Sept. 6, 1932. D. L. GALLUP 1,876,140

BRAKE SHOE

Filed Nov. 30, 1928

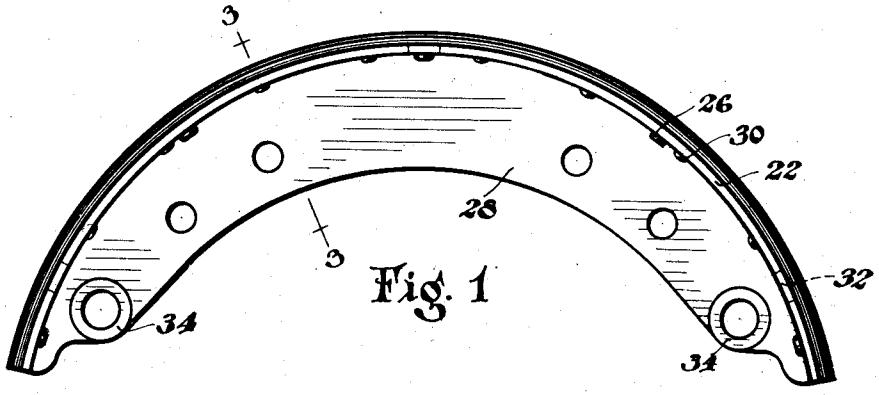


Fig. 1

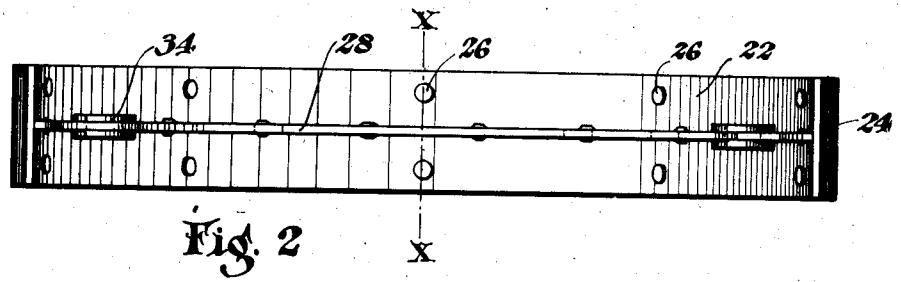


Fig. 2

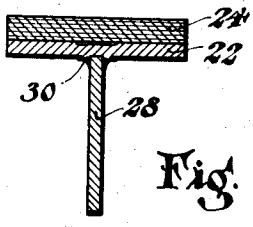


Fig. 3

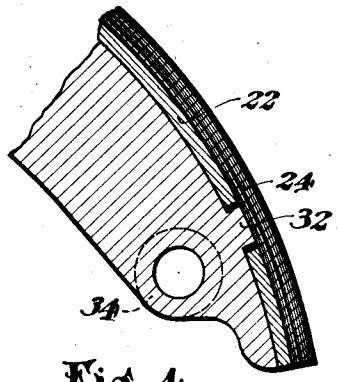


Fig. 4

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UNITED STATES PATENT OFFICE

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BRAKE SHOE

Application filed November 30, 1928. Serial No. 322,677.

This invention relates to articles such as brake shoes, and is illustrated as embodied in one of two interchangeable shoes of an internal expanding brake. An object of the invention is to provide an inexpensive but extremely strong brake shoe so designed as to be symmetrical with respect to a line dividing the shoe in equal parts.

In the illustrated embodiment a brake shoe is disclosed wherein an outer band forming the friction face of the shoe is permanently secured to a separate stiffening web by fastenings symmetrically arranged on either side of a center line dividing the shoe. These fastenings may comprise spot welds augmented by tongue-and-slot means, the tongues preferably provided on the web periphery and nesting within slots in the rim.

There is thus provided a brake shoe capable of being reversed end for end within the brake.

The above and other objects and features of the invention, including various novel and desirable details of construction will be apparent from the following description of the illustrative embodiment shown in the accompanying drawing, in which:

Figures 1 and 2 are side elevation and bottom plan views, respectively, of my novel brake shoe;

Figure 3 is a section through the shoe. on the line 3—3 of Figure 1 passing through one of the welds; and

Figure 4 is an enlarged fragmentary view, in longitudinal section of one end of the shoe showing the tongue-and-slot connection.

In that embodiment of my invention illustrated I preferably fabricate the shoe in two principal parts, viz: (1) an outer arcuate band or rim 22, to which the brake lining 24 is secured by spaced rivets 26, and (2) a separate stiffening web 28 having its outer edge curved on the same radius as the inner face of the band 22 and resting against that face. I further prefer to provide the rim with spaced embossments 30 (Figure 3) at which points the rim may be spot welded to the web. As a means for resisting the shearing action of the brake drum tending to separate the band from the web lengthwise of the shoe, I prefer to provide tongue-and-slot means additionally connecting the band and web and relieving the spot welds of shearing strain. To this end the web is provided with three tongues 32 and I prefer that they be located one at each end of the shoe and one in the center thereof. These tongues nest within correspondingly shaped slots in the rim of the shoe. Washers 34 may be suitably secured to the ends of the shoes as disclosed in Figure 4, a pair at each end, to provide bearings for the associated brake parts.

As a further and important feature of my invention, I suggest that the halves of the shoes be mirror images of each other, that is to say that the several fastenings including both the tongues and the welds be symmetrically arranged with respect to a line X—X, Figure 2. The rim and web geometry is likewise the same on both sides of this central line.

A strong and inexpensive but withal effective shoe is thus provided admirably adapted for a two-shoe brake wherein the shoes are interchangeable. Furthermore by virtue of the symmetrical construction described, the manufacture of the several parts of the shoe is facilitated in that the punching, pressing and other operations may be simplified.

While one illustrative embodiment has been described in detail, it is not my intention to limit the scope of the invention to that particular embodiment, or otherwise than by the terms of the appended claims.

I claim:

1. A brake shoe comprising at least two principal parts, viz: (1) an outer arcuate band formed with a comparatively small number of embossments lying in or immediately adjacent a lonigtudinally extending line dividing the band in equal parts and further provided with a plurality of spaced slots also lying in or immediately adjacent said line, and (2) a separate stiffening web having tongues at its outer edge projecting into the aforementioned slots and having its outer edge engaging the inner face of said band between the openings, said band being secured to the web at least in part by spot welds at

the aforementioned embossments, the welds and tongues being symmetrically spaced from the center of the shoe to provide a shoe, one half of which is the mirror image of the remaining half.

2. A brake shoe comprising a rim having longitudinally disposed slots, a reinforcing web for the rim, tongues on the web engaging the slots and bosses on the rim engaging the respective sides of the web.

3. A brake shoe comprising a rim having longitudinally disposed slots, a web for the rim having tongues engaging the slots and spaced bosses on the rim arranged in pairs, one on each side of the web and spot-welded thereto.

In testimony whereof, I have hereunto signed my name.

DAVID L. GALLUP.