

Sept. 30, 1947.

B. H. SHERMAN
TOE SPREADER HELD IN POSITION BY A FIRM FLEXIBLE
CONNECTOR JOINED TO A FOOT BAND
Filed March 21, 1946

2,428,343

Fig. 1.

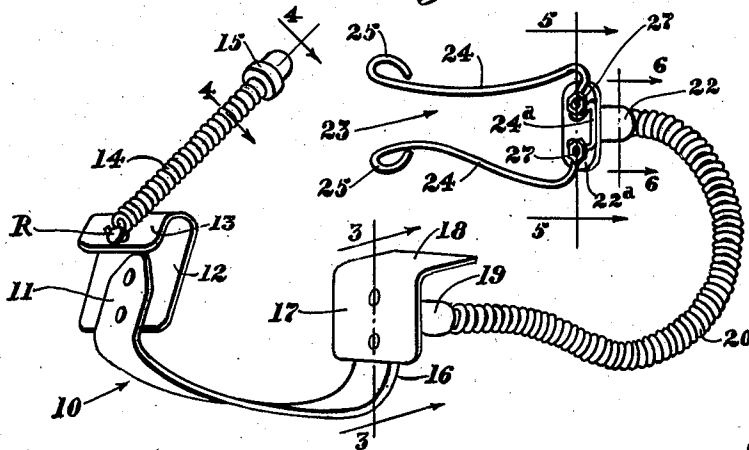


Fig. 2.

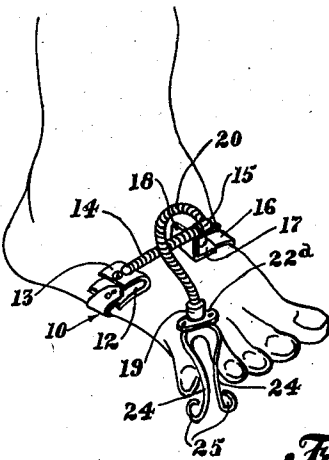


Fig. 6.



Fig. 3.

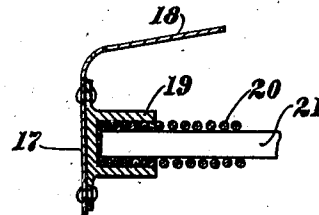


Fig. 4.

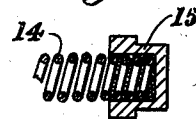
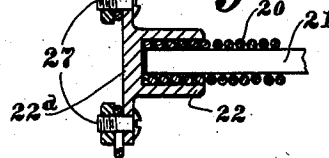


Fig. 5.



INVENTOR.
Bernard H. Sherman
BY Harold E. Cole
Attorney

UNITED STATES PATENT OFFICE

2,428,343

TOE SPREADER HELD IN POSITION BY A
FIRM FLEXIBLE CONNECTOR JOINED TO
A FOOT BANDBernard H. Sherman, Boston, Mass., assignor of
one-half to Harold E. Cole, Taunton, Mass.

Application March 21, 1946, Serial No. 655,995

4 Claims. (Cl. 128-81)

1

My present invention relates to a toe spreading device, and more particularly to an improved interdigital field exposer.

My present invention is particularly adapted for use in connection with the treatment of ailments of the feet and for exposing the surface area of the abutting faces or sides of the toes during such treatment. The instrument is quickly applied to the foot, and when the spreader is applied between adjacent toes, it will hold such toes against slippage, and the entire area of the interdigital field can be clearly exposed with but slight effort, and will remain exposed for any desired period.

The principal objects of my invention, therefore, are to provide an effective toe spreading device of simple construction, that is made of parts that are easy to manufacture and assemble, and which is convenient to attach and use. A further object is to make my device so it is instantly adjustable.

In the accompanying drawing, illustrating a preferred embodiment of my invention:

Figure 1 is a perspective view of my toe spreading device in open position.

Figure 2 is a perspective view showing my device as used on a foot.

Figures 3, 4, 5 and 6 are sectional views taken on the lines 3-3, 4-4, 5-5 and 6-6 of Figure 1 respectively.

