



(43) International Publication Date
2 October 2014 (02.10.2014)

(51) International Patent Classification:

B65D 5/50 (2006.01) *B65D 5/70* (2006.01)
B65D 85/10 (2006.01) *B65D 5/54* (2006.01)

(21) International Application Number:

PCT/GB2014/050932

(22) International Filing Date:

25 March 2014 (25.03.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1305383.0 25 March 2013 (25.03.2013) GB

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: PACKAGING INSERT

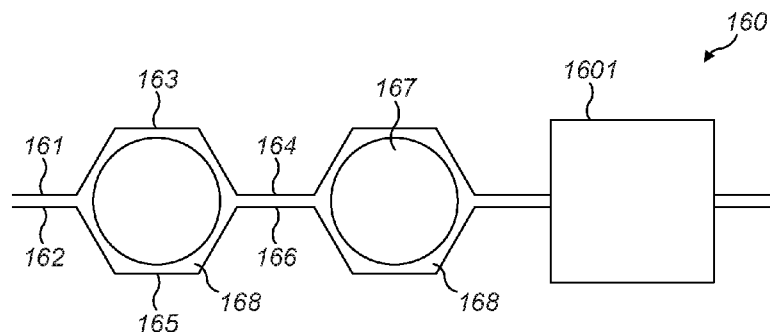


FIG. 1

(57) Abstract: The invention relates to a packaging insert comprising a plurality of individual pockets each shaped to fit an elongate element, each pocket having a hexagonal cross section, and each individual pocket is sealed allowing individual access to each pocket as well as processes for preparing the same and packets, such as but not limited to cigarette packets, comprising a packaging insert of the invention.

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Packaging Insert

Field of the Invention

The present invention relates to packaging inserts containing elongate elements,
5 particularly but not exclusively to packaging inserts containing smoking articles.

Background

Many variations of packets for elongate elements, such as smoking articles, are
employed. Improvements in these types of packaging are desired.
10

Summary of the Invention

According to a first aspect, the invention provides a packaging insert comprising
a plurality of individual pockets each shaped to fit an elongate element, each pocket
having a hexagonal cross section, and each individual pocket is sealed allowing
15 individual access to each pocket.

In one embodiment, each pocket is temporarily sealed. For example, each
pocket comprises a temporary seal.

20 The temporary seal may comprise perforations arranged so as to allow access to
each individual pocket. In particular, the perforations are arranged to allow access to
one individual pocket without breaking the seal of any other individual pocket.

The seals may be of any suitable shape including but not limited to hexagonal,
25 square, or rectangular.

Each seal may be the same size as the end of each individual pocket.

Alternatively, the seal has a size greater than the end of each individual pocket.
30 The seal would therefore overlap the pocket providing an easy way of removing a
temporary seal from the end of an individual pocket.

The packaging insert of the invention may be impervious to water, moisture
and/or air.
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The packaging insert may be made from thin-walled card, foil, opaque foil, or plastic such as transparent or translucent plastic. For example, thin-walled card may be employed that has been treated so that it is impervious to water, moisture and/or air.

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In one embodiment, the packaging insert comprises a first web having a series of parallel grooves and a second web having a series of parallel grooves, the grooves of both the first web and the second web having a three-sided polygonal cross section, the first web and the second web arranged to provide a series of individual pockets having a
10 hexagonal cross section. For example, the grooves of the first web are arranged to face and align with the grooves of the second web to provide a series of individual pockets having a hexagonal cross section. If the areas of each web between the grooves are viewed as ridges, the ridges of the first web are arranged to face and align with the ridges of the second web.

15

The above-described packaging insert has two open ends. In the present invention, both ends of each pocket are sealed. For example, one end of each pocket is permanently sealed and the other end is temporarily sealed.

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In such an arrangement, the series of individual pockets may be sealed by a continuous strip of sealing material at one or both ends. The continuous strip of sealing material may provide a temporary seal or a permanent seal.

In accordance with some embodiments of the invention, the seals may be made
25 from the same material as the rest of the packaging insert, or can be different from the rest of the packaging insert. For example, in embodiments of the invention where the packaging insert comprises a first web and a second web, one or both seals located at the ends of the pockets may be made from the same material as the first and/or second webs, or can be different from the first and/or second webs.

30

In particular, the strip of sealing material may be made from thin walled card, foil, opaque foil, or plastics such as transparent or translucent plastic.

