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[54] DISPLAY STANDS

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[51] Int. Cl. A47f 5/05, A47f 5/10
[58] Field of Search 211/168, 165, 163, 170--173, 211/100, 59, 119.01; 248/188, 188.7, 188.8; 343/882

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[57] ABSTRACT

A display stand comprising the following components: (a) an upright (post), (b) a plurality of arms adapted to be mounted on the post, and (c) a substantially hub-shaped connecting member having a central bore for mounting the connecting member on the post coaxially therewith. The connecting member comprises a plane upper surface provided with a plurality of bores arranged coaxially with the central bore and radial grooves in said surface extending from each of the last-mentioned bores towards the central bore, but terminating at a distance therefrom. One end of each of the arms is bent over to provide an L-shaped hook, one part of which is adapted to be embedded in a horizontal position in one of the radial grooves in the upper surface of the connecting member. The other part of the L-shaped hook is adapted to be inserted in a vertical position in the bore adjacent the groove in the connecting member and to extend therethrough, so as to provide for detachably mounting and supporting the arms in a fixed position relatively to the connecting member.

11 Claims, 8 Drawing Figures

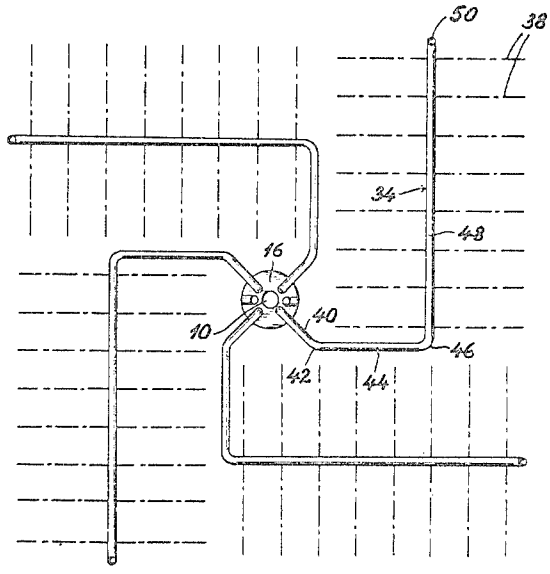

Fig. 1

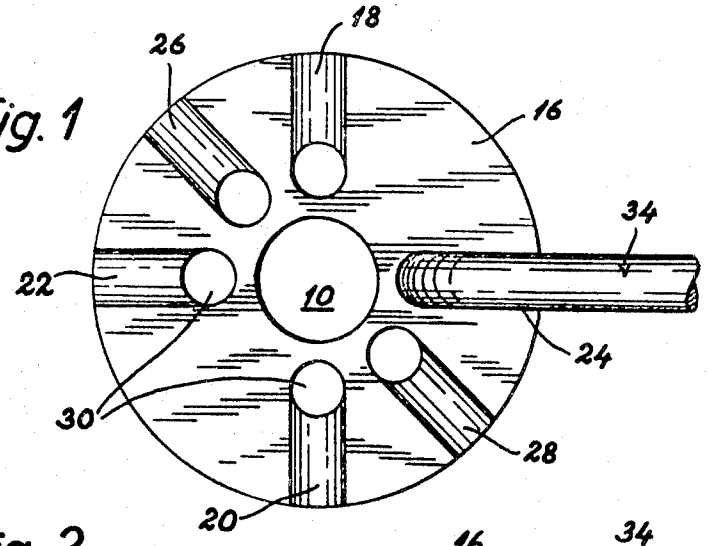

Fig. 2

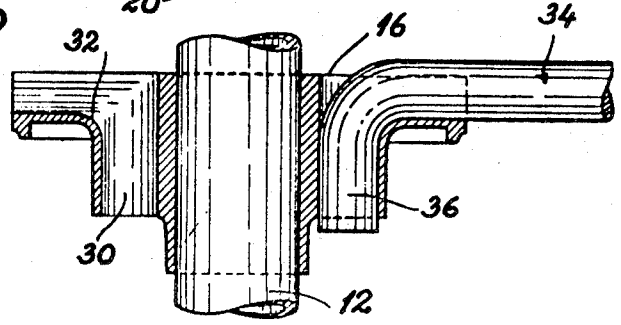

Fig. 3

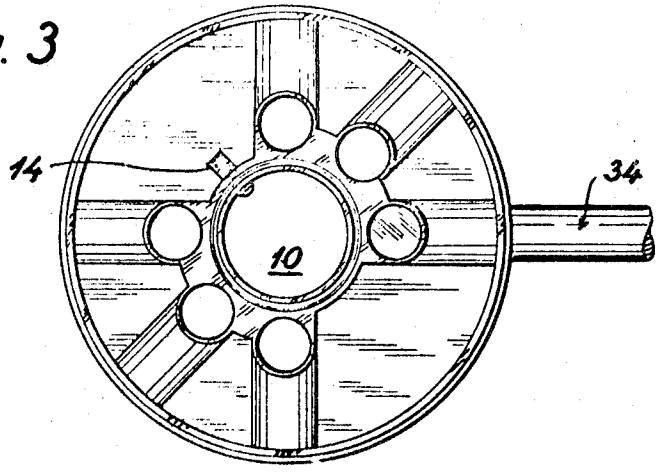

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Fig. 4

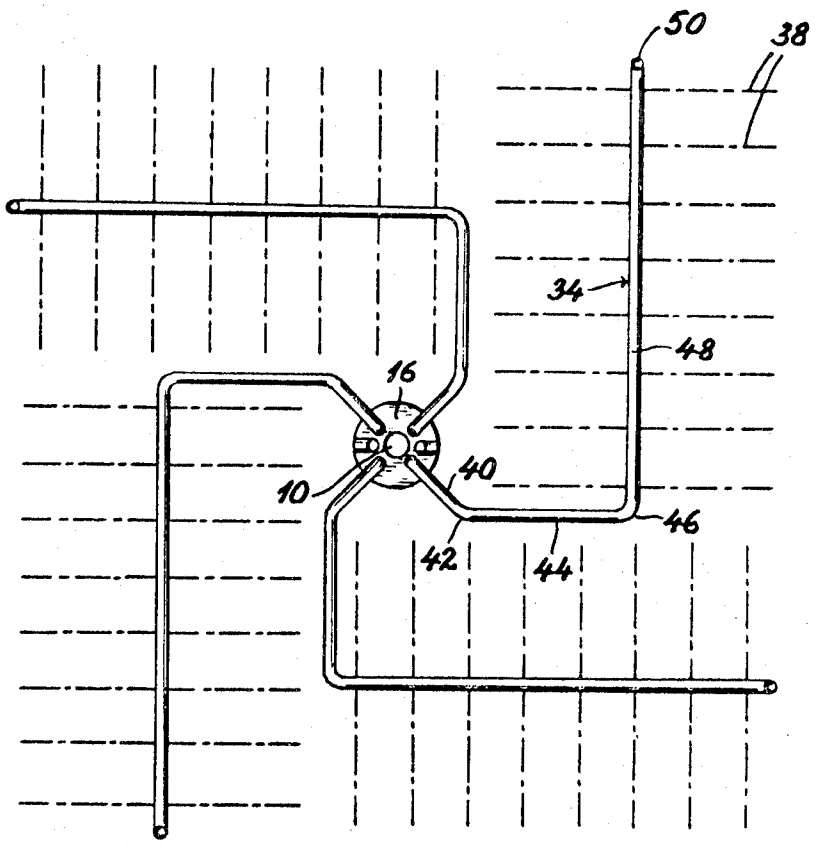


Fig. 5

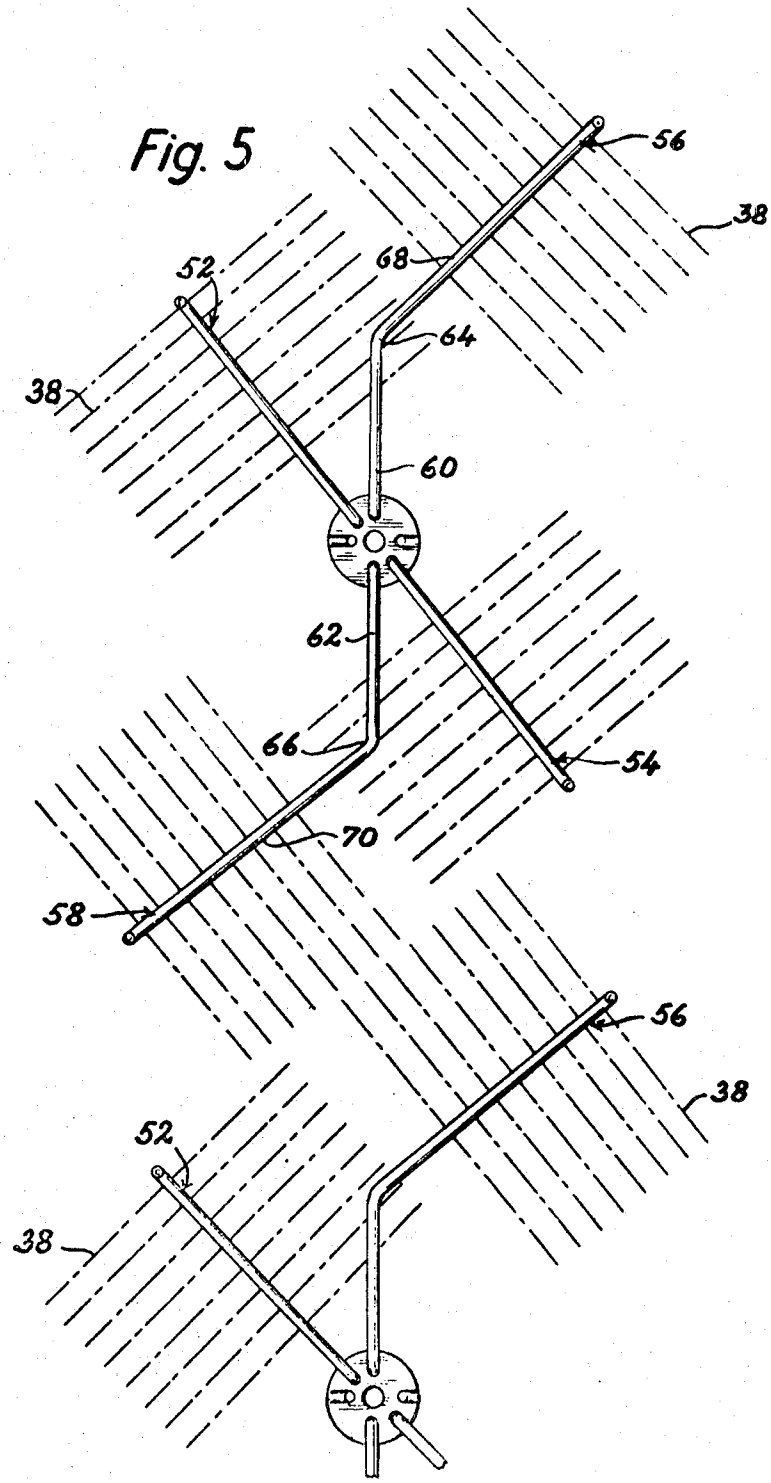


Fig. 6

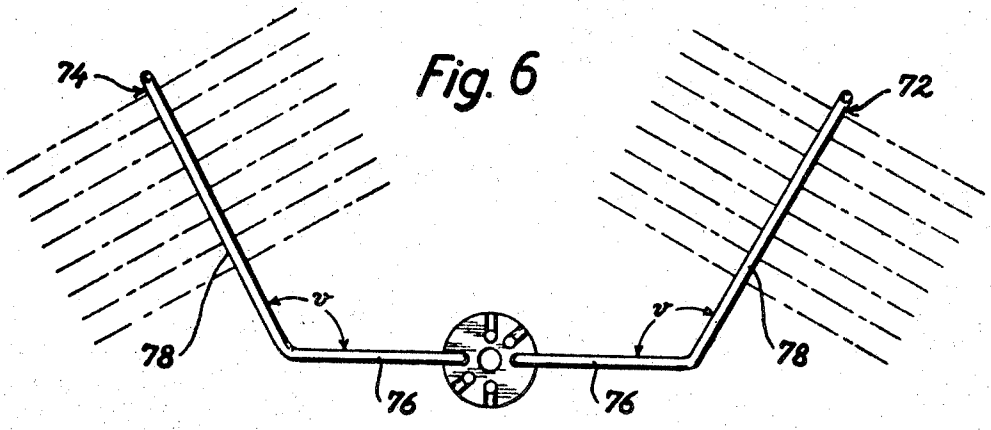


Fig. 7

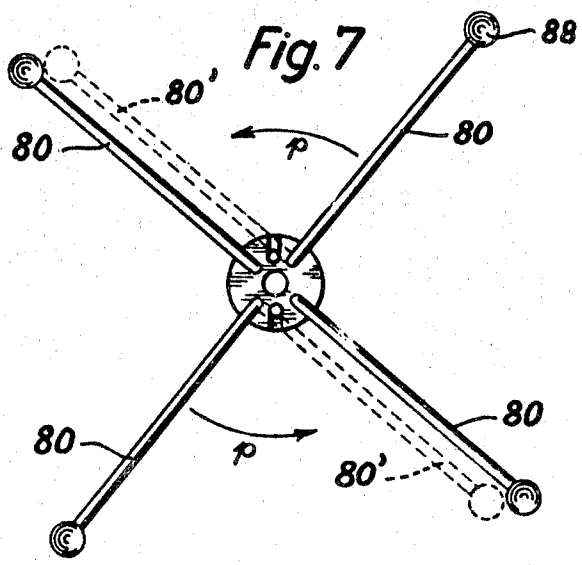
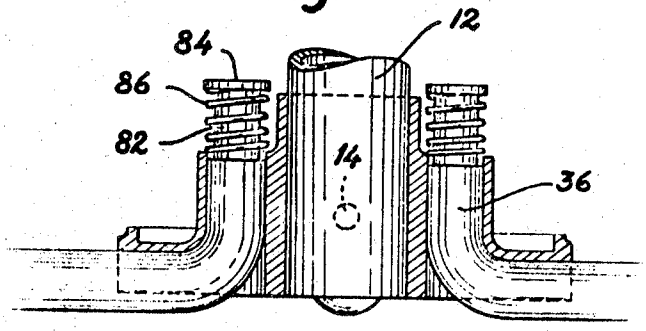


Fig. 8



DISPLAY STANDS

This invention relates to a stand for the display of commodities, preferably textiles and knitwear, enclosed in transparent bags. The stand comprises in a manner known per se a post on which is mounted at least one connecting member, hereinafter referred to as a hub supporting one or more projecting arms on which the articles are suspended.

