes. While this movement is only for a short distance, the usual result is that the collar or flange at the extremity of the journal will bind against the outer end of the brass so firmly that even though the box be jacked up in the usual manner, it is impossible to remove the brass, or even if the brass has become so worn that it may be removed under these conditions, the new brass when placed in the box and over the journal end, will overlap the upper side of the said collar or flange to a greater or less distance and wedge in this position so that it cannot be further introduced and dropped into position over the end of the journal. It then becomes necessary to resort to the use of crowbars or other implements and to expend considerable time and labor in working the journal and its box into such relative position as to permit of the complete and proper introduction of the brass. The primary object of the present invention, therefore, is to provide a tool which may be conveniently applied and manipulated without the exertion of any considerable force or effort to effect a longitudinal shifting of the journal with relation to the box or a displacement of the box with relation to the journal end so that the collar or flange at the end of the journal will be located sufficiently near the open side of the box to permit of the ready removal of the worn or damaged brass and the introduction of the new brass. Thus by the provision of such a tool, the replacement of journal box brasses may be accomplished in much less time than heretofore required and with the expenditure of less labor.

A further object of the invention is to so construct the tool that although it is to have bearing engagement with the journal and with the journal box, its employment will not be liable to in any way injure these parts or in any way mar the surface of the journal end.

Another object of the invention is to provide a tool for the purpose stated which, even if manufactured in one size only, may be readily adapted for application to journals and journal boxes of different dimensions.

In the accompanying drawings—

Figure 1 is a perspective view illustrating the manner of using the tool embodying the present invention;

Fig. 2 is a side elevation of the tool applied to a journal and its box, the box being shown in longitudinal section;

Fig. 3 is a perspective view of the tool.

In the drawings, the numeral 1 indicates in general one end of a railway car journal which journal is provided at its extremity with the usual circumscribing collar or shoulder 2. The numeral 3 indicates in general a journal box of the conventional type, the numeral 4, the brass within the box, and the numeral 5, the usual wedge which is interposed between the brass and the under side of the top of the box. The open front of the box is indicated by the numeral 6 and is to be closed by the usual lid 7. As before stated, when a truck passes on to a siding or curved section of track, the journals will in practically every instance be so relatively displaced with relation to the journal boxes that the collar or shoulder 2 of the journal will bind against the outer end of the brass in the manner shown in dotted lines in Fig. 2 of the drawings so that if it becomes necessary to remove the brass and place a new one in position, the worn or damaged brass cannot be passed outwardly over the upper side of the collar or shoulder 2 nor can the new brass be fitted into place and dropped over the end of the journal even though the box be jacked up to the fullest possible extent. Also as hereto-

fore stated, under these conditions it has become necessary to resort to the use of crowbars or other implements and to labor for a considerable period of time before the journal and box can be relatively moved or displaced so as to be caused to resume their normal relative positions which are shown in full lines in the said Fig. 2. The tool embodying the present invention is designed for engagement with the collar or shoulder 2 of the journal and with the journal box and to be manipulated so as to draw the journal longitudinally from the dotted line position shown in Fig. 2 to the full line position shown in the said figure or to move the box inwardly to effect this change in the relative positions of the journal and box, and the said tool will now be specifically described.

The tool comprises two arms, each indicated in general by the numeral 8, the said arms being of counterpart form or construction. The arms 8 are of any suitable material and each includes a shank portion 9 which is bent to extend laterally as at 10 between its ends and which at its forward end is provided or formed with a head 11, preferably curved vertically to conform substantially to the curvature of the periphery of the collar or shoulder 2. Each head 11 is formed at its forward end with an inwardly projecting lip 12 which is designed to engage behind the said shoulder or collar 2 but which, however, is of a width less than the width of the inner or rear face of the said collar or shoulder so that the edge of the lip will not engage against or come in contact with any portion of the surface of the journal which contacts the brass. In order that the lips 12 may have maximum bearing engagement behind the collar or shoulder 2 without, however, being brought into actual engagement with the wear surface of the journal, it is preferable that the edge of each lip, indicated by the numeral 13, be arcuate so as to lie concentric to the surface of the journal when the heads 11 are disposed in engagement with the journal end. When the arms 8 occupy their proper relative positions, as shown in Fig. 3 of the drawings, the rear ends of the arms will extend substantially parallel to each other but the arms will diverge from their forward ends to such an extent that the opposing faces of the heads 11 will be spaced apart a distance substantially equal to the diameter of the ordinary railway car journal measured at its extremity or, in other words, at its collar or shoulder 2. For a purpose to be presently explained, the rear end portion of the shank 9 of each arm 8 is formed with a series of openings, indicated by the numeral 14 and which openings may be of any desired number and are correspondingly located so that when the arms are properly relatively positioned, corresponding openings will be in alinement with each other.

