

No. 785,355.

PATENTED MAR. 21, 1905.

J. D. GALLAGHER.
BRAKE SHOE.

APPLICATION FILED MAY 3, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

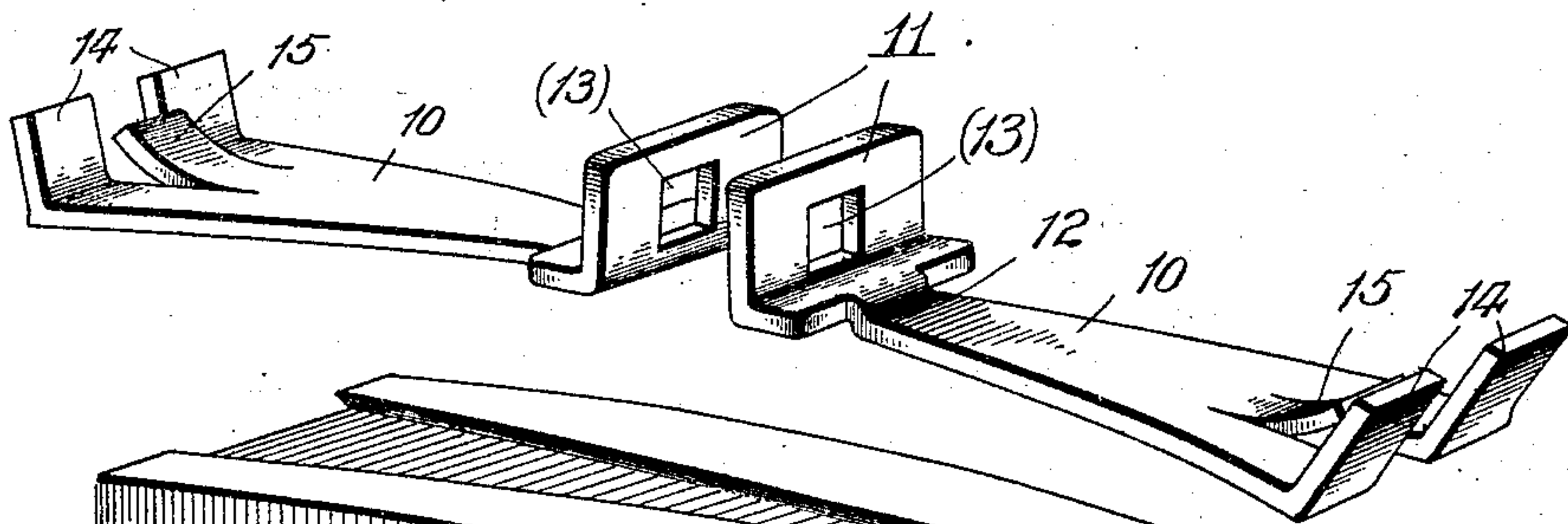


Fig. 2.