The strip of sealing material may comprise perforations allowing individual
35 access to each pocket. For example, the perforations may be located between each pocket. In particular, the strip of sealing material may comprise a series of parallel

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lines of perforations arranged lateral to the length of the strip positioned at the end of a series of individual pockets such that part of the strip of sealing material can be removed allowing individual access to a single individual pocket. In such arrangement, a part of the sealing material may be removed allowing individual access to a single individual pocket without breaking the seal of any other individual pocket.

The strip of sealing material may also comprise a tab located between a pair of perforated lines.

A tab may be of any suitable shape including but not limited to semicircular.

In fact, any kind of temporary seal employed in the present invention may further comprise a tab as described above. In all cases, a tab facilitates removal of the seal from the end of the pockets. The tab allows the user to effectively and efficiently remove the seal and gain access to an elongate element inside each individual pocket.

All webs employed in the present invention may be made of the same material or of different materials. Any suitable material may be used including but not limited to thin walled card. For example, the webs may be impervious to water, moisture and/or air. In such circumstances, the webs may be made of one material that is impervious to water, moisture and/or air. Alternatively, the webs may comprise any suitable base material, such as thin walled card, board, film or foil, and further comprise a layer or membrane that is impervious to water, moisture and/or air.

The webs employed in the present invention may be joined together. In one embodiment, the webs may be bonded together. Any suitable bonding means may be employed including but not limited to adhesive. For example, the first web and the second web may be joined together where the second web contacts with areas between the grooves of the first web. For example, a first web having grooves and ridges may be joined to a second web where the second web contacts the ridges of the first web facing the second web. A first web having grooves and ridges may be joined to a second web having grooves and ridges where the ridges of the first web contact the ridges of the second web facing the first web.

In one embodiment, the length of each individual pocket is essentially the same length as the elongate element.

In embodiments where the elongate elements are smoking articles, the packet may be any type of packet including but not limited to a soft cap packet or a flip top packet.

5

In one embodiment of the invention, the packaging insert comprises a single elongate element in one or more of the individual pockets. For example, the packaging insert may comprise an elongate element in each of the individual pockets.

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In a further aspect of the invention is provided a packet comprising a packaging insert of the present invention as described herein.

15

In a further aspect of the invention is provided a process for preparing a packaging insert of the present invention, comprising providing a packing insert which comprises a plurality of individual pockets each containing an elongate element, and each pocket having a hexagonal cross-section;

sealing the individual pockets allowing individual access to each pocket.

20

In a further aspect of the invention is provided the use of a packaging insert according to any embodiment of the present invention for protecting elongate elements during storage and/or transportation.

Brief Description of the Drawings

25

Figure 1 shows a packaging insert according to one embodiment of the present invention in which one pocket is shown as sealed.

Figure 2 shows a packaging insert according to one embodiment of the present invention in which one pocket is sealed.

Figure 3 shows a packaging insert according to one embodiment of the present invention and how it may be inserted into a flip top packet.

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Figures 4a and 4b show a packaging insert according to one embodiment of the present invention and how it may be inserted into soft cap packet and a flip top packet respectively.

Figure 5 shows a packaging insert according to one embodiment of the present invention in which a number of individual pockets are sealed.

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Detailed Description

- 5 -

The present invention provides a way of packaging elongate elements in a manner that provides protection from bending and/or crushing during transportation and/or storage of the elements. It also provides a way of packaging elongate elements, in particular smoking articles, in a manner that improves customer experience both during the opening and withdrawing of the element from its container and preserving the element for longer in its desired state ready for use. In this respect, a packaging insert may be employed that retains one or more elongate elements and improves the protection provided by the packaging as a whole. Such a packaging insert may then be incorporated into a packet.

Elongate elements may be, but are not limited to, any cylindrical article. Examples of suitable elongate elements include but are not limited to smoking articles and electronic cigarettes. As used herein, the term "smoking article" includes smokeable products such as cigarettes, cigars and cigarillos whether based on tobacco, tobacco derivatives, expanded tobacco, reconstituted tobacco or tobacco substitutes and also heat-not-burn products. The smoking article may be provided with a filter for the gaseous flow drawn by the smoker. Other suitable elongate elements include any delicate or degradable items such as but not limited to halogen bulbs and glass ampules. Glass test-tubes containing one, two, three or more smoking articles may also be appropriate.

