W. C. CHIPPS.

REINFORCED BACK FOR BRAKE SHOES.

APPLICATION FILED APR. 12, 1912.

1,036,564. Patented Aug. 27, 1912.

Fig. 1.

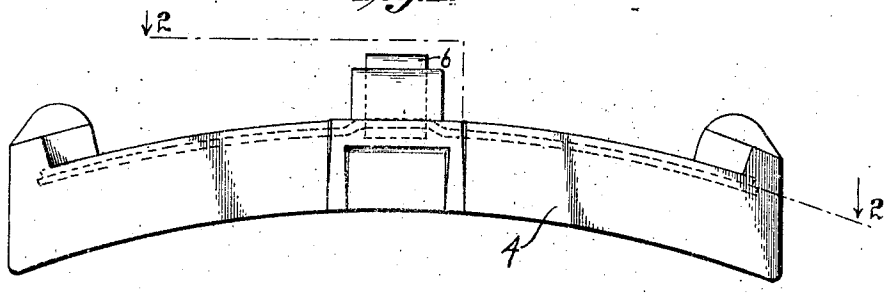


Fig. 2.

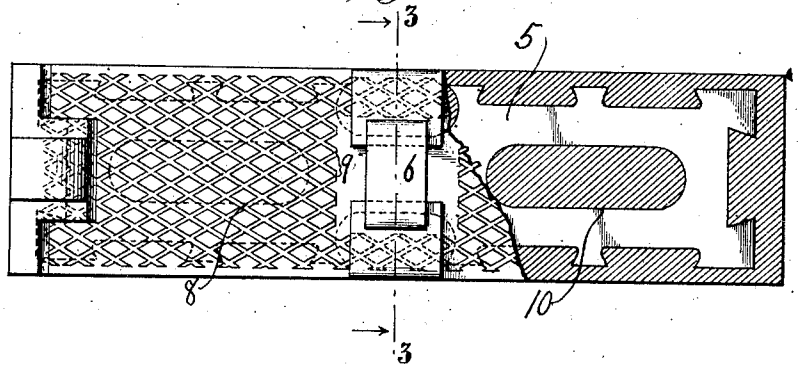
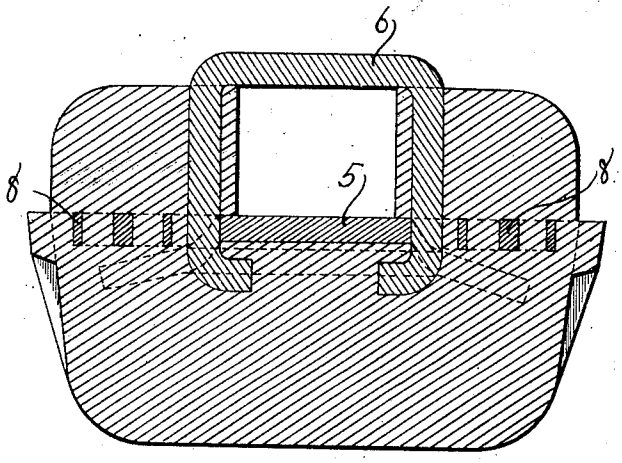


Fig. 3.



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REINFORCED BACK FOR BRAKE-SHOES.

1,036,564. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed April 12 1912. Serial No. 690,357.

To all whom it may concern:

Be it known that I, WILLIS C. CHIPPS, a citizen of the United States, and a resident of Suffern, in the county of Rockland and State of New York, have made and invented certain new and useful Improvements in Reinforced Backs for Brake-Shoes, of which the following is a specification.

My invention relates to reinforcing backs for brake shoes designed to be embedded in the rear surface or back of the shoe, and serving to hold the parts of the shoe together should it become cracked or broken in use, and to which the attaching lug, whereby the shoe is supported from a brake head, is secured, or with which said lug engages.

The object of my invention is to provide an improved back in which sufficient support is afforded for the attaching lug so that it may not be broken or pulled from the shoe, and in which a sufficient bond is secured between the body of the shoe and the back, considered as a whole, to prevent the entire back from being torn or stripped from the shoe.

Reinforcing backs for brake shoes have heretofore usually been of one of two distinct forms. In one form a wrought metal or steel plate is employed, in order that the supporting lug may not be broken or pulled from the shoe. Such a plate, however, notwithstanding numerous schemes employed for anchoring the same in the body of the shoe, presents flat surfaces of considerable area with which the metal of the body cannot secure a sufficient bond to hold the plate in place, so that while such reinforcing members provide a shoe in which the attaching lug is not likely to be broken or pulled from the shoe, the entire back may be, and in fact frequently is, torn or stripped from the shoe because of the insufficient bond between it and the body of the shoe.

In another form of reinforcing back a piece of expanded metal or similar foraminous material is employed, which back while it provides for a good and sufficient bond between it and the body of the shoe, does not afford sufficient strength at the place where the attaching lug is secured to it, or engages with the same, so that notwithstanding such schemes as have been devised for securing a sufficiently strong connection between the lug and the expanded metal back, the lug is frequently torn or broken from the shoe, carrying with it the portion of the reinforcing member with which it engages, although the remaining portion of the back remains embedded in the shoe.

