Jan. 12, 1965 B. B. LEVINE ETAL 3,165,245

DOUBLE HANGER

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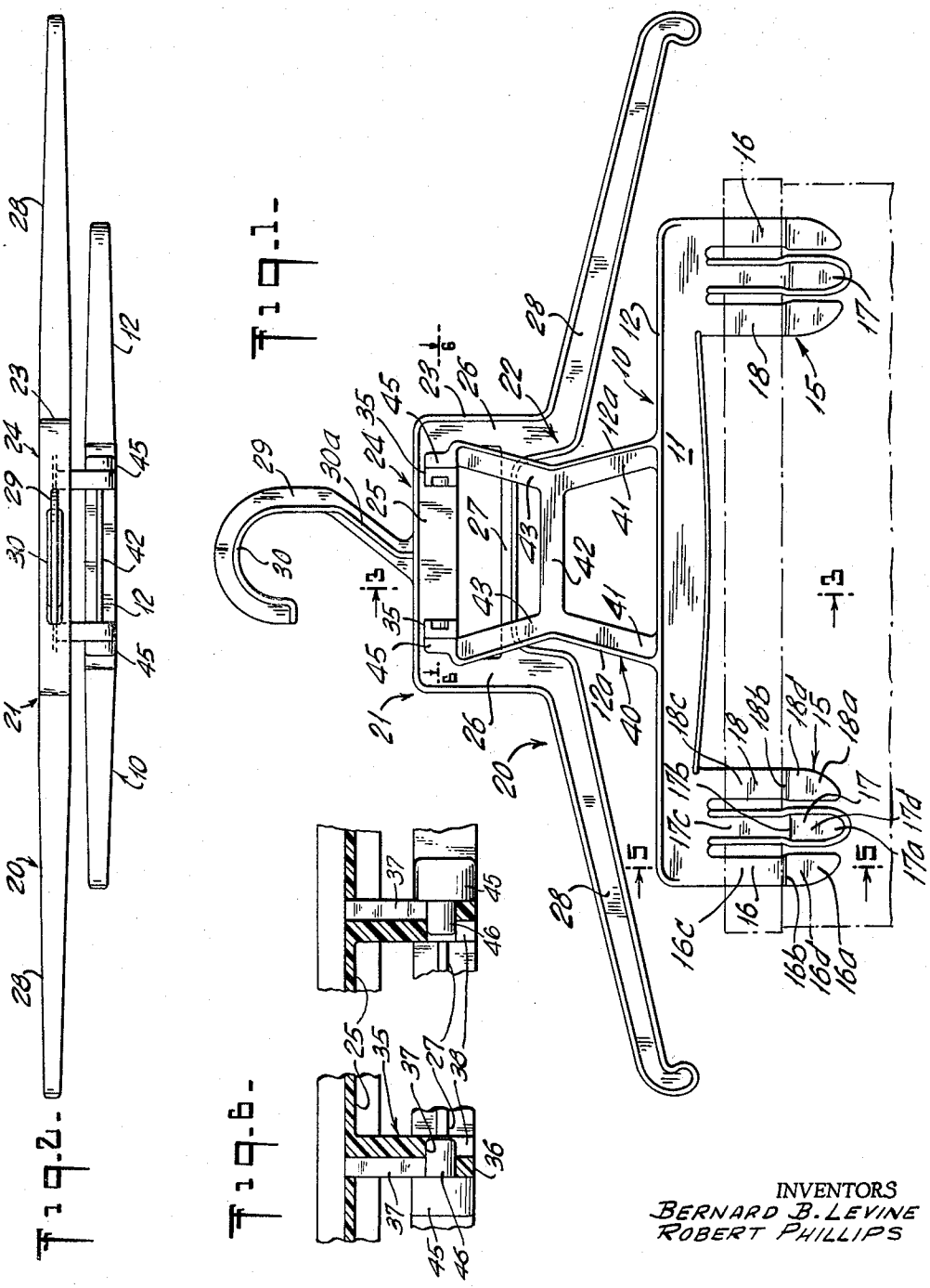

FIG. 1.

FIG. 2.

FIG. 6.

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Fig. 3.

