Nov. 25, 1969 M. D. DEL MORAL 3,479,749

APPLIANCE FOR DRYING MOIST ARTICLES

Filed May 29, 1967 2 Sheets-Sheet 1

FIG. 1

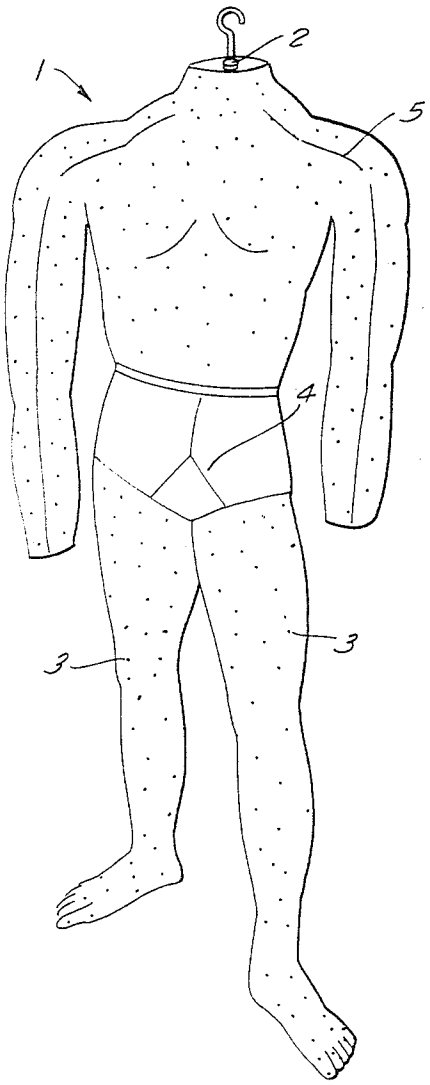
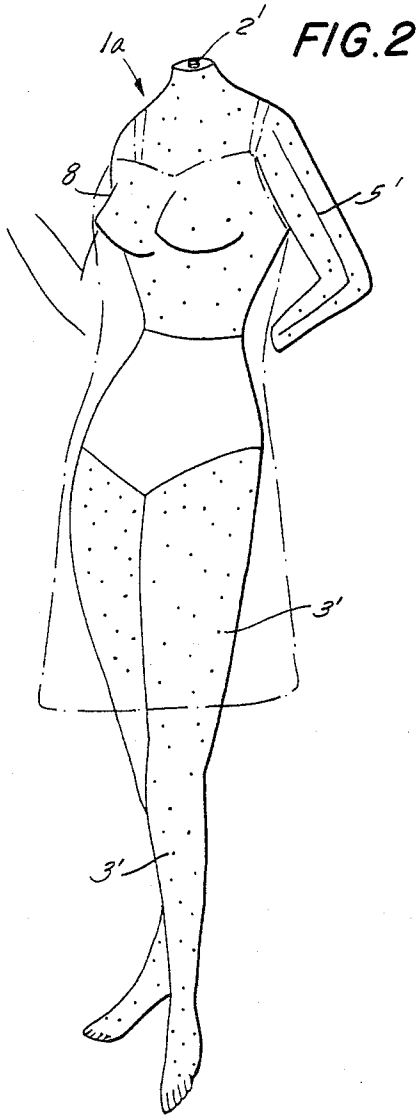


FIG. 2



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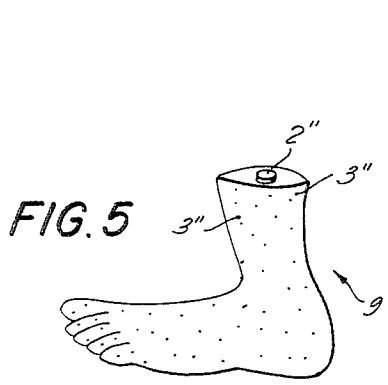


