

(No Model.)

W. W. WHITCOMB.  
BRAKE SHOE.

No. 490,702.

Patented Jan. 31, 1893.

Fig. 2.

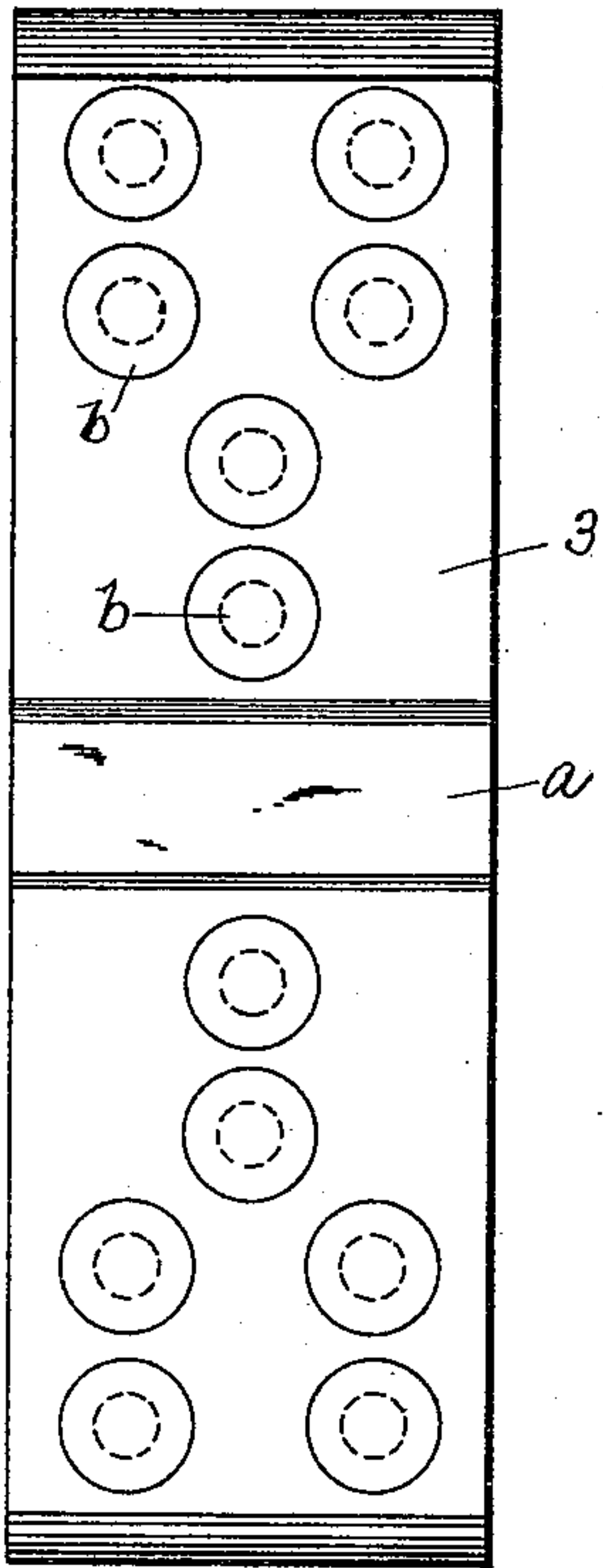


Fig. 5.

