Dec. 12, 1967 F. WOMMELSDORF 3,357,623

PAPER CUP

Filed April 20, 1966

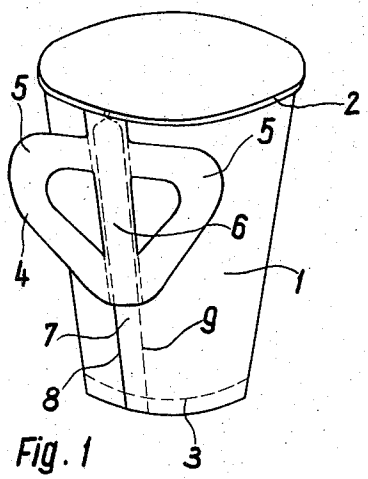


Fig. 1

Fig. 3

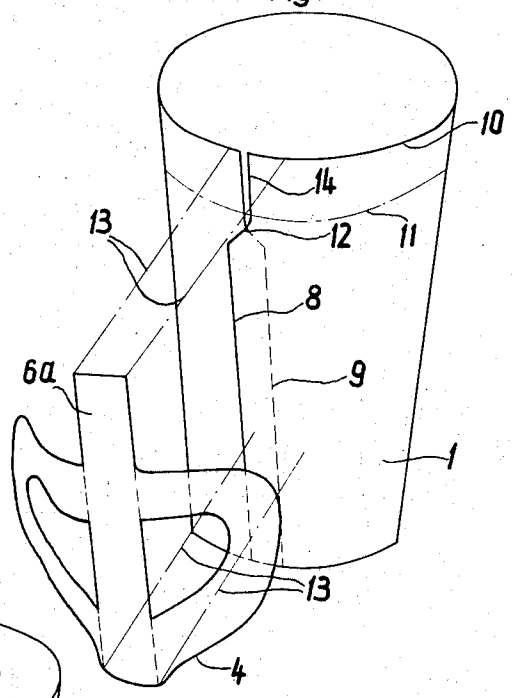


Fig. 2

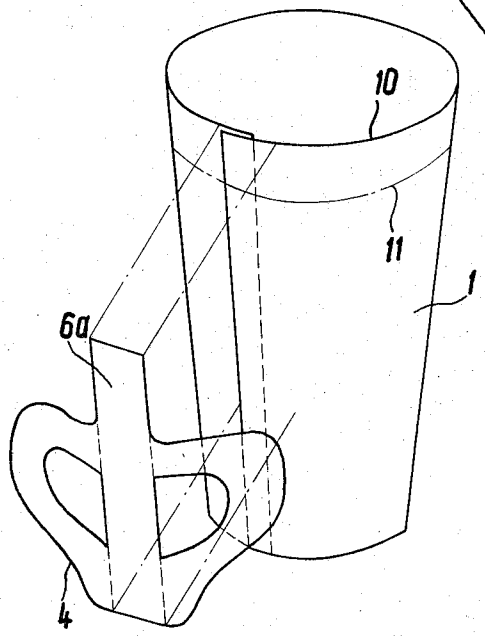
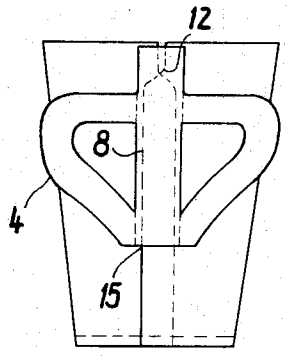


Fig. 4



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PAPER CUP

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2 Claims. (Cl. 229—1.5)

ABSTRACT OF THE DISCLOSURE

A paper cup comprising a shell including an upper rolled lip portion and overlapping longitudinal edges. A handle adherently attached to the outside of the shell has an upper extension rolled up in the upper lip portion of the shell. The longitudinal edges of the shell may be slightly spaced apart in the area of the lip portion.

The present invention relates to a paper cup, in particular a paper cup made of polyethylene-coated material, which consists of a shell, the upper edge of which is beaded to form a rounded lip, a bottom and a handle, the grip parts of which, which can be freely moved away from the shell of the cup, are seated on an attachment strip which is connected to the shell for instance by gluing or hot-sealing.

Ordinarily in the known cups of this type, the handles are glued or hot-sealed to the shells at some point below the rounded lip, and preferably in the region of the overlapping longitudinal seam of said shell. These known cups have the disadvantage that the connection between the handle and the cup does not always assure the required reliability.

Of greater reliability is another known possibility of attaching the handle to the shell, which consists in shaping the handle from one end of the shell blank, this end of the blank being on the outside upon the overlapped connection of the shell on itself. This, however, has the disadvantage that a larger overlap is necessary, which leads to a greater consumption of material and thus higher expenses particularly in the case of expensive material, and especially polyethylene-coated material; furthermore, its manufacture is complicated.

The object of the present invention is to create a cup with handle of the type mentioned above, in which the handles are attached more dependably than in the case of the first-mentioned known cup construction and which is more economical with respect to the consumption of material, and simpler in manufacture than the second-mentioned known type of cup.

In accordance with the invention, the fastening strip for the handles which is connected with the shell blank has a lengthened upper section which is entirely or partially rolled up in the rounded lip. In other words, the central bar of the handle is extended somewhat upward as a type of fastening strip and is glued at such a high point that the fastening strip extends to below the rolled lip on the finished cup. Insofar as possible it is to be rolled up together with the rounded lip over the entire extent of the rounded lip or a part thereof. The rounded lip then clamps this fastening strip and assures it a dependable hold which is greater, the further the fastening strip is rolled up together with the rounded lip.

In the interest of greater stiffness, it is advantageous that the handle—as known per se—be applied to the point of overlap of the cup shell. Should the three-fold thickness present at this place have—by way of exception—a detrimental effect upon the formation of the rounded lip, the handle can also be provided at some other place.