FIG. 5

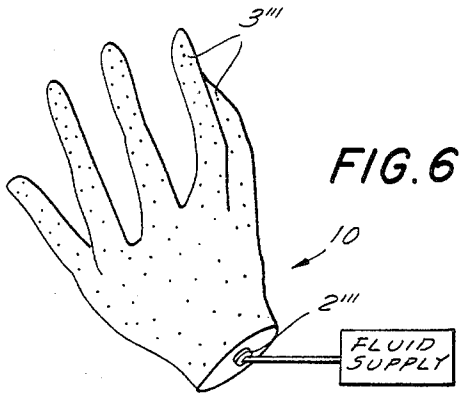


FIG. 6

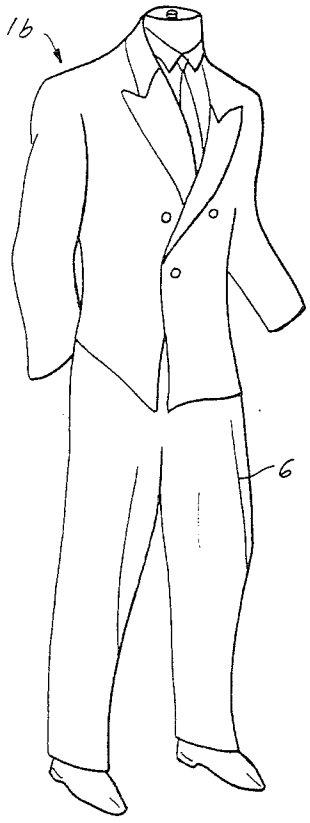


FIG. 3

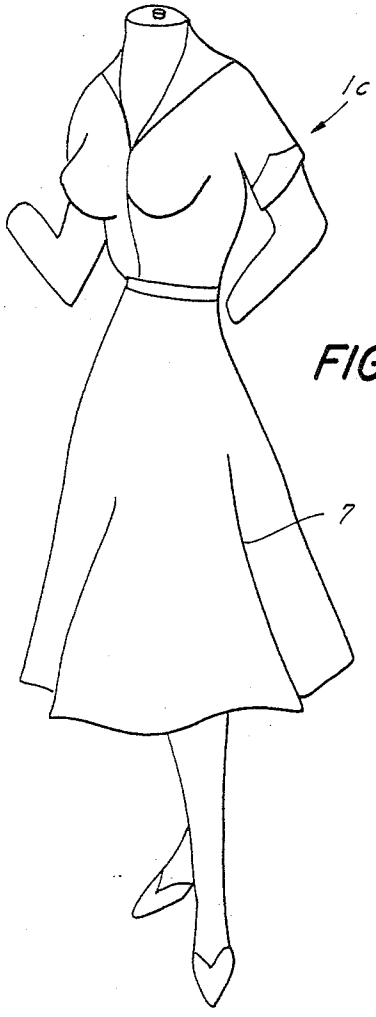


FIG. 4

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APPLIANCE FOR DRYING MOIST ARTICLES

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Int. Cl. F26b 5/00; A41h 5/02
U.S. Cl. 34—103 5 Claims

ABSTRACT OF THE DISCLOSURE

An appliance for promoting the demoisturizing of articles of textile or analogous materials which when in use are applied to a support of predetermined configuration. The applicance includes an inflatable elastic mold which, when filled with the fluid, at least resembles in shape and size the support to which an article to be demoisturized is to be applied in actual use, so that the filled mold supports such article during the demoisturizing thereof in a position resembling the position the article assumes when applied to the support in actual use.

Background of the invention

The present invention relates to the treatment of shaped articles from textiles and analogous material, and more particularly to the drying of such articles.

Articles made from textiles or similar materials must periodically undergo various types of treatment to remove accummulated dirt or dust from the material. The present invention is particularly concerned with the type of treatment which necessitates moistening or wetting the article which latter term it should be noted, will hereafter for the sake of convenience be replaced by reference to "garments." I wish it to be understood, however, that whereas the term "garments" has a generally well-defined connotation, in the context of the present disclosure it is intended to encompass not only articles of apparel but also other shaped articles, such as fitted bedsheets and the like.

As just pointed out the invention is concerned with the types of treatment in which the garments are moistened or wetted. In fact, the invention is concerned with all situations in which moistening or wetting of the garment occurs, for instance if a person wearing the garment is caught in a rain fall. It is well known that in all instances of wetting or moistening of the garment the latter must be subsequently pressed or ironed to remove the inevitable wrinkles which form as a result of the moistening. Of course, pressing of garments is at best tedious and time-consuming work, and is frequently not at all possible, a situation which is particularly applicable to the traveller.

