

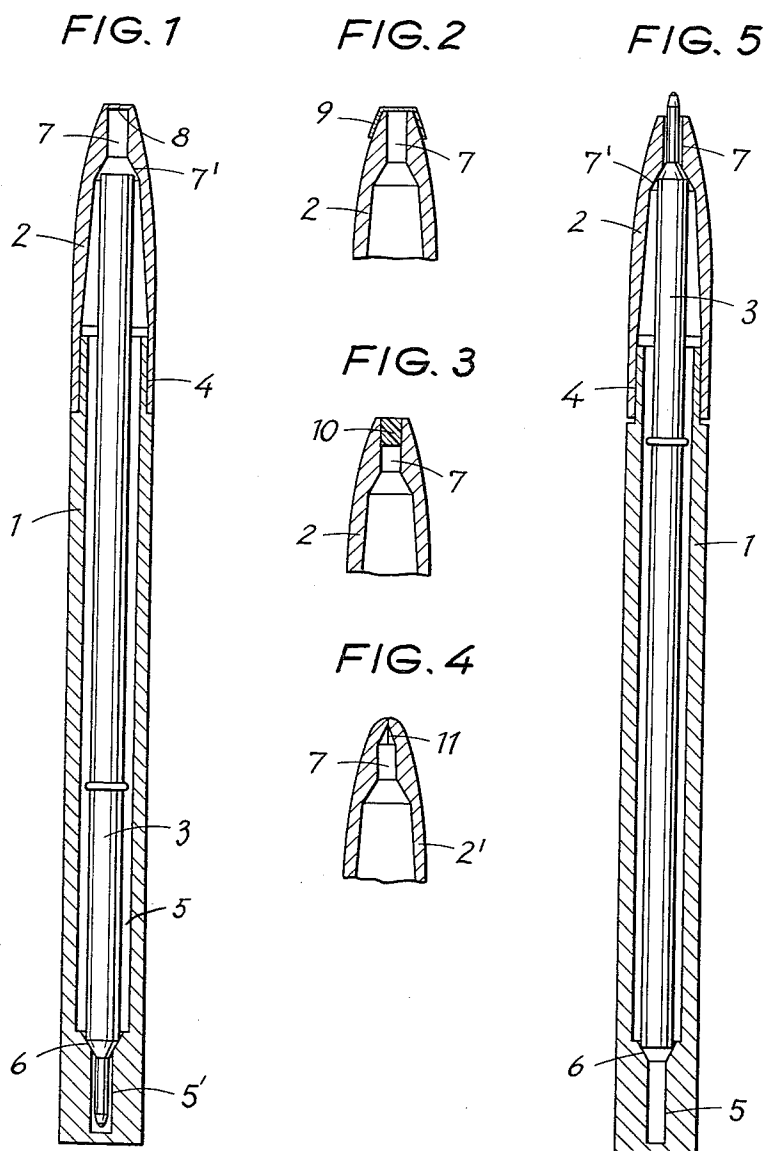
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CONTAINER FOR BALL-POINT INSERT

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1

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CONTAINER FOR BALL-POINT INSERT

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The present invention relates to an airtight container for storing, shipping and exhibiting an individual ball-point insert for a ball-point pen.

The containers or packages for ball-point inserts used prior to this invention usually consisted of cellophane bags or glass tubes. More recently they also consisted of special bags of plastic each containing a certain quantity of inserts, for example, a dozen, and provided with an edge which was prepared so as to be easily torn off to open the package. Thus, for removing the inserts from the airtight package, the latter had to be torn apart and destroyed. This was also necessary if an individual ball-point insert was to be tested to determine its quality and writing characteristics which also required its insertion into a separate holder or casing to permit a proper manipulation thereof when writing.

It is an object of the present invention to provide a container for an individual ball-point insert which overcomes the above-mentioned disadvantages of the known containers and is adapted also to serve as a simple pen holder for manipulating the ball-point insert when making writing tests therewith or when a normal holder is not available. This container is only intended for high-quality inserts and preferably consists of a transparent plastic material to permit the markings on the insert signifying the type and quality thereof to be read through the container.

The container according to the invention is preferably of a very simple design consisting of a substantially cylindrical hollow shaft of transparent plastic into which the individual ball-point insert is placed with its writing tip fitting into the closed end portion, while the rear end of the insert is covered by an airtight slip-on cap. This cap is provided with a central bore, the outer end of which is normally sealed but may be pierced by the writing tip of the ball-point insert when the latter is reversed in the container so that the container may then serve as a holder for writing with the insert. The closure for sealing the cap is preferably designed so as again to close substantially airtight when the ball-point insert is returned to its original position in the container.

These and further objects, features, and advantages of the present invention will now be described in greater detail with reference to the accompanying drawings of several preferred embodiments thereof, in which:

FIGURE 1 shows a longitudinal cross section of a container according to the invention in the sealed condition;

FIGURE 2 shows a modification of the cap seal produced by dipping;

FIGURE 3 shows another modification of the cap seal consisting of a plug;

FIGURE 4 shows a further modification of the cap seal attained by the inherent resilience of the cap material; while

FIGURE 5 shows a view of the container similar to FIGURE 1, but with the ball-point insert in the reversed position therein ready for writing.

