Oct. 9, 1923. 1,470,478

C. D. PETTIS

BRAKE SHOE

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Fig. 1.

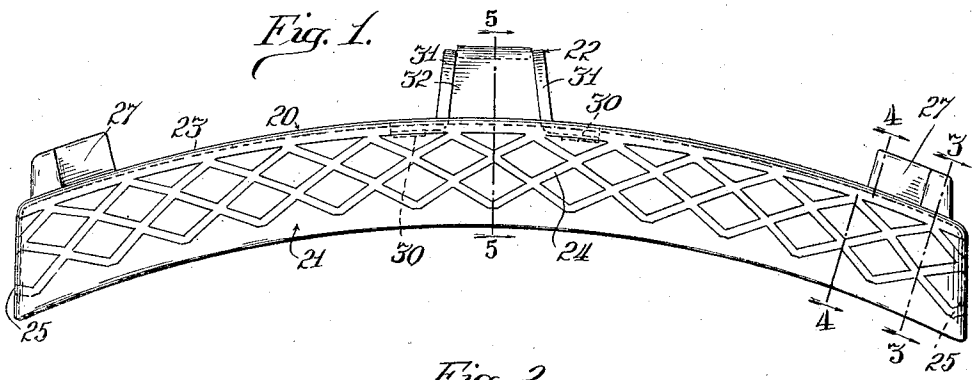


Fig. 2.

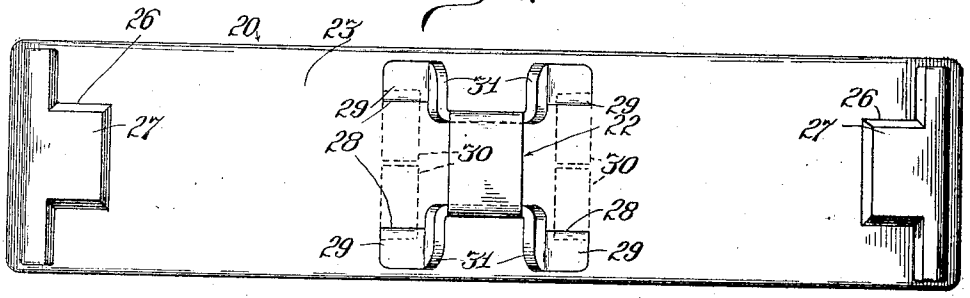


Fig. 3.

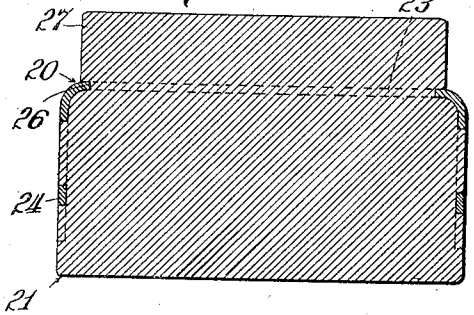


Fig. 4.

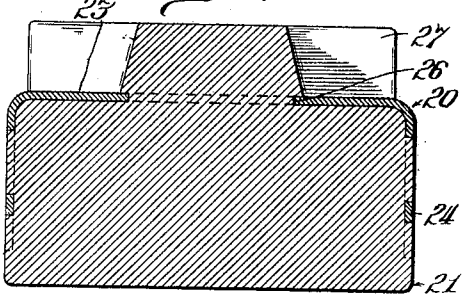
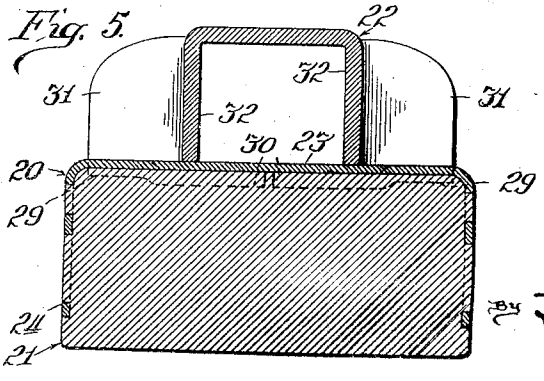


Fig. 5.



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Fig. 7.

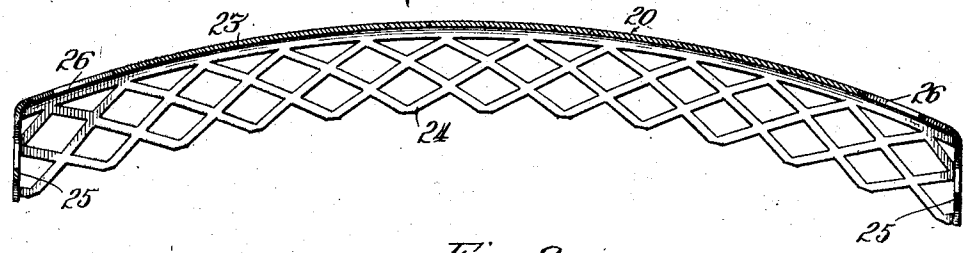


Fig. 8.

