CONTAINER FOR A CYLINDRICAL OBJECT

1040
1012
1015
1013
1025A
P
1009
1019
1028
1000A
1012A

1041
1015
1013
1025A
P
1009
1019
1028
1000A
1012A

Figure 7A

Abstract: A container is disclosed for housing a product such as an electronic cigarette. The container is in the form of a shell to receive the product, and may include a cover, lid, or carton for closing or enclosing the shell.
before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
CONTAINER FOR A CYLINDRICAL OBJECT

REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of priority under 35 U.S.C. §119(e) of United States provisional application serial number 61/914,977 filed on December 12, 2013 which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] This disclosure relates to a container for enclosing a product such as a cylindrical object, for example an electronic cigarette or other elongated product. The container may be a booklet-style container or box-style container and the product may be supported in or on a plastic tray within the container.

[0003] The current invention seeks to provide new forms of container which:

a) provide a slim, sturdy container for conveniently housing elongated products such as electronic cigarettes,

b) provide convenient surfaces on which to print instructions or apply sealing films, and

c) are relatively easy and inexpensive to manufacture.

[0004] The disclosed packages may hold other items besides electronic cigarettes. Non-limiting examples include medical devices, writing instruments, and other products.
SUMMARY

[0005] According to one embodiment of the invention, there is provided a package for housing a rod-shaped item.

[0006] Other exemplary and optional features of the invention will be apparent from the following description and from the subsidiary claims.

BRIEF DESCRIPTION OF DRAWINGS

[0007] The invention will now be further described, merely by way of example, with reference to the accompanying drawings, in which:

[0008] Figure 1A is a perspective view of a shell for holding a product item, illustrating one example of a retaining feature;

[0009] Figure 1B is a perspective view of a shell, illustrating another example of a retaining feature;

[0010] Figure 2 is a perspective view of a shell containing a product item;

[0011] Figure 3 is a perspective view of a shell, showing a seal;

[0012] Figure 4A is a perspective view of a shell adapted for receiving a seal;

[0013] Figure 4B is a perspective view of the shell containing a product item and having a seal applied;

[0014] Figure 4C is a side view of the shell of Figures 4A-4B;

[0015] Figure 5A is a perspective view of a shell structure, additionally showing a lid, in a closed configuration;

[0016] Figure 5B is a perspective view of a structure similar to Figure 5A, with a spine section connecting the shell and lid;
[00017] Figure 6 is a perspective view of the shell and lid of Figure 5B, with a cover attached;

[00018] Figures 7A-7C are perspective view of shells with an exit ramp for the product item;

[00019] Figure 7D is a side view of the shell of Figure 7B;

[00020] Figure 8A is a perspective view of a shell with an exit ramp, and a seal being removed from the shell;

[00021] Figure 8B is a cross section view of the shell of Figure 8A, with a product item being removed from the shell;

[00022] Figure 9A is a top perspective view of a shell containing a product item, and using a push-up feature to help remove the product item;

[00023] Figure 9B is a bottom perspective view of the shell of Figure 9A, showing the push-up feature;

[00024] Figure 9C is a cross section view of the shell of Figure 9A, showing the push-up feature;

[00025] Figures 10A and 10B are perspective views of a shell having a pop-up feature, and adapted for placement in a corner of carton;

[00026] Figure 10C is a side view of the shell of Figures 10A-10B;

[00027] Figures 11A and 11B are additional perspective views of the shell of Figures 10A-10C;

[00028] Figure 12 is a perspective view of another shell having a pop-up feature;

[00029] Figure 13A is a perspective view of another shell having a pop-up feature;

[00030] Figures 13B and 13C are cross section views of the shell of Figure 13A;
[00031] Figure 14A is a perspective view of another shell having a pop-up feature;

[00032] Figures 14B and 14C are cross section views of the shell of Figure 14A;

[00033] Figure 15A is a perspective view of a shell having a retaining feature for a product item; and

[00034] Figures 15B and 15C are details views of the shell of Figure 15A.

DETAILED DESCRIPTION

[0001] Figure 1A shows a shell base 109 for housing a product item (not shown) in a channel 112. The channel 112 may have a closed end 113 and an open end 114. One or more overhanging ledges 115 may be provided to help retain the product item within the shell base. Such overhanging ledge(s) may serve to retain a product item within the channel while allowing the product item to slide longitudinally in the channel.

