United States Patent [19]

Florian

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[54] **GARMENT SHAPER**

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[52] **U.S. Cl.** **223/98**

[51] **Int. Cl.** **A47j 51/086**

[58] **Field of Search** 223/88, 98, 87

[56] **References Cited**

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[57] **ABSTRACT**

A garment hanger adapted to give desired shape to shoulders of a garment suspended thereon and having strength to resist deformation by weight of the garment is formed of a material having little resistance to bending stresses, e.g., foamed polystyrene. Typical means to impart strength include a clip retaining bottom edges of the form together affixed to the lower end of a shank extending through the top of the form to a hook thereabove.

1 Claim, No Drawings

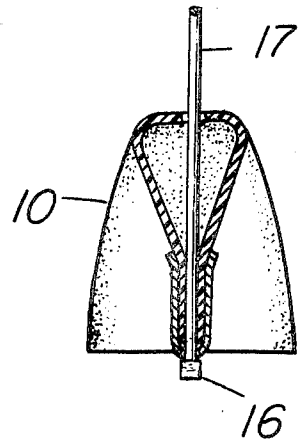


FIG. 1

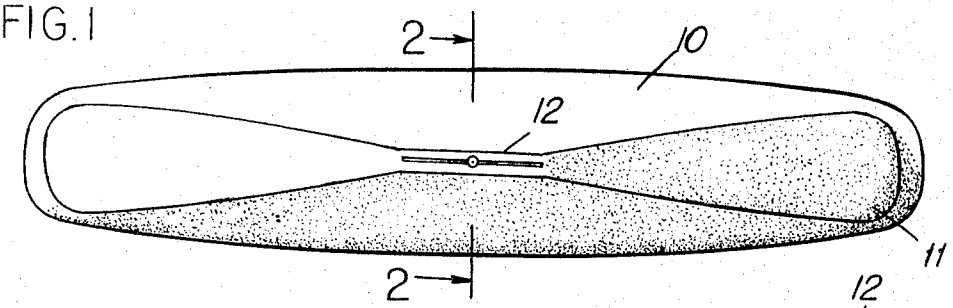


FIG. 2

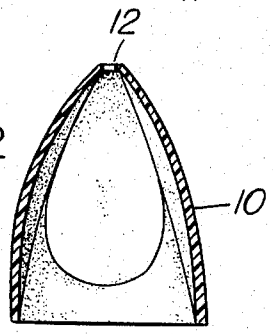


FIG. 3

FIG. 4

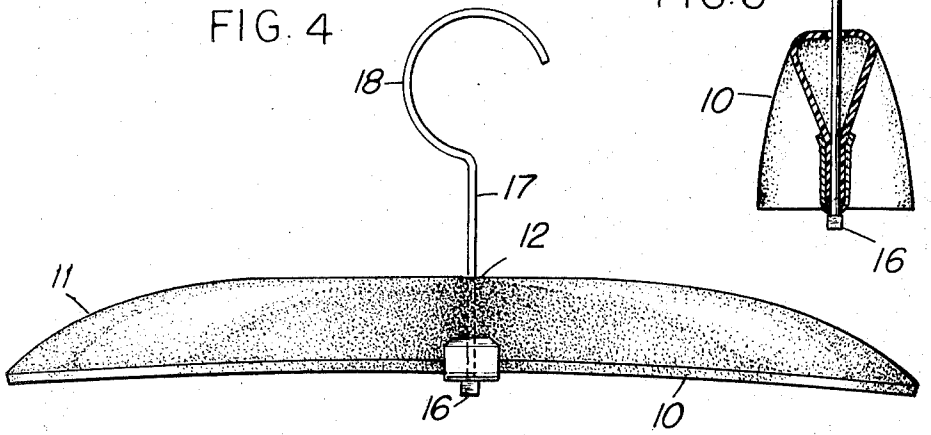


FIG. 6

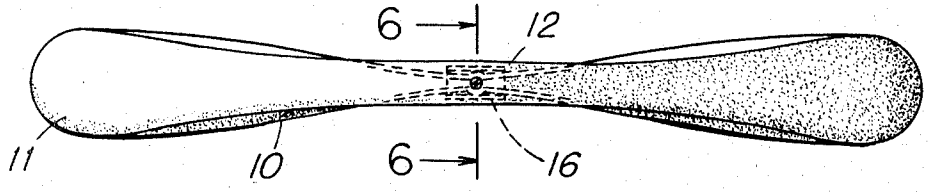


FIG. 5

GARMENT SHAPER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention is concerned with inexpensive garment hangers such as those used by dry cleaners for delivery of cleaned clothing. More particularly the invention concerns a disposable hanger having the capability of giving three-dimensional shape to the garment suspended thereon.

2. Description of the Prior Art

In general garment hangers provided in the prior art have been of two types. Hangers to be used on a permanent basis, as in a home, have been available in forms which provide some breadth to the sloping sides of the hanger to thereby preserve a desired shape of a garment, such as a jacket or a coat. These are generally of high quality polished wood, sometimes covered with fabric.

By contrast, the inexpensive hangers used by cleaners and tailors for delivery of garments are not usually returned and the cleaner or tailor employs the cheapest hanger available to him since a new hanger must be supplied for every garment delivered. With very few exceptions, the hangers used for delivery of garments by cleaners and tailors are of a wire construction or injection molded plastic which tends to give only two-dimensional support to the shoulders of a garment. Cleaners and tailors catering to an expensive clientele have filled out the garment by stuffing crumpled tissue paper in the shoulders and sleeves to avoid the distortion that results from the wire hanger alone. Inserts of light cardboard have also been used for the same purpose.

SUMMARY OF THE INVENTION