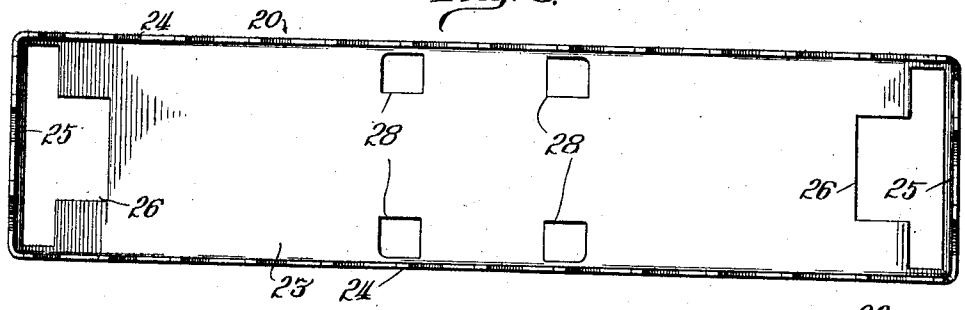


Fig. 6.

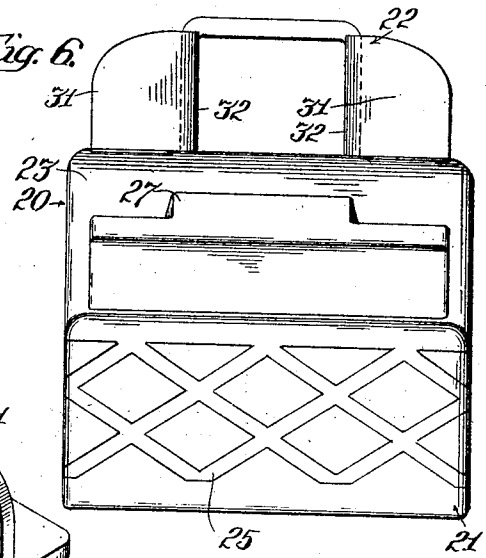
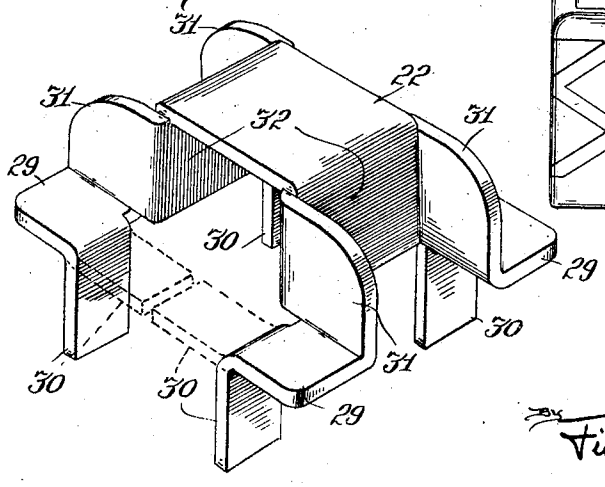


Fig. 9.



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BRAKE SHOE

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Fig. 10.

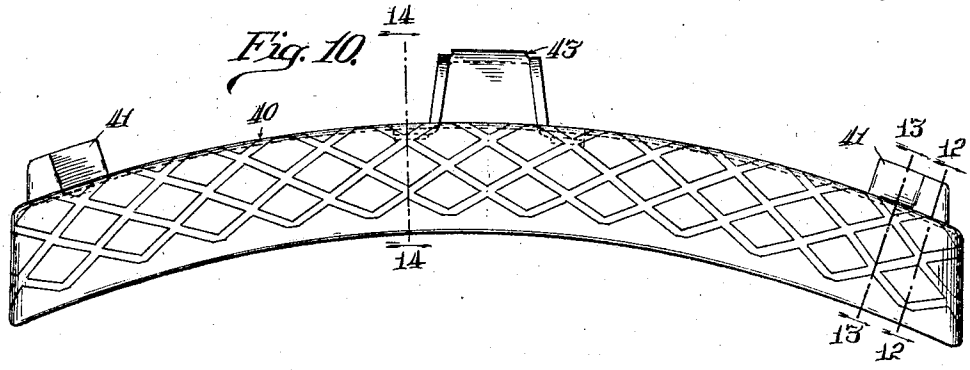


Fig. 11.