[0002] Figure 1B shows a shell base 109 with channel 112, and with a shell window 125 provided, for example to help retain the product item within the shell base. Shell window 125 may be made of any material and may be transparent or non-transparent. Shell window 125 may serve to retain a product item within the channel while allowing the product item to slide longitudinally in the channel.

[0003] Figure 2 shows an embodiment of a shell 140A for housing a product item P such as an electronic cigarette. The shell may include a shell base 109 and shell mantle 120. These parts may be transparent, translucent, or opaque. The shell base may, for example, be a thermoformed, injection molded, or folded plastic, or may be folded, pressed, or molded paper or paperboard, or combinations of plastic, paperboard, or other materials may also be used. The shell base 109 may have a channel 112 formed to receive the product item. The channel 112 may have a closed end 113 and an open end 114. The shell base 109 may have a peripheral base flange 119.

[0004] Shell mantle 120 may be shaped to fit closely to the shell base 109. The shell mantle may be a folded or otherwise formed sheet material, including plastic or
paperboard. The shell mantle may include an access opening 122 for a user to use a
thumb or finger to push the product item P forward in channel 112 toward the open end
114. The shell mantle may have a mantle peripheral flange 129. The shell base 109 and
shell mantle 120 may be joined together, for example by adhesive, or by heat sealing or
welding as appropriate (e.g. for plastics or coated paperboard). A lid (not shown) may
be provided to fit over the shell base 110, in a manner similar to shown in Figure 6. The
shell base 110 and shell mantle 120, and lid if provided, may be attached to a cover (not
shown) in a manner similar to that shown in Figure 6.

[0005] Figure 3 shows another view of shell 640 seen obliquely from open end 614.
An optional seal 625A, such as a metal or plastic foil or film, is shown which may
entirely cover the channel 612 and any otherwise exposed areas. Thus seal 625A may
extend over the upper surface 626 as well as the open end 614. The seal 625A may for
example be used to seal in freshness. Before use, seal 625A may be completely removed
from the shell 640, or it may be sufficient to remove only a portion of seal 625A. For
example, at open end 614, a portion of the seal may be removed along line 625B which
may optionally be weakened for cleaner tearing. At the opposite end a portion of the seal
may be removed along line 625C which may optionally be weakened for cleaner tearing.

[0006] At the open end of channel 612 is shown optional exit interference feature
616, again here in the form of a bump raised into the channel 612, although other forms
of exit interference feature may be used and more than one interference feature may be
used. The exit interference feature 616 may be located, shaped, and sized to provide any
desired amount of interference to movement of product P.

[0007] A latching feature 628 may be provided for reversibly attaching shell 640 to a
lid (see lid 160B in Figure 5B). The latching feature may be an inward depression or
outward protrusion, or combinations thereof that may engage with corresponding
features on lid 160B.

[0008] Figure 4A shows another shell 640A seen obliquely from open end 614.
Figure 4B shows the shell with a product item P therein. The shell upper surface 626
may be generally flat and may receive a seal 625A as shown in Figure 4B. Open end
614 may have a smoothly sloped surface 627 in order to better receive the seal 625A. Figure 4C shows a side view where the smoothly sloped surface 627 is readily seen. The seal 625A may for example be used to seal in freshness. Before use, seal 625A may be completely removed from the shell 640, or it may be sufficient to remove only a portion of seal 625A. For example, at open end 614, a portion of the seal may be removed along line 625B which may optionally be weakened for cleaner tearing. At the opposite end a portion of the seal may be removed along line 625C which may optionally be weakened for cleaner tearing.

[0009] Optional seal 625A may for example be a metal or plastic foil or film and may entirely cover the channel 612. Thus seal 625A may extend over the upper surface 626 as well as the open end 614.

[00010] A latching feature 628 may be provided for reversibly attaching shell 640A to a lid (see lid 160B in Figure 5B). The latching feature may be an inward depression or outward protrusion, or combinations thereof that may engage with corresponding features on lid 160B.