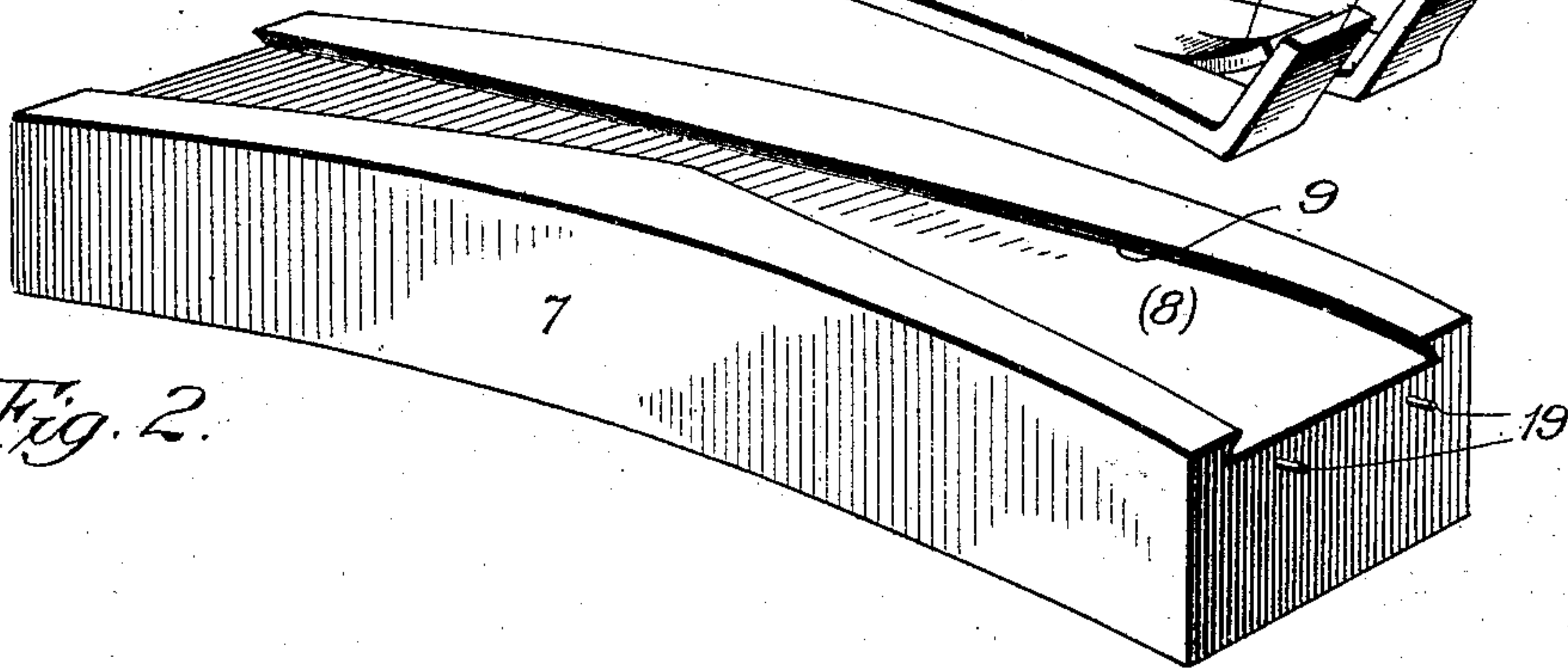
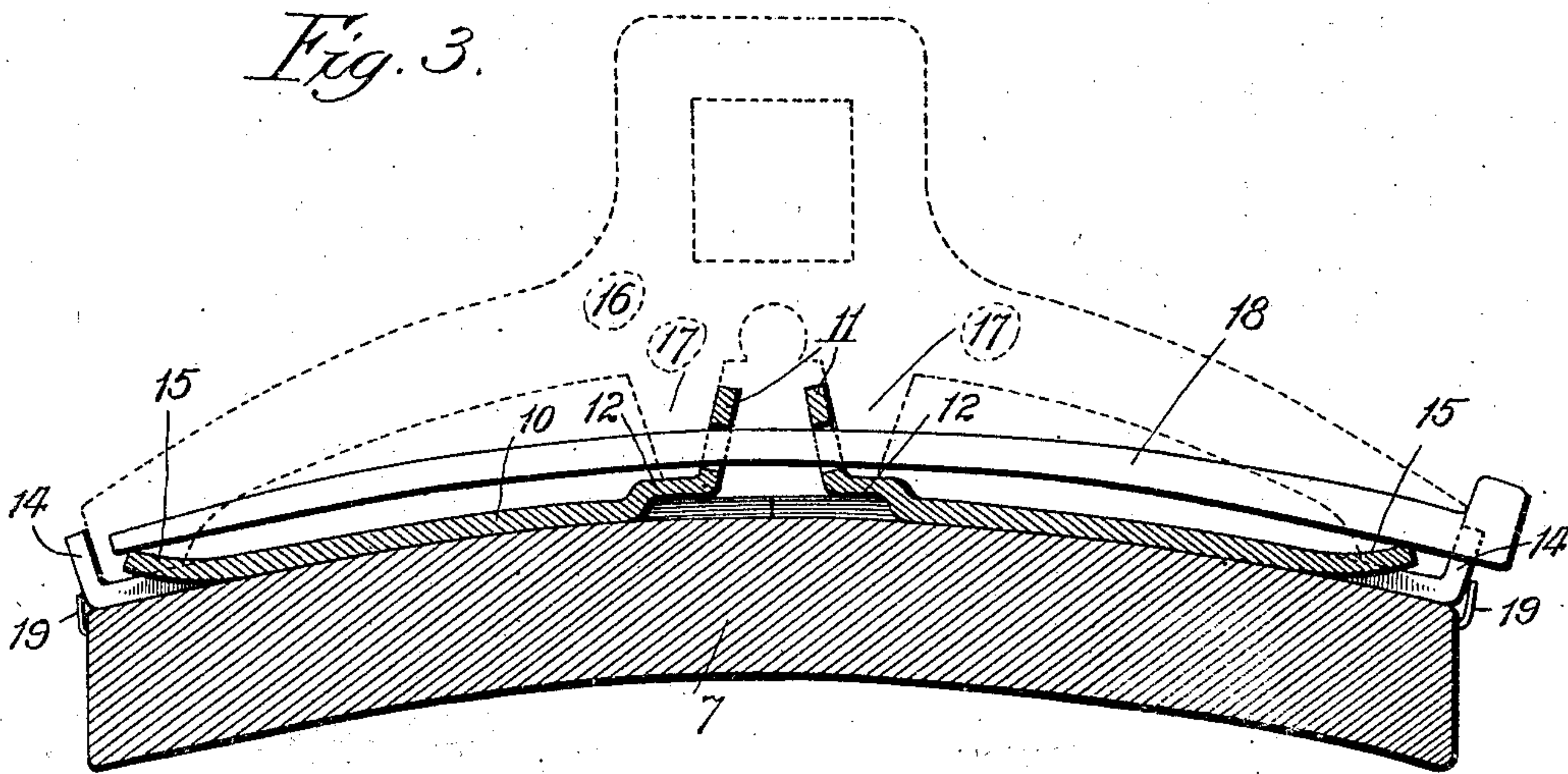


