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W. H. MacNAMEE

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STOCKING

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Fig. 1.

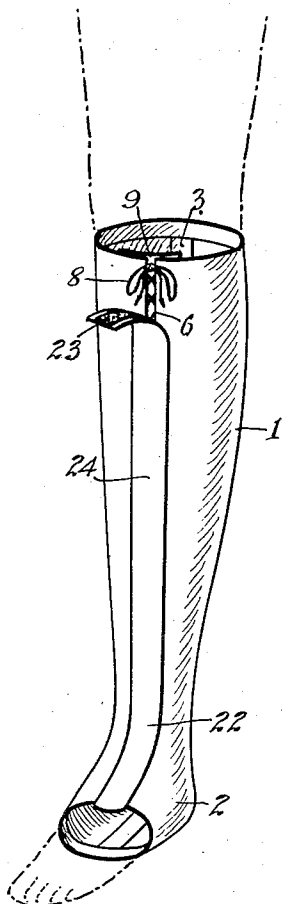


Fig. 2.

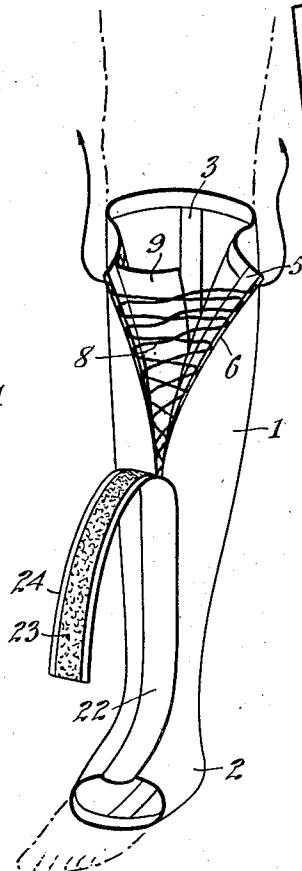


Fig. 3.

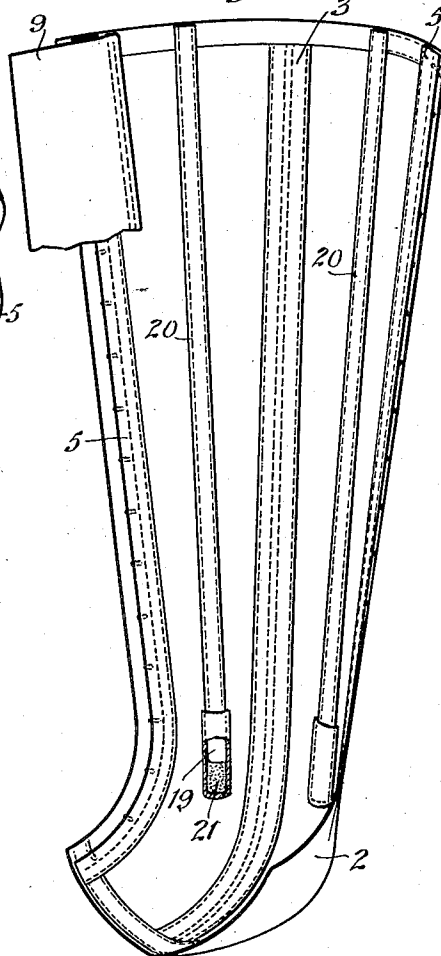


Fig. 4.

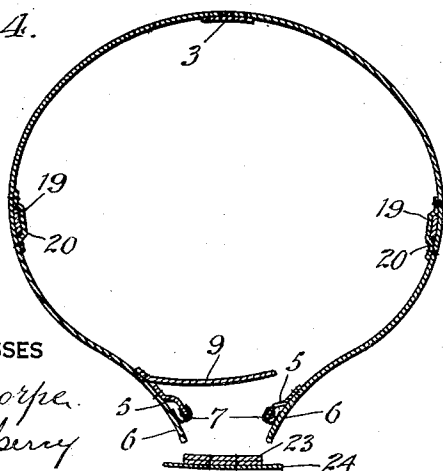


Fig. 5.

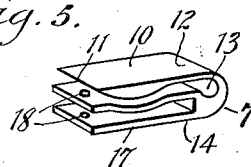
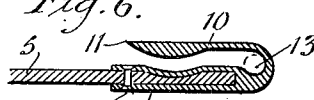


Fig. 6.



WITNESSES

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## UNITED STATES PATENT OFFICE

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## STOCKING

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This invention relates to stockings.

It is among the objects of the present invention to provide a novel and improved non-elastic, washable and adjustable surgical stocking or supporter of the type commonly

5 used for supporting limbs by persons afflicted with varicose veins, phlebitis, swollen or weakened limbs, or weak arches, or as a support following a fracture of the lower limbs. A further object of the present invention is to provide an improved stocking, which is light, easily adjustable, washable, non-stretchable, and preferably formed of cotton drill, such stocking being so arranged and constructed as to completely cover the ankle, heel and other portions of the foot and leg from the sole of the foot to the knee.

