

No. 787,079.

PATENTED APR. 11, 1905.

F. P. COLLIER.

BRAKE SHOE.

APPLICATION FILED FEB. 6, 1905.

Fig. 1.

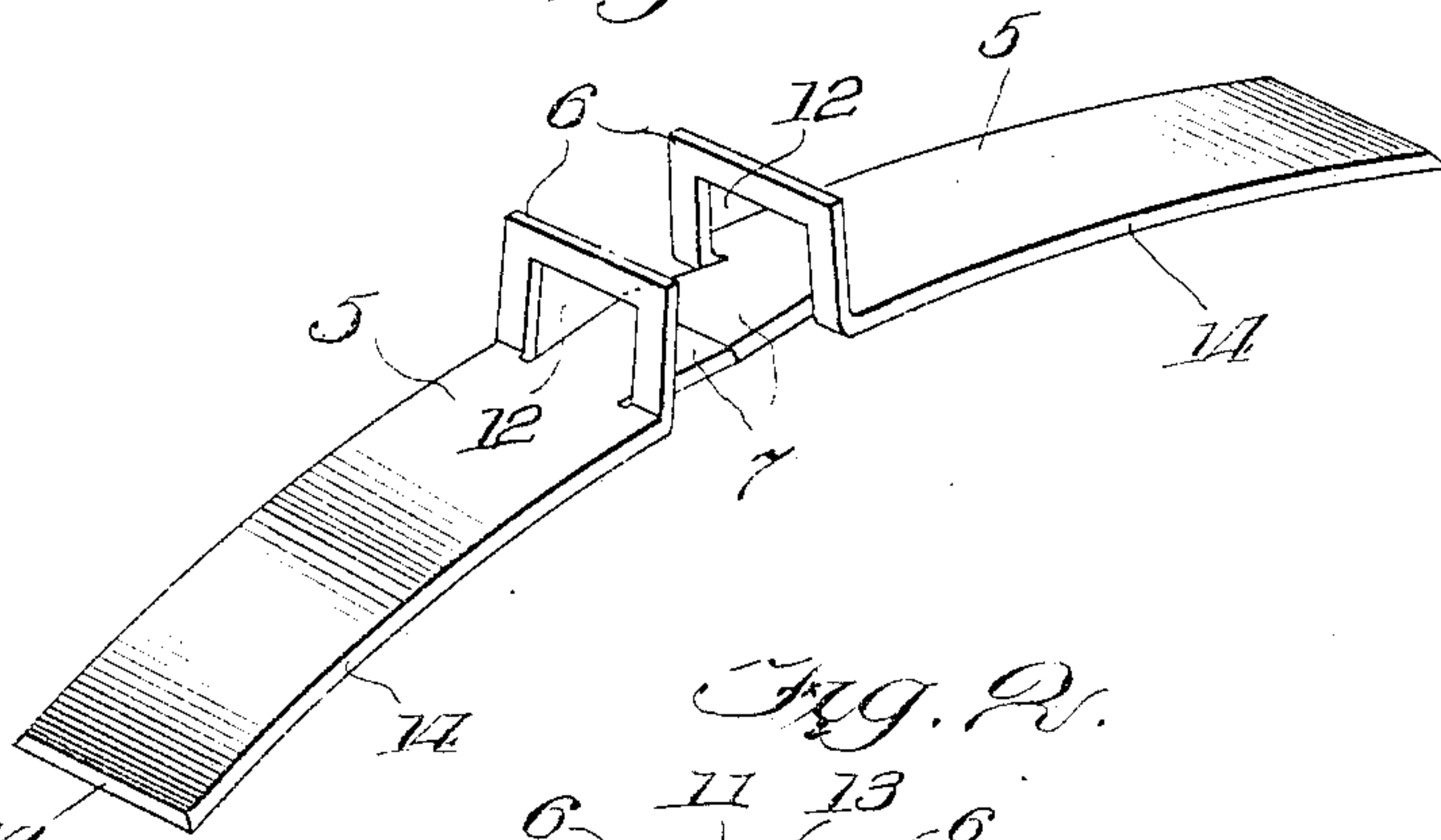


Fig. 2.

