

No. 753,004.

PATENTED FEB. 23, 1904.

FITZ WILLIAM SARGENT.
BRAKE SHOE.

APPLICATION FILED DEC. 16, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

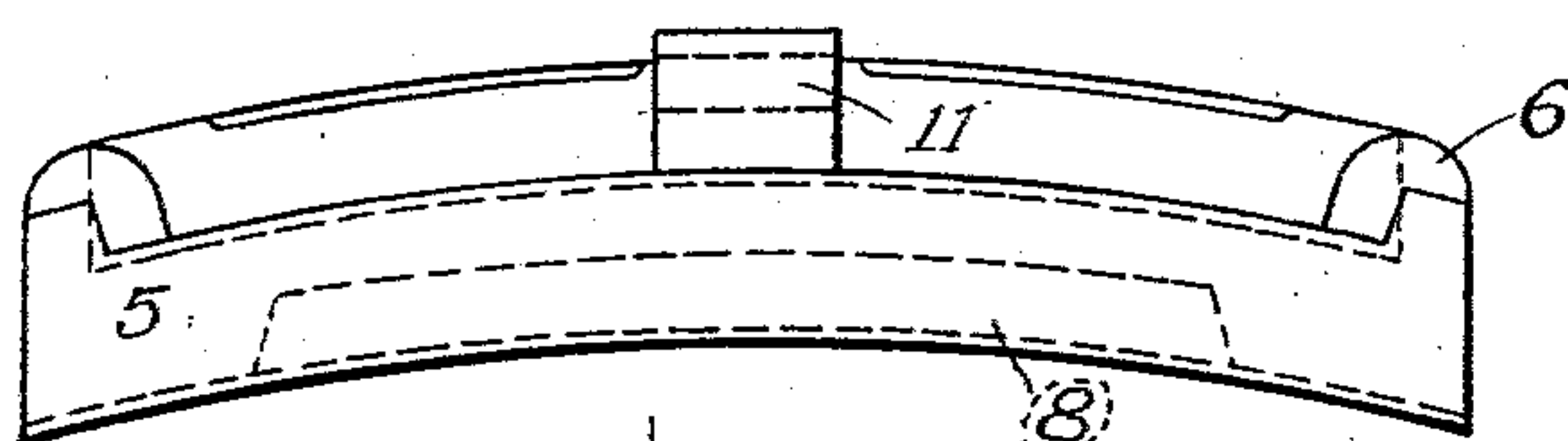


Fig. 1.