In addition to the arms 8, the device includes a lever member indicated in general by the numeral 15 and this member comprises a shank 16 from the upper end of which extends, at an angle of about forty-five degrees, a handle indicated by the numeral 17. A bearing head indicated in general by the numeral 18 is provided at the lower end of the shank 16 of the lever member and this bearing head 18 is designed, in the use of the tool, to be brought to bear against the front of the bearing box 3. It will be observed that the head 18 extends transversely of and at right angles to the lower end of the shank 16 so that when the shank is disposed in vertical position, the forward side of the head 18 will extend across the front of the journal box below the opening 6 therein. A pivot bolt 19 is fitted through the shank 16 of the lever member at a point approximately midway between the ends of the said shank and this bolt is passed also interchangeably through the openings 14, and a wing nut 20 is fitted on to the bolt and may be conveniently loosened to permit of removal of the bolt in adjusting it in any selected one of the openings 14. In order that the head 18 may better engage the front of the journal box and have slight rocking movement when the lever member is manipulated, it is preferable that the forwardly presented face of the said head be rounded in a vertical direction, as indicated by the numeral 21.

In the use of the tool, assuming that the journal occupies the dotted line position shown in Fig. 2 of the drawings, the heads 11 of the arms 8 are engaged at diametrically opposite sides of the extremity of the journal with the lips 12 seating behind the collar or shoulder 2 at diametrically opposite points. The lever member 15 is then swung downwardly or allowed to fall to such position by gravity until the forward face 21 of the head 18 bears against the front of the journal box below the opening 6 therein. Downward pressure is then exerted upon the lever member 17 with the result that the journal 1 is drawn longitudinally from the dotted line to the full line position, shown in Fig. 2, or it may be under some conditions, that the box will be moved inwardly with relation to the journal end until the boxes have assumed the relative positions shown in full lines. Prior to use of the tool, the journal box will be jacked up in the usual manner, and it will be found that this preparation having been made, very little force will be required to be exerted upon the lever member in order to adjust the journal or its box. Also, as is well-known, when the parts are in the position shown in Fig. 2 of the drawings, no difficulty will be experienced in removing the

brass, the journal box having been jacked up as before stated.

By providing the rear portions of the arms 8 with a plurality of openings 14, the position of the fulcrum or pivot 19 may be varied thereby providing for variation in the distance between the said fulcrum or pivot and the engaging side of the lip 12 and thus adapting the tool for application to various types of journal boxes in which the distance between the end of the journal and the front of the box may vary.

Having thus described my invention, what is claimed as new is:

1. In a tool for the purpose stated, arms provided with means for engagement with the collar of a journal end, and a lever member having a variable pivotal connection with the arms and provided with a portion to engage a wall of a journal box.

2. A tool for the purpose stated including arms, a head at the forward end of each arm, the heads having gripping lips projecting inwardly toward each other and having opposing arcuate edges, and a lever member fulcrumed between the arms at a point spaced from the lips and provided with means for bearing engagement against a wall of a journal box.

3. A tool for the purpose stated including arms provided at their forward ends with heads having their opposing faces concave to engage the periphery of the collar at a journal end, lips projecting inwardly toward each other over the heads to seat behind the said collar, and a lever member pivotally connected with the arms and having a bearing portion for engagement against the front of a journal box.

4. A tool for the purpose stated comprising a lever member provided at one end with a transversely extending head the forwardly presented face of which is rounded in a vertical direction whereby the head may have rocking engagement against a wall of a journal box, and spaced arms pivotally connected at their rear ends with the lever member adjacent the said head, the said arms at their forward ends being provided with inwardly presented lips for engagement with the collar of a journal end.

In testimony whereof I affix my signature.

WILLIAM E. NORRIS. [L. S.]

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."