The coming of the "drip-dry" and "permanent-press" clothing and other articles, which are alleged to dry wrinkle-free without requiring any pressing has been widely acclaimed as a solution to the above-mentioned problems. However, while articles of this type certainly alleviate these problems it has been found that they do not by any means completely eliminate them. It is a fact that a number of small, but definitely discernible wrinkles will almost invariably appear even in garment of this type, and that the general appearance of such garments therefore cannot be as neat as if the garments have been pressed. This is also true with respect to creases at the sleeves and cuffs of shirts or blouses, and at the legs of trousers, to mention some examples, it being evident that these creases will disappear or substantially disappear. From all of this it is clear that some definite disadvantages remain in articles of the type under discussion, in the absence of pressing.

Summary of the invention

The present invention overcomes these disadvantages as outlined above.

More particularly, the present invention provides for the drying of moist garments and other articles in such a manner as to prevent the appearance of wrinkles, but to assure the provision of creases, pleats and the like, but all without the necessity of pressing the garments.

In accordance with one feature of my invention I provide a method of drying moist garments and other articles which in dry state are adapted to be placed onto a support and which are subject to laundering or other wetting. My novel method comprises confining a body of fluid in the interior of a moist article which is to be dried, and imparting to such body of fluid a predetermined configuration which at least resembles the shape of the support to which the article is to be applied when in actual use. Thus, the article can dry while being maintained in such shape by the body of fluid, and when dried it will be free from wrinkles and have the desired shape without requiring that this shape be imparted to it via the application of a pressing tool.

An appliance for carrying out my novel method includes an inflatable elastic mold which, when filled with the fluid, at least resembles in shape and size the support to which the article to be demoisturized is to be applied in actual use, so that the filled mold supports the article during demoisturizing thereof in a position which resembles the position which the article assumes when it is applied to the support in actual use of the article.

My novel appliance is particularly suitable for the use of travellers because in deflated state its space requirements are completely insignificant, while it can be inflated and ready for use at any time and place and with a minimum of effort.

The novel appliance in accordance with the present invention can be configurated so as to adapt itself very closely to the outlines of the human anatomy.

Another important feature of the present invention is that the novel mold can be utilized in aerating the garments which it carries during the drying period, thus facilitating not only the drying of the garment but also assisting in the elimination of unwanted odors from the garment.

The mold according to the present invention can be manufactured simply and inexpensively from various elastomeric materials, such as rubber and synthetic plastics. To facilitate drying of the garments and to overcome odors in the garments, the mold can be made from poromeric materials, that is materials which will let a fluid escape through a plurality of pores, small openings and the like.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings.

Brief description of the drawing

FIG. 1 which is schematic, as are all the other figures, shows a mold resembling a male human body;

FIG. 2 shows a mold resembling a female human body;

FIG. 3 shows a mold somewhat similar to that of FIG. 1, but intended specifically for drying a certain type of garment;

FIG. 4 shows a mold somewhat similar to that of FIG. 2, but also intended for drying specifically a certain type of garment;

FIG. 5 shows a mold resembling a human foot; and FIG. 6 shows a mold resembling a human hand.

Description of the preferred embodiments

Discussing now the drawing in detail, and firstly FIG. 1 thereof, it will be seen that the mold shown there resembles a male human body without the head. The mold is indicated generally with reference numeral **1** and will consist, as already pointed out earlier, of an elastomeric material such as rubber or a synthetic plastic. The mold **1** is provided at a suitable place, here the neck portion, with a valve **2** through which a fluid may be introduced into the interior of the expansible mold and may be permitted to escape therefrom in the same manner. In the illustrated embodiment the material from which the mold **1** is constituted is assumed to be of a poromeric type, that is it is provided with a plurality of small pores **3** which communicate with the interior of the mold so as to permit a fluid confined within the interior, usually a gaseous fluid such as air, to escape therefrom. Evidently, when a garment is placed onto the mold **1** overlying the pores **3**, air escaping therethrough will also pass through the garment thus assisting not only in the drying thereof but also helping to aerate the garment to remove undesired odors therefrom.

