Sept. 24, 1935. M. B. THURBER 2,015,356

BRAKE SHOE ADJUSTING TOOL

Filed June 20, 1934 2 Sheets-Sheet 1

Fig. 1.

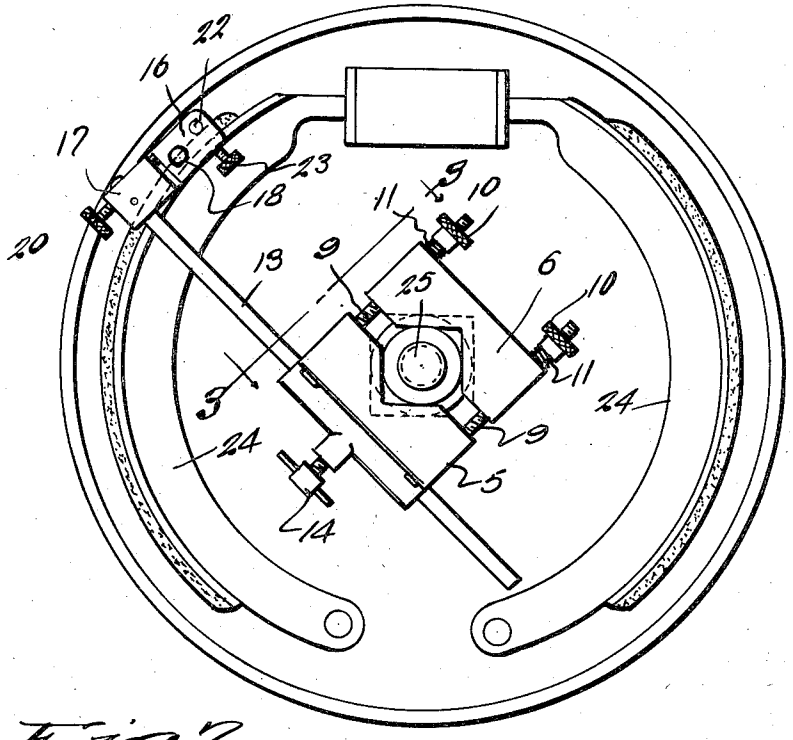


Fig. 7.

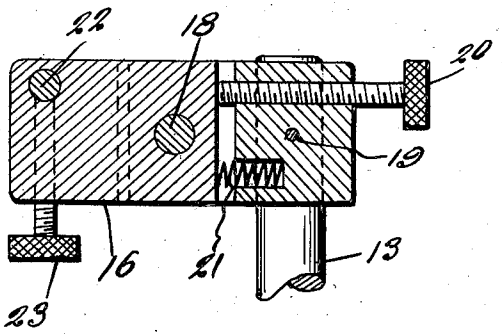
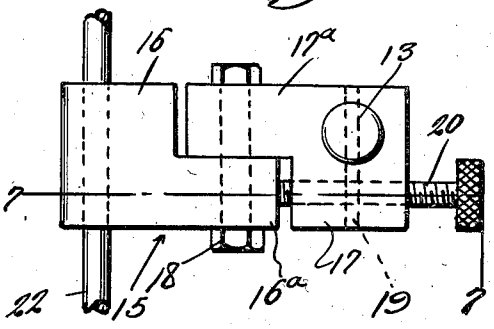


Fig. 6.



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Sept. 24, 1935. M. B. THURBER 2,015,356

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Filed June 20, 1934 2 Sheets-Sheet 2

Fig. 3.

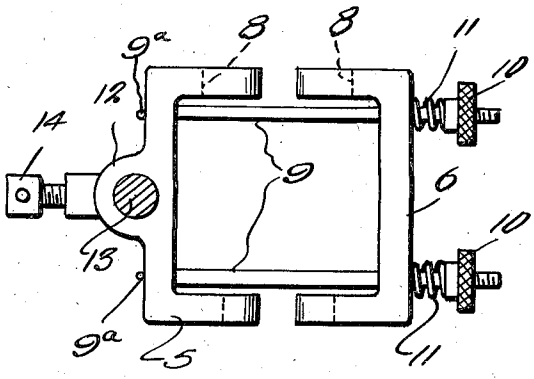


Fig. 4.

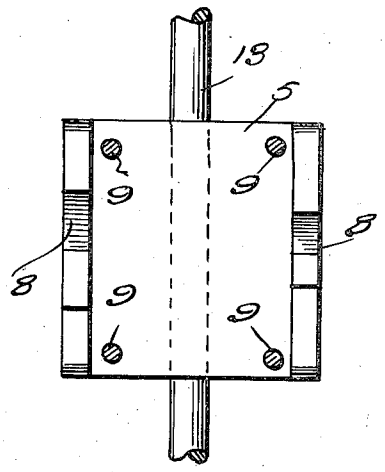


Fig. 2.

