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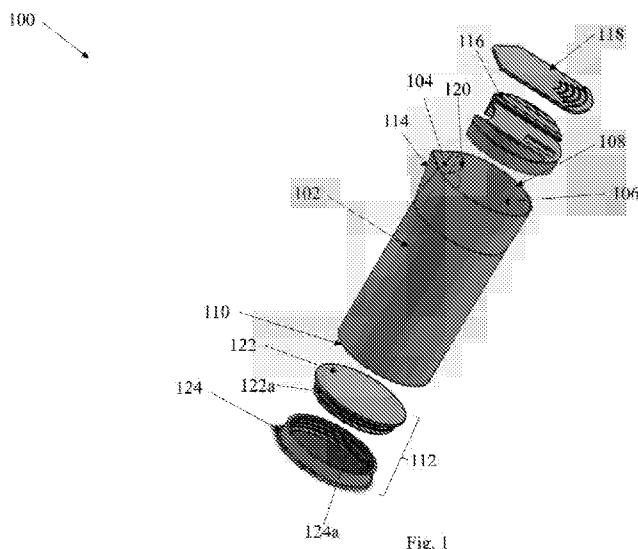


Fig. 1

(57) Abstract: A dispenser including a body having a first chamber for retaining a product and a second chamber configured for dispensing the product when the dispenser is tilted, a top portion of the body having a protruded portion at an end of the second chamber for dispensing the product, and a bottom portion of the body having an adjustable base cap configured to control flow of a predetermined amount of product required to be dispensed.



DISPENSER

FIELD OF INVENTION

The present invention relates to dispenser systems. More particularly, the invention relates to a dispenser for dispensing a product.

5

BACKGROUND

Dispensers for holding and dispensing substances are well known. Depending on the structure and usage requirements the dispensers are either open, closed or semi-closed.

10 Open or semi-closed dispensers such as cups and bins are prone to contamination as easy spilling of the substances contained therein. Closed dispensers insulate and protect the substance and minimize or eliminate spills. However, during usage it is difficult to control the amount of substance that may eject from the dispenser.

15 It is often necessary or desirable to package items or objects and/or to dispense them in an organized or controlled manner. More so, for dispensers that are commonly employed to add seasonings and flavorings to foods and/or beverages. Typically, seasonings such as table salt and ground pepper are dispensed from shakers comprising a single-chamber container or reservoir. The container typically includes an end cap comprising a plurality of
20 apertures to allow the material to be dispensed upon inverting and agitating the shaker. The size and number of apertures will vary with the type of material to be dispensed. For example, a dispenser for table salt will typically have fewer apertures than, for example, a pepper dispenser inasmuch as the density and concentration of table salt is such that smaller quantities are desired (i.e., with each oscillation of the container.) Generally, a dedicated

dispenser with the appropriately sized/numbered apertures will be employed for each material to control the dispensing rate.

Existing dispensers have significant shortcomings with respect to uniformity of dispensed
5 quantity, speed of dispensing, and/or evenness of dispensing distribution.

Thus, there is a need in the art for a dispenser that not only protects the substance, minimizes spills but also controls the flow of the substance when in use.

SUMMARY OF THE INVENTION

10 Accordingly, a dispenser is provided in accordance with an embodiment of the present invention. The dispenser includes a body having a first chamber for retaining a product and a second chamber configured for dispensing the product when the dispenser is tilted, a top portion of the body having a protruded portion at an end of the second chamber for dispensing the product, and a bottom portion of the body having an adjustable base cap
15 configured to control flow of a predetermined amount of product required to be dispensed.

In an advantageous aspect, the amount of product to be dispensed is pre-determined thereby preventing any wastage.

20 DESCRIPTION OF THE DRAWINGS

Fig. 1 shows an exploded view of a dispenser in accordance with an embodiment of the present invention.

Fig. 1a shows a sectional side view of the dispenser in accordance with an embodiment of the present invention.

Fig. 1b shows a perspective view of the dispenser in accordance with an embodiment of the present invention.

Fig. 2 shows a perspective view of a first portion of a base cap of the dispenser in accordance with an embodiment of the present invention.

Fig. 2a shows a perspective view of a second portion of a base cap of the dispenser with metering or marking in accordance with an embodiment of the present invention.

Fig. 3 shows a perspective view of the lid of the dispenser in accordance with an embodiment of the present invention.