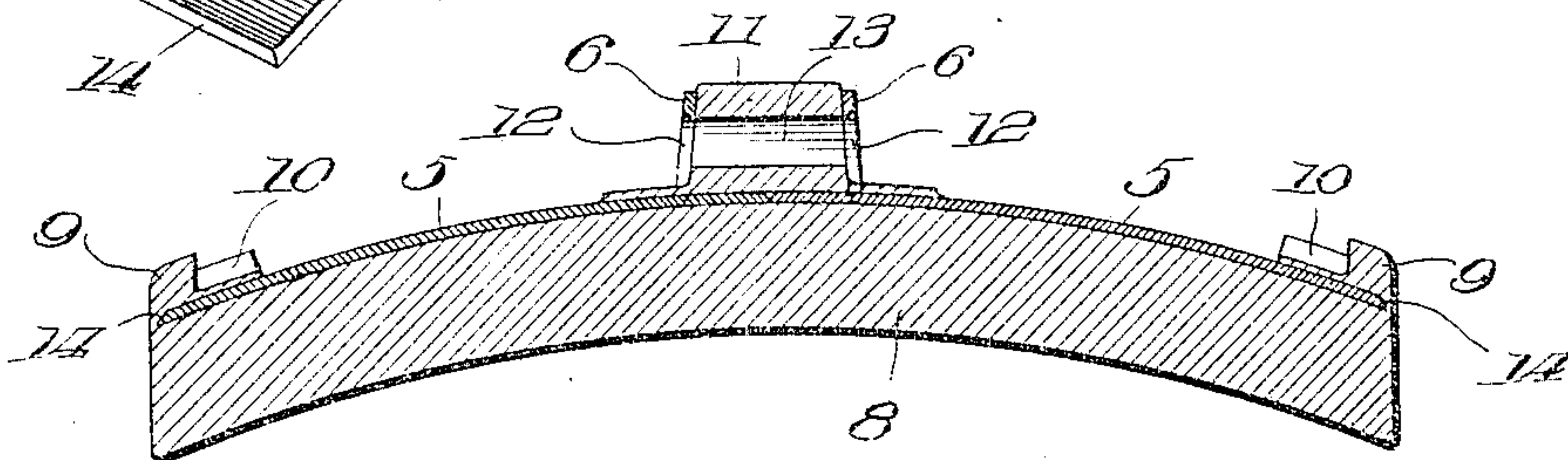


Fig. 3.

