

No. 837,356.

PATENTED DEC. 4, 1906.

A. L. STREETER.  
BRAKE SHOE.

APPLICATION FILED NOV. 22, 1905.

Fig. 1.

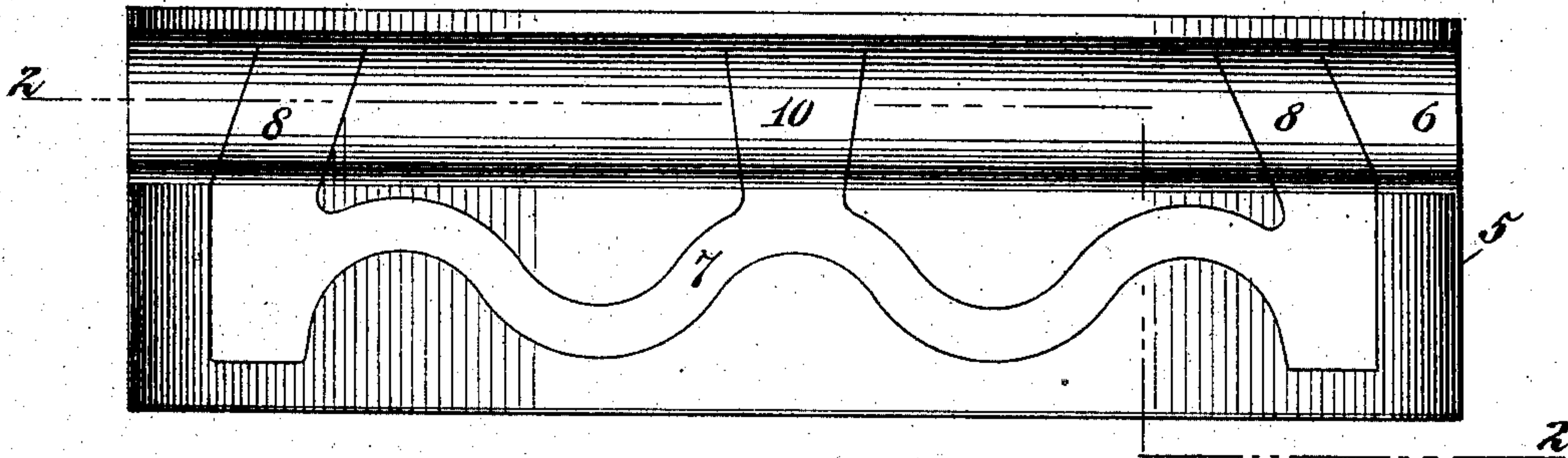


Fig. 2.