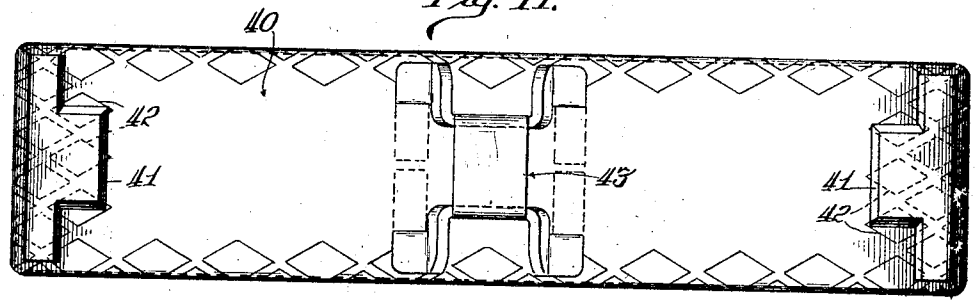


Fig. 12.

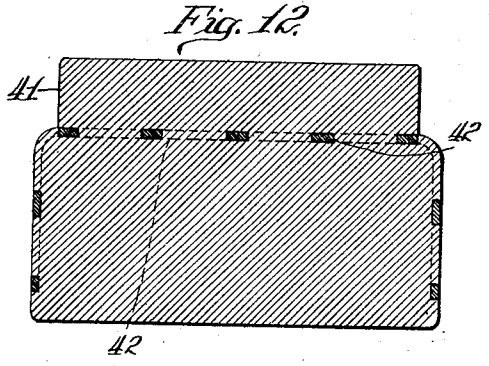


Fig. 13.

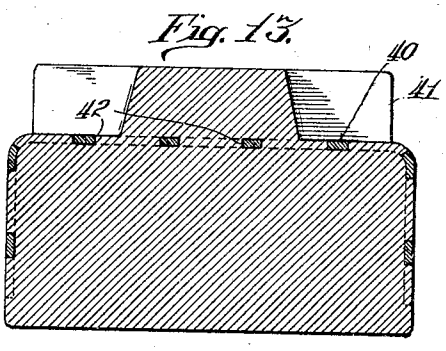
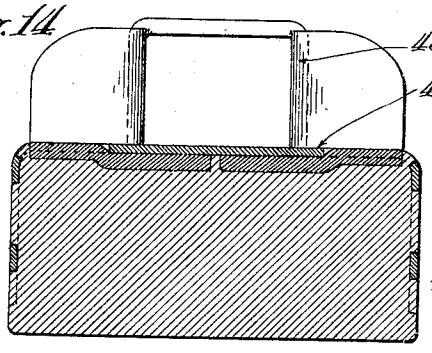


Fig. 14.



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Patented Oct. 9, 1923. 1,470,478

UNITED STATES PATENT OFFICE.

CLIFTON D. PETTIS, OF NEW YORK, N. Y.

BRAKE SHOE.

Application filed September 2, 1922. Serial No. 585,906.

To all whom it may concern:

Be it known that I, CLIFTON D. PETTIS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Brake Shoes, of which the following is a specification.

This invention relates to brake shoes, but more particularly to that type which has a shell of tough, ductile metal embedded in the body of the shoe. The primary object of the invention is to provide a simple and economical construction which is more strong and durable than devices of a similar character heretofore known.

The many other objects and advantages of the invention will be better understood by reference to the following specification when considered in connection with the accompanying drawings illustrating selected embodiments thereof in which—

Fig. 1 is a side elevation of the brake shoe complete;

Fig. 2 is a top plan view;

Fig. 3 is an enlarged transverse section on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged transverse section on the line 4—4 of Fig. 1;

Fig. 5 is an enlarged transverse section on the line 5—5 of Fig. 1;

Fig. 6 is an enlarged end elevation;

Fig. 7 is a detail central longitudinal section of the reinforcing shell;

Fig. 8 is an inverted plan view of the shell shown in Fig. 7;

Fig. 9 is an enlarged detail perspective view of the key lug in condition for attachment to the shell;

Fig. 10 is a side elevation of a modified form of brake shoe;

Fig. 11 is a top plan view of the brake shoe shown in Fig. 10;

Fig. 12 is an enlarged transverse section on line 12—12 of Fig. 10;

Fig. 13 is an enlarged transverse section on line 13—13 of Fig. 10; and

Fig. 14 is an enlarged transverse section on line 14—14 of Fig. 10.

Referring to the drawings and particularly to Figs. 1 to 9, inclusive, the brake shoe comprises a pan or shell 20, a cast body 21, and a key lug 22 which is secured to the pan or shell prior to the casting on of the body.