The aim of the invention is primarily to provide a stand of the said type which can be assembled to varying forms and thus afford possibilities of presenting the articles in a manner that suits the location or the surroundings in which it is to be used in each individual case. Moreover, the stand can be readily dismantled into parts of simple shape that can be transported and shipped in packagings of limited volume.

The invention is characterized substantially in that the arm or arms are detachably connected to the pertaining hub, the inner ends of the arms being bent to angular shape and inserted into grooves in the upper surface of the hub extending inwardly from the periphery thereof and terminating in a hole provided in the hub and the direction of which corresponds to the bend of the arm.

Thanks to this construction the arms can readily be connected to and released from the hub on the spot, and any set of arms can be exchanged for another set in which the arms have another shape or other dimensions, which is particularly convenient where the premises are changed or enlarged or the number of articles increased or where the stand are to be used for the display of articles of other types than first planned. Thus a single adaptable stand will be able to replace a plurality of the previously known stands and costs can be substantially reduced.

These advantages have been achieved in particular by providing a connection between the arms and the hub of the said structure which can support a considerable load on the arms even at a great distance from the post. This advantage is independent on whether the arms are straight or bent so that the load will act eccentrically because the arms, as far as the portion engaged in the groove is concerned, cannot be rotated about their axis.

To obtain the said multifarious applicability of the stand each hub according to the invention is provided with four regularly spaced grooves, and these grooves may according to the invention be supplemented with two mutually opposed grooves between the said four grooves.

