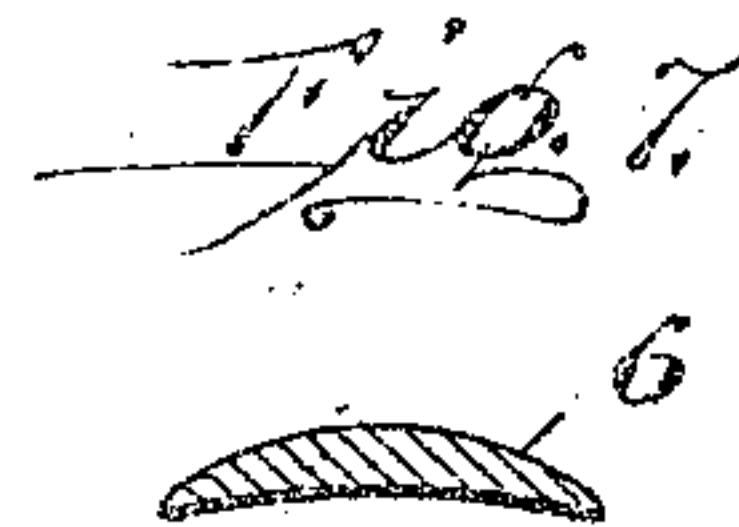
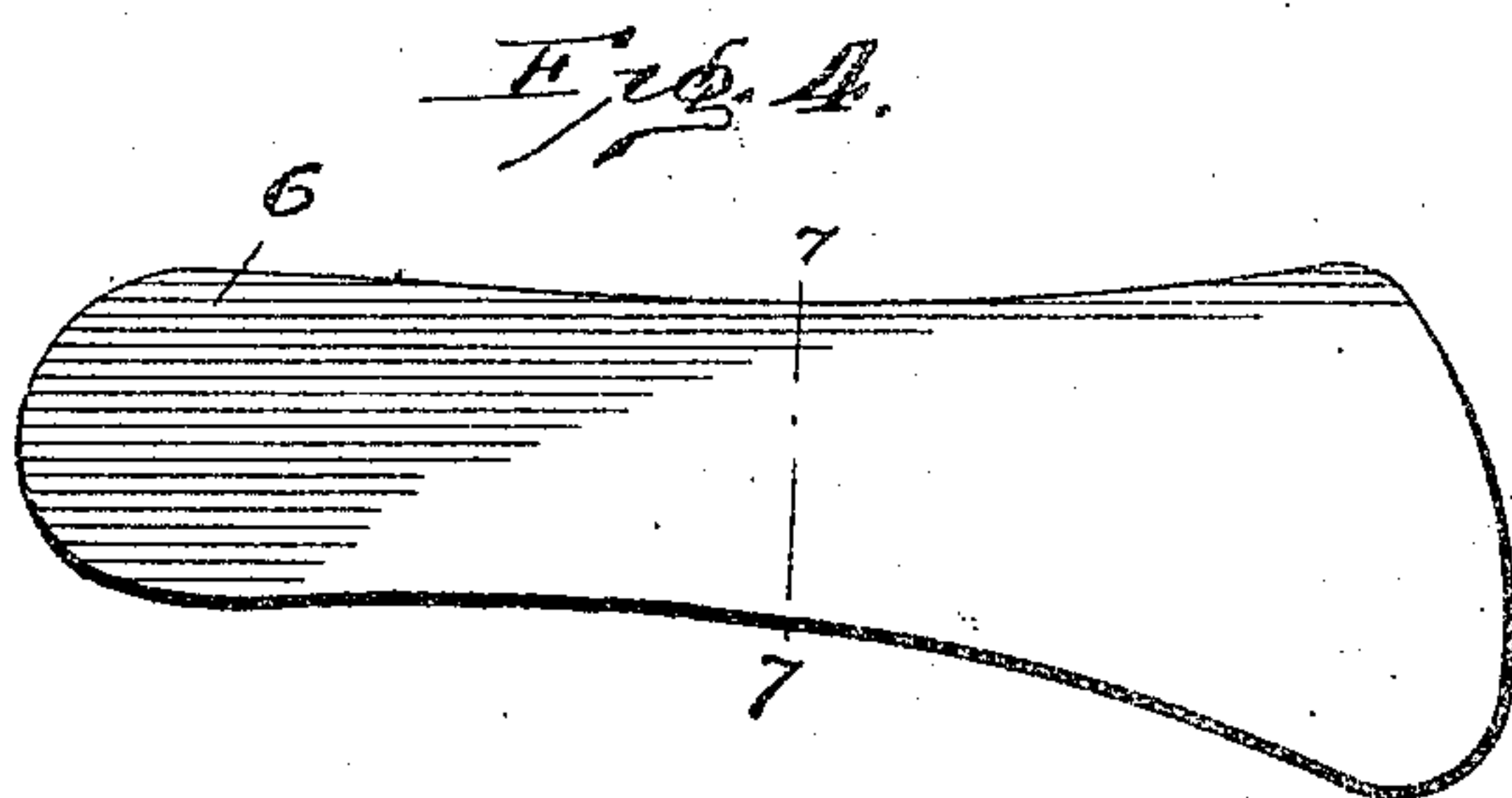