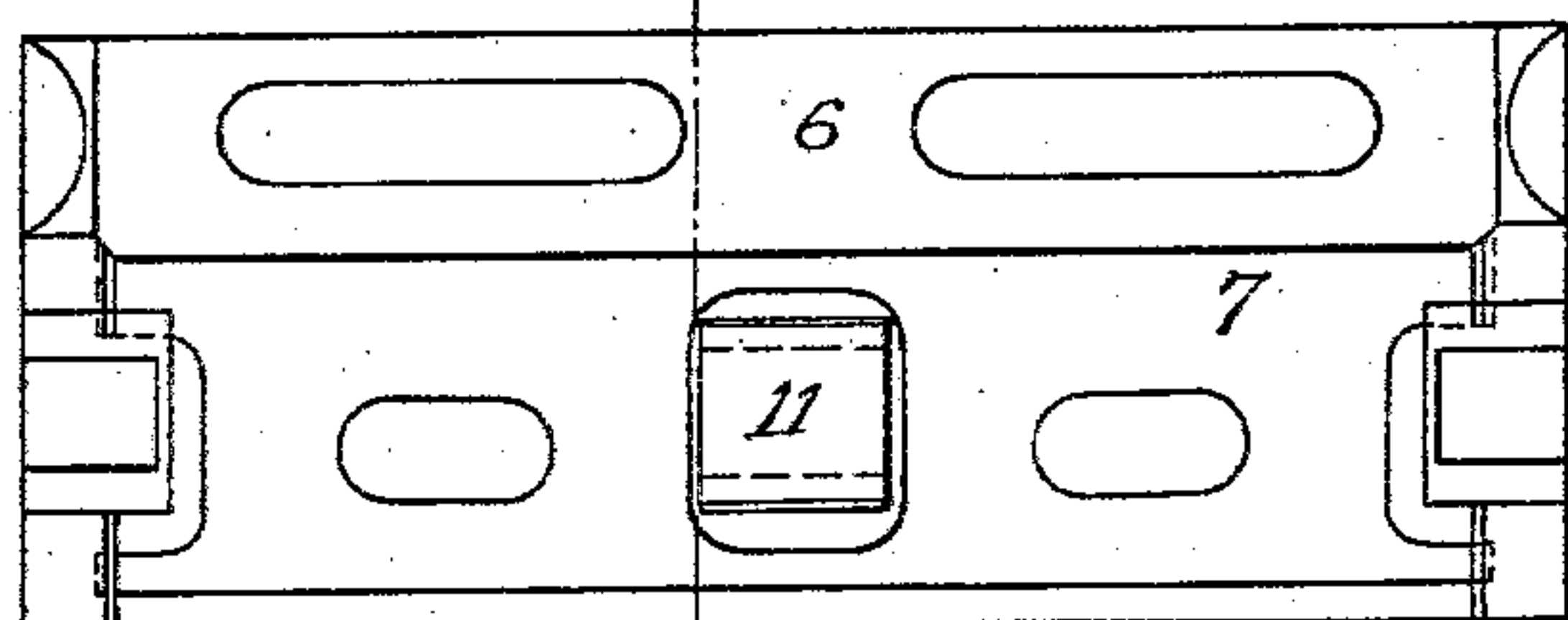


Fig. 2.

