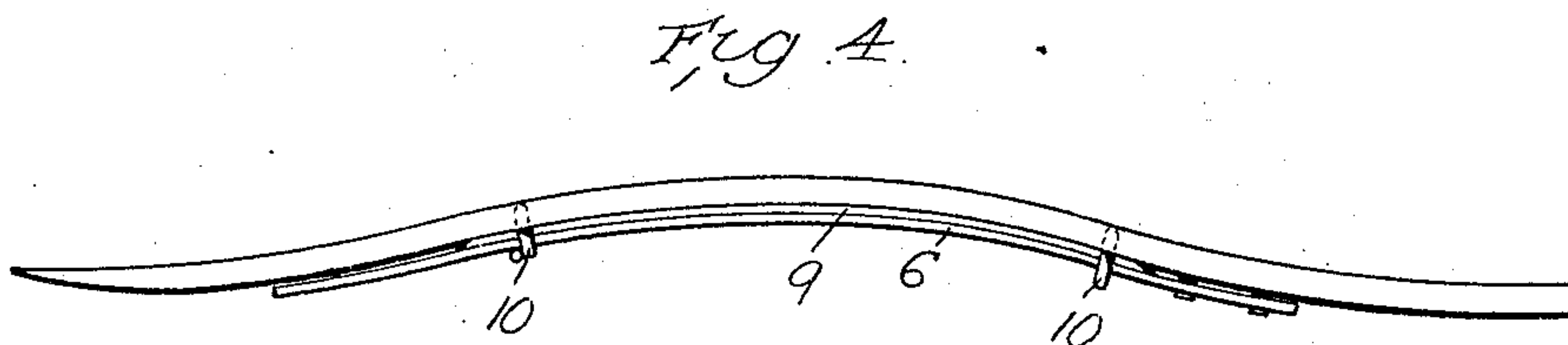
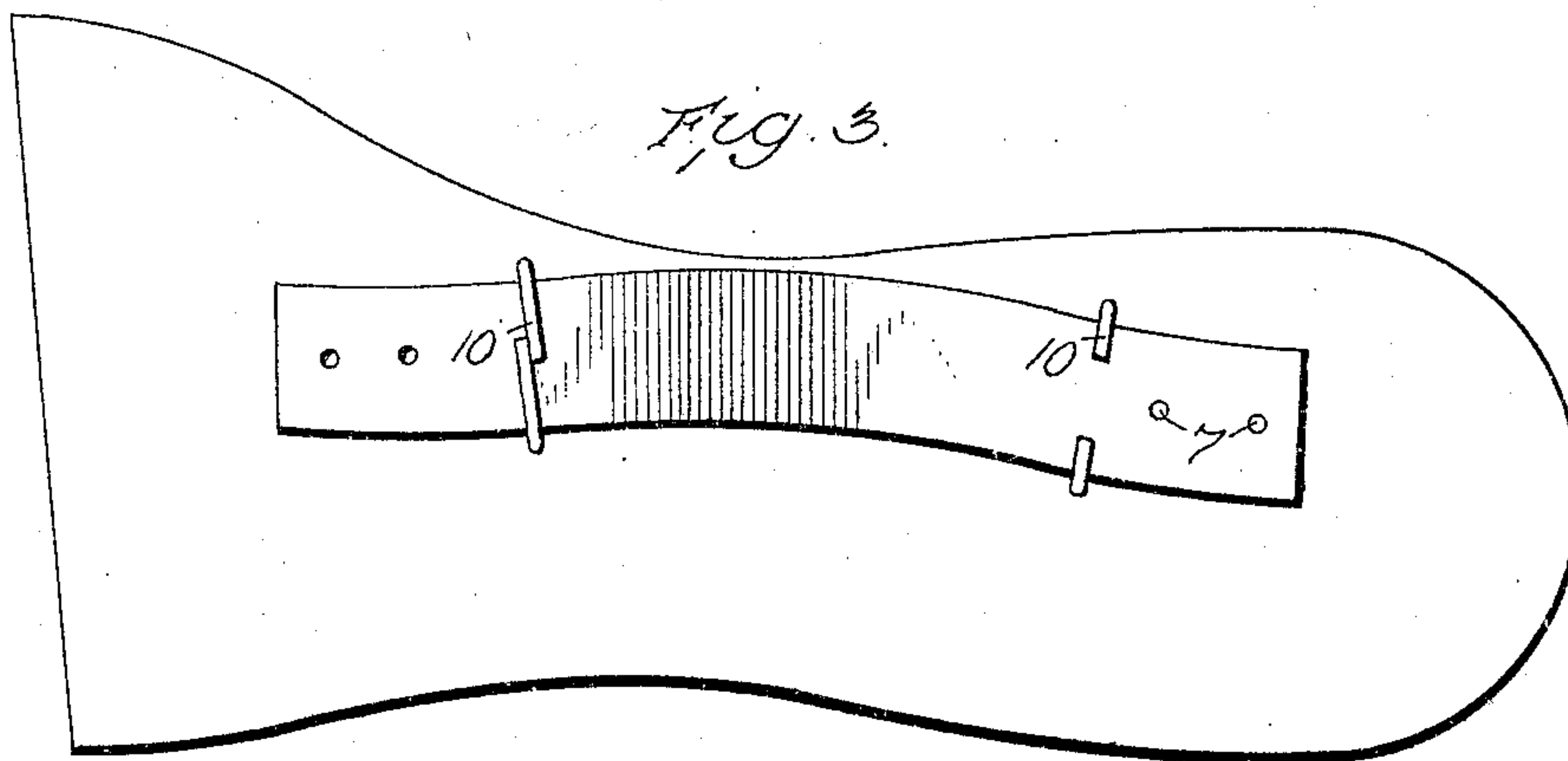
