April 12, 1932. A. B. KENDRICK 1,853,903

SURGICAL APPLIANCE

Filed Feb. 24, 1931

Fig. 1.

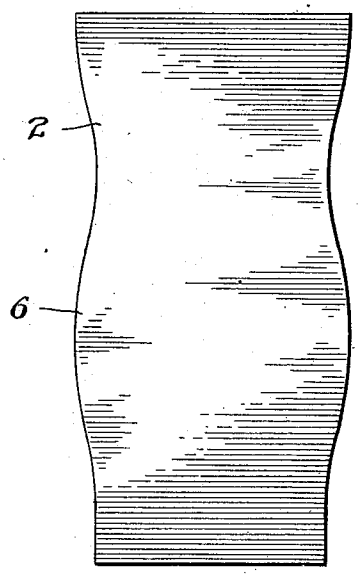


Fig. 3.

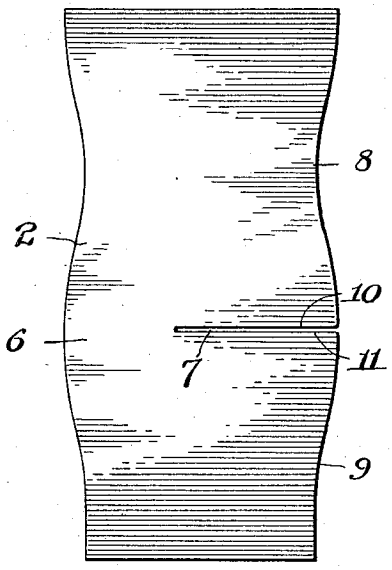


Fig. 2.

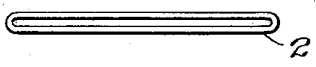


Fig. 6.

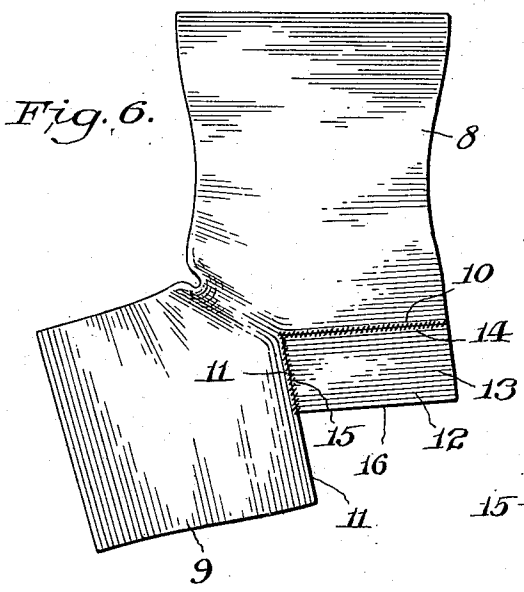


Fig. 5.

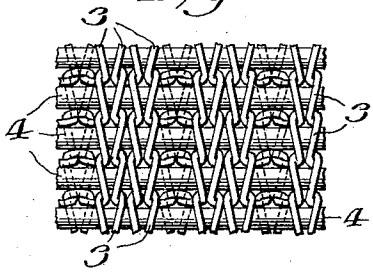
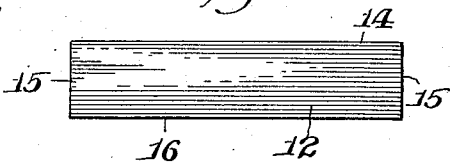


Fig. 4.



INVENTOR:
Arthur B. Kendrick
BY
A. K. Mouat
ATTORNEY

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UNITED STATES PATENT OFFICE

ARTHUR B. KENDRICK, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO JAMES R. KENDRICK CO., INC., OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

SURGICAL APPLIANCE

Application filed February 24, 1931. Serial No. 517,707.

This invention relates to improvements in surgical appliances and the art or method of producing the same.

The particular appliance to which the invention relates is designed to be worn upon the foot and leg of a person suffering from varicose veins and other infirmities requiring surgical treatment. It is formed of knit fabric and comprises a leg section and a foot section and has a heel opening in the rearward portion thereof between the sections.

Heretofore difficulty has been experienced in producing the desired fashioning in these appliances to enable them to readily adapt themselves to the parts upon which they are worn in a manner to permit the appliance to be worn with ease and comfort.

The object of the invention is to overcome this difficulty in a large measure, and the object is accomplished by constructing the appliance so that it will contain few seams to interrupt the continuity of the knit fabric of which it is formed, and so that the several parts thereof will more readily conform to the parts upon which they are worn, particularly in the ankle region or region of the union between the leg and foot sections.

The invention consists in the novel construction, combination and arrangement of parts and in the novel art of producing the appliance hereinafter described and claimed.

In the accompanying drawings, illustrating the invention,

Figure 1 is a side view of a seamless tube of knit fabric of the kind used in constructing my improved appliance.

Figure 2 is a top view thereof.

Figure 3 is a side view of the tube shown in Fig. 1, after a transverse cut has been made therein.

Figure 4 is a view of a strip of knit fabric used in constructing my improved appliance.