The invention provides a low cost garment hanger formed of foamed thermoplastic which has sufficient breadth, from front to back, to support the shoulders of a garment in a manner closely approximating human shoulders and thus provides support which preserves the shape of the garment on a hanger of a cost low enough that the hanger may be discarded after one use. This is achieved by forming a hollow shape of the thermoplastic material with front and back walls spaced apart and meeting at an apex at the top of the hanger, and end walls generally sloping upward from a bottom edge to the apex and connecting the front and back walls.

The hanger form is advantageously prepared by the known hot drawing techniques generally referred to as "thermoforming."

In order that the hanger form be susceptible of formation by high speed, automatic machinery, the article must meet certain rigid requirements which impose severe constraints on permissible form of the molded article. In high speed thermoforming, a sheet of foamed thermoplastic material is heated to a temperature at which it can be drawn and is then impressed by two cooperating molds. In order that the formed article may be readily and rapidly removed from the mold, it must be of such form that there are no undercuts, whereby the molded article disengages the two cooperating molds readily and smoothly to avoid breakage of the formed article or jamming of the machinery.

In order to avoid requirement for expensive space in shipping and storage, the articles should be truly nestable in the sense that each individual article fits snuggly against its neighbors in a stack. The articles must be readily removable from the nested relationship to facilitate use.

A garment hanger must have sufficient strength against longitudinal compression under the weight of the garment that the hanger will not collapse in use. For many purposes, strength can be imparted to foamed thermoplastic articles by addition of webs extending at right angles to surfaces under stress. In the garment hanger of the present invention this expedient is not available. A web extending as an internal flange around the bottom edge of the form would constitute an undercut which cannot be handled on high speed machinery. A flange extending externally of the bottom edge would tend to distort the garment suspended thereon.

It is accordingly a principal object of this invention to provide a hollow element capable of use as a garment hanger and susceptible to formation on high speed molding machinery and to combine the same with an inexpensive element which will cause the combination to have the requisite strength in use.

This and other objects and advantages are achieved by the article of manufacture shown in the annexed drawings.

THE DRAWINGS

The drawings forming part of this description show two alternative combinations of strengthening elements combined with a hollow garment shaping form.