10 A further object of the invention is provide an improved lacing for stockings of the character described, which will be invisible through silk hosiery. This object of the present invention is provided for by the use of improved flat hooks attached to webbing and stitched along the inner surface of the stocking in such a manner that the webbing with hooks attached sets back from the edge of the stocking sufficiently far so that the edge of the stocking projects beyond the hooks and webbing, thus completely covering them by forming a flap thereover.

20 A further object of the present invention is to provide in a stocking an improved outer tongue or master piece which extends from the lower edge of the stocking up the limb, thus covering the lacings and preventing their being visible through a silk stocking. The master piece also is adapted to prevent injury to the hosiery due to the lacings.

25 A further object of the invention is to provide a stocking which will be prevented from wrinkling and slipping by the use of steel stays suitably encased within the body of the stocking.

30 The present stocking is further provided with a space of one inch along the entire length of the anterior aspect of the limb, thus providing for adjustment whereby the stocking may be tightened if too loose or loosened if too tight.

35 Heretofore it has been customary to manu-

facture such stockings or supporters of an elastic fabric having the heel cut out, or with a slit at the ankle, at the instep, or over the anterior aspect of the ankle joint, thus leaving these parts exposed and without support. Such elastic stockings are defective and uncomfortable, in that they do not provide support to the blood vessels and ligaments at the points mentioned; and in that they are not adjustable to the various degrees of swelling of the foot and limb. In such stockings, the edges of the openings or slits, by means of their elasticity, constrict the blood vessels within the openings, and are apt to chafe and otherwise irritate the parts about the ankle and instep. Such stockings cannot be washed or properly cleansed without impairing their elasticity and otherwise injuring the fabric, thus destroying their usefulness for the purpose intended. The elastic material soon becomes stretched out of shape, its fibers become broken in places, resulting in loss of support, and thus they last but for a very short time.

40 Heretofore it has been the practice to provide laced stockings. However, such laced stockings or supporters which have been manufactured have no provision for the prevention of wrinkling or slipping down of the stocking, and the lacing is very apparent, showing through the hosiery, and the lacing also cuts or also wears holes in the hosiery. In such laced stockings, considerable difficulty is found in lacing through the usual eyelets and considerable time is required to lace up or apply the stocking to the limb.

45 According to this invention, the defects and objections pertaining to elastic stockings, as well as those pertaining to other laced stockings, are overcome by providing a laced stocking or supporter, which is washable, without in any way impairing or destroying any of its qualities. It is made of a material which may be washed, boiled, or otherwise sterilized, and is, therefore, sanitary, non-stretchable, and thus will not lose its shape. The present stocking is also so constructed that it covers the heel and ankle completely; and it gives support to the blood vessels, lig-

aments and muscles of these parts. By virtue of the improved material used in the present stocking, it will not chafe, irritate, nor constrict any part of the limb or foot. The stocking of the present invention will be seen to be readily adjustable to the various conditions of the limb, and is more durable and lighter in weight than an elastic stocking.

A further important feature of the invention is the provision of novel means for rendering the lacings of the stocking invisible through the usual hosiery.

Other objects and features of the present invention will be apparent from a consideration of the following specification taken in conjunction with the accompanying drawings, in which

Figure 1 is a perspective view of the stocking as applied to a limb;

Figure 2 is a similar view showing the stocking before the lacing is completed and before the final adjustment of the outer protecting tongue;

Figure 3 is a perspective view of the body of the stocking without the inner or outer tongue;

Fig. 4 is a transverse sectional view showing the stocking with the inner and outer tongues in position before securement to the limb;

Fig. 5 is a detail perspective view of the novel hook or fastening means;

Fig. 6 is a sectional view of the hook as applied to one edge of the stocking.

In the construction of the stocking of the present invention, a light, non-stretchable, washable fabric is employed, such as cotton drill, duck, canvas, or other non-elastic material. The fabric is cut to form a leg covering 1, its lower end terminating in a curved extension 2, which serves to cover and support the heel, ankle and dorsum of the foot, as shown in Fig. 1. The stocking is preferably made from two suitably shaped pieces of the material, which are joined together in the back by a seam 3 extending up the back of the leg. The back seam 3 and all the edges of the stockings are suitably reinforced with tape stitched thereon.

Associated with the front edges 6 of the stocking throughout its entire length, a strip of suitable webbing, 5, is attached, to which hooks 7 of special design, as hereinafter described, are secured to provide for lacing and adjusting the stockings upon the limb by means of the lacing 8. The webbing 5 is stitched to the inner or under surface of both of the edges 6 in such a manner that the webbing 5 and hooks 7 set back from the edge of the stocking, thereby forming a flap, the upper or outer part of this flap serving to completely cover the webbing 5 and hooks 7, and that portion of the lacing 8 engaged therein. A tongue 9 is made of the same ma-

terial and is secured along the entire length on one of the edges 6 of the stocking in such a manner that when the stocking is applied to the limb, the tongue lies beneath the lacing 8 serving to prevent chafing of the limb by the lacing.