Fig. 3.



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Edward C. Burns

Inventor:

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2 SHEETS—SHEET 2.

Fig. 4.

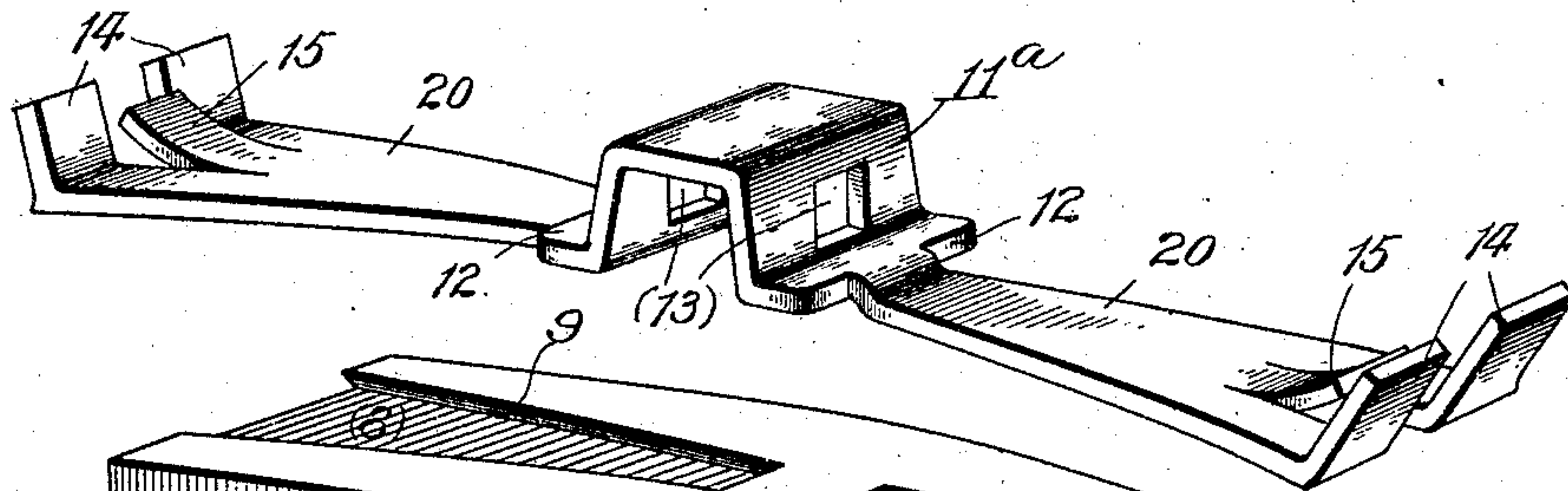


Fig. 5.