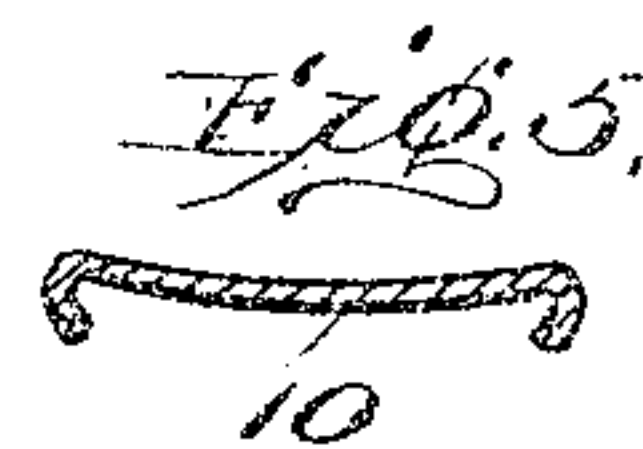
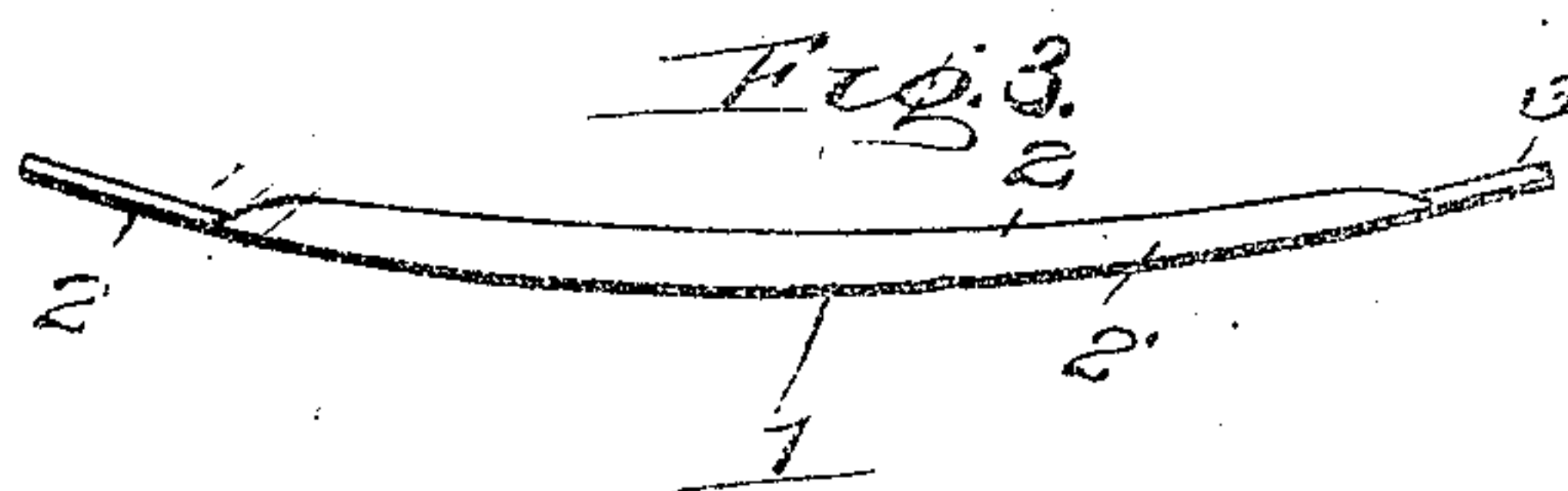