As previously explained, the packaging inserts according to the present invention involve sealing each individual pocket. For example, in a packaging insert of the present invention, each individual pocket contains an elongate element.

Complete sealing of each pocket in this way provides a way of keeping a smoking article in its optimised environment to which it is best suited. In particular, the state of the smoking article just after manufacture may be maintained. Environmental factors such as moisture and humidity can adversely affect a smoking article over time. Sealing the individual pockets containing a smoking article helps avoid the negative effects such environmental factors can cause. By preserving the individual smoking articles in their own individual pocket/environment until they are smoked allows each smoking article to be at its optimised and intended state when it is smoked. Smoking articles that have been left for a period of time in an unsealed packet during which time they have been subjected to varying humidity and other

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environmental conditions, can, when smoked lead to a harsher taste and hence a degraded smoking experience.

In order to further enhance the advantages associated with the present
5 invention, each individual pocket may comprise an elongate element in an inert atmosphere.

The seals for use in the present invention may be made out of any suitable material including, but not limited to, thin walled card, foil, opaque foil or plastic such
10 as transparent or translucent plastic.

In the following examples, the invention is described in the context of packaging inserts containing smoking articles, although the invention should not to be viewed as limited as such. The packaging inserts of the invention are applicable to any suitable
15 elongate element.

Figure 1 shows a packaging insert 160 of one embodiment of the present invention comprising a plurality of individual pockets 168 having a hexagonal cross section. The packaging insert 160 is formed of a first web 161 and a second web 162
20 both having a series of parallel grooves 163, 165 having a three-sided polygonal cross section. The grooves 163 of the first web align and face the grooves 165 of the second web resulting in a series of parallel individual pockets 168, each one shaped to receive and contain a single elongate element 167. The areas of each web 164, 166 between each groove may be viewed as ridges. One pocket is shown with a seal 1601 according
25 to the invention. Seal 1601 has an area greater than the cross-section of the individual pocket.

Figure 2 shows a different embodiment of the present invention. In Figure 2 is shown a packaging insert 170 comprising a plurality of individual pockets 1711, 1712.
30 The packaging insert is formed of a first web 171, a second web 172, and a third web 173 all having a series of parallel grooves 174, 175, 176 and ridges 177, 178, 179 having a three-sided polygonal cross section. The grooves 174 of the first web align and face the grooves 175 of the second web resulting in a series of parallel individual pockets 1711 having a hexagonal cross section, each one shaped to receive and contain a single
35 elongate element 1710. The ridges 179 of the third web align and face the ridges 178 of the second web resulting in a series of parallel individual pockets 1712, each one shaped

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to receive and contain a single elongate element 1710. One pocket is shown with a seal 1720. Seal 1720 is essentially the same shape as the cross-section of the individual pocket. The cross-section of seal 1720 has essentially the same area as the cross-section of the individual pocket.

5

Figure 3 shows how a packaging insert 180 according to one embodiment of the present invention having a plurality of individual pockets 182, each having a hexagonal cross section, wherein each pocket is individually sealed, may be incorporated into a packet 181, such as but not limited to a cigarette packet. In Figure 3, the packet has a flip top lid 183 but the packaging inserts of the present invention are also useful in the context of other types of packet. One pocket is shown with a seal 184.

10

Figures 4a and 4b also show how a packaging insert 190 according to one embodiment of the present invention having a plurality of individual pockets 193, each having a hexagonal cross section may be incorporated into a packet 191 or 192, such as but not limited to a cigarette packet. In Figure 4a, the packet 191 is a simple three dimensional rectangle with one open end. Such a packet may be filled with smoking articles and covered all over thus covering the open end shown in Fig. 4a. In Figure 4b, the packet 192 comprises a flip top lid 194. It would be appreciated by the skilled person that the packaging inserts of the present invention are suitable for use in all kinds of packets, not just those exemplified in the present application. In Figs 4a and 4b, one pocket is shown with a seal 194.

15

20

Figure 5 shows a packaging insert 60 according to one embodiment of the present invention. The packaging insert 60 comprises a series of individual pockets 61 having a hexagonal cross section. Each pocket 61 contains a smoking article 62 such as but not limited to a cigarette. Each pocket contains a smoking article 62.

