Feb. 7, 1928.

1,658,037

J. BROMLEY

ANKLE SUPPORTER

Filed April 7, 1926

Fig. 1.

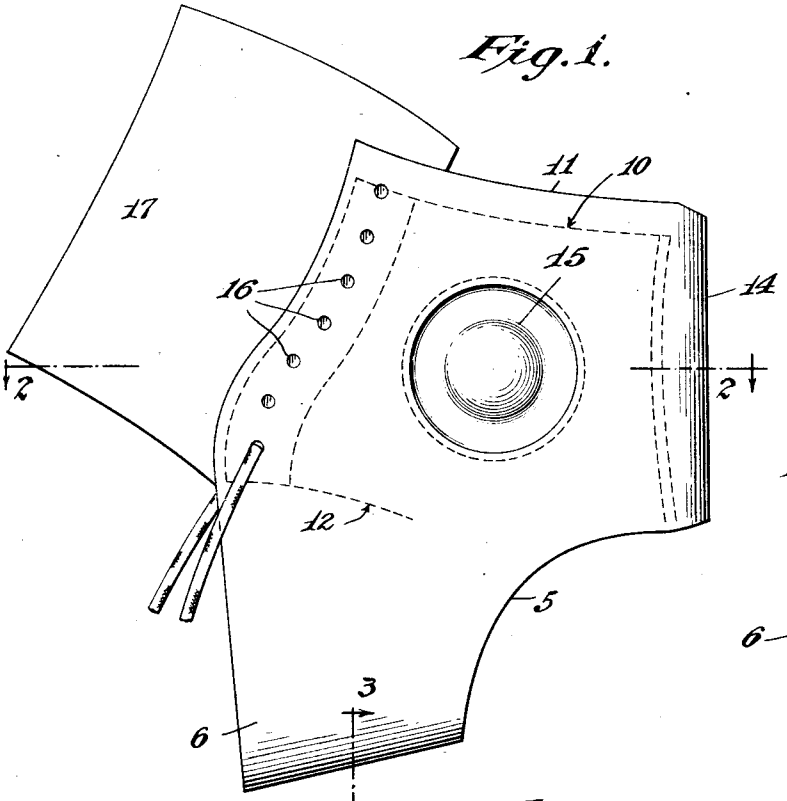


Fig. 3.

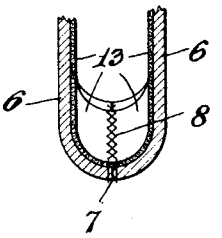


Fig. 2.

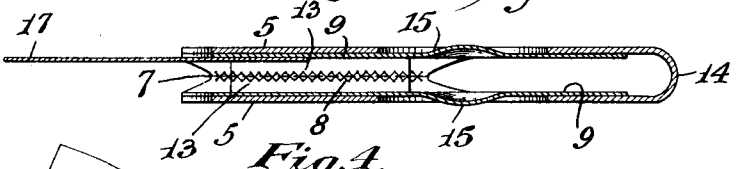
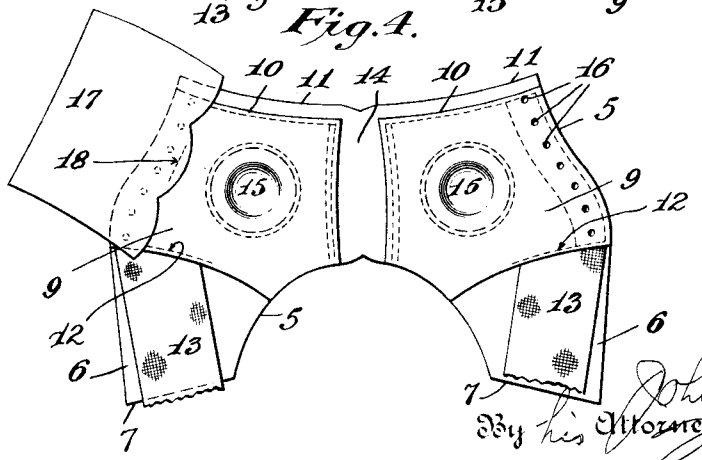


Fig. 4.



Inventor
John Bromley
By his Attorney
Frank A. Clark

Patented Feb. 7, 1928. 1,658,037

UNITED STATES PATENT OFFICE.

JOHN BROMLEY, OF CLOSTER, NEW JERSEY, ASSIGNOR TO A. G. SPALDING & BROS., OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

ANKLE SUPPORTER.

Application filed April 7, 1926. Serial No. 100,220.

This invention relates to devices for protecting the ankle portion of the foot, and is especially designed for use in athletic exercises.

An object of the invention is to provide a simple and improved device of the character which will not only effectively protect the ankle, but which will operate to brace and strengthen the same, which will be inexpensive and easy to manufacture, and particularly strong and durable.

A special object of the invention is to provide a brace and protector of which the body is cut from a single piece of leather or the like material in such fashion that it is continuous as to the parts which surround the ankle, and so that integral extensions are provided depending from each side of the body and having their edges united to constitute the stirrup portion which lies under the foot in use. In this connection, one of the features of the invention is that the edges of the stirrup parts are united by a cross stitch so that there will be no unevenness to cause discomfort to the wearer. This cross-stitch may also be utilized to hold in position a strengthening web, whose ends are fastened to the inner surface of the body, and through whose median portion the stitch is passed in the manufacture of the protector.

A further object is to provide for the maximum bracing effect, while avoiding objectionable binding of the ankle bone, and chafing of the ankle by the upper edges of the support. These ends are accomplished by securing on the interior surfaces of the two sides of the support sheets of leather or other material softer than the material of the main body of the support, and cutting apertures in the main body portions where the latter would come in contact with the ankle bone.