[00011] Figure 5A shows a shell 140B along with a shell closure 160B. The shell and shell closure may join together and may be held together by friction fit, or by interengaging structures 128 such as depressions and protrusion in the mating surfaces. The shell 140B may have a peripheral flange 119. The shell closure 160B may likewise have a peripheral flange 169. Figure 5B shows a somewhat similar structure, shown partly opened, where the shell 140B and shell closure 160B are hingedly joined by a spine section 183. For example spine section 183 may join together the shell peripheral flange 119 and the shell closure peripheral flange 169. Spine section 183 may join to shell peripheral flange 119 along one or more fold lines, for example living hinge lines. Likewise spine section 183 may join to shell closure peripheral flange 169 along one or more fold lines, for example living hinge lines. Alternately, the spine section 183 may be a flexible or curved section.

[00012] As shown in Figure 6, a cover 180 may be formed from a sheet material such as paperboard or plastic. The cover 180 may include a base portion 181, a lid portion
182 and a spine section 183 that connects the base portion 181 to the lid portion 182. The shell 140B may be attached to the base portion 181, and the shell closure 160B may be attached to the lid portion 182, for example by attaching shell peripheral flange 119 to the base portion 181, and shell closure peripheral flange 169 to the lid portion 182. A structure similar to a book cover is thus formed, which may be printed on one or both sides.

[00013] Figures 7A and 7B show perspective views, and Figure 7D shows a side view, of another embodiment of a shell 1040 for housing a product item P such as an electronic cigarette. The shell 1040 may include a shell base 1009 and a shell peripheral flange 1019. Interengaging structures 1028 such as depressions and/or protrusions may be provided for engaging a closure structure such as a lid (not shown). The shell 1040 may be transparent, translucent, or opaque. The shell base may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell base 1009 may have a channel 1012 formed to receive the product item. The channel 1012 may have a first end 1013 and a second or exit end 1014. At the second end 1014 the channel 1012 may have a ramp 1014A. One or more overhanging ledges 1015 may be provided along portions or all of channel 1012 to help retain product P within the channel. As shown in Figures 7B and 7D, the product item P may be pushed toward the second end 1014, causing the product item to rise up from the shell as it enters the ramp 1014A. The ramp 1014A of shell 1040 may not extend to the very end of shell base 1009, which may allow for better sealing by an option seal or label 1025A.

[00014] Figure 7C shows another shell 1040A similar in some respects to shell 1040.

[00015] Figure 8A shows another embodiment of a shell 1040B for housing a product item P such as an electronic cigarette. The shell 1040B may include a shell base 1009 and a shell peripheral flange 1019. The shell 1040B may be transparent, translucent, or opaque. The shell base may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell base 1009 may have a channel 1012 formed to receive the product item. The channel 1012 may have a closed end 1013. One or more overhanging ledges 1015 may be provided along portions or all
of channel 1012 to help retain product P within the channel. The channel 1012 may have an open end 1014. At the open end 1014 the channel 1012 may have a ramp 1014A.

[00016] The shell upper surface 1026 may be generally flat and may optionally receive a seal 1025. The seal 1025 may for example be used to seal in freshness. Before use, seal 1025 may be removed from the shell as shown in Figure 8A. The seal 1025 may for example be a metal or plastic foil or film and may entirely cover the channel 1012.

[00017] An optional cover may be formed from a sheet material such as paperboard or plastic. The cover may include a base portion 1081, a lid portion 1082 and a spine section 1083 that connects the base portion 1081 to the lid portion 1082. The shell 1040B may be attached to the base portion 1081, and a shell closure 1060B may be attached to the lid portion 1082, for example by attaching shell peripheral flange 1019 to the base portion 1081, and shell closure peripheral flange 1069 to the lid portion 1082. A structure similar to a book cover is thus formed, which may be printed on one or both sides.

[00018] As shown in Figure 8B, the product item P may be pushed toward the open end 1014, causing the product item to rise up from the shell 1040B as it enters the ramp 1014A.

