Sept. 16, 1952 K. C. FERGUSON 2,610,735

MULTIPLE CENTERING SUPPORT

Filed July 26, 1949

FIG. 1

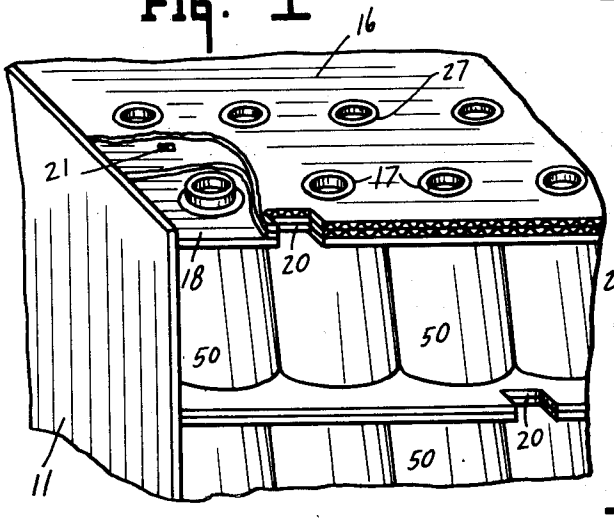


FIG. 3

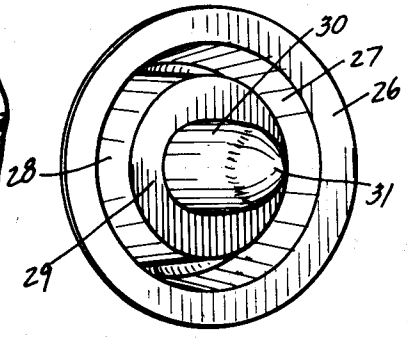


FIG. 2

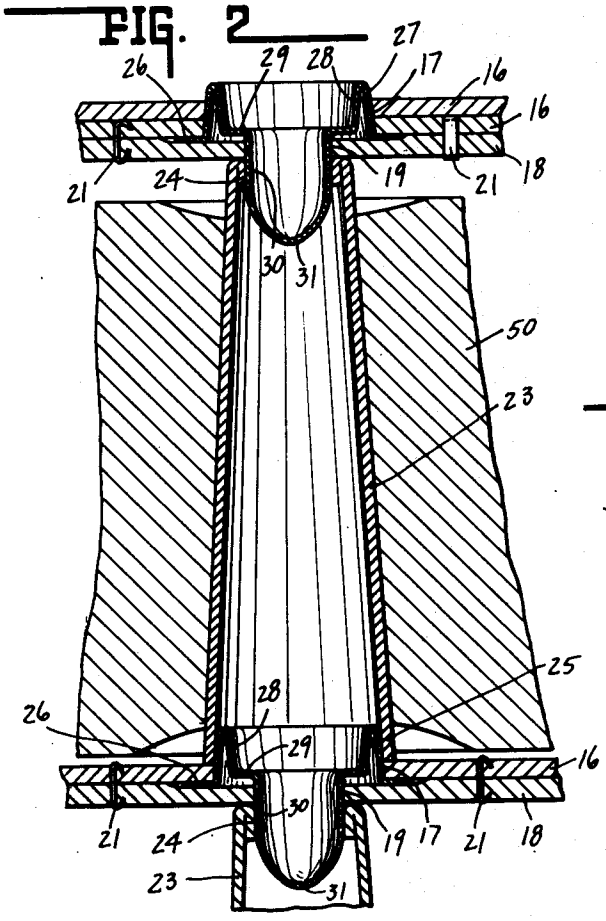


FIG. 4

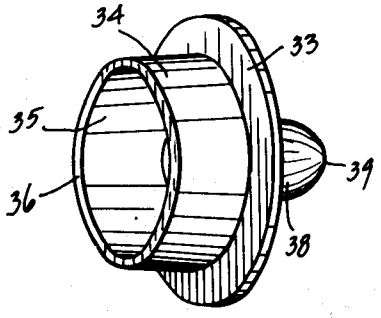
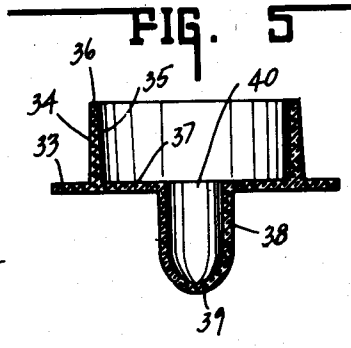


FIG. 5



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MULTIPLE CENTERING SUPPORT

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3 Claims. (Cl. 206—65)

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This invention relates to a multiple centering support comprising a spacer, locator and support structure, particularly applicable for use in mounting yarn or thread bearing cones in a container, and wherein said cones are mounted in superimposed laterally spaced relation with the said support or locator serving as a centering support for the upper end of a lower cone and the lower end of the aligned superimposed cone, this application being a continuation in part of application Serial No. 56,945, filed October 28, 1948, and entitled "Thread Cone Container."