FIG. **1** shows a characteristic form of the invention constituted by a molded thermoplastic foam garment shaper;

FIG. **2** is a vertical section on line **2—2** of FIG. **1**;

FIG. **3** is a longitudinal section of the garment shaper shown in FIG. **1** with a wire hanger arranged therein to supply strengthening and suspending elements and to furnish means for suspending a second garment, such as trousers;

FIG. **4** is an assembly drawing of another embodiment of the invention in which longitudinal strength is imparted by a clip retaining the central portions of the lower edge of the form in contact;

FIG. **5** is a top plan view of the assembly illustrated by FIG. **4**; and

FIG. **6** is a vertical section across the narrow dimension of the assembly shown in FIG. **4** taken on line **6—6** of FIG. **5**.

DESCRIPTION OF PREFERRED EMBODIMENTS

The garment shapers, of which two embodiments are illustrated in the annexed drawings, are a combination of a thermoformed hollow article and a second element which imparts strength to the combination and provides a means for suspending the combination hanger, as from a rod. In either embodiment, the hollow form is characterized by sloping side walls **10** and sloping end walls **11** to provide a total structure having a minor dimension from front to back and a major dimension from side to side. As will be immediately apparent, the slope of the side walls **10** is at a much greater angle to the horizontal than is the slope of the end walls **11**. The top ends of the walls **10** and **11** meet at an apex **12** at the top of the formed article, the whole forming a simulation of human shoulders. For that purpose, it is desirable, if possible, to provide a curve to the end walls as seen in FIG. **4**. However, many of the advantages of the

invention are achieved by using essentially straight end walls **11** after the fashion of the embodiment shown in FIG. **3.**

Turning now more particularly to the embodiment of FIGS. **1, 2** and **3,** this assembly utilizes a wire or injection molded plastic coat hanger **13** of the type now commonly in use to provide longitudinal strength against compression under the weight of a garment disposed on the hanger and to provide a hook **14** for suspension of the total assembly. The bottom rail **15** of the hanger is available for suspension of trousers in the usual manner.

The embodiment shown in FIGS. **4, 5** and **6** employs a different approach to the provision of longitudinal strength. Sheets of foamed thermoplastic, such as foamed polystyrene, have good resistance to compressive forces applied along the plane of the sheet. Such sheets are very weak with respect to forces tending to bend the sheet. Since the bottom edge of the form is open, compressive forces applied at the end walls **11** will tend to cause the side walls **10** to bow outwardly, collapsing the form to an extent such that the garment will fall off. This can be resisted by a web at right angles to the side wall **10** applied as a flange along the lower edge. For reasons stated above, that expedient is undesirable. In this second embodiment of the invention a clip **16** of metal, injection molded plastic or other suitable material is arranged to hold the side walls **10** in firm close relationship to each other at the bottom edge. A wire shank **17** secured to the center of the clip **16,** preferably by a swivel joint, terminates in a hook **18** at its upper end to provide means for suspending the hanger and a garment contained thereon.

Compressive forces applied by the weight of a garment resting on the end walls **11** of the embodiment shown in FIG. **4** will tend to bow the side walls **10** inwardly. Since the bottom edges of the end walls **10** are already in abutting relationship, the garment shaping form cannot collapse and will retain the garment in the desired suspended condition, conforming to the shape of hanger thus provided.

I claim:

1. A garment shaper and hanger comprising the combination of:

a. an elongate hollow body of foamed resin having an open bottom edge, side and end walls extending upwardly from said edge to converge at a centrally disposed apex remote from said edge, the length of said side walls being substantially greater than the spacing between said side walls, the outer surfaces of said end walls conforming generally to the configuration of human shoulders; and

b. a stabilizing and suspending element having a shank extending from a point adjacent said edge midway of said end walls through said apex, a hook at the upper end of said shank above said apex arranged and adapted for suspending the combination and a clip at the lower end of said shank engaging said edge on both sides of said shank and retaining the same in abutting relationship.

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