No. 817,894. PATENTED APR. 17, 1906.

C. W. ARMBRUST.

BRAKE SHOE.

APPLICATION FILED NOV. 13, 1905.

Fig. 1.

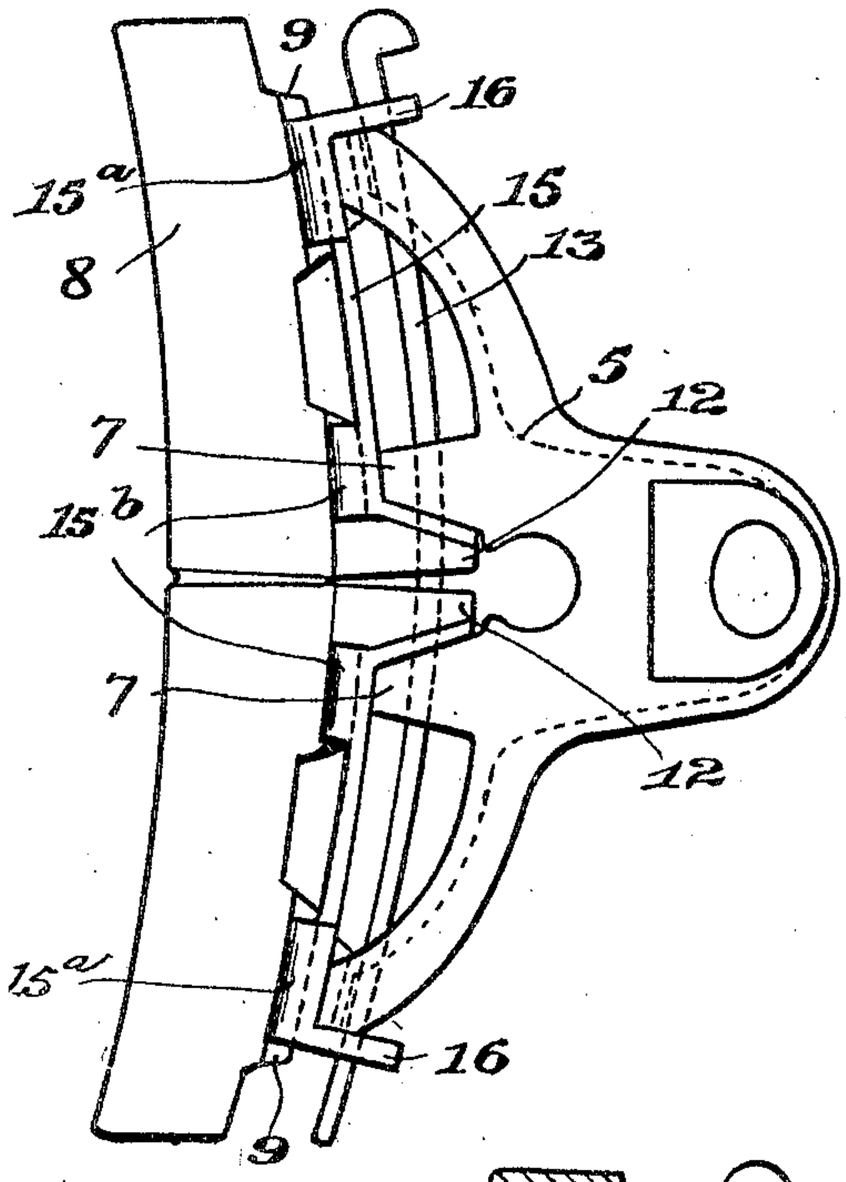


Fig. 2.