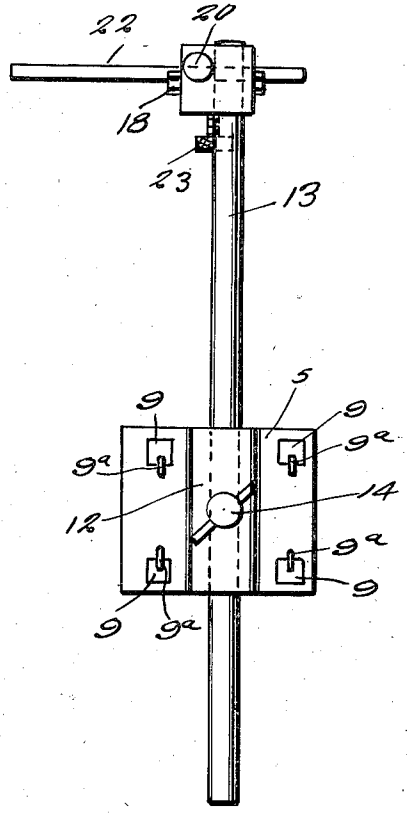
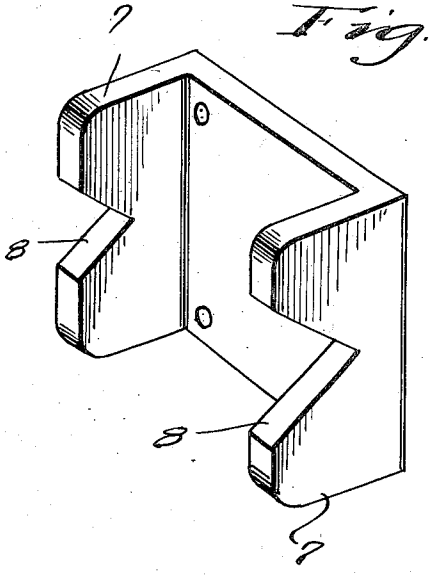


Fig. 5.



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BRAKE SHOE ADJUSTING TOOL

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Application June 20, 1934, Serial No. 731,528

4 Claims. (Cl. 33—180)

This invention relates to a tool for adjusting brake shoes and has as its object the provision of a tool which, when used, will save time in obtaining an accurate circular adjustment of worn or relined brake shoes.

A further object of the invention is to provide a tool of this character that can be sold at a nominal price, will enable the user to make circular measurements more accurately and which is applicable to all sizes and tapers of axle shafts and front wheel spindles without the use of special attachments.

A still further object of this invention is to provide a tool of this character that can be used on all types of brakes, mechanical, hydraulic or others to determine the concentric relation of brake shoes or bands relative to the brake drums and the amount of clearance between such shoes and the drums.

The invention, together with its objects and advantages, will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is an elevational view illustrating the application of the invention.

Figure 2 is an elevational view of the tool.

Figure 3 is a detail view taken substantially on the line 3—3 of Figure 1.

Figure 4 is an elevational view of one of the clamp blocks and associated parts.

Figure 5 is a perspective view of one of the clamp blocks.

Figure 6 is a plan view of the tool.

Figure 7 is a sectional view taken substantially on the line 7—7 of Figure 6.

Referring to the drawings by reference numerals it will be seen that the tool comprises a pair of cooperating clamp blocks 5 and 6, and each of the blocks, as clearly shown in Figure 5, is substantially U-shaped having ends 7 provided with substantially V-shaped notches 8 to engage the axle shaft or wheel spindle as the case may be and as suggested in Figure 1. The notches 8, as shown in Figure 5, are cut to different depths in order to compensate for the spindle paper.

For securing the blocks 5 and 6 in clamped relation to the axle shaft or wheel spindle as the case may be, there are provided tiebolts 9 that are accommodated in suitably provided openings in the blocks 5 and 6 at the corners of the blocks. At the head ends thereof the rods 9 are engaged with one end of wires 9a that are anchored in the outer face of one of the blocks, in the present instance, the block 5 while at their opposite ends thumb nuts 10 are threadedly engaged with the rods and disposed about the rods between the nuts 10 and the adjacent block 6 are coil springs 11.

One of the blocks, in the present instance the block 5, is provided with an integral sleeve 12 which slidably accommodates a reach rod 13. The rod 13 is secured at the desired adjustment through the medium of a thumb nut 14.

Provided on one end of the reach rod 13 is a head indicated generally by the reference number 15.

The head 15 consists of two complemental block-like sections 16 and 17 and at their joined ends the sections 16 and 17 are notched to provide lapping tongues 16a and 17a and these tongues are suitably apertured to accommodate a coupling bolt 18.

