Jan. 18, 1938. F. SCARBOROUGH 2,105,758

HOSE MANUFACTURE

Filed March 30, 1936

Fig. 2.

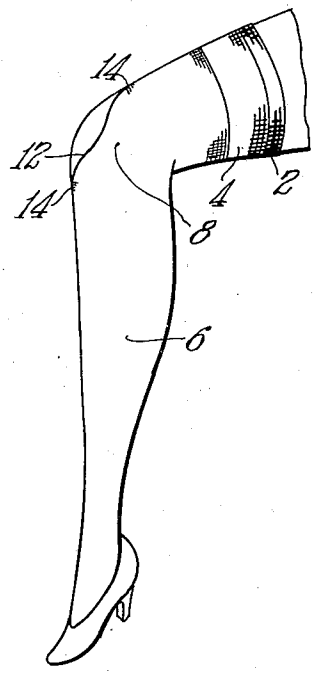


Fig. 1.

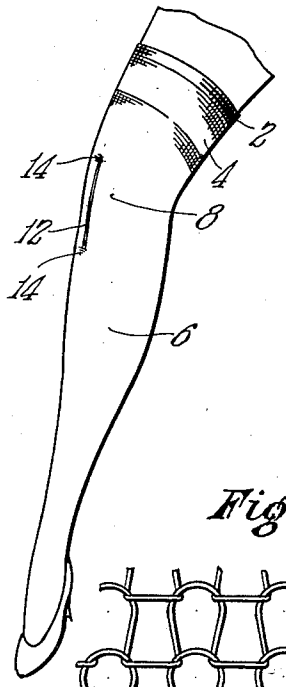


Fig. 4.

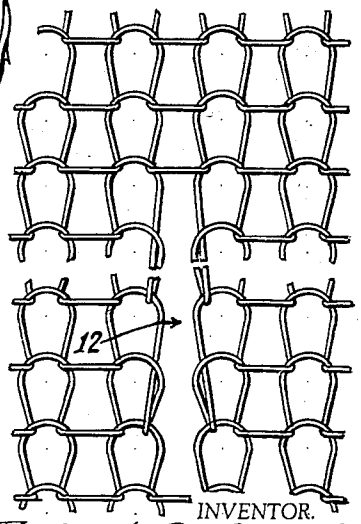
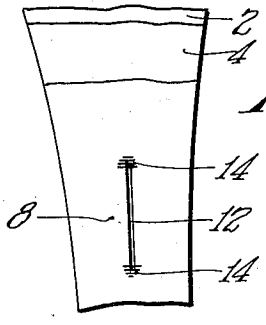


Fig. 3.



INVENTOR.
Frederick Scarborough
BY
Walter C. Ross.
ATTORNEY.

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HOSE MANUFACTURE

Frederick Scarborough, Springfield, Mass.

Application March 30, 1936, Serial No. 71,659

2 Claims. (Cl. 66—178)

This invention relates to improvements in hose manufacture and is directed more particularly to improvements in the method of making women's stockings and the product thereof.

It is one of the principal objects of the invention to provide a new method of making hose whereby the knee portion thereof is relieved of the usual strain. Not only is the stocking of this invention as simple and no more expensive to make than ordinary hose, but it has the distinct advantage of not being likely to break or become distorted at the knee.

Another object of the invention is to provide a woman's stocking having a reinforced knee portion. According to my method of manufacture, the reinforcement may be attained without adding to the cost to any appreciable degree, if any.

Various other novel features and advantages of the invention will become more apparent after a reading of the following description, reference being had to the accompanying drawing wherein:

Fig. 1 is a perspective view showing the stocking of the invention on a limb with the limb in distended position;

Fig. 2 is a view similar to Fig. 1 with the limb in bent position to explain the function of the invention; and

Fig. 3 is a plan view of the upper part of the stocking.

Fig. 4 is an enlarged view of the loop structure at the knee portion.

Referring now to the drawing more in detail, the invention will be fully described.

