Feb. 15, 1949. D. L. SPENDER 2,462,010

COMPOSITE BOTTLE CAP

Filed March 6, 1947

Fig. 1.

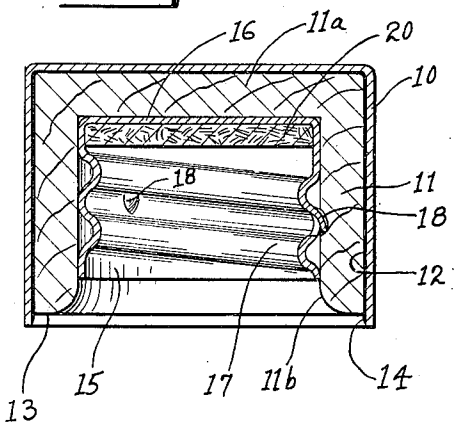


Fig. 2.

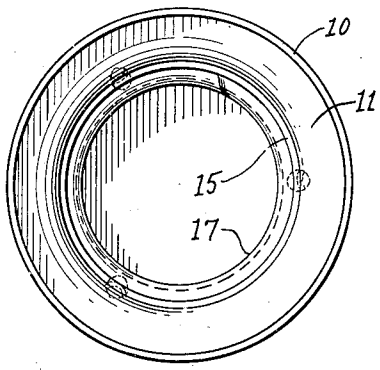


Fig. 3.

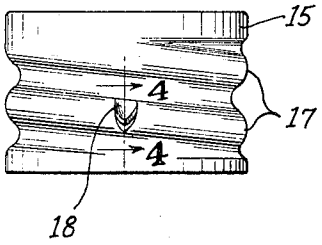


Fig. 4.

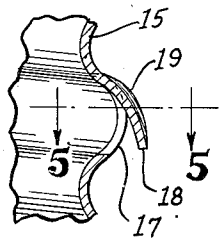
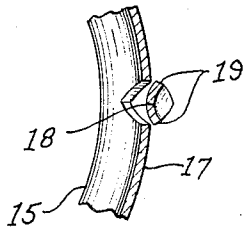


Fig. 5.



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COMPOSITE BOTTLE CAP

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4 Claims. (Cl. 215—43)

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This invention relates to bottle caps particularly of the type used on cologne or perfume bottles. One of the recent trends in the manufacture of bottle caps of this character is to make the cap considerably enlarged in size as compared to the neck of the container to which it is to be attached, and also to have the outside surface of the cap finished in a highly ornamental and polished character.

It is one of the objects of this invention to construct a bottle cap in which the exterior ornamental shell is removed a considerable distance from the neck of the bottle to which it may be attached. This is accomplished by the use of a filler member of relatively cheap material and construction and having an insert shell slip-fitted into the filler member, which insert shell is provided with suitable means for making detachable engagement with the bottle neck.

A further object is to provide a novel means for securing the insert shell within the filler member by specially shaped lugs that permit ready slip-fit assembly of the attaching shell into the filler member but will not allow it to be axially removed therefrom or rotated therein.

Other objects and advantages of the invention will be pointed out in the detailed description thereof.

Referring now to the drawing, in which:

Fig. 1 is a vertical sectional view taken through a composite bottle cap construction embodying my invention.

Fig. 2 is a bottom plan view of the same.

Fig. 3 is a side elevational view of the interior insert attaching shell, per se.

Fig. 4 is an enlarged fragmentary sectional view taken along the line 4—4 of Fig. 3 made on an enlarged scale to clearly show up the particular features of the locking lug construction, and

Fig. 5 is a fragmentary horizontal sectional view of the lug construction with the view being taken along the line 5—5 of Fig. 4.

Referring now to the drawing for a detailed description of the parts, the numeral 10 designates an outside cupped shell which may be embossed or highly polished so as to embody all the ornamental features that the user may desire in association with the containers to which it is attached. In this case the shell 10 is shown to be a smooth cylindrical cupped shell.

Fitted within the shell 10 is a cupped shaped filler member 11 which is secured in place by an interposed film of cement or adhesive material shown by a heavy line in Fig. 1 and designated 12. The axial length of the filler member is

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preferably made slightly less than the length of the cupped shell 10 so that its exposed annular edge 13 is removed a slight distance from the edge of the shell 10 and thus provides for a depending skirt 14 as a part of said shell 10 for appearance sake. The filler member 11 is preferably made of wood, as conventionally shown in Fig. 1. Wood is selected for this member as it is relatively cheap and readily adaptable to fit the needs of manufacturing a composite cap of the character involved. It should be understood, however, that other materials could be selected for this member, as for instance from the numerous molded plastics having like characteristics to a wooden member.

In order to provide a removable attachment for the composite cap with the conventional threads formed on a bottle neck, an attaching insert shell 15 is designed to have a slip-fit or telescopic assembly into the hollow part of the wooden filler member 11 with its inner closed end 16 abutted against the base end 11a of the wooden filler member 11. The attaching insert shell 15 is provided with a rolled thread in its cylindrical wall as a means for detachable engagement with the threads usually formed on the neck of bottle containers.

Since considerable torque and axial stress will be imposed upon the insert shell 15 of my composite cap when applied to a container, it is necessary to provide adequate means to anchor the insert shell 15 in the wooden filler member 11. To this end use is made of special shaped lugs 18 sheared and formed out of the side walls of the insert shell 15 and capable of being sprung inwardly to allow the insert shell 15 to be easily telescoped within the hollow of the wooden filler member 11. The inherent tendency for the lugs 18 to spring outwardly because of their initial outward forming will cause them to embed into the material of the filler member 11 and to increase the bite of the lugs 18 into the material when any force is exerted upon the attaching shell 15 to withdraw it out of the wooden filler member 11.