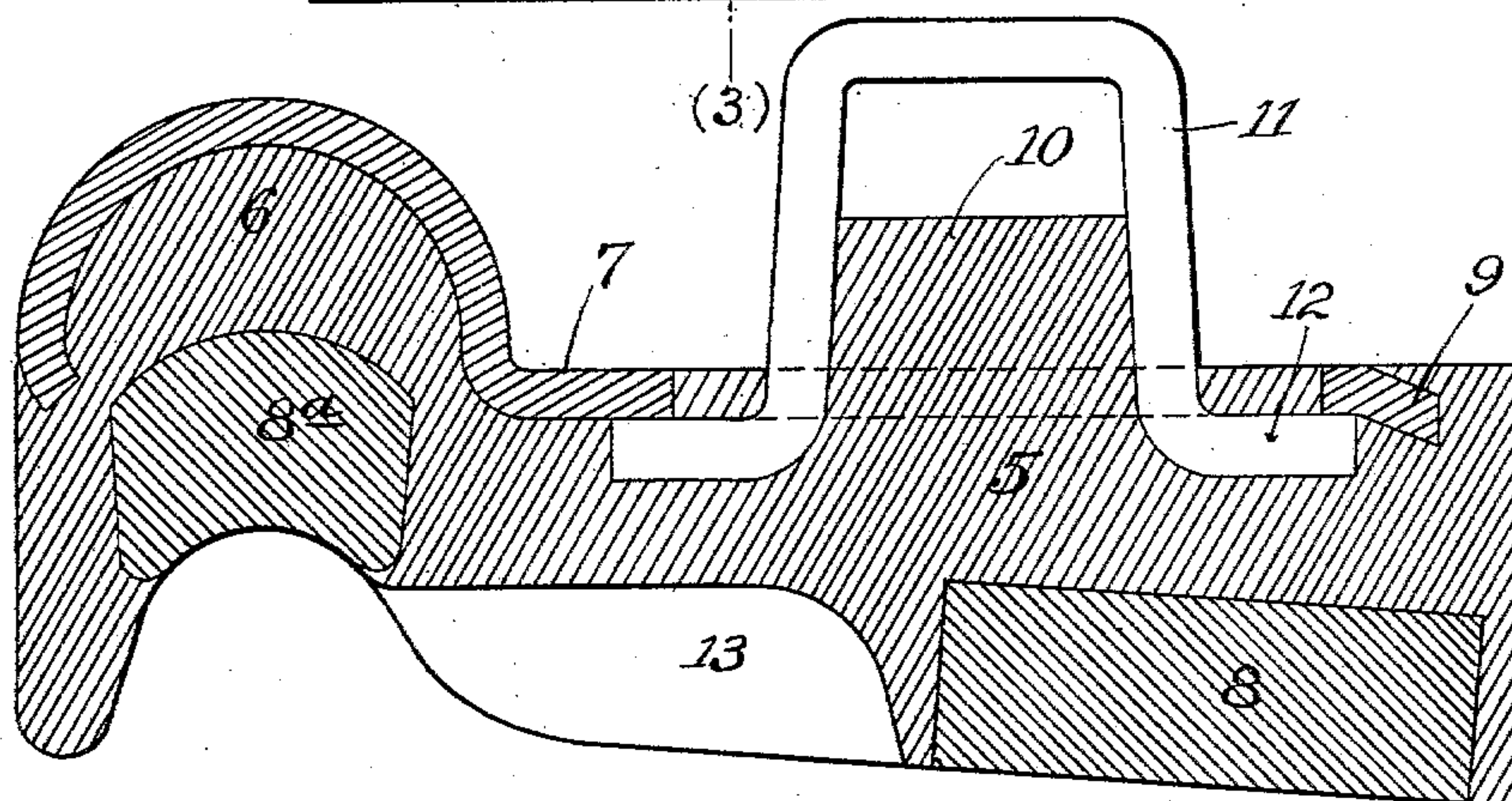


Fig. 3.