25

For illustration purposes, the packaging insert shown in Figure 5 includes seals 63. A number of the individual pockets 61 are sealed. The seals 63 may be formed by positioning a continuous strip over the ends of the individual pockets 61. The continuous strip providing the seals 63 includes a series of parallel perforations 64 located between each pocket 61. The closed seals 63 can be pulled away from the end of the pockets 61. In particular, each seal 63 can be removed one at a time allowing individual access to each individual pocket 61. Figure 5 also shows pockets, for example pocket 61a, from which a seal 63 has been removed allowing access to an individual

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pocket 61a. For illustration purposes, the seals 63 are shown with tabs 65. The tabs 65 facilitate access to each pocket 61 by making it easier to pull the seals 63 away from the ends of the pockets 61. In Figure 5, the seals 63 that have been removed from the ends of the pockets are shown. However, removing of the seals 63 from the end of the
5 pockets 61 may result in complete detachment of the seals 63 from the packaging insert 60.

Any individually sealed elongate element/smoking article may further benefit from being stored in an inert atmosphere. The methods of the invention therefore may
10 further comprise adding an inert gas to the individual pockets before sealing the pockets. For example, nitrogen gas may be added to the pockets. In some circumstances, it may be appropriate to add the inert gas under positive pressure. Adding an inert gas may take place before, during and/or after the elongate elements/smoking articles are fed to the pockets.

15 In order to address various issues and advance the art, the entirety of this disclosure shows by way of illustration various embodiments in which the claimed invention(s) may be practiced and provide for superior methods for manufacturing packaging inserts containing elongate elements. The advantages and features of the
20 disclosure are of a representative sample of embodiments only, and are not exhaustive and/or exclusive. They are presented only to assist in understanding and teach the claimed features. It is to be understood that advantages, embodiments, examples, functions, features, structures, and/or other aspects of the disclosure are not to be considered limitations on the disclosure as defined by the claims or limitations on
25 equivalents to the claims, and that other embodiments may be utilised and modifications may be made without departing from the scope and/or spirit of the disclosure. Various embodiments may suitably comprise, consist of, or consist essentially of, various combinations of the disclosed elements, components, features, parts, steps, means, etc. In addition, the disclosure includes other inventions not
30 presently claimed, but which may be claimed in future.

Claims

1. A packaging insert comprising a plurality of individual pockets each shaped to fit an elongate element, each pocket having a hexagonal cross section; and each
5 individual pocket is sealed allowing individual access to each pocket.
2. The packaging insert of claim 1, wherein each individual pocket is sealed temporarily.
- 10 3. The packaging insert of claim 1 or claim 2, wherein the packaging insert is impervious to water, moisture and/or air.
4. The packaging insert according to claim 3, wherein the packaging insert is made from thin walled card, foil, opaque foil, or plastic such as transparent or translucent
15 plastic.
5. The packaging insert according to any one of the preceding claims, wherein each pocket comprises a seal.
- 20 6. The packaging insert of claim 5, wherein the seal is hexagonal shaped, square shaped, or rectangular shaped.
7. The packaging insert of claim 5 or claim 6, wherein the area of the seal is greater than the cross-section of each individual pocket.
25
8. The packaging insert according to any one of claims 5 to 7, wherein the area of the seal is the same as the cross-section of each individual pocket.
9. The packaging insert according to any of the preceding claims, the packaging
30 insert comprising a first web having a series of parallel grooves and a second web having a series of parallel grooves, the grooves of both the first web and the second web having a three-sided polygonal cross section, the first web and the second web arranged to provide a series of individual pockets having a hexagonal cross section.

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10. The packaging insert of claim 9, wherein one end of the series of individual pockets is permanently sealed and the other end of the series of individual pockets is temporarily sealed.
- 5 11. The packaging insert of claim 9 or claim 10, wherein the series of individual pockets are sealed by a continuous strip of sealing material at one or both ends.
12. The packaging insert of claim 11, wherein the strip of sealing material is impervious to water, moisture and/or air.
- 10 13. The packaging insert of claim 11 or claim 12, wherein the strip of sealing material is made from thin walled card, foil, opaque foil, or plastic such as transparent or translucent plastic.
- 15 14. The packaging insert according to any one of claims of 11 to 13, wherein perforations allow individual access to each pocket.
15. The packaging insert of claim 14, wherein the strip of sealing material comprises perforations that are located between each pocket.
- 20 16. The packaging insert of claim 15, wherein the strip of sealing material comprises a series of parallel lines of perforations arranged lateral to the length of the strip positioned at the end of a series of individual pockets such that part of the strip of sealing material can be removed allowing individual access to a single individual
- 25 pocket.
17. The packaging insert of any one of claims 11 to 16, wherein the strip of sealing material is made from a different material from the first and/or second webs.
- 30 18. The packaging insert of any one of claims 11 to 16, wherein the strip of sealing material is made from the same material as the first and/or second webs.
19. The packaging insert of any one of claims 11 to 18, further comprising a tab located on the strip of sealing material between each pair of perforated lines.

