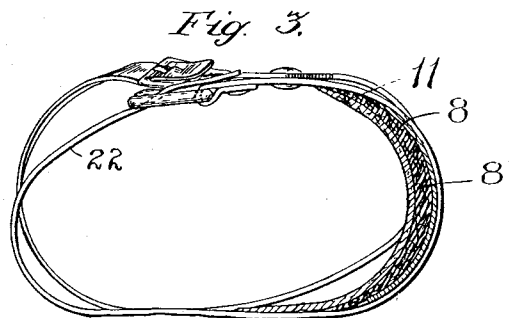
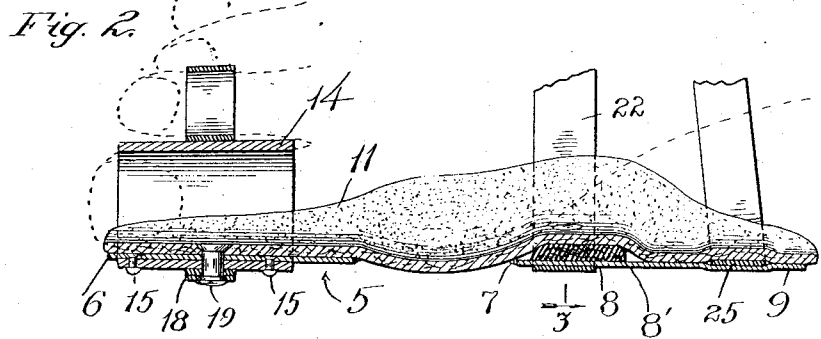
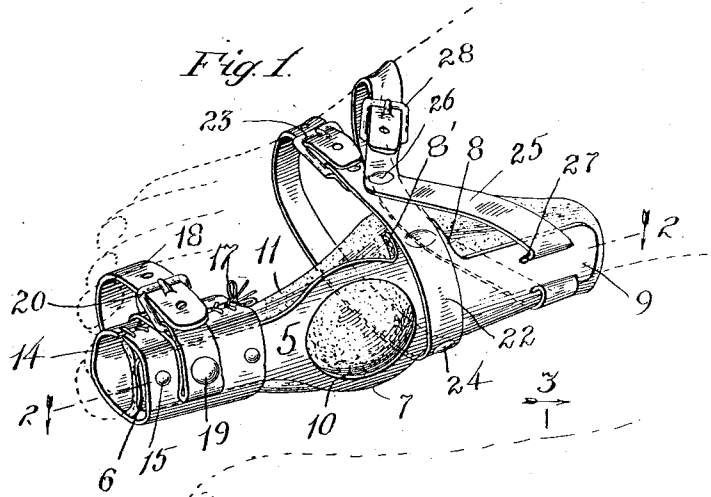


W. M. SCHOLL.
TOE STRAIGHTENING DEVICE.
APPLICATION FILED JAN. 22, 1912.

1,055,810.

Patented Mar. 11, 1913.



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UNITED STATES PATENT OFFICE.

WILLIAM M. SCHOLL, OF CHICAGO, ILLINOIS.

TOE-STRAIGHTENING DEVICE.

1,055,810.

Specification of Letters Patent.

Patented Mar. 11, 1913.

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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 Toe-Straightening Devices, of which the following is a specification.

My invention consists in a toe straightening device applicable to the human foot to correct that displacement of the phalanges of the great toe which is the prime cause of bunion formation and by straightening the great toe (and preferably the second toe also) to reduce the bunion and aid in the restoration of the foot to normal condition.

In general my invention contemplates the provision of a splint, and attaching devices therefor, applicable to the human foot to exert an appropriate leverage tending to restore the laterally displaced phalanges of the great toe to normal position, with minimum discomfort to the wearer.

In the drawing, wherein I have shown an embodiment of my invention for purposes of full disclosure: Figure 1 is a perspective view of the appliance showing its application to a foot illustrated in dotted lines; Fig. 2 is a longitudinal section on line 2—2 of Fig. 1; and Fig. 3 is a transverse section on line 3—3 of Fig. 2.

In the embodiment shown 5 indicates a metallic splint comprising, in general longitudinal alinement, a toe portion 6, a body portion 7, a fulcrum portion 8, and a heel portion 9. The body portion 7 is preferably of annular form providing a central opening 10 for reception of the bunion enlargement, and suitably dished approximately to conform to the bunion. The toe portion 6 in front thereof is a straight, relatively-stiff lever arm to lie alongside of the great toe; the fulcrum portion 8 in rear of the body portion is preferably a transverse cross arm curved to embrace the inner side of the foot just in the rear of the enlarged joint, and by its extension below and above the foot to prevent vertical displacement of the splint; and the heel extension 9 constitutes a straight, relatively stiff lever arm to be acted on by the attaching devices, being preferably in an integral construction.

The splint is intended to receive a bearing against the foot at the portion 8; to extend

around the bunion and along the inner side of the great toe for attachment of the toe extremity 6 of the splint to the great toe of the wearer and to project rearwardly beyond the bearing 8, to receive tension applying straps by which the heel end of the splint may be forced toward the foot, exerting a leverage, with the bearing portion 8 as a fulcrum, to straighten the great toe toward its proper position in substantial parallelism with the axis of the foot.

The effective bearing of the fulcrum portion 8 is preferably offset laterally toward the foot from the general longitudinal line of the splint, and while this may be done in various ways I preferably secure along the inside of the fulcrum portion 8 a relatively thick pad of felt, as shown at 8, or otherwise provide a padded bearing laterally offset as described.

