MOLDED PLASTIC GARMENT HANGER

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References Cited
UNITED STATES PATENTS
901,002 10/1908 Henderson..........................223/88
1,470,925 10/1923 Klein et al.....................223/88 X
2,543,810 3/1951 Sklaar..........................223/86
2,586,913 2/1952 Burns..........................223/88 X
3,052,390 9/1962 Gingher..........................223/88

FOREIGN PATENTS OR APPLICATIONS
828,224 2/1938 France..........................223/85
1,077,806 5/1954 France..........................223/92
1,087,190 8/1954 France..........................223/85
170,349 2/1960 Sweden..........................223/85

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ABSTRACT
A garment hanger formed of two complementary molded plastic shell sections forming a pair of hanger arms supported by a wire forming a T-type, ball-type, or conventional hook type hanger support. The hanger may be furnished with a horizontal rod below the arms and attached to the arms with wire hooks, which may also be formed so as to provide skirt hooks. The hanger may also be furnished with a centrally located hook depending from the shell for the purpose of hanging umbrellas or other garment accessories.

9 Claims, 15 Drawing Figures
MOLDED PLASTIC GARMENT HANGER

SUMMARY OF THE INVENTION

The present invention relates generally to garment suspension and, more particularly, to garment hangers adapted to be used in conjunction with the various types of hanger receptacles in common use today.

It is a primary object of the present invention to provide an improved garment hanger characterized by improved lightweight, structural rigidity and versatility.

It is a further object of the invention to provide an improved garment hanger of the foregoing type which can be manufactured from a minimum number of components which, through selective assembly, can be used to form garment hangers of various types for use with different types of hanger receptacles.

It is a further object of the invention to provide an improved garment hanger of the type described above which is attractive, which is easily cleaned should it become soiled, which will not stain or soil garments which are hung upon it, which is lightweight in weight than those currently in use, and yet is structurally rigid enough for the heaviest of garments.

It is a further object of the invention to provide such a garment hanger characterized by its simplicity and which permits ease of manufacture, even on a mass production basis, from readily available, inexpensive materials. In this connection, it is an ancillary object of the invention to provide an improved garment hanger of the foregoing type which is economical.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages of the invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a front elevational view of the hanger with the central and left-hand portion shown in section;

FIG. 2 is a section taken substantially along the line 2—2 of the FIG. 1;

FIG. 3 is an end elevational view of the hanger of FIG. 1;

FIG. 4 is a bottom plan view of the hanger of FIG. 1;

FIG. 5 is an enlarged vertical sectional view taken substantially along the line 5—5 of FIG. 5;

FIG. 6 is an enlarged vertical sectional view taken substantially along the line 6—6 of FIG. 1;

FIG. 7 is an enlarged horizontal sectional view taken substantially along the line 7—7 of FIG. 1;

FIG. 8 is an enlarged fractional inclined sectional view taken substantially along the line 8—8 of FIG. 1;

FIG. 9 is an enlarged fractional vertical sectional view of the hanger of FIG. 1 with the support element removed;

FIG. 10 is an enlarged fractional vertical sectional view of the left-hand end of the hanger of FIG. 1;

FIG. 11 is an enlarged fractional vertical sectional view similar to that of FIG. 10 but with a modified hook;

FIG. 12 is an enlarged fractional vertical sectional view of a hanger having the same body as in FIG. 1 but with a different support element;

FIG. 13 is a view similar to that of FIG. 12 but having a support element different from that shown in FIGS. 1, 10, and 12;

FIG. 14 is a view similar to that of FIGS. 12 and 13 with still another type support element; and

FIG. 15 is a vertical sectional view taken substantially along the line 15—15 of FIG. 14, with the support element shown in full elevation.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

While the present invention is susceptible of various modifications and alternative forms, certain specific embodiments thereof have been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular forms disclosed, but on the contrary, the invention is to cover all modifications, equivalents and alternatives falling within the spirit and scope of the invention.

Referring more particularly to the drawings, there is illustrated in FIGS. 1-4 a garment hanger comprised of two arms 10 and 11 projecting from either side of a centrally located support element 12 for the purpose of hanging garments. The centrally located support element 12 shown here is a conventional rounded-type hook designed to be supported by a horizontal bar or any one of several types of hanger receptacles commonly used in the art. Other types of conventional support elements terminate in the form of a T (sometimes referred to as a "Y-type" support) or in a ball, in order that the hanger can be suspended from a receptacle designed to accept these types of support elements. A horizontal rod 13 is supported beneath the arms of the hanger in order that other types of garments may be hung from the rod.

