

No. 896,859.

PATENTED AUG. 25, 1908.

W. M. SCHOLL.  
 INSTEP ARCH SUPPORT.  
 APPLICATION FILED MAR. 4, 1907.

Fig. 1.

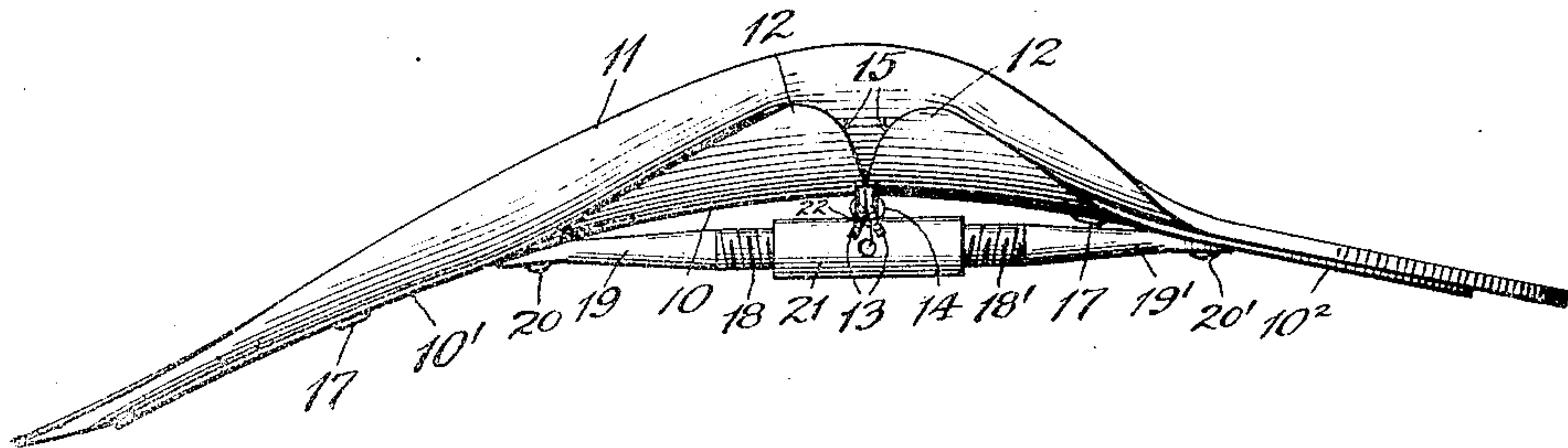


Fig. 2.

