A container for containing and dispensing a predetermined substance is disclosed. The container (100) comprises a first compartment (101) closed by a first seal in the form of a screw cap (102), and a second compartment (104) for containing the substance closed by a second seal (106) separating the first compartment (101) from the second compartment (104). A dispensing means adapted, in use, for dispensing the substance from the container (100) is in the form of a test (108) which also forms the second seal (106). In a closed state, the screw cap (102) engages a screw thread (110) formed about a mouth (112) of the container (100) so that it is not possible for a user to gain access to the test (108). When the screw cap (102) is unscrewed from the mouth (112) to open the first compartment (101), the test (108) may either self-eject, or be popped into a dispensing position by squeezing on the container (100). Alternatively, the test (108) can be pulled upwardly by a frangible tab (114) formed at an uppermost point of the test (108). When the tab (114) is removed, a hole is left in the test through which the substance held in the container (100) can be dispensed. In an alternative embodiment, a piercing tool (212) can be provided for piercing a hole in the test. The piercing tool (212) is held in the first compartment formed by tear when the container is in the closed state.
DESIGNATIONS OF “SU”

Any designation of “SU” has effect in the Russian Federation. It is not yet known whether any such designation has effect in other States of the former Soviet Union.

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TWO-COMPARTMENT CONTAINER WITH DISPENSER

FIELD OF THE INVENTION

The present invention relates to a container, and in particular, but not exclusively to a non-refillable and disposable container, including a dispensing means.

BACKGROUND OF THE INVENTION

There is a need to provide containers with dispensing means in order to allow a convenient method of transferring the contents of the container to the user. A notable example of this is with the feeding of infants in which containers ("baby bottles") are fitted with teats. A major inconvenience with the use of baby bottles is the need to sterilise the bottle and teat prior to use. Generally, when the infant is at home this is not an overwhelming problem as several baby bottles may be held in a steriliser ready for use. However, when away from home, for example travelling or visiting, the apparatus required to sterilise a baby bottle may not be readily available. In such events either sterilising equipment must be carried at all times when away from a home or the infant must go without specialised food for a period of time.

SUMMARY OF THE INVENTION

The present invention was developed to alleviate the above inconvenience.

According to one aspect of the present invention there is provided a container containing a predetermined substance comprising:

a first compartment closed by a first seal;
a second compartment closed by a second seal;
one of said first or second compartments containing a dispensing means adapted for connection with a mouth of one of said first or second compartments, the other of said first or second compartments not containing said dispensing means
being adapted for containing said predetermined substance whereby, in use, the seal of said compartment containing said dispensing means can be opened to allow said dispensing means to be connected with said mouth of the first or second compartment, and the seal of said compartment adapted for containing said predetermined substance can be opened for dispensing of the substance through said dispensing means.

Preferably the first and second seals are frangible seals and opened by the breaking thereof.

Preferably the first and second compartments are separated by a wall internal of the container.

In one form of the invention, preferably the internal wall comprises one of said first or second frangible seal. Advantageously this seal is broken by deforming opposite sides of the container in the vicinity of the internal wall.

Preferably the container further comprises means for retaining said dispensing means on said one of said first or second openings.

Preferably the compartments are sterilised.

Preferably the dispensing means is a teat.

According to another aspect of the present invention there is provided a container containing a predetermined substance comprising:

a first compartment closed by a first seal;

a second compartment containing said predetermined substance and closed by a second seal separating said first compartment from said second compartment; and,

a dispensing means adapted, in use, for dispensing said substance from said container, said dispensing means forming said second seal, said container having a closed state wherein said dispensing means is covered by said first seal and is not accessible to a user, and an opened state wherein said first seal does not cover the dispensing means and allows said dispensing means to be extended from said container where after said dispensing means can be opened to allow dispensing of said substance from said container.

Preferably the dispensing means is in a deformed state when the container is in the closed state, and can be
extended to a dispensing state to allow dispensing of said substance when the container is in the opened state.

Preferably the first seal is a frangible seal.

Alternatively said first seal can be in the form of a cap detachably connectable to a container.

Preferably a frangible tab is provided for opening said dispensing means whereby said substance can be dispensed through said dispensing means upon breakage of said frangible tab.

Alternatively, said container further comprising a piercing means for piercing said dispensing means when in said deformed state and for subsequently pulling said dispensing means into said dispensing state to allow dispensing of said substance from the container, wherein said piercing means is retained in said first compartment.