[00019] Figure 9A shows another embodiment of a shell 1040C for housing a product item P such as an electronic cigarette. The shell 1040C may include a shell base 1009 and a shell peripheral flange 1019. The shell 1040C may be transparent, translucent, or opaque. The shell base may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell base 1009 may have a channel 1012 formed to receive the product item. The channel 1012 may have a first end 1013 (which may be considered an 'actuator' end) and a second end 1014 (which may be considered an 'exit' end at which the product item P may best be lifted from shell 1040C). One or more overhanging ledges (not shown) may be provided along portions or all of channel 1012 to help retain product P within the channel.
[00020] An optional cover may be formed from a sheet material such as paperboard or plastic. The cover may include a base portion 1081, a lid portion 1082 and a spine section 1083 that connects the base portion 1081 to the lid portion 1082. The shell 1040C may be attached to the base portion 1081, and the shell closure 1060C may be attached to the lid portion 1082, for example by attaching shell peripheral flange 1019 to the base portion 1081, and shell closure peripheral flange 1069 to the lid portion 1082. A structure similar to a book cover is thus formed, which may be printed on one or both sides.

[00021] As shown in Figure 9B, a cutout 1085 may be made in the cover base portion 1081, which may be positioned proximate an opening 1012A in channel 1012. As shown in Figure 9C, the user may push on cutout 1085 causing it to lift upward into the opening 1012A in channel 1012, thus lifting the product item P from the shell 1040C. Instead of a cutout 1085 defined by a cut line, the cutout 1085 may be left open and the product item P lifted simply by pressing a finger through the opening. However, it may be preferable to define the opening 1085 as by a line of weakening such as perforations, leaving the cover base portion 1081 intact (without an opening) until the product item P is to be removed from the shell 1040C.

[00022] Figure 10A shows another embodiment of a shell 1140A for housing a product item P such as an electronic cigarette. The shell 1140A may include a shell base 1109 and a shell peripheral flange 1119. The shell 1140A may be transparent, translucent, or opaque. The shell base may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell base 1109 may have a channel 1112 formed to receive the product item. The channel 1112 may have a first end 1113 (which may be considered an 'actuator' end) and a second end 1114 (which may be considered an 'exit' end at which the product item P may best be lifted from shell 1140A). One or more overhanging ledges 1115 may be provided along portions or all of channel 1112 to help retain product P within the channel.

[00023] The shell 1140A may have a triangular aspect as shown, and may therefore fit into a corner portion of a container (not shown) such as a carton, sleeve, cover, etc. to
which it may be attached via shell peripheral flange 1119. However, the features of the shell 1140A may also be utilized in other formats, e.g. the 'rectangular' types of shells previously described.

[00024] As best shown in Figures 10B and 10C, a depressed area 1113A may be formed in channel 1112 at its first end 1113. The point at which the depressed area 1113A meets the main portion of channel 1112 may be considered a fulcrum point 1113B.

[00025] Figure 11A shows the shell 1140A with a product item P contained in channel 1112. Figure 11B shows how a force F applied to the product item P at the first end 1113 causes that end of product P to drop into depressed area 1113A, while the remainder of product item P pivots on fulcrum point 1113B and is lifted out of channel 1112 so that it may be grasped and removed from shell 1140A.

[00026] Figure 12 shows another embodiment of a shell 1140B for housing a product item P such as an electronic cigarette. A lid 1160B may be attached to shell 1140B, either along a hinge line or through a spine portion 1163. The shell 1140B and optional lid 1160B may be transparent, translucent, or opaque and may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell 1140B may have a channel 1112 formed to receive the product item. The channel 1112 may have a first end 1113 (which may be considered an 'actuator' end) and a second end 1114 (which may be considered an 'exit' end at which the product item P may best be lifted from shell 1140B). One or more overhanging ledges (not shown) may be provided along portions or all of channel 1112 to help retain product P within the channel.

[00027] A depressed area 1113C may be formed in channel 1112 at its first end 1113. The point at which the depressed area 1113C meets the main portion of channel 1112 may be considered a fulcrum point 1113B.

[00028] As shown in Figure 12 a force F applied to the product item P at the first end 1113 causes that end of product P to drop into depressed area 1113C, while the
remainder of product item P pivots on fulcrum point 1113B and is lifted out of channel 1112 so that it may be grasped and removed from shell 1140B.

[00029] Figure 13A shows another embodiment of a shell 1140C for housing a product item P such as an electronic cigarette. The shell 1140C may be transparent, translucent, or opaque and may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell may include a shell body 1109 and a peripheral flange 1119. The shell 1140C may have a channel 1112 formed to receive the product item. The channel 1112 may have a closed end 1113 and an open end 1114. One or more overhanging ledges (not shown) may be provided along portions or all of channel 1112 to help retain product P within the channel.

