July 4, 1950 H. J. VOGT 2,514,108

SELF-SUPPORTING HOSIERY

Filed Aug. 30, 1947

Fig. 1

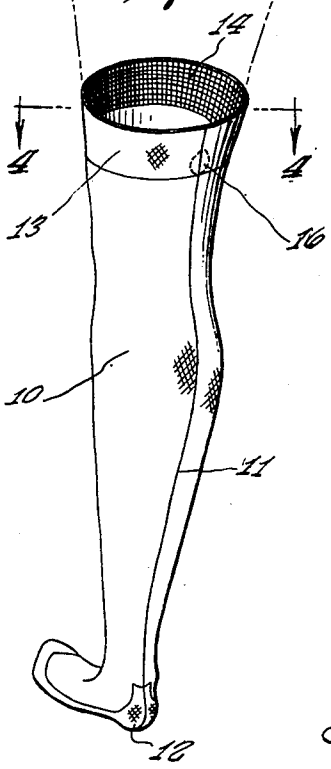


Fig. 2

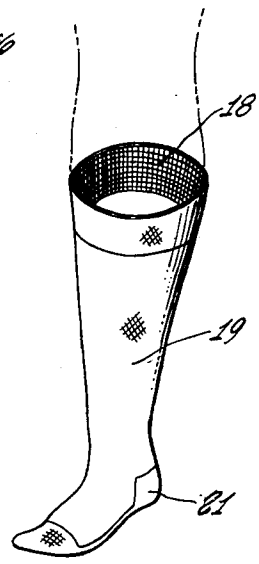


Fig. 4

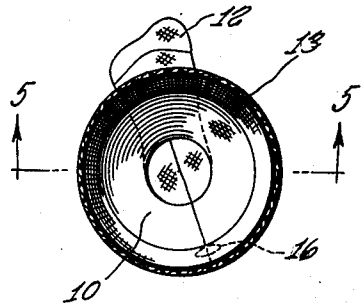


Fig. 3

Fig. 5

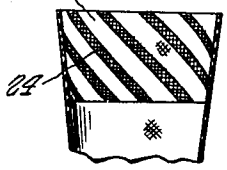


Fig. 6

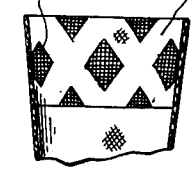


Fig. 7

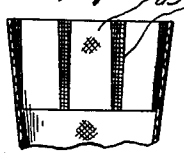


Fig. 8

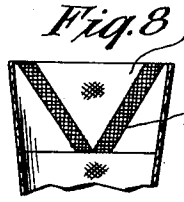


Fig. 9

Fig. 10

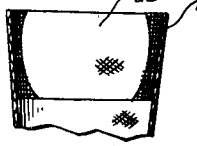


Fig. 11

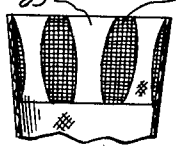


Fig. 12

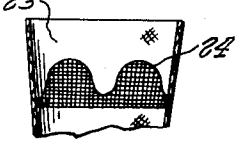
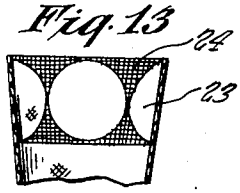


Fig. 13



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SELF-SUPPORTING HOSIERY

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Application August 30, 1947, Serial No. 771,474

2 Claims. (Cl. 2—240)

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This invention relates to hosiery for men, women and children.

At the present time, the foot and leg coverings for men, women, and children generally require an accessory garter device to support the same on the leg in a presentable manner, and such hosiery which has been developed with the view of being supported by itself, without the accessory garter device, has been found impracticable, for reasons to be related.

The rubber button clasp type of garters such as are suspended from a girdle or leg create a constant strain upon the threads of the hosiery in a few concentrated points about the circumference of the woven band, known as the garter hem which results in ruinous and costly tears and runs that frequently continue down the entire length of the stocking. The wearer is often embarrassed upon the spontaneous opening of a clasp by the same causing the hosiery to be wrinkled, sag or even drop down the leg.