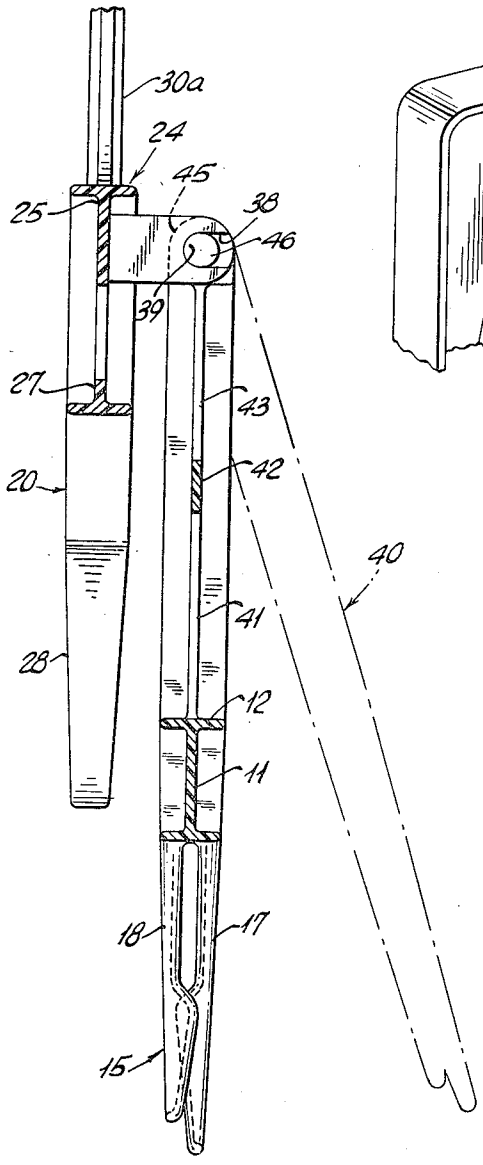


Fig. 4.

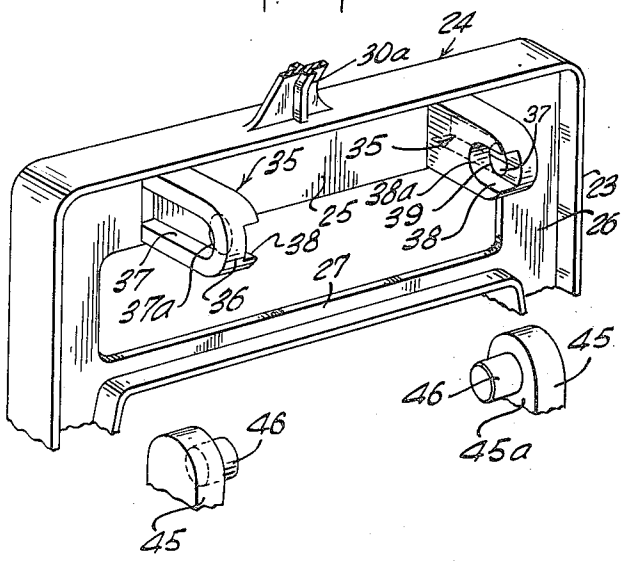
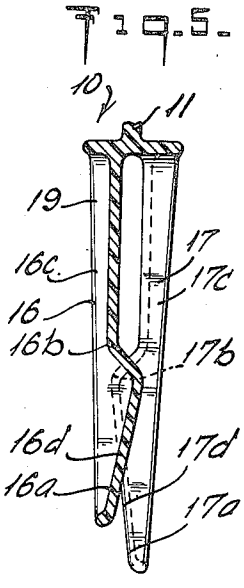


Fig. 5.



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3,165,245

DOUBLE HANGER

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4 Claims. (Cl. 223—91)

This invention relates to garment supporting devices and in particular relates to a garment supporting device of a type having an upper hanger, a lower hanger pivotally connected to the upper hanger, and a single suspension means on the upper hanger.

One object of this invention is to provide an improved garment supporting device of the above type, wherein the two hangers may be respectively unitarily molded of plastic material and assembled together for the aforesaid pivotal connection without the need for special tools or insertion of special hinge pins.

Another object of this invention is to provide a garment supporting device of the above-described type having improved garment clip means on the lower hanger portion.

This invention is an improvement over prior U.S. Patent No. 2,822,967 to Spitz and our own prior U.S. Patent No. 3,047,196.