In a brake shoe provided with my improved reinforcing back both the strength of a steel plate back, and the strong bond secured in an expanded metal back, are secured in a single structure, and a shoe is procured in which the attaching lug is not likely to become separated from the back, nor the back pulled away or stripped from the shoe.

Having in view the objects above stated, my invention consists in the improved reinforcing back for brake shoes hereinafter described and claimed, and shown in the accompanying drawing, wherein the preferred embodiment of my invention is illustrated.

Referring to the drawings:—Figure 1 is a view showing a side elevation of the brake shoe, and illustrating one of my improved backs embedded therein; Fig. 2 is a view of the shoe partly in plan and partly broken away to show internal construction, the figure being taken upon a plane indicated by the line 2—2, Fig. 1; and Fig. 3 is a view showing a section upon a transverse plane indicated by the line 3—3, Fig. 2.

In the drawing, the reference character 4 designates the body portion of a brake shoe in the rear face or back of which my improved reinforcing back is embedded. This reinforcing back is made up of two separate members one resting upon the other, one of said members being designed to provide for a strong connection between the attaching lug and the body of the shoe, and the other with especial reference to securing an extensive bond between the back as a whole and the shoe, to prevent the back from being stripped from the shoe. The member first referred to is designated by the reference character 5, and is in the form of a plate extending longitudinally of the shoe and to the central portion of which plate, a lug 6, whereby the shoe is supported from a brake head, is secured. The connection between the lug and the plate 5 may be formed in any way; in Fig. 3 I have shown the lug as having inturned portions at its lower end which lie beneath the plate.

The second member of my improved reinforcing back is foraminous, so that the metal from which the body portion of the shoe is formed may engage therewith at a large

number of points or places, and which member will therefore be embedded in the body of the shoe in such a manner that a strong bond will be procured between the same and the shoe. This foraminous member is shown as comprising a piece of expanded metal 8, the central portion of which is cut away as shown at 9 in order that it may fit over the lug 6 above referred to and through which opening said lug projects. This foraminous or expanded metal member occupies a position above the plate 5 hereinbefore referred to, so that any tendency of the said plate to be stripped from the shoe by means of forces transmitted to it through the lug, is resisted not only by such anchorage as may exist between it and the body of the shoe, but also by the foraminous or expanded metal plate 8 which is embedded in, and thoroughly bonded over, the entire surface of the shoe.

It will, therefore, be seen that considering the back as made up of the two separate members referred to, the same is bonded throughout the entire area of the back because of the foraminous member 8, and that forces transmitted through the attaching lug act directly upon the plate 5 at a point where the area is such that the lug cannot be pulled from the shoe by such forces as are commonly encountered when the shoe is in use.

I prefer to provide openings such as are shown at 10 in the plate member 5, so that the metal from which the body is formed may extend therethrough and embed a corresponding area of the overlying foraminous member 8 to thereby form a strong connection between the body of the shoe and the central portion of said foraminous member; whereby the foraminous member is bonded directly with the body of the shoe along its entire periphery, and also throughout central portions of considerable area.

It will be understood that in making a brake shoe provided with my improved reinforcing back, the supporting lug 6 and plate 5 are assembled and the foraminous member 8 placed upon the plate 5, after which the entire member, thus formed, is placed in a mold into which the molten body metal is poured, whereupon the entire back becomes embedded in the rear surface or back of the finished shoe.

It will be further understood that in the back, constructed as above described, I obtain the advantageous features of both a wrought metal plate and a plate of expanded metal, that is, I secure, by means of the metal plate, sufficient strength whereby to retain the parts or segments of the shoe together in case the latter be broken in service, and also a back which may be firmly embedded and securely anchored in the body of the shoe, a feature characteristic of expanded metal, so that in the completed shoe there is contained a back securely anchored therein and of sufficient strength to withstand any strain likely to be imposed upon it.

What I claim is:

1. A reinforcing back adapted to be embedded in the rear face of a brake shoe and comprising a plate member, an attaching lug formed separate from and in engagement with said plate member, and an expanded metal member overlying said plate member.

2. A reinforcing back adapted to be embedded in the rear face of a brake shoe and comprising a plate member, an attaching lug formed separate from and in engagement with said plate member, and a foraminous member overlying said plate member and a portion of which is cut away to provide an opening through which said attaching lug projects.

3. A reinforcing back adapted to be embedded in the rear face of a brake shoe and comprising a plate member, an attaching lug formed separate from and in engagement with said plate member, and an expanded metal member overlying said plate member and a portion of which is cut away to provide an opening through which said attaching lug projects.

4. A reinforcing back adapted to be embedded in the rear face of a brake shoe and comprising a plate member, means engaging said plate member for supporting the shoe, and a second member overlying said plate member and made from expanded metal.

5. A reinforcing back adapted to be embedded in the rear face of a brake shoe and comprising a plate member having a centrally located projecting lug, and a foraminous member overlying said plate member and having a centrally located opening through which said lug extends.

6. A reinforcing back adapted to be embedded in the rear face of a brake shoe and comprising a plate member, a centrally located attaching lug in engagement with said plate member; and a foraminous member overlying said plate member, the central portion of said foraminous member being cut away to provide an opening through which said lug extends.

Signed at Mahwah, in the county of Bergen, and State of New Jersey, this 10th day of April, A. D. 1912.

WILLIS C. CHIPPS.

Witnesses:
MARY A. COUNTEY,
CHAS. N. WINTER.