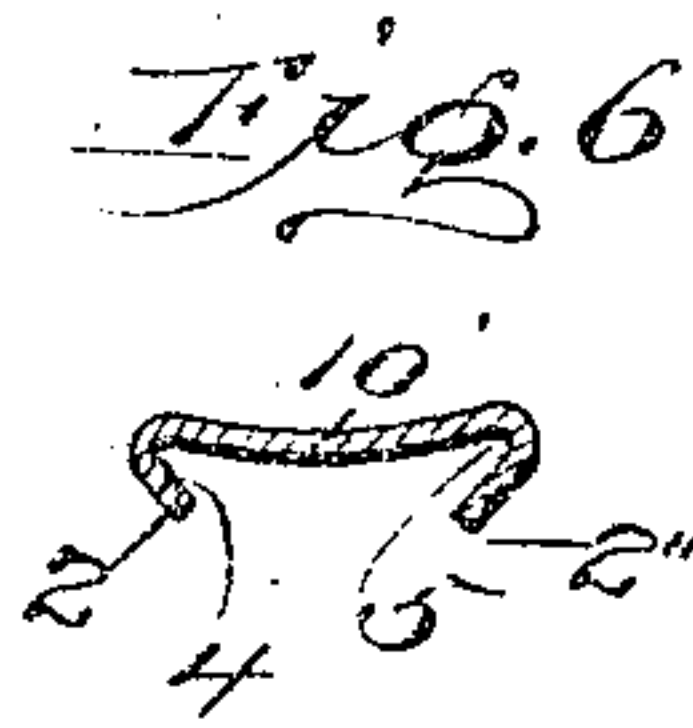