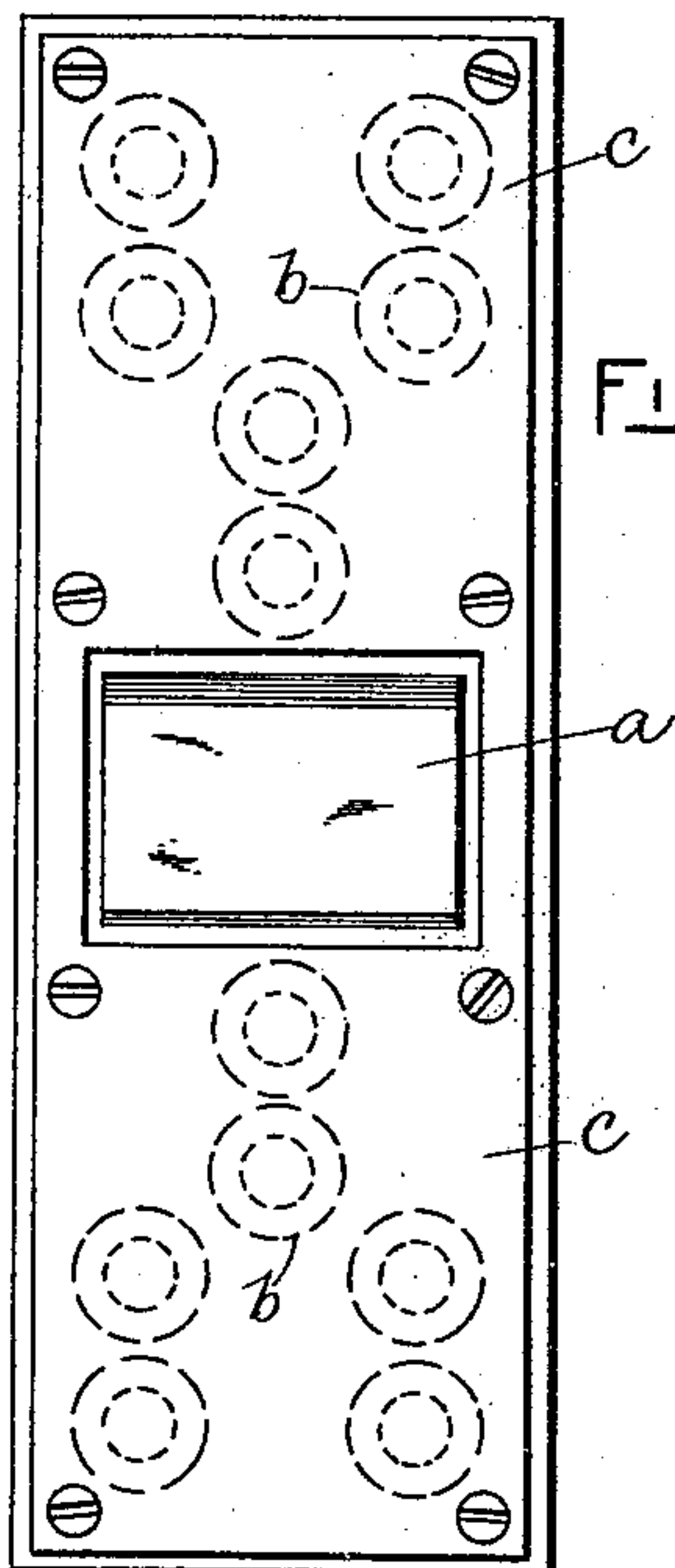
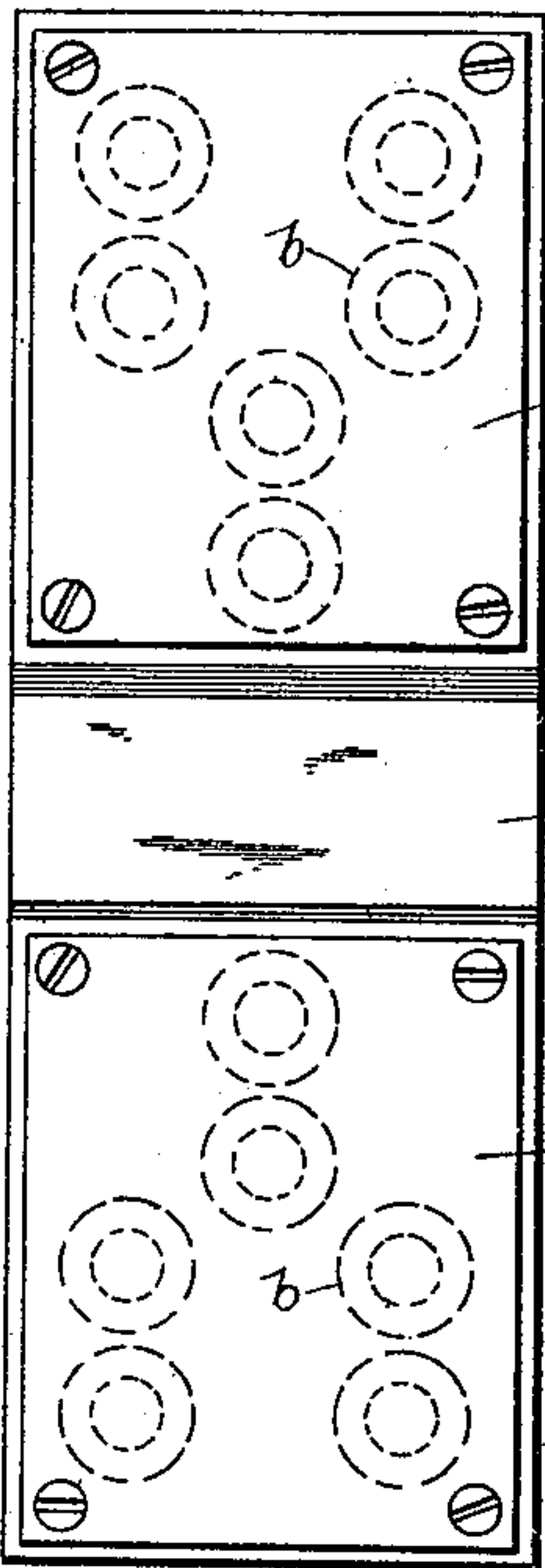