In accordance with a preferred embodiment of the invention, there is provided a garment supporting device comprising a pair of flat upper and lower hanger members of molded thermoplastic. The upper hanger portion has a central neck portion and shoulder portions extending outwardly from each side edge of the neck portion, and has a pair of spaced integrally formed ears extending perpendicularly from a face of the neck portion. The lower hanger member has a cross bar, spaced garment clip members depending from the cross bar, a central neck portion extending upwardly from the cross bar and terminating at its upper end in spaced-apart coplanar arms, and a pair of spaced, integrally formed ears respectively extending upwardly from the upper ends of said arms. The lower hanger ears are located adjacent the outer faces of the upper hanger ears. The upper hanger ears have aligned laterally through bores, and the lower hanger ears have respective aligned inwardly extending pins extended turnably through said respective bores.

The advantage of the invention is that the hinge pins are molded unitarily with the lower hanger. The provision of the spaced-apart coplanar arms referred to above and carrying the hinge pins is a particular feature of the invention. While the lower hanger member is fresh from the mold and still hot, these arms may be spaced sufficiently for the inner ends of the pins to clear the outer faces of the upper hanger ears, with the pins then brought into alignment with the bores. The still soft and hot arms may then be bent to extend the pins through the bores, and when the plastic cools the arms become rigidly set in the desired position with the pins through the bores.

Accordingly, the invention is particularly adavantageous in the elimination of metal hinge pins and in simplification and reduction in cost of the assembly operation.

As another important feature of the invention, the lower hanger member is provided with garment clip members as disclosed in our aforesaid U.S. Patent No. 3,047,196.

Other objects and advantages of the invention will become apparent from the following description, in conjunction with the annexed drawing, in which a preferred embodiment of the invention is disclosed.

In the drawing,

FIG. 1 is a front elevation of the improved garment supporting device in accordance with this invention, showing in broken lines a garment supported by the clips of the lower hanger member;

FIG. 2 is a top plan view of the garment supporting device in accordance with this invention:

FIG. 3 is a section on line 3—3 of FIG. 1, the hook being broken away, and shows the lower hanger member diagrammatically in dot-dash lines pivoted from its normal position relative to the vertical upper hanger member;

FIG. 4 is a fragmentary exploded perspective view of the two hanger members, showing in particular the hinge connection;

FIG. 5 is a fragmentary section on line 5—5 of FIG. 1, showing a detail of the lower hanger member; and

FIG. 6 is a fragmentary section on line 6—6 of FIG. 1, showing a further detail of the hinge connection.

Upon reference to the drawing in detail, it will be noted that it shows a garment supporting device 20 comprising a pair of flat upper and lower hanger members 21 and 10. Each of these hanger members 21 and 10 is preferably of unitarily molded thermoplastic, with the same thermoplastic being preferably used for each hanger member. However, it is within the scope of the invention to provide a separate hook member for the upper hanger member 21. As will be explained in detail below, the lower hanger member 10 is made of resilient thermoplastic, and it is also within the scope of the invention to mold the upper hanger member 21 of rigid thermoplastic. Optionally, the thermoplastic used may be polyethylene, but the invention is not so limited.

Upper hanger member 21 includes a flat web 22 having front and rear faces and reinforced around its margin by a web 23 extending transversely of the respective faces of web 22. Said web 22 has a central neck portion 24 comprising an upper cross arm 25 and depending side legs 26. These legs 26 are connected below arm 25 and above their lower ends by a cross arm 27, for strengthening purposes. Said web 22 further comprises shoulder portions 28 extending outwardly downwardly from the lower ends of said legs 26 and hence extending outwardly from each side edge of the hanger neck portion.

Hook web 29 extends centrally upwardly from the top of arm 25, with webs 22 and 29 being coplanar. Rib 30 similar to rib 23 reinforces web 29, except that in the lower shank portion of hook 29, the rib portion 30*a* is no longer marginal, as clearly shown in FIG. 1.

A pair of spaced integrally formed ears 35 extend perpendicularly from the front face of neck cross arm 25 and accordingly are located adjacent the top of the neck portion. Preferably, the hook is centered relative to these ears 35.

Each ear 35 is relatively thick and generally rectangular in shape except that its front face or free end 36 is convex. Each ear 35 has a lengthwise bore or channel 37 extending to its outer face and terminating short of its free end 36 and also extending completely through the arm portion 25 of the web to its rear face. This shape of bore or channel 37 is clearly shown in FIG. 4.