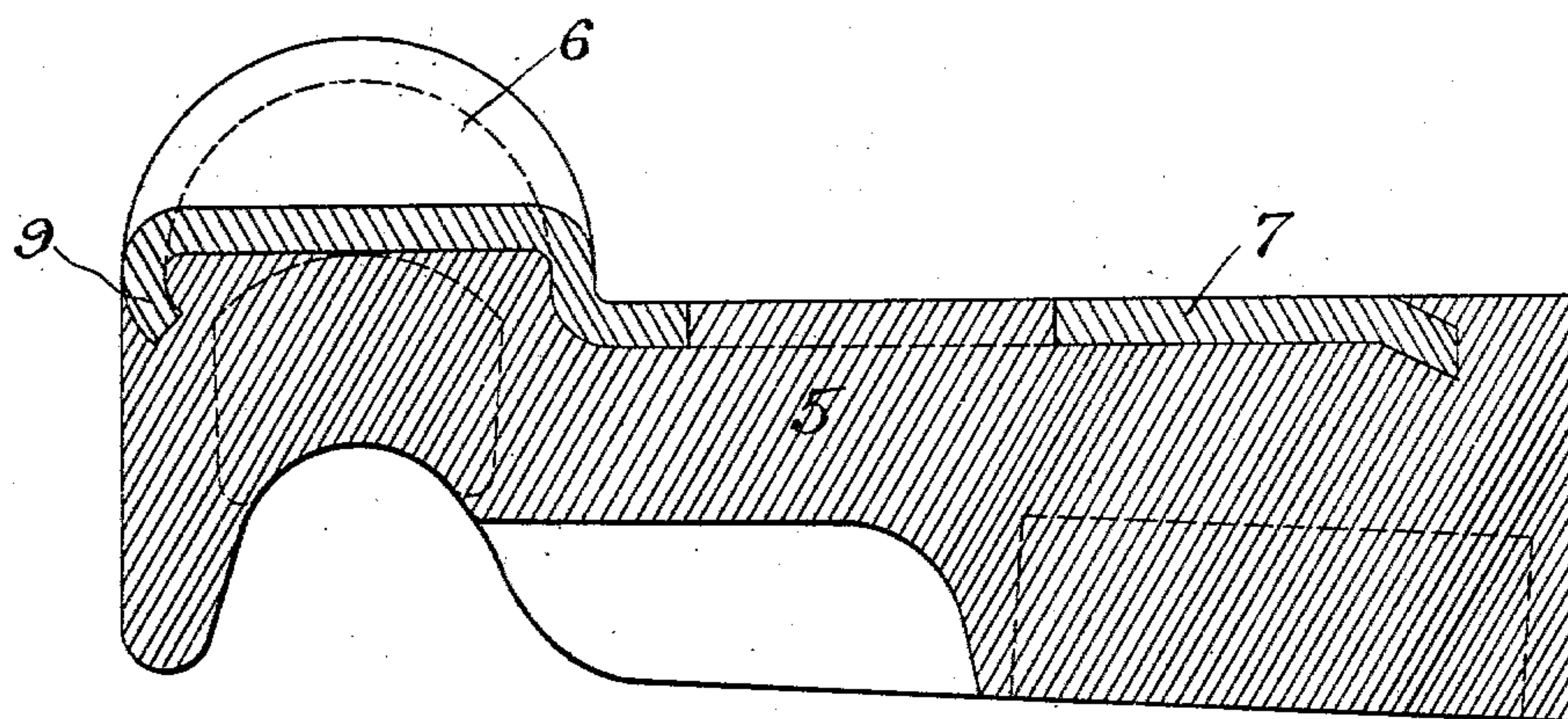


Fig. 4.

Witnesses;