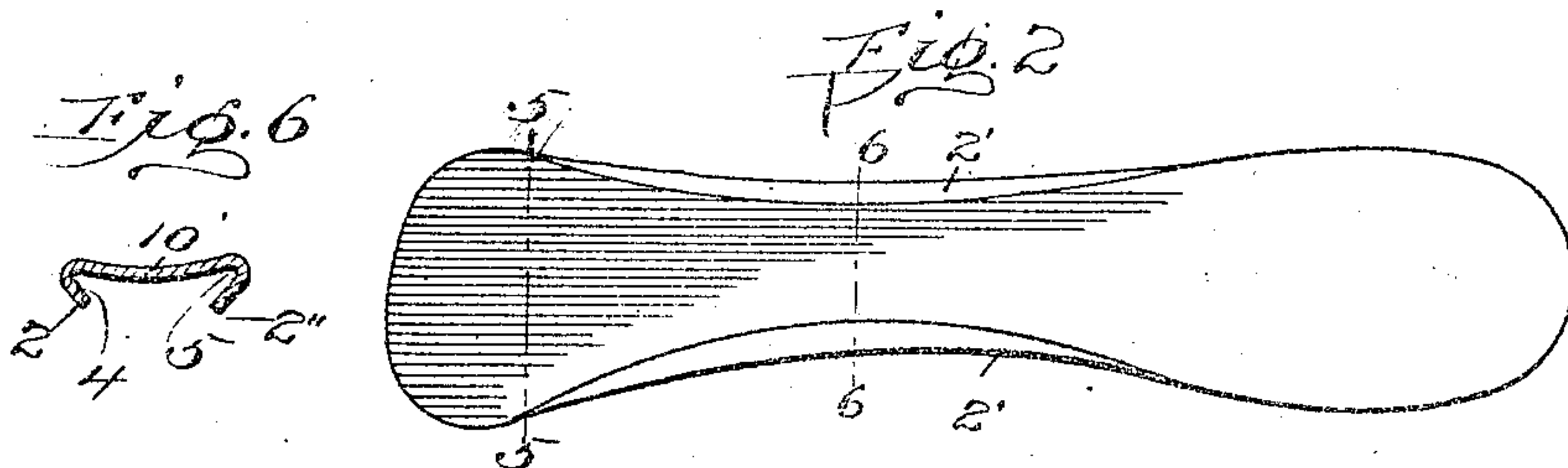
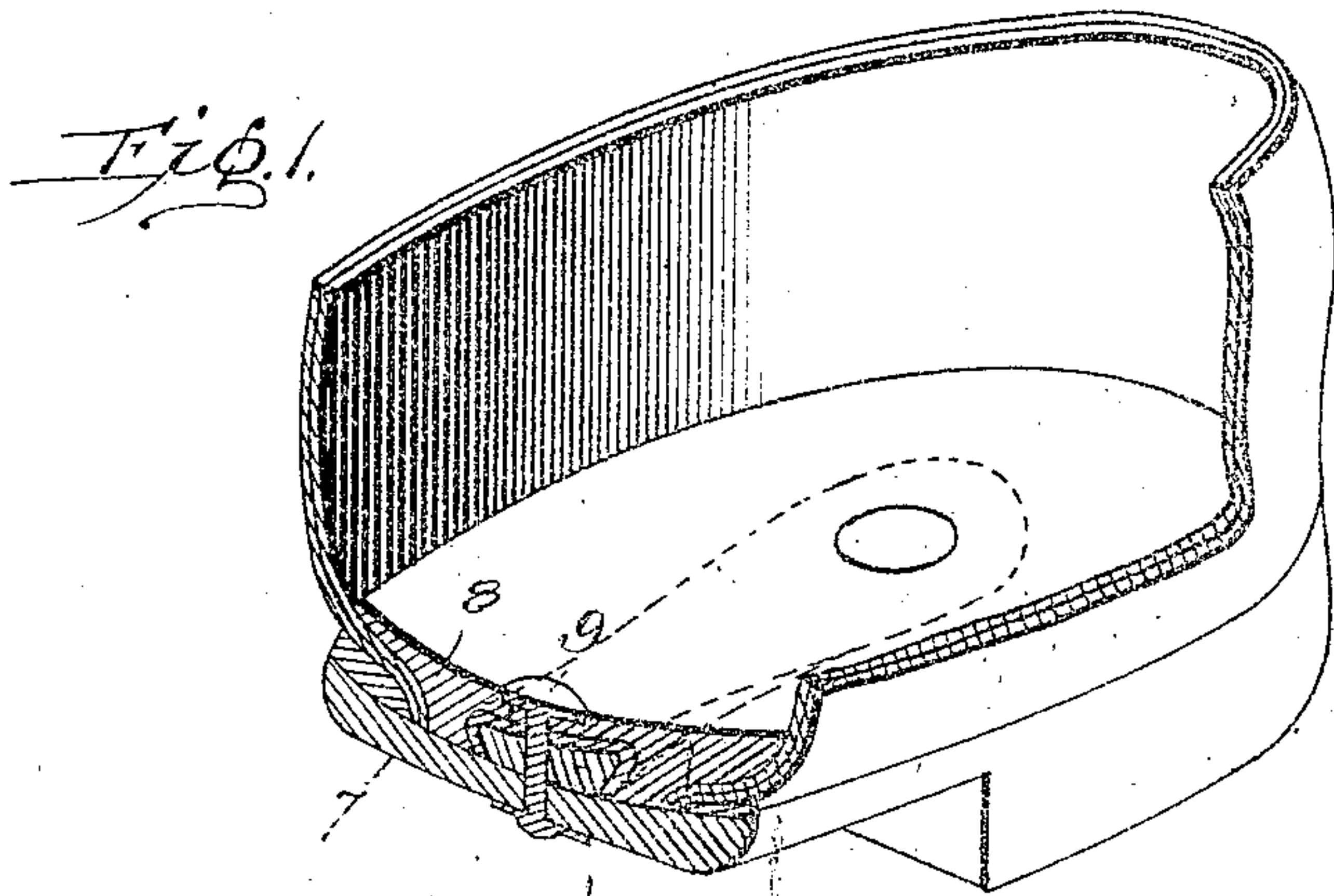


