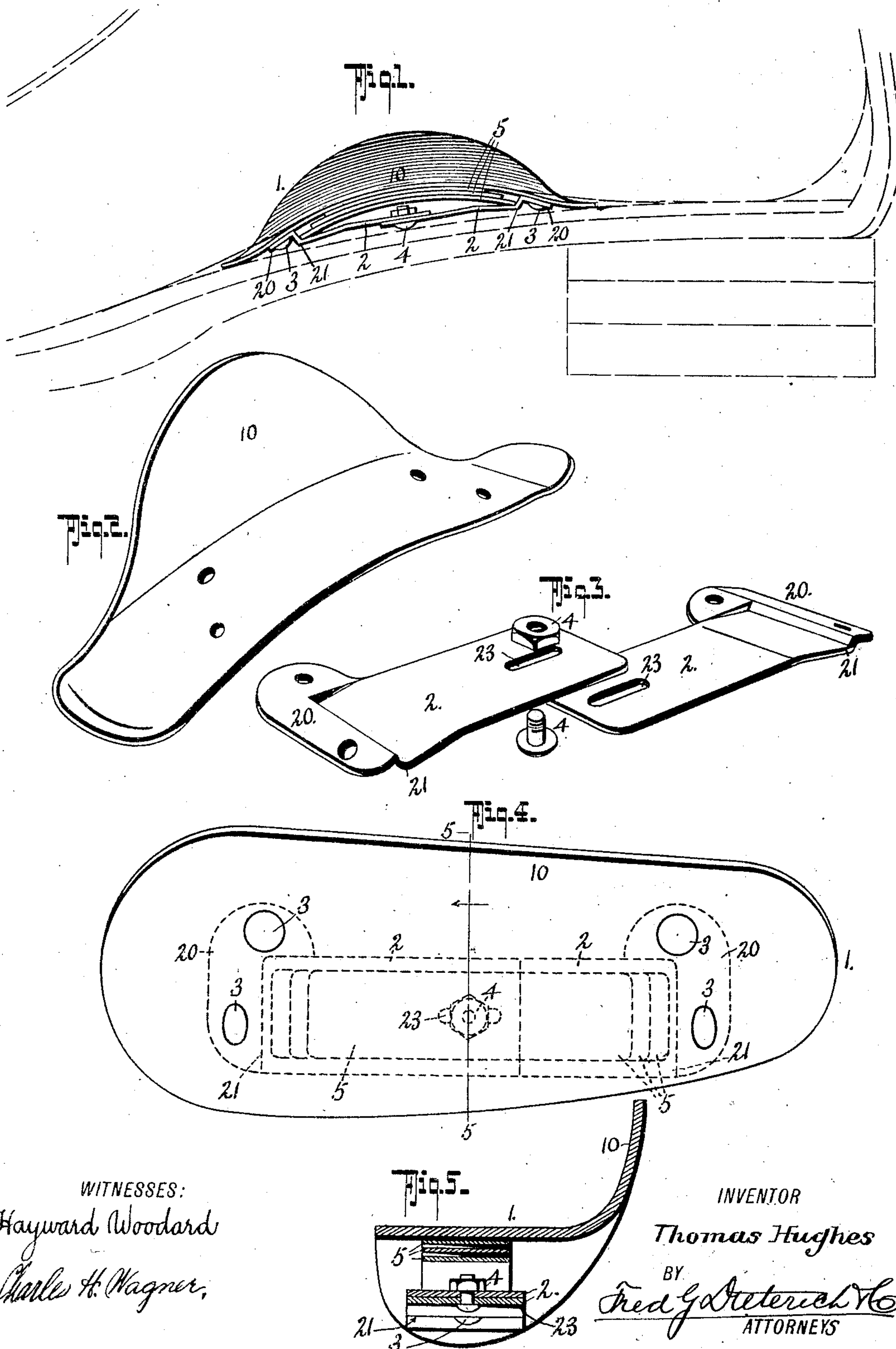


T. HUGHES.
ADJUSTABLE ARCH SUPPORTER.
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940,022.

Patented Nov. 16, 1909.



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ADJUSTABLE ARCH-SUPPORTER.

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To all whom it may concern:

Be it known that I, THOMAS HUGHES, residing at East Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Adjustable Arch-Supporter, of which the following is a specification.

My invention has for its object to provide an improved construction of that class of devices known in the art and to the trade, as "arch supporters" that are worn inside of boots and shoes for supporting the arch of the instep for sustaining the instep, and in such manner that the broken down condition of "flat" feet can be gradually built up and restored to the normal condition.