In accordance with one important aspect of the present invention, the arms of the hanger are formed by two complementary sections of molded plastic material affixed to each other to form a hollow externally symmetric shell, the two shell sections having complementary reinforcing ribs molded integrally with the shell section and extending substantially continuously between the opposed inner walls of the two sections. Thus, in the illustrative embodiment of FIG. 1, the main body portion 20 of the hanger comprises two complementary shell sections 21 and 22, reinforced by ribs 23 molded integrally with the respective shell sections 21 and 22.

As can be seen most clearly in FIG. 1, the ribs 23 extend both vertically and horizontally (X and Y axes), and the depth of the ribs is such that the complementary ribs abut each other when the two shell sections 21 and 22 are assembled, thereby forming ribs which extend continuously between the inner walls of the two shell sections (Z-axis). It will be appreciated, however, that the specific location of the ribs 23 is a structural determination, and they need not be placed in the exact location shown.

To suspend the illustrative hanger, a support element in the form of a conventional rounded-type hanger hook 12 extends upwardly from the main body portion thereof, and the lower end of the hook is rigidly restrained within the main body 20 to insure against rotation of the body with respect to the support element 12. A variety of hanger supports may be used in conjunction with the aforementioned hanger shell, some of which will be discussed in greater detail hereafter. A horizontal rod 13 is supported beneath the arms of the hanger and is attached to the two shell sections 21 and 22 by means of hooks 26 at opposite ends of the rod.

For the purpose of securing the two shell sections 21 and 22 together in register with each other, the section 21 is formed with an internal peripheral flange 27 located to mesh with a groove 28 in the opposing shell section 22, as shown most clearly in FIGS. 6 and 7. As seen in FIG. 7, the depth of the groove 28 in shell section 22 and the corresponding thickness of the flange 27 of shell section 21 are each approximately equal to one-half of the shell wall thickness at the point of union of the two shell sections. Consequently, when the respective shell sections are assembled, proper orientation and register of the section is assured, and a substantially rigid shell structure is created. As seen in FIG. 6, the reinforcing ribs 23a and 23b are molded to a depth equal to the height of the flange on the shell section 21 and to the level of the groove on shell sections 22, said ribs 23a and 23b are located similarly to both shell sections in order that the rib of the assembled shell structure be continuous throughout the width of the shell, as described previously.

In accordance with another important aspect of the present invention, the complementary shell sections also form integral molded internal retaining means for receiving hanger supports of a horizontal, vertical or angle (X, Y, and Z) type, and the more conventional type rounded-type hook. This is accomplished by molding, integrally with the complementary shell sections, a series of lugs 30a, 30b, 30c and 30d located so as to form a universal socket for receiving and retaining the internal terminus of any of the various types of support elements, representative species of which will be hereinafter described.
The lugs 30a, 30b, 30c and 30d shown in FIG. 1 are positioned so as to provide internal restraint for the support element 12. The lugs are molded integrally with each of the shell sections 21 and 22 and are of such size and location as to complement one another in providing the necessary support element restraint. In the illustrative embodiment, the terminal portion of the support element 12 is horizontal and parallel to the external faces at shell sections 21 and 22, with one end of the horizontal portion of the element 12 restrained by an aperture 29 formed in the vertical structural reinforcing rib 23a and the other end restrained between lugs 30a and 30b of the shell sections 21 restrained between lugs 30a and 30b of the shell sections 21 and 22. The vertical portion of support element 12 passes between lugs 30b, 30c, and 30d provided to restrain horizontal motion of the portion of the element. Horizontal and vertical motion of the support element 12 as well as rotation with respect to the hanger shell 20, is thereby prohibited. As hereinafter described, and as illustrated in FIGS. 12, 13, 14 and 15, the position and size of lugs 30a, 30b, and 30c, and 30d are such that support elements with a variety of internal terminus may be received therein, thereby providing a universal socket structure.