Reference numeral **4** in FIG. 1 indicates ridges or welts which project outwardly from the outer surface of the mold **1** and which, in the illustrated embodiment, are intended to provide creases in a pair of male undershorts which are placed in moist condition onto the mold **1**, such creases corresponding to those which would ordinarily have to be obtained by ironing the undershorts. Similarly, projections, ridges or welts **5** are provided on the arms and the upper torso and these correspond to the creases which would ordinarily be obtained by ironing a shirt placed onto the upper part of the mold **1**. In other words, as a shirt or other garment is placed in moist condition onto the mold **1**, and subsequently dries, the engagement of this garment with the welts **3** or **5** causes creases to appear in the dried garment which correspond to those ordinarily obtainable only by ironing the garment.

The mold **1***a* shown in FIG. 2 is substantially similar to that shown in FIG. 1 but portrays a female human body without the head. The reference numerals used are the same as those used in FIG. 1 but are provided with a prime suffix, so that the valve is indicated with reference numeral **2'**, the pores are indicated with reference numeral **3'**, and the welts or ridges on the arms are indicated with reference numeral **5'**. The breast line is indicated with reference numeral **8** and it will be evident that this is necessary so that brassieres, slips, blouses and the like can be dried to proper shape. An undergarment in form of a slip is, incidentally, shown in chain lines placed onto the mold **1***a* so as to provide an imaginary indication of how the garment to be dried would be carried by the mold.

The mold shown in FIG. 3 is substantially similar to that shown in FIG. 1, and is identified with reference numeral **1***b*. Further reference numerals corresponding to those of FIG. 1 have not been applied since they are not believed necessary. It should be noticed, however, that the configuration of the mold **1***b* is somewhat different from the mold **1** in FIG. 1 because the mold **1***b* in FIG.3 is intended to support outer garments rather than undergarments as is the case in FIG. 1. Accordingly, the mold of FIG. 3 is shown with a jacket and a pair of trousers applied thereto, and the trousers are shown as having creases **6** from which it will be evident that the legs of the mold must have projections or welts corresponding to the creases **6** so that the latter can be formed in the trousers. Generally similar comments also apply to the mold **1***c* shown in FIG. 4 which corresponds largely to the mold **1***b* shown in FIG. 2. The difference in FIG. 4 versus the mold in FIG. 2 is that the mold **1***c* in FIG. 4 is intended for outer garments and is shown as being provided with a blouse and a skirt both of which it carries while they dry. The configuration of the mold in FIG. 4 is substantially similar to that of the mold in FIG. 2 and differs only in that the lower portion of the mold in FIG. 4 is shaped so as to correspond to the outlines of a skirt which is to be supported by the mold **1***c*. Reference numeral **7** in FIG. 4 indicates creases or pleats which are formed in the skirt as a result of the mold **1***c* being provided with longitudinal recesses into which parts of the material of the skirt can be introduced so that the pleats are formed during drying of the skirt.

Generally speaking it will of couse be realized that the molds **1** and **1***a* shown in FIGS. 1 and 2, respectively cannot only be used for the drying of undergarments but can also be used for drying of outer garments. However, the shape in which the outer garments are held would then be somewhat different from the shape in which they are held by the molds **1***b* and **1***c* in FIGS. 3 and 4, respectively. Nevertheless, it is stressed that the molds in FIGS. 1 and 2 are useable both for the drying of outer garments as well as for the drying of inner garments.

Coming now to the embodiment shown in FIG. 5 it will be seen that this a replica of a human foot, indicated generally with reference numeral **9** and also provided with an air inlet and outlet valvet **2''** and pores **3''** of the porometric material from which it is made. It is clear that the mold **9** in FIG. **5** can be used for drying socks, flexible shoes, stockings and similar articles. In other respects it corresponds to the previously discussed molds.

The embodiment shown in FIG. 6, finally, is a replica of a human hand provided with a valve **2'''** and having the pores **3'''** of the poromeric material. The mold in FIG. 6 is generally indicated with reference numeral **10** and will be seen to be suitable for drying gloves and the like.