[00030] The product item P may be removed from channel 1112 by pulling the product item toward the open end 1114. However, the product may also be tilted out as shown in Figure 13B or lifted out as shown in Figure 13C.

[00031] The open end 1114 of shell 1140C may have a lowered area 1114B whose height is less than the lower part of channel 1112. A fulcrum point 1113B may be formed in the shell where the lower open end 1114 meets channel 1112. As shown in Figure 13B, a downward force F applied to the product item P at the open end 1114 caused that end of product P to drop toward lowered area 1114B, while the remainder of product item P pivots on fulcrum point 1113B and is lifted out of channel 1112 so that it may be grasped and removed from shell 1140C.

[00032] An alternate removal method, shown in Figure 13C, is to lift upward with force L on the product item P at the open end 1114, thereby lifting that end of product P out of the shell 1140C.

[00033] Figure 14A shows another embodiment of a shell 1240A for housing a product item P such as an electronic cigarette. The shell 1240A may be transparent, translucent, or opaque and may, for example, be a thermoformed plastic or pressed paperboard, although other materials may also be used. The shell may include a shell body 1209 and a peripheral flange (not shown). The shell 1240A may have a channel 1212 formed to
receive the product item. The channel 11212 may have a first end 1213 and an second
down 1214. One or more overhanging ledges 1215 may be provided along portions or all
of channel 1212 to help retain product P within the channel.

[00034] The floor of channel 1212 may have a flexible region that may be pressed
upward from below, as shown by force F exerted on region 1285A in Figure 14B, to lift
product P out of channel 1212. When, as shown in Figure 14C, the product item is
placed back into channel 1212 and pushed downward, the flexible region as shown by
1285B may move to make room for the product P.

[00035] Figure 15A shows another embodiment of a shell 1240B for housing a product
item P. The shell 1240B may be transparent, translucent, or opaque and may, for
example, be a thermoformed plastic or pressed paperboard, although other materials may
also be used. At one or both ends of the shell, a holding feature such as cutout 1216 may
be provided. For example, as shown in Figures 15B and 15C, an encircling portion
1216A may be provided to securely hold product item P. An extending portion 1216B
may be provided as clearance thorough which to drop or lift a portion of product P which
extends beyond the encircling portion 1216A.

[00036] In the examples described thus far, the channel holding product P often has, by
example, a shape generally of a half-cylinder or half-pipe, such as may advantageously
receive a round cylindrical product item. Of course the shape of the channel may be
modified to more closely fit various other shapes of product.

[00037] In the examples described thus far, product P is in the form of a round cylinder
such as an electronic cigarette. However, product P may be any other product item, for
example writing utensils, cosmetic items, medical items, and so forth. Furthermore, item
P may have other forms beside round cylinders. In addition to a round cylinder P, the
product may be a polygonal cylinder. Non-limiting examples include hexagonal cylinder
or triangular cylinder. The product may be a rectangular object, or a stack of rectangular
objects. Such rectangular objects might include gum, medication, etc.
[00038] Certain parts of the container, for example the shell, may be formed by processing such as thermoforming, vacuum forming, pressure forming, etc. as is known to those skilled in the art. Certain parts may be formed by injection molding. In certain embodiments, the molded parts of the container may be made of materials chosen for heat sealing to the base and lid portions of the container, which may be coated with materials suitable for heat sealing. Alternately, other means such as adhesives may be used for attaching the molded parts to the base and lid.

[00039] Certain embodiments of the shell as shown herein use a “stepped” structure (e.g. formed in part by a first recess and a second recess), a structure that may be readily formed, for example by thermoforming of plastic. However, alternative structures, having different numbers of steps, or having sloped sides with or without steps, are also within the scope of the disclosure. A pressed paperboard shell, for example, may have sufficient strength and be more readily formed with sloping sides rather than stepped sides.

[00040] Certain embodiments of the containers described here are designed to facilitate single-handed operation. The user may for example, using one hand, open the container, and 'pop' or lift a product item at least partly out of the shell.

