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DISPENSING CONTAINER WITH ROTATABLE CLOSURE

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4 Claims. (Cl. 222-542)

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This invention deals with dispensing and is especially concerned with an effective and attractive container for dispensing powdered material and of the type disclosed in United States Letters Patent 2,136,795, granted November 15, 1938, wherein a rotatable closure is retained on a disc bearing and against an inwardly overhanging bead defining an annular rim at the upper part of the container. In this type of construction the rotatable closure is at a level below the circumferential beaded rim and defines therewith a relatively deep recess which in actual practice easily collects dirt and dust. The purpose of the invention is to eliminate this undesirable feature in the provision of a rotatable closure maintained in contiguous and flush relation with the inwardly overhanging beaded rim of the container. Another important aspect of the invention is realized in the provision of a closure of the character alluded to which is inverted dish shaped for nesting and receiving an upstanding laminated boss of the disc bearing or closure supporting member which serves to rotatably guide the closure relative to the container. Another distinctive feature resides in the provision of an annular but laterally extending lip at the lower part of the closure for cooperating with the inwardly overhanging rim of the container to automatically set the perforated dispensing wall of the closure to be flush with or at the same elevation as the rim upon insertion of the closure carrying disc bearing within the container and upon shifting thereof towards the rim. Another salient advantage resides in sustaining a sleeve within the container against longitudinal displacement to positively preclude accidental downward slippage of the closure carrying bearing for effectively holding the latter in a nested or telescoped relation with the closure and the latter in part contiguous to and in part against the inwardly overhanging bead. Other important functional and structural advantages will appear from the following detailed description taken with the accompanying drawings wherein:

Fig. 1 is a fragmentary perspective view of the container according to one embodiment of my invention.

Fig. 2 is an enlarged vertical sectional view taken on the line 2-2 of Fig. 1.

Fig. 3 is an exploded view of Fig. 1.

Fig. 4 is a vertical sectional view of the container on a smaller scale, and

Fig. 5 is a front elevational and partly sectional view of a slightly modified container.

Illustrative of the embodiments disclosed, the

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container according to the form illustrated in Figs. 1-4 is broadly denoted C embodying the cylindrical tubular casing or member CS, the inner telescoped tube or cylindrical sleeve S, the closure supporting disc bearing B, and the rotatable closure CL.

The closure supporting diaphragm or disc bearing B is laminated and comprises the lower primary disc PD of a diameter closely approximating the internal diameter of the casing CS to snugly and frictionally coact therewith but larger in diameter than the external diameter of the sleeve S. Also forming a part of the closure supporting bearing B are the superimposed secondary discs SD which are appropriately secured together. The secondary discs SD are smaller in diameter than the primary disc PD and concentrically disposed thereon however with the lower secondary disc effectively secured thereto, the arrangement being such that the anchored superimposed discs SD constitute a circular laminated boss. The circular felt pad FD is effectively glued or stapled to the upper disc SD and is provided with opening 10 registering with the alined openings or bores 11 of the superimposed discs SD and the opening 12 of the primary disc PD.

Rotatable relative to the laminated closure positioning and carrying member or disc bearing B is the one piece closure or inverted dish shaped cap CL provided with a top horizontal circular wall 14 having the dispensing perforations 15 adapted to be moved into or out of alinement with alined bores or openings 10, 11 and 12 in communication with the interior of sleeve S in which powdered material is adequately stored.

Closure or cap CL embodies the depending annular member or skirt 16 closely and rotatably surrounding the laminated boss constituted by the secondary superimposed discs SD and felt disc FD. Extending laterally of the lower part of skirt 16 is the annular lip 17 rotatably seated on the outer margin or shoulder of the primary disc PD which characterizes a bearing.

With the closure CL mounted on the closure supporting member B as described, it is rotatably retained in place against the lower portion 18 of the inwardly overhanging bead 19 which is formed by rolling the upper margin of the cylindrical casing C, thereby constituting an inwardly overhanging rim which characterizes annular stop means cooperating with the laterally extending annular lip 17 of the closure or cap CL to automatically aline the outside top and perforated surface of wall 14 to be flush with the

top surface of the annular bead 19. It will be observed that the outside annular face of the depending skirt 16 of the cap CL and the inside annular face of the inwardly overhanging bead 19 are contiguously disposed or in close juxtaposition to preclude the formation of relatively deep dust collecting crevices.

To facilitate rotation of the closure CL relative to the felt disc FD of the closure supporting or carrying bearing member B, this closure includes the upstanding diametrically disposed easily accessible rib R for quickly setting top wall 14 to register perforations 15 with the aligned openings or bores 10, 11 and 12.

With the closure CL mounted on the positioning and guide disc bearing B the latter is inserted into the casing or member CS through the open bottom thereof and moved inwardly until annular lip 17 meets the lower stop portion 18 of annular beaded rim 19. By this action skirt 16 is closely but rotatably confined within the circular opening of rim 19 and the apertured wall 14 thereof fully covers this opening and is lined up to be flush with the rim. Disc PD of the laminated bearing B frictionally and snugly cooperates with the inner wall constituting the bore of casing CS. Thus the bearing B is maintained in an elevated and nested relation with closure CL. If desired and to prevent accidental downward slippage of the bearing B away from the closure and the latter away from the annular rim 19, the cylindrical sleeve S is inserted within casing CS thereby serving as supplementary means to hold the bearing nested with the closure and the latter contiguous and rotatable relative to the inwardly overhanging rim 19.