35

20. The packaging insert according to claim 19, wherein the tab is semicircular in shape.
21. The packaging insert of any one of the preceding claims, wherein the length of
5 each individual pocket is the same length as the length of each elongate element.
22. A packet comprising a packaging insert as defined in any one of the preceding claims.
- 10 23. Use of a packaging insert as defined in any one of claims 1 to 21, for protecting elongate elements during storage and/or transportation.
24. A packaging insert or a process for preparing a packaging insert as hereinbefore described with reference to the Figures.

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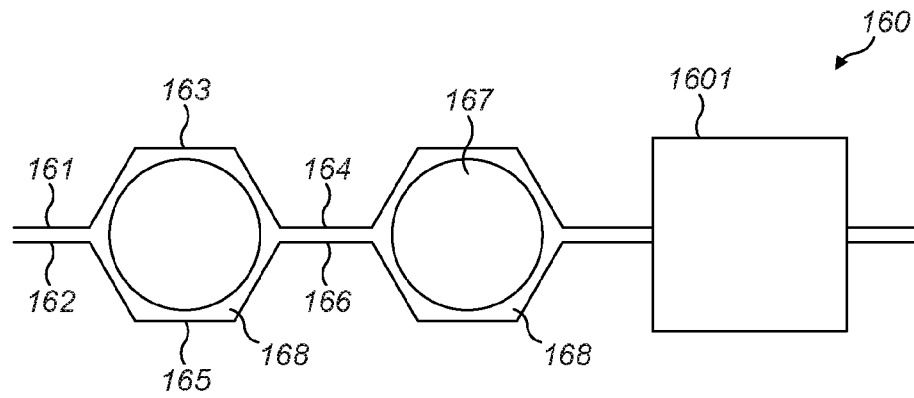