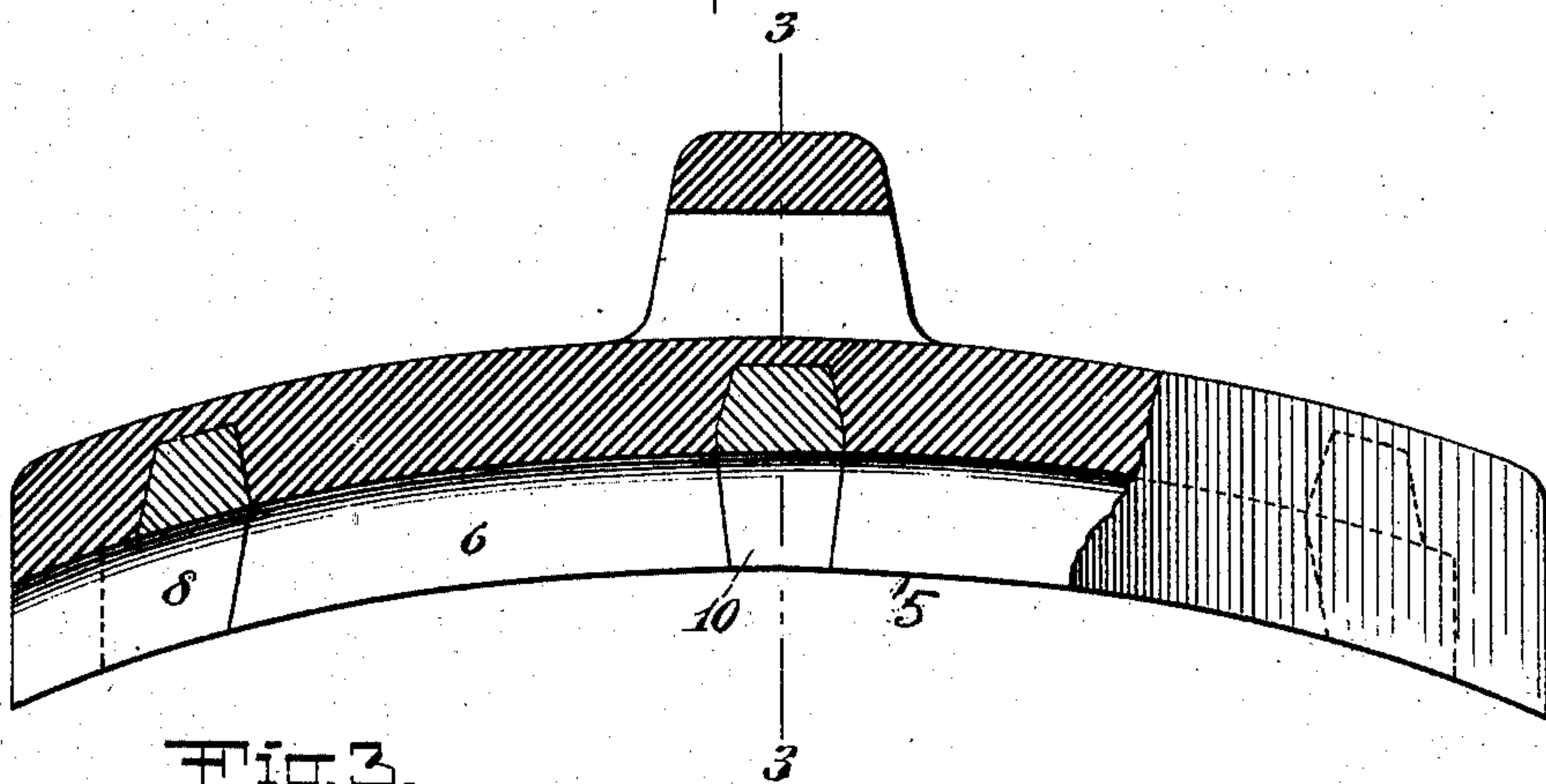


Fig. 3.