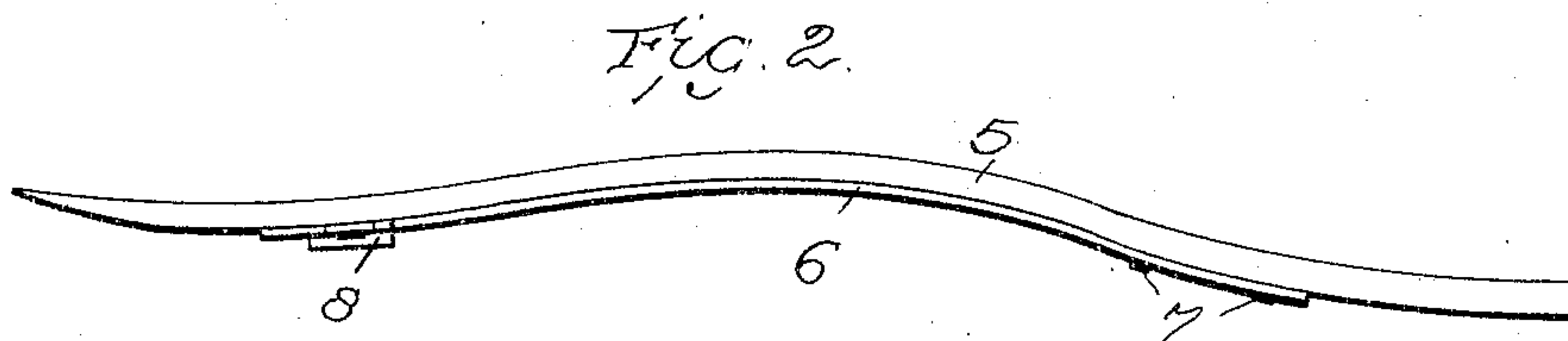
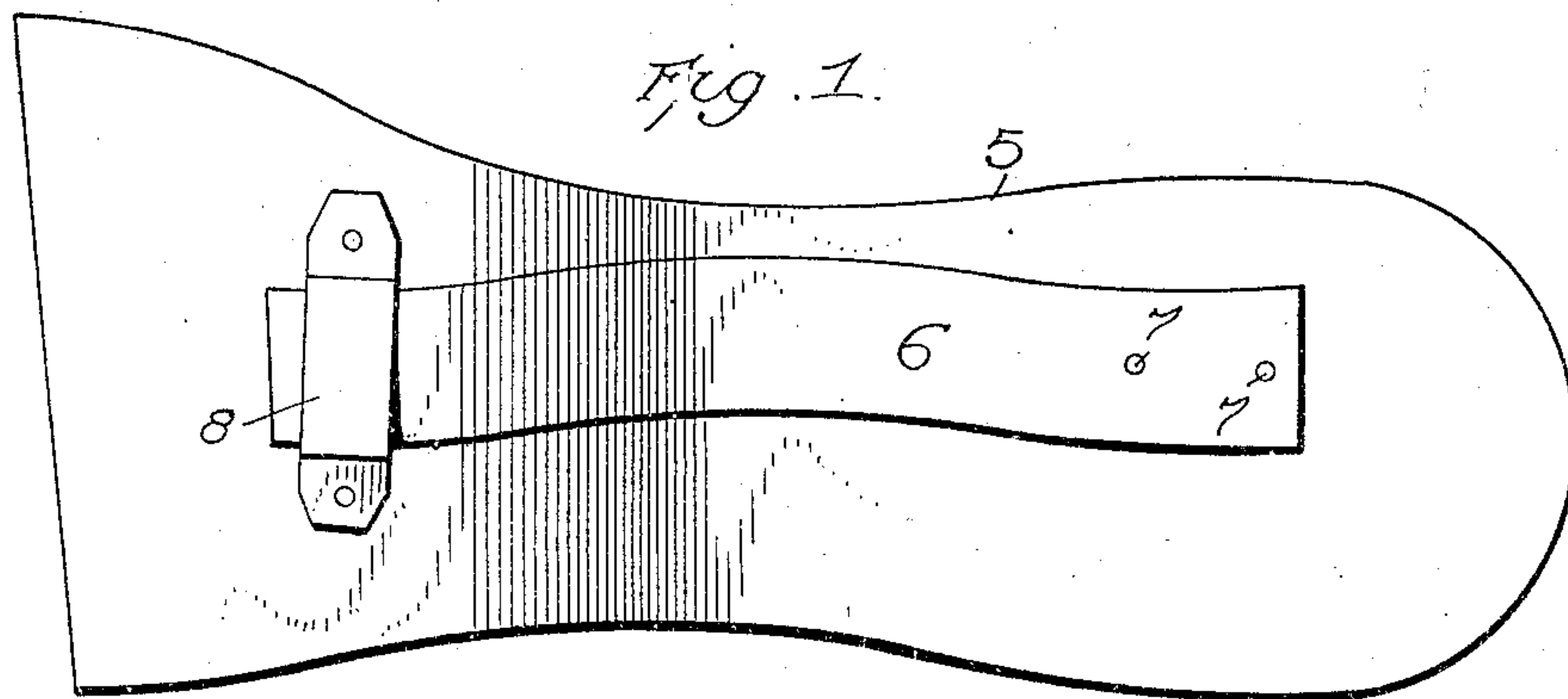