Fig. 1.

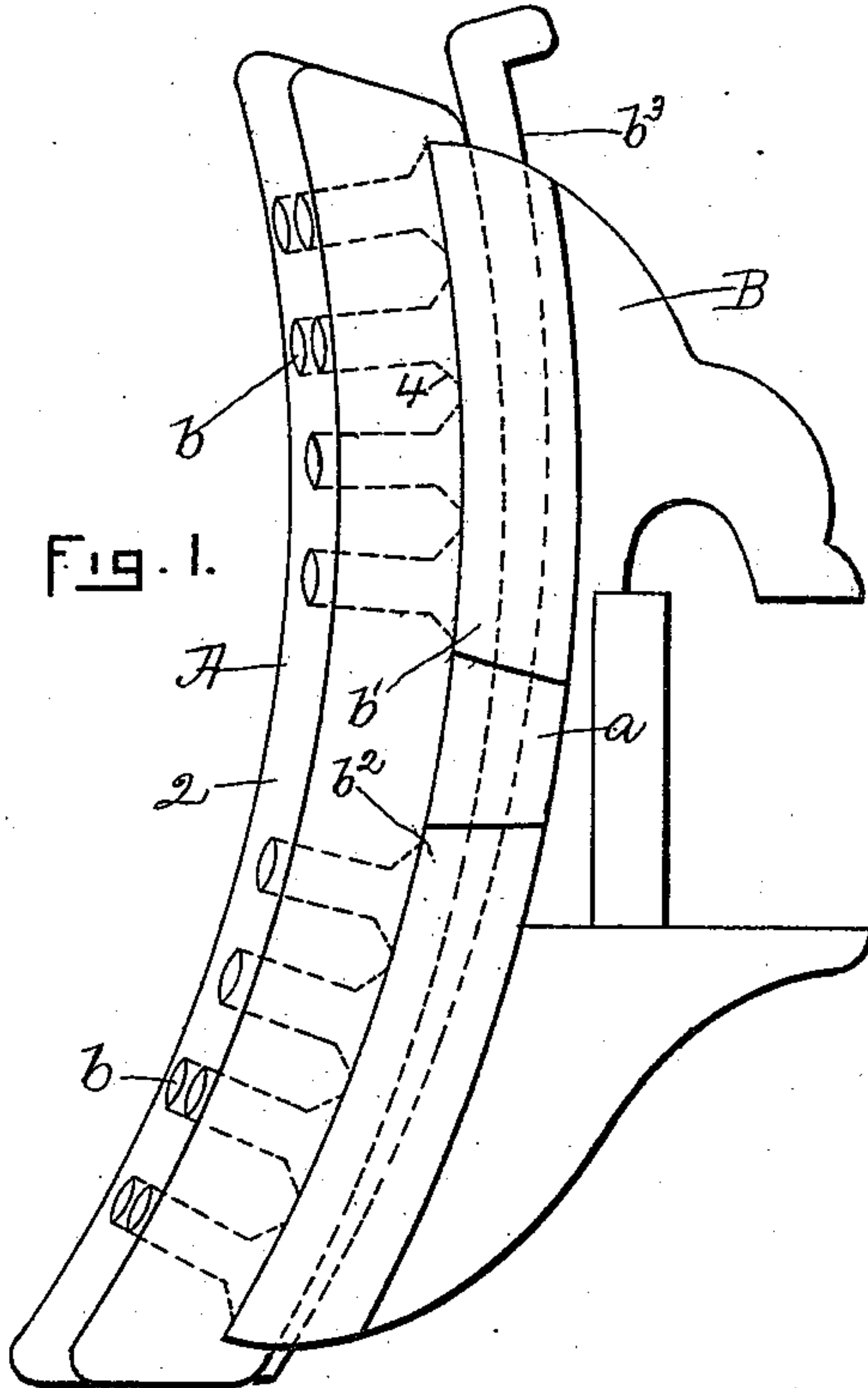


Fig. 4.