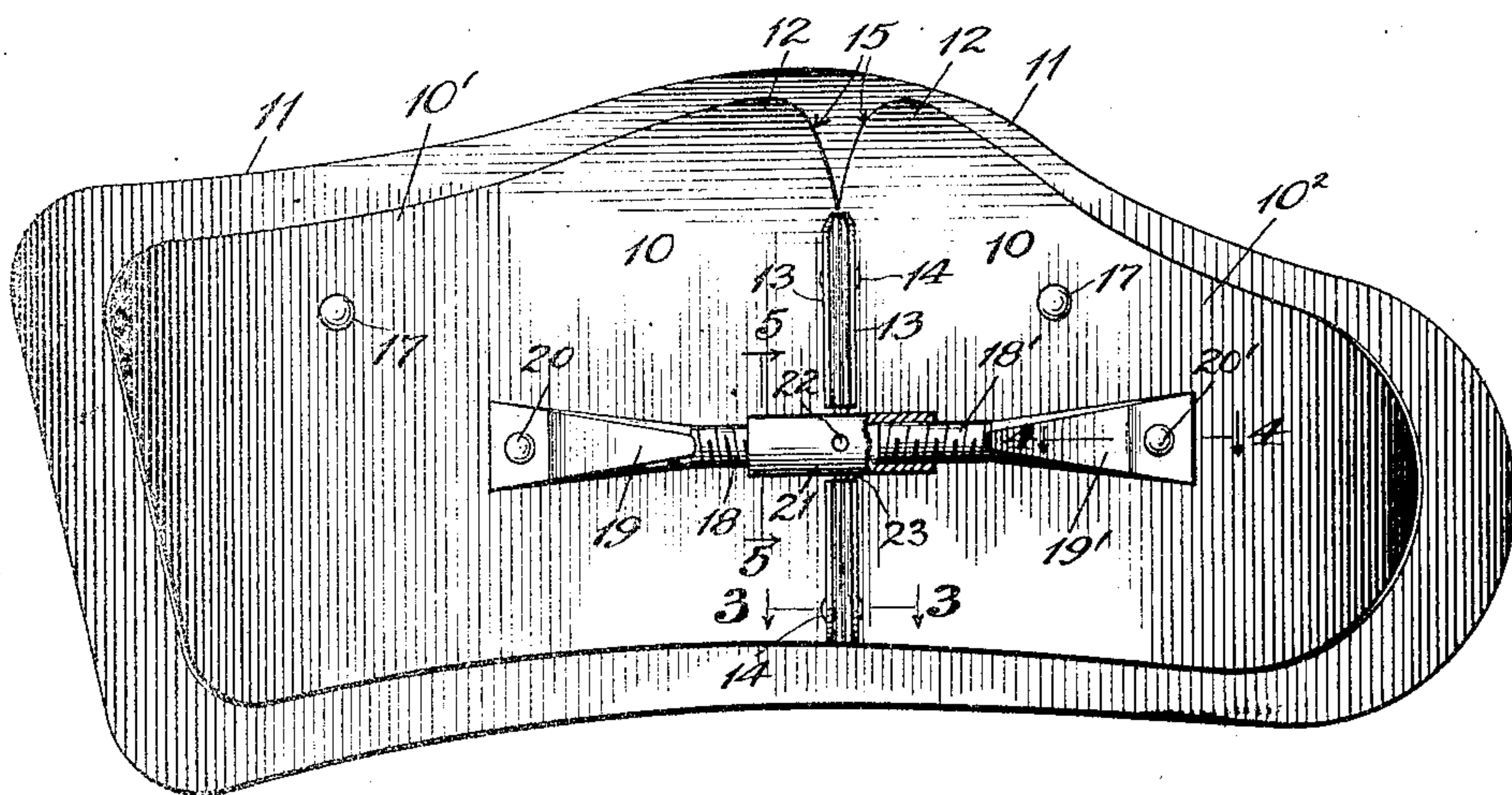


Fig. 3.

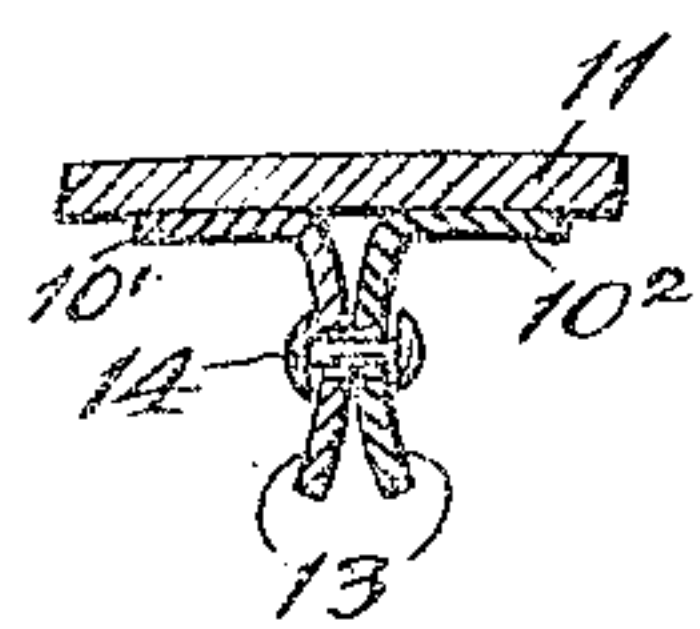


Fig. 4.