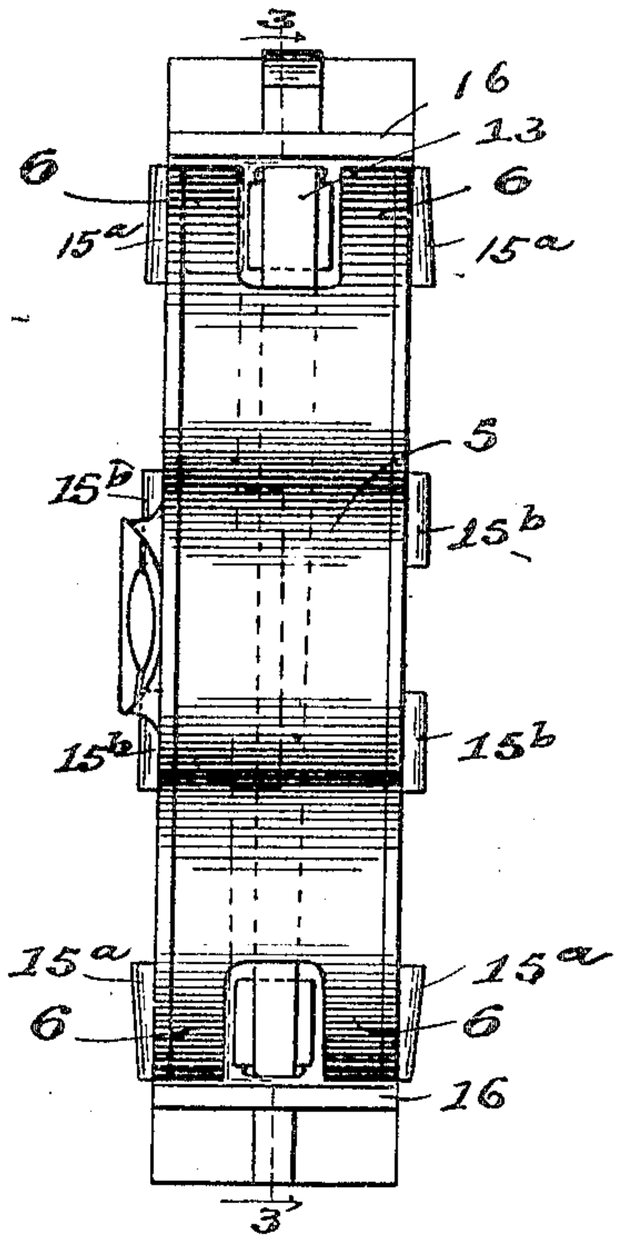


Fig. 4.

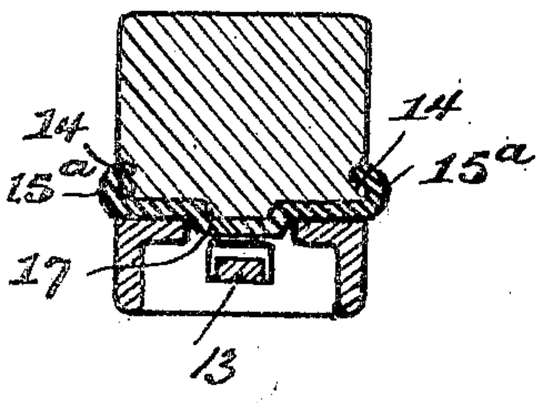
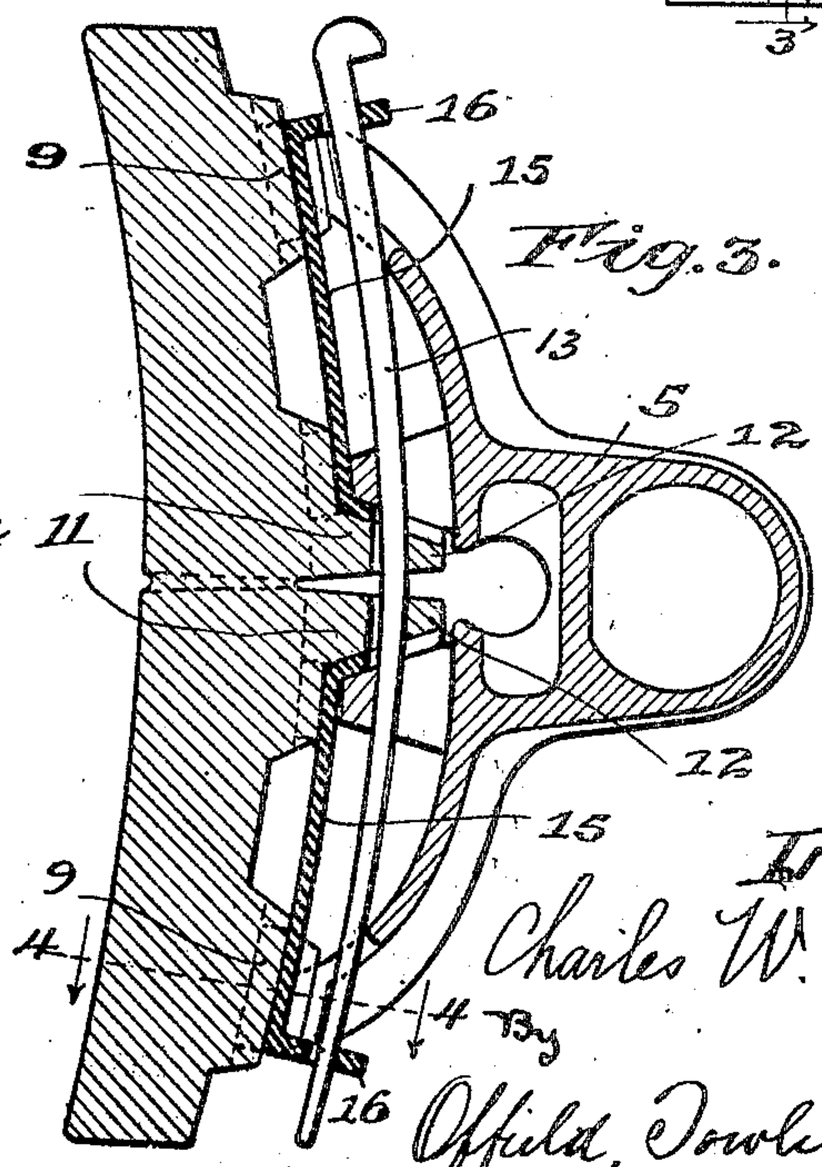