The block 17 is secured on the upper end of the rod 13 through the medium of a pin 19. An adjusting screw 20 is threaded through the block 17 and has its inner end in bearing engagement with the tongue 16a of the block 16. Said block 17 is also provided with a recess in which is arranged a spring 21 which has an outer end bearing against the tongue 16a of the block 16 all of which is clearly shown in Figure 7.

The block 16 is also provided with a transverse opening through which is slidable the gage rod 22 and this rod is secured at the desired adjustment through the medium of a suitable screw 23.

In Figure 1 is illustrated one manner in which the tool may be used for adjusting the brake shoes 24 of the vehicular wheel brake. As therein shown, the blocks 5 and 6 are clamped to the axle 25 in a manner hereinbefore described. To adjust the anchor point of the brake shoes, first draw out the adjustable ends of the shoes until they show a slight drag on the drum. Next take the wheel off and apply the tool to the axle shaft or the spindle, depending on whether the adjustment is to be made on a front or rear vehicle wheel brake. After the tool has been applied the thumb nuts 10 are tightened to secure the blocks 5 and 6 in position, when the tool is mounted on the axle shaft; but when the tool is mounted on the front wheel spindle, tighten the thumb nuts 10 only an amount sufficient to permit the tool to turn about the spindle as an axis. Next the rods 13 and 22 are adjusted so that the gage rod 22 just touches the brake shoe facing at the point thereon that drags on the drum. Having in this manner obtained the measurement of the drum, the brake shoe lining should be set at the anchor point six-thousandths of an inch from the gage rod 4 and ten-thousandths of an inch from the

gage rod 4 at the adjustable point. The wheel is then put on the axle or the spindle as the case may be and the operation completed.

When adjusting relined shoes after mounting the shoes on the axle or spindle, all adjustments should be made inwardly, after which the wheel is mounted and the procedure followed as above outlined for readjusting the anchor point. In all positions of the blocks 5 and 6 the reach rod is at right angles to the axle shaft or spindle, as the case may be, thus insuring speed and accuracy in adjusting vehicular wheel brakes.

An important feature of the present invention is the construction of the head 15. By having this head in the form of two pivotally connecting sections, the section 16 of which, carrying the rod 22, can be moved to the proper angular position by proper manipulation of the screw 20, a more minute adjustment can be had than would be obtainable were the head of one rigid piece. Thus with this device a more or less rough adjustment of the rod 13 and then by subsequently adjusting the angular position of the section 16 relative to the head section 17 a very minute adjustment may be made with facility.

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

1. An adjusting tool for brake shoes comprising a clamp for disposition on a wheel axle or spindle as the case may be, a reach rod slidably and adjustably mounted on the clamp, a head on one end of the reach rod, and a gage rod slidably and adjustably mounted on the head, and said head comprising a pair of complemental block members having lapping tongues, a pivot bolt extending through the tongues and connecting the blocks of the head, one of the blocks of the head being secured to the reach rod, and the other of the blocks of the head supporting the aforementioned gage rod.

2. An adjusting tool for brake shoes comprising a clamp for disposition on a wheel axle or spindle as the case may be, a reach rod slidably and adjustably mounted on the clamp, a head on one end of the reach rod, and a gage rod slidably and adjustably mounted on the head, and said head comprising a pair of complemental block members having lapping tongues, a pivot bolt extending through the tongues and connecting the blocks of the head, one of the blocks of the head being secured to the reach rod, and the other of the blocks of the head supporting the aforementioned gage rod, an adjusting screw threaded through the first named head block and having bearing engagement with the tongue of the second named head block, and the first named head block being also provided with a spring having an end bearing against the tongue of the second named head block.

3. An adjusting tool for brake shoes comprising a clamp for disposition on a wheel axle or spindle as the case may be, a reach rod slidably and adjustably mounted on the clamp, a head section on one end of the reach rod, a second head section pivoted to the first head section, a gage rod slidably and adjustably mounted on the second head section, and means on the first head section engaging the second head section for varying the angular position of the second head section relative to the first head section, and for holding said second head section at the desired angular adjustment.

4. An adjusting tool for brake shoes comprising a device for disposition on a wheel axle or spindle as the case may be, a reach rod adjustably mounted on said device, a head on one end of the reach rod including a fixed head section secured to the reach rod and a second head section pivoted to the fixed head section, a spring device disposed between the head sections normally urging the second head to rotate in one direction about its pivot, an adjusting screw threadedly engaged with the first head section and abutting the second head section for moving the latter against the action of said spring means to an angular position relative to the first head section, and a gage rod carried by the second head section.

MATT B. THURBER.