C. M. MENDENHALL.

BRAKE-SHOE.

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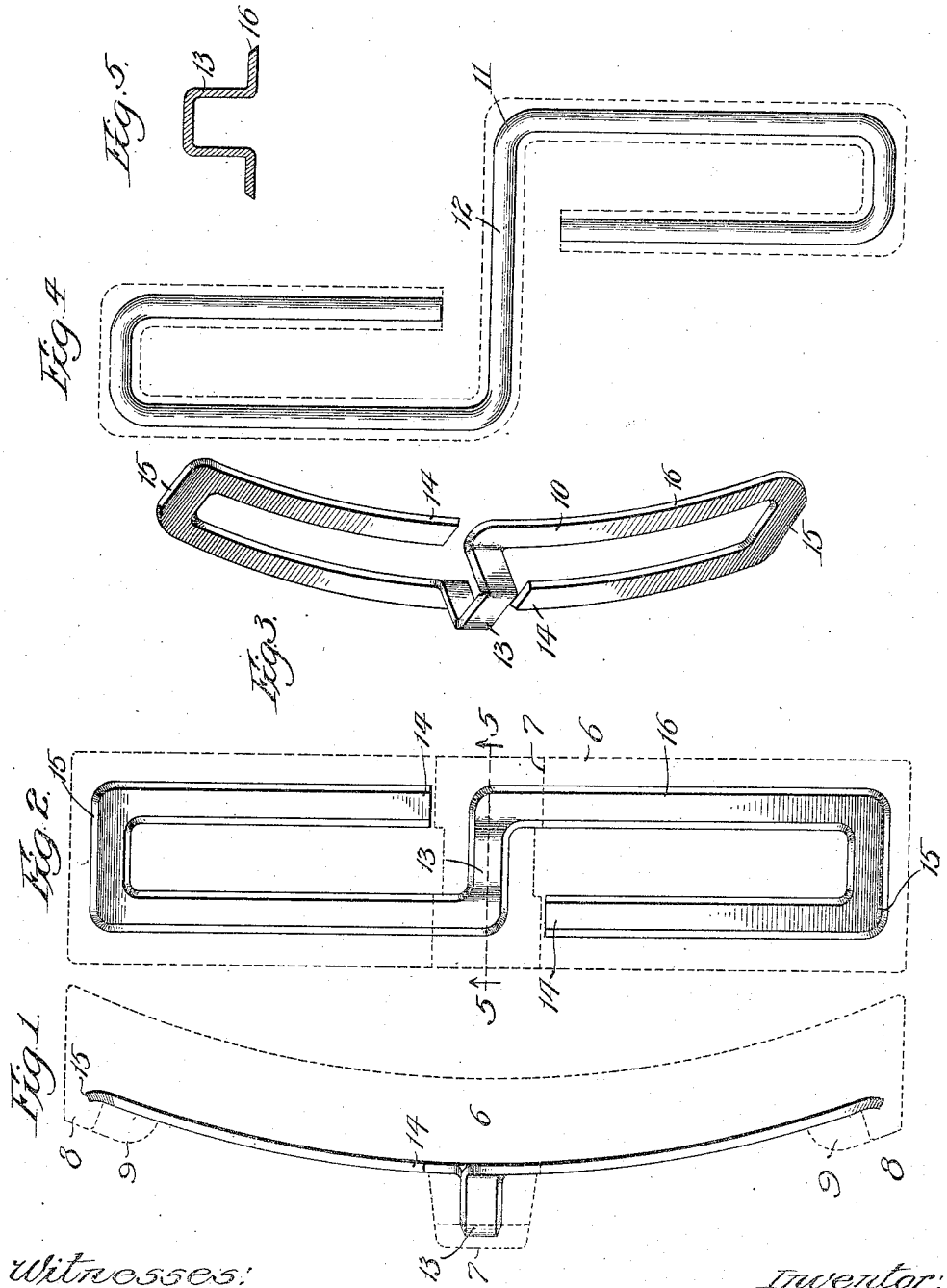
1,045,997. Patented Dec. 3, 1912.



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UNITED STATES PATENT OFFICE.

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BRAKE-SHOE.

1,045,997. Specification of Letters Patent. Patented Dec. 3, 1912.

Application filed February 7, 1910. Serial No. 542,377.

To all whom it may concern:

Be it known that I, CLARENCE M. MENDENHALL, a citizen of the United States, residing at New Rochelle, in the county of Westchester, State of New York, have invented new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention relates to improvements in brake shoes and particularly to that type of shoe which is commonly known as a reinforced shoe by reason of the fact that a reinforce or strengthening member is embedded in the shoe at or adjacent to its back.

The object of this invention is to provide a reinforce or strengthening member of simple construction which can be readily made of comparatively inexpensive material and formed into shape without loss of material and by simple mechanical operations.