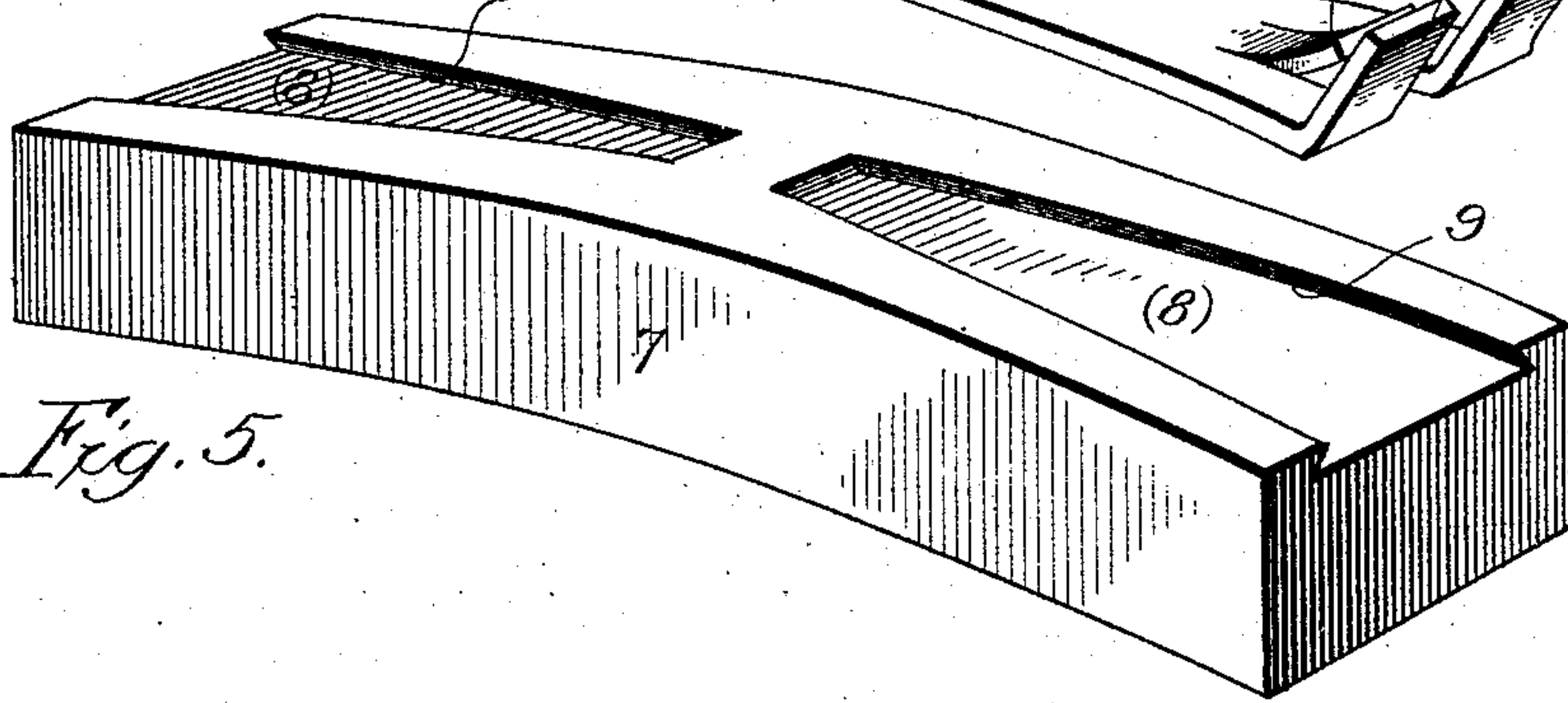
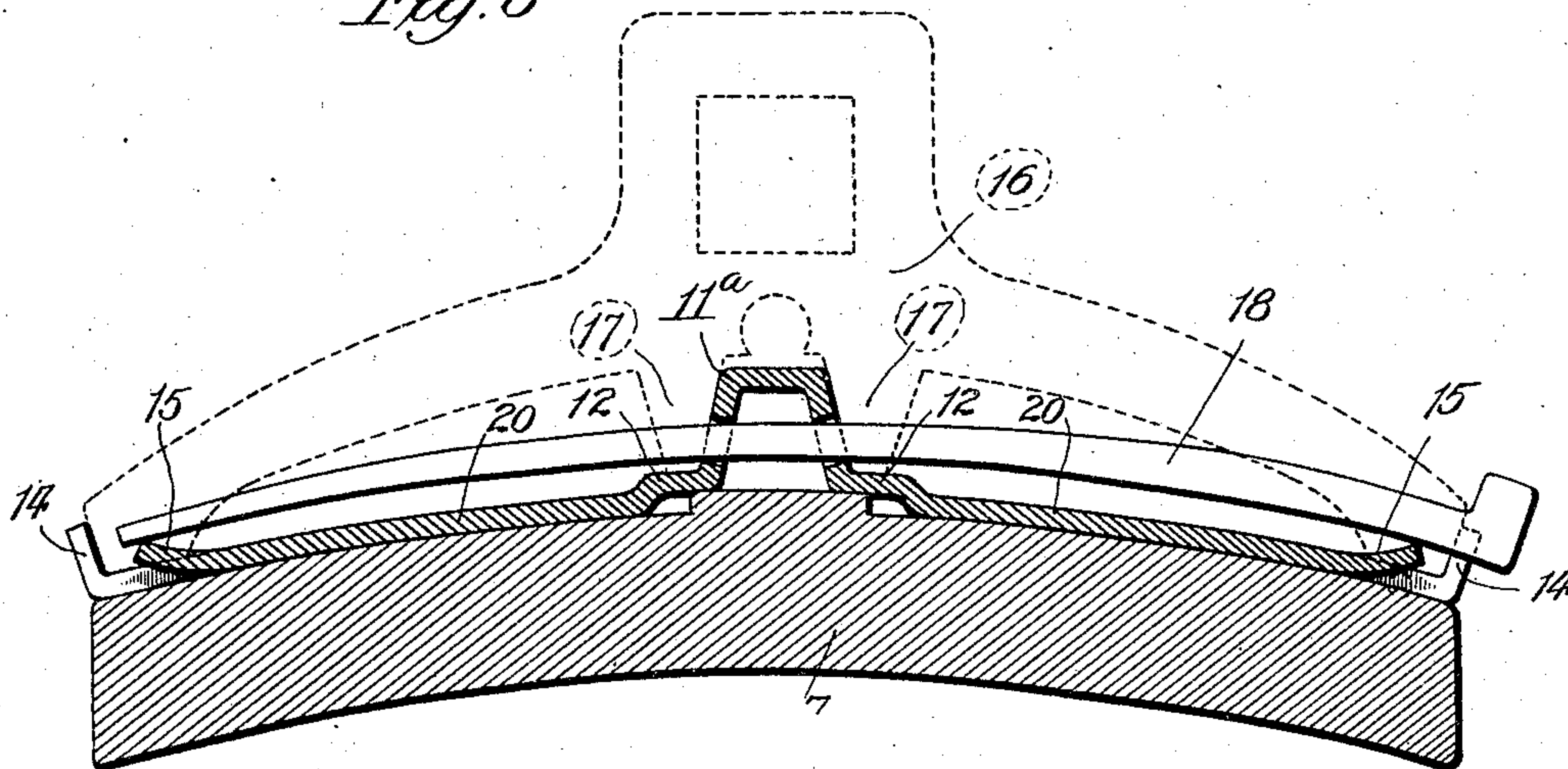