Referring to the drawing, 10 designates a thin, flexible, and resilient band formed generally as shown. One end of the band 10 is bent upwardly, as at 11, and to this end is secured, as by riveting, an end plate 12. Said end plate 12 has its upper end curved over and bent outwardly, as indicated at 13, and to this end is secured by a rivet R one end of a close-coil metallic spring 14 of suitable length, and provided with a knob 15 at its free end. This spring 14 provides swinging, fastening means, adjustable in nature; for the attaching means previously described.

The other end 16 of the band 10 is bent upwardly and thence inwardly toward said end 11. To the end 16 is secured, as by riveting, an end plate 17 having an upwardly extending fastening blade 18. The upper or outer side edges of the blade 18 may be engaged between any two adjacent coils of the spring 14, to hold the device on the foot of the patient. The frequency of the coils in the fastened spring 14 make a fine adjustment possible.

On the inwardly extending portion of the end plate 16 is secured a socket 19, in which is socketed one end of a coil spring 20. The spring 20 is

2

preferably made of metal that is flexible and extending through it is a lead core 21 that is fused in said socket 19. Said spring may be bent into any form desired and since it is non-resilient it will retain such form. Said spring 20 and lead core 21 constitute a connector member that is universally flexible, but remains firm in any position it is bent to. Any firm but bendable material may be used in place of said lead core.

On the free end of the said coil spring 20 I secure a socket 22 by fusing the end of said core therein. Said socket has a base 22a to which I secure a toe spreading member 23. Said toe spreading member 23 is preferably made of spring wire and has two fingers 24 which may be formed as shown, and a bridge portion 24a. Said fingers 24 are preferably arranged substantially parallel to each other and with the free ends slightly flared outwardly. On the free ends are formed eyes 25 which ensure that there will be no projecting sharp edges and they provide ample grasping area. Bolts 27 hold said bridge portion 24a to said socket base 22a.

In applying the device to the foot of a patient, the toe spreader may be swung upwardly out of the way, and the fastening spring 14 disengaged from an edge of the fastening blade 18. The band 10 is then slipped under the sole of the foot and around the metatarsal area, whereupon said fastening spring 14 is drawn towards said fastening blade 18 over the top of the foot, and said spring 14 is forced onto said blade 18, at the top or on either side, between any two coil portions thereof desired. My device is thus firmly, yet resiliently, attached to the foot. The connector member is then moved to a position where the fingers 24 are inserted between two toes of the foot, whereupon the toes are kept spread apart by force of the spring members to thereby expose the space therebetween. By properly positioning the fingers 24, which are spaced apart in varying degrees as shown in Figure 1 of the drawings, said toes may be spread apart to the degree desired.

What I claim is:

1. A toe spreading device comprising attaching means adapted to be attached to a foot, a toe spreading member adapted to be inserted between two toes and spread them apart, and a firm, flexible connector member extending from said attaching means to said toe spreading member adapted to hold said toe spreading member in a predetermined position.

2. A toe spreading device comprising attaching means embodying a resilient band and end

3

portions at the ends of said bands, one said end portion embodying a fastening portion, a fastening spring member attached to the other said end portion adapted to connect with said fastening portion, a toe spreading member adapted to be inserted between two toes and spread them apart, and a firm, flexible connector member extending from said attaching means to said toe spreading member adapted to hold said toe spreading member in a predetermined position.

3. A toe spreading device comprising an open, attaching band, said band embodying end portions one of which has a blade, a fastening member attached to the other said end portion and adapted to extend to said blade embodying a plurality of portions laterally separable from each other to provide a space so said blade may be inserted between two of said separable portions, a toe spreading member adapted to be inserted between two toes and spread them apart, and a firm, flexible connector member extending from said attaching band to said toe spreading member adapted to hold said toe spreading member in a predetermined position.

4. A toe spreading device comprising a resilient open, attaching band of firm material adapted to provide exterior support having end por-

4

tions which are normally spaced from each other, a resilient coil spring extending from one said end portion and having a free end, a blade extending from the other said end portion, said blade being adapted to extend between two coil portions of said coil spring when connected thereto, a toe spreading member adapted to be inserted between two toes and spread them apart, and a firm, flexible connector member supported by said band and extending from a said end portion to said toe spreading member and adapted to hold said toe spreading member in a predetermined position.

BERNARD H. SHERMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,305,749	Shirley	June 3, 1919

FOREIGN PATENTS

Number	Country	Date
210,498	Great Britain	June 28, 1924