Nov. 18, 1930. M. HILGERT 1,781,950

TONGUE FOR SHOES

Original Filed Feb. 15, 1923

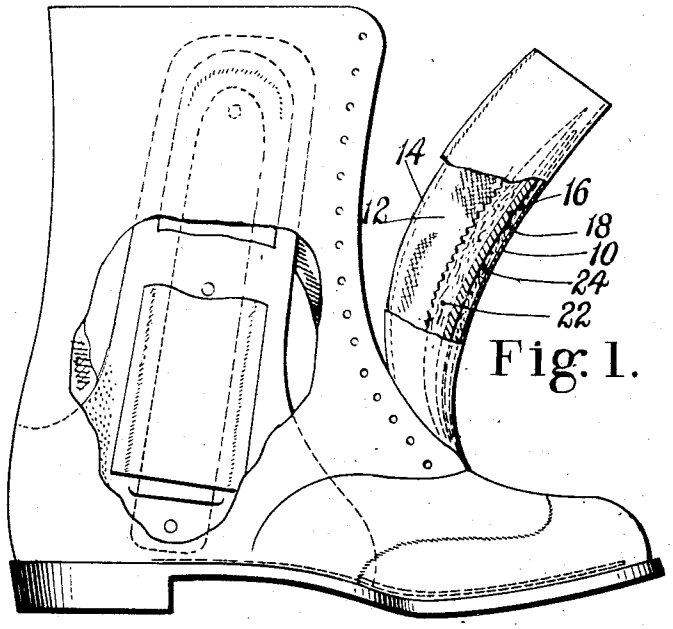
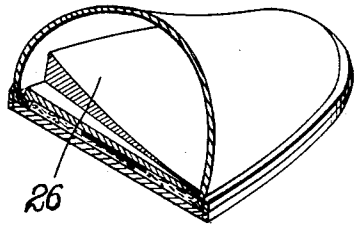


Fig. 1.

Fig. 3.



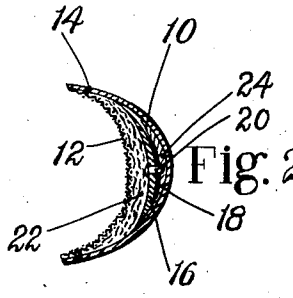


Fig. 2.

INVENTOR

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UNITED STATES PATENT OFFICE

MATHEW HILGERT, OF NEW YORK, N. Y.; LURELLA HARPER AND HAZEL M. WEISS ADMINISTRATRICES OF SAID MATHEW HILGERT, DECEASED

TONGUE FOR SHOES

Original application filed February 15, 1923, Serial No. 619,131. Divided and this application filed November 23, 1927. Serial No. 235,198.

This invention relates to tongues for use in shoes, and particularly for use in orthopedic shoes, that is, shoes which, by their features of construction, are designed to correct weakness and deformity of the lower limbs or feet from any cause. My novel shoe tongue is herein illustrated as embodied in a shoe of the type disclosed in my application Serial No. 619,131, filed February 15, 1923, of which this application is a division.

Objects of this invention are to provide a novel shoe tongue construction by which the lateral bending of the ankle joint, and hence the position of the leg bones, may be controlled.

Features of the invention consist in a special construction of shoe tongue which may, as illustrated, comprise a tongue which is wide as compared with the usual shoe tongue and is shaped to the transverse and longitudinal curvatures of the front surface of the tibia and instep and is stiffened against bending laterally of the foot. When such a tongue is clamped to the front surface of the tibia and to the outer surface of the scaphoid, cuneiform and other tarsal bones forming the instep, by the shoe lacing, the tongue, by reason of its inherent stiffness laterally of the foot, establishes a firm relation between the foot and the tibia, so that the position of the tibia, and hence of the knee and hip joints, is controlled by the foot. Thus, if the knee tends to bend inwardly, the pressure of the sole on the ground acts through the stiffened tongue to throw it outwardly, and conversely, if the knee tends to bend outwardly, it is thrown inwardly to its normal position.

In the drawings,

Fig. 1 is a side view of an orthopedic shoe comprising a tongue embodying the present invention, parts being broken away and in section;

Fig. 2 is a transverse section of the shoe tongue shown in Fig. 1; and

Fig. 3 is a perspective and sectional view of the fore-part of the shoe shown in Fig. 1 having a construction in connection with which the novel shoe tongue construction of the present invention may be utilized.

