H. JONES.

BRAKE SHOE.

APPLICATION FILED MAR. 9, 1911.

995,014. Patented June 13, 1911.

Fig. 1.

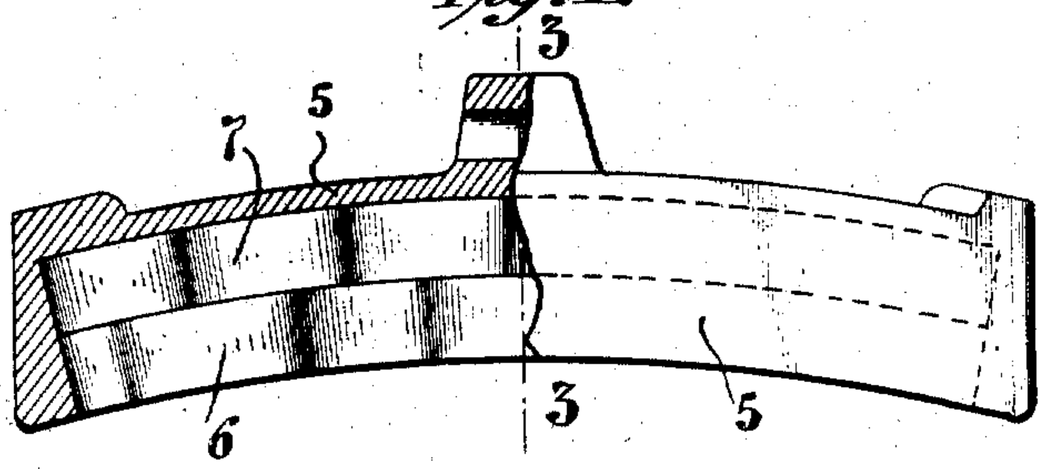


Fig. 2.

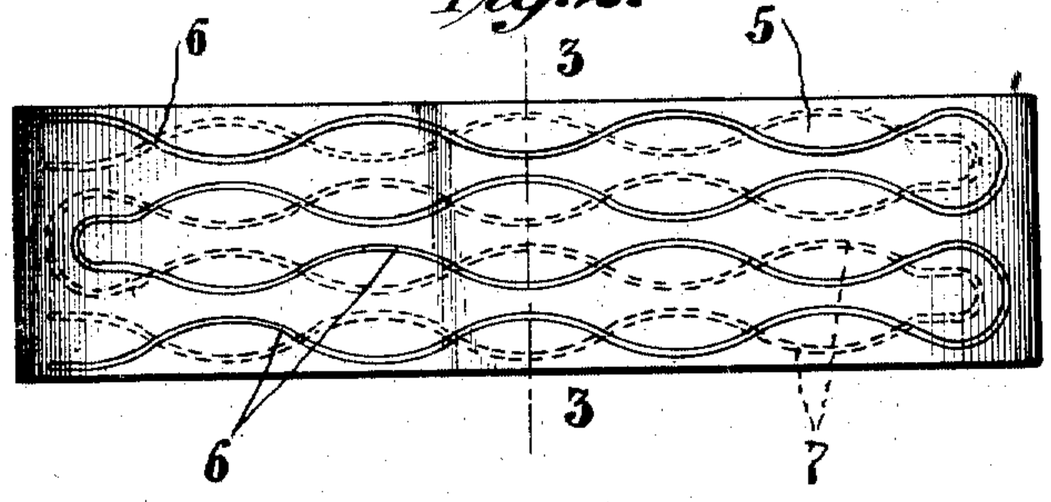


Fig. 3.

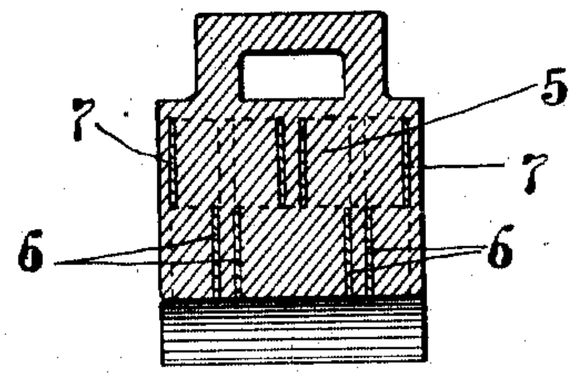
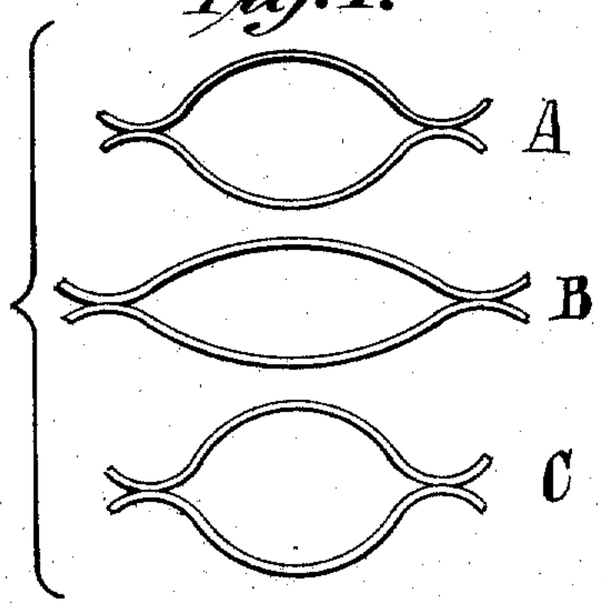


Fig. 4.