The stand may according to the invention be formed in different ways to suit its purpose. One embodiment of the stand is characteristic in that the said grooves are preferably radially oriented and that the pertaining arms spaced from the hub have a bend to an angle of about 110°–135° and spaced from said bend a second bend of 90° in the same direction and then a straight portion for the suspension of the articles. This stand can be put up free-standing in a room so that the articles can be viewed from all sides.

Another embodiment of the invention is characteristic in that two opposed grooves of the four regularly spaced grooves and the two grooves disposed therebetween receive four arms of which two opposed arms are straight and receive articles in their entire length while the other pair of opposed arms spaced from the hub have bends to an angle of about 110°–135° away from the said first pair of arms and then have a straight portion for the suspension of articles. This embodiment is particularly convenient where a stand is to be placed between two passages in a shop through which customers pass.

In a further embodiment of the stand according to the invention one arm of each pair is left out and the remaining two arms are engaged in grooves of an angular distance of about 110°–135°. Hereby the stand will be suitable for being placed against a wall so that customers may pass only along one side of the stand.

In a modified embodiment of a stand to be placed against a wall two opposed grooves engage arms having spaced from the hub a bend to an angle of about 110°–135° and then a straight portion for the suspension of articles, the two arms being bent

in opposite directions. A stand like this is extremely well balanced relatively to the post.

If the hub according to the invention is mounted in inverted position at the lower end of the post and four arms are inserted crosswise into the grooves, the hub and the arms will together form the base of the stand.

In a base like this the arms might work loose from the hub if the stand is raised from the floor by a grip about the post if they do not fit tightly in the bores of the hub or are secured in other ways. This drawback has been overcome according to the invention by subjecting the arms or at any rate some of them at their lower ends to the action of springs by which they are normally retained in engagement with the grooves. A construction like this has the further advantage that the arms can be released from the grooves by displacement against the action of the springs and then be turned in pairs into parallel positions so as to reduce the requirement of space during transport.

The invention will be explained here in greater detail and with reference to the drawing, in which

FIG. 1 presents a perspective view of an embodiment of a hub for a stand according to the invention and part of an arm,

FIG. 2 is an axial section of the hub,

FIG. 3 the hub viewed from below,

FIG. 4 is a perspective view of an embodiment of a stand to be used as a detached unit,

FIG. 5 shows in perspective a stand and one-half of an adjacent stand which, possibly lined up with other similar stands, may form partition between two passages in a shop,

FIG. 6 is a perspective view of a stand to be positioned against a wall,

FIG. 7 is a perspective view of an embodiment of the base of a stand according to the invention, and

FIG. 8 shows in larger measure an axial section of the hub of the base shown in FIG. 7.

The hub illustrated in FIGS. 1–3 has a central bore 10 which enables the hub to be slid onto a tube 12 forming the post with a cross-shaped base (not shown here) that ensures the steady upright positioning of the stand. Each post may be provided with a plurality of spaced hubs secured thereto by one or more pointed screws 14 which may be operated by conventional tools.

The upwardly facing surface of the upper, disc-shaped portion 16 of the hub is plane and perpendicular to the hub axis. This portion is provided with a plurality of radial grooves 18, 20, 22, 24, 26 and 28, with rounded bottom and extending inwardly from the periphery of the hub towards the bore 10 ending short thereof. At the inner end of each groove the hub has a bore 30 extending parallel to the hub axis and continuing at the top by an evenly rounded portion 32 in the corresponding groove, see FIG. 2. Four of the grooves: 18, 20, 22 and 24, are spaced regularly along the periphery of the hub to form a cross. The groove 26 is disposed between the grooves 18 and 22 spaced equally therefrom and the groove 28 is disposed in the same manner between grooves 20 and 24, while the opposed grooves 26 and 28 are placed diametrically.

Each groove and the pertaining bore are adapted to receive an arm 34 comprising a rod, which may be tubular, of a cross section corresponding to the shape of the grooves and the cross section of the bores 30. The inner end 36 of each arm is bent to a right angle for engagement with a groove and the corresponding bore, as illustrated in FIG. 2.

This construction makes it possible to replace the arms easily and without the use of tools, and when fitted they are retained safely and steadily in the hub even when subjected to considerable loads. If subjected to an excentric load the part of the arm inserted in the hub will prevent rotation of the arm about its axis.