The principal object of the invention is to provide a centering support or locator of this character which, as a single unit, will engage, center and support adjacent ends of aligned cones separated by a partition in which the locator is mounted to extend from opposite sides thereof.

A feature of the invention resides in the structure of the centering support or locator formed with an intermediate laterally-extending flange embedded within the partition for anchoring and securing the locator rigidly in cone-engaging position.

A further feature of the invention resides in the bullet shaped projection formed on the centering support or locator, such as to provide a bearing projection to readily guide and permit slippage of the upper end of the cone thereover.

Still a further feature of the invention resides in the cross sectional wedge shaped form of the upper exposed end of the locator for reinforcing it against lateral displacement or deformation when in centering engagement with the lower end of a cone.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings Fig. 1 is a perspective view of a container with portions broken away to show a plurality of thread filled cones or articles in superposed and laterally spaced relation and several of the locators embodying the present invention.

Fig. 2 is a vertical sectional view through a thread or yarn filled cone or article with superposed partitions and locators.

Fig. 3 is a perspective view of one form of cone support and locator.

Fig. 4 is a similar view of a second form of cone support locator.

Fig. 5 is a central sectional view of the locator shown in Fig. 4.

In Fig. 1 of the drawings, 11 indicates a portion of a container adapted to nest in laterally

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spaced relation and in superposed relation a plurality of articles such as thread or yarn filled cones which include the tubular cone 23 with a lower larger open end 25 and an upper smaller return bend defined open end 24. Thereon is disposed the yarn or thread 50.

A top cover and spacer member 16 of paper board is provided and includes spaced openings 17 therein. Immediately therebeneath is a multi-ply partition of similar material. One ply 16 has spaced openings 17 therein. The other ply 18 has smaller openings 19 therein. Stapling 21 secures both plies together and traps therebetween the several locators, the top cover and spacer member being identical to the top ply of the partition.

Bottom spacing means, if employed in the container, may be identical to bottom ply 18 and comprise one or more, there being preferably at the top and bottom as many plies as are necessary to prevent locator contact with or puncturing of the top and bottom interiors of the container. To facilitate partition removal and air ventilating, notches 20 may be provided therein for hand or finger grip purposes. Each partition is substantially of the same area as the area of the container.

The locator, as shown in Figs. 1, 2 and 3 includes an outwardly directed intermediate flange 26 and a reversely bent portion 27—28 disposed coaxially therewith and upon one side thereof adapted to nest in the larger end 25 of cone 23. The cone preferably bears upon board 16.

The reversely bent portions 27—28 have an inwardly directed portion 29 disposed substantially in the plane of said flange 26. Projecting oppositely and centrally from portion 29 is tubular portion 30 closed at its outer end 31. The reversely bent portions are slightly and oppositely tapered. Tubular portion 30 is cylindrical and has a bullet like end 31 which seats in hole 19 of board 18 and projects therefrom to nest in the inturned smaller end 24 of cone 23. The flange 26, therefore, is the only spacer portion between boards 16 and 18 when they are stitched together.

Reference will now be had to Figs. 4 and 5 wherein a modified form of locator is illustrated. Herein 33 indicates an outer intermediate peripheral flange, 34—35 the outer and inner surfaces of cylindrical portion 36 projecting from one side of flange 33. The latter is continued inwardly as at 37 and projecting oppositely therefrom and coaxial with portion 36 is tubular portion 38 having conoidal or somewhat hemispheri-

cal end 39. Portion 37 includes central opening 40.

The locator shown in Figs. 2 and 3 can be of sheet metal drawn and folded as shown while that shown in Figs. 4 and 5 can be molded plastic and the like. The two locators can be used interchangeably.

Also note that in Fig. 2 the inner intermediate flange portion 29 is not coplanar with exterior flange portion 26. Since Figs. 4 and 5 illustrate a molded structure it is preferred to have inner and outer flanges 33—37 coplanar. If desired, they need not be so but could be disposed as shown in Fig. 2. Also the structure shown in Fig. 2 may have flanges 26—29 disposed in coplanar relation.

While the invention has been illustrated and described in great detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character.

The several modifications described herein as well as others which will readily suggest themselves to persons skilled in this art, all are considered to be within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. A multiple centering support comprising a pair of rigid partition boards secured together having axially related openings therein, the lowermost opening being of less diameter than the uppermost opening, a locator having a laterally extending flange embedded between said rigid boards to be gripped and anchored thereby, an upwardly extending annular centering projection integral with said flange protruding through the upper and larger of the openings, and a downwardly extending annular centering projection of less diameter than said upwardly extending projection integral with said flange extending therefrom through the lower opening of less diameter.

2. A multiple centering support as defined in claim 1, characterized in that the said projection of less diameter is elongated and terminates in a rounded bullet shaped head.

3. A multiple centering support as defined in claim 1, characterized in that said projection protruding through the larger of the openings is reinforced adjacent its junction with said flange by an inwardly sloping wall portion tapering downwardly and inwardly from the upper exposed edge of said projection.

KENNETH C. FERGUSON.

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