FIG. 1

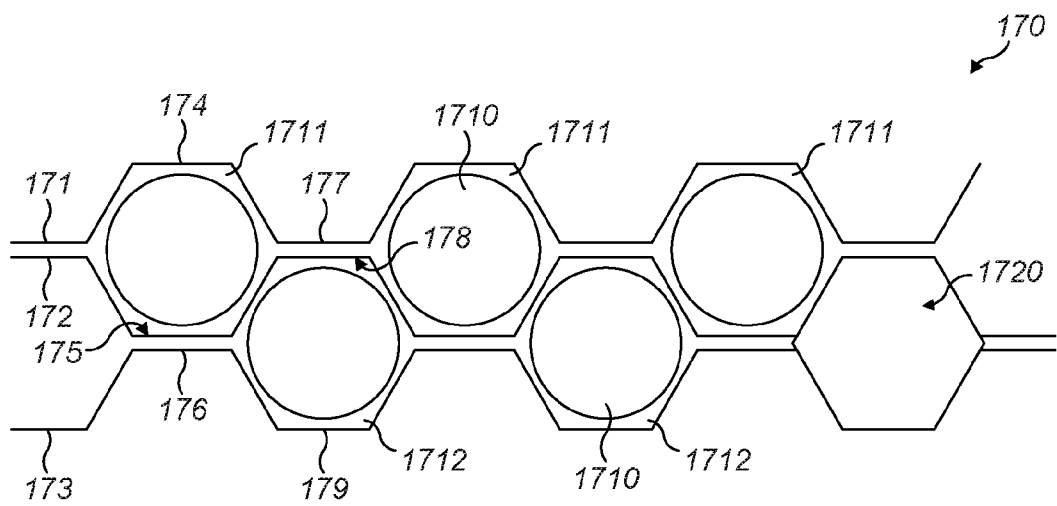


FIG. 2

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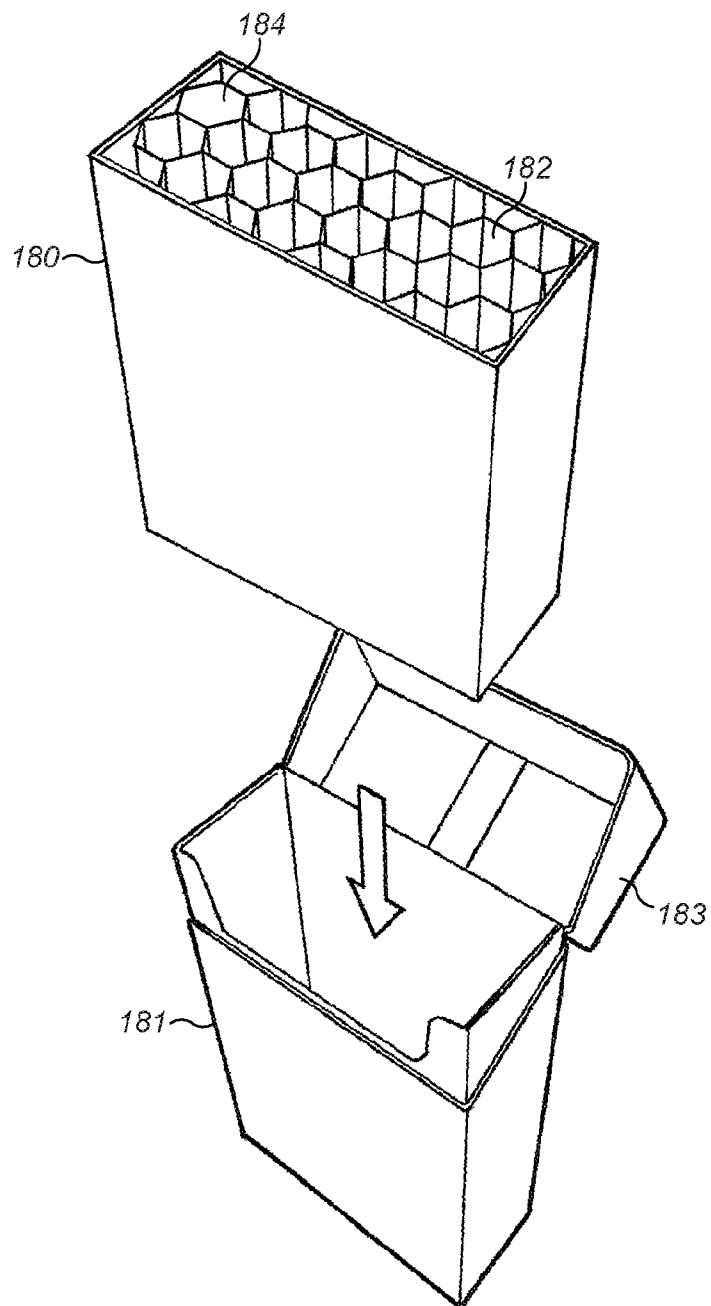
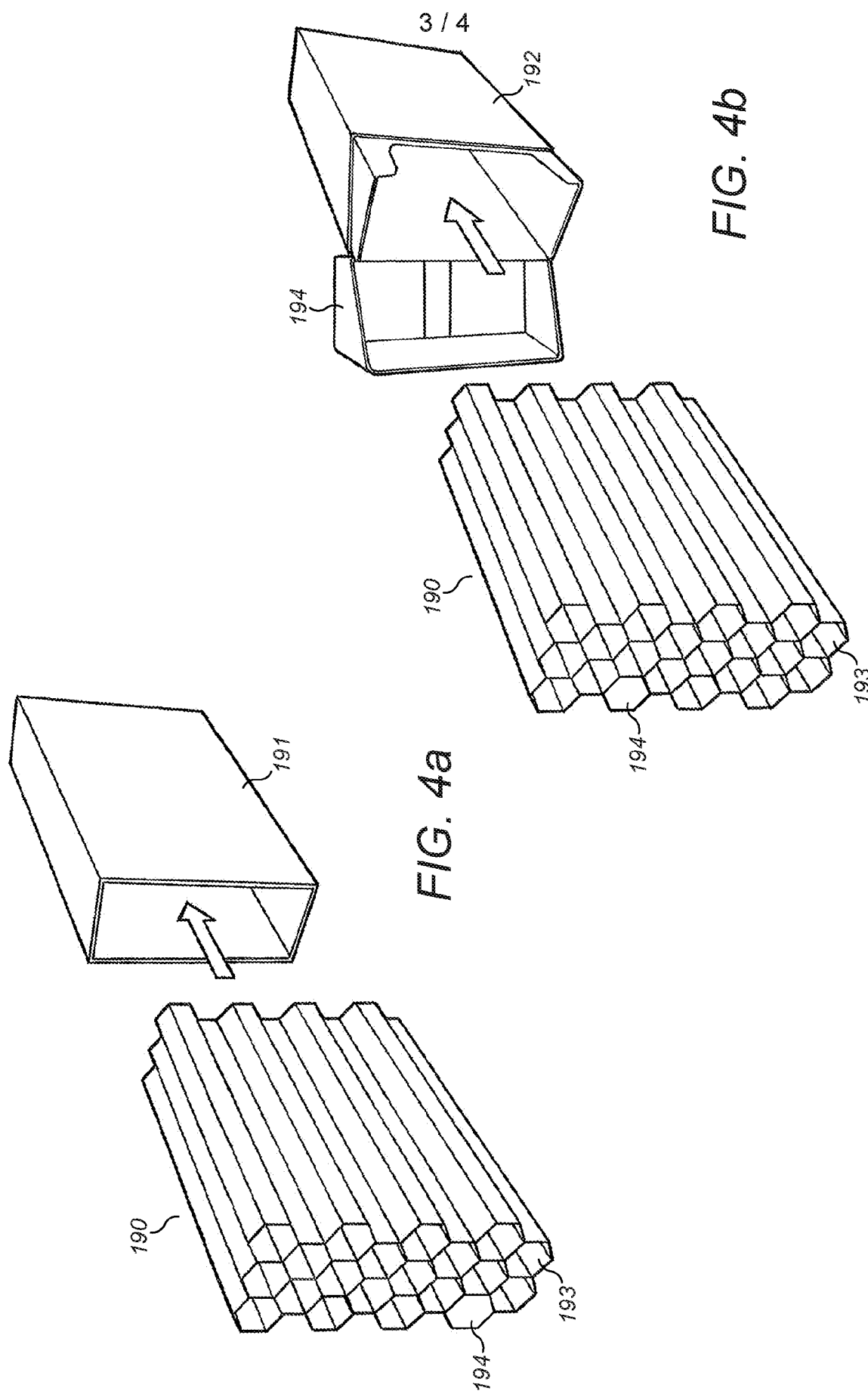