Fig. 3.



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UNITED STATES PATENT OFFICE.

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BRAKE-SHOE.

No. 817,894. Specification of Letters Patent. Patented April 17, 1906.

Application filed November 13, 1905. Serial No. 287,063.

To all whom it may concern:

Be it known that I, CHARLES W. ARMBRUST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention relates to brake-shoes of that type in which the shoe proper is separably or detachably connected to its supporting or carrying member, commonly known as the "head."

In an application executed by me on the 6th day of November, 1905, and filed in the Patent Office on the 9th day of November, 1905, Serial No. 286,571, I have disclosed and claimed a brake-shoe construction characterized chiefly by the provision of filling and spacing members between the back of the shoe proper and the head in order to enable substantially the entire body of the shoe to be worn up without danger of injuring the head even under uneven wear of the shoe.

My present improvements are based upon the improved form of shoe forming the subject-matter of the aforesaid application, and consist, essentially, in the provision of novel means for separably connecting the shoe to the head, such means comprising a member or members having slidable interlocking engagement with the filling and spacing lugs on the back of the shoe, said members having projecting portions apertured to receive the key that connects the shoe to the head, these apertured portions in part taking the place of integral apertured lugs or keepers shown in the application aforesaid. These fastening means in their preferred form and as herein shown serve the additional function in case of breakage of the shoe of holding the parts together and retaining them connected to the head, so that they can continue in service until worn out without danger of falling to the track, with the consequent liability to wrecks, and also of holding the spacing-lugs against falling to the track when the shoe proper has been worn out.

My invention in a preferred form is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevational view of a complete shoe and head embodying my improvements. Fig. 2 is an edge elevational view of the same looking toward the head. Fig. 3 is a longitudinal sectional view, and Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 3.

Referring to the drawings, 5 may designate the brake-head in the usual standard form, having the forked ends 6 and the intermediate inner apertured lugs 7.

8 designates the tread or body portion of the shoe. On the back of the shoe-body 8 are cast integrally therewith a series of members designed to coöperate with the head in guiding and holding the shoe relatively to the head and also in spacing the shoe from the head, so that the former may be entirely used up and worn out without danger of wearing or injuring the head, even though the shoe wear unevenly. Referring to these members more particularly, 9 designates each of a pair of filling and spacing lugs on the opposite ends of the outer side of the shoe, and 11 designates a pair of filling and spacing lugs cast on the intermediate part of the outer side of the shoe, integral with and between which latter are located a pair of apertured attaching lugs or keepers 12, through which the key 13 passes.

The sides of the filling and spacing lugs 9 and 11 are longitudinally tongued, as shown at 14, Fig. 4, these tongues being engaged by a pair of thin sheet-steel strips or malleable-iron cast strips 15, which are formed with inwardly-turned edges or clenchers 15ª, engaging the tongues 14 of the outer lugs 9, and similar inturned edges or clenchers 15ᵇ, engaging the tongues of the inner lugs 11. The outer ends of the strips 15 are projected outwardly substantially at right angles to the length of the strip in the form of apertured lugs or keepers 16, through which the key 13 is passed, and preferably the inner ends of the strips 15 are also projected outwardly alongside of and in contact with the outer faces of the inner keepers 12, between the latter and the internal keepers 7 of the head, being notched for the passage of the key 13, as shown in Fig. 3.

