Jan. 30, 1968 R. C. SEGGERMAN 3,366,262

PLASTIC CONTAINER WITH AFFIXABLE HANDLE

Filed Nov. 18, 1966

FIG. 1

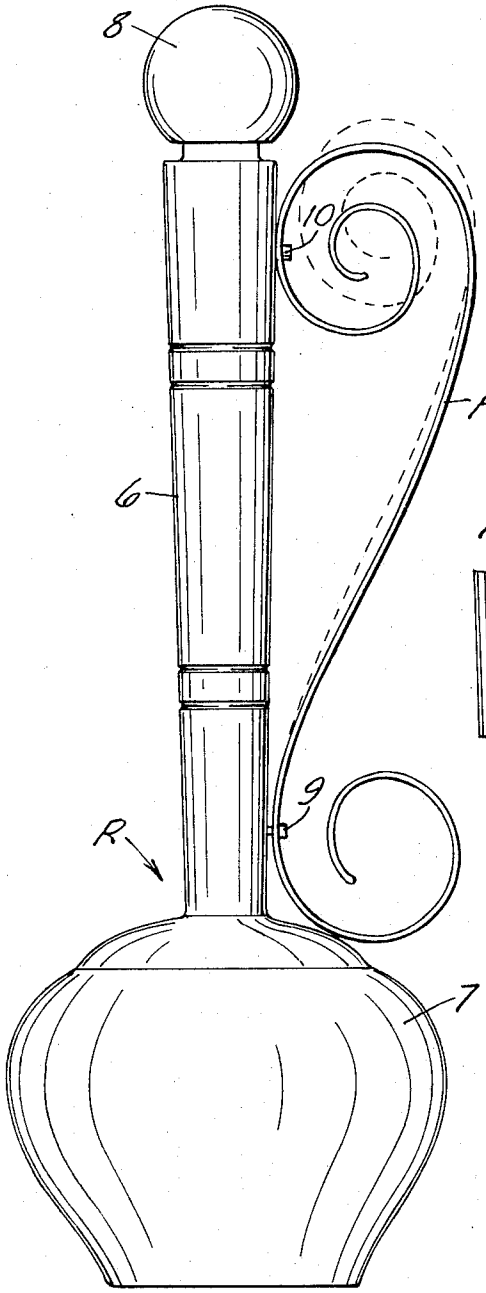


FIG. 2

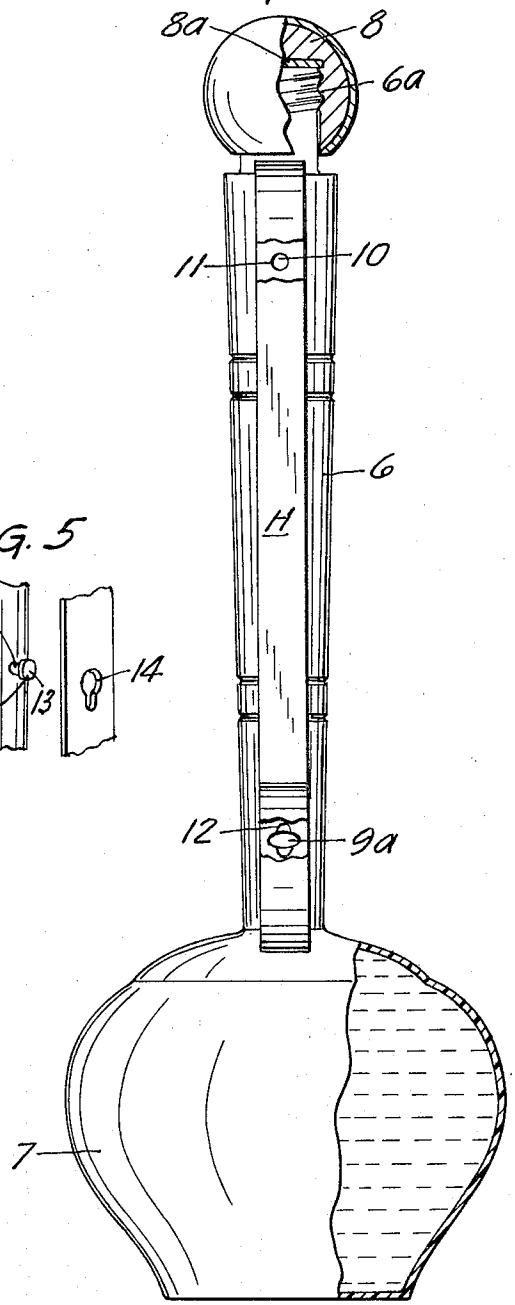


FIG. 5

FIG. 3

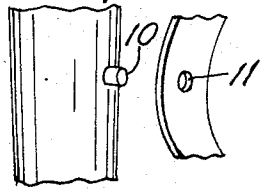
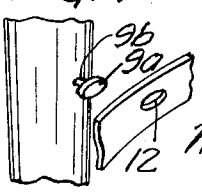


FIG. 4



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PLASTIC CONTAINER WITH AFFIXABLE HANDLE

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This invention relates to plastic containers varying widely in size and shape, and produced by molding, blowing or other well known processes. The invention relates particularly to a plastic container having a firmly affixed pouring handle which is fabricated independently of the container and is readily attached and firmly secured thereto.