As an alternative method of assembling, the closure CL may first be inserted into the casing CS through the open bottom of the latter to project the depending annular skirt 16 of the cap closely within the circular opening of the inwardly overhanging bead 19. Thereafter the closure supporting member B is inserted into the sleeve S likewise through the bottom of the casing and forced towards closure CL. Thus the laminated boss of the closure supporting member B is telescoped or nested within the closure CL. Subsequently sleeve S is inserted within the casing and moved against the frictionally held primary disc PD, thus driving annular lip 17 against the inwardly overhanging bead 19 to automatically arrange the top flat horizontal outer wall 14 of the closure CL to be flush with the upper face of annular bead 19.

Pursuant to assembly of the casing, closure and bearing, the casing is appropriately filled through the open bottom thereof and thereafter adequately sealed by the closure disc 20 which is arranged against the lower end of sleeve S and held thereto by the inwardly turned lower annular bead 21. By this arrangement the sleeve is held against longitudinal displacement and the bearing B is positively held telescoped within the closure CL and the latter within the upper beaded rim 19. In actual practice the casing has applied thereto a suitable thin covering 22 carrying appropriate display and advertising.

In the form according to Fig. 5, the sleeve S of Figs. 1-4 is omitted and the annulus or band A of cylindrical cap CP embodies the inwardly overhanging annular bead 19' against which the rotatable annular lip 17' of the closure CL' is maintained by the bearing disc PD' which is frictionally or snugly retained against the inner cylindrical wall of band A. To prevent acciden-

tal downward displacement of laminated bearing B' the latter may be seated against the open top portion of the cylindrical casing CS' which if desired may be permanently secured to the cap. With the cap carrying the closure CL' and bearing B', it may conveniently receive the upper part of the casing CS' which in fact may be considered as a sleeve or tubular means to more positively sustain the bearing B' against downward displacement. To the outside surface of the cap CP' an attractive wrapper or thin covering W is secured. In other aspects, the form according to Fig. 5 is along the lines shown and described in connection with the embodiment illustrated in Figs. 1-4 although in Fig. 5 corresponding parts have been primed.

Various changes may be made in details of construction and arrangement of parts without departing from the spirit of the invention or sacrificing any of the advantages thereof inherent therein.

I claim:

1. In a container, a tubular member having an upper portion provided with an inwardly overhanging annular bead defining an opening, a disc bearing independent of, within and surrounded by said member and having an upstanding cylindrical boss, a rotatable closure mounted on said bearing comprising a top wall within and covering said opening and substantially flush with the top face of said bead and including a depending annular skirt receiving and rotatably guided on said boss and interposed between the latter and said bead and having a laterally extending lip rotatably interposed between said bearing and said bead, and means for retaining said bearing within said tubular member and against said lip.

2. In a dispensing container, a tubular casing having an upper portion provided with an inwardly overhanging bead defining an annular rim, a disc bearing within and closely surrounded by but independent of said casing and having an upstanding concentrically arranged cylindrical boss, a rotatable inverted dish shaped closure mounted on said bearing comprising a top wall within and substantially flush with the top face of said rim and provided with a perforated portion, an annular skirt depending from said wall and receiving and rotatably guided on said boss and interposed between the latter and said rim and having a laterally extending annular lip rotatably interposed between said bearing and said rim, a felt pad carried by said boss and having a bore, a sleeve retained within and closely surrounded by said casing for maintaining said bearing against said lip and the latter against said rim, said boss and bearing having aligned openings in communication with the interior of said casing and said bore, and manipulator means carried by said wall to facilitate positioning of said perforated portion into and out of registration with said aligned openings and bore.

3. In a container, a tubular member having an upper portion provided with an inwardly overhanging annular bead defining a circular opening, a cylindrical disc bearing within and closely surrounded by but independent of said member and having a concentrically arranged boss, an inverted dish shaped rotatable closure mounted on said bearing comprising a top circular wall at the top elevation of said bead and substantially flush with the top face of said bead for covering said opening and including a depending annular skirt receiving and rotatably guided on said boss and interposed between the latter and said bead and

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having a laterally extending annular lip rotatably interposed between said bearing and said bead, and cylindrical means within and closely surrounded by said member for maintaining said bearing against said lip and the latter against said bead.

4. In a dispensing container, a tubular cap having an upper portion provided with an inwardly overhanging annular bead constituting a circular opening, a disc bearing within and closely surrounded by but independent of said cap and having an upstanding concentrically arranged cylindrical boss, a rotatable inverted dish shaped closure within said cap and comprising a top circular wall for covering said opening and substantially flush with the top surface of said bead and provided with a perforated portion, an annular skirt depending from said wall and receiving and rotatably guided on said boss and interposed between the latter and said bead and having a laterally extending annular lip rotatably interposed between said bearing and said bead, a felt pad carried by said boss and having a bore, said boss and bearing having alined openings in communication with the interior of said cap and

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said bore, means for retaining said bearing within said cap and against said lip, and manipulator means carried by said wall to facilitate positioning of said perforated portion into and out of registration with said alined openings and bore.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
942,562	Hyde -----	Dec. 7, 1909
966,550	Hothersall -----	Aug. 9, 1910
1,203,872	Harbeck -----	Nov. 7, 1916
1,283,447	Anthony -----	Nov. 5, 1918
1,365,246	Kendall -----	Jan. 11, 1921
1,883,534	Burke -----	Oct. 18, 1932
1,972,901	Peters -----	Sept. 11, 1934
2,015,287	Roerig -----	Sept. 24, 1935
2,072,432	Solomon -----	Mar. 2, 1937
2,136,795	Hoffman -----	Nov. 15, 1938
2,206,209	Thorn -----	July 2, 1940
2,324,032	Schlabach -----	July 13, 1943
2,359,882	Sir -----	Oct. 10, 1944