As clearly seen in Figs. 1, 4 and 5, I employ three equally spaced lugs 18 which are formed in the crown surface of the rolled thread 17. Describing the lugs in detail, each lug is sheared for its entire length out of the metal stock of the side wall of the insert shell 15 and integrally connected at its upper end to the threaded portion of said shell 15. The lugs 18, as best shown in Fig. 4, are made of arcuate shape in an axial direction with the concave part dis-

posed inwardly toward the axis of said insert shell 15, and also made arcuate shaped in the horizontal transverse section as seen in Fig. 5 with the concave part disposed outwardly. This latter formation is resorted to for considerably increasing the strength of the lugs 18 and provides for a pair of opposed wings 19 that are adapted to slide over the interior wall of the filler member 11 when the insert shell 15 is being assembled in place.

The normal position of the lugs to the shell 15 is initially biased outwardly from the crest of the threads 17, i. e. prior to the assembly of said shell 15 into the filler member 11. The lugs 18 are constructed, however, so that they can be sprung inwardly during the telescoping operation of the insert shell 15 into the filler member and will spring out into the wooden filler when completely assembled in a manner such as shown in Fig. 1. It will be obvious from the specific structure of the lugs 18 that the more the axial force imposed upon the insert shell 15 to withdraw it from the wooden filler member 11 the more deeply will the lugs 18 be caused to bite into said filler to hold said insert shell 15 in a permanent secure position. Also, by reason of the transverse arcuate shaping of the lugs 18, the opposed wings 19 are provided that further serve to bite into the material of the filler member 11 and hold the insert shell 15 against a lateral rotation within the composite cap due to the normal torque that will be imparted to said insert shell 15 when assembling and disassembling a cap to a container.

Furthermore, it is to be noted that the insert shell 15 is made considerably less in length than the filler member 11 and the lower inner edge of the filler member 11 is rounded in a relatively large arc as at 11b to facilitate the guiding of the cap when assembling it upon the neck of a container.

The usual form of sealing gasket 20 may be disposed within the closed end 16 of the insert shell 15 and more or less held in place by the adjacent helix of the rolled thread 17.

While the form of the invention herewith shown and described embraces a preferred embodiment of the same, it is to be understood that the construction may be varied as to mechanical details without departing from the spirit of the invention and the scope of what is claimed.

I claim:

1. A composite closure cap for a container comprising an outside cupped shell of sheet material, a cup-shaped filler member of non-metallic and relatively thick material fitted into said shell, an insert cupped shell of sheet material axially fitted into said filler member and having a continuous rolled thread formed in its wall whereby it may be detachably secured to the threaded neck of a container, and one or more spring lugs sheared transversely of and sprung outwardly of the crest portion of said rolled thread, said one or more lugs having the free ends spaced outwardly from the normal exterior surface of said insert shell and directed downwardly so as to permit said insert shell to axially telescope into said filler member for assembly purposes, said one or more lugs also formed with opposed longitudinal edges that are adapted to embed into the material of the filler member to prevent rotary movement of said insert shell relative to said filler member in either direction.

2. A composite closure cap as defined by claim 1 wherein the filler member is of wooden material and the one or more spring lugs of said insert shell are made arcuate shape on a transverse plane and in a concave manner relative to their outer surface as a means of providing a two-way anchorage into the material of the filler member to prevent relative rotation between the insert shell and said filler member.

3. A cylindrical shaped member made of impressionable non-metallic material, a cup-shaped insert member of sheet metal material having a continuous rolled thread formed in its sidewall, and a plurality of longitudinal lugs having their longitudinal axes parallel to the thread axis, said lugs being sheared transversely of and sprung outwardly from the crest portion of said thread and equally spaced about the side wall of said insert member, said lugs having longitudinal opposed edges merging into a relatively sharp point at the lower end of each lug, said lugs being arcuate shape in a convex manner relative to the outer surface on their longitudinal axis as a means to permit the axial assembly of said insert member to said first named member and also permit the pointed ends of said lugs to embed in said impressionable material and provide for a permanent anchorage against axial removal, said lugs also being arcuate shape on a transverse axis and concave relative to the outer surface of said lugs to provide for opposed relative sharp wing edges on the lugs that likewise are adapted to embed in the impressionable material and prevent relative rotation between said insert member and said first named member in either direction.

4. A cylindrical shaped member made of impressionable non-metallic material, a cup-shaped insert member of sheet metal material having a continuous rolled thread formed in its side wall, and one or more lugs having pointed ends sheared transversely of the crest portion of said thread and sprung outwardly therefrom with the pointed ends directed downwardly or toward the open end of said insert member whereby to permit the insert member to be axially inserted into said cylindrical member, said one or more lugs being reversely formed to the exterior crest portion shape of the rolled thread and of arcuate shape in both longitudinal and transverse cross section and adapted to embed into said impressionable material of said cylindrical member in such a manner as to withstand both axial and rotatable relative movement between said interfitted members.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
94,452	Thompson	Aug. 31, 1869
1,182,741	Berners	May 9, 1916
1,855,482	McArthur	Apr. 26, 1932
2,001,426	Kaps	May 14, 1935
2,330,896	Keith	Oct. 5, 1943
2,398,553	Nyden	Apr. 16, 1946

FOREIGN PATENTS

Number	Country	Date
20,743	Great Britain	Sept. 18, 1907
870,676	France	Mar. 20, 1942