Heretofore, various plastic containers which utilize pouring handles such as pitchers, cups, vases, elongated bottles, etc., have required integral molding of the formation of the handle with the receptacle proper. This necessarily entails large expensive molds, waste of plastic materials, and in many cases the handles are not rugged and will become broken in use and in washing.

It is an object of my invention to provide a simple and very economical plastic container with a fixable handle wherein a pair of anchoring and locking elements are integrally molded with the formation of the plastic container, and wherein a resilient, strong handle member is independently formed and provided with simple but efficient interlocking means to very securely affix the handle to the container when the handle is tensioned. The tensioning of the handle member (preferably of curvilinear shape) exerts a more than adequate pressure on the container-anchoring elements to prevent disconnection thereof in use.

A further object of my invention is the provision of plastic container and readily affixable handle structure which adapts itself to very economical manufacture and to the production of very ornate assemblies, for use in containing and dispensing substantial volumes of liquid contents.

More specifically it is an object to provide a unitary assembly of the class previously described wherein a pair of spaced and substantially vertically aligned protruding locking elements are provided on the external upstanding wall of the container, and wherein the independent handle member is formed from a highly resilient material such as spring metal, and has in curved portions thereof, two widely spaced protrusion-receiving elements or apertures so related with the curved resilient construction that when the handle structure is flexed, the two receiving elements of the handle may then be brought into alignment for receiving and interlocking with the protruding elements of the container. Upon release of the handle member, tension is constantly applied to positively prevent removal of the handle from the container.

These and other objects and advantages of the invention will more readily appear from the following description made in connection with the accompanying drawings, wherein like reference characters refer to the same or similar parts throughout the several views and in which:

FIG. 1 is a side elevation showing one form of a plastic container having combined therewith an embodiment of my preferred handle construction and utilizing cooperating interlocking elements, the dotted lines indicating the configuration of the resilient handle structure before compression is made to tension the same, for attachment to the locking lugs of the container;

FIG. 2 is an elevational view of the assembly of FIG. 1, looking in the direction of the back of the handle and with some portions broken away and others shown in cross section;

FIG. 3 is a detail explosive view showing one type of integral protruding anchoring element on the container,

about to be engaged by the receiving apertured portion of a part of the handle;

FIG. 4 is a similar exploded detail view showing a preferred type of positive anchoring lug with a fragment of the handle having the proper receiving locking aperture swung to position for interlocking the two elements; and

FIG. 5 is a detail exploded view showing an alternative form of cooperating interlocking elements for securing the handle to the receptacle.

Referring now to the embodiment of the invention illustrated, the vase-type receptacle indicated as an entirety by the letter R is illustrated, having an elongated tubular upper end **6** joined with and communicating with a generally spherical shaped base body **7**, which is of hollow construction and is adapted to contain a substantial amount of liquid or granular material. The upper end of the elongated, upstanding container portion **6** is diminished somewhat as shown, terminating in an externally threaded pouring mouth **6***a*, which as shown is closed and sealed by an internally threaded cap **8** having a sealing gasket **8***a* mounted therein. Such containers or receptacles may of course take a great variety of shapes and be designed to contain a large variety of volumetrical contents. Both thermo-plastics and thermosetting plastics may be utilized in the manufacture of such containers. Some of the numerous receptacles to which my invention may be applied, are produced by blowing plastic in fused state into a female mold, and others are produced by both internal and external molds.

Important elements of my invention consist in the provision integrally of the plastic body, of a pair of widely spaced, laterally projecting interlocking elements **9** and **10** respectively. These elements are produced simultaneously in the molding operation of the entire receptacle body and are integrally formed with the material of the body or receptacle.

In the preferred form, one of these two elements (as shown, the lower member **9**) has an enlarged transversely disposed oval head **9***a* integrally formed with the shank of the element **9***b*. The other element **10** as shown, is in the form of a small cylindrical pin which has its axis preferably declined somewhat from the horizontal.

The handle member, indicated as an entirety by the letter H, may be of various and sundry shapes, but is preferably curvilinear in that at least curved portions are produced near the upper end of the handle and also at the lower end. As shown, both ends of the handle H are of spiral or scroll configuration. My handles preferably are constructed of resilient metal such as brass, bronze, spring steel or spring alloys, but with certain of the resilient plastics known today, it is to be understood that similar configurations of a resilient heavy plastic will be adequate.