No. 788,469.

PATENTED APR. 25, 1905.

C. HUETHER.
COMBINED INSOLE AND ARCH SUPPORT.
APPLICATION FILED JAN. 6, 1904.



ATTEST:

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ATTY.

UNITED STATES PATENT OFFICE.

CHARLES HUETHER, OF SHARON, PENNSYLVANIA.

COMBINED INSOLE AND ARCH-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 788,469, dated April 25, 1905.

Application filed January 6, 1904. Serial No. 187,898.

To all whom it may concern:

Be it known that I, CHARLES HUETHER, a citizen of the United States, residing at Sharon, Mercer county, Pennsylvania, have invented certain new and useful Improvements in a Combined Insole and Arch-Support, of which the following is a specification.

My invention relates to a support for the arch of the foot; and it consists of an improved article of manufacture applicable to any boot or shoe, according to the need of the wearer, and capable of insertion or removal in view of the fact that it is complete in itself and is not permanently a part of the said boot or shoe.

Heretofore it has been the custom to stiffen boots or shoes by the insertion of shanks of metal; but these have been intended principally for the purpose of retaining the shape of the shoe and not, as in the present invention, to give special and added support to any weakness in the foot itself. It is quite evident that this class of supports is only intended to give shape to the shoe and could not possibly support the arch, for the reason that they are embedded in the sole, forming a permanent part of the shoe, and are necessarily located centrally of the sole or between the welts and not in the position where a support must be located to give the result sought for by the present invention.