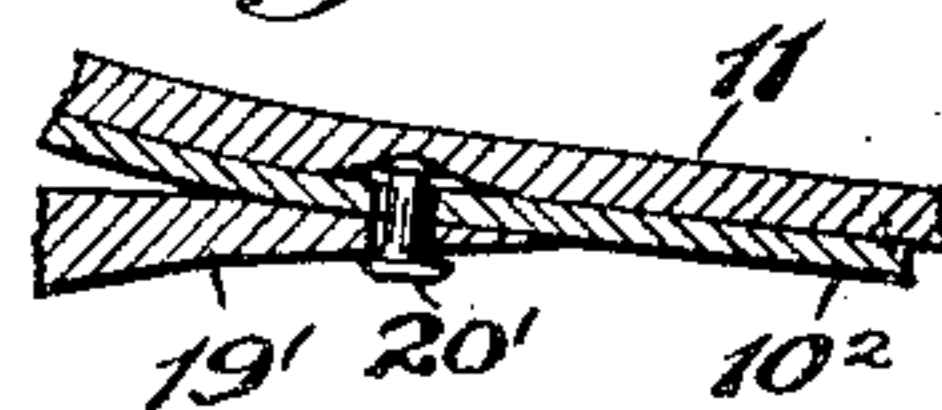
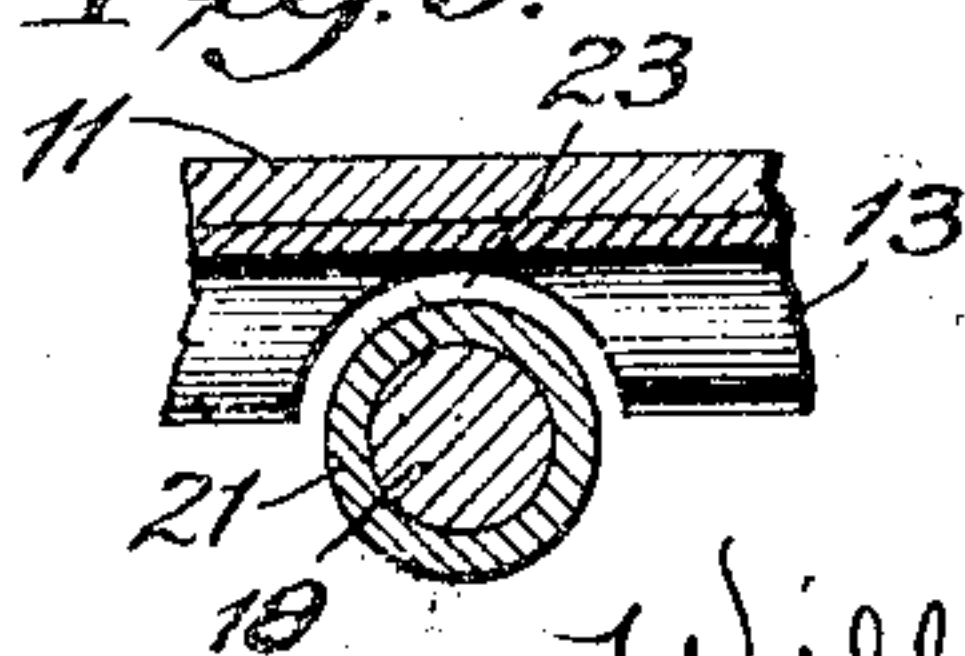


Fig. 5.



Witnesses:-  
 Tracy White.  
 Harry R. L. White

Inventor:  
 William M. Scholl  
 By Harry Bain & May



# UNITED STATES PATENT OFFICE.

WILLIAM M. SCHOLL, OF CHICAGO, ILLINOIS.

## INSTEP-ARCH SUPPORT.

No. 896,859.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed March 4, 1907. Serial No. 360,366.

*To all whom it may concern:*

Be it known that I, WILLIAM M. SCHOLL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Instep-Arch Supports, of which the following is a specification.

My invention relates to improvements in instep arch supports, and has for its salient object to provide a practical and efficient instep-arch support adjustable as to the height of its highest arch portions.

Other and further objects of my invention will become apparent to those skilled in the art from the following description taken in conjunction with the accompanying drawing, in which;

Figure 1 is a side elevation of an instep arch construction embodying my invention; Fig. 2 is a bottom plan view thereof; and, Figs. 3, 4 and 5 are detail sections, taken respectively on lines 3—3, 4—4 and 5—5 of Fig. 2.

Throughout the drawing like numerals of reference refer always to like parts.

In general I provide in my device a metallic, spring base-plate, 10, preferably of relatively stiff spring metal, such as German silver, longitudinally arched and centrally laterally bent for approximate conformation with the natural instep-arch of the human foot, overlain by the customary leather cover-piece 11, and having secured thereto at separated longitudinal points a tension device, adapted for operation to draw toward each other or to press apart, according to the direction of its operation, portions of the spring plate lying longitudinally on opposite sides of the highest transverse line of the normal arch.

