No. 832,145. PATENTED OCT. 2, 1906.

J. F. MORRISON.

BRAKE SHOE.

APPLICATION FILED JAN. 8, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

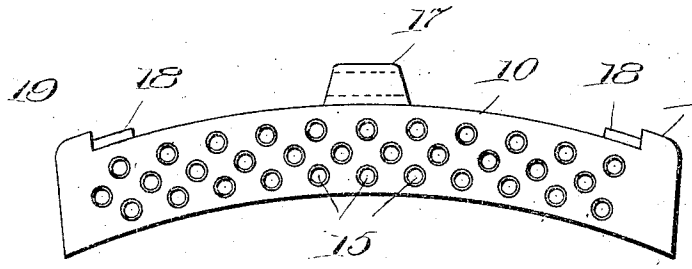


Fig. 2.

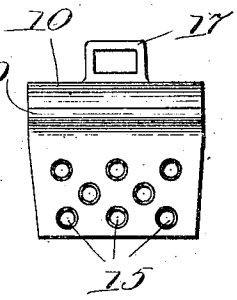


Fig. 3.

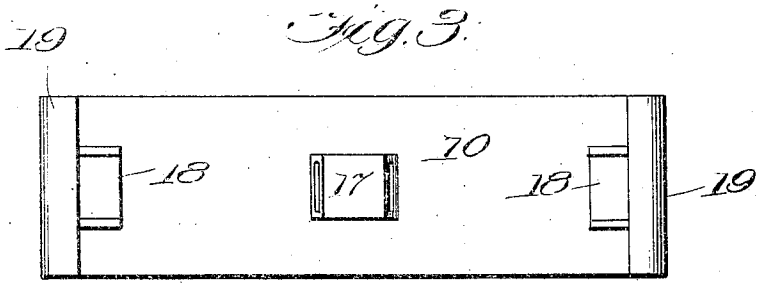


Fig. 4.

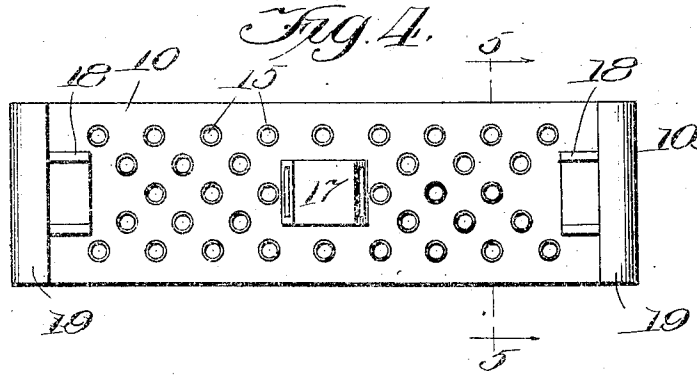
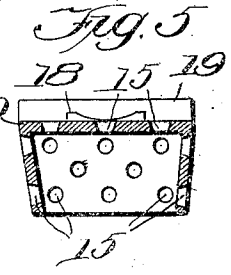


Fig. 5



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M. A. Riddle

Inventor:
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BRAKE SHOE.

APPLICATION FILED JAN. 8, 1906.

2 SHEETS—SHEET 2.

Fig. 6.

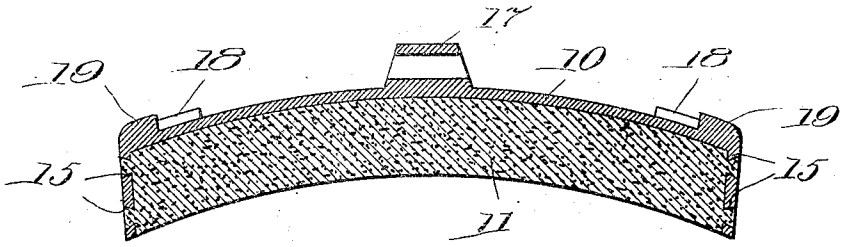


Fig. 7.

