

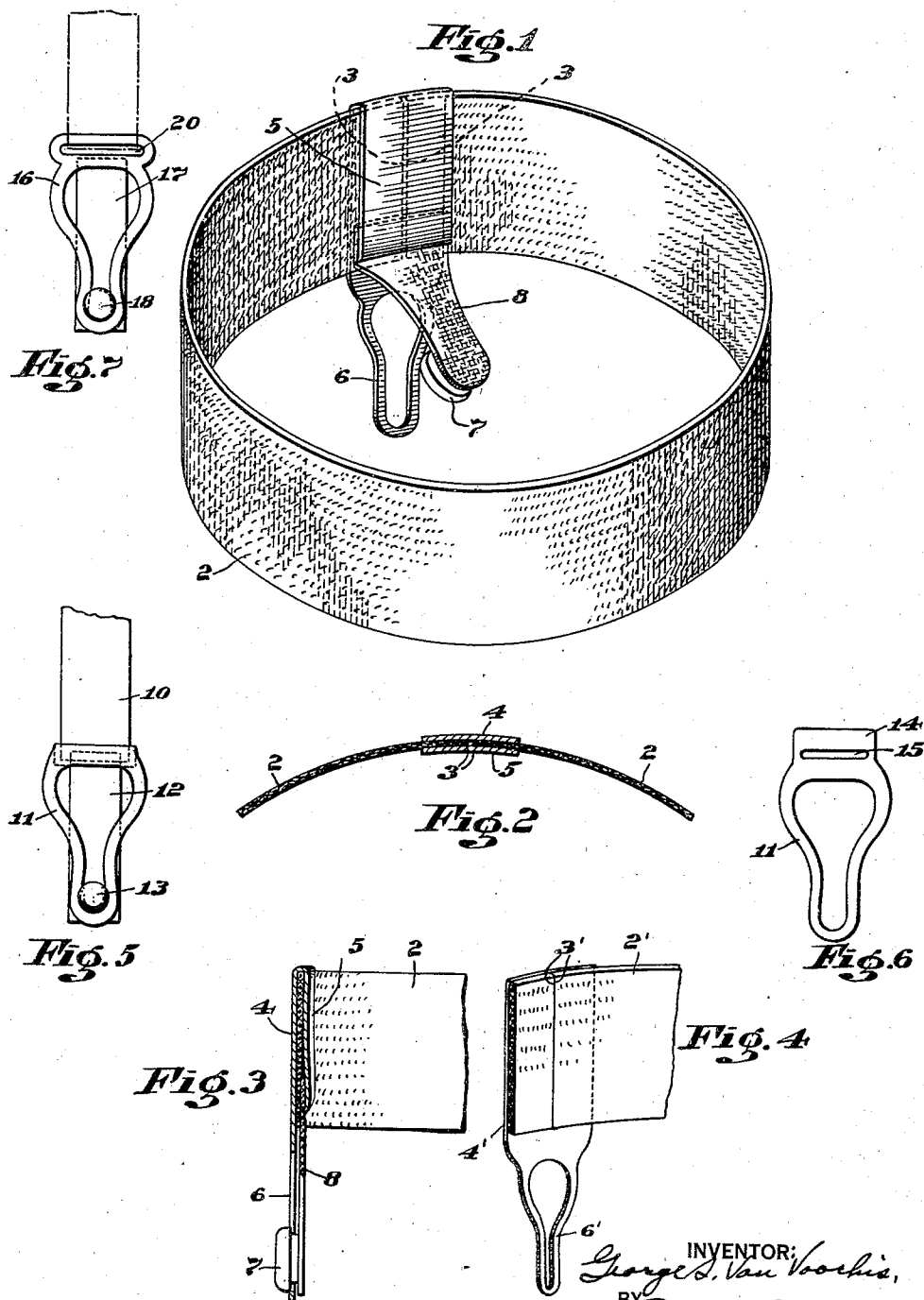
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GARTER AND METHOD OF MAKING SAME

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GARTER AND METHOD OF MAKING SAME

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This invention relates to garters of the general type in which a hose supporting or gripping device is suspended from or carried by a strip of webbing.