Another possibility of avoiding three thicknesses in the region of the rolled lip consists in the following embodiment of the invention, which in addition also has the particular advantage that it assures automatic verification of the quality of the bonding of the handle to the shell of the cup. It is characterized by the fact that the overlapping of the shell blank is provided only from the bottom of the cup up to slightly below the rolled lip, and the edges of the blank, which are located at the smallest possible distance apart above same, and are substantially rolled up in the rolled lip, are connected by the fastening strip of the handle.

By the coincidence of a plurality of overlappings at the seam of the shell below the rolled lip, a certain uncertainty with respect to leakage of liquid might arise at this place. However, in actual practice, this does not occur, since this point is so high that the liquid does not even reach it.

The invention will be described in further detail below with reference to the embodiments shown in the drawing, in which:

FIG. 1 is an overall view in perspective of the cup with handle in accordance with the invention;

FIGS. 2 and 3 are perspective views of the cup with handle in the course of manufacture with two different embodiments of the shell overlap, and

FIG. 4 is a side view of the cup with handle glued thereon, but before the rolled lip has been produced.

Referring to FIG. 1, the cup consists of a shell **1** with rolled lip **2**, a bottom, not directly visible in the drawing, but indicated by dashed line at **3**, and a handle **4** with two grip taps **5** and a fastening strip **6**. The shell is glued along the overlapping **7** in sealing relationship, one longitudinal edge **8** of the blank lying on the outside and one longitudinal edge **9** of the blank lying on the inside so as to seal the shell longitudinally. The paper material is coated on its inner side in customary manner with polyethylene. The handle **4** is glued via the fastening strip **6** to the shell in the manner that the upper part *6a* of the fastening strip comes to lie on a region of the shell between the upper edge **10** and the dashed line **11** in FIG. 2, said line being the rolling line for the rolled lip **2**. In the embodiment shown in FIG. 2 before the attachment of the handle, the overlap **7** of the shell extends from the bottom up to the top edge **10**. The dot-dash lines **13** indicate how the handle is glued to shell **1**. The portion *6a* of the handle is rolled up together with the uppermost part of the overlap into the rolled lip, the outermost layer of the lip portion being formed by material of the shell so that the rolled portion of the fastening strip is enveloped by shell material. In this way, the handle is held with greater dependability than was the case in the known embodiments. The handle need not in this connection absolutely lie on the overlap **7** of the shell but can also be arranged at some other point of the periphery. Application to the overlap, however, gives the advantage of greater stiffness.

Another embodiment is shown in FIGS. 3 and 4, FIG. 3 showing the cup in the same stage of manufacture as FIG. 2, namely before the handle **4** has been pasted into the position indicated by the lines **13** and before the rolled lip has been formed. (FIG. 1 shows this embodiment in finished condition.) In this connection, the overlap **7** is not continued up to the top edge **10** but terminates at the point **12** at a certain distance below the upper edge **10** of the shell blank and slightly below the rolled lip **2** (dot-dash line **11**).

FIG. 4 shows a side view after the attachment of the handle **4**. The fastening strips **6** of the handle can, it is true, extend up to the upper edge **10** of the blank of the shell **1**; however, the rolling up of the rolled lip **2** is facilitated

if the fastening strip **6** terminates in the manner shown in the drawing shortly in front of the edge **10** (this also is true of the embodiment of FIG. 2).

The lateral edges of the blank of the shell **1** abut above the point **12** in the region **14** directly against each other or are the smallest possible distance apart here. The attached fastening strip **6** of the handle dependably connects them together.

This embodiment has the advantage that the rolled lip can be formed more easily than in the case of the embodiment of FIG. 2, since three layers are superimposed in said latter case.

Another advantage is that the rolled lip cannot be dependably formed when the gluing or hot-sealing between the edges **14** of the shell blank and the portion **6***a* of the fastening part is imperfect, since it would then tear under the considerable stress produced by the rolling of the rolled lip. There is thus obtained an automatic verification as to whether the handle is really glued fast, at least in the upper region, where it is subjected to the greatest strain by the lever action. In the case of a handle which is glued-on in the customary manner, such a verification would require a special, difficult operation.

It will be appreciated from the above that the present invention can be carried out with various modifications without departing from the scope of the invention as defined in the appended claims. Thus, the invention can be applied to paper cups coated with polyethylene or another equivalent coating, as well as to cups consisting of uncoated paper.

What is claimed is:

1. A paper cup comprising

(a) a bottom;

(b) a shell connected to said bottom and including an upper rolled lip portion and a pair of longitudinal edges, said edges overlapping each other in sealing relationship from the area of said bottom substantially to the area of said rolled lip portion so as to longitudinally seal said shell substantially along its entire length; and

(c) a handle including a fastening strip portion adherently connected to the outside of said shell, and grip parts freely adjustable on said fastening strip portion away from said shell, said fastening strip portion being provided with an upper extension at least partially rolled up in said lip portion, the outermost layer of said lip portion being formed by shell material so that the rolled portion of said fastening strip is enveloped by said shell material.

2. A paper cup comprising polyethylene-coated material, said paper cup including

(a) a bottom;

(b) a shell connected to said bottom and having an upper rolled lip portion and a pair of longitudinal edges, said edges overlapping each other from the area of said bottom to a point slightly below said rolled lip portion but being spaced from each other above said point to the smallest possible distance, the spaced portions of said longitudinal edges being substantially rolled up in said lip portion; and

(c) a handle having a fastening strip portion adherently connected to said shell, and grip parts freely adjustable on said fastening strip portion away from said shell, said fastening strip portion being provided with an upper extension at least partially rolled up in said lip portion and connecting said spaced portions of the longitudinal edges of said shell.

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