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH D. GALLAGHER, OF GLENRIDGE, NEW JERSEY.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 785,355, dated March 21, 1905.

Application filed May 3, 1904. Serial No. 206,135.

To all whom it may concern:

Be it known that I, JOSEPH D. GALLAGHER, a citizen of the United States, residing at Glenridge, in the 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 of shoes such as used on railway brakes and the like, and particularly to the form of brake shoe which has a binding and retaining back fixed upon a cast body. The object of the invention is further improvement upon the devices of my co-pending application No. 206,134, and contemplates particularly the attachment of a detachable steel back upon a cast sole by a dove-tailed tongue-and-groove connection, the principal object being to further simplify and make more secure the connection between the two parts, and increase the strength and the convenience of assembling such brake shoes. These objects and other advantages I attain by means of the construction illustrated in preferred forms in the accompanying drawings, wherein—

Figures 1 and 2 are perspective views respectively of the detachable steel back and the cast body of a shoe made in accordance with my present improvements:

Figure 3 is a central longitudinal section through the assembled shoe, showing also the attaching key, and the brake head in outline placed upon the shoe;

Figures 4 and 5 are perspective views respectively of a modified form of the steel back, and of the body, and

Figure 6 is a central longitudinal section of an assembled shoe placed on the head, with the parts made in the form of Figures 4 and 5.

