March 8, 1927. 1,620,030

W. L. KRIEG

BRAKE SHOE

Filed July 13, 1926

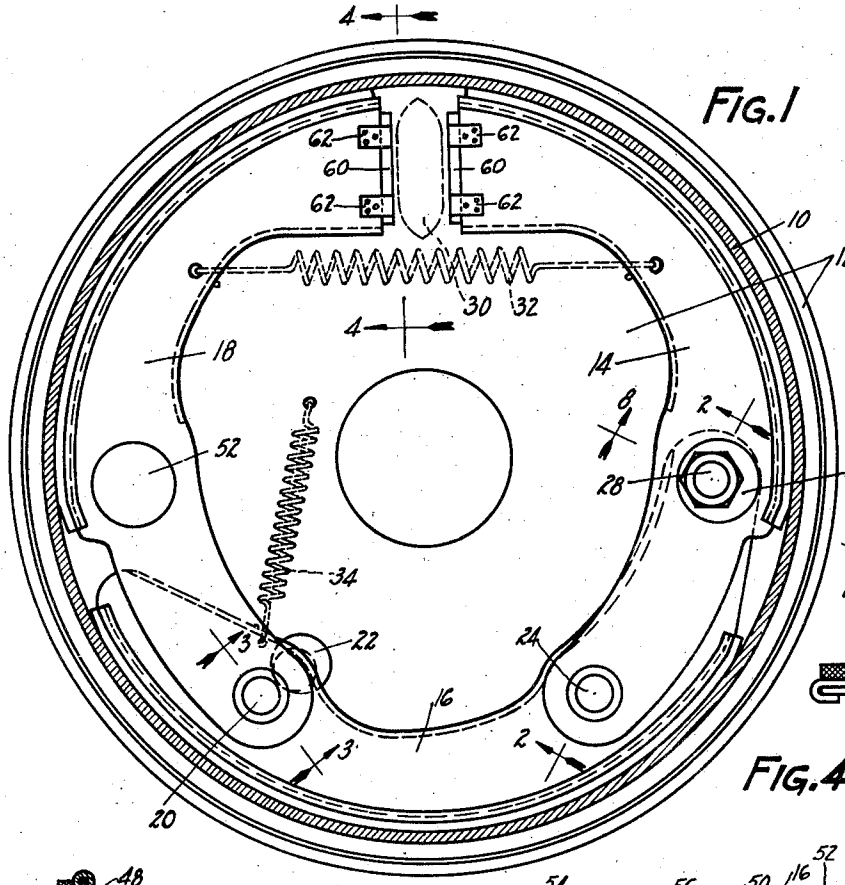


FIG. 1

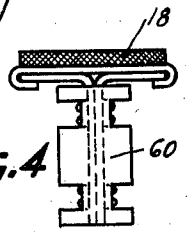


FIG. 4

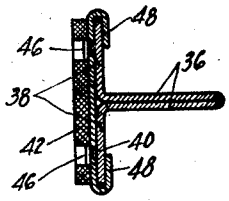


FIG. 7

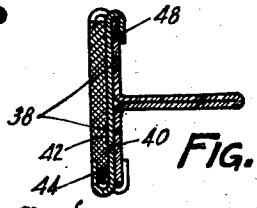


FIG. 6

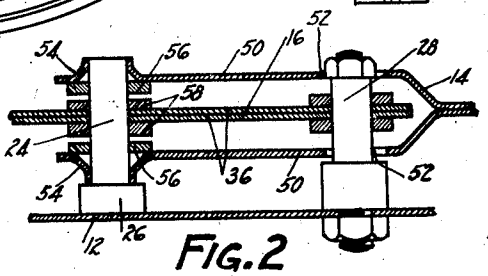


FIG. 2

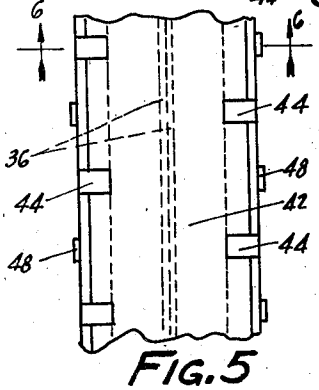


FIG. 5

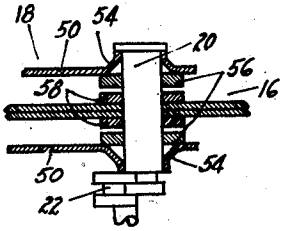


FIG. 3

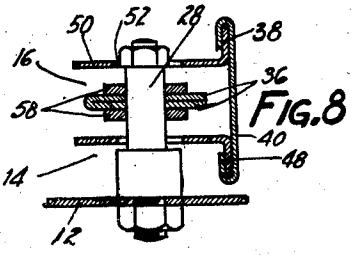


FIG. 8

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UNITED STATES PATENT OFFICE.

WALTER L. KRIEG, OF CHICAGO, ILLINOIS, ASSIGNOR TO BENDIX BRAKE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BRAKE SHOE.

Application filed July 13, 1926. Serial No. 122,255.

This invention relates to brakes, and is illustrated as embodied in novel and inexpensive shoes for an internal expanding automobile brake. An object of the invention is to provide for the use of a band to which the lining may be attached, preferably in long lengths, sections of the band and lining being attached across the faces of the shoes. I prefer to form the body of each shoe with a stiffening web made up of two flanges integrally united along their inner edges, and which in one form of shoe are spread apart at the end of the shoe to form spaced arms straddling the end of an adjacent shoe, these two flanges being continued to form oppositely-extending cylindrical flanges to which the band is attached.