Each ear 35 has a further lengthwise bore or channel 38 extending to the inner face of ear 35 and also to its free end 36. This shape of bore or channel 38 is clearly shown in FIG. 4. As also shown in FIG. 4, the two bores or channels 37 and 38 overlap each other lengthwise and their inner faces coincide, so as to define a through lateral bore 39 in ear 35. The rear end 38*a* of bore or channel 38 and the front end 37*a* of bore or channel 37 are concave so as together to define a bore composed of part cylindrical segments. In any event, it will be understood that the combined wall shape of bore 39 is such as to accommodate a cylindrical pin. It will further be apparent that the two bores or channels 37 and 38 may readily be formed by pins in the mold, so

that the resulting bore 39 is formed in the initial molding without the need for any further operations upon the hanger. It will further be apparent that the two bores 39 are laterally aligned.

The lower hanger member 10 comprises laterally extending web or cross bar 11 reinforced along its marginal portion by rib 12. Depending from the ends of web 11 to provide a two-point support are the pair of garment clips 15 each in the form of a series of fingers integrally formed with web 11. The fingers 16, 17 and 18 of each series 15 cooperate to frictionally retain a garment, such as a ladies' skirt, men's trousers, and the like at two spaced points. See FIG. 1.

The series of fingers 15 forming each clip includes an outer finger 16, inner finger 18 and intermediate finger 17. Each finger 16, 17 and 18 are slightly spaced one from the other in the lateral direction. It will be noted that the inner finger 18 and outer finger 16 of each series 15 are each forwardly offset relative to the main plane of web 11. The inner finger 17 is rearwardly offset to extend to the other side of the plane of web 11.

As shown in FIGS. 1 and 5, each of the fingers 16, 17 and 18 terminate in a bullet-shaped or spoon-shaped tip 16*a*, 17*a* and 18*a* respectively. As best seen in FIG. 5, the bullet tips 16*a*, 17*a*, and 18 of each finger have convexly curved faces projecting to define in each instance a shoulder 16*b*, 17*b*, and 18*b* spaced from the offset portion joining each of the fingers to web 11. The contour or convex surfaces of the spoon-shaped or bullet tips 16*a*, 17*a* and respectively, of the fingers 16, 17, 18 face each other, with the thickened portion of the bullet tips or faces extending beyond the plane of web 11. See FIG. 2. Thus, the arrangement is such that the spoon-shaped or bullet tips 18*a*, 16*a* of the inner and outer fingers 18, 16 overlie the bullet tips 17*a* of middle finger 17 when viewed from one end of the hanger. With this construction, it will be noted that a space 19 is defined between opposed intermediate portions 16*c*, 17*c*, 18*c* of the cooperating fingers 16, 17, 18, respectively.

The bullet tip 17*a* of middle finger 17 extends downwardly and terminates below the tips 16*a* and 18*a* of the other two fingers 16, 18. The extension of the middle finger 17 and the cooperating facing contours 16*d* and 18*d* of the bullet tips 16, 18*a* of the adjacent inner and outer fingers thereby define a guide opening or path to facilitate the insertion of the garment up past bullet tips 16, 17*a*, 18*a*. The fingers 16, 17, 18 being resilient, will give slightly and permits the garment to pass between the opposed fingers 16, 17, 18. The side of the finger opposite the bullet tips may be reinforced by a marginal rib 9. The natural resiliency of the respective fingers thus retain and support the garment slipped in therebetween.

For further description of the lower hanger 10, reference is made to our aforesaid U.S. Patent No. 3,047,196.

In order to support the lower hanger member 10, a central neck portion 40 extends upwardly from cross bar or web 11 and is coplanar. This leg portion 40 has lower laterally spaced arms 41 extending upwardly and slightly convergingly from web 11. A cross arm 42, for strengthening purposes, extends between the upper ends of arms 41. Arms 43, which serve as extensions of arms 41, extend upwardly from the outer ends of arm 42 and diverge slightly upwardly. These arms 43 serve as and are defined in the claims as spaced apart, coplanar arms. A web 12*a*, similar to web 12, extends up the outer side edges of each arm 41, 43.

A pair of spaced, integrally formed ears 45 extend upwardly from the upper ends of arms 43. It will be understood that the term ears 45, as used in the specification and claims, is intended broadly to include any thickened bosses or other members of sufficient strength to support the hinge pins. Each said ear or boss 45 is relatively thicker than the web 43, optionally has a convex upper end and has an inner face 45*a* which is perpendicular to the plane of web 11 and arms 43. The lower hanger ears 45 respectively have aligned pins 46 extending inwardly from their faces 45*a*, as clearly shown in FIG. 4.