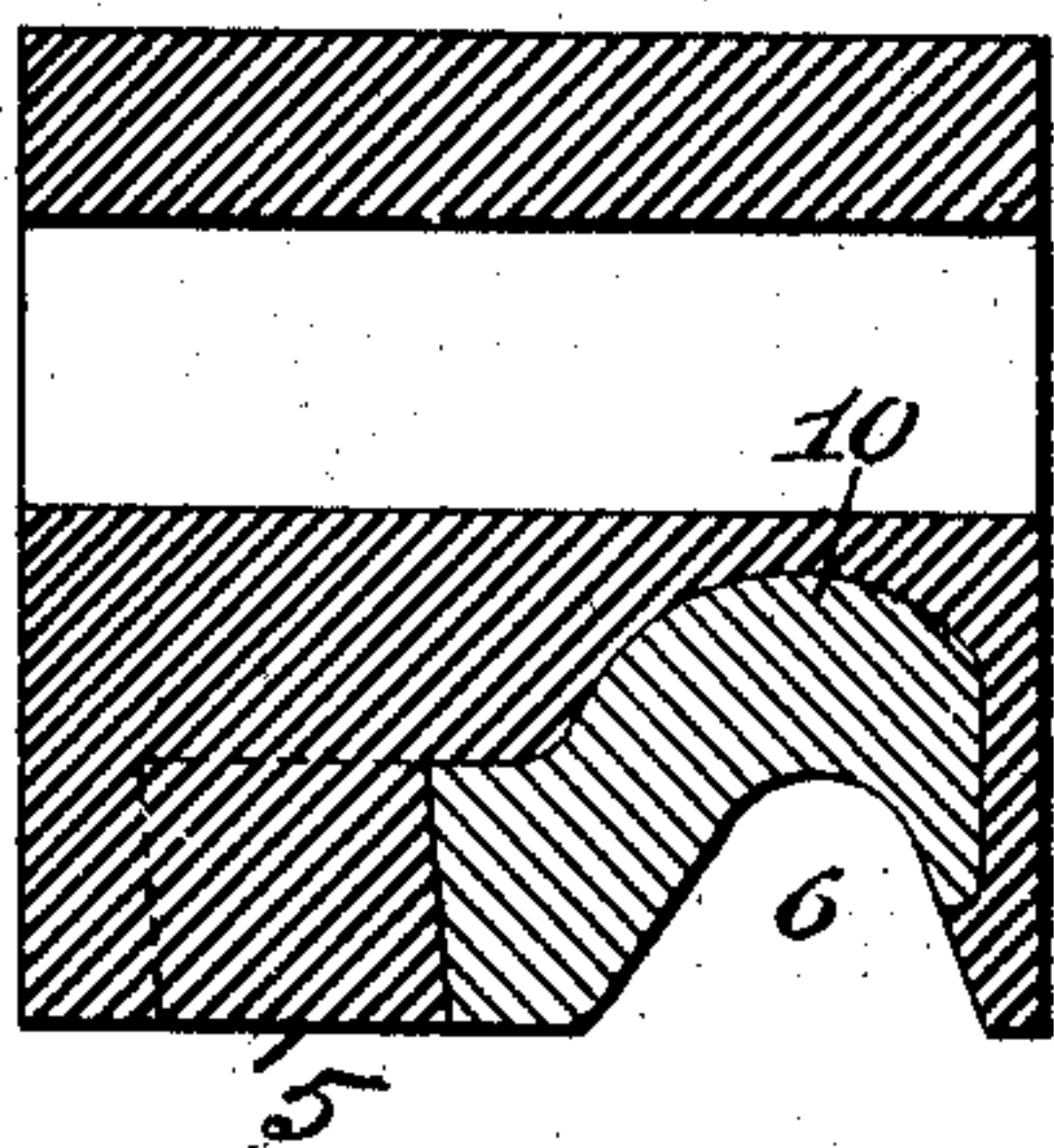
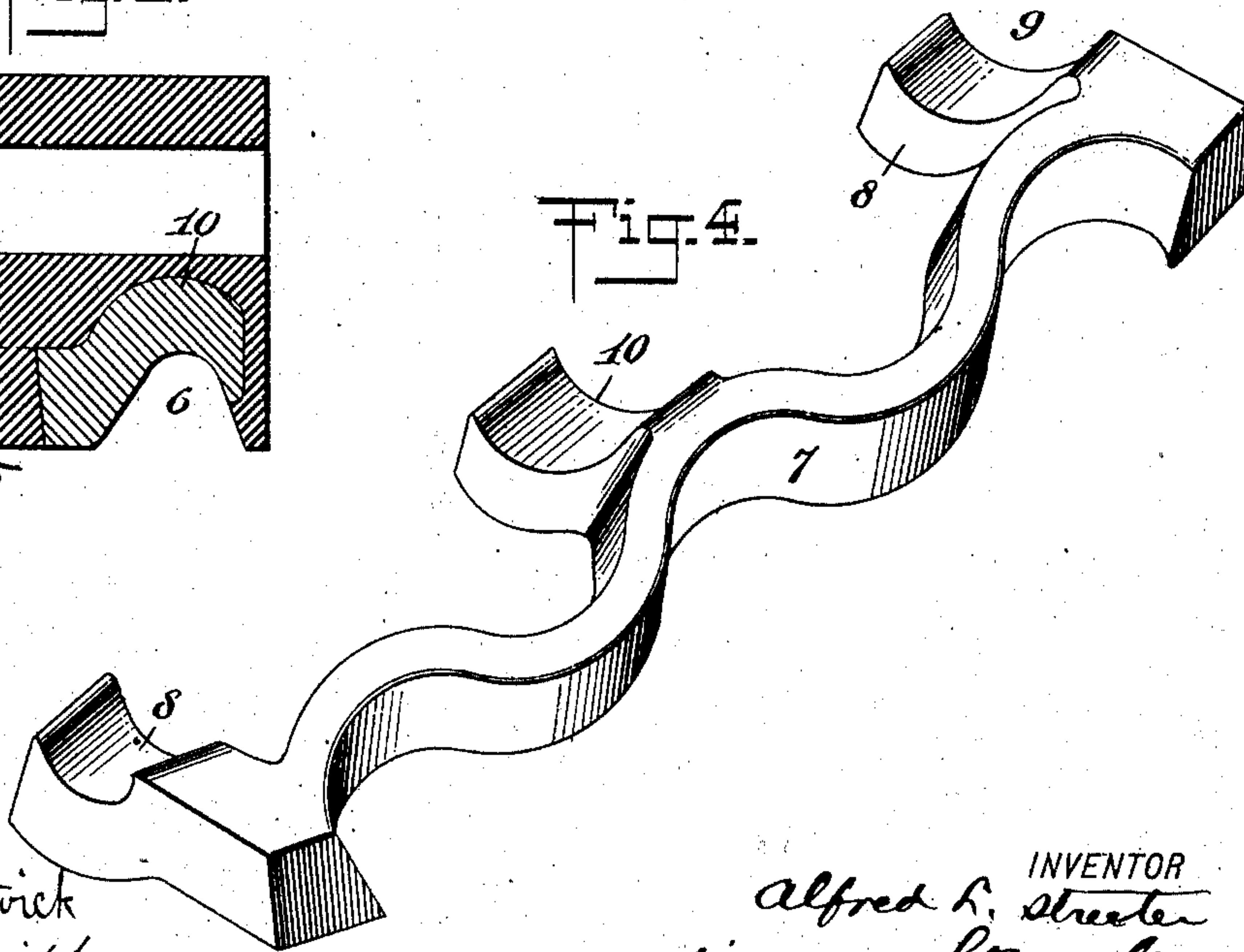