Furthermore, the upper edges of the reinforcing pieces are appreciably distant from the upper edges of the main body of the support, so that there is greater yield to the flexing of the foot and less liability of chafing. Preferably, the upper ends of the stirrup reinforce web are held under the lower portions of the reinforcing pieces, by the stitching which holds the latter in position.

Still another object is to provide for the attachment of the tongue which closes the laced front of the support in such a way that there will be no undesirable bunching or extra thickness of material to cause discomfort to the wearer.

Another feature of the invention is in the fact that the back of the support, the part that overlaps the Achilles tendon, is a single thickness of material, which will readily conform itself to that part of the foot, and which may be notched at top or bottom edge or both so that the pull from the lacing is distributed and chafing of the tendon prevented.

Other objects and aims of the invention, more or less broad than those stated above, together with the advantages inherent, will be in part obvious and in part specifically referred to in the course of the following description of the elements, combinations, arrangements of parts, and applications of principles constituting the invention; and the scope of protection contemplated will appear from the claims.

In the accompanying drawings, which are to be taken as part of this specification, and in which I have shown merely a preferred form of embodiment of invention,

Fig. 1 is an elevation of an ankle support embodying the invention;

Fig. 2 is a section taken on the line 2—2 of Fig. 1;

Fig. 3 is a section taken on the line 3—3 of Fig. 1; and

Fig. 4 shows the article laid out flat, revealing the inner surfaces thereof, as it appears before the stirrup ends are united. For the purposes of this figure the stirrup reinforcing web, which is actually one piece, is shown in two pieces.

Referring to the numerals on the drawings, there is shown at 5 a piece or sheet of leather or other suitable material shaped about as shown in Fig. 4, that is with a main

portion of sufficient extent to substantially embrace the ankle portions of the foot and with depending and preferably integral stirrup portions 6. The ends 7 of the stirrup portions are preferably united by means of a but seam, as indicated in Fig. 3 and held by a cross stitch 8 so that the inner surface of the stirrup, which comes in contact with the foot in use, will be substantially even and without projections or bunching. Applied to the inner surface of the body 5, substantially coincident with those portions which surround the sides of the ankle, are reinforcing pieces 9 cut from leather or other material and suitably shaped. These pieces 9 extend at their upper edges appreciably short of the upper edge of the main body of the support (see Fig. 4, in which the upper edge of the reinforce piece is indicated at 10 and the upper edge of the main body at 11). The purpose of this arrangement is so that the upper edge of the support will be as flexible as possible, in order to reduce chafing. The reinforce pieces are held in position by means of stitching, and the stitching 12 which holds their lower edges to the body portion is utilized to hold also the ends of a stirrup reinforcing web 13 formed of fabric, the median portion of this web being tight to the median portion of the stirrup by means of the cross stitch 8.

Preferably the reinforcing pieces 9 are spaced apart on the body so that the median part of the main body, that is the part which in use will lie along the Achilles tendon, is without any reinforcing, which means that this part of the support will be desirably flexible, does not need to be pre-shaped, but will be self-conforming in use. This back portion of the support indicated by the numeral 14 may be notched at top and bottom so that the pull from the lacing will be distributed and the self-conforming characteristics of the article enhanced.

In order to provide for the reinforcing function of the pieces 9, while avoiding objectionable pressure of the device on the ankle bone at each side of the foot, I prefer to cut apertures in the main body portions coinciding with those areas of the reinforce members 9 which would come in contact with the ankle bone. The result is that an area 15 of the reinforce piece will be visible from the outside of the support, and the ankle bone will have against it the pressure of only one thickness of material, that is the reinforce piece. This may be of somewhat softer material than the main body, and it may be dished in the manufacture of the article, though it will inevitably be pressed out in any event as the device is worn. At the same time it is obvious that the ankle is well braced by substantial support which is relieved only at those points where relief is desirable.

The usual lacing apertures 16 are provided along the front edges or flies of the support, and there is also a tongue 17 which closes the laced front part of the support. This tongue is attached to the interior surface of one of the side portions of the body as by means of a short line of stitching 18 and extends beyond the top and bottom edges of the side piece which carries it. In use, it will lie flat against the instep and there will be no such unevenness as might be found if, for instance, the inner edge of the tongue were held between the main body and the reinforced piece 9.

It is believed that the utility and advantages of the construction above set forth will be apparent inasmuch as they have been severally referred to in connection with the description of parts and relations.

Inasmuch as many changes could be made in the above construction, and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:—

1. An ankle supporter comprising a one-piece leather body having side portions adapted to overlie the sides of the ankle, a back portion adapted to lie along the Achilles tendon, depending integral stirrup sections of substantially equal length having their lower ends united, spaced reinforcing pieces of leather on the interior surfaces of the side portions of the body, the rear edges of the reinforcing pieces being spaced apart at the back portion of the supporter, a separate reinforcing web of fabric extending along the inside of the stirrup, the ends of the web being held between the reinforcing pieces and the body, the lateral sides of the web being free from the stirrup to permit circulation of air between the web and the stirrup.

2. An ankle supporter comprising a one-piece leather body having side portions adapted to overlie the sides of the ankle, the side portions being apertured at points corresponding to the position of the ankle bone when the device is being worn, a back portion adapted to lie along the Achilles tendon, depending integral stirrup sections of substantially equal length having their lower ends united, reinforcing pieces of leather on the interior surfaces of the side

portions of the body, and extending across the apertures of the body, the rear edges of the reinforcing pieces being spaced apart at the back portion of the supporter, a separate reinforcing web of fabric extending along the inside of the stirrup, the ends of the web being held between the reinforcing pieces and the body, the lateral sides of the web being free from the stirrup to permit circulation of air between the web and the stirrup.

In testimony whereof I affix my signature.

JOHN BROMLEY.