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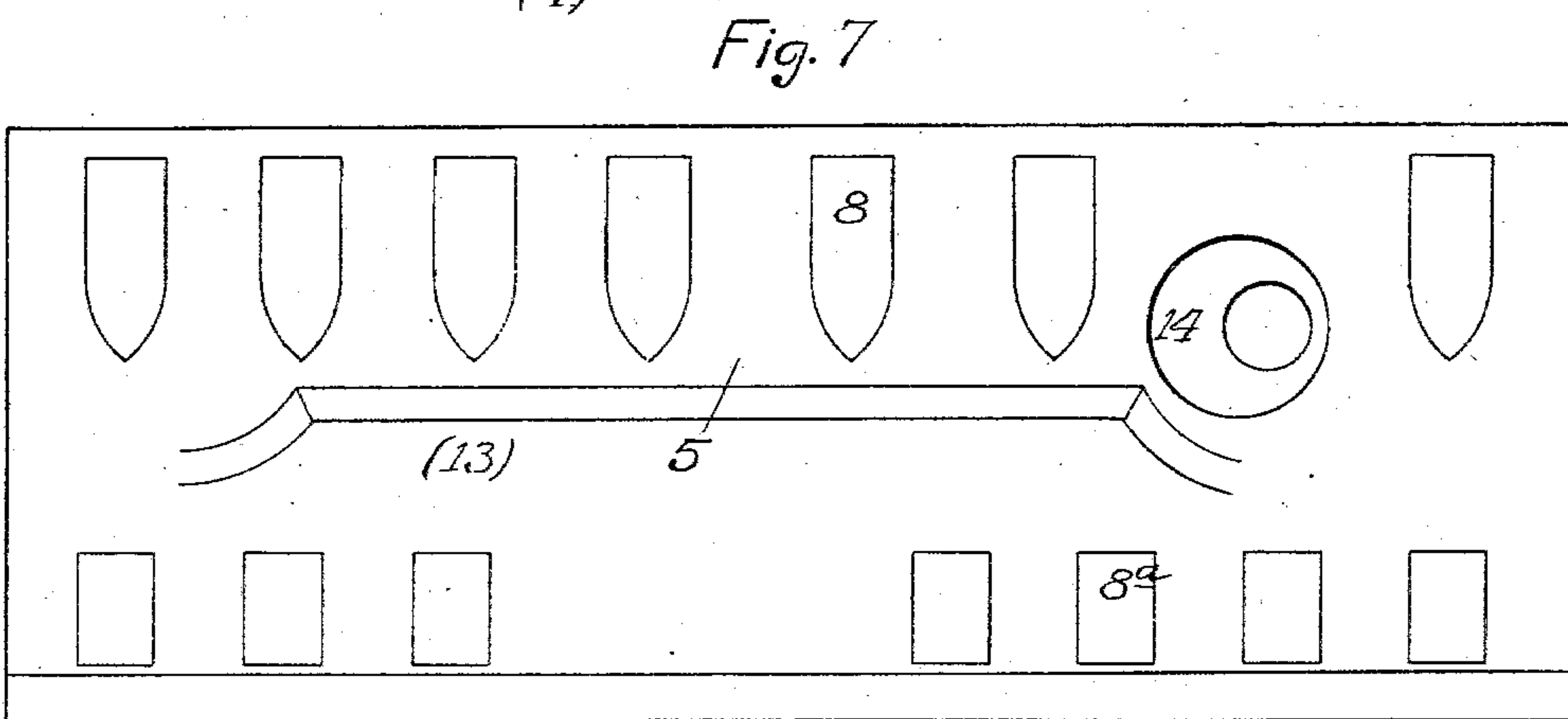
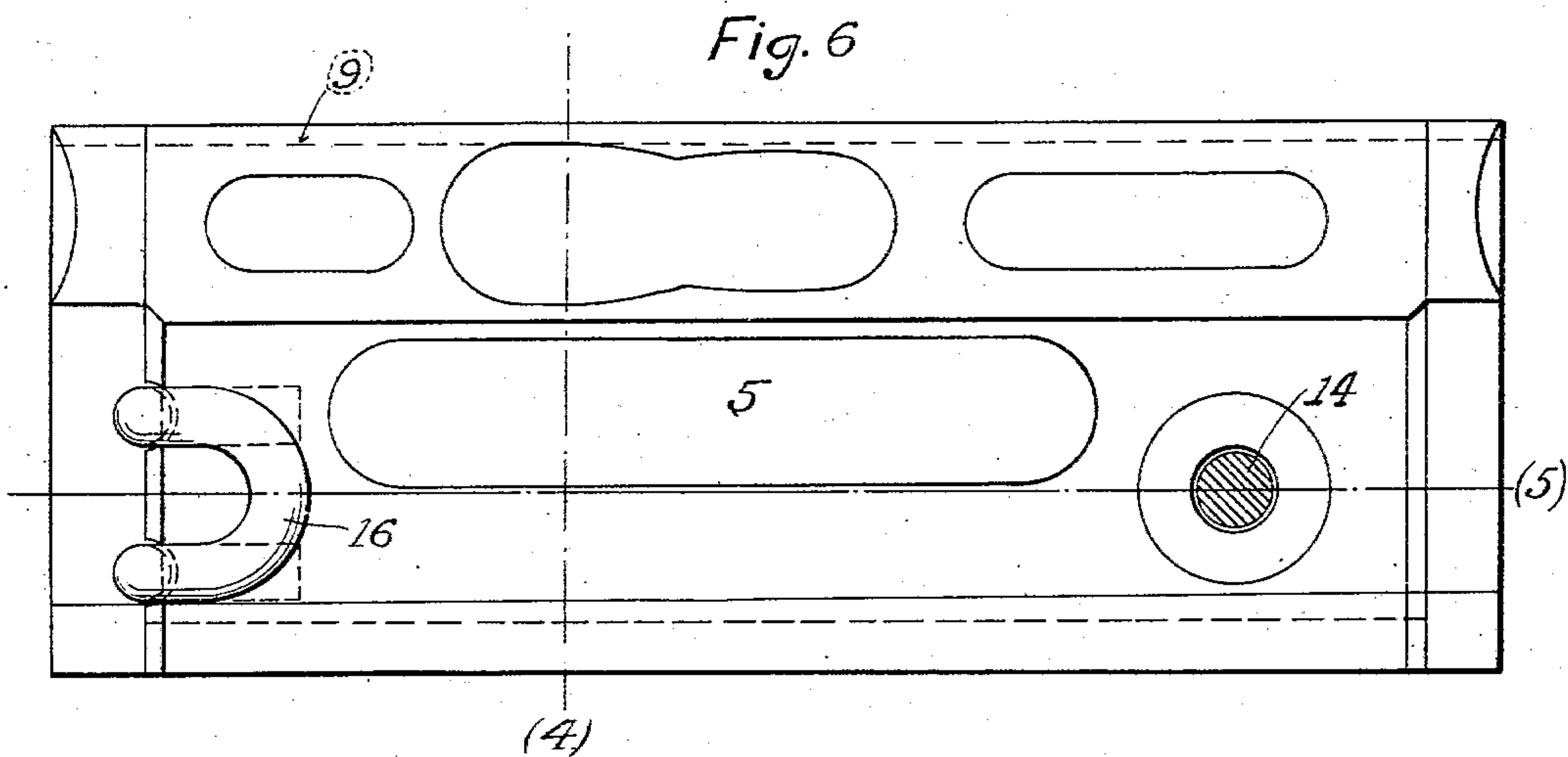
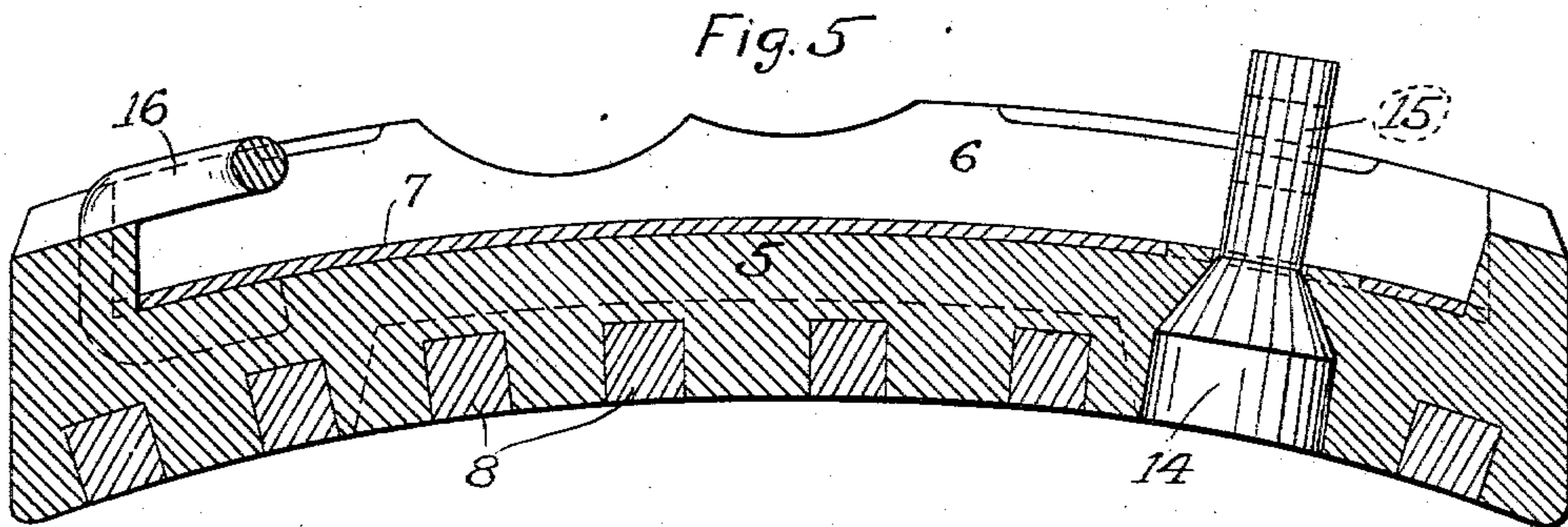
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2 SHEETS—SHEET 2.