In the embodiment illustrated in the drawing the arm is made from a bar or tubular material, preferably steel, of circular cross section and bent into the desired shape.

But it is immaterial for the invention whether the cross section is circular or for instance square or rectangular. If other

materials are used, for instance plastics material, which may also be used for the hub, molding will generally be the most obvious and cheapest procedure. In that case the cross section of the arms may vary in longitudinal direction and the bent portion may be a cam or a projection at the end of the arm.

The embodiments of the stand according to the invention illustrated in FIGS. 4 and 5 are adapted to permit the articles, which as stated above may be enclosed in transparent bags 38, (indicated by dotted lines) to be viewed both from the front and rear surfaces, namely at the end of the arm, and from at least one side. This provides the best opportunity for the customer to evaluate the article by inspecting it from different angles.

The bags to be hung on the stand may in any known manner be provided with an opening or a hook gripping the arm of the stand.

FIG. 4 shows a hub from which issues 4 arms 34 mounted crosswise. Each arm has first a short portion 40 extending radially outwards from the hub, that is in the same direction as the pertaining groove. Then the arm has a bend 42 of about 135° and continues in a portion 44 to a second bend 46 of 90°. From this last bend the arm continues in a straight portion 48 for receiving the bags 38. The outer end 50 of the arm may be turned upward to prevent the suspended bags sliding over the end of the arm.

A study of FIG. 4 will show that this construction of the stand provides a concentrated and well arranged display of the articles adapted to the width of the bags. The inwardly facing edges of the bags suspended on an arm are adjacent to the inner edge of the bag on the preceding arm and bout the hub is only a small unused area so that the space utilization is high.

At the top of FIG. 5 is seen a stand with four arms engaged in the grooves which in FIG. 1 are designated 18, 20, 26 and 28. The two arms designated 52 and 54 are straight and extend radially outwards from the hub and are thus diametrically opposed. These arms support bags 38 in their entire length excepting a short distance adjacent to the hub. The two other arms 56 and 58 have inner portions 60 and 62 of substantial length and also diametrically opposed. They continue over bends 64 and 66 of about 135° in straight portions 68 and 70 on which the bags 38 are suspended. In this embodiment the portions 68 and 70 will be perpendicular to the arms, 52 and 54 respectively, and the dimensions are adapted so that for instance the innermost bag on the portion 68 is adjacent to the opposed edges of the bags suspended on the arm 52, so that here too a high-space utilization has been achieved. If a second stand, as shown in the drawing, is placed adjacent to the first the result will be an elongate arrangement which can be inspected from both sides, as will be seen readily from the figure, and as explained before the bags can be viewed both from the front and rear surfaces and from the edge.

If the arms 54 and 56 are dispensed with, the stand will be aligned and suitable for placing against a wall.

The grooves which are not used may for esthetic reasons be concealed with filler members.

FIG. 6 shows a second aligned stand with two arms 72 and 74 disposed in diametrically opposed grooves in the hub. These arms are similar to the arms 56 and 58 of FIG. 5 except that they are bent in opposite directions between the portion 76 adjacent to the hub and the portion 78 supporting the bags 38. The angle v of the bend in FIG. 6 is 120° but may have other values within the range of about 110°—about 135°.

In the explanations of FIGS. 4, 5 and 6 it has been assumed that the arms associated with a hub are disposed in a horizontal plane perpendicular to the post. This orientation, however, is not obligatory for the invention in that the arms may by upwardly or downwardly inclined in their entire length or in part thereof. And in this connection the upper portion of the hub may be conical or pyrimidal.

With respect to FIGS. 4, 5 and 6 it has also been assumed that the arms are bent at their inner ends to a right angle. In the circumstances referred to here and in other cases the angular bend may deviate from 90° without detriment to the effect aimed at by the invention.

Covered within the scope of the present invention is also an embodiment in which the bend end portions of the arms are upwardly turned. In that case the hub may comprise two parts, namely a main portion in which the grooves are provided and a movable portion, for instance a ring which is slidable on the post and in which the bores 30 are provided.

When the hub is mounted in inverted position on the lower end of the post 12 it will together with four arms 80 mounted crosswise, as indicated in FIG. 7, form the base of the stand.