Fig. 4.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

ALFRED L. STREETER, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN BRAKE SHOE & FOUNDRY COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## BRAKE-SHOE.

No. 837,356.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed November 22, 1905. Serial No. 288,519.

*To all whom it may concern:*

Be it known that I, ALFRED L. STREETER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have made and invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

My invention relates to an improvement in brake-shoes, and more particularly to that kind having the face or tread thereof formed of relatively hard and soft metals to contact with the wheel-tread and with a groove to receive the flange of the wheel.

In shoes of this character it has been found that by reason of the hard-metal insert forming part of the wearing-surface thereof and employed to prolong the life of the shoe and also by reason of the friction of the wheel on the rail the tread of the wheel is worn away much more rapidly than the flange thereof, so that in the course of time the flange is out of all proportion in size or diameter to that of the wheel, and in some cases—that is, in those instances where the tread becomes greatly worn—the enlarged flange is apt to strike in the groove of the frogs, and in the case of grooved rails the wheel is apt to ride on the edge of the enlarged flange. Various ways and means have been devised with a view of overcoming these defects or difficulties—for instance, openings have been formed in the flange-receiving groove of the shoe to form cutting or dressing edges. In other instances inserts have been cast therein and in other instances dressing or trimming devices have been detachably secured to the shoe in such positions as to cut or dress the tread of the wheel and also the flange thereof. Various objections, however, have been urged against these devices, either for the reason that they have been inefficient or on account of the increased cost of the shoe.

The object of my present invention is to overcome these objections and to provide a shoe which will effectually trim or dress the flange of the wheel as the tread of the latter gradually wears, and this without materially adding to the cost of the shoe; and with this and further ends in view the invention con-

sists in certain novel features of construction, as will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a shoe constructed in accordance with my invention. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a cross-sectional view taken on the line 3 3 of Fig. 2, and Fig. 4 is a view in perspective of the detached dressing-insert.

By reference to the drawings it will be seen that the shoe constructed with a cast-iron body is of the usual form—that is, provided with the ordinary bearing-surface to contact with the tread of the wheel and with the flange-receiving groove 6.