[00041] Graphics may be provided on the external surfaces of the container, for example the external surfaces of a cover. Graphics may also be provided on the internal surface of the cover, or on portions of the shell.

[00042] The embodiments described above provide a wide variety of features. Many of these features can be interchanged between embodiments. Further embodiments are thus envisaged which use a selection of the features from those described above. The invention thus extends to cover containers having other combinations of the features described.
CLAIMS

1. A package for housing a rod-shaped item, the package comprising:
   a base;
   a channel formed in the base portion and extending in a first direction,
     the channel having a first end and an opposite second end, the second end having an
     upwardly sloped wall,
   wherein a force exerted on the item from the first end toward the second end causes the item
   to move up the sloped wall and be lifted from the channel.

2. The package of claim 1, wherein the channel defines a first generally uniform cross
   section, the package further comprising at least a first protrusion into the first generally
   uniform cross section.

3. The package of claim 2, wherein the channel has a wall and the first protrusion is raised
   from the wall.

4. The package of claim 2, wherein the channel has a wall and the first protrusion is a
   narrowing of the wall.

5. The package of claim 2, wherein the first protrusion is formed at the open end of the
   channel.

6. The package of claim 1, further comprising a first retaining feature in the form of a ledge
   extending along at least part of the channel.

7. The package of claim 6, further comprising a second retaining feature extending along at
   least part of the channel.

8. The package of claim 1, further comprising a sleeve or box structure enclosing the base.
9. The package of claim 1, wherein the channel is shaped to receive an item having a round cylindrical shape.

10. A package for housing a rod-shaped item, the package comprising:

   a base;

   a channel formed in the base portion and extending in a first direction, the channel having a first end and an opposite second end, the first end having an depressed area or depressed floor;

   wherein a force exerted downward on the item from above the first end causes that end of the item to drop toward the depressed area or depressed floor, and the second end of the item to be lifted from the channel.

11. The package of claim 10, further comprising a fullerum point in the floor of the channel adjacent the depressed area or depressed floor.

12. The package of claim 10, further comprising a first retaining feature in the form of a ledge extending along at least part of the channel.

13. The package of claim 12, further comprising a second retaining feature extending along at least part of the channel.

14. The package of claim 10, further comprising a sleeve or box structure enclosing the base.

15. The package of claim 10, wherein the channel is shaped to receive an item having a round cylindrical shape.

16. A package for housing a rod-shaped item, the package comprising:

   a base;

   a channel to receive the item, the channel formed in the base portion and extending in a first direction,
an opening formed in the floor of the channel,

wherein a force exerted upward through the opening and on the item causes that item to be lifted from the channel.

17. The package of claim 16, further comprising a first retaining feature in the form of a ledge extending along at least part of the channel.

18. The package of claim 17, further comprising a second retaining feature extending along at least part of the channel.

19. The package of claim 18, further comprising a sleeve or box structure enclosing the base.

20. The package of claim 16, wherein the channel is shaped to receive an item having a round cylindrical shape.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

INV. B65D85/10 A24F15/00 B65D85/20

ADD.

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D A24F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<td>US 4 019 633 A (ROTH NATHAN) 26 April 1977 (1977-04-26) figures 1-6</td>
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<td>US 4 874 091 A (MCEWEN ALBERT R [CA] ET AL) 17 October 1989 (1989-10-17) figure 2</td>
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
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Date of the actual completion of the international search: 14 January 2015

Date of mailing of the international search report: 21/04/2015

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Authorized officer: Wimmer, Martin
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| 1.☐ | As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims. |
| 2.☐ | As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of additional fees. |
| 3.☐ | As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.: |
| 4.☒ | 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 claims Nos.: 1-9 |

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

   a package for an elongated article with a channel having a sloped wall on one side. The sloped wall solves the problem of leading the item out of the channel when only axial forces can be exerted on the rod shaped item.

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2. claims: 10-15

   a package for an elongated article with a channel having a depressed area or depressed floor on one side. The depressions solve the problem of lifting an end of an item out of the channel when only downward forces can be exerted.

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3. claims: 16-20

   a package for an elongated article with a channel having an opening formed in the floor of the channel. Such an opening solves the problem of being able to raise the item out of the channel when only upward forces can be exerted on the item.

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