The curvature of at least portions of handle H is such that when compression is placed between the upper and lower ends thereof, the length of the handle will be shortened; for example from the dotted line position of FIG. 1 to the full line position.

It will be understood that the positioning of the two protruding anchoring elements **9** and **10** may be reversed from that shown in the drawings. As shown, the upper anchoring element **10** integrally formed with the container, constitutes a small cylindrical pin inclined downwardly from the horizontal.

The upper portion of handle H upon its innermost curve, is provided with a circular retaining aperture **11**, extending through the metal or material thereof, of a size to snugly engage the pin **10**.

At the lower portion of the handle and formed in an inwardly curved section thereof, is formed an oval shaped locking aperture **12** (see FIG. 4) which extends vertically rather than horizontally of the handle, and which, snugly, with working clearance is adapted to accommodate the

head 9*a* of interlocking anchoring element 9 when the handle is swung through an arc of approximately 90° in horizontal position. After reception of the head 9*a* the handle is pressed toward the container and then swung again to vertical position, as shown in the dotted lines of FIG. 1. Thereafter, with one hand, the handle may be compressed by pushing downwardly on the upper portion thereof, until the aperture 11 is brought into alignment with the slightly inclined pin-locking element 10 of the container. After such engagement the hand is released and the handle throughout most of its curved configuration is under substantial tension and will be positively affixed to the container.

When the handle is attached as described, with a substantial portion of its curved length under tension, the assembly may be carried and the contents may be poured by tilting the structure by means of the handle. The connection between receptacle and handle is positive. It is preferable to have the headed anchoring element 9 at the lower attachment point of the handle since it will be impossible to dislodge the connection without swinging the handle through 90° relative to the container. Thus the greatest element of anchoring is nearest the center of gravity of the receptacle and the contents therein.

In FIG. 5 an alternative form of interlocking elements for the container and handle is illustrated. Here an integrally formed, headed circular retaining button 13 protrudes radially from the exterior wall at the upper portion of the container, having the small cylindrical shank 13*a* and somewhat enlarged head 13*b*. The upper portion of the handle member at the inwardly disposed curvature, is provided with a keyhole aperture 14, the enlarged portion of which snugly slips over the head 13*b* after the handle is tensioned to shorten the same, and upon release of the handle, the narrow slot of the keyhole is locked beneath the head 13*b*.

It will be understood that cooperating anchoring elements of this type may be equally well used for both upper and lower attachment of the handle, all within the scope of this invention.

It will also be understood with the use of the term "recess" in the appended claims, the broad meaning and interpretation of that word is intended to include not only apertures fully through the handle material, but openings,, notches and deformations made in the appropriate portions of the handle material of shape and size to accommodate and interlock with the laterally projecting anchoring elements on the wall of the container body.

From the foregoing it will be seen that I have provided a plastic container-handle assembly of great simplicity and high efficiency, which may be manufactured at very low cost. The invention is widely applicable to containers of varying sizes and shapes. The locked connection between handle and container is positive and durable, and enables the handle to be readily detached when desired.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What is claimed is:

1. A container with readily affixable pouring handle comprising,

a container body produced from plastic, having a mouth at its upper end to facilitate pouring therefrom, and having an upstanding external wall surface,

an integrally formed, laterally protruding anchoring element located at a predetermined height on said wall surface and being produced simultaneously with the external shape of said body,

a second integrally produced anchoring element disposed at another predetermined height on said wall surface and spaced a substantial distance from said first anchoring element and disposed substantially in vertical alignment therewith,

a handle member having upper and lower curved portions constructed of resilient material, and adapted to be compressed longitudinally to shorten the overall length thereof and to apply tension thereon,

said handle member having a locking recess adjacent one end thereof for engagement and interlocking with said first mentioned anchoring member, and having a second recess adjacent the opposite end thereof for receiving and locking with said second anchoring member when tension is applied longitudinally of said handle member to shorten the length thereof.

2. The structure set forth in claim 1 wherein said upper and lower handle portions are in the form of volutes.

3. The structure set forth in claim 1 further characterized by

the upper and lower ends of said handle member being curved sharply in opposite directions and being integrally connected by a reversely curved, elongated element integrally formed with said end portions.

4. The structure set forth in claim 1 wherein

at least one of said protruding anchoring elements has an outer locking portion having a horizontal dimension greater than its vertical dimension,

and wherein the corresponding recess of said handle member is of similar shape but has its longer dimension positioned vertically and its shorter dimension positioned horizontally when attached.

5. The structure set forth in claim 1 wherein at least one of said protruding anchoring elements comprises a shank pin having a somewhat enlarged head at its extremity,

and wherein the cooperating locking element of said handle is in the form of a keyhole aperture, the larger portion of said aperture accommodating the head of said anchoring element.

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