The hooks 7, as shown in Figs. 5 and 6, are constructed of a suitable, non-rustable material, preferably metal, stamped out in one piece, and consist of an open or free end 11, a neck 12, an eye 13, and a slotted or mortised base 14. The free end 11 is so formed that it is of oval longitudinal section, and its under convex surface is opposed to the upper recessed surface of the base 14, leaving just sufficient space between the end 11 and the base to readily engage or disengage the lacing 8. The base 14 being mortised or slotted, serves for the insertion and attachment of the webbing 5, the upper surface having a depression, which conforms with the shape of the convex portion of the end 11, the depression being stamped into the hook at the time of assembling the hook and webbing, and serving to give greater security to the attachment of the hooks. The lower surface 17 of the base is flat, both the upper and lower surfaces of the base being punched with a hole 18 for riveting to the webbing. The construction of the hook 7 is such that it is low and flat, so that it may not project above the cloth to any undesirable extent.

To each half of the stocking on its inner surface, stays 19 are attached in the following manner: On each inner half of the stocking a strip of webbing 20 is attached by stitching. Extending from a point just back of the position occupied by the ankle bone of the wearer, the strip of webbing is carried upward to a point near the top of the stocking, said webbing being stitched along its edges and across its lower extremity, the upper or top end being left open, thus forming a casing into which the stay 19 is inserted. Within the lower end of the casing, a felt pad 21 is attached to the lower end of the casing and serves to prevent the lower end of the stay from chafing the limb. The stay is prevented from working out of the casing at the top by stitching or the equivalent.

The cover or master piece 22, as shown in Figs. 1, 2 and 4, is constructed of three pieces, two lower or under pieces 23 and one upper or outer piece 24. The upper piece 24 is made of a woolen material so knit that it has the quality of being stretchable, but when the tension is released it returns to its original length and shape, and its surface is even and smooth. The two lower or under pieces 23 are knit from a material of a mixture of wool and cotton, the stitch being such that the surfaces of the under pieces 23 have a crepe effect, and although narrower than the upper piece 24, have the same stretchable qualities. The three pieces 23 and 24 are placed one upon

the other and stitched together throughout their entire length and through their center from end to end, and in such a manner that the outer or top piece 24 projects beyond both  
 5 edges of the under pieces 23. The cover 22 is positioned over the lacings of the stocking, extending from the extreme upper to the lower extremity of the stocking after the stocking has been applied to the limb. In  
 10 applying the cover or master piece, it is stretched upwardly, the under pieces 23, by means of their crepe surface, filling in the interspaces between the lacing and between the free edges of the stocking, the top piece  
 15 24 being smooth, its edges being continuous with the surface of the stocking, thereby rendering the lacing and the free edges of the stocking invisible, and giving to the stocking, as a whole, a smooth and uniform appearance.  
 20

From the foregoing description it will be seen that a stocking or supporter has been provided, which by merely tightening or loosening the lacing, may be readily adjusted  
 25 to conform to the shape and conditions of the leg, ankle, foot and instep in such a manner as to give uniform pressure and support to the blood vessels thereof. This stocking or supporter may be made to cover the knee  
 30 and thigh, if necessary.

3. The combination with a supporting  
 35 stocking including a lacing for lacing the stocking about a limb in supporting position, of an exterior cover for said lacing comprising a member stretchable longitudinally  
 40 over said lacing and overlapping the lacing on each side, said member having an inner elastic and resilient fabric adapted to embed itself within the spaces of said lacing.  
 45

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According to the present invention, the defects and objections pertaining to the laced stockings heretofore manufactured, are overcome by providing a washable and adjustable  
 35 laced stocking or supporter which will not slip down or wrinkle under any condition or shape of the limb. The lacing is not apparent, and thus the stocking may be worn under silk hosiery without detection; the  
 40 lacing will not cut or wear holes in the hosiery, and the stocking can be quickly applied to the limb and adjusted thereon without the use of eyelets or eyelet holes into which the lacing is threaded.  
 45

From the foregoing it will readily be seen that the invention is not confined to the specific structural details herein shown and that numerous changes and modifications and the full use of equivalents may be resorted to  
 50 without departing from the spirit or scope of the invention as outlined in the appended claims.

What is claimed is:

1. A limb supporting stocking, including a  
 55 lace for lacing the stocking about a limb in supporting position therefor, a tongue associated with the inner face of said stocking to protect the limb from said lacing, and a cover receivable over said lace to protect an  
 30 outer stocking therefrom, said cover including an inner elastic and resilient fabric adapted to embed itself within the spaces of said lacing.

2. A limb supporting stocking including  
 65 an integral foot and ankle enclosing member,