Preferably said piercing means comprises a projection for piercing a hole in said dispensing means and is shaped to engage said dispensing means on forming said hole whereby said dispensing means can be extended to said dispensing state by pulling on said piercing means in a direction away from said container.

Preferably said piercing means pierces a slot shaped hole in said dispensing means, said projection being shaped in such a manner that on rotating of said piercing means after formation of said slot shaped hole said projection is rotationally offset relative to said slot shaped hole to engage said dispensing means whereby said dispensing means can be extended to said dispensing position by pulling on said piercing means in a direction away from said container body, and on further rotation of said piercing means said projection can be aligned with said slot shaped hole to allow disengagement of said piercing means.

Preferably said projection comprises a barb provided with a shoulder for engaging said dispensing means.

Preferably said projection further comprises a portion which extends beyond a mouth of said container when said piercing means is retained in said first compartment to facilitate manipulation of said gripping means on removal of
said first seal, and said first seal is shaped to receive said portion of said piercing means when said container is in the closed state.

Preferably said first seal is a cap detachably connectable to said mouth.

Preferably said cap is provided with a means for attaching said piercing means after extending said dispensing means to said dispensing state.

Alternatively said projection is substantially cone or mushroom shaped having a leading point to initiate piercing of said dispensing means and including a neck of reduced diameter integral with and extending away from an end opposite said leading point to form a shoulder for engaging said dispensing means upon formation of said hole.

Preferably said dispensing means is a teat, and when in said deformed state, said teat is inverted.

In an alternative form of the above embodiment, said piercing means is connected with said first seal. In this form it is preferable for the first seal to be provided with a resiliently deformable section which, when pushed, forces the piercing means against the dispensing means to pierce a hole therein.

Preferably a container in accordance with any aspect of the present invention is made from a pliable material such as foil lined cardboard, plastic, plastic coated foil. Advantageously the container is made of a biodegradable material.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a cross-sectional view from a side of one embodiment of a container in accordance with the present invention;

Figure 2 is a perspective view of a top portion of the container illustrated in Fig. 1;
Figure 3 is a perspective view from the bottom of the container illustrated in Fig. 1;

Figure 4 is a sectional view from a side of a second embodiment of a container in accordance with the present invention;

Figure 5 is a side view of a conventional baby bottle supporting and containing the container illustrated in Figure 4;

Figure 6 is a perspective view from the side of a third embodiment of a container in accordance with the present invention;

Figure 7 is a perspective view from the side of the container illustrated in Fig. 6 with a closure means opened;

Figure 8 is a perspective view from the side of the container illustrated in Fig. 7 with the closure means completely removed and a dispensing means extending from a wall of the container;

Figure 9 is a front view of a fourth embodiment of a container in accordance with the present invention;

Figure 10 is a view of the embodiment illustrated in Fig. 9 with the closure means removed;

Figure 11 is a view of a half size version of the container illustrated in Figs. 9 and 10;

Figure 12 is a section view form the side of a fifth embodiment of a container in accordance with the present invention;

Figures 13, 14 and 15 illustrate the method of use of the container shown in Figure 12;

Figures 16, 17 and 18 illustrate the method of manufacture of the container illustrated in Figure 12;

Figure 19 is a view from the top of a teat incorporated into the container shown in Figure 12;

Figure 20 is view of section A-B of the teat shown in Figure 12; and,

Figure 21 is an exploded section view from the side of a sixth embodiment of a container in accordance with the present invention.
With reference to Figures 1 to 3 it can be seen that a container 2 in accordance with one embodiment of the present invention comprises a first compartment 4 having a first opening or mouth 6 closed by a first seal 8 and a second compartment 10 having a second opening 12 closed by a second seal 14. The second compartment 10 contains a dispensing means in the form of a teat 16. The teat 16 is adapted for connection with a boss 18 formed about the first opening 6. When the container 2 is used the second seal 14 is opened allowing access to the teat 16. Prior to connection of the teat 16 with the first opening 6, the first seal 8 is removed.

The first and second seals 8, 14 are made from frangible material such as metal foil and can be, either removed by tearing off, or, pierced, for example, with a finger or pencil etc., to allow access to the respective compartments 4, 10.

A curved wall 20 internal of the container separates the first and second compartments 4, 10. The curved wall 20 forms a bottom of the container and together with the second seal 14 defines the second compartment 10 which holds the teat 16. The second compartment 10 is sterilised and sealed in a manner to maintain it's sterilised state, so that the teat 16 held therein is ready for immediate use.

