METHOD OF APPLYING INDICA TO LEG APPAREL

Figure 1

Figure 2

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The present invention relates to leg apparel, and more particularly, to leg apparel having indicia bearing means positively carried thereby which will last the life of the leg apparel.

In marketing the leg apparel such as, for example, men's, women's, and children's socks, ladies' hosiery and the like, the practice heretofore employed in applying the information bearing indicia, such as, for example, trademark, size, fiber content, style classification of hose, and the like, has been by means of a transfer. Such transfers in general consist of a continuous roll of paper having the indicia material printed at spaced points therealong in reverse image on one side thereof. In transferring the indicia from the transfer paper to the leg apparel, the indicia bearing tape is fed from the continuous roll with the printed surface of each transfer being placed against the surface of the leg apparel and a hot iron is then pressed against the unprinted surface of the paper. This results in the indicia being imprinted or transferred to the surface of the leg apparel.

There are several disadvantages inherent with this form of indicia applying to the leg apparel. First and foremost, there is no permanency of the indicia since after a relatively few number of washings of the leg apparel the indicia virtually disappears. Another disadvantage is that in the transfer method hereinafore described, quite often improper or partial transfer of the indicia is made to the leg apparel thereby providing the potential purchaser with incomplete information as to trade name, style, size, fiber content, and the like.

In the elimination of the foregoing and related disadvantages, it is therefore a principal object of the present invention to provide a new and novel leg apparel construction having indicia permanently secured thereto.

Another object of the present invention is the provision of leg apparel having indicia imparted thereon in a new and novel manner.

Still another object of the present invention is the provision of leg apparel having indicia thereon which will have the feel of the leg apparel.

A further object of the present invention is the provision of leg apparel having indicia thereon which is clearly readable at all times.

Another object of the present invention is the provision of leg apparel having new and improved indicia imparted thereto.

Still a further object of the present invention is the provision of leg apparel having indicia thereon which will in no way impair the wearing characteristics or comfort of the leg apparel.

Other and additional objects will become manifest from the ensuing description taken in conjunction with the accompanying drawing.

Broadly stated, the wearing apparel of the present invention comprises wearing apparel including at least a foot encasing portion, an indicia receiving member having one surface adhesively bonded to the surface of the leg apparel, and indicia carried by said indicia bearing member.

To the accomplishment of the foregoing and related ends, the present invention then consists of the means hereinafter fully described and particularly pointed out in the claims, the appended drawing and the following description setting forth in detail certain means in the carrying out of the invention, such disclosed means illustrating, however, but one of various ways in which the principle of the invention may be employed.

The present invention is illustrated, by way of example, in the accompanying drawing, in which:

FIG. 1 is a perspective view of a sock made in accordance with the present invention showing the under surface thereof.

FIG. 2 is a view taken on the lines 2--2 of FIG. 1. Referring now to the drawings, a leg apparel in the form of a sock, generally designated by reference letter S, is shown. The sock S includes a foot portion F and an ankle portion A. It is to be clearly understood that the form of sock S shown herein is for illustrative purposes only since any form of leg apparel can be employed. Thus by the term "leg apparel" as employed herein and in the appended claims, it is used to define men's, women's, and children's stockings and socks, and stockings and socks of the type known as "ankle" socks, as well as stockings extending as far as part way up the calf of a wearer, such as those known as argyle or Bermudas. The term "leg apparel" also is intended to include ladies' full fashioned shear hosiery normally sold in full leg lengths as "nylons" ladies' seamless hosiery, as well as "stretch" nylon. Moreover, such term is intended to cover footlets of the type known as "Peds."

An indicia bearing member, generally designated by reference numeral 10, is secured to the under surface of the foot portion F. As illustrated, the indicia bearing member 10 is in the form of a tightly woven thin fabric base 11 secured to the outside surface of the under surface of the foot portion F by means of an adhesive film 12. The indicia 13 is secured to or carried by the indicia bearing member 10 in any desired manner. As illustrated, the indicia is woven into the indicia bearing member thereby insuring full permanency of the desired indicia. It is to be clearly understood it is for illustrative purposes only since, as will be pointed out more fully hereinafter, there are several ways in which the indicia may be imparted to the indicia bearing member 10.

