H. JONES.

BRAKE SHOE.

APPLICATION FILED AUG. 31, 1916.

1,225,336. Patented May 8, 1917.

Fig. 1.

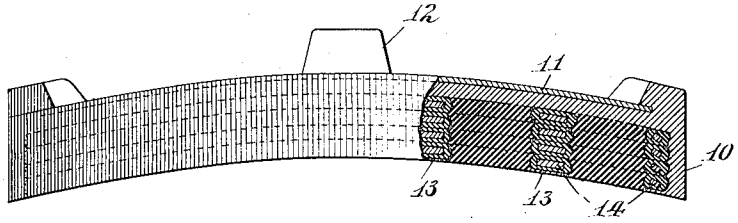


Fig. 2.

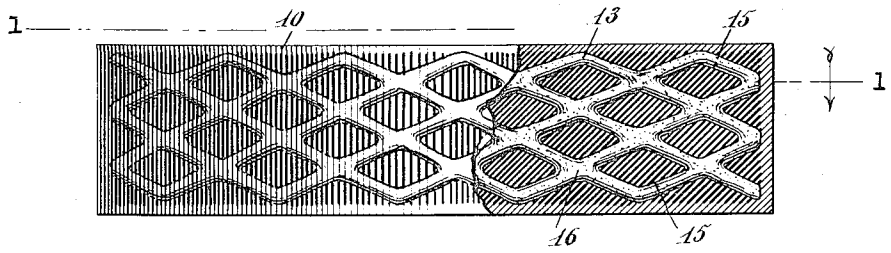


Fig. 3.

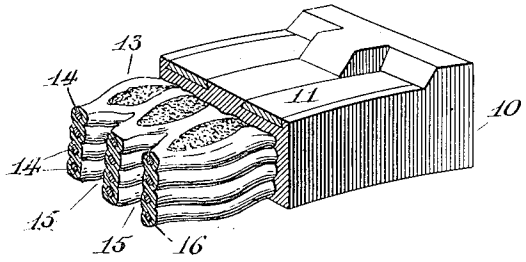
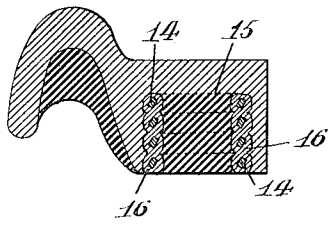


Fig. 4.



WITNESS

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UNITED STATES PATENT OFFICE.

HARRY JONES, OF SUFFERN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE AMERICAN BRAKE SHOE & FOUNDRY COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

BRAKE-SHOE.

1,225,336. Specification of Letters Patent. Patented May 8, 1917.

Application filed August 31, 1916. Serial No. 117,863.

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 improvements in brake shoes, and particularly to that type of shoe which has incorporated therein some form of lubricating substance which prevents the noises and screechings ordinarily incident to the application of the shoe to the car wheel.

In forming this type of shoe, considerable labor and much difficulty have been experienced in providing the shoe with suitable cavities in which the composition material may be packed, and, furthermore, the construction of this type of shoe has heretofore been such as to practically preclude the use of an expanded metal insert extending throughout the entire body of the shoe.

It is therefore an object of the present invention to provide a brake shoe containing pockets for the reception of a lubricating substance, which can be economically manufactured, and wherein a reinforcing insert extends throughout the entire body of the shoe, the interstices of which define pockets or cells in which the non-metallic or anti-screeching material is packed.

A further object is to provide a brake shoe in which the expanded malleable metal insert is supplemented by hard wearing steel, which latter, in addition to adding materially to the wearing life of the shoe, forms pockets with continuous imperforate walls, in which a lubricating substance, or non-metallic composition, is subsequently packed.

Other objects and advantages will appear as the description proceeds, wherein it is to be understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit thereof.

The preferred embodiment of my invention is disclosed in the accompanying drawings, wherein:

Figure 1 is a view in elevation of my improved brake shoe, portions thereof being represented in section;

Fig. 2 is a view in plan, and partially in section, of the wearing face of the shoe;

Fig. 3 is a fragmental view in perspective of one end of the brake shoe, portions of the cast metal being removed; and

Fig. 4 is a view in vertical cross-section, of a flanged shoe made in accordance with my invention.

Referring specifically to the several views, the body 10 of the brake shoe is preferably provided with a reinforcing steel back 11, which includes the usual type of attaching lug 12, for securing the brake shoe to the brake head. Incorporated within the body of the shoe, is an insert 13, composed of a number of superposed layers 14 of openwork or expanded malleable metal, the successive layers being bound or tied together so that the openings therein aline and register one with the other and define a number of pockets or cells 15. While the insert may be composed of a number of layers of expanded metal, wired together, I preferably employ an insert wherein the bundle of expanded metal has been dipped into hard steel, with the result that a coating of hard wearing steel 16 is formed upon the various interstices of the expanded metal, and the pockets 15 are provided with continuous imperforate walls, as well as adding materially to the wearing life of the brake shoe.

The insert is placed within the shoe cavity of a mold and the pockets filled with sand or other substance, preventing the entrance of the molten iron therein. The body 10 of the shoe is thus formed around the insert and the sand subsequently removed from the pockets 14, with the result that a shoe is provided having open-ended pockets extending inward from the wearing face of the shoe, and reinforced throughout by malleable metal and hard steel. Any suitable composition, such as a non-metallic lubricating substance, is packed within the pockets 15 of the shoe, causing the shoe to be practically noiseless in operation.

What I claim is:—

1. A brake shoe consisting of a cast metal body, an insert embedded therein and formed of superposed layers of openwork metal, the strands of said openwork metal being in alinement and defining open-ended pockets with substantially continuous side walls.

2. A brake shoe consisting of a cast metal body, an insert embedded therein and formed of superposed layers of openwork metal, the strands of said openwork metal being in

alinement and defining open-ended pockets with substantially continuous side walls, and a composition filling positioned within said pockets.

3. A brake shoe consisting of a cast metal body, an insert therein formed of openwork metal extending to the wearing face of said body, a coating of hard steel surrounding the strands of said insert, and forming in connection therewith pockets extending to the wearing face of said shoe body, and a composition filling positioned within said pockets.

4. A brake shoe consisting of a cast metal body, a netting of connected and interlaced strands of ductile metal and hard wear-resisting steel, embedded in said cast metal body and extending to the wearing face thereof, the openings between the interlaced strands of said insert extending to the wearing face of said body and defining open-ended pockets, and a composition filling disposed within said pockets.

5. A brake shoe consisting of a cast metal body, an insert of superposed and registering layers of expanded metal, and a coating member extending around and between adjoining strands of the expanded metal, defining pockets in said insert with substantially continuous side walls, and a composition filling disposed within said pockets.

6. A brake shoe consisting of a cast metal body, an insert embedded therein comprising superposed registering layers of openwork metal, a coating of wear-resisting metal surrounding the adjoining strands of said openwork metal and forming pockets.

7. A brake shoe consisting of a cast metal body, an insert embedded therein comprising superposed registering layers of openwork metal, a coating of wear-resisting metal surrounding the adjoining strands of said openwork metal and forming pockets, and a composition filling disposed within said pockets.

Signed at Suffern, in the county of Rockland and State of New York, this 28th day of August A. D. 1916.

HARRY JONES.

Witnesses:
C. E. DAHL,
S. C. CUTLER.