The boss 18 formed around the first opening 6 is provided with a thread 22 on an outward facing surface for threading engagement with a retainer ring 24.

The retainer ring 24 is formed with an annular flange 26 integral with and inboard of an upper edge thereof. The teat 16 is provided with a peripheral annular flange 28. To retain the teat 16 over the first opening 6 the retaining ring is unscrewed from the boss 18, the seal 8 removed, and the teat placed over the opening 6. The annular flange 28 of the teat 16 sits on an upper edge of the boss 18. The retainer ring 24 is then placed over the teat 16 and screwed onto the boss 18. The flange 28 is trapped and clamped between the annular flange 26 of the retainer ring 24 and the upper edge of the boss 18,
as in a conventional baby bottle.

Referring now to Figures 4 and 5 a container 40 in accordance with a second embodiment of the present invention comprises a first compartment 42 having a first opening 44 closed by a first seal 46 and a second compartment 48 closed by a second seal 52. The first compartment 42 contains a dispensing means in the form of a teat 54. The teat 54 can be connected with an annular flange 56 formed about the first opening 44 of the container to allow communication with the first opening 44, thereby allowing dispensing of the substance held in the container 40.

The first and second seals 46, 52 are made of a frangible material such as metal foil. The first seal 46 can be either removed by tearing off or pierced, for example by a finger or pencil etc., to allow access to the first compartment 42. The second seal 52 forms an internal wall of the container 40 separating the first and second compartments 42, 48. The second seal 52 can be broken by either squeezing the container in the vicinity of the seal 52 or pulling on opposite sides of the container in the vicinity of the seal 52. The particular action required, i.e., squeezing or pulling depends on the type of seal 52.

In the container 40 the first compartment 42 is sterilised and holds the teat 54. The second compartment 48 holds a powdered substance such as powdered milk or baby formula to which water is added so as to make a drinkable food. Water is added to the container 40 after breaking both the first and second seals 46, 52.

The teat 54 is provided with an annular flange 58 and can be connected with the opening 44 by various means. In one arrangement the flange 58 is provided with a recess for resiliently engaging the flange 56 of the container 40. In another arrangement the container is provided with spring clips for clamping the flanges 56, 58 together.

As shown in Fig. 5 the container 40 may be used as an insert for a conventional baby bottle 60. The container 40 is supported in the bottle 60 by virtue of the flange 56 resting on a lip 62 formed around the opening 64 of the bottle.
60. The bottle 60 is formed with a neck 66 defining the opening 64 and provided with a thread 68 for engaging a screw top (not shown). When used as an insert, the teat 54 is rested upon the flange 56 and the conventional baby bottle screw top is screwed onto the neck thereby clamping the flanges 56 and 58 between the screw top and the lip 62.

Referring to Figs. 6, 7 and 8 a container 80 in accordance with another embodiment of the invention comprises a first compartment 82 closed by a first seal 84 and a second compartment 86 for containing the substance closed by a second seal 88 separating the first compartment 82 from the second compartment 86. A dispensing means adapted, in use, for dispensing the substance from the container, in the form of a teat 90 forms the second seal 88. The first seal 84 is in the form of a frangible seal and covers the teat 90 when the container is in a closed state illustrated in Fig. 6. In the closed state it is not possible for a user to gain access to the teat 90. The first seal 84 is broken or torn away to expose the teat 90 which can be pulled upwardly and extended from the container 80 as shown in Figs. 7 and 8. When the teat is extended the contents of the container can then be dispensed therethrough to the user.

When the container 80 is in the closed state the teat 90 is in a deformed state or condition, being pushed into the container 80 or folded upon itself. This allows the container 80 to be made with a substantially flat first seal 84. The second seal 88/teat 90 are made of a resilient material. This assists in ensuring that the teat 90 can be deformed in a manner such that the first seal 84 will be substantially flat when the container is in the closed state.

At the upper most point of the teat 90 is a frangible tab 92. When the frangible tab 92 is removed a hole is left in the teat 82 through which the substance held in container 80 can be dispensed.

