

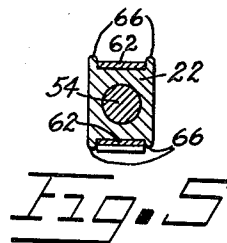
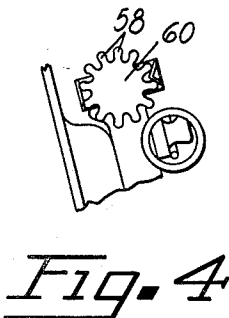
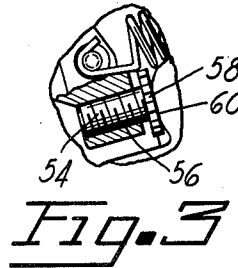
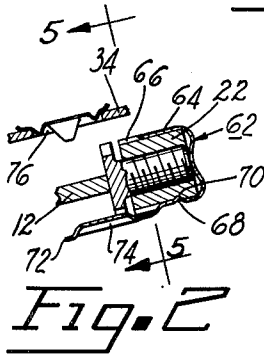
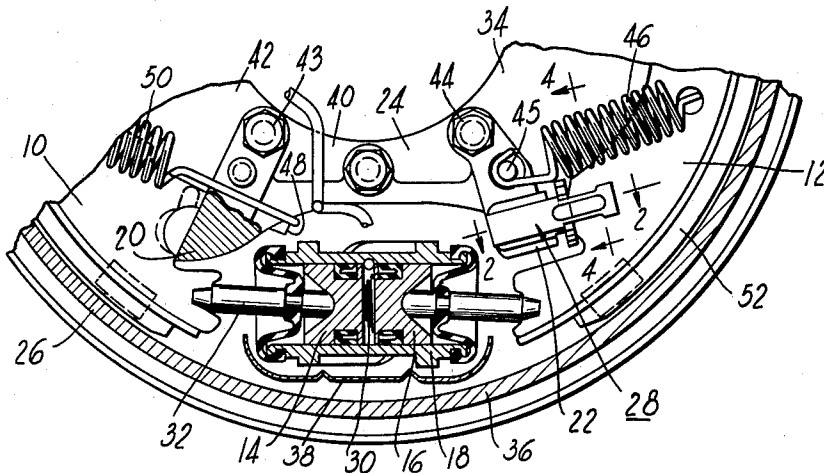
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2,792,084

BRAKE ADJUSTING DEVICE

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2,792,084

BRAKE ADJUSTING DEVICE

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3 Claims. (Cl. 188—196)

The present invention relates to an adjustor for a brake of the internal expanding shoe type, and particularly to an adjustor that is located between the end of the brake shoe and the anchor. An adjustor of this type may consist of a member having a threaded stem screwed into the anchor and a head which engages the end of the brake shoe, the head being provided with a serrated, or toothed, periphery to facilitate turning the adjustor. An embodiment of this invention is illustrated in House and Goepfrich application Serial No. 113,456, filed August 31, 1949.

The primary object of the present invention is to provide a simple and inexpensive retaining member which will cooperate with the adjustor to prevent rotation thereof except when an adjustment is being made, and to produce an audible click by means of which the mechanic can obtain the proper shoe-drum clearance.

Another object of the present invention is to provide a locking member adapted to be resiliently held in place on the anchor.

Further objects and objects ancillary thereto will become apparent as the description proceeds, reference being had therein to the accompanying drawings, in which:

Figure 1 is a sectional view of part of a brake assembly, illustrating an embodiment of the invention;

Figure 2 is a partial section taken substantially on section line 2—2 of Figure 1;

Figure 3 is a partial sectional elevation of the adjustor;

Figure 4 is an end view taken substantially on section line 4—4 of Figure 1; and

Figure 5 is a section taken substantially on section line 5—5 of Figure 2.

Referring to the drawings, the brake utilizing the present invention may include two "floating" brake shoes 10 and 12 which operatively engage, at one side of the brake, pistons 14 and 16 reciprocally received in hydraulic wheel cylinder 18 and the anchor projections 20 and 22 of the torque-taking member 24. In one direction of rotation of the brake drum 26, shoe 10 will anchor against anchor projection 20 while piston 16 applies shoe 12 against the drum, whereas, in the other direction of drum rotation, shoe 12 will anchor through the adjusting assembly 28 on anchor projection 22 while piston 14 exerts applying force on shoe 10. A coil spring 30 is compressed between the pistons 14 and 16 tending to urge them into engagement with their respective shoes. In the illustrated embodiment, a thrust link 32 operably connects each piston with the respective shoe.