From the standpoint of style or fashion, an unsightly bump or elevation is usually noticeable when the button clasp type of garters is worn beneath thin or clinging clothing, as this type of garter only allows the support of the hosiery at usually two and sometimes three parts of the circumference, it brings into play torque forces which cause the hosiery to twist on the leg and become crooked.

One common type of hosiery comprises elastic bands or threads secured to or knitted into the hosiery tops during their manufacture. Elastic bands to adequately perform their function as a hose supporter must encircle the leg tightly enough so as to seriously impede and interfere with the normal circulation of blood in the leg and thus render the hosiery uncomfortable and harmful. One must depend entirely upon the tension of the elastic to keep up the stocking. Because of the natural smoothness of the knitted material there is little aid had as the result of the contact of the material with skin to keep the stocking raised. Other types of supports have several of the disadvantages above related.

It is accordingly the principal object of the present invention to provide a stocking which is entirely self-supporting and wherein the stocking will be retained mainly by combined friction and without substantial constricting action of the top band.

It is another object of the present invention to provide a self-supporting stocking wherein the stocking will be supported by the natural gripping action of a soft, vulcanized latex rubber, or natural or synthetic rubber compounds upon the leg surface.

It is another object of the invention to provide a self-supporting stocking wherein the area of contact of the friction material at the top

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band is sufficiently large or wide enough so as not to interfere with the normal circulation of blood if slightly stretched whereby to provide a healthful, non-shifting and a comfortable support.

Other objects of the present invention are to provide a self-supporting hose, which is of simple construction, inexpensive to manufacture, and convenient to use.

For other objects and for a better understanding of the invention, reference may be made to the following detailed description, taken in connection with the accompanying drawing, in which

Figs. 1 to 3 are perspective views of stockings illustrating respectively the embodiments of a self-supporting band in three different types of stockings wherein the top retaining band is located either on the thigh, the calf or at the ankle.

Fig. 4 is a top plan view of the stocking shown in Fig. 1 and looking into the interior thereof and as viewed on line 4—4 of Fig. 1.

Figs. 5 to 13 are respectively fragmentary and inner face longitudinal views taken generally on line 5—5 of Fig. 4 but illustrating different forms of bands wherein only a portion of the entire area of the band is provided with the friction material and wherein several designs which do not in any way lack for frictional engagement with the leg, yet at the same time may provide for a saving of material of the band while extending throughout the full height of the same and providing at the same time a band which may have a decorative and pleasing apperance.

In Fig. 1, there is shown a lady's stocking embodying the features of the present invention. This stocking is fabricated from any of the fibres commonly employed in the manufacture of hosiery such as cotton, silk wool, lisle, rayon nylon, Vinyon, or any natural or synthetic fibres and by any of the well known knitting processes. This hose is indicated at 10 and has the usual seam 11 or may be seamless and a band 13 formed with a double thickness of the knitted material which is at the top of the stocking and adapted to surround the thigh or upper part of the leg and which has an inner surface 14 of natural vulcanized latex, rubber, natural or synthetic, or rubber compounds formed as coating or by impregnation of the interior surface. The external surface of the band will be preferably free of the latex or rubber materials so that the exterior of the stocking will have the usual appearance. This interior surface 14 will supply sufficient gripping action by its stretch slightly about the leg and as a result of a large area of frictional contact with the leg. The rubber is worn in contact with the skin of the leg. The usual seam closure as indicated at 16 will be coated entirely with the latex or rubber material. A preferred way to