In the specific embodiment herein shown the arch plate 10 is formed of two pieces, or sections, a toe piece 10' and a heel piece 10'', meeting in a transverse line at the apex of the arch and articulated along the line of juncture for hinge movement with respect to each other, such sections in the aggregate constituting a plate provided with the usual upturned portion 12 adapted to underlie and substantially conform with the inside curvature of the normal arch of the foot, the plate being as an entirety also arched longitudinally to conform with the normal arch of the middle and outside edge of the instep. The flexible joint between the sections is effected by forming on each plate member a down-

turned flange 13, slightly curved on the side that is presented toward the opposing flange, the two flanges 13 being united by suitable rivets or other fastening appliances 14, which are preferably somewhat loosely seated in their receiving apertures so as to permit of practically-sufficient flexion between the two members. Of course the flanges 13 extend only across the portion of the plate which is substantially flat transversely, the upturned portion 12 of the two plate members being cut away to leave therebetween a V-shaped opening as indicated at 15, so as not to interfere with the hinging movement of the two elements of the plate. The leather part 11 may be somewhat loosely connected to the jointed foot plate, as by rivets 17.

The tension device heretofore adverted to in the specific construction shown, comprises a turn buckle, whereof one screw member 18, flattened at its outer end, as at 19, is connected as by rivet 20 with the plate portion 10', and the oppositely threaded screw member 18' is secured at its flattened end 19' as by rivet 20' to the remaining plate member 10'', so that the turn buckle lies longitudinally under the arch, the two screw members being centrally connected by a double threaded sleeve 21, having therein apertures 22 for the reception of a turning lever, or in any other way suitably arranged to be conveniently turned. As illustrated in Fig. 5, the mid-portion of the flanges 13 is cut away, as indicated at 23, to receive the sleeve 21. As indicated in Fig. 4 the rivet connection of the screw members to the respective plate members is slightly loose to permit sufficient play for the operation to be described. It will be seen now that by turning the sleeve 21, tension may be applied through the screw members 18 and 18' to the portions of the plate 10 on opposite sides of the highest part of the normal arch, either to further elevate the arched portion or to flatten it, accordingly as the screw sleeve is turned, the articulated two-piece structure of the plate 10 facilitating such adjustment of the height of the arch. In use I have found this adjustability to be of great practical advantage. Wearers of instep-arch supporters are usually greatly annoyed in the early stages of their use of the devices by the constant pressure exerted upon the broken down arch of the instep when the weight of the body is upon the feet. The process of forcing back into position the bones of the arch should for comfort be a



slow one, and by the use of an adjustable arch, as herein described, the wearer afflicted with broken down arches of the insteps, or "flat feet" may begin with the arch supports flattened down to the lowest possible point, where they will cause little or no discomfort and may then from time to time gradually adjust the tension devices to increase the elevation of the arches, so that by slow and comfortable degrees the proper final elevation is reached. Further it will be seen that the part of plate 10 between the points of attachment of the tension device is vertically free and springy, so that the pressure at the apex of the arch is not too rigorous for comfort.

While I have herein described in some detail a specific embodiment of my invention, it will be apparent that the spirit of my invention is not limited to the precise construction shown and described; and that numerous changes in the physical embodiment of my invention may be made without departure from its spirit and scope.

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

1. In an instep-arch support, the combination with a spring metal plate longitudinally arched to configuration approximating the normal arch of the human instep, of a rigid tension device, connected to said plate at longitudinal points on opposite sides of the apex of the arch, and arranged for operation to increase or decrease the height of the arch.

2. In a device of the character described, a foot plate, comprising two members articulated on a transverse line, and a tension device connecting such members arranged for operation to elevate or depress the point of articulation.

3. In a device of the character described, a spring metal plate longitudinally arched to approximately the normal curve of the arch of the human instep, and having connected therewith at relatively remote points on opposite sides of the apex of the arch a tension device, arranged for operation to draw together or force apart the points of its connection on opposite sides of the apex of the arched portion, the portion of the arch between the points of attachment of said tension device being vertically free for spring action.

4. In a device of the character described, a spring metal base plate longitudinally arched, and divided transversely into two sections, articulated on a transverse line, and a turn buckle underlying the arch and crossing said hinged portion at substantially right angles, said turn buckle having permanent connection at its opposite ends with the opposite members of the articulated plate.

5. In a device of the character described, a spring metal base plate, longitudinally arched, and provided with an upturned side portion 12, notched, as at 15, at the apex of the longitudinal arch, and a tension adjusting device having opposite ends connected with the plate at points longitudinally on opposite sides of the apex of the arch.

6. In a device of the character described, a foot plate, comprising two members articulated on a transverse line, and means for adjusting the angle of the members at the line of articulation.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM M. SCHOLL.

In the presence of—

GEO. T. MAY, Jr.,

MARY F. ALLEN.