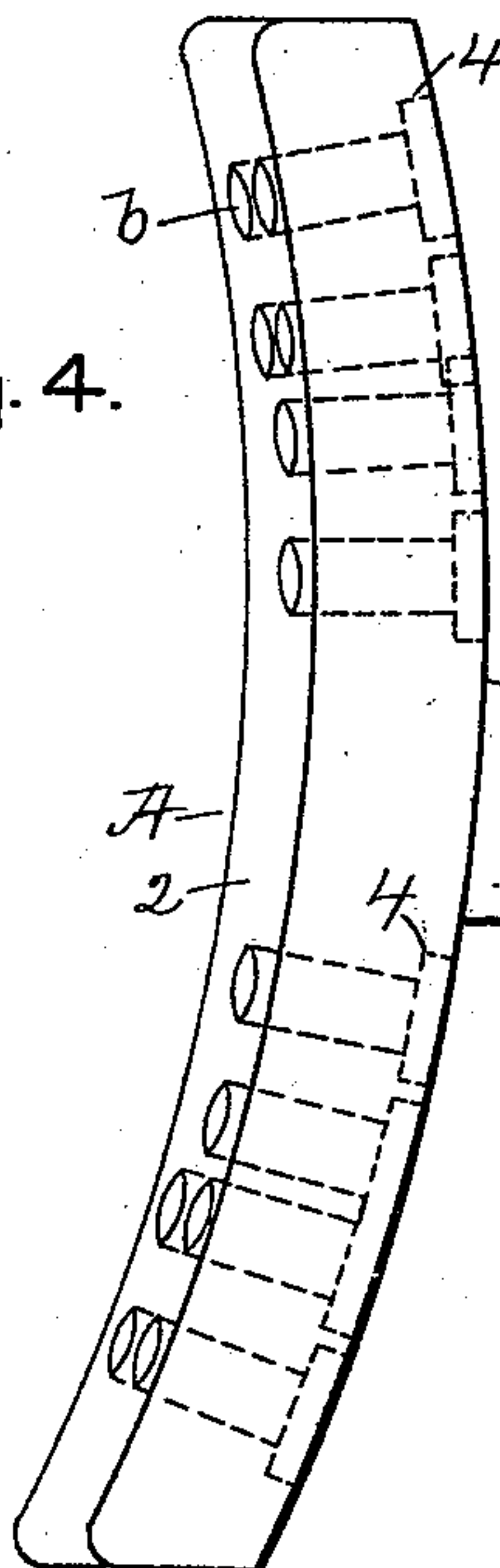
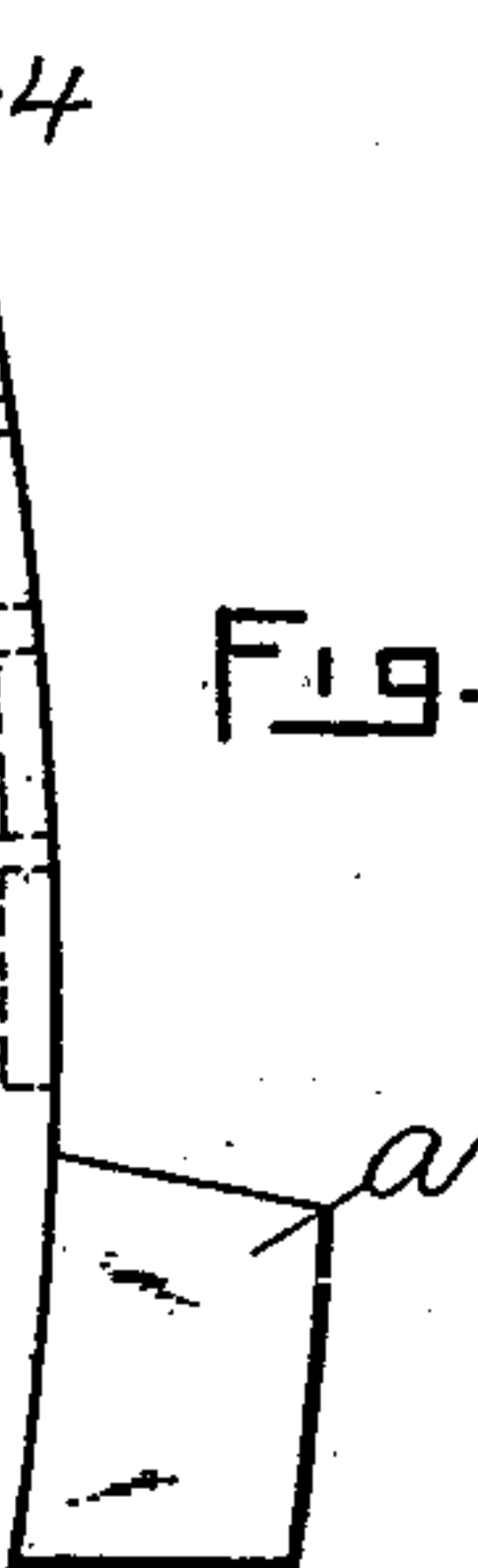