Attest:

C. Mitchell
R. N. Flint.

Inventor:

Harry Jones
George Cook
Atty

UNITED STATES PATENT OFFICE.

HARRY JONES, OF SUFFERN, NEW YORK, ASSIGNOR TO EDWARD H. FALLOWS, OF NEW YORK, N. Y.

BRAKE-SHOE.

995,014. Specification of Letters Patent. Patented June 13, 1911.

Application filed March 9, 1911. Serial No. 613,215.

To all whom it may concern:

Be it known that I, HARRY JONES, 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 Brake-Shoes, of which the following is a specification.

My invention relates to brake shoes of the type wherein an insert commonly formed from wrought metal, such as mild steel or wrought iron, is embedded in a cast metal body portion, the insert and body portion being simultaneously worn away as the shoe is used; and the object of my invention is to provide a brake shoe having a plurality of corrugated metallic inserts superposed one upon or above another, and so arranged that adjacent edges thereof cross one another, or intersect a plurality of times throughout the shoe, whereby the entire body portion of the shoe is subdivided into a large number of areas of cast iron, separated by strips of wrought metal, and whereby the relative disposition of the cast and wrought metal is continuously changing as the shoe is worn away and the formation of grooves in the car wheel thus prevented.

In the drawing accompanying and forming a part of this application; Figure 1 is a view partly in side elevation and partly broken away to show the interior construction of my improved brake shoe; Fig. 2 is a view showing the front or wearing face of the same; Fig. 3 is a view showing a section upon a plane indicated by the line 3—3, Figs. 1 and 2, and; Fig. 4 is a view illustrating a certain feature of my improved shoe.

In the drawing, 5 represents the body portion of my improved brake shoe, the same being formed from cast metal, and preferably from cast iron of a composition such that a maximum of frictional and wearing qualities will be secured; and 6, 7, are a plurality of inserts embedded in the body portion and each formed preferably from a strip or ribbon of wrought metal, such as mild steel or wrought iron, corrugated throughout its length and bent or doubled upon itself so as to extend several times longitudinally of the brake shoe, said strips being arranged edgewise with reference to the wearing face of the shoe as shown. While I have shown but two such inserts, I use more than two in case an extra thick shoe is required. The strips or inserts are superposed one upon the other as shown, and they are so arranged that the upper edge of a lower strip intersects or crosses the adjacent lower edge of the next higher strip a plurality of times throughout the shoe, as will be understood from Fig. 2 of the drawing.

In forming my improved brake shoe, the inserts 6, 7, are secured together in any suitable way, and then placed within the mold into which the fluid metal is poured, the inserts becoming embedded in the body portion as above explained. The strips from which the inserts are formed after having been corrugated and doubled, as aforesaid, are curved longitudinally so as to correspond, approximately with the curvature of the car wheel for which the shoe is adapted, the effect of which is to stretch and flatten the upper portion, and contract and curve to a greater degree the lower portion of the strip. This result is illustrated by means of Fig. 4, wherein A shows a portion of two adjacent segments of an insert, corrugated and bent upon itself, but not as yet curved longitudinally. When the insert is curved as aforesaid, the upper edges of the segments of the strip are stretched and assume a form somewhat as shown at B, while the lower edges are contracted and assume a form somewhat as shown at C. This action results in the formation of spaces between adjacent strips wedge-shaped in a sense, being elongated and narrowed at the upper edge of the strip and contracted and widened at the lower edge, the result being that the bodies of cast metal, occupying such spaces in the completed shoe, are of such a form as may not fall from between the strips should they become broken away from the body portion when the shoe is in use. Thus is the entire shoe held together by the wrought metal strips or inserts even should it be broken in service. Finally, the corrugated form originally imparted to the inserts, together with the distortion which results from curving the same as explained, produces a shoe in which the relative disposition of the cast and wrought metal in the face of the shoe is continuously changing as the shoe is worn away, and the formation of grooves in the car wheel thereby prevented.

Having thus described and explained my

invention, I claim and desire to secure by Letters Patent:

1. A brake shoe comprising a body portion formed from cast metal, and a plurality of superposed corrugated inserts embedded therein and so arranged that the upper edge of a lower insert crosses the adjacent lower edge of the next higher insert a plurality of times throughout the shoe.

2. A brake shoe comprising a body portion formed from cast metal, and a plurality of superposed corrugated strips of wrought metal embedded therein and so arranged that the upper edge of a lower strip crosses and recrosses the adjacent lower edge of the next higher strip throughout the shoe.

3. A brake shoe comprising a body portion formed from cast metal, and a plurality of superposed corrugated strips of wrought metal embedded therein, each of said strips being bent or doubled upon itself so as to extend several times longitudinally of the shoe, the arrangement of said strips being such that the upper edge of a lower strip crosses the adjacent lower edge of the next higher strip a plurality of times throughout the shoe.

4. A brake shoe comprising a body portion formed from cast metal, and a plurality of corrugated strips of wrought metal embedded therein, said strips being located one above the other, so that they are worn away in succession as the shoe is used.

Signed at Suffern, in the county of Rockland and State of New York, this 27th day of February, A. D. 1911.

HARRY JONES.

Witnesses:

EUGENE M. GREEN,

C. C. MORGAN.