6 Garter structures of this type worn by men usually include a band of elastic webbing, a hose supporter and a pad or similar element stitched to the band and also secured in some appropriate manner to the supporter to connect 10 these two members permanently together. A woman's garter usually consists simply of a straight strip of elastic webbing with a garter clasp secured to one end of it. A serious objection to garters of this general type is that the operation of stitching through the elastic web is very likely to cut one or more of the rubber threads on which the elasticity of the web depends. When this occurs and a working tension subsequently is applied to the web, one or both 20 ends of the cut thread draw back into the weave of the goods and thus produces an unsightly pucker in the fabric. Even if a rubber thread is merely nicked by the needle of the sewing machine but is not completely severed, the subsequent tension to which it is subjected is very likely to break the thread and thus produce the same result.

The present invention is especially concerned with these considerations. It aims to improve 30 garters and methods of making them with a view to avoiding any necessity for sewing, and consequently eliminating the difficulties above mentioned.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing,

40 Figure 1 is a perspective view of a garter constructed in accordance with my invention;

Fig. 2 is a transverse, sectional view through the portion of the garter at and adjacent to the joint between the ends of the web;

45 Fig. 3 is a vertical, sectional view through the hose supporter showing the manner in which it is united with the elastic band;

Fig. 4 is a fragmentary, sectional view of another form which the invention may take;

50 Fig. 5 is a front elevation showing the invention embodied in a garter of the type used on women's hosiery;

Fig. 6 is a plan view of the blank for the clasp 55 shown in Fig. 5; and

Fig. 7 is a similar view showing a slightly different form of hose supporting device.

Referring first to Figs. 1, 2 and 3, the garter there shown comprises a strip of elastic webbing 2 adapted to encircle the wearer's leg and 5 having its ends 3-3 brought together in substantially abutting relationship to form a band. According to the present invention a strip of thermo-plastic sheet material is folded over the band at and adjacent to said ends where it preferably covers both the inner and outer surfaces 10 of the joint, as shown at 4 and 5, and it is permanently secured to them by a thermo-adhesive union. Preferably the lower end portion of this same strip is shaped to provide a hose gripping 15 device or clasp 6 of a common form. There may also be associated with it the usual button 7 made of rubber or any other suitable material, this button being mounted on a strip of fabric 8, or the like. In this case the upper end of 20 the strip 8 is inserted under the lower end of the part 5 and is also secured in place by a thermo-adhesive union with the supporter 6.

According to the preferred method of manufacture, a strip of elastic webbing of suitable 25 character is cut into the desired lengths and the strips of thermo-plastic material are died out of sheet stock, the parts 4, 5 and 6 preferably being made in a single integral piece. The operator takes one of the sections of webbing, brings the 30 ends of it together in approximately abutting relationship upon the surface of the section 4 of the strip, folds the section 5 over upon the inner surface of the web, inserts the upper edge of the fabric strip 8 between the web and the part 5, 35 and then presses these assembled parts together between heated dies. This may either be done by hand or in a small press. The heat of the dies penetrates the thermo-plastic stock readily, softens it sufficiently to make its surfaces adhesive, and the pressure applied through the dies 40 forces the softened stock into meshes of the fabric, and molds the stock to it. If desired, a design of any suitable form may be molded into either or both of the exposed surfaces of the 45 parts 4 and 5 at the same time. In either event a secure union of the supporter to the band 2 is produced, both because of the adhesion of the softened stock to the fabric and also due to the mechanical interlocking of the molded material 50 with the weave of the goods.

When the pressure of the dies has been relieved and the work removed from them, the molded material quickly hardens, and the manufacturing operations are then complete. 55

It should be observed that this method avoids any sewing or stitching operation with a consequent danger of injuring the rubber threads, it produces a sturdy and serviceable garter construction, and lends itself conveniently to a wide variety of ornamentation. An important feature of this method also is that it does not require the use of solvents. This is an important advantage from a manufacturing standpoint because solvents usually are either toxic, are highly inflammable, or are objectionable for other reasons.

If the thermo-plastic sheet material is too brittle to permit the bending operation above described, it may be subjected to a preheating operation which will make it sufficiently plastic for this purpose. In fact, such preheating may be carried to such a point that the surfaces which are to come in contact with the elastic webbing will be rendered soft and sticky before the strip is assembled with the web.

For some purposes it may be satisfactory to do away with the part 5 of the holder which lies at the inner surface of the band, and such an arrangement is illustrated in Fig. 4. This construction also has the advantage of eliminating the necessity of the bending or folding of the strip over the inner surface of the band. Such a supporter construction as that shown in Figs. 1 and 3 may still be used, the upper edge of the web 8 being inserted between the parts 2' and 4', and secured there during the heating and pressing operation, or the web 8 and button 7 may be omitted, the hose gripping element of the supporter being made of a common form, somewhat as shown at 6' in Fig. 4.