Fig. 3.



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# UNITED STATES PATENT OFFICE.

WILLIAM W. WHITCOMB, OF BOSTON, MASSACHUSETTS.

## BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 490,702, dated January 31, 1893.

Application filed December 3, 1892. Serial No. 453,933. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. WHITCOMB, residing at Boston, county of Suffolk, and State of Massachusetts, have invented an  
5 Improvement in Brake-Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.  
10 This invention relates to a clutch or brake-shoe, especially adapted among other things, to be used on railway cars. The brake-shoe referred to, is provided with a composite wearing surface composed of metallic and preferably  
15 non-metallic portions, the metallic portion of which may be cast-iron, wrought-iron or steel as desired, and the non-metallic portion of which may be wooden or other non-metallic masses preferably in the form of plugs  
20 fitted into sockets or holes in the said metallic portion. In another application Serial No. 452,800, filed by me November 22, 1892, I have shown a brake-shoe having its wearing surface composed of metallic and non-metallic  
25 portions, in which the non-metallic portions are firmly secured within their sockets by means of a locking device or key extended into the hole or socket.  
My present invention has for its object to  
30 provide a brake-shoe having a composite wearing surface, in which the holes or sockets extend entirely through the shoe and are enlarged at their rear portion, so that, the plugs which are shaped to fit the said sockets are  
35 firmly secured in their sockets against forward movement by the enlargement at their rear end, and are prevented from moving in a backward direction by a cover secured to the metallic portion of the brake-shoe.  
40 My improved brake-shoe may and preferably will be made of substantially the same construction as the brake-shoes now commonly in use, and may be applied to the brake-heads now in use, replacing the old form of shoes.  
45 The cover referred to, by which the plugs are prevented from working out of their sockets in a backward direction, may be made in the form of a brake-head or it may be a plate secured to the metallic portion of the brake-  
50 shoe as will be described.

The particular features in which my in-

vention consists will be pointed out in the claims at the end of this specification.

Figure 1, is a side elevation of a brake-shoe embodying my invention, the cover for the  
55 back of the brake-shoe being shown as a brake-head. Fig. 2, a rear view of the brake-shoe removed from the brake-head shown in Fig. 1. Fig. 3, a side elevation of a modified form of brake-shoe. Figs. 4 and 5, rear views of  
60 brake-shoes with modified forms of covers secured to their backs.

Referring to Fig. 1, A represents a brake-shoe herein-shown as constructed after the  
65 manner of the master car-builders' brake-shoes, it being provided on its rear side with a lug or ear *a*, the said brake-shoe being of cast-iron, wrought-iron or steel as desired, but which may be of any other desired form.