With the above and other objects in view, hereinafter explained, my invention in its generic nature, comprehends a main or body portion, that is sole shaped and conforms to the shape of the arch of the foot, and which may be formed of any suitable material, but preferably of stout leather, and an adjustable device that is combined therewith for regulating the lift or height of the arch, that also forms the supporting or rest member for the spring plates that positively hold the main or body portion under pressure against the arch of the foot of the user.

In its more complete nature, my invention embodies an improved coöperative arrangement of a leather support or arch of the foot engaging body, and means for holding a desired number of arched springs against the under side of the said body, said means comprising oppositely disposed plates, each secured at the outer end to the opposite ends of the leather body and whose inner ends lap and slidably engage with each other combined with a device for holding them together.

In its more subordinate nature, my invention consists in certain details of construction and peculiar combination of parts, all of which will be hereinafter fully explained, specifically pointed out in the appended claims and illustrated in the accompanying drawing, in which:—

Figure 1, is a view that shows my preferred form of arch supporter, so much of a shoe and foot being shown as to clearly illustrate my invention. Fig. 2, is a perspective view of the leather support or body member. Fig. 3, is a detail perspective view of the opposing and slidable spring holding members,

separated. Fig. 4, is a top plan view of my invention, the metal springs and the adjustable spring holder being shown in dotted lines. Fig. 5, is a transverse section on the line 5—5 on Fig. 4.

In the preferred form of my invention, the main or body portion 1 of my supporter is made sole shaped and of stout leather, and it has one side 10 curved upward to fit the inside curve of the normal instep.

To the under side of the body 1 and arranged in the longitudinal plane thereof, are riveted two plates 2—2, hereinafter termed the spring holders and each holder 2 has its outer end enlarged, angularly, as at 20 and formed with holes to receive the rivets 3—3 that secure them to the body 1.

The holders or plates 2 at their rivet ends are offset to form shoulders 21—21, the purpose of which will presently appear, and the said plates extend inwardly toward each other and lap to slide upon each other as is clearly shown in Fig. 1, and by reference to Fig. 3 it will be observed that each plate 2 has a longitudinal slot 23 (in the practical size, three-eighths of an inch long and one-eighth of an inch wide), the said slots being in line and coacting with the rivet or fastener devices 4—4, that secure the ends of the plates 2—2 on each other but allow for the free sliding movement thereof.

5—5 designate the steel arch springs that are made of suitable sizes to form, as it were, a laminated pack for resting under the arch of the body 1. These springs are preferably of the plain rectangular shape as shown in Fig. 4 or they may be of a special form having one end turned up for fitting over the inside of the instep.

So far as described it will be apparent that by forming the main or body portion 1 of leather, and joining its opposite ends with the adjustable holders or plates 2—2, provision can be readily made for using one or more of the springs 5—5, from one to six or more, as conditions of the foot may make desirable, and the fitting of the spring plates 5 can be quickly and easily done since the springs can be fitted onto the holders 2—2 and under the member 1 without disturbing the plates 2—2 or the body 1, as the plates have at least one-eighth of an inch, more or less, play. It will also be apparent that in the construction as described, the foot of the wearer is yieldingly supported at all points

where the foot bears on the supporter and the pressure of the supporter can be easily increased or decreased by simply removing or adding springs 5 which are held from displacement by the ends of the lowermost or longest one of the packs engaging the shoulders 21—21 on the plates 2 as is clearly shown in Fig. 1, the said shoulders also checking undue yielding of the springs.

10 Having thus described my invention, what I claim is:

1. An instep arch supporter, comprising a flexible body shaped for engaging the arch of a foot, an arched spring that extends 15 lengthwise of the body and means for holding the spring against the body, said means consisting of a pair of opposing plates, connected at one end to the flexible body and means at the other ends of said opposing 20 plates for slidably connecting said ends with one another.

2. In an arch supporter, the combination with a flexible body shaped to fit the arch of a foot, a pair of opposing metal plates that 25 extend lengthwise of the flexible body, the

outer end of each plate being secured to the flexible body, the inner ends thereof being longitudinally slotted and lapping each other, a rivet connection that fits the said slots, and an arched spring removably 30 mounted in the said opposing plates and held to engage the under side of the flexible body.

3. In an arch supporter, the combination with a flexible body shaped to fit the arch 35 of a foot, a pair of opposing metal plates that extend lengthwise of the flexible body, the outer ends thereof being secured to the flexible body and having a shoulder, the inner ends thereof being longitudinally slotted 40 and lapping each other, a rivet connection for the slotted lapped ends, and one or more arched springs removably mounted on the said plates and held thereby to engage the under side of the flexible body.

THOMAS HUGHES.

Witnesses:

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