The connection between the arms and the hub may expediently be formed as indicated in FIG. 8. The inner end 36 of each arm has an extension 82, which may for instance be a flathead 84 screw, screwed in from the end surface of the arm. Between the head of the screw and the surface of the hub surrounding the extension 82 is interposed a tensioned helical spring 86 which prevents the arms 80 slipping out when the stand is raised from the ground. The spring 86 enables the arms to be displaced downwardly in FIG. 8 to be released from the groove and be swingable in the horizontal plane to the positions 80′ shown by the dotted lines and as indicated by arrows p, so that the base will require less space.

Around the outer ends of the arms 80 may be mounted balls 88, as shown in FIG. 7, or other means may be used to ensure that the base touches the ground only at the ends of the arms.

The embodiments of the stand described here have been selected as typical from among a large number of possibilities.

Although the said stand, as mentioned above, is formed preferably for the display of textiles and knitwear wrapped in transparent bags suspended on the stand, the invention may be applied in connection with other articles, for instance garments and clothing supported on coathangers or other suspension means.

I claim:

1. A stand for the display of commodities, preferably textiles or knitwear, enclosed in transparent bags, the stand comprising: a post on which is mounted a first hub supporting one or more projecting arms on which the articles are suspended, the arms being detachably connected to said first hub in that the inner ends of the arms are bent to form angles to be inserted into grooves in the upper surface of the hub extending inwardly from the periphery thereof and terminating in bores provided in the hub and the directions of which correspond to the bends of the arms; and a second hub similar to said first hub, mounted at the lower end of the post in a position inverted with respect to said first hub, and associating with at least three spaced arms which together with the second hub form the base of the stand, the arms of the second hub associating with said second hub as the arms of the first hub associate with said first hub.

2. The stand according to claim 1, characterized in that at least some of the arms at their inner ends are subject to the action of springs by means which they are normally retained in engagement with the hubs, but which permit the arms to be released from the hubs by displacement against the action of said springs.

3. The stand according to claim 1, characterized in that each hub is provided with four regularly spaced grooves terminating in four bores.

4. A stand according to claim 3, characterized in that said first hub is also provided with two mutually opposed grooves and bores intermediate adjacent regularly spaced grooves and bores.

5. A stand according to claim 4, characterized in that two opposed regularly spaced grooves and bores of said first hub and two intermediate opposed grooves and bores receive four arms of which two opposed arms are straight and support articles in their entire length, and of which the remaining two opposed arms have an initial bend to an angle of between 110° and 135° away from the straight arms and then a straight portion for the suspension of articles.

6. A stand according to claim 4, characterized in that two arms are mounted in said first hub in grooves and bores spaced by an angular distance between 110° and 135°.

7. A stand according to claim 3, characterized in that the four grooves in said first hub are radially oriented and that the arms associating therewith are initially bent to an angle of between 110° and 135° and include a second bend in the same direction to an angle of substantially 90°, the remaining portion of said arms being straight for the suspension of the articles.

8. A stand according to claim 2, characterized in that two opposed grooves and bores in said first hub receive arms having spaced from the hub an initial bend to an angle of between 110° and 135° and then a straight portion for the suspension of articles, the two arms being bent in opposite directions.

9. A stand according to claim 1, characterized in that there is provided means for maintaining the respective portions of said first and second hubs in said post.

10. A stand according to claim 1, characterized in that said first and second hubs are of identical construction.

11. A building set for the construction of a collapsible and convertible display stand, the set comprising: a post adapted to be mounted in substantially vertical position; at least two hubs adapted to be mounted on said post and having a central bore, a plurality of grooves in one face of the hub, each of said grooves extending from the circumference of the hub and terminating in a bore adjacent said central bore; a plurality of arms adapted to fit into and be supported in the said grooves and bores and having one hook-shaped end adapted to be introduced into the bores at the ends of said grooves; the arrangement of said post, hubs and arms being such that, in an assembled display stand, at least one hub with arms mounted thereon constitutes a supporting structure for articles displayed on the stand, and one hub mounted in a position inverted with respect to the other hubs, and with its appertaining arms mounted thereunder, constitutes a base structure for supporting the upright in a vertical position.

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