The woven body portion 11 of the indicia bearing member 10 is preferably very thin and highly flexible. The necessity for this is that it is bulky in character or somewhat stiff, there is a likelihood of causing discomfort to the wearer of the leg apparel in normal use. It is to be further understood that the indicia bearing member 10, while illustrated as being of a woven nature, other indicia bearing members which are non-woven in character may be employed equally as well. For example, the indicia bearing member may be thin rubber or latex, synthetic plastic film, such as, for example, polyethylene, polypropylene, polystyrene, polyvinyl chloride, and the like. In the case of a synthetic plastic film as well as with the latex, it is possible to dispense with an adhesive since due to the character of the non-woven heat activatable plastic body it is possible to secure the indicia bearing member directly to the surface of the leg apparel by means of heat and pressure. Similarly, with this form of non-woven indicia bearing member, the indicia 13 will be imparted to the outside surface of the indicia bearing member by printing or transferring thereto. This may be accomplished either by a pre-printing or pre-transferring operation. In the case of transferring, the transfer may be placed on the outside surface of the indicia bearing material with both the indicia bearing member and the indicia transfer being placed against the surface of the sock, and then by heat and pressure bond the indicia bearing member to the surface of the sock and simultaneously transfer the indicia bearing material to the outside surface of the indicia bearing material. The same operation may be employed with a woven indicia bearing member having a heat activatable adhesive film secured thereto. Thus when such a woven indicia bearing member and the transfer bearing paper are placed against the surface of the
sock and the hot iron placed therewith, the adhesive film will become activated to bond the surface bearing material to the sock and simultaneously transfer the indicia from the indicia transfer to the surface of the indicia bearing member.

It has been found that when transfers are employed with the tightly woven or non-woven indicia-bearing members, the indicia is transferred very sharply to the surface of the indicia-bearing material in a far better state than to the woven leg covering directly. The pre-formed indicia-bearing material, whether woven or non-woven, may employ an adhesive that will insure permanently affixing the indicia-bearing member to the surface of the sock. The adhesive must be of a character that will readily and strongly bond the indicia-bearing member to the surface of the sock such that it will not loosen or become removed therefrom in the ordinary course of wear, or by any laundering or cleaning operation.

A particular and preferred adhesive is a heat-activatable adhesive which in general includes an organic elastomer such as vinyl chloride and a plastomer. Care must be exercised in the use of a heat-activatable adhesive in order to insure that the adhesive will be activated at a temperature below the temperature at which the fabric of the ornamentation or the fabric of the sock will be harmed. The ornamentation may be secured to the sock with this type of adhesive by employing a hot iron or similar heating apparatus which will result in a fusing of the adhesive to the ornamentation and the sock, thereby permanently bonding the ornamentation to the sock. While the ironing operation is a particularly convenient way of adhering the ornamentation, other forms of heating may be employed equally as well.

Other forms of adhesive may be employed, such as, for example, those adhesives which function merely by pressure without requiring heat or other activating means. For example, any conventional adhesive which will bond the indicia-bearing member to the sock may be applied to the face of the indicia-bearing member to be engaged against the sock, and the indicia-bearing member then pressed against the sock, thereby causing a permanent adherence thereto. With this type of adhesive, care should be taken that the adhesive employed will result in a strong fusion or bonding of the indicia-bearing member to the sock, and is one which is not affected by detergents and the like, which are normally employed in the washing of socks.

Still another form of adhesive that may be employed is a solvent-activated adhesive. This type of adhesive requires the use of an organic solvent or like material which is applied to the surface bearing the adhesive, after which the surface may be fused or otherwise bonded to the sock.

In the operation of the present invention to impart the indicia thereto, a continuous fabric roll or non-fabric roll may be employed with the indicia being woven, in the case of woven fabric, or printed, in the case of non-woven fabric, in closely spaced relationship for the entire length of the roll. If an adhesive is to be employed, it may be pre-applied with a roll, or may be applied either to the surface of the indicia-bearing member to be bonded, or to the leg apparel immediately prior to bonding the indicia material to the surface of the leg apparel. The indicia-bearing member is then placed against the surface of the sock and a hot iron or other suitable sealing member is pressed against the face of the indicia-bearing member to bond the same to the surface of the leg apparel. This operation is continuously repeated for each sock to impart the indicia-bearing member to the surface of the leg apparel.

As hereinbefore indicated, the indicia-bearing member need not be pre-printed or the indicia previously applied thereto. Rather, the indicia in the form of a transfer may be placed over the surface of the indicia-bearing member regardless of the manner in which it is to be applied, and then placed against the leg apparel and the hot iron then applied thereto to simultaneously secure the bonding of the indicia-bearing member and the indicia to the leg apparel.

While there have been described herein what are at present considered preferred embodiments of the invention, it will be obvious to those skilled in the art that modifications and changes may be made therein without departing from the essence of the invention. It is therefore to be understood that the exemplary embodiments are illustrative and not restrictive of the invention, the scope of which is defined in the appended claims, and that all modifications that come within the meaning and range of equivalency of the claims are intended to be included therein.

I claim:

The method of applying indicia to the outside surface of knitted leg apparel comprising placing indicia-bearing transfer means in superimposed relationship over a thin flexible indicia-receiving means, placing the thin flexible indicia-receiving means against the outside surface of the knitted leg apparel, applying heat to said indicia-bearing means and said indicia-receiving means for a period of time sufficient to bond the indicia-receiving means to the surface of the knitted leg apparel and to simultaneously transfer the indicia from the indicia-bearing transfer means to said indicia-receiving means.

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