H. JONES.

COMPOSITION BODY BRAKE SHOE.

APPLICATION FILED AUG. 25, 1913.

1,156,689. Patented Oct. 12, 1915.

Fig. 1.

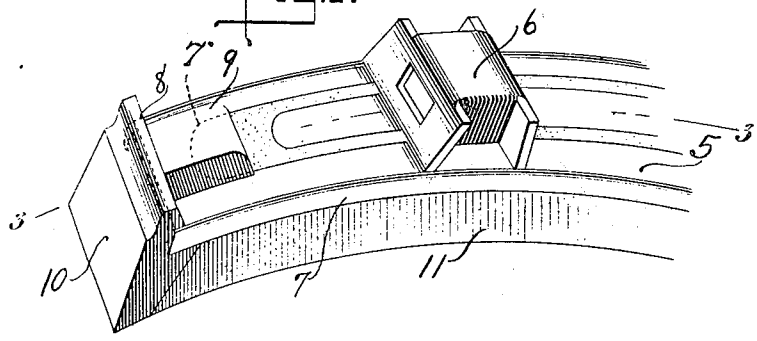


Fig. 2.

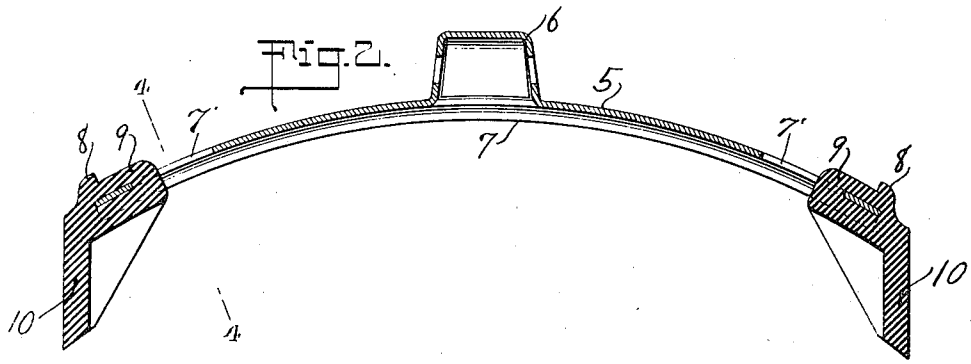


Fig. 3.

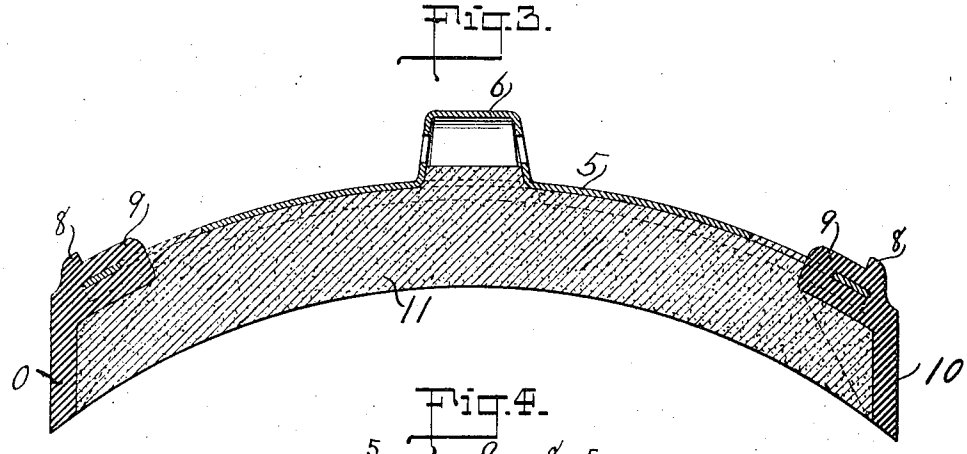
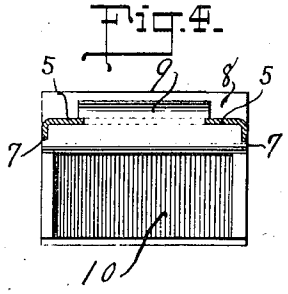


Fig. 4.



WITNESSES:

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HARRY JONES, OF SUFFERN, NEW YORK, ASSIGNOR TO AMERICAN BRAKE SHOE & FOUNDRY COMPANY, OF MAHWAH, NEW JERSEY, A CORPORATION OF NEW JERSEY.

COMPOSITION-BODY BRAKE-SHOE.

1,156,689. Specification of Letters Patent. Patented Oct. 12, 1915.

Application filed August 25, 1913. Serial No. 786,433.

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 Composition-Body Brake-Shoes, of which the following is a specification.

My invention relates to an improvement in brake shoes, and more particularly to that type or style thereof commonly known and referred to as a composition or filled shoe.

Brake shoes of this type require a casing, shell or other support, of a form appropriate to hold the composition or body material, in order to prevent the latter from breaking or crumbling while the shoe is in use, and during transportation. This supporting member, usually designed more particularly for the purpose of holding the body material rather than to assist in any way in the frictional qualities of the shoe, is usually made in the form of a shell, either being cast in that form, or pressed or stamped up from sheet metal, the ends, sides and top being generally made integral. In the shell is contained the frictional material, preferably a composition, which, contacting with the tread of the wheel, gradually wears away while the shoe is in service. As the sides and ends also contact with the tread of the wheel, they wear away with the body material until such time as the shoe becomes too thin or fragile for further use. The back of the shoe, usually made integral with the sides and ends, with the remaining portion of the body, is then scrapped or discarded as unfit for further service, this scrap, comprising largely the metal back, entailing a material loss.