Referring to Figs. 9 and 10, a container for containing a predetermined substance 100 in accordance with another embodiment of the invention comprises a first compartment 101 closed by a first seal in the form of a screw
cap 102, and a second compartment 104 for containing said substance closed by a second seal 106 separating the first compartment 101 from the second compartment 104. A dispensing means adapted, in use, for dispensing the substance from the container 100 is in the form of a teat 108 which forms the second seal 106. In a closed state, the screw cap 102 engages a screw thread 110 formed about a mouth 112 of the container 100 so that it is not possible for a user to gain access to the teat 108. When the screw cap 102 is unscrewed from mouth 112 to open the first compartment 101 the teat 108 may either self erect or be popped into a dispensing position by squeezing on the container 100. Alternatively, the teat 108 can be pulled upwardly by a frangible tab 114 formed at an upper most point of the teat 108. When the tab 114 is removed a hole is left in the teat through which the substance held in the container 100 can be dispensed.

When the container 100 is in the closed state the teat 108 is in an inverted state extending into the container 100. The teat 108 can either be formed integral with the container 100 or permanently attached thereto.

In Figure 11 the container 120 is essentially the same as container 100 illustrated in Figs. 9 and 10 and comprises a dispensing means in the form of a teat (not shown) connected to a mouth 124 of the container 120. A screw cap 126 covers the teat when the container 120 is in the closed state. The only differences between container 120 and container 100 are that container 120 hold approximately half volume of container 100, and container 120 further includes a recess 128 formed in it's base 130. The recess 128 is shaped to receive the screw cap 126 and possibly a portion of the neck of the container 120 thereby facilitating the stacking of containers 120 upon each other to assist in transport, packaging and storage.

Referring to Figure 12, a container 200 in accordance with a further embodiment of the present invention is illustrated. Container 200 is very similar to that shown in Figures 6 to 11, having a first compartment 202 closed by a first seal in the form of a screw cap 204, and a second
compartment 206 for containing a predetermined substance closed by a second seal 208 separating the first compartment 202 from the second compartment 206. The screw cap 204 is detachably connectable to the container 200 by virtue of a screw thread 205 formed on the exterior of a mouth 207 formed at an end of the container 200 in the vicinity of the second seal 208. A dispensing means adapted, in use, for dispensing the substance from the container 200 is in the form of a teat 210 which forms the second seal 208. The most significant difference between container 200 and containers 80 and 100, is the inclusion of a piercing means in the form of a piercing tool 212 for piercing teat 210 to allow dispensing of the substance from the container 200.

When the screw cap 204 is connected with the container 200, the teat 210 is in a deformed or inverted state and extends into the second compartment 206 to form the first compartment 202 in which the piercing tool 212 is retained. When the screw cap 204 is unscrewed from the container 200, the piercing tool 212 can be manipulated to pierce a hole in the teat 210 and to subsequently pull the teat 210 from its deformed or inverted state to a dispensing or erect state extending out from the container 200 so that the substance can be dispensed through the hole.

The piercing tool 212 has a gripping means in the form of a flat tab 216. A plurality of raised ribs 218 extend across the tab 216 to facilitate easy gripping. A shank 220 is formed integral with and extends away from the tab 216 in a plane parallel to a plane of the tab 216. An end of the shank 220 distant form the tab 216 terminates in a neck 222 of reduced diameter. Extending from the neck 222 is an arrow head shaped barb 224 having a shoulder 226 extending perpendicular to the length of the shank 220 near the neck 222. The barb 234 terminates in a leading point 227, pointing in the direction of the length of the shank 220 away from the tab 216. The piercing tool 212 is dimensioned so that when the tool 212 is retained in the first compartment 202 a portion of the tab 216 extends beyond the mouth 207 of the container 200.

The screw cap 204 is formed with a central dome 228
so as to receive or accommodate the tab 216 when the cap 210 is connected with the container 200. A bottom wall of the container body 200 is also formed with a recess 230 which is shaped to receive the dome 228 of the screw cap of another container 200 thereby facilitating stacking of the containers 200 upon each other to assist in transport, packaging and storage.

As most clearly seen in Figures 19 and 20, the teat 210 includes a nipple 211 and is formed with an annular flange 232 extending around a bottom edge 234. The annular flange 232 terminates in an upright wall 234. The annular flange 232 and wall 236 cooperate to form an annular recess 238 circumscribing the teat 210. A circular groove 240 is formed in the annular flange 232 adjacent the bottom edge 234 of the teat 210. The purpose of the groove 240 is to reduce the force required to move the teat 210 between the deformed state (illustrated in Figures 12, 13 and 14) and the dispensing or erect state (illustrated in Figure 15). A lip 242 is formed around the wall 236 at an end opposite the flange 232 and on a side adjacent the nipple 211. The lip 242 engages an upper one of the threads 205 to assist in the connection of the teat 206 to the container 200.