In order to thoroughly fix the separable binding upon a cast shoe body so as to engage the two parts along the entire length of the shoe, and to make the body stronger at the center where the greatest strain comes, I have provided the cast body 7 with a longitudinal groove 8 on its back, made in two portions each converging from the outer ends toward the center, and being provided with undercut edges 9. As shown in Figure 1, I prefer to combine with this form of sole or body a de-

tachable steel back made in two parts 10, having dove-tailed edges to co-operate with the undercut edges 9 in the groove of the body. These plates 10 are provided at the inner ends with perforated upturned lugs 11 for the attaching key, this portion being also vertically offset at 12 in order to rest upon the flat top of the shoe when the plate 10 is in the groove 8. At the outer end of the plates they are turned up at 14, with a cutout portion for the accommodation of the key 18, and also spurs 15 are punched up to give a resilient seat for the key and to retain the ends of the brake head upon the shoe, as will be understood. On the body of the shoe I may provide a series of projecting wires, nails or short rods 19 for the purpose of temporarily retaining the back in place in the grooves of the body of the shoe, especially in transportation.

When the parts are assembled as shown in Figure 3 it will be observed that the brake head 16 has a converging notch formed by the downwardly extending lugs 17, so that when the shoe is pressed in place, the two ears 11 forming the key lug of the shoe back are drawn together firmly by the notch, which draws the plates 10 in the groove 8 and firmly attaches the back along the entire length of the body. It will be seen that in the formation of the groove 8 in the back of the body very little metal is cut out at the center, and in cases where more convenient the two raised sides of the groove 8 may be joined entirely at the center as in Figure 5, to additionally strengthen the body. It will be observed that the offset 12 of the back rests upon the top surface of the shoe and not in the groove. The connection between the brake head and the shoe is resilient and the key also has resilient rests upon the spurs 15.

In the modification shown in Figures 4, 5, and 6, I have made the back 20 in a single piece by bending the upturned loop 11^a at the center to form the key lug, and the parts are otherwise constructed as before. In assembling these parts it will be understood that at first the central loop is somewhat widened or spread out so that the two wings of the plate 20 may be inserted in the grooves 8 and thereupon the central loop is pinched together so

as to draw the two wings toward the center and wedge the tongues 20 firmly within the inclined edges of the grooves 8. In this case also the shoe body may either be solid at the center as shown in Figure 5, or else may be entirely open as in Figure 1, as may be most convenient. By this modification of the Figure 5 the cast sole is not weakened at all at its center, and the offset base 12 of the back has a firmer seat on the top surface of the body. In this continuous form of the back the retaining wires 19 may be omitted. It will be observed that in driving in the key 18 for attachment to the head 16 there is some play or resiliency of the central lug 11^a by reason of the offset portion 12, and the seats of the key at the two ends being also resilient, the parts are all assembled together under a yielding pressure and are therefore prevented from rattling or working loose. Other advantages of the devices will readily occur to those familiar with the art.

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

1. A brake shoe comprised of a cast body and a ductile binding back, the two parts being attached together by a tongue on the back and a groove in the body.

2. The combination of a cast shoe body having a tapering undercut groove, and a tapering binding back for the shoe having its edges engaging the edges of the groove.

3. The combination of a shoe body having

two undercut grooves, each tapering toward the center, and a binding back composed of two movable wings of form to correspond with and wedge into the said grooves when the wings are drawn toward the center.

4. The combination with a detachable binding back therefor, of a cast wearing sole provided on its back with a pair of undercut tapering grooves.

5. The combination with a taper-grooved shoe body, of a detachable steel back having wedge shaped portions adapted to be drawn together to engage said groove.

6. The combination with a shoe body having on its back two tapering undercut grooves, of a binding back engaging the edges of said grooves along the entire length of the shoe, and having integral therewith upturned wings forming attaching lugs for the shoe, substantially as described.

7. In a brake shoe a binding back having a central key lug and resilient rests for the ends of the attaching key.

8. In a brake shoe a ductile steel binding back having spurs punched up in its ends to furnish guides for the brake head and resilient rests for the attaching key.

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

JOSEPH D. GALLAGHER.

Witnesses:

PAUL CARPENTER,
EDWARD C. BURNS.