All of the molds can be inflated in various different ways. It is assumed in all instances that they are to be inflated with air, although this is of course not limiting. While it is possible for the user to inflate the various molds by simply blowing into the respective valves, it is also possible to provide a suitable air supply or fluid supply indicated thusly in FIG.6 and connected to the valve **2'''** of that embodiment. Such a fluid supply can simply be a container of air under pressure, it can be an air commpressor or the like. It has already been indicated that if desired the material of the molds may be poromeric to permit escape of air or other fluid from the interior of the mold. Of course, such air escape will be very slow and it is conceivable that it be so timed that the garment placed onto the mold is dried by the time the majority of the air has escaped from the interior of the mold. On the other hand, it is of course also possible to provide a source of fluid supply, for instance a compressor, which constantly adds additional fluid to the interior of the mold to replenish the supply contained therewithin and to compensate for the fluid which is being lost through the pores.

It should also be mentioned that it is possible to dry such other items as for instance ties and handkerchiefs, with these molds. Relative to this a glance at FIG. 3 will indicate that the tie can be placed onto the mold and knotted in proper shape and can then be left to dry. As for handkerchiefs or the like, it should be noted that the mold can be provided with a pocket into which the handkerchief is introduced in moist state but folded into the shape which it is intended to have when dry, and the handkerchief will then maintain this shape when it is finally dried. In fact, the pocket in the mold can even be dispensed with and the handkerchief can simply be folded to the proper shape and introduced into the pocket of a garment which is placed onto the mold so that the handkerchief will dry together with its supporting garment.

Needless to say socks or stockings can also be dried on the molds shown in FIGS. 1–4 and the mold shown in FIG. 5 need be used only if the other drying possibilities of the molds in FIGS. 1–4 are not required. In other words, if a

person wishes to have a mold only for drying socks, but is not concerned about the drying of shirts or underwear for which the life-size molds of FIGS. 1–4 are required, then he can utilize simply the mold of FIG. 5 in shape of the human foot. Furthermore, the configuration of the molds is by no means limited to replicas of the human body or of portions thereof, and can be extended to other purposes. For instance, to dry a fitted bedsheet of the type which has turned-down corners which fit over the corners of the mattress, the mold could have the shape and dimensions of a mattress and the sheet could be placed thereon. Other examples will readily come to mind.

Garments or other articles placed on molds of the type outlined herein dry rapidly and without wrinkling, they can be easily and automatically airated by making the material of the mold from poromeric material, they require no pressing and are automatically provided with creases where desired, they are devoid of undesired odors which are expelled as a result of the airation, and they undergo all these treatments in the gentlest manner and are not subject to the fiber-weakening heating and pressing which has heretofore been customary.

It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of applications differing from the types described above.

While the invention has been illustrated and described as embodied in a mold for drying of garments and other articles, it is not intended to be limited to the details shown since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can be applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be protected by Letters Patent is:

1. In an appliance for promoting demoisturizing of garments or like articles of textile or analogous materials which, when in use, are applied to a support of predetermined configuration, an inflatable mold of elastically extensible poromeric material which, when filled with a fluid, at least resemblies in shape and size the support to which an article to be demoisturized is to be applied in actual use, so that the filled mold supports such article during demoisturizing thereof in a position resembling the position the article assumes when applied to the support in actual use.

2. In an appliance as defined in claim **1**, wherein said fluid is a gaseous fluid and said mold consists at least in part of poromeric material so as to permit controlled escape of the gaseous fluid from said mold through said poromeric material.

3. In an appliance as defined in claim **1**, and further comprising inflating means for said mold, including fluid-supply means for supplying compressed gaseous fluid to the interior of said mold, and valve means provided on said mold for preventing uncontrolled escape of gaseous fluid from the interior of the mold.

4. In an appliance as defined in claim **2**, and further comprising fluid-supply means operatively connected with the interior of said mold for supplying thereto gaseous fluid at a rate requisite to compensate for the controlled escape of fluid.

5. In an appliance as defined in claim **1**, wherein said mold has an exterior surface, and wherein said exterior surface comprises portions extending to one side thereof and which an article applied to said mold is adapted to overlie in abutting engagement.

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KENNETH W. SPRAGUE, Primary Examiner

U.S. Cl. X.R.

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