The method of use of the container 200 will now be described with particular reference to Figures 13, 14 and 15. In order to dispense the contents of the container 200, the screw cap 204 is first unscrewed from the mouth 207. The piercing tool 212 is now accessible and can be gripped by the tab 216 which sits proud of the mouth 207. The piercing tool is pushed downwardly so that the barb 224 pierces a slot-shaped hole into the teat 210. The piercing tool is now rotated about an axis colinear with the shank 220 so that the shoulder 226 is offset relative to the slot-shaped hole pierced into the teat 210. On pulling the piercing tool upwardly away from the container 200, the shoulder 226 engages the teat 210 and extends the teat into the dispensing or erect state illustrated in Figure 15. The piercing tool 212 is disengaged by rotating by a further 90° so that the shoulder 226 is aligned with the slot-shaped hole to allow extraction of the barb 224. The
contents of the container 200 may now be dispensed and consumed via the hole formed in the teat 206.

To reseal the container 200, the above steps are reversed.

The container 200 is manufactured by blow moulding a plastics material such as high density polyethylene (HDPE). The container 200 is then filled through mouth 207 to a predetermined level by conventional means. The teat 210 may be formed by injection moulding of a plastics material such as low density polyethylene (LDPE). The teat 210 is pressed onto the mouth 207 with the lip 242 engaging an upper one of the threads 205. During this process, the teat 210 is in the deformed or inverted state and causes a rise in the level of the contents in the second compartment 206. The initial level of filling of the second compartment 206 is predetermined so that on insertion of the teat 210, the contents are not placed under compression or otherwise overflow between the teat and the mouth 207. The teat 210 is ultrasonically welded or glued to the container 200 to seal the mouth 204. A piercing tool 212, conveniently made from a plastics material such as polystyrene, is now dropped into the first compartment 202 formed by the inverted teat 210. The screw cap 204, conveniently made from a plastics material such as polypropylene, is then screwed onto the thread 205 of the mouth 207. Both first and second compartments 202, 206 are sterilised and remain so until the cap 204 is initially removed and the teat 210 pierced.

In an alternative embodiment illustrated in Figure 21, the piercing tool 212 may be formed integral with or otherwise connected to the screw cap 204. In such an arrangement, piercing of the teat 210 may be effected by depressing the dome 228 to force the barb 224 through the teat 210. The teat 210 can then be pulled into the dispensing or erect state by pulling the screw cap 204 upwardly away from the container 200.

Each of the containers 2, 40, 80, 100, 120, 200 may be made from a pliable material such as foil or wax coated cardboard, plastic, plastic coated foil. The teat 16, 54, 90,
108, 210 is typically made of a plastic or silicon rubber material. It is intended that as large a portion of the containers as possible is made of biodegradable types of the above or other materials. All containers may be of any size and may be designed so as to be stacked on top of each other for ease of packing and storage.

The containers may be pre-filled with predetermined substances such as milk, UHT milk, baby formula, powdered substances which can be made into drinkable substances by the addition of a liquid such as water, or any other liquid refreshment or food. The containers may also be made of various sizes to hold different volumes.

It will be apparent that a container made in accordance with the above invention provides an extremely convenient means for feeding, particularly where hygiene is important. In the case of use in relation to baby foods, the containers may be stored at home and taken when visiting or travelling. All that is required to feed the baby is to heat the container to a desired temperature (if required) open one or two seals and connect the teat. There is no need to boil the container and contents in water or to otherwise sterilise the container and teat.

Now that embodiments of the present invention have been described in detail, it will be apparent to those skilled in the relevant arts that numerous modifications and variations may be made without departing from the basic inventive concepts. For example, the piercing tool 212 is illustrated as having a arrow shaped barb 224 for piercing the teat 210. However, a solid cone or mushroom shaped head may be provided in place of the barb 224 to form the hole. Due to the resilience of the teat 210, the hole formed therein will close around the neck 222 of the piercing tool 212 provided with the cone or mushroom shaped head thereby engaging the teat 210 so that the teat can be pulled upwardly into its dispensing or erect state. In order to increase the safety associated with the embodiment illustrated in Figures 12 to 20, the screw cap 204 may also be provided with a clip or other attachment means for attaching the piercing tool 212 within the cap thereby
reducing the likelihood of injury by contact with the barb 224. Furthermore, although various components of the containers can be made from different types of material, it is envisaged that the components may be made of the same or at most two different materials so as to assist in the recycling of the container after use.