As shown in Fig. 4, the metal of the strip 15, which overlies the back of the spacing and filling lug 9 at each end, is stamped or cast outwardly between the forks of the end 6 of the head to form a guide 17 and prevent relative lateral displacement between the shoe and the head.

In assembling the parts the strips 15 are brought into operative relation by sliding

them over the spacing and filling lugs 9 and 11 from each end of the shoe, whereby said strips 15 are connected to the shoe through the spacing and filling lugs 9 and 11 at its end and intermediate portions. The head is then applied with its outer forked ends straddling the guides 17, and the key is inserted, uniting the parts together. The tongues 14 in the end spacing and filling lugs 9 are preferably made slightly tapered or inclined, so as to be narrower at their outer than their inner ends, and the clenchers 15ª are correspondingly tapered or inclined to fit the tongues. This construction in case the shoe breaks transversely at any point insures the retention of the broken parts of the shoe in service until worn out, thus preventing danger of wrecks from parts falling to the track, and also insures the retention of the filling and spacing lugs, even after the body of the shoe has been worn out, thus preventing injury to the head, even though the shoe wear unevenly.

From the foregoing it will be seen that the members 15 do not have the function of steel backs or brake-shoe reinforcements, nor do they engage the shoe-body proper at all, but rather serve as holding and attaching means, which also prevent the falling away of the parts of the shoe in case of breakage or of the filling and spacing lugs when the shoe is worn out. The various parts are of comparatively simple construction, economical to manufacture, and easily assembled.

The shoe-body is shown as transversely weakened by scoring at its longitudinal center, as indicated at 25, in order to cause accidental breakage of the shoe to occur at a predetermined point where such breakage is immaterial, thus lessening the likelihood of breakage at material points. This feature, however, forms in part the subject-matter of my companion application above referred to and is not claimed herein.

It is evident that variations and modifications in respect to the details of construction from the invention as described and shown may be made by those skilled in the art without departing from the principle of the invention or sacrificing any of the advantages thereof. Hence the invention is not limited to the particular embodiment thereof selected for purposes of illustration and description.

I claim—

1. A brake-shoe having filling and spacing lugs adapted to separate the same from the head, and provided with attaching means for connection to the head separably and interlockingly engaging said filling and spacing lugs, substantially as described.

2. A brake-shoe having filling and spacing lugs adapted to separate the same from the head, and provided with attaching means for connection to the head having separable tongue-and-groove engagement with said filling and spacing lugs, substantially as described.

3. A brake-shoe having filling and spacing lugs on its back, said lugs having tongues formed on the sides thereof, in combination with attaching members slidably engaging said tongues and provided with apertured lugs for engagement with the key whereby the shoe is connected to the head, substantially as described.

4. A brake-shoe having end and intermediate filling and spacing lugs on its back, said lugs having tongues formed on the sides thereof, in combination with attaching members having lateral clenchers slidably engaging said tongues and provided at their outer ends with apertured lugs for engagement with the key whereby the shoe is connected to the head, substantially as described.

5. The combination with a head having apertured internal attaching-lugs, of a brake-shoe having on its back integral end and intermediate filling and spacing lugs, said lugs having tongues formed on the sides thereof, attaching-strips having lateral clenchers slidably engaging the said tongues and provided at their outer ends with apertured lugs, and a key passing through the latter and the internal attaching-lugs of the head, substantially as described.

6. The combination with a head having apertured internal attaching-lugs, said lugs having tongues formed on the sides thereof, of a brake-shoe having on its back integral end and intermediate filling and spacing lugs and intermediate apertured attaching-lugs, metal strips having lateral clenchers slidably engaging said tongues and provided at their outer ends with apertured lugs, and a key passing through the latter and the integral attaching-lugs of the head and shoe, substantially as described.

7. A brake-shoe having on its back means for spacing the same from the head, in combination with a removable connecting means interlockingly engaging said spacing means and separated from the back of the shoe proper, substantially as described.

8. A brake-shoe having on its back means for spacing the same from the head, in combination with a slidable connection-piece engaging said spacing means and separated from the back of the shoe proper sufficiently to insure the wearing away of the entire body of the shoe even under uneven wear of the latter without danger of wearing the said connection-piece or the head, substantially as described.

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