The pan or shell 20 comprises a top wall 23, side walls 24 and end walls 25. The side and end walls are reticulated. The top wall is provided adjacent its outer ends with substantially T-shaped openings 26 through which the cast metal of the body projects to form end lugs 27. Openings 28 are provided in the top wall of the pan or shell to receive the attaching members 29 of the lug 22. The outer portion of each of these attaching members fits within the corresponding opening in the top wall and the inner or free end portions 30 project through the openings and are bent upwardly into contact with the under face of the shell. In Fig. 9 of the drawing the key lug 22 is shown in its form previous to attachment with the shell or pan. The dotted lines in this figure indicate the position of the free ends 30 of the attaching members of the lug after these ends have been bent into position to secure the lug to the shell. The attaching members of the lug are formed on the wings 31 integral with the body of the lug and projecting from the side edges of the upstanding walls 32 in opposite directions.

Referring to Figs. 10 to 14 inclusive, the modified form of brake shoe is similar in construction to the one hereinbefore described with the exception that the reticulation of the pan or shell 40 extends into the side and end portions of the top plate instead of being confined to the side and end walls of this shell. The special openings in the end portions of the shell for the end lugs are omitted and the metal forming these lugs 41 passes through the reticulations 42. The key lug 43 is secured to the pan or shell 40 in the manner previously described.

In the assembling of the shoe the key lug is first secured to the pan or shell in the manner described. The pan with the lug thereon is then placed in the mold and the body of the shoe is cast on the shell in the usual manner. The cast body firmly holds the attaching ends of the key lug against the under face of the top wall of the pan and prevents this lug from becoming detached from the shell.

The entire shoe is simple in construction and may be economically produced. The reticulated walls of the pan or shell are securely embedded in the body of the shoe and a strong and durable construction is provided.

I am aware that various changes may be made in the construction and arrangement of parts without departing from the spirit of my invention, and I reserve the right to

make all such as fairly fall within the scope of the following claims.

I claim:

1. A brake shoe, comprising a reinforcing shell, a key lug connected to said shell, a body cast on said shell, and substantially T-shaped end lugs cast integral with said body and projecting through correspondingly shaped openings in said shell.

2. A brake shoe, comprising a pan-shaped reinforcing shell having a substantially T-shaped opening in the top wall near each end thereof, a key lug attached to said shell, a body cast on said shell, and end lugs cast integral with said body and projecting through the corresponding openings in the top wall of said shell.

3. A brake shoe, comprising a ductile metal reinforcing shell, a key lug having attaching members projecting through openings in the top wall of said shell and bent beneath said wall to secure said lug to said shell, and a body cast on said shell, said body having substantially T-shaped end lugs formed integral therewith and projecting through correspondingly shaped openings in said shell.

4. A brake shoe, comprising a cast metal body, a pan-shaped shell having its walls embedded in the corresponding faces of said body, substantially T-shaped end lugs formed on said body and projecting through correspondingly shaped openings in said shell, and a key lug attached to said shell.

5. A brake shoe, comprising a pan-shaped shell stamped from sheet metal and having the side and end walls thereof joined at the corners and reticulated below the bent over junction of these walls with the top wall of the shell and the reticulations extending about said corners, a key lug attached to said shell, and a body cast on said shell.

6. A brake shoe comprising a substantially pan-shaped reinforcing shell including a back having the side and end walls of the shell formed integral and continuous therewith, a key lug connected to said shell, a body cast on said shell, and substantially T-shaped end lugs cast integral with said body and projecting through correspondingly shaped openings in the back of said shell.

7. In a brake shoe, a reinforcing shell comprising a back, sides and end walls, the sides and end walls being reticulated with the reticulations uniformly distributed thereover.

8. In a brake shoe, a reinforcing shell comprising a back, sides and end walls, the sides and end walls being joined at the corners and reticulated with the reticulations extending about the corners.

9. In a brake shoe, a reinforcing shell comprising a back, sides and end walls formed integral, the sides and end walls being reticulated with the reticulations distributed uniformly thereover.

10. A brake shoe consisting of a cast metal body and a reinforcing shell, said shell comprising a back plate having integral therewith depending sides provided with perforations extending past each other along the wearing line of the shoe.

11. A brake shoe consisting of a cast metal body and an exterior reinforcing shell, said shell comprising a back plate having integral therewith depending sides and ends provided with perforations extending past each other along the wearing line of the shoe, at the sides, ends and corners thereof.

12. In a brake shoe, a reinforcing shell comprising a back, sides and end walls, the sides and end walls being joined at the corners and reticulated with the reticulations uniformly distributed thereover and extending about the corners.

CLIFTON D. PETTIS.