A considerable variety of thermo-plastic compositions may be used for this purpose. Cellulose acetate compounds, urea formaldehyde mixtures, those made essentially of phenol formaldehyde and synthetic resins, such as vinyl resin, are all suitable. Some of these, particularly the cellulose acetate compounds, are obtainable in a variety of colors. Other thermo-plastics are available, however, which can be used satisfactorily.

Figs. 5 and 6 show the invention embodied in the type of garter used by women. Such a garter includes a strip of elastic webbing 10 with a hose supporter secured to the lower end of it, the upper end of the web being fastened to the corset, garter belt, or the like. Here the hose supporter comprises a clasp 11, similar to that shown in Fig. 1 at 6, made of some thermo-adhesive composition, such as those above described, and secured to the lower end of the web 10 by a thermo-plastic union made in the manner above referred to. Preferably, also, the strip 12 of webbing carrying the rubber button 13 is secured to the clasp 11 in the same manner. If desired, the part 11 may be made in the manner shown in Fig. 6, including a tab 14 and a slot 15 so that the strip of webbing 10 may be inserted through this slot and its end positioned upon the rear face of the upper part of the clasp. The upper end of the strip 12 may be similarly positioned on this part with the ends of these two webs in overlapping relationship and the tab 14 may then be folded down upon them. This assembly may then be placed between heated dies which soften the stock and mold it into the goods exactly as in the manner above described in connection with Figs. 1, 2 and 3.

Also, if desired, the clasp may be made of the form shown at 16 in Fig. 7. In this modifica-

tion the tab 17 carrying the button 18 is secured to the back of the clasp by a thermo-adhesive union, as above described, the difference between this construction and that shown in Fig. 5 being that this clasp is provided with a slot 20 through which a strip of webbing may be fastened in the usual manner when that is desired for any reason as, for example, to facilitate the adjustment of the length of the garter.

Such a construction as that shown in Figs. 1 to 5, inclusive, is particularly valuable in securing the rubber threads against pulling back into the webbing. In other words, it is a simple matter to mold or press the heated and plastic stock into the mesh of the webbing to such a degree that the rubber threads are securely locked in place. This action may be entirely mechanical or the plastic material may be of such a nature that it also adheres strongly to the rubber threads. A much firmer union with the goods is obtained in this manner than I have been able to produce through the use of solvents and the process may be performed more rapidly. Moreover, it lends itself to much variety in ornamentation and the like since the moulding operation may be utilized to shape the material to appropriate designs and patterns, to apply the maker's trade-mark, and the like.

While I have herein shown and described typical embodiments of my invention, it will be understood that the invention may be embodied in other forms without departing from the spirit or scope thereof.

Having thus described my invention, what I desire to claim as new is:

1. That improvement in methods of making garters comprising the steps of assembling a strip of elastic webbing and a hose gripping device made of thermo-plastic material with the ends of said strip positioned approximately in abutting relationship to each other upon the surface of said supporter, folding an integral portion of said device over the opposite face of said strip, heating the portions of said device in contact with the strip sufficiently to make them plastic, while they are in a plastic and adhesive condition pressing them upon the strip and thereby molding the thermo-plastic stock into the material of the webbing, and shaping the molded stock to its final form, and subsequently allowing the material so molded to cool and harden.

2. That improvement in methods of making garters comprising the steps of assembling a strip of elastic webbing and a hose gripping device made of thermo-plastic material with the ends of said strip positioned approximately in abutting relationship to each other upon the surface of said device, heating said device sufficiently to make the material thereof plastic, and pressing the end portions of said web into said material while it is in a plastic condition and thereby uniting the band permanently to the device.

3. A garter comprising a strip of elastic webbing having its ends approximately abutted together to form a band adapted to encircle the wearer's leg, and a hose gripping device of thermo-plastic material having an extension molded to said band and covering at least one face of the end portions of said band at opposite sides of the joint between said ends, said extension being united to said end portions of the band by thermo-adhesive properties of the device itself.

4. A garter comprising a strip of elastic web-

bing having its ends approximately abutted together to form a band adapted to encircle the wearer's leg, a hose supporting member of thermo-plastic material having an extension 5 molded to said band and covering at least one face of the end portions of said band at opposite sides of the joint between said ends, said extension being united to said end portions of the band

by thermo-adhesive properties of the member itself, a button cooperating with said member to grip the stocking, and a strip of webbing supporting said button, said last mentioned strip of webbing being secured to said member by 5 said thermo-adhesive properties.

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