May 19, 1942. O. C. MORSE 2,283,278

SOCK

Filed Sept. 19, 1939

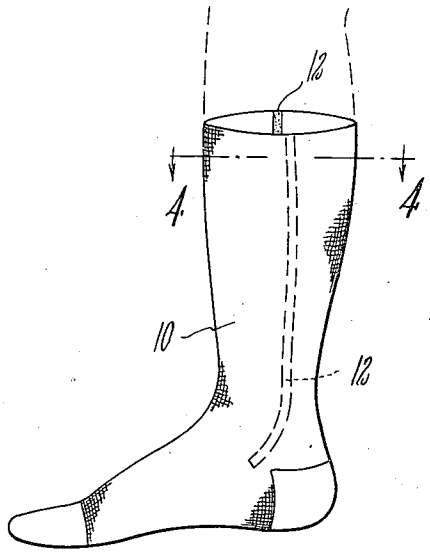


Fig. 1.

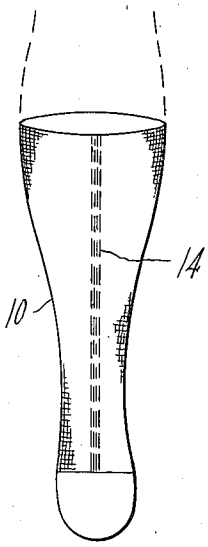


Fig. 2.

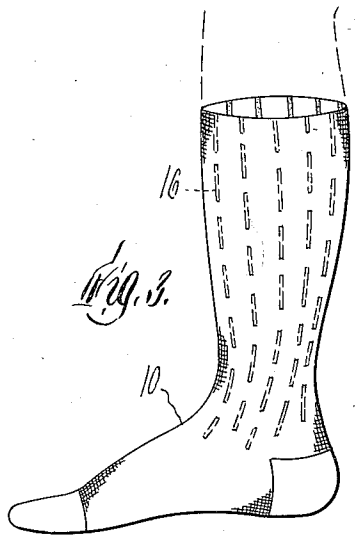


Fig. 3.

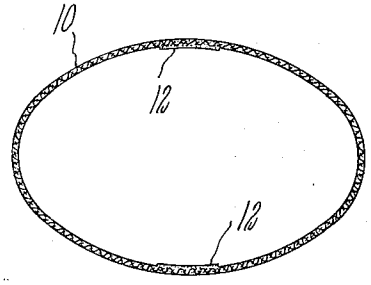


Fig. 4.

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SOCK

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4 Claims. (Cl. 2—240)

This invention relates to socks for men's wear, and more particularly to socks having inherent reinforcement by which they are self-supporting, that is, they will stay up without the use of the customary supporters.

It is an object of the invention to provide socks which are flexible and soft but which will not drop down and wrinkle if worn without the customary supporters. It is a further object of the invention to provide socks which are economical to manufacture.

Further advantages will be apparent to one skilled in the art from a disclosure of the invention in the following description, and in the drawing of which

Figure 1 shows a sock having stiffening elements on the sides.

Figure 2 shows a sock having a stiffening element extending up the rear.

Figure 3 shows a sock having a plurality of stiffening elements in short sections.

Figure 4 is a sectional view on the line 4—4 of Figure 1.

The use of supporters which pass around the upper portion of the calves of the wearer is objectionable to many people. According to the present invention, socks are provided which will stay up properly without the use of such supporters and will thus prevent the unsightly appearance made by socks which drop down around the ankles. To this end, one or more flexible stiffening elements are provided which extend lengthwise in the leg portion of the sock in the direction of the adjacent wales or at an acute angle thereto. Such stiffening elements are preferably made a part of the sock itself and may be of any desired number. Each element may be in the form of a line or band of some suitable stiffening material such as a waterproof plastic. For example, I may employ a nitrocellulosic product such as pyroxylin or Celluloid, or a synthetic resin such as polymerized vinyl acetate or chloride. Such stiffening material may be introduced in any suitable manner. For example, it may be dissolved in a volatile solvent to make a solution of desired thinness. A film of the solution may be applied by a brush, wheel rim or other convenient applicator to the inner surface of the sock so as to be partly or wholly absorbed thereby, preferably leaving the outer surface of the sock unchanged. For convenient application, the sock may be mounted inside-out on the customary form or shaper which is employed after the sock is knitted for shaping the sock. The inner surface of the sock is thus exposed and is ready to receive stripes of the solution of the stiffening material. If desired, the solution may be applied to the exterior surface of the sock in lines, bands or fanciful figures for decorative purposes. The lines or designs of stiffening material should extend substantially the entire length of the leg portion of the sock, but need not be continuous. For example, the design may consist of broken lines with staggered segments. It is desirable that the stiffening solution be applied to small areas so as not to impair appreciably the softness and pliability of the sock as a whole.