The object of my invention is to so construct the shell, or equivalent support, that the back proper thereof, which forms the greater portion of the shell, may be used repeatedly, the end pieces or end lugs, which are partially worn away in service, being removed from the back and new ones substituted therefor, the back itself being thus saved, and, after new ends have been applied thereto, used again as a support for a new body portion.

More specifically stated, my invention includes a brake shoe back of the type above referred to in which the end pieces or end blocks are secured to the back of the shoe by being cast thereupon, this being accomplished by placing the back in a suitable mold and pouring therein the molten metal from which the end pieces are formed, the metal of the end pieces embedding a portion of the back, and the ends themselves becoming securely attached to the back.

With the above and other objects in view, my invention consists in the improved brake shoe, and back therefor, illustrated in the accompanying drawing and hereinafter described and claimed, and in such variations and modifications thereof as will be obvious to those skilled in the art to which my invention relates.

In the accompanying drawing, Figure 1 is a view in perspective showing a portion of a brake shoe and back made in accordance with my invention. Fig. 2 is a view showing the back and end pieces secured thereto, the body portion of the shoe being, however, omitted, this view being taken upon a central plane extending longitudinally of the shoe. Fig. 3 is a view showing a section of my improved brake shoe and back therefor, this view being a section taken upon a longitudinally extending plane indicated by the line 3—3, Fig. 1, and Fig. 4 is a view showing a section taken upon a transverse plane indicated by the line 4—4, Fig. 2.

The back proper 5 of my improved brake shoe, is made preferably from a suitable blank cut from a plate of wrought iron or mild steel of a thickness of approximately three-sixteenths of an inch, the blank being properly shaped to produce the back, as will be understood. In the form of my invention illustrated, the back is provided with a centrally arranged key lug 6 whereby the shoe may be secured to a suitable brake head, this key lug being shown as made integral with the back, although it may be made separate if desired and secured thereto as my invention is in no way concerned with the particular construction of key lug. The back is preferably provided with depending side flanges 7 whereby the body portion of the shoe is more securely anchored to the back.

The reference numeral 10 designates the renewable end pieces or end blocks of my improved brake shoe, the same being made from cast metal and secured to the back by being cast thereupon, this being accomplished by placing the back in a suitable

mold and pouring the molten metal from which the ends are formed thereinto, whereupon the metal of the ends flows around and embeds the ends of the back in the end blocks. In order to insure the permanent but destructible securement of the cast ends to the back, the latter is provided with the openings 7′ adjacent its remote ends, through which the metal of the ends flows, and at the same time, a lug 9 is formed against which the brake head may rest. These end blocks which project toward the wearing face of the shoe and worn away simultaneously with the body portion, are preferably provided with lugs 8 and 9 formed integral therewith, which stops or lugs are engaged by the ends of a brake head to thereby support the ends of the shoe in accordance with the usual practice in such cases.

The body portion 11 of my improved brake shoe is made from a suitable non-metallic or semi-metallic composition, pressed into place upon the back and between the end blocks 10, as by means of a suitable press whereby the body portion of the shoe is forced into intimate contact with the back along its entire length and with the renewable end blocks 10, to thereby hold the body portion in place.

From the foregoing it will be understood that after the brake shoe has been worn down in service until it is so thin as to be no longer capable of use, and the end pieces 10 partially worn away, the remaining portion of the composition body portion is separated from the back 5, and the remaining portion of the end blocks also broken away; this being easily accomplished because of the fact that said blocks are made of cast metal. The back may be then placed in a suitable mold, as above explained, new end blocks, corresponding with the blocks 10, cast thereon, and the new shell or casing refilled with a composition body portion.

Having thus described and explained my invention, I claim and desire to secure by Letters Patent:

1. A back for a brake shoe comprising a back proper and renewable end pieces separate from said back and secured thereto by casting the same thereon.

2. In a brake shoe, a supporting back; blocks formed from cast metal and secured to said back by being cast thereon, and which blocks extend toward the wearing face of the shoe; and a mass of material supported by said back and filling the space between said blocks.

3. In a brake shoe, a supporting back; end pieces formed from cast metal and secured one to each end of said back by being cast thereon, whereby the ends of the back become embedded in the end pieces, and which latter extend to the wearing face of the shoe; and a mass of material supported by said back and filling the space between said end pieces.

4. In a brake shoe, a supporting back; end pieces formed from cast metal and secured one to each end of said back by being cast thereon, whereby the ends of the back become embedded in the end pieces, and which latter extend to the wearing face of the shoe and are provided with integrally formed lugs adapted to be engaged by the ends of a brake head; and a mass of material supported by said back and filling the space between said end pieces.

5. In a brake shoe, a supporting back formed from sheet metal and having downwardly extending side flanges; end pieces formed from cast metal and secured one to each end of said back by being cast thereon, whereby the ends of the back become embedded in the end pieces, and which end pieces extend to the wearing face of the shoe; and a mass of material supported by said back and filling the space between said end pieces.

6. In a brake shoe, a supporting back formed from sheet metal and having downwardly extending side flanges; end pieces formed from cast metal and secured one to each end of said back by being cast thereon, whereby the ends of the back become embedded in the end pieces, and which end pieces extend to the wearing face of the shoe and are provided with lugs adapted to be engaged by the ends of a brake head; and a mass of material supported by said back and filling the space between said end pieces.

7. A back for a brake shoe comprising a metal plate provided with a key lug intermediate its ends and with openings adjacent the plate ends, end pieces of cast metal located at the ends of said plate and embedding the same therein, the metal of said end pieces extending through the openings in said back plate and forming brake head engageable lugs thereby, said end pieces fixedly and destructibly secured to said plate.

Signed at Suffern, in the county of Rockland and State of New York, this 19th day of August, A. D. 1913.

HARRY JONES.

Witnesses:
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ALFRED B. RONK.