FIGS. 10 and 11 depict two types of hooks which may be used to affix the horizontal rod 13 to the hanger shell. In FIG. 10, a plain hook is used, in FIG. 11 a hook is used which includes in addition, a means of supporting skirts or similar garments from said hanger. Referring specifically to FIG. 10, the hook 26 is formed with a vertical portion and a horizontal portion, said hook 26 then continuing toward the center of the shell through a notch 29 provided for this purpose in vertical structure reinforcing rib 23a, said rib 23a being molded integrally with the shell section 21 and provided with notch 29, said notch being of such size and location as to receive hook 26 and provide proper location and register thereof. Hook 26 is integrally formed and continues vertically downward, being as closely as is practicable to vertical reinforcing rib 23a, wherein hook 26 passes vertically downward to the outside of the shell through hole 31 in the perimeter of the shell, said hole 31 being formed by complementary notches formed during the molding of the shell sections, hook 26 then continues vertically downward sufficiently far to provide the clearance required for ease of garment hanging whereupon the wire hook 26 is deformed and continues horizontally inward toward the center of the hanger entering hole 32 in the end of horizontal rod 13 and there terminating.

FIG. 11 depicts a similar hook 26a wherein a facility for hanging garments is formed during fabrication of hook 26a by deforming the vertical portion immediately below the shell section 21 outwardly extending vertically downward for a distance sufficient to provide the attachment of the desired garment, then deforming this portion of the wire hook downwardly and back upon and immediately below itself, thus forming a complete reversal of direction, then deforming hook 26a slightly upwardly and terminating said hook 26a in hole 32 in the end of horizontal rod 13. Although not specifically depicted in either FIG. 10 or FIG. 11, hook 26 or 26a may be swaged near its terminus in said horizontal rod 13, the lugs thereby formed being of dimensions slightly larger than the hole 32 in the end of said rod 13. Providing that this portion of wire hook 26 or 26a is forced into position in said hole 32, rotation of said horizontal rod 13 about its longitudinal axis is prohibited.

As depicted in FIG. 12, the universal socket formed by the complementary shell sections also permits the attachment of a conventional rounded-type support element 41a provided with a spherical internal terminus within said hanger shell in order that the hanger may swivel about the support. To effect attachment of a hanger support element having this type of internal terminus, lugs 30b are properly located during the molding of the shell section 21 to receive and restrain the spherical terminus of the hanger support 41a. The hanger support element may be formed of wire with the internal terminus of a wire being upset and deformed to approximate the shape of a sphere or ball, which snaps into the socket formed by the lugs 30b. The lugs 30b provide lateral restraint but not rotational restraint of support element 41a with respect to the hanger shell, and the upper portion of the wire extends vertically upwardly between lugs 30b providing further lateral support of said support element 41a. The external portion of the support element 41a extends upwardly through an aperture formed in the top of the hanger and forms a conventional rounded-type hanger hook (FIG. 12).

As depicted in FIG. 13, a hanger support 41b may be furnished with an interior terminus similar to that described in the preceding paragraph and shown in FIG. 12, but with an external portion terminating in an upset horizontal section so as to form a 'T' (the end thus formed sometimes referred to in the art as a 'Y'-end). This support element 41b has its outer terminus spaced vertically upward from the hanger shell a distance sufficient to provide adequate clearance for the particular garment for which the hanger is furnished.

Depicted in FIGS. 14 and 15 is a hanger support element 41c furnished with a T-type external end adapted to be locked against rotation to prevent the hanger from swiveling about the support element 41c. The internal terminus of support element 41c is bent to form a short horizontal leg having its axis perpendicular to the outer vertical faces of the hanger shell. This bent portion is held firmly in place by the lugs 30b molded integrally with the complementary shell sections 21 and 22, thereby prohibiting horizontal motion in a plane parallel to the support portion. The support element 41c extends vertically upward to beyond the outer limits of said hanger shell, passing between lugs 30d to prohibit lateral motion of the support element. Vertical motion of the support element 41c is further restrained by swaging the internal vertical portion of the support, the lugs thus formed on the support 41c being positioned between complementary sections 30b of said support and 30d of the hanger shell providing further lateral support of the hanger shell with respect to the support element 41c. Although specifically shown in FIGS. 14 and 15 to have a T-type external terminus, a hanger support element with an internal terminus as shown and described may be furnished with any type of external terminus desired.

Referring to FIG. 12, a utility hanger element 45, having a spherical terminus and a hook-type external terminus, is shown depending from the center of the hanger shells 21 and 22. The spherical internal terminus of the utility hanger is restrained within the shell 20 between the respective lugs 30a, 30b of the aforesaid universal socket. In this manner, the utility hanger may be mounted extending vertically downward, while an independent hanger support element 41a is simultaneously provided and extending vertically upward using the universal socket lugs without modification. Although the utility hanger element has been depicted, in the illustrated embodiment, as a hook having a spherical internal terminus, it will be appreciated that the hanger may be furnished with a utility hanger element having any type of internal or external terminus.