Evaporation of the solvent leaves the plastic material embedded in the sock itself so as to be a permanent part thereof. Such material can be laundered and ironed. The heat and pressure of the ironing operation after the sock has been washed smooths the lines or bands of stiffening which are flexible but which are sufficiently stiff and resilient to keep the sock up when it is worn.

Socks having stiffening lines or bands as described will not need the customary elastic rib-knit top, but can be plain knit from top to toe. Thus the added expense of separate knitting of the tops and the transfer of such tops to the plain knitting machines is avoided. However, the stiffening elements can be used in socks having the customary rib-knitted tops.

If preferred, narrow thin bands or filaments of a suitable synthetic resin may be incorporated in the sock during the knitting operation, the strips or filaments being located in the customary position of clocks in the sock, or elsewhere as desired, and being introduced during the knitting operation so that they are covered and concealed by the adjacent loops of yarn. Instead of employing filaments of stiffening substance, yarns or threads of cotton, wool or the like may be impregnated with any of the stiffening substances hereinbefore mentioned. Such impregnated thread may then be incorporated in the sock either during or after the knitting operation, in such a manner as to form one or more lines or bands in the leg portion of the sock extending in the direction of the wales or at an acute angle thereto. Other suitable stiffening elements may be employed, as, for example, horse hairs. These may be incorporated in the sock during the knitting operation or may be woven into the completed sock so as to extend in the direction of the wales of the leg portion or at an acute angle thereto.

By way of example, Figure 1 of the drawing illustrates a sock 10 having a pair of stiffening

elements 12 extending up the sides. These elements consist of stripes of plastic material on the inner surface of the sock as indicated in Figure 4.

Figure 2 shows a stiffening element 14 extending up the back of the sock and composed of vertical lines of stiffening filaments such as horse hairs or textile threads impregnated with a stiffening plastic. These filaments may be incorporated during the knitting of the stocking in any of the different ways known to the knitting art, or may be sewed or stitched into the completed sock.

Figure 3 shows a sock having a series of stiffening elements 16 arranged in broken lines extending in the direction of the wales, the sections of the lines being preferably staggered. These elements may be on the exterior surface of the sock for ornamental as well as stiffening purposes, or may be inside, or may be part in and part out. The design shown is but one of the limitless number of possible designs which could serve the purpose.

It is evident that various modifications and changes may be made in the embodiments of the invention herein shown and described without departing from the spirit or scope thereof as set forth in the following claims.

I claim:

1. A knitted sock having therein a stiffening element comprising a narrow band of waterproof plastic material partly embedded in the inner face of the leg portion thereof and extending substantially in the direction of adjacent wales.

2. A knitted sock having a pair of narrow elongated stiffening elements of waterproof plastic embedded in the knitted fabric along wales on opposite sides of the leg portion of the sock, the remainder of the sock being soft, pliable, knitted fabric.

3. A soft, pliable, knitted sock having longitudinal stiffening means consisting of a single narrow stripe at each side of the sock, each said stripe being characterized by waterproof plastic material embedded in the inner face of the sock.

4. A soft, pliable, knitted sock having a pair of longitudinal stiffening elements consisting of narrow stripes of waterproof plastic material embedded in the exterior surface of the sock and arranged in the customary position of clocks, whereby said stiffening elements also serve as ornamentation.

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