To effect the trimming of the wheel-flange and also to provide the relatively hard metal to increase or lengthen the life of the shoe, I employ an insert preferably formed as illustrated in Fig. 4—that is, with a sinuous body 7—in length nearly that of the shoe in which it is to be inserted, said insert being made of steel, chilled cast-iron, hard white cast-iron, or, in fact, any suitable metal sufficiently hard to effectually cut, dress, or trim the flange of the wheel and add to the shoe the necessary composite wearing-surface.

From the ends of the sinuous body 7 of this insert extend the transverse cutting extensions 8, curved or grooved, as illustrated at 9, in order to properly receive the flange of the wheel and diagonally to the length of the body 7 in order that its edges may effect a shearing cut, the said extensions 8 extending in a direction toward each other in order to properly trim the flange while the wheel is traveling or rotating in either direction. The central portion of the body 7 is also provided with the cutting extension 10, formed in all material respects like the extensions 8, excepting that the sides thereof instead of being parallel converge, as illustrated in Fig. 3, or diverge, as illustrated in Fig. 1, so that one side thereof will be substantially parallel with one extension 8 and the other side thereof substantially parallel with the other extension 8, one side of this central extension 10 thereby cutting or trimming the flange of the wheel when turning in one direction and the opposite side of said



extension cutting or trimming the flange when the wheel is turning in the opposite direction.

In practice this insert is incorporated in the shoe while the latter is being cast or molded, the insert having been previously formed and properly located in the mold, the cast-iron being poured around it. In order to securely fasten or anchor the same in the cast-iron body of the shoe, the sides of both the body and cutting extensions are made dovetailed, the top or wider portions thereof lying adjacent to the top or upper surface of the shoe, this construction and arrangement preventing the insert from becoming loose or accidentally disengaged from the body of the shoe.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A brake-shoe comprising a wearing-body of relatively soft metal, and an insert formed of relatively hard metal, said insert being embedded in the tread of the shoe and having integral trimming extensions at its ends embedded in the flange-receiving groove of the shoe and arranged diagonally to the body of the insert and extending in a direction toward each other.

2. A brake-shoe comprising a wearing-body formed of relatively soft metal and an insert of relatively hard metal, the body of said insert being embedded in the tread of said shoe and having cutting extensions located in the flange-receiving groove, said extensions being formed at an angle to the body of said insert and extending in a direction toward each other, substantially as described.

3. A brake-shoe comprising a relatively soft-metal wearing-body, and an insert formed of relatively hard metal, the body of said insert being embedded in the tread of said shoe and having converging trimming extensions located in the flange-receiving groove of said shoe, substantially as described.

4. A brake-shoe comprising a wearing-

body of relatively soft metal, and an insert of relatively hard metal, the body of said insert being embedded in the tread of said shoe and provided at its ends with cutting extensions located in the flange-receiving groove thereof said extensions being integral with the body of the shoe and being curved conformably to the flange-receiving groove, and arranged at an angle to said body and to each other, substantially as described.

5. A brake-shoe comprising a wearing-body of relatively soft metal, and an insert of relatively hard metal the body of said insert being embedded in the tread of said shoe, and having end and central cutting extensions located in the flange-receiving groove of said shoe said end extensions being arranged angularly to each other and to the body of the insert, substantially as described.

6. A brake-shoe comprising a wearing-body of relatively soft metal, and an insert of relatively hard metal, the body of said insert being sinuous in its length and embedded in the tread of said shoe, and having trimming extensions located in the flange-receiving groove of said shoe, said end extensions being arranged angularly to each other and to the body of the insert, substantially as described.

7. A brake-shoe comprising a wearing-body of relatively soft metal and an insert of relatively hard metal, the body of said insert being sinuous in its length and embedded in the tread of said shoe, said insert being provided with cutting extensions at its end and central portions, the latter being located in the flange-receiving groove of said shoe, said end extensions being arranged angularly to each other and to the body of the insert, substantially as described.

Signed at Chicago, in the county of Cook and State of Illinois, this 16th day of November, A. D. 1905.

ALFRED L. STREETER.

Witnesses:

F. L. WHITCOMB,  
C. K. KNICKERBOCKER.