Figure 5 is a view of a portion of knit fabric like the fabric forming the tube shown in Fig. 1 and the strip shown in Fig. 4.

Figure 6 is a side view of my improved surgical appliance constructed from the parts shown in Figs. 1, 2, 3 and 4.

In constructing my appliance as shown in Fig. 6, I provide a tube 2 of seamless knit fabric, as shown in Figs. 1 and 2, having transversely extending elastic strands incorporated therein.

The fabric of the tube is like the fabric illustrated in Fig. 5 wherein 3 designates the stitches of the knit fabric and 4 the elastic strands located in enclosures formed by the loops of the stitches 3 of the thread of the knit fabric.

The tube 2 is produced on a circular knitting machine in the usual manner, well known in this art, and, in the drawings I have indicated by broken lines in certain parts the direction and directions of the elastic strands incorporated in the knit fabric.

When the tube 2 is produced, an expanded portion 6 is fashioned therein by varying the lengths of the loops forming the stitches of the knit fabric in the usual well known manner.

After the tube 2 has been produced, as shown in Figs. 1 and 2, I make a transverse cut 7 in the expanded portion 6 thereof, as shown in Fig. 3. This cut extends through the forward and rearward layers of the fabric of the tube from one side thereof to a position somewhat beyond the center of the tube, as illustrated.

The cut 7 produces a leg section 8 for the appliance between the cut and the top of the tube and a foot section 9 for the appliance between the cut and the bottom of the tube.

The bottom edge 10 of the leg section 8 at the cut 7 and the top edge 11 of the foot section 9, at the cut 7, are finished in the usual manner as practiced in this art.

The strip of knit fabric 12, shown in Fig. 4, is rectangular in shape and of a length equal to the full length of the edge 10 of the leg section 8 produced by the cut 7 and of a width considerably less than one-half of the full length of the edge 11 of the foot section 9 produced by the cut 7.

The elastic strands incorporated in the knit fabric of the strip 12 shown in Fig. 4, extend longitudinally therein, as indicated by the broken lines. This strip 12 may be produced in any desired manner. In order that the fabric of the strip 12 may be as near like the fabric of the tube 2 as possible, I prefer to

form the strip from a section of tubular fabric produced on a circular knitting machine by cutting the strip from the section thus produced and finishing the longitudinal and end edges thereof in the usual manner as practiced in this art.

Having produced the tube 2 with the cut 7 therein, as shown in Fig. 3, and the strip 12, as shown in Fig. 4, I form an insert 13 of the strip 12 by opening the cut 7 and placing the strip 12 therein. In placing the strip 12 within the opened cut 7 to form the insert 13, I attach one longitudinal edge portion 14 of the strip 12 or insert 13 to the edge 10 of the leg section 8 throughout the entire length of the edge 14 by sewing the edges together, and I attach the end edges 15 of the strip 12 or insert 13 to the respective sides of the edge 11 of the foot section by sewing the edges together, and thereby produce the finished appliance shown in Fig. 6. In thus producing the finished appliance, I produce a pronounced bend in the uncut side of the tube 2 opposite to the side having the cut 7 therein which provides the desired fashioning of the appliance and also provides a construction in which no seams are present in the forward portion of the device throughout the length thereof, and in which the insert provides, in effect, an extension of the rearward portion of the leg section 8 well down into the opened cut 7 for the engagement of the appliance with the wearer thereof in the region of the back of the heel, while the space between the longitudinal edge 16 of the strip 12 or insert 13 and the exposed portion of the edge 11 of the foot section 9 provides an opening for the reception of the lower portion of the heel of the wearer.

I claim as my invention:

1. A surgical appliance comprising a leg section, a foot section and an insert between portions thereof, said sections being constructed from a continuous, seamless tube of knit fabric having transversely extending elastic strands incorporated therein and having a transverse cut in the rearward portion thereof separating the adjacent portions of said sections and providing a heel opening for the appliance, said insert comprising a strip of knit fabric having longitudinally extending strands incorporated therein and being located within said cut with the elastic strands of the insert extending substantially parallel to the adjacent elastic strands of the leg section and substantially at right angles to the adjacent elastic strands of the foot section said insert having one of its longitudinal edges attached to the leg section and said insert having its end edges attached to the sides of the foot section.

2. The art of producing a surgical appliance of the character described, which consists in providing a seamless tube of knit fabric having transversely extending elastic strands incorporated therein, making a transverse cut parallel to the elastic strands in one side of the tube and thereby producing a leg section between the cut and one end of the tube and a foot section between the cut and the other end of the tube, providing an insert strip of knit fabric having longitudinally extending elastic strands incorporated therein, attaching one of the longitudinal edges of the insert strip to the leg section edge produced by the cut with the elastic strands of the insert strip extending substantially parallel to the elastic strands of the leg section and attaching the end edges of the insert strip to the sides of the foot section edge produced by the cut with the elastic strands of the insert strip extending substantially at right angles to the elastic strands of the foot section, and thereby producing a bend in the side of the tube opposite to the cut.

In testimony whereof I affix my signature.

ARTHUR B. KENDRICK.