Those experienced in the art of garment hanging will appreciate that this invention provides a new and unusual garment hanger utilizing a reinforced, rigid structural shell formed of two complementary shell sections which may be affixed to each other in any one of several ways, (for example, adhesives or ultrasonic welding), said shell permitting the use without modification, of any one of several types of hanger supports, and in addition, permits without modification the suspension of a rod beneath the shell, ultimately permitting the manufacture of many types of garment hangers from a minimal number of components. Types of material, color of material and surface finish of the material may be varied to suit the taste and fancy of the customer, these details not being a material part of the present invention.

I claim as my invention:
1. A garment hanger having two arms comprising two complementary sections of molded plastic material affixed to each other to form a hollow, externally symmetric shell which
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defines an internal cavity and forms the two arms of the hanger, said sections having a minimum number of vertically and horizontally aligned complementary structural reinforcing ribs molded integrally with the shell sections and extending substantially continuously between the inner walls of the two complementary shell sections, said vertically and horizontally aligned ribs respectively intersecting so as to divide said internal cavity into a plurality of substantially triangular shaped cavities, and a centrally located support element for suspending the hanger, the central portions of said sections forming a top opening for receiving one end of said support element and internal retaining means operatively associated with said opening for receiving and retaining said one end of said support element within said hanger.

2. A garment hanger as set forth in claim 1 including a wire hook depending from the bottom center of said hanger shell for the purpose of hanging umbrellas, or other accessories, said hook having an internal terminus restrained within said hanger shell by a plurality of the lugs of said universal socket means, said lugs cooperating with each other to retain said hook.

3. A garment hanger as set forth in claim 1 wherein said internal retaining means includes a plurality of lugs formed as integral parts of said sections and cooperating with each other to form universal socket means suitable for receiving either an L-shaped inner end of a stationary type support element or a ball-shaped inner end of a support element which is free to rotate within said lugs.

4. A garment hanger as set forth in claim 3 wherein one of the structural reinforcing ribs, which is a substantial distance from the vertical axis of said universal socket means and is molded integrally with one of the said complementary shell sections, extends substantially vertically and includes means for receiving and retaining a horizontal portion of a substantially L-shaped inner end of a non-swivel support element, wherein said lugs formed as integral parts of said sections cooperate with each other to receive a vertical portion of said non-swivel support element, said support element extending vertically upward to its external terminus.

5. A garment hanger having two arms comprising two complementary sections of molded plastic material affixed to each other to form a hollow, externally symmetric shell forming the two arms of the hanger, said sections having complementary structural reinforcing ribs molded integrally with the shell sections, said ribs extending substantially continuously between the inner walls of the two complementary shell sections, and a centrally located support element for suspending the hanger, the central portions of said sections forming a top opening for receiving one end of said support element and internal retaining means operatively associated with said opening for receiving and retaining said end of said support element within said hanger, a pair of wire hooks connected to said hanger arms and depending from the bottoms of said two arms of the hanger near the outer ends thereof, a horizontal rod suspended beneath said hanger arms by means of said hooks, one on each end of said rod, the structural reinforcing ribs molded integrally with said shell sections and located near the outer portion of each of the two arms of said hanger providing means for receiving and retaining the internal termini of said rod supporting hooks, said complementary shell sections further forming means for restraining said rod supporting hooks at the edge of said shell.

6. A garment hanger as set forth in claim 5 further comprising means for rigidly attaching said rod to said hooks so as to prohibit rotation of said rod about its longitudinal axis.

7. A garment hanger as set forth in claim 5, further characterized in that the hooks attaching said rod to the hanger arms form means for hanging garments from said hooks at the opposite end of said rod.

8. A garment hanger as set forth in claim 7 further comprising means for rigidly attaching said rod to said hooks so as to prohibit rotation of said rod about its longitudinal axis.

9. A garment hanger as set forth in claim 1 wherein one of the structural reinforcing ribs, which is positioned a substantial distance from the vertical axis of said internal retaining means and which is molded integrally with one of the said complementary shell sections, extends substantially vertically and includes means for receiving and retaining a horizontal portion of a substantially L-shaped inner end of a non-swivel-type support element, said internal retaining means receiving and retaining a vertical portion of said non-swivel support element, said support element extending vertically upward to its external terminus.