All such modifications and variations are to be considered within the scope of the present invention, the nature of which is to be determined from the foregoing description and the claims.
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A container containing a predetermined substance comprising:
   a first compartment closed by a first seal;
   a second compartment closed by a second seal;
   one of said first or second compartments containing
   a dispensing means adapted for connection with a mouth of one
   of said first or second compartments, the other of said first
   or second compartments not containing said dispensing means
   being adapted for containing said predetermined substance
   whereby, in use, the seal of said compartment containing said
   dispensing means can be opened to allow said dispensing means
   to be connected with said mouth of the first or second
   compartment, and the seal of said compartment adapted for
   containing said predetermined substance can be opened for
   dispensing of the substance through said dispensing means.

2. A container according to claim 1, said first and
   second compartments are separated by a wall internal of the
   container.

3. A container according to claim 2, wherein said
   internal wall comprises one of said first or second seals.

4. A container according to claim 3, wherein said one
   of said first or second seals is broken by deforming opposite
   sides of the container in the vicinity of said internal wall.

5. A container according to any one of the preceding
   claims, in which said first and second seals are frangible
   seals.

6. A container according to any one of the preceding
   claims, further comprising means for retaining said dispensing
   means on one of said first or second openings.
7. A container according to any one of the preceding claims, wherein said dispensing means is in the form of a teat.

8. A container containing a predetermined substance comprising:
   a first compartment closed by a first seal;
   a second compartment containing said predetermined substance closed by a second seal separating said first compartment from said second compartment;
   a dispensing means adapted, in use, for dispensing said substance from said container, said dispensing means forming said second seal, said container having a closed state wherein said dispensing means is covered by said first seal and is not accessible to a user, and an opened state wherein said first seal does not cover the dispensing means and allows said dispensing means to be extended from said container whereafter said dispensing means can be opened to allow dispensing of said substance from said container.

9. A dispensing means according to claim 8, wherein said dispensing means is in a deformed state when the container is in a closed state, and can be extended to a dispensing state to allow dispensing of said substance when the container is in the opened state.

10. A container according to claim 9, wherein a frangible tab is provided for opening said dispensing means, whereby said substance can be dispensed through said dispensing means upon breakage of said frangible tab.

11. A container according to any one of claims 8 to 10, wherein said first seal is a frangible seal.

12. A container according to any one of claims 8 to 10, wherein said first seal is a cap detachably connectable to said container.
13. A container according to any one of claims 8 to 12, wherein said dispensing means is in the form of a teat, and when in said deformed state, said teat is inverted to form said first compartment.

14. A container according to claim 8, further comprising a piercing means for piercing said dispensing means when in said deformed state and for subsequently pulling said dispensing means into said dispensing state to allow dispensing of said substance from the container, wherein said piercing means is retained in said first compartment.

15. A container according to claim 14, wherein said piercing means comprises a projection for piercing a hole in said dispensing means and is shaped to engage said dispensing means on forming said hole whereby said dispensing means can be extended to said dispensing state by pulling on said piercing means in a direction away from said container.

16. A container according to claim 15, wherein said piercing means pierces a slot shaped hole in said dispensing means, said projection being shaped in such a manner that on rotation of said piercing means after formation of said slot shaped hole, said projection is rotationally offset relative to said slot shaped hole to engage said dispensing means whereby said dispensing means can be extended to said dispensing position by pulling on said piercing means in a direction away from said container body, and on further rotation of said piercing means said projection can be aligned with said slot shaped hole to allow disengagement of said piercing means.

17. A container according to claim 16, wherein said projection comprises a barb provided with a shoulder for engaging said dispensing means.

18. A container according to claim 17, wherein said projection further comprises a portion which extends beyond a
mouth of said container when said piercing means is retained in said first compartment to facilitate manipulation of said gripping means on removal of said first seal, and said first seal is shaped to receive said portion of said piercing means when said container is in the closed state.

19. A container according to claim 18, wherein said first seal is a cap detachably connectable to said mouth.

20. A container according to any one of claims 14 to 19, wherein said dispensing means is in the form of a teat, and when in said deformed state, said teat is inverted to form said first compartment.