No. 886,181.

PATENTED APR. 28, 1908.

H. BRENNAN.
SHANK FOR SHOES.

APPLICATION FILED SEPT. 12, 1907.



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UNITED STATES PATENT OFFICE.

HUBERT BRENNAN, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO EDWARD L. WHITE, OF BROOKLYN, NEW YORK.

SHANK FOR SHOES.

No. 336,181.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed September 12, 1907. Serial No. 392,591.

To all whom it may concern:

Be it known that I, HUBERT BRENNAN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Shanks for Shoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in shanks for shoes and particularly to metallic shanks for stiffening the shoe and supporting the arch of the foot.

The invention comprises the production of a stiffening piece of material for rigidly holding the shank of the shoe in position.

The invention further comprises the production of a shank that is constructed of a comparatively soft or untempered metal blank provided along its opposite longitudinal edges with reinforcing flanges which are designed to thoroughly brace and stiffen the strip for readily resisting and bending strain to which it may be subjected, the inside flanges being wider and therefore stronger than the outside flange.

The object in view is the provision of a strong and firm shoe shank which is so constructed as to possess great strength and to form a lasting support for the arch of the foot.

Another object in view is the provision of a reinforcing member or members that holds substantially rigid the shank of the shoe from the back of the heel to the ball of the foot so as to hold the shoe in correct position at all times.

With these and other objects in view the invention comprises certain other novel constructions, combinations and arrangements of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings:—Figure 1 is a perspective view, partly in section, of a shoe having my improved shank applied thereto. Fig. 2 is a bottom plan view of the metallic shank. Fig. 3 is a side elevation of the shank as shown in Fig. 2. Fig. 4 is a plan view of the filler. Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 2. Fig. 6 is a similar view on line 6—6 of Fig. 2, showing the respective lengths of the inside

and outside flanges. Fig. 7 is a cross sectional view through Fig. 4 on the line 7—7.

In constructing shoes as formerly done the shanks are formed usually of a flat strip of tempered metal which is not sufficiently rigid to properly support the arch of the foot and which has an objectionable yielding motion permitting the heel and toe of the shoe to twist in opposite directions, and thereby cause the heel of the shoe to quickly get out of shape and run down on one side. In order to overcome or obviate these difficulties and objections the present invention is designed to provide a shank that is made of comparatively soft metal and formed with reinforcing or strengthening members on each side, and also provided with a filling strip that may be of stiffening material, such as wood, leather board, leather or metal.

Referring more particularly to the drawing 1 designates the body of the shank which is in the nature of an elongated tapered blank of comparatively soft or untempered metal and is curved to conform with the arch of the foot. Preferably each end is perfectly flat at 2 and 3 for a short distance for giving a comparatively large flat contact portion. Extending longitudinally along the opposite edges of the body of the shank 1 are reinforcing flanges 2' and 2'', the latter of which being formed wider than the former, both of which are preferably formed by bending the edges of the metal to a position substantially at right angles to the surface of the remaining metal and then bending the same again so as to form ways as 4 and 5 for accommodating a reinforcing and filling member 6. The reinforcing and filling member 6 may be made from leather, leather board, metal or wood as may be desired for filling the space between flanges 2' and 2'', and assisting in holding the entire shank member 1 firmly in place. The stiffening or strengthening member or flanges are preferably made so as to fall short of the ends of the strip so as to permit the flat end portions 2 and 3 to firmly contact with the member 6 and the shoe.

In the preferred form of construction illustrated it will be observed that the flanges 2' & 2'' have their maximum depth at approximately the middle portion of the shank and gradually decrease in depth toward the opposite ends of the shank and disappear

gradually into the sides of the shank near the flat portion 2 and 3. This construction not only enables the shank to be readily inserted between the inner sole and the outer sole of a boot or shoe, but it also places the greater depth of the flange where the maximum bending stresses occur. It will also be observed that the width of the shank gradually increases toward the opposite ends thereof, being the least where the flanges have the greatest depth.

A strip 6 of some suitable material such as leather, leather board, metal or wood is located between the reinforcing flanges 2' and 2'' and corresponds in shape to that of the body of the shank. It will also be observed that the filling strip gradually decreases in thickness toward the opposite ends thereof, and has its maximum thickness at the point where the flanges 2' have a maximum depth. Owing to this construction the filling strip 6 exactly fills the space between the flanges 2' and outer face thereof lies flush with the edges of the flanges.