Referring to the drawings, the container according to the invention for packing, storing and shipping an individual ball-point pen insert consists of a clear transparent plastic comprising a hollow, substantially cylindrical shaft 1 and a slip-on cap 2 on the open end of shaft 1 so as

2

to close the container hermetically. The lower end of shaft 1, as viewed in the drawings, is provided with a socket bore 5' of a diameter smaller than that of the main bore 5 in shaft 1 and substantially equal to the outer diameter of the thin tip of the ball-point insert 3 which is normally inserted into the shaft with its tip fitting into bore 5', as shown in FIGURE 1. The shoulder 6 between bores 5 and 5' is preferably made conical in accordance with the conical portion between the tip and the main body of the insert so as to give the entire insert a firm seat within the container, and bore 5' is made of a length slightly greater than that of the tip to prevent the ball of the insert from resting on the bottom of bore 5'. For receiving the slip-on cap 2, the diameter of the upper end of shaft 1 is preferably slightly reduced so that the lower end of cap 2 may be made of the same outer diameter as shaft 1 and be slipped over the same only for the length of this portion 4. Cap 2 has a bore 7 in its upper end which, however, does not extend entirely through the end but only so far that a very thin wall portion 8 will remain on the tip of the cap. The rear end of insert 3 normally rests on the conical shoulder 7' between bore 7 and the main bore 7". Thus, by the conical shoulders 6 and 7', the ball-point insert 3 is firmly held within the container without being able to slide therein.

If the ball-point insert 3 is to be tested, cap 2 is withdrawn from shaft 1 and the insert is taken out, reversed, and reinserted so that its blunt rear end then rests on the shoulder 6 and the tip of the insert will now project from shaft 1. When cap 2 is then again slipped on, the ball-point pierces through the thin wall portion 8, whereupon the container may be used as a normal pen holder. The ball-point insert 3 is then again securely held between the conical shoulders 6 and 7'.

FIGURE 2 illustrates a modification of the closure of bore 7 in the slip-on cap 2. It consists of a simple coating 9 which may be formed, for example, by dipping the open tip of the cap in a suitable liquid lacquer, plastic or the like.

FIGURE 3 shows another modification of the closure of bore 7 in cap 2 consisting of a plug 10 which is preferably made of a resilient plastic.

FIGURE 4 finally illustrates a further embodiment of the invention in which the slip-on cap 2' is designed so as to form at least a dust-proof closure of the container even after the ball-point insert 3 has once been used therein in the position as shown in FIGURE 3 and after the tip of the insert has once been inserted through bore 7 and the insert has thereafter been reversed to its original position as shown in FIGURE 1. The entire cap 2' is in this case made of a resilient material, for example, a highly molecular polyethylene, rubber, or the like, and the upper end of bore 7 is made of a conical shape and the tip of the cap is provided with a small slit 11. When the tip of the ball-point insert 3 is withdrawn from bore 7, slit 11 will close due to the inherent resilience of the material so that, when the insert is again placed into the container in its original position as shown in FIGURE 1, it will be sealed therein so as to be at least dust-proof.

The container according to any of the embodiments of the invention as described may therefore serve as an excellent and very appealing package of an individual high-quality ball-point insert and also as a pen holder for such insert, particularly at a time when the user does not have a normal holder available, for example, while traveling.

Although my invention has been illustrated and described with reference to the preferred embodiments thereof, I wish to have it understood that it is in no way limited to the details of such embodiments, but is capable of numerous modifications within the scope of the appended claims.

Having thus fully described my invention, what I claim is:

1. The combination which comprises: a ball point pen having an elongated stem and an elongated writing tip which extends beyond one end of said stem; and a container for said pen, said container comprising first and second tubular sections connectable to each other to form the complete container, said first and second sections being formed, respectively, with first and second shoulders spaced from each other a distance equal to the length of said stem so as to hold said pen within the container formed by said sections, said first section having a closed end formed with a blind first bore extending from said first shoulder, being at least as long as said writing tip, and being adapted to receive said writing tip, said second section having a second bore through which said writing tip may extend, said second bore extending from said second shoulder, being shorter than said writing tip, and having an end through which said writing tip may project, whereby said pen may be received within said container in an inoperative position wherein said writing tip is within said first bore, said combination thus forming a packaged pen, or in an operative position wherein said writing tip extends through said second bore so that the very end portion of said writing tip projects exteriorly of said container, said combination thus forming a pen ready for use.

2. A container as defined in claim 1 wherein said sections are so shaped that when they are connected to each other, their exterior surfaces are flush with each other.

3. A container as defined in claim 1 wherein said end of said second bore is initially closed off by a thin plate portion integral with said second section but is adapted to be perforated by said writing tip when the latter is extended through said second bore.

4. A container as defined in claim 1 wherein said second bore extends all the way through but has said end

normally closed off by the resilient configuration of said end, so that when said writing tip is extended through said second bore, such writing tip may protrude all the way through said second bore.

5. A container as defined in claim 1 wherein at least said first section is made of a transparent material.

6. A container as defined in claim 1 wherein one of said sections is shorter than the other and constitutes a cap which fits over said other section.

10. 7. A container as defined in claim 1 wherein said end of said second bore is initially closed off but is adapted to be perforated by said writing tip when the latter is extended through said second bore.

15. 8. A container as defined in claim 7 wherein said second bore is closed off by a thin perforatable plate portion integral with said second section.

9. A container as defined in claim 7 wherein said second bore is closed off by a coating applied over the otherwise open end.

20. 10. A container as defined in claim 7 wherein said second bore is closed off by a plug removably arranged within said second bore.

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