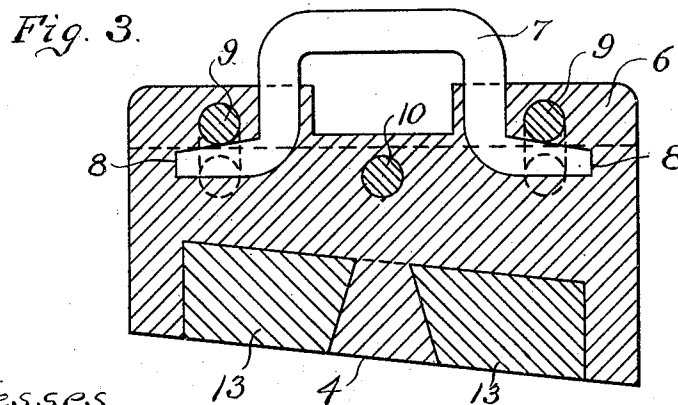
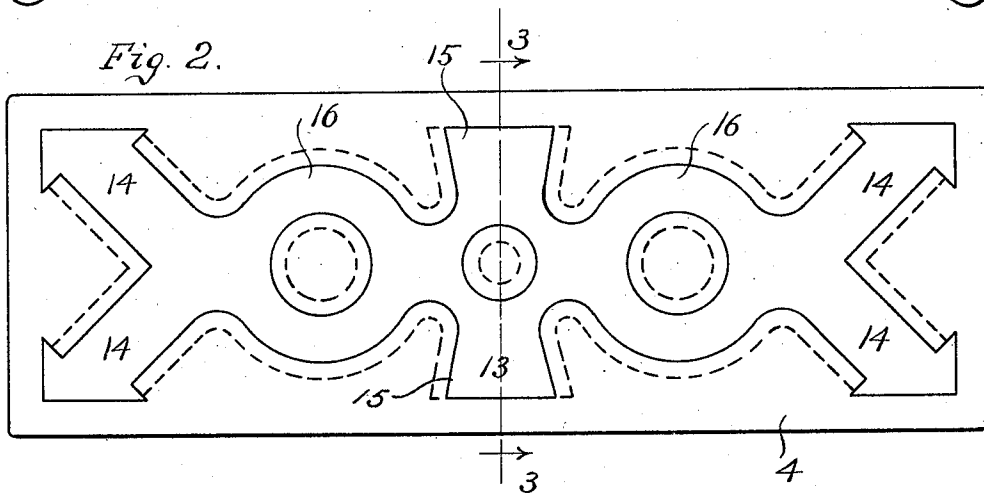
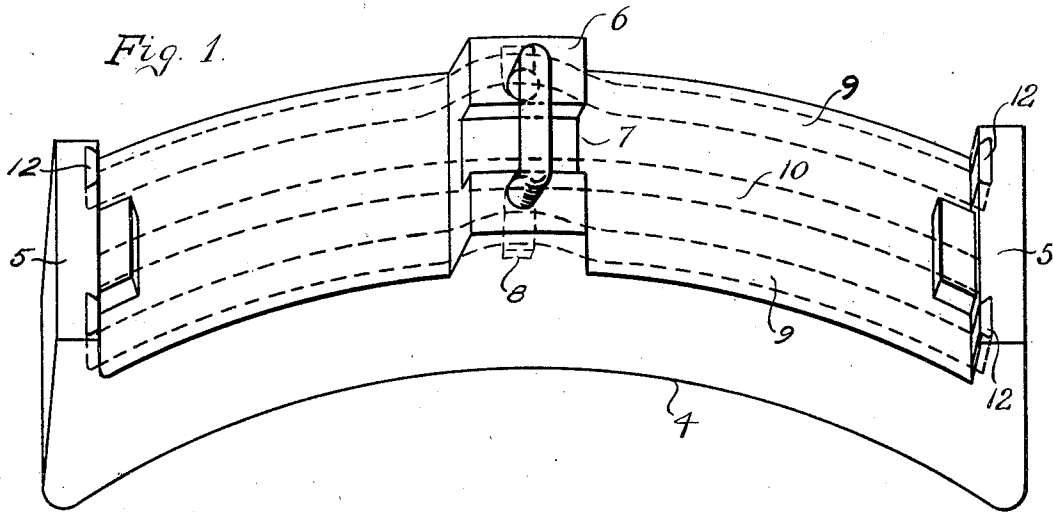


No. 828,957.

PATENTED AUG. 21, 1906.

A. NELSON.
BRAKE SHOE.

APPLICATION FILED SEPT. 5, 1905.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT NELSON, OF CHICAGO HEIGHTS, ILLINOIS.

BRAKE-SHOE.

No. 828,957.

Specification of Letters Patent.

Patented Aug. 21, 1906.

Application filed September 5, 1905. Serial No. 277,070.