The entire inner surface of the splint, including the bearing portion, is preferably covered with a felt cover piece 11 suitably shaped and cemented or otherwise secured to the splint, such felt layer giving the structure a measurable conformability to the peculiarities of the individual foot, preventing contact of the metal with the flesh, padding the entire structure to some extent and giving a yieldable covering for the bunion-receiving aperture 10.

Means are provided in conjunction with the toe-receiving portion 6 of the appliance for securing it firmly to the great toe, and preferably also, for anchoring thereto the second toe which is generally more or less distorted by the outward displacement of the great toe. In the specific construction shown, 14 indicates a cot or bandage of soft leather or other appropriate material encircling the toe portion 6 of the splint, and the contiguous part of the felt cover, secured to the splint as by rivets 15, and eyeleted to receive the lacing 17, adjustably to secure the cot around the great toe. A strap 18 is preferably further provided, folded upon itself and anchored as by rivet 19 to the splint and having length-adjusting fastening means as the buckle 20, so that the folded strap may be run over the top of the great toe, and looped around the second toe as shown in the drawings, thereby to lift the second toe and properly position it in respect to the great toe.

The fulcrum portion of the splint is preferably secured firmly to the foot by a foot-encircling strap 22, having an adjusting means 23, shown as a buckle, said strap being riveted as at 24 to the part 8. Suitable appliances such as a strap or the like, are provided for drawing the heel portion 9 of the splint toward the instep arch of the foot, thereby to cause the splint to rock on its fulcrum 8, forcing the great toe outward as the heel of the splint is drawn inward. Various arrangements to this end may be provided, that which I have shown consisting of a strap 25, anchored as by rivet 26, to the strap 22, at about the center of the foot, at the base of the upper instep, and extending thence through suitable receiving slots 27 in the heel 9 of the splint under and around the foot, to a buckle 28 attached to the strap beyond the anchorage point 26.

It will be seen in the construction described that the portion or course of the strap 25 lying between the rivet 26 and the receiving slots 27 constitutes an anchorage to prevent the rear end of the splint from being depressed, the tortuous passage of the strap through the slits in the splint sufficing to give adequately fixed connection yet permitting of ready adjustment of the parts and that the portion of the strap running under the foot to the buckle is a tension applying means.

It will be understood that as the structure is applied the toes are first strapped so that the appliance stands in relation to the foot somewhat as shown in Fig. 2, then the strap 22 is tightened adequately to localize the fulcrum point, and then strap 25 is tightened at the buckle 28, so that the heel end of the splint is drawn in by that portion of strap 25 passing under the instep arch to rock the splint on its fulcrum, the arrangement of the strap shown preventing any slipping of the strap on the instep, and conforming the appliance effectively to the irregular contour of the human foot.

While I have herein described in some detail a specific embodiment of my invention it will be apparent to those skilled in the art that changes in details might be made without departing from the spirit of my invention and within the scope of the appended claims.

What I claim is:

1. In a device of the character described, a splint structure comprising a toe portion, an intermediate portion to extend past a bunion, an inwardly protruding fulcrum structure in rear of said intermediate portion, a longitudinal extension in rear of said fulcrum portion, combined with means to secure said toe portion to a human toe and adjustable tension applying means to connect the rearward extension to a human foot, whereby said splint may act as a lever find-

ing its fulcrum on the inwardly offset structure in rear of the bunion and rocking on said bearing to draw the toe to proper position.

2. In a device of the character described, the combination of a splint providing a toe portion, means to secure said toe portion to a human toe, an intermediate portion shaped to extend past a bunion, an inwardly offset portion in rear of said intermediate portion, forming a fulcrum to localize the pressure in rear of the bunion when in use, a heel extension in rear of said fulcrum and adjustable means to connect the heel portion of the splint to the foot.

3. In a device of the character described, the combination of a splint providing a bunion encircling body, a toe engaging means in front thereof, a fulcrum portion in rear of said body, a heel extension in rear of said fulcrum portion, and an adjustable means to connect said splint to the foot, comprising a foot encircling strap associated with said fulcrum portion and a second strap associated with said heel extension to draw said heel extension toward the foot, whereby said splint may act on said fulcrum to draw the engaged toe outwardly to proper position.

4. In a device of the character described, the combination of a splint of relatively stiff material shaped and proportioned to extend along the outside of the great toe of the human foot, past an enlarged bunion, and along the inside of the foot in rear of said bunion, an inwardly offset padded part between the bunion receiving portion of the splint and the rearward extension, means to connect the front end of the splint to the great toe, and adjustable means to connect the rearward extremity of the splint to the foot, thereby to rock said splint on the offset padded portion as a fulcrum.

5. In a device of the character described, the combination of a relatively stiff continuous splint providing a toe portion, a bunion receiving portion shaped to extend past a bunion, a rearwardly extended heel extension and a fulcrum portion, transversely dished for conformity with the human foot, between the bunion receiving portion and the heel extension, means to connect the toe portion of said splint to a human toe, adjustable tension applying means to secure the heel extensions of splint to a human foot, a cover piece for the inside surface of the structure, and a thickening body overlying the fulcrum portion of the splint effectively to offset the fulcrum thereby to localize the pressure of the lever in rear of the bunion receiving portion.

6. In a device of the character described, the combination of a metal splint comprising a toe extension, a heel extension, a bunion receiving portion immediately in rear of said

toe extension and a transversely curved portion between said bunion receiving portion and the heel extension inwardly offset to form a fulcrum on which the splint may rock when in use, means to attach the toe extension to a human toe and means to attach the heel extension to the foot.

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

WILLIAM M. SCHOLL.

In the presence of—

W. LINN ALLEN,
MARY F. ALLEN.