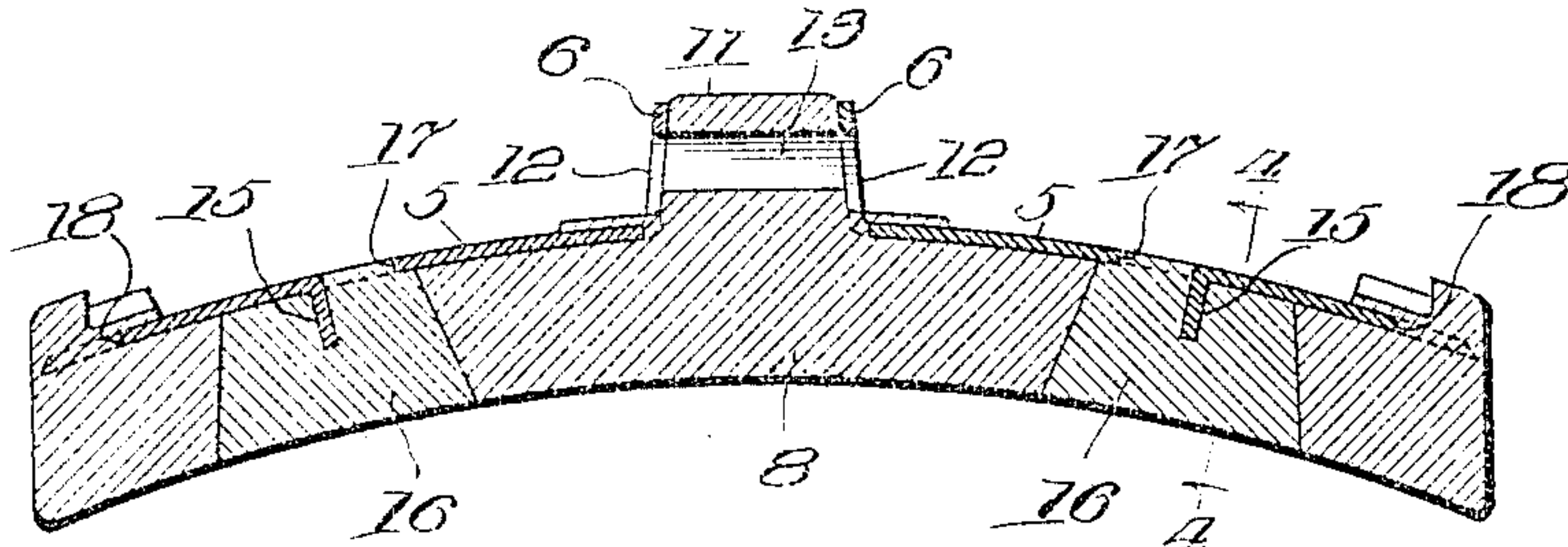
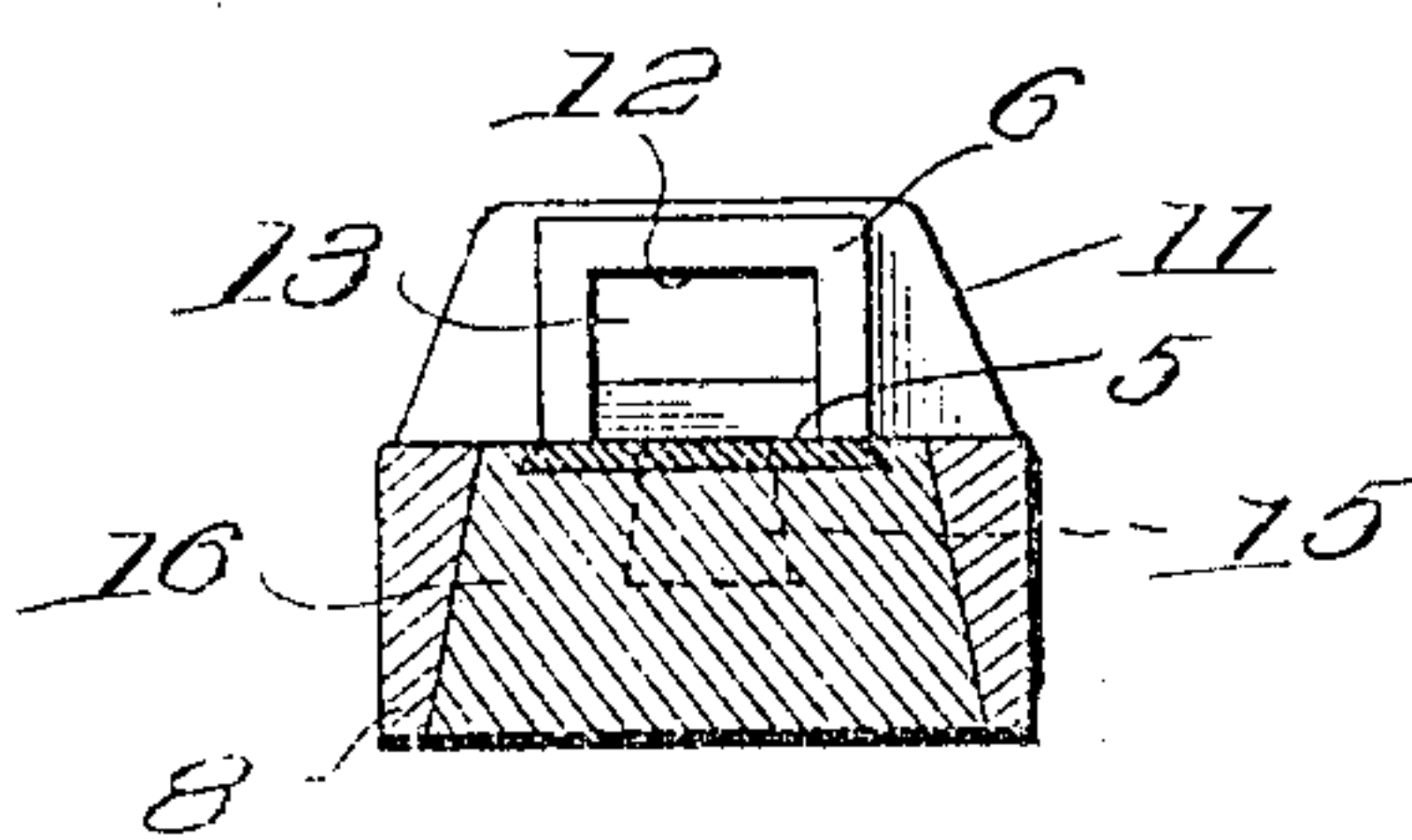


Fig. 4.



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UNITED STATES PATENT OFFICE.

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BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 787,079, dated April 11, 1905.

Application filed February 6, 1905. Serial No. 244,387.

To all whom it may concern:

Be it known that I, FRANK P. COLLIER, a citizen of the United States, residing at Wilmette, in the county of Cook and State of Illinois, have invented new and useful Improvements in Brake-Shoes, of which the following is a specification.

The object of this invention is to strengthen the back and attaching-lug of a brake-shoe and to accomplish this result inexpensively and in a simple manner.

With these and other ends in view the invention comprises the novel features herein-after described, reference being had to the accompanying drawings, showing how the invention can be embodied with a brake-shoe, and in which—

Figure 1 is a perspective view of the strengthening-plates. Fig. 2 is a longitudinal sectional view of a solid cast-iron shoe embodying the invention. Fig. 3 is a longitudinal sectional view of a composite shoe embodying the invention. Fig. 4 is a transverse sectional view on the line 4 4 of Fig. 3.