To all whom it may concern:

Be it known that I, ALBERT NELSON, a citizen of the United States of America, and a resident of Chicago Heights, 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 for railway-cars, and has particular reference to that class of shoes which is formed of cast metal and is provided with an insert in its rubbing-face of harder material than the body of the shoe and adapted to cut the tread of the wheel, so as to compensate for the wear on the same by the track, and thereby maintain a true surface for engagement with the brake-shoe.

Cast-iron is considered the best material for brake-shoes; but in order to prevent the portion of the tread of the wheel which engages the track from becoming worn more rapidly than the other parts of the tread it is the practice to provide the rubbing-face of a brake-shoe with an insert of hard iron, which tends to cut down the parts of the tread which are not worn by the track.

The main objects of this invention are to provide a brake-shoe in which the hard-iron insert is so formed as to be securely retained within the cast-iron body and at the same time interlock with the cast-iron body part, so as to prevent portions of the cast-iron body from breaking away through becoming cracked, and to provide a form of hard-iron insert which will admit of substantially equal distribution of the hard and soft metal across the face of the brake-shoe and at the same time prevent splitting of the shoe.

A further object is to provide an improved form of back-brace for brake-shoes whereby the end stops will be reinforced against breaking away and the body of the shoe will be provided with longitudinal ties which will prevent the body part from breaking in two.

I accomplish these objects by the device shown in the accompanying drawings, in which—

Figure 1 is a rear view in perspective of a brake-shoe constructed according to my invention. Fig. 2 is a plan of the rubbing-face of the same. Fig. 3 is a transverse section on the line 3 3 of Fig. 2.

In the form shown in the drawings, the brake-shoe has a gripping-face 4, substantially rectangular in outline and curved to

fit the tread of a car-wheel. The back of the shoe is provided with end stops 5 and a central lug 6, provided with a projecting staple or eye 7. These lugs are of standard form. The staple 7 is formed of wire and is embedded into the lug 6, its ends 8 extending transversely outward within the body of the shoe. The shoe is provided with three longitudinal stiffening-bars 9 and 10. These are embedded into the cast-iron of the body and extend throughout its length near the back of the same. The outer braces 9 extend over the outwardly-extending ends 8 of the staple 7 and reinforce the lug 6 against breaking and releasing the staple 7. The ends 12 of the bars 9 are bent upwardly within the end stops, so as to reinforce said end stops and prevent the same from being broken away from the body part. The end portions 12 are preferably dovetailed into the end stops to insure a good bond therewith.

The rubbing-face 4 of the shoe is provided with an insert 13, of hard iron, which is adapted to cut down the tread of the wheel and compensate for wear by the tracks, and thus maintain a uniform surface for gripping the brake-shoe. The gripping-face of the shoe which is shown in the drawings is rectangular in outline, and the insert 13 is distributed in a peculiar manner upon said face. The sides and ends of the insert are indented, and in each case the indentations are of less width at the points near the outer edges of the face than at other points inward of such edges. This has the effect of dovetailing the hard and soft materials together and prevents the portions of the cast-iron body which lie between the insert and the edges of the shoe from breaking away. The sides of the insert are beveled and diverge inwardly from the rubbing-face of the shoe, so that at each of the indentations the material of the body of the shoe overlaps that of the insert in such manner as to securely retain the insert in position. In the form shown the insert consists of two V-shaped portions having arms 14 extending toward each corner of the shoe, a transverse portion 15 midway between the V-shaped portions, and annular portions 16, connecting the transverse and V-shaped portions. The advantage of this conformation of the hard-iron insert is that the transverse portions 14 and 15 dovetail with the cast metal of the body and prevent the same from breaking away, while the intermediate annular portions 16 compensate for the changes in

width of the transverse portions and provide a substantially uniform distribution of the hard iron across the face of the shoe. This insures uniform wear upon the tread of the car-wheel and keeps the wheel true. The extremities of the parts 14 and 15 are preferably not beveled, thereby avoiding weakening of the shoe by undercutting the portions of the body which lie between said extremities and the edges of the shoe.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A brake-shoe comprising a cast-metal body having a middle lug extending transversely across the back of the shoe, an eye or staple of tougher material disposed transversely of the shoe and having part thereof extending outwardly of the lug and part thereof embedded in said lug, and a back-brace extending longitudinally of the shoe from end to end, and bent upwardly at its middle part to extend over the embedded part of said eye or staple.

2. A brake-shoe comprising a cast-metal body having a hard-metal insert embedded in the face of said body, said insert having

diverging arms at each end, transversely-extending middle parts 15 increasing in width toward the side edges of the body, and the intermediate centrally-open parts 16.

3. A brake-shoe comprising a cast-metal body having end stops and a middle lug extending transversely across the back of the shoe, an eye or staple of tougher material disposed transversely of the shoe and having its ends embedded in the middle lug and extending outwardly therein, and a pair of back-braces formed of material tougher than said body and disposed longitudinally of the shoe, said braces being embedded within the material of the body, being bent upwardly at the middle part to extend over the respective ends of said staple, and being turned up at their ends for reinforcing said end stops, substantially as described.

Signed at Chicago this 30th day of August, 1905.

ALBERT NELSON.

Witnesses:

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