Efforts have heretofore been made to provide a removable support for the arch of the foot capable of insertion in any boot or shoe of proper size, but so far as I am aware none of the special structure or function and quality as that which I show as of my invention.

I have provided, first, a removable support for the arch of the foot adapted to be inserted into any boot or shoe of corresponding size. At the same time I have aimed to provide a support of greatest firmness on a line adjacent to the highest part or inside of the foot-arch and diminishing toward the outer or flat side of the foot. To these ends I form an arched piece of leather cut and molded to conform to the heel and arched part of the foot under the instep and to fit any given size or number of boot or shoe. This piece of leather (or similar and equivalent material) is of a thickness

and texture to afford of itself some support. Upon or near the inner edge of this piece I place a reinforcing-strip, of steel or equivalent material, (stiff, but of some elasticity,) which is fixed to the leather, preferably so as to slip at one end to prevent buckling of the leather. This strip I bend laterally at the ends, so that the middle part of the strip comes nearest or quite to the inner edge of the leather and the ends have their bearings nearer to the middle. This forms and completes the article, which has the greatest thickness and support at the inner edge, where these are needed, and these diminish toward the outer edge, the pieces, as a matter of course, affording more resistance to the foot near the comparatively rigid metal and less farther away toward the other edge. The article so constructed forms an insole not necessarily extended through the whole foot of the boot or shoe, and it may be removed or replaced as any insole is and may be separately purchased and only by those requiring such a support.

The invention is hereinafter more particularly described and is illustrated in the accompanying drawings, in which—

Figure 1 is a bottom plan view of the insole; Fig. 2, a side elevation. Fig. 3 is a bottom plan view of the insole with the double spring in place, and Fig. 4 is a side elevation of Fig. 3.

In the drawings the numeral 5 indicates a removable arch-support formed, preferably, from a moderately stiff strip of sole-leather. To the under side of this is applied a curved strip of spring-steel 6, which is located near the inner side of the support, the degree of curvature shown in the drawings being that which I have found by practical experience to be most desirable, though it will be understood that I do not limit myself in this respect. The rear end of the spring is secured to the under side of the arch-support, preferably by rivets 7 7, as shown, or by staples, while the front end is left free to slide or play longitudinally, and thus accommodate itself to the springing of the support without buckling or wrinkling the latter.

In order to prevent lateral displacement of the front end of the spring, I may provide a

guide 8, consisting of a metal strip having its ends riveted or otherwise secured to the leather arch-support.

Where it is desired to vary the elasticity of the sole and make the spring stronger, I may insert a second and shorter spring 9 between the spring 6 and the leather-support, as shown in Figs. 3 and 4. In this form instead of using a single guide for the free end of the spring I may use two guides, as shown at 10 10. These may be in the form of staples or bridge-nails, of malleable metal, inserted through the leather support and having the ends or legs turned over upon the under side of the main spring. These will prevent any lateral displacement of the supplemental spring also, while at the same time the spring 9 can be readily removed by slipping it longitudinally to clear one of the staples.

It will thus be seen that by my invention I provide a support for the arch of the foot adapted to be applied directly to the point of greatest strain, and by reason of its shape it does not disfigure or distort the shoe or in any way interfere with the fit or comfort of the shoe in other respects. My support is a combined leather and metal article, the metal supplementing and strengthening the leather

at the high part of the arch, which by extending the leather above toward the opposite or low side of the arch a support is provided which gradually diminishes in thickness and rigidity toward the opposite side of the foot as is required by the structure of the foot to secure the best results.

I claim as my invention—

As an improved article of manufacture, a removable arch-support for boots and shoes formed of leather or like material and shaped to conform to the shoe at the heel and arch of the foot, the said piece having a strip of stiff elastic metal located at the arch of the foot and extending substantially longitudinally thereof, the said strip having a lateral curve whereby the ends are located approximately in the center of the line of the support and the center is located near the inside edge of the support, and whereby also said support is strongest at the inside edge, as set forth.

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

CHARLES HUETHER.

Witnesses:

LOUIS LENTZ,
JOHN W. HUETHER.