I employ two plates 5, which are cut and stamped at their inner ends to form the upwardly-projecting yokes 6 and the forwardly-projecting lips 7. The body 8 of the shoe is cast upon these plates in the usual form and manner, and the plates will be located on the back of the shoe and embedded in the end lugs 9 and located beneath the brake-head guides 10. The body of the attaching-lug 11 is cast with the body of the shoe in the usual form and manner and the yokes will lie snugly against the sides of the lug and the openings 12 therein will aline with the opening 13 in the cast portion 11 of the attaching-lug. The plates will be exposed at the back of the shoe for the major part of their length, and their edges 14 are dovetailed, so that the body metal will form a locking engagement therewith. I may omit the cast body 11 and use the yokes alone for the attaching-lug.

It is apparent that the invention can be embodied in a solid cast-iron brake-shoe, as shown in Figs. 1 and 2, or in a composite brake-shoe, and it is wholly immaterial whether the composite shoe is made with a wearing-surface composed of two separate and distinct metals

like an ordinary insert-shoe or whether sections of the wearing-surface are treated by chilling or otherwise to provide a wearing-face of the composite character. I would therefore have it understood that I may employ my invention in solid and composite car and locomotive shoes of all the various types, sizes, and forms.

In Figs. 3 and 4 I have shown one manner of embodying the invention in a composite shoe, and referring particularly thereto it will be observed that lugs 15 are cut and stamped down from the plates and support and carry the insert-blocks 16, which are cast or otherwise affixed to said lugs. The insert-blocks are preferably arranged so that they will completely plug the openings 17 left in the plates by stamping down the lugs. The lugs are preferably dovetailed at their side edges to hold the inserts; but they may be twisted for this purpose, and the inserts are dovetailed to form a locking connection with the body of the shoe. In this way I utilize the two plates for the double purpose of strengthening the shoe and attaching-lug and also for carrying the insert-blocks, and this enables the utilization of the insert-blocks for effecting a locking engagement of the body therewith.

I may dispense with the lips 7, as shown in Fig. 3; but when these lips are used they may be located slightly separate from each other or touching each other, and in either case they will be locked rigidly by the cast-iron of the body of the shoe and strengthen the body beneath the attaching-lug. I may also cut out the outer ends of the plates at 18, and other changes in the details may be made without departing from the spirit or sacrificing the scope of the invention. These plates thus form an imperforate back for the body of the shoe and operate to strengthen the shoe and serve to hold together the parts of the body in case of fracture. The yoked ends of the plates protect the cast-iron body of the attaching-lug, and thereby strengthen it and prevent it from being accidentally broken in handling as well as in use. The cast-iron body of the attaching-lug may therefore be made considerably smaller than has heretofore been

customary for attaching-lugs because of the additional strength furnished by the yoked ends of the plates. These ends of the plates lie against the sides of the attaching-lug and have a bearing thereon, as will be readily understood from the drawings.

Without limiting myself to the exact construction and arrangement of parts herein shown and described, what I claim, and desire to secure by Letters Patent, is—

1. A brake-shoe having an attaching-lug and plates at the back of the shoe between said lug and each end of the shoe.
2. A brake-shoe having an attaching-lug, and plates at the back of the shoe between said lug and each end of the shoe, said plates having their inner ends turned up at the sides of the attaching-lug and provided with openings to aline with the opening in said lug.
3. A brake-shoe having an attaching-lug, and plates locked to the back of the shoe on each side of the attaching-lug and having a bearing at one end against the adjacent side of said lug.
4. A brake-shoe having one plate locked thereto at each side of its center, the inner ends of said plates being bent upward and provided with openings to receive a fastening-key.
5. A brake-shoe having plates locked thereto at each side of its center, the inner ends of

said plates being provided with upwardly-extending yokes and forwardly-projecting lips.

6. A brake-shoe having plates locked thereto at each side of its center, the inner ends of said plates being provided with upwardly-extending yokes and forwardly-projecting lips, and an attaching-lug cast with the body of the shoe between said yokes.

7. A brake-shoe having plates locked thereto at each side of its center, the inner ends of said plates being bent upward and provided with openings to receive a fastening-key, and inserts locked to said plates.

8. A brake-shoe having plates locked thereto at each side of its center, the inner ends of said plates being bent upward and provided with openings to receive a fastening-key, lugs on the under side of said plates, and inserts locked to said lugs.

9. A brake-shoe having plates locked thereto at each side of its center, the inner ends of said plates being bent upward and provided with openings to receive a fastening-key, lugs on said plates, and inserts carried by said lugs, said inserts having a locking connection with the lugs and a locking connection with the body of the shoe.

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Witnesses:

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