Witnesses;

F. W. H. Clay
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UNITED STATES PATENT OFFICE.

FITZ WILLIAM SARGENT, OF MAHWAH, NEW JERSEY, ASSIGNOR TO
AMERICAN BRAKE SHOE & FOUNDRY COMPANY, OF MAHWAH,
NEW JERSEY, A CORPORATION OF NEW JERSEY.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 753,004, dated February 23, 1904.

Application filed December 16, 1903. Serial No. 185,403. (No model.)

To all whom it may concern:

Be it known that I, FITZ WILLIAM SARGENT, a citizen of the United States, residing at Mahwah, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

My invention relates to the wearing blocks upon railway brakes and particularly to brake shoes designed for engine driving wheels such as are usually made of combination metal, and to means for strengthening the same and to improvements in the attaching means therefor.

The objects of the invention are to provide in a brake shoe of the type which wears upon the wheel at the point where the rail does not wear, a superior combination of different densities of metal, to provide a superior strengthening back for the shoe, and an improved means for attaching the brake shoe to the brake head. These objects with other advantages which will hereinafter appear, I attain by means of the construction illustrated in preferred form in the accompanying drawing, wherein—

Figure 1 is a side elevation of the preferred form of the shoe;

Figure 2 is a top plan view of the same;

Figure 3 is a cross section of the view taken on line (3) of Figure 2;

Figure 4 is a cross section of a modified form of the shoe taken on line (4) in Figure 6;

Figure 5 is a longitudinal section of such modified form of shoe;

Figure 6 is a top plan view of the same, and

Figure 7 is an under plan view of the modified form of the shoe, showing the steel inserts placed in the shoe.