In assembly, with the lower hanger member 10 taken still hot from the mold, the spaced apart arms 43 are spaced so as to maintain the bosses 45 farther apart than their final position, permitting the inner ends of pins 46 to clear the outer faces of ears 35. The ears 45 are then located adjacent the outer sides of ears 35, with pins 46 in alignment with bores 39. The still hot and soft arms 43 may then be bent to final spacing whereby the pins 46 enter and extend through the bores 39, with the ears 45 then located relatively closely adjacent but clearing the outer faces of ears 35, as shown in FIG. 1. The pins 46 are turnable within bores 39, permitting the lower hanger to be moved, as shown in its broken line position of FIG. 3.

The resulting structure is extremely simple, since the hinge pins are integral with the lower hanger and since the provision of the spaced apart arms 43 carrying the hinge pins 46 permits assembly, while the lower hanger member is still hot and soft and fresh from the mold, without the need for elaborate tools or machining operations.

It will also be understood that the somewhat resilient nature of the plastic of which the hangers is made makes it possible to mold the lower hanger to final dimensions, cool it, then flex the arms 43 apart to permit the pins to be lined up with the lateral bores and then release the arms so that the pins enter the bores.

While we have disclosed a preferred embodiment of our invention, and have indicated various possible changes, omissions and additions which may be made therein, it will be apparent that various other changes, omissions and additions may be made in the invention without departing from the scope and spirit thereof.

We claim:

1. A garment supporting device comprising a pair of flat upper and lower hanger members of unitarily molded thermoplastic, the upper hanger member having a central neck portion and shoulder portions extending outwardly from each side edge of said neck portion and having a pair of spaced integrally formed upper hanger ears extending perpendicularly from a face of its neck portion, the lower hanger member having a cross bar, spaced garment clip members depending from said cross bar, a central neck portion extending upwardly from said cross bar and terminating at its upper end in spaced-apart, coplanar arms supported at their lower ends, and a pair of spaced, integrally formed lower hanger ears respectively extending upwardly from the upper ends of said arms with the lower hanger ears positioned adjacent outer faces of the upper hanger ears, said upper hanger ears having aligned lateral through bores, said lower hanger ears having respective aligned inwardly extending pins extended turnably through said respective bores.

2. Garment supporting device according to claim 1, each of said upper hanger ears having a lengthwise channel opening upon its outer face and terminating short of its free end and extending completely through said upper hanger neck portion and a further lengthwise channel opening upon its inner face and extending to its free end and overlapping lengthwise said first-mentioned lengthwise channel adjacent free end of said ear, the inner faces of said lengthwise channels coinciding to define said lateral bore.

3. A garment supporting device comprising a pair of flat upper and lower hanger members of unitarily molded thermoplastic, the upper hanger member having a central neck portion and shoulder portions extending outwardly from each side edge of said neck portion and having a pair of spaced integrally formed upper hanger ears extending perpendicularly from a face of its neck portion, the lower hanger member having a cross bar, spaced garment clip

members depending from said cross bar, a central neck portion extending upwardly from said cross bar, said central neck portion comprising spaced-apart, coplanar arm members connecting at their lower ends to the upper edge of said cross bar, a further cross bar connecting said arm members approximately at their midpoints to define spaced-apart, coplanar arm upper portions of said arm members above said further cross bar and supported at their lower ends by said further cross bar, and a pair of spaced, integrally formed lower hanger ears respectively extending upwardly from the upper ends of said upper arm portions, said lower hanger ears thickened relative to said arm members with the lower hanger ears positioned adjacent outer faces of the upper hanger ears, said upper hanger ears having aligned lateral through bores, said lower hanger ears having respective aligned inwardly extending pins extended turnably through said respective bores.

4. Garment supporting device according to claim 3, each of said upper hanger ears having a lengthwise channel opening upon its outer face and terminating short of its free end and extending completely through said upper hanger neck portion and a further lengthwise channel opening upon its inner face extending and to its free end and overlapping lengthwise said first-mentionad lengthwise channel adjacent said free end of said ear, the inner faces of said lengthwise channels coinciding to define said lateral bore.

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JORDAN FRANKLIN, *Primary Examiner.*