In Figs. 1 and 2 of the drawings is illustrated the novel construction of shoe tongue which is as follows: The tongue consists of an outer layer 10 of upper leather and an inner layer 12 of fabric such as canvas or the like. These layers extend beneath the vamp at the throat of the shoe and are secured to the upper by the usual vamp seam. The layers 10 and 12 are preferably sewed together by a seam 14 about their peripheries to form a pocket or enclosure for stiffening members located between them.

These members comprise a wide, stiff piece 16 of material, for example sole leather, skived to a thin edge at each side and at its lower end, and a tempered steel strip 18 arranged outside the leather piece 16 and secured to it by rivets 20, the widthwise dimension of the strip extending transversely of the shoe. The layers 10 and 12 of the tongue and the piece 16 are wide as compared with the ordinary shoe tongue and are shaped to conform laterally and longitudinally to the front arch of the leg and instep, that is, to the shape of the front surface of the tibia, scaphoid and other tarsal bones, so as firmly to grip them when the shoe is laced up. This construction renders the lateral stiffness of the resilient strip 18 effective to control the position of the bones of the leg by stiffening the ankle joint laterally of the foot. On the inner side of the sole leather piece 16 is a thick pad of felt 22 the thickness of which may be varied to suit different foot requirements and to vary the apparent height of the instep. On the inner side of the layer 10 is a thin pad or felt 24 to protect it from the steel piece 18 and rivets 20. The stiffened tongue construction described operates to prevent lateral bending of the ankle joint and thus causes the pressure of the foot upon the ground to control the position of the bones of the leg above the ankle joint in a very effective manner for correcting abnormal conditions of the lower limbs.

The above-described tongue construction is of special utility when employed in shoes having means for correcting unbalanced muscular foot conditions such as a filler of the type disclosed in my prior Letters Patent of

the United States No. 1,039,396, granted September 24, 1912, and made by the method disclosed in my prior Letters Patent No. 1,032,672, granted July 16, 1912. It is to be understood, however, that the shoe tongue of the present invention, though illustrated in a shoe having this filler, is not limited to such use.

Such a filler, as shown at 26 in Fig. 3, consists of a false insole which is thickened on one side or the other, depending upon the muscular condition of the foot for which it is intended, to support one side of the foot and relieve abnormal strain upon the ligaments of the foot. The upper or inner surface of the filler 26 is preferably contoured to fit the bottom of the foot, and the lower or outer face is shaped to fit the inside tread of the shoe, the thickness of the filler being varied transversely to overcome any tendency of the foot to "roll" transversely to one side or the other. This filler 26 restores the normal balance of the foot and my novel shoe tongue, when embodied in a shoe having this filler, laterally stiffens the ankle joint and causes the pressure of the foot upon the ground to control the action of the bones and joints of the leg above the ankle so that the wearer can walk in a natural manner.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A tongue for shoes having a stiffener comprising a sole leather base and a thin metallic strip secured to the outer side of the base by through-and-through fastenings and disposed so as to stiffen the tongue against bending laterally of the shoe.

2. A tongue for shoes having a siffener comprising a wide sole leather base molded to fit the transverse arch of the ankle and instep, and a steel spring secured to the sole leather base.

3. A tongue for shoes comprising an outer layer of upper leather, an inner layer or lining secured to the outer layer about its periphery to form a pocket, and a transversely curved, laterally stiff, resilient member located in said pocket, said tongue being constructed and arranged to be held by the shoe lacing against the instep of the foot and the front of the tibia to control lateral bending of the ankle joint.

4. A tongue for shoes comprising an outer layer of upper material, a lining, a leather stiffener, a steel strip secured to the outer side of the stiffener, and a layer of felt between the lining and the stiffener.

5. A tongue for shoes comprising an outer layer, an inner layer, a stiffener between said layers composed of leather, a steel strip outside the leather and secured thereto, and padding between the lining and the leather of the stiffener and between the strip and the outer layer.

6. A tongue for shoes comprising stiffening material shaped to conform to the transverse arch of the ankle and instep and adapted to be held by the shoe lacing tightly against the front of the tibia and instep bones to hold the ankle joint against bending laterally of the foot.

In testimony whereof I have signed my name to this specification.

MATHEW HILGERT.