In making brake shoes for engine drivers it is known to be desirable to form a recess in the face of the same so as to prevent the shoe from wearing unnecessarily upon that part of the wheel which takes the wear of the rail.

It is also found advisable to combine in the wearing sole a soft cast metal and also a hard steel insert to add to the durability of the wheel. In such shoes there is great difficulty

in securing a shoe of sufficient strength to withstand the rough usage, on account of a tendency to crack, and to overcome this trouble I provide the shoe preferably with a steel backing and also with malleable metal means for attaching the shoe to the brake head.

In the form shown in the first three Figures I provide the body of the shoe 15 with cast metal and cover the back with a malleable metal or a steel plate 7, which extends over the tread portion and also around the flange portion of the shoe. It has the cut out portions on top as shown in Figure 2, and in the central opening is provided a projection for the seat of the brake shoe key, and over it I provide a metal strap 11 to form an attaching lug. The strap 11 is anchored in the cast metal of the body 5 and extends also under the edges of the steel backing, as shown in Figure 3. In the face of the shoe I provide a series of inserts 8 preferably of crucible steel on the tread of the shoe, and also a series of inserts 8^a along the throat or flange portion to engage the flange of the wheel. The arrangement of these blocks is similar to that shown in Figure 7. It will be understood of course, that the body of the shoe 5 is cast upon the other portion so the entire mass is firmly bound together.

In the form shown in Figures 4 to 7, a body portion 5 is similarly provided with inserts 8 along the tread and inserts 8^a in the position to bear on the flange of the wheel, and also with the recess portion 13 as shown in Figures 7 and 3. The steel backing 7 extends over the tread portion and also over the flange portion 6, and is provided with intumed portions 9 to thoroughly anchor the backing in the cast metal of the body. For attaching these I preferably use at one end a round metal pin 14, which extends through the shoe and is provided with a slot 15 for the purpose of receiving a key to hold the shoe upon the head. At the other end is provided a malleable metal hook 16 which is of the form shown in Figures 5 and 6, being embedded in the cast metal of the shoe and the under por-

tion of the same extending underneath the steel backing 7, as appears in Figure 5.

It will be seen from this construction that the face of the shoe presents a wearing surface only upon the outer tread and upon the flange of the wheel, and that this wearing surface is composed alternately of the soft cast metal and the hard steel inserts 8. To counterbalance the necessary weakening of the shoe which is incidental to the insertion of the blocks 8 and 8^a, the back of the shoe is completely covered and bound together by means of the steel plate 7; while at the same time the malleable metal attaching means 11 in the one instance, or the hook 16 in the other, is anchored underneath the steel back and therefore has a firm hold upon the cast metal and also upon the backing as well.

Having thus described my invention and illustrated its use, what I claim as new, and desire to secure by Letters Patent, is—

1. A brake shoe comprising a cast metal body portion, a series of steel inserts on the face thereof disposed so as to wear on the outer edge and the flange of the wheel only, a steel backing for the cast body covering the entire surface thereof and having its edges anchored in the metal of the body, and metallic attaching means anchored underneath the steel back, substantially as described.

2. A brake shoe comprising a body portion having a recess over the inner tread portion

of the wheel, a series of hard metal inserts, a steel back, and a malleable metal attaching lug.

3. A brake shoe comprising a body portion having a recess over the inner tread portion of the wheel, a series of hard metal inserts over the outer tread and flange of the wheel, a steel back, and a malleable metal attaching lug anchored beneath the steel back.

4. In a brake shoe the combination of a cast metal body portion, a malleable metal backing anchored in the cast metal of the body, and attaching means comprising a malleable hook at one end and a malleable post at the other, both of which are anchored underneath the steel back, substantially as described.

5. In a brake shoe the combination of a cast iron body having a recess over the inner tread of the wheel, a series of malleable metal inserts over the outer tread and the flange of the wheel, a malleable metal backing, a malleable metal hook extending under the malleable metal backing at one end, and at the other a malleable post extending through the shoe and having a shoulder underneath the malleable backing, substantially as described.

In testimony whereof I have hereunder signed my name in the presence of the two subscribed witnesses.

FITZ WILLIAM SARGENT.

Witnesses:

A. G. JACOBS,

CHAS. F. HERLIHY.