21. A container according to claim 13, wherein said piercing means is connected to said first seal.

22. A container according to claim 21, wherein said first seal is provided with a resiliently deformable section which, when pushed, forces said piercing means against said dispensing means to pierce a hole therein.

23. A container according to claim 15, wherein said projection is substantially cone shaped having a leading point to initiate piercing of said dispensing means and including a neck of reduced diameter integral with and extending away from an end opposite said leading point to form a shoulder for engaging said dispensing means upon formation of said hole.

24. A container according to claim 19, wherein said cap is provided with a means for attaching said piercing means after use for extending said dispensing means to said dispensing state.
INTERNATIONAL SEARCH REPORT

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) *

According to International Patent classification (IPC) or to both National Classification and IPC

Int. Cl.* A61J 9/00 // B65D 25/44; 25/48; 47/36

II. FIELDS SEARCHED

Minimum Documentation Searched 7

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Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched 8

AU: IPC as above

B65D 25/38; 51/22; 81/32

III. DOCUMENTS CONSIDERED TO BE RELEVANT 9

<table>
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<tr>
<th>Category</th>
<th>Citation of Document, 11 with indication, where appropriate of the relevant passages 12</th>
<th>Relevant to Claim No 13</th>
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<tbody>
<tr>
<td>X, Y</td>
<td>AU, B, 58447/65 (272067) (ABBOTT LABORATORIES) 10 November 1966 (10.11.66) (See figures 2, 9 to 12)</td>
<td>(1-7)</td>
</tr>
<tr>
<td>X, Y</td>
<td>US, A, 3146904 (AMERICAN CAN COMPANY) 1 September 1964 (01.09.64) (See figure 2)</td>
<td>(1-7)</td>
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<tr>
<td>X</td>
<td>AU, B, 32716/57 (2223521) (RIEKE METAL PRODUCTS CORPORATION) 8 May 1958 (08.05.58) (See figures 1 &amp; 2)</td>
<td>(1-3, 5-13)</td>
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<td>X</td>
<td>US, A, 3567060 (GENE BALLIN) 2 March 1971 (02.03.71) (See figures 1 to 4 and 10 to 14)</td>
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* Special categories of cited documents : 10

"A" Document defining the general state of the art which is not considered to be of particular relevance

"E" Earlier document but published on or after the international filing date

"L" Document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" Document referring to an oral disclosure, use, exhibition or other means

"P" Document published prior to the international filing date but later than the priority date claimed

"T" Later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"X" Document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"Y" Document member of the same patent family

"&" Document

IV. CERTIFICATION

Date of the Actual Completion of the International Search
21 February 1992 (21.02.92)

Date of Mailing of this International Search Report
\(\text{March 1992} \ (\text{II} \ .03.92)\)

International Searching Authority
AUSTRALIAN PATENT OFFICE

Signature of Authorized Officer
R J KIRBY
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<tr>
<th>Date</th>
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<th>Priority Date</th>
<th>Publication Date</th>
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<tr>
<td>GB, 2164860</td>
<td>DOUGLAS JUAN THOMPSON</td>
<td>3 April 1986</td>
<td>(03.04.86)</td>
<td>(8-13, 21)</td>
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<tr>
<td>AU, A, 61254/80</td>
<td>MICHAEL JOHN QUINSEE</td>
<td>3 December 1980</td>
<td>(03.12.80)</td>
<td>(1-13, 21, 22)</td>
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<tr>
<td>US, A, 4412623</td>
<td>MANFRED SCHMIDT</td>
<td>1 November 1983</td>
<td>(01.11.83)</td>
<td>(1-7, 21, 22)</td>
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V. □ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. □ Claim numbers ..., because they relate to subject matter not required to be searched by this Authority, namely:

2. □ Claim numbers ..., because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. □ Claim numbers ..., because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4a

VI. □ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This International Searching Authority found multiple inventions in this international application as follows:

Claim 1 is characterised by a container with two compartments closed by seals and a dispensing means being contained and adapted for connection to an opening of a compartment; while claim 8 is characterised by a dispensing means forming a seal to provide two compartments within a closed container. These independent claims 1 and 8 do not form a single general inventive concept as a two compartment container with dispensing means are shown in the cited art.

1. □ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. □ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. □ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

4. □ As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest
□ The additional search fees were accompanied by applicant’s protest.
□ No protest accompanied the payment of additional search fees.
**ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL APPLICATION NO. PCT/AU 91/00547**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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END OF ANNEX