Other features of the invention relate to a novel wear or cam plate engaging the end of the stiffening web of the shoe and having tongues bent back and secured to the sides of the web, and to improved means for securing the band to the body of the shoe, and to other novel combinations of parts and desirable particular constructions which will be apparent from the following description of the illustrative embodiments shown in the accompanying drawing, in which:

Figure 1 is a vertical section through the brake, just inside the head of the drum, showing the shoes in side elevation;

Figure 2 is a partial section on the line 2—2 of Figure 1, showing the anchorage of the shoes;

Figure 3 is a section on the line 3—3 of Figure 1, showing the pivotal connection between two of the shoes;

Figure 4 is an end elevation of one of the end shoes, looking in the direction of the arrows 4—4 in Figure 1;

Figure 5 is a partial elevation looking toward the outer or lining side of one of the shoes;

Figure 6 is a section through one of the shoes on the line 6—6 of Figure 5;

Figure 7 is a view corresponding to Figure 6, but showing a modification.

Figure 8 is a section on the line 8—8 of Figure 1, showing the overlapping of two of the shoes.

The particular brake illustrated in Figure 1 includes a rotatable drum 10, at the open side of which is a backing plate or the like 12, and within which are arranged four arcuate brake shoes 14, 16, and 18. Shoe 18 is shown connected to shoe 16 by a pivot 20, which may interengage with an adjustable eccentric stop 22 carried by the backing plate 12. Shoe 14 is also connected to shoe 16, by a pivot 24 having a head 26 slidably engaging the backing plate 12. Shoe 16 is anchored by being mounted on a pivot 28 carried by the backing plate.

The brake is applied by means such as a double cam 30, forcing shoes 14 and 18 apart against the resistance of a return spring 32, whereupon shoes 14 and 18 (especially the latter) force shoe 18 toward the drum against the resistance of an auxiliary return spring 34.

The present invention relates to the construction of the shoes 14, 16, and 18, or their equivalents, whether or not used in the above-described brake. Each of the shoes includes a body portion comprising a stiffening web formed by two flanges 36 integrally united along their inner edges, the flanges 36 being continued at their outer edges to form oppositely-extending cylindrical flanges 38.

Across the flanges 38 there extends a band 40 carrying the brake lining 42 secured by bending over lugs 44 from the band (Figures 5 and 6), or by rivets 46 (Figure 7). Band 40 may be secured to the body of the shoe by bending parts such as lugs 48 over the side edges of flanges 38. Band 40 may be prepared by securing lining 42 to it in long lengths, and then cutting off sections for single shoes.

In making the end shoes 14 and 18, which are preferably interchangeable, the flanges 36 are separated at the pivoted end of the shoe and spread apart to form spaced arms 50 straddling the end of shoe 16, the arms having openings 52 for anchor 28, and bosses 54 to which washers 56 are welded to form bearings embracing pivots 24 and 20. Washers 58 may be welded on opposite sides of shoe 16 to extend the length of bearing for pivots 20 and 24. By comparison of Figures 2 and 8, it will be seen that band 40 of each of the end shoes 14 and 18 is continued beyond the point where flanges 36 are spread apart to form arms 50, thus bridging across said arms.

At the unpivoted ends of shoes 14 and 18, cam-engaging wear plates 60 are secured in engagement with the ends of the stiffening

webs of the shoes. Each wear plate 60 has integral tongues 62 bent back into engagement with the sides of the web, and held by rivets or other fastenings passing through the tongues and through the two flanges 36 forming the web.

While particular shoes have been described in detail, it is not my intention to limit the scope of the invention to those shoes, or otherwise than by the terms of the appended claims.

I claim:

1. A brake shoe having a body formed of two stiffening flanges integrally united along their inner edges and continued in opposite directions at their outer edges as cylindrical flanges, the stiffening flanges being separated at their inner edges for some distance from one end of the shoe and spread apart to form spaced anchoring arms, in combination with a band secured across the outer faces of said oppositely-extending cylindrical flanges.

2. A brake shoe having a body formed of two stiffening flanges integrally united along their inner edges and continued in opposite directions at their outer edges as cylindrical flanges, the stiffening flanges being separated at their inner edges for some distance from one end of the shoe and spread apart to form spaced anchoring arms, in combination with a band secured across the outer faces of said oppositely-extending cylindrical flanges and continued beyond the point where the stiffening flanges are spread apart, to bridge across said arms.

3. A brake shoe having a cylindrical friction part and a stiffening web between the side edges of said part at least at the end of the shoe, in combination with a wear plate engaging the end of said web and having integral tongues bent backwardly and secured to the sides of said web.

4. A brake shoe having a cylindrical friction part and a stiffening web comprising two separate flanges between the side edges of said part at least at the end of the shoe, in combination with a wear plate engaging the end of said web and having integral tongues bent backwardly and engaging the sides of said web, and fastenings passing through said tongues and both of said flanges.

5. An arcuate brake shoe having a stiffening web comprising two flanges and oppositely-extending cylindrical flanges respectively integral with said flanges of the stiffening web, in combination with a band extending across the faces of the cylindrical flanges and having series of lugs bent across the side edges of the cylindrical flanges.

6. An arcuate brake shoe having a stiffening web comprising two flanges and oppositely-extending cylindrical flanges respectively integral with said flanges of the stiffening web, in combination with a band extending across the faces of the cylindrical flanges and having parts bent across the side edges of the cylindrical flanges.

In testimony whereof, I have hereunto signed my name.

WALTER L. KRIEG.