The filling strip 6 fills the shank 1 and consequently firmly holds the same in position. The filling strip 6 may be made from wood or other stiff material that will assist the shank 1 in supporting the arch of the foot and in holding the shoe rigidly in correct position.

In applying the shank to a shoe, the same is interposed between the outer sole 7 and the inner sole 8, and is held securely in position by means of fastening members such as rivets 9 passing through the three before mentioned members. One of the rivets 9 is designed to go through the three substances under the heel. This is provided so that the shoe would be stiffened for effectually preventing any undue lateral twisting. Owing to the fact that the shank is formed of a comparatively soft or untempered metal, the same can be drilled to form the rivet openings after being placed in position between the inner sole and outer sole, thereby obviating the great difficulty which would otherwise be caused in bringing the openings in the various members into registry. The shank is formed of untempered or comparatively soft metal, and by reason of such fact may conform to the curvature of the last. This advantage is not obtainable in tempered shank as the spring of the same will not permit the conformation to the object to which the same is secured.

Where the shank is formed of tempered metal, as is commonly the case, the said metal must be punched before being tempered, and owing to the difficulty of causing the openings to register with each other, it has become customary to rivet the shank to the outer sole only. It will be readily apparent however, that a much more desirable and rigid construction is produced where the

fastening members or rivets extend through both the plate and the inner and outer soles, as in the present invention. When in position between the two soles of the shoe the flanges 2' and 2'' project downwardly and inwardly, and the body 1 of the shank is preferably bent transversely, as seen at 10, in order to enable the inner sole 8 to assume a slightly concave position for the reception of the foot.

It will be observed that the ends of the shank and filling strip are tapered so that the entire device tapers from each end to the middle.

The shank is secured in a shoe between the insole and the outer sole and after being placed in the shoe and the shoe made up in the usual manner holes are drilled through the soles and through the shank, and rivets inserted entirely through from inside to outside and riveted on either side, so that the insole and the outer sole are firmly secured to the shank as well as the filling strip secured between the flanges. In inserting the shank in the shoe the wider and stronger flange 2'' is placed in the shoe on what is known as the inside of the shank of foot. This is where most support is needed and the added strength on this side is very valuable as the same gives a rigid support where it is most needed.

In placing the shank in position, the riveting of the same through and through from top of inner sole to bottom of outer sole clamps the soles together and absolutely prevents ripping of the seams in the shanks of the boots or shoes. It has also the same effect in the shanks of pegged or nailed shoes. This clamping of the inner and outer soles does not in any way interfere with the flexibility of the shoes where such flexibility is needed.

What I claim is:—

1. A shoe shank comprising a metallic strip provided along its longitudinal edges with reinforcing flanges that are bent inward for forming ways therebetween said flanges falling short of both ends of said shank.

2. A shoe shank comprising an elongated metallic strip provided along its longitudinal edges with reinforcing flanges that are bent inward to form ways, said flanges having the maximum depth at approximately midway of the ends of said shank and gradually decreasing in depth towards the ends of the shank.

3. A shoe shank comprising an elongated metallic strip which is constricted at an intermediate point and provided along its longitudinal edges with stiffening flanges bent inward for forming ways, said flanges being of greatest size at approximately the middle of the shank and decreasing in size towards the end of the shank, said flanges falling short of said ends.

4. A shoe shank comprising a plate provided with flanges at opposite sides inclined towards each other and tapered toward each end of said plate.

5. A shoe shank comprising a plate curved transversely and provided with flanges at opposite sides extending from the convex side of the plate, said flanges projecting toward each other for forming ways for receiving a filler and extending from near one end to near the opposite end of the shank.

6. A shoe shank comprising a plate provided with flanges bent toward each other for forming ways and a filler positioned be-

tween said flanges and held in position thereby.

7. A shoe shank comprising a plate provided with stiffening means extending toward each other and a wood filler for forming auxiliary stiffening means said filler being held in position by said first mentioned stiffening means.

In testimony whereof I affix my signature in presence of two witnesses.

HUBERT BRENNAN.

Witnesses:

WM. E. KURZ,

H. C. KLEEMANN.