apply this coating is to place the reversed stocking on a form and dip or spray. If desired, the coating may be supplied by an anodizing procedure, molding or by any other methods used for bonding rubber to fabric. The band formed in this manner provides a desirable method of mechanically supporting the hosiery comfortably and securely, without constriction, because of the natural friction gripping action of the soft, vulcanized latex, rubber, or rubber compounds when in contact with the human skin. The support of the hosiery in this manner is not intended to be accomplished by making the band at **13** less small in diameter than the normal diameter of the unstretched hosiery as manufactured. A certain allowance for stretchability is incorporated in the many knitting processes to enable the diameters of the hosiery tops to accommodate large or small leg diameters. There will be very little stretch of the band about the leg and this stretch will be within the limits of the textile and the band will be adapted to fit flush with the leg so that practically the entire retaining action effect is provided by the frictional engagement of the rubber material with the leg surface over a large area upon being fitted flush therewith and without the band being stretched to an extent about the leg whereby to provide an uncomfortable and tight feeling thereover. The hosiery supported in this manner is secure and comfortable and will remain in place without slipping, sagging, wrinkling, dropping or twisting regardless of the torques and forces acting upon the hosiery while on the leg, whether the leg be in motion or at rest. The stocking is supported with equal tension around its entire circumference and any strain on the fibres is equally distributed in an ideal manner throughout the entire top of the hosiery, thereby preventing ruinous and costly runs and thus prolonging the useful life of the hosiery. The hosiery will not cut or bind on the legs about the large circumference thereof or twist on the legs on the small circumference thereof. Once the hosiery is in place and adjusted, no further adjustments throughout the wear of the same is required. The band will not slip or become displaced. Accessory garter devices are dispensed with and the wearer may dispense with the wearing of a corset or girdle with the attached hosiery supporters. If desired, the wearer can still attach the supporters of the corset or girdle to the rubber area to hold down the same without interfering with the positive gripping action of the latex or rubber and with the further advantage that it will not produce a run in the hosiery top. The band has a limitless adjustment feature and permits the hosiery to be moved higher on the leg without necessitating the folding of the garter hem causing the strain to be placed in the fibres as is customary with ordinary hosiery supporters when the hosiery is too long or the supporter does not provide sufficient adjustment for the proper connection of the clasp to the garter hem.

In Fig. 2, there is shown, a latex rubber impregnated band **18** on the stocking adapted to be retained on the calf of the leg as in the case of a stocking used by men. This stocking is indicated at **19** and has the usual foot portion **21**. Ankle socks can be provided with a band as shown in Fig. 3 and as indicated at **22**. In all three cases the stocking or sock will be retained as initially adjusted on the leg. The latex or rubber material may be colored either to match the hosiery shade or to be a different color thereby to render the stocking more acceptable to the trade.

If it is desired to have a decorative design on the interior of the band without foregoing any of the advantages as above set forth, and to give increased stretch and flexibility of the hosiery top, ventilation and more comfort, only spaced areas of the interior surface of the band will be coated or impregnated with the latex or rubber material. Different designs to match with the different styles of clothing being worn by the wearer and allowing for a greater choice by the individual purchaser, some of these several different designs as shown in Figures 5 to 13 are suggested. In these figures, the coatings are indicated at **23** and these coatings take on different shape but in all instances the coatings will be at both the top and bottom of the band and extend throughout its entire width either from a continued area or by a separated and vertically spaced area as shown in Figure 6. Interposed between the coating areas **23** are fabric areas **24**. In Figs. 6 and 12, the coated area is continuous throughout the extent of the band whereas in certain of the other figures as in Figs. 5 and 7 the coated area is broken by the knitted or uncoated areas.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim:

1. A stocking of knitted fabric having a top slightly stretchable and flexible band of substantial width, said band having its interior surface coated with friction material adapted to have non-adhesive frictional engagement with the leg flesh whereby to retain the stocking upon the leg of the wearer.

2. A self-supporting hose formed of knitted material and having a top band or garter hem thereon of substantial width, said band or hem having its inner surface coated with soft, vulcanized, rubber-like material whereby to provide for a non-adhesive frictional engagement of the band with the leg surface of the wearer for the retention of the hose thereupon.

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