A woman's stocking of ordinary manufacture includes a lower foot portion with what may be called a body part extending upwardly therefrom and a flare portion, usually of heavier thread, extending from the upper end of the body part and blending into the welt or top portion of the stocking. My hose may include these parts and preferably does not differ from the usual construction as far as the above is broadly concerned.

However, my stocking is radically different from those heretofore known in that it has all the advantages of ordinary stockings and in addition allows the wearer to bend the knee freely and without danger of distortion.

In the drawing, a stocking is shown applied to a limb and comprising an upper welt portion **2**, an adjacent flare part **4** and what may be called a body **6**. The part of the stocking which fits over the knee is indicated at **8**.

It is obvious that when the leg is bent as shown in Fig. 2 the knee portion **8** is strained. It is usual to knit stockings and it is therefore obvious that the threads at the knee portion are ordinarily spread apart and necessarily strained when the knee is bent.

According to this invention, I provide a longitudinal opening or slit **12** in the forward part of the knee portion **8** and it is so arranged as to extend from a point below the knee joint to a point above it as shown. Thus, when the wearer's limb is in the bent position shown in Fig. 2, the knee portion **8** opens up slightly so that the knee cap area of the leg protrudes through opening **12** with the parts of the stocking which are at opposite sides of the slit disposed at opposite sides of the forward part of the knee all as shown.

It will be seen that when the limb is in its distended position (see Fig. 1) the opening **12** is relatively closed so that the stocking does not appear to differ from others of common construction.

Preferably I reinforce the stocking at the upper and lower ends of the opening as indicated at **14**. This may be done in various ways and not only tends to prevent undesirable enlarging of the opening by tearing or ripping of the stocking but gives to the stocking, at one of its ordinarily weakest parts, a protection which no other stockings now known have.

As has been pointed out, stockings are usually formed by a knitting operation. The stocking of this invention may be made by means of a knitting machine and the vent **12**, although it may be formed in various ways, is preferably formed while the stocking is being knitted on the knitting machine.

For instance, starting at the desired distance from the edge of the welt, where the body yarn carriers are brought into action the carriers are arranged to meet at the center of the draw stroke. Stops on the carrier rods control the stopping of the carriers allowing the yarn to be fed into the needles to the inner and outside selvedge forming the vent or opening **12**.

This selvedge vent or opening is reinforced at the beginning and ending of the slit by means of the yarn carriers overlapping their traverse at center of the needle bar causing several stitches of the two yarn feeds to be knitted on the same needles forming a union of the two threads thereby reinforcing the stocking at these two points **14**.

It will be seen that according to this invention the life of the hosiery is prolonged due to the fact that there is no knee strain. Distorted stitches at the knee pocket or flare narrowings are avoided and the hose may be gartered more tautly, thereby assuring closer fitting and knee

action freedom. Then bending action of the knee as in walking, crossing the legs, kneeling, or the motions necessary while driving an auto, may be freely made without fear of causing damage to the stocking.

While I have described the invention in great detail and with respect to a preferred form thereof, it is not desired to be limited thereto since many changes and modifications may be made therein without departing from the spirit and scope of the invention. What it is desired to claim and secure by Letters Patent of the United States is:

1. As a new article of manufacture, a stocking formed of a plurality of interlocking loops of thread and comprising a lower foot portion, a body part extending upwardly therefrom, a knee portion extending from the upper end of the body part and a flare portion extending from the upper end of the knee portion, the knee portion being provided with a longitudinal slit which terminates at its upper side at a distance from said flare portion and is formed by failure of a plurality of vertically aligned loops of thread to interlock with the loops at a side thereof.

2. As a new article of manufacture, a stocking formed of a plurality of interlocking loops of thread and comprising a lower foot portion, a body part extending upwardly therefrom, a knee portion extending from the upper end of the body part and a flare portion extending from the upper end of the knee portion, the said knee portion being provided with a longitudinal slit which terminates at its upper side at a distance from said flare portion and is formed by failure of a plurality of vertically aligned loops of thread to interlock with the loops at a side thereof, a plurality of the loops at the upper and lower sides of the slit overlapping and interlocking with one another transversely to provide reinforcement.

FREDERICK SCARBOROUGH.