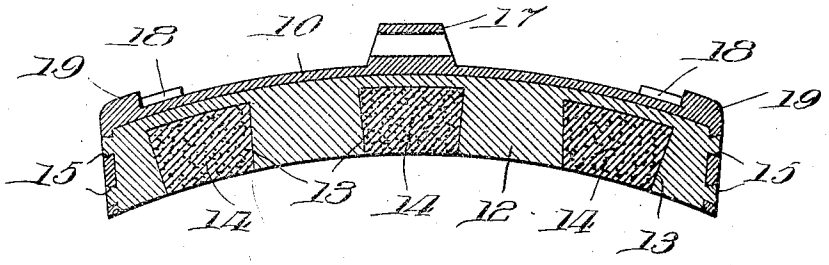
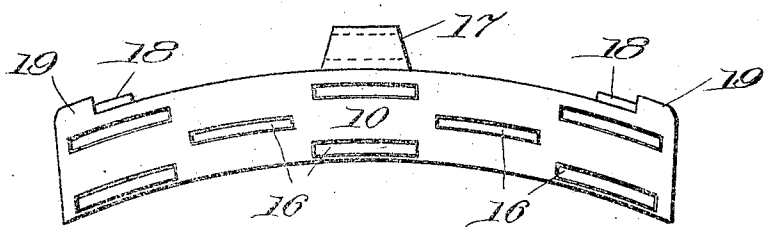


Fig. 8.



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UNITED STATES PATENT OFFICE.

JAMES F. MORRISON, OF CHICAGO, ILLINOIS, ASSIGNOR TO MARY RANDOLPH MORRISON, OF CHICAGO, ILLINOIS.

BRAKE-SHOE.

No. 832,145. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed January 8, 1906. Serial No. 295,125.

To all whom it may concern:

Be it known that I, JAMES F. MORRISON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention is an improvement on my Patent No. 786,373, dated April 4, 1905; and its object is to provide for securing the body of a brake-shoe within a cast malleable iron shell in a simple and permanent manner.

With these and other ends in view the invention consists in the novel improvement illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a shell for a car-shoe embodying the invention. Figs. 2 and 3 are respectively end and back views of the shoe illustrated in Fig. 1. Fig. 4 is a back view of a shell, showing another embodiment of the invention. Fig. 5 is a sectional view on the line 5 5 of Fig. 4. Fig. 6 is a longitudinal sectional view of a composition shoe embodying the invention. Fig. 7 is a similar view of a composite shoe embodying the invention. Fig. 8 is a side elevation of a shell, showing another embodiment of the invention.

I employ a cast malleable iron shell 10 to receive and hold a body of any suitable material. This body may be made of composition 11, Fig. 6, or it may be composite in character and formed of cast-iron 12, provided with pockets 13 to receive inserts 14 of composition or metal differing from the body, Fig. 7. The body may also be formed entirely of cast iron or of any other suitable material, and inserts of any suitable character may be located in the composition body or in the metal body and in any desired manner.

The body of the shoe is pressed or cast in the shell, and for the purpose of securing it permanently therein I provide the shell with a plurality of openings to receive the material of the body. These openings may be variously arranged and I have shown only a few embodiments of the invention.

In Figs. 1 and 2 circular openings 15 are provided in the sides and ends of the shell, while the back of the shell is made imperforate. In Figs. 4 and 5 the shell is provided with openings in its back as well as in its sides and ends. In Fig. 8 I have shown the shell provided with openings in the form of slots 16. The openings may be provided in the sides only or in the ends only or in the back only or in the back and sides or in the back and ends. I prefer to arrange the openings in staggered series, as illustrated in the drawings, and to bevel the walls of each opening so that the body material will make a locking engagement in the openings with the shell. The attaching-lug 17, the guide-lugs 18, and the end lugs 19 are made integral with the shell.

My improved shell is cast like any ordinary cast-iron casting and then annealed, and it can be easily cast with any number of openings arranged in any desired manner and without increase of cost. While a shell provided with openings as herein described will be considerably lighter in weight than an imperforate shell, as described in my patent aforesaid, it will possess all the strength required for actual service. A cast malleable iron shell is strong and substantial in character and will not score or cut the steel tires.

I have illustrated the invention embodied in car-shoes, but it may be used in connection with locomotive-shoes and shoes of any size and shape.

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

1. A brake-shoe comprising a body and a cast malleable iron shell inclosing the body and having openings in its sides and ends to receive portions of the body.

2. A brake-shoe comprising a body and a cast malleable iron shell inclosing the body and having openings with beveled walls therein to receive portions of the body.

3. A brake-shoe comprising a body and a cast malleable iron shell inclosing the body and provided in its sides, ends and back with openings to receive portions of the body.

4. A brake-shoe comprising a body and a

cast malleable iron shell inclosing the body and provided in its sides, ends and back with openings having beveled walls to receive portions of the body.

5. A brake-shoe comprising a cast malleable iron shell having openings therein, a body pressed or cast in said shell and openings, and inserts of different material from the shell and body and held in place in said body.

JAMES F. MORRISON.

Witnesses:
PAUL L. SCHMECHEL,
M. A. KIDDIE.