Another object of the invention is to provide a grid or skeleton adapted to be embedded in a brake shoe at or adjacent to its back to reinforce or strengthen the shoe, and particularly the attaching lug and the ends of the shoe.

Further objects of the invention are to provide a forged reinforce or back for a brake shoe in general form of a grid or skeleton having a centrally disposed key lug and oppositely formed loops; and also to provide a brake shoe embodying such a reinforce.

In the accompanying drawings illustrating one embodiment of the invention, Figure 1 shows a brake shoe in broken lines with my improved reinforce in full lines embedded therein. Fig. 2 is a plan view of the back of the shoe illustrated in Fig. 1. Fig. 3 is a perspective of the reinforce. Fig. 4 is a plan view showing the reinforce partly formed. Fig. 5 is a sectional view on line 5—5 of Fig. 2.

Referring to the drawings, 6 is the body, 7 the attaching lug, 8 the end lugs and 9 the end guides of an ordinary car shoe.

My invention may be embodied in any kind of a brake shoe and for this reason I have not considered it necessary to do more than indicate the outline of an ordinary car shoe for the purposes of illustrating this invention.

The oblong flat reinforce 10 (Fig. 3) is made from a round rod of commercial iron 11 and first formed into the shape shown in Fig. 4 comprising two loops connected at opposite ends by the transverse part 12. Then the reinforce thus shaped is flattened as indicated by the broken lines, Fig. 4, to a desired thickness (Fig. 5), after which the transverse part 12 is bent up to form the arc or key lug 13, for reinforcing the attaching lug 7.

The grid or skeleton is given the proper curvature to conform with the back of the shoe at the time the arch or key lug is formed. The free ends 14 of the grid or skeleton reinforce are directed inwardly toward and adjacent to the arch or key lug 13. The ends 15 of the reinforce extend across the ends of the shoe beneath the end lugs 8 and not only strengthen the shoe at its ends, but prevent any portion of the shoe stripping off of the reinforce in event the shoe is fractured.

During the flattening operation the reinforce may be provided with beveled edges 16 as shown, and it may also be notched or roughened to make locking engagement with the cast iron of the shoe. The ends 15 of the reinforce may be bent up, as shown in Fig. 1, at the same time the arch or key lug is formed.

In practice the reinforce is placed in a mold and the body is cast thereon in the usual manner. The reinforce may be of sufficient strength to enable the arch or key lug thereof to be used as and for the attaching lug of the shoe without providing any cast iron thereon.

By my invention I provide a forged reinforce of novel construction which is produced in a simple manner, without loss of material, and in a form adapted to reinforce and strengthen all of the parts of a brake shoe. The forged reinforce is strong in itself and it reinforces and strengthens the brake shoe throughout including the attaching lug.

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

1. A forged reinforce for brake shoes con-

sisting of a single flattened rod having its ends bent to form loops approximating the shape of the back of the shoe and connected by an integral transverse part at or about the middle of the reinforce.

2. A forged reinforce for brake shoes consisting of a single flattened rod having its ends bent to form loops approximating the shape of the back of the shoe and connected by an integral transverse part arched to form a key lug at or about the middle of the reinforce.

3. A forged reinforce for brake shoes comprising a single flattened rod having transverse parts to extend across the shoe at its middle and at its ends and substantially parallel parts connected with the ends of the middle part and extending on opposite sides thereof and connected to ends of said end parts.

4. A reinforce for brake shoes made out of a single rod shaped to form a key lug at its center and bent transversely to extend across the end of the shoe.

5. A forged reinforce for brake shoes comprising a single flattened rod bent transversely and arched at or about its middle to form a key lug and having the ends bent in opposite directions from said key lug to form a single rectangular loop on either side of said key lug.

6. A forged reinforce for brake shoes comprising a single flattened rod bent transversely at or about its middle and having a single flattened U-shaped member extending from either side of said transverse part in opposite directions and integrally connected with the ends thereof.

7. A forged reinforce for brake shoes comprising a single flattened rod bent transversely and arched at or about its middle to form a key lug and having U-shaped loops extending on opposite sides of said key lug, each of said loops being connected at one end to an end of said lug and free at its other end.

8. A forged reinforce of skeleton form having a transverse key lug at its center and transverse portions at its ends and all made of a single flattened rod.

9. A forged reinforce for brake shoes comprising a single flattened rod bent transversely at or about its middle and arched to form a key lug and having U-shaped loops extending on opposite sides of said key lug, the outer extremities of said loops being inclined upwardly toward the back of the shoe.

10. A reinforcing back for brake shoes formed from a single piece of wire bent to provide a central upwardly projecting lug, the ends of which wire are bent to provide two end loops extending in opposite directions from said central lug, and the two sides of which end loops extend from opposite ends of said lug, the extremities of said wire terminating adjacent the middle portion of the back.

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