FIG. 3



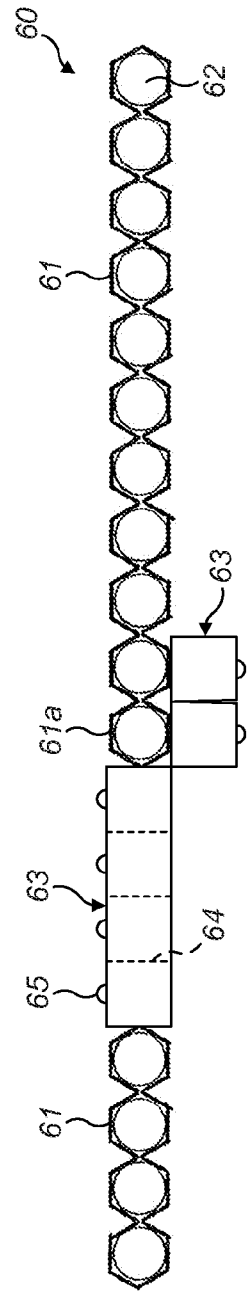


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2014/050932

A. CLASSIFICATION OF SUBJECT MATTER INV. B65D5/50 B65D85/10 B65D5/70 B65D5/54 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		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 195 07 563 A1 (GD SPA [IT]) 7 September 1995 (1995-09-07)	1-15,17, 18,21-24
Y	column 2, line 51 - column 4, line 31; figures 1-23	16,19,20
Y	-----	
Y	US 1 224 996 A (BALDWIN CHARLES M [US]) 8 May 1917 (1917-05-08) page 1, lines 63-102; figures 1-4	16,19,20
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A	-----	
A	CN 201 604 917 U (KAINUO PACKAGING MATERIAL CO LTD) 13 October 2010 (2010-10-13) figure 1	1,22,23

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
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Date of the actual completion of the international search	Date of mailing of the international search report	
18 June 2014	27/06/2014	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Grondin, David	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2014/050932

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