In accordance with my present invention, 70  
the brake-shoe A is provided with a number of holes or sockets extended from the front or wearing face 2 of the brake-shoe, to the back face 3 of the said shoe, the said sockets being enlarged at their rear end, as at 4. The  
75 enlargement in each socket or opening may be made of any desired shape, as for instance in Fig. 1, the enlargement is shown as tapering or conical in form, and in Fig. 3, the enlargement *a*<sup>4</sup> is shown as annular in form, 80  
but it may be of any other desired form.

The sockets or openings referred to, have  
inserted into them compact masses or plugs  
85 *b*, preferably made of wood or other non-metallic material, which are also shaped at their rear ends to conform to the enlargement of the sockets or holes into which the plugs are inserted. Each plug *b* is made of such length  
90 that its front end is substantially flush with the front face 2 of the brake-shoe, and its rear end is substantially flush with the rear face 3 of the brake-shoe, when the said plug is fitted into its socket as represented in the drawings. By reason of the enlarged rear end of the  
95 plug, the latter is prevented from working out from its socket toward the front of the shoe, and is securely fastened by said enlargement within its socket against such forward movement as might occur if the plug was made  
100 straight. In order to prevent the plugs from working out from the rear of the brake-shoe, the said plugs are retained in their sockets



or openings against such rearward movement, by means of a cover shown in Fig. 1 as a brake-head B, the front portions  $b' b^2$  of which are made of such length as to completely  
5 cover the said plugs.

The front portions  $b' b^2$  of the brake-head B are provided with a suitable hole through which is extended a spline or key  $b^3$  also extended through a hole in the lug or ear  $a$  of  
10 the brake-shoe, to securely fasten the brake-shoe to the brake-head B.

Instead of constructing the front portions  $b' b^2$  of the brake-head B so as to cover the rear portions of the plugs, the latter may be  
15 secured in their sockets or openings by independent plates or covers  $c c'$ , as shown in Figs. 4 and 5. As shown in Fig. 5, the covers or plates  $c'$  are independent of each other, which permits the same to be used on a brake-shoe  
20 having its lug or ear  $a$  extended entirely across the back of the shoe, but if desired, the plates or covers on opposite sides of the said lug may be made of a single piece of metal, as represented in Fig. 4, which is slotted to fit over  
25 the lug or ear  $a$ , the latter in this case extending but partially across the back of the brake-shoe. By means of the cover, the brake-shoe A is made substantially simple and the work required for fitting the plugs into their sock-  
30 ets is reduced to a minimum, and furthermore, any plug may be readily removed, if required, by detaching the back plate and driving the plug out of its socket from the front face or side. Another advantage is that  
35 the plugs are not required to fit their sockets or openings with such nicety as is required when the plugs are driven into the brake-shoe from the front side, as the enlarged rear portions of the plugs prevent the same from work-  
40 ing out from the front face of the shoe, and when the cover has been applied to the brake-

shoe, the plugs are firmly secured against movement in either direction.

I prefer to make the plugs of non-metallic material but I do not desire to limit my in- 45 vention in this respect as a composition of metals or any metal softer than the main metallic portion of the brake-shoe may be used.

I claim—

1. In a brake-shoe, the combination with a 50 metallic portion having a plurality of holes or sockets extended through the shoe and enlarged at their rear end, of a plurality of plugs inserted into the said holes or sockets and enlarged at their rear end, substantially as de- 55 scribed.

2. The combination with a brake-shoe consisting of a metallic portion provided with a plurality of holes or sockets extended through the shoe and enlarged at their rear end, and 60 a plurality of plugs inserted into the said holes from the rear of the shoe and enlarged at their rear ends, and a cover for said plugs secured to the rear side of the shoe, substantially as described. 65

3. The combination with a brake-shoe consisting of a metallic portion provided with one or more holes or sockets extended through the shoe, of a plurality of plugs inserted into said holes or sockets, the said holes or sockets and 70 plugs being constructed to prevent forward displacement of the plugs, and a cover for the back or rear face of the shoe to prevent rearward displacement of the plugs, substantially as described. 75

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM W. WHITCOMB.

Witnesses:

JAS. H. CHURCHILL,  
J. MURPHY.