Wheel cylinder 18 is mounted by any suitable means on a supporting plate 34 which is adapted to be secured to a non-rotating member, such as the axle housing of an automotive vehicle. Due to the proximity of this cylinder 18 to the flange 36 of drum 26, a shield 38 is mounted on supporting plate 34 between said flange 36 and said cylinder 18. This shield 38 reduces the likelihood of the brake fluid in cylinder 18 of volatilizing because of the heat generated by a brake application.

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Anchor member 24, preferably formed by forging to produce a tough member capable of absorbing a great amount of torque without deforming or breaking, is located radially between the wheel cylinder 18 and the center of the brake assembly. This member 24 may be formed with a substantially arcuate radially-inner flat portion 40 which lies against the center portion 42 of the backing plate 34. In order to avoid offset anchor loading, the axis of the cylinder 18 and the webs of the brake shoes 10 and 12 preferably lie in the plane of the inner portion 40 of anchor member 24.

This inner portion 40 has three mounting holes 43 for securing the anchor member 24 by means of bolts 44 to backing plate 34.

As obviously appears from the drawings, the projections 20 and 22 may be formed as integral parts of the anchor member 24 to straddle longitudinally the wheel cylinder 18. A boss 45 on anchor member 24 provides a convenient connection for a return spring 46 attached to shoe 12. Another boss 48, located between the projections 20 and 22, serves as a connection for return spring 50 fastened to shoe 10. The pressures of these return springs urge the shoes against the respective anchor projections.

The present invention is primarily concerned with the arrangement and operation of the mechanism whereby the released position of the shoes is adjusted to compensate for wear of the brake linings 52 which are secured to the rims of the shoes. In Figure 1 the adjusting mechanism is provided between piston 16 and shoe 12, it being understood that adjustment of shoe 10 is accomplished at the opposite end thereof, not shown in the figure.

Adjustment of the shoe 12 is controlled by an adjusting screw 54 threadedly received in an opening 56 in anchor projection 22. The head of this screw 54 has a serrated periphery 58, and a flat surface 60 which constitutes an anchoring and locating surface for the adjacent end of the respective shoe. The shoe is adjusted, in order to compensate for lining wear, by using a suitable tool, such as a screwdriver, to pry the serrated periphery 58, thereby rotating the adjusting screw to move the shoe closer to the drum.

A resilient locking member 62 is operably carried by the anchor projection 22 to retain the adjusting screw 54 in adjusted position. This locking member 62 is fabricated of spring steel, and is formed with a U-shaped portion 64 clamped over the back of projection 22 to lie between spaced retaining ridges 66 provided on the lateral sides of said projection.

One side of the U-shaped portion 64 is indented to provide a tooth 68 which is adapted to enter a companion depression 70 formed in the anchor projection 22 to positively position member 62. A resilient arm 72, formed as an extension of one side of the U-shaped portion 64, extends outwardly to engage the teeth 58 on the periphery of the adjusting screw head, the arm 72 having a rib portion 74 which provides a detent for the adjusting screw teeth 58. An opening 76 is provided in supporting plate 34 to permit access of the adjusting tool to the head of the adjusting screw.

In order to prevent rotation of the adjusting screw except when an adjustment is being made, and in order to produce an audible clicking sound by means of which the proper clearance can be judged, the rib portion 74 is adapted to yieldably enter the spaces between the teeth 58. As the adjusting screw is rotated, this rib portion will ride over successive teeth and produce an audible sound as it snaps into the successive spaces.

The "click" enables the mechanic to accurately adjust the position of the brake shoe because he can be in-

structed to turn the adjusting screw until the shoe is in full engagement with the drum, and then back off the adjusting screw until the detent has passed a given number of teeth.

Although only one embodiment of the invention has been illustrated and described, various changes in the form and relative arrangements of the parts may be made to suit requirements.

I claim:

1. In a brake assembly, a locking member comprising 10
a U-shaped portion having a tooth protruding from the inside of one of the arms thereof, a resilient extension formed on said arm having the tooth, and a longitudinal rib provided on said extension to serve as a detent.

2. In a brake assembly including shoe anchors and a 15
pair of brake shoes, a locking member formed of resilient material in substantially the shape of a J and with an inwardly projecting tooth provided adjacent the curved portion thereof and an adjustable stem having a serrated portion, said locking member adapted to yieldably engage 20
said serrated portion of said stem to hold the latter against accidental movement.

3. For use in combination with a member adapted to

position a brake shoe in retracted position, an adjustor carried by said member and having a head provided with circumferentially spaced depressions, and a locking member having a portion which clamps on two opposite sides 5
of said member in self-supporting relation and having another portion extending into yieldable engagement with said depressions.

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