Fig. 3a shows a bottom view of the sliding plate of the dispenser in accordance with an embodiment of the present invention.

Fig. 3b shows a top view of the sliding plate of the dispenser in accordance with an embodiment of the present invention.

DESCRIPTION OF THE INVENTION

Various embodiments of the present invention provide a dispenser for dispensing a product.

The following description provides specific details of certain embodiments of the invention

illustrated in the drawings to provide a thorough understanding of those embodiments. It should be recognized, however, that the present invention can be reflected in additional embodiments and the invention may be practiced without some of the details in the following description.

5

The various embodiments including the example embodiments will now be described more fully with reference to the accompanying drawings, in which the various embodiments of the invention are shown. The invention may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth herein. Rather, these
10 embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. In the drawings, the sizes of components may be exaggerated for clarity.

It will be understood that when an element or layer is referred to as being “on,” “connected
15 to,” or “coupled to” another element, it can be directly on, connected to, or coupled to the other element or intervening elements or layers that may be present. As used herein, the term “and/or” includes any and all combinations of one or more of the associated listed items.

20 Spatially relative terms, such as “top,” “bottom,” and the like, may be used herein for ease of description to describe one element or feature's relationship to another element(s) or feature(s) as illustrated in the figures. It will be understood that the spatially relative terms are intended to encompass different orientations of the structure in use or operation in addition to the orientation depicted in the figures.

Embodiments described herein will refer to plan views and/or cross-sectional views by way of ideal schematic views. Accordingly, the views may be modified depending on simplistic assembling or manufacturing technologies and/or tolerances. Therefore, example
5 embodiments are not limited to those shown in the views but include modifications in configurations formed on basis of assembling process. Therefore, regions exemplified in the figures have schematic properties and shapes of regions shown in the figures exemplify specific shapes or regions of elements, and do not limit the various embodiments including the example embodiments.

10

The subject matter of example embodiments, as disclosed herein, is described with specificity to meet statutory requirements. However, the description itself is not intended to limit the scope of this patent. Rather, the inventors have contemplated that the claimed subject matter might also be embodied in other ways, to include different features or
15 combinations of features similar to the ones described in this document, in conjunction with other technologies. Generally, the various embodiments including the example embodiments relate to dispensers.

20

Referring to Fig. 1, 1a, and 1b, a dispenser (100, 100a, 100b) and various components are provided in accordance with an embodiment of the present invention. The dispenser (100, 100a, 100b) includes a body 102, a first chamber 104, a second chamber 106, a top portion 108 of the body 102, a bottom portion 110 of the body 102 and an adjustable base cap 112.

The body 102 includes the first chamber 104 for retaining a product and the second chamber 106 configured for dispensing the product when the dispenser is tilted. The top portion 108 of the body 102 includes a protruded portion 114 at an end of the second chamber 106 for dispensing the product. The bottom portion 110 of the body 102 includes
5 an adjustable base cap 112 configured to control flow of a predetermined amount of product required to be dispensed.

In an embodiment, the top portion 108 includes a lid 116 and a sliding plate 118 to lock the dispenser from top.
10

In an embodiment, the body 102 is partitioned with a separator 120 to create the first chamber 104 which is bigger than the second chamber 106.

In an embodiment, the lid 116 is configured to cover the first chamber 104 by engaging
15 with the separator 120 to avoid transfer of the product from first chamber 104 to second chamber 106 from top.

In an embodiment, the sliding plate 118 is placed above the lid 116 and configured to seal
the first
20 chamber 104 and the second chamber 106 of the dispenser 100 when in a locked position.

In an embodiment, the base cap 112 includes a first portion 122 with an external threading

122a configured to lock with a second portion 124 having an internal threading 124a when rotated wherein the flow of the predetermined amount of product to be dispensed is controlled based on the rotation of the base cap 112.

- 5 In an embodiment, the product is transferred from the first chamber 104 to the second chamber 106 through a gap 126 created between a separator base 120a and the second portion 124 of the base cap 112 at the bottom portion 110.

In an embodiment, the separator 120 includes a protrusion 128 configured to maintain the gap 126 and the separator base 120a is a flat surface positioned perpendicular to the
10 separator 120 in a manner so as to form a L-shape separator 120.

Referring to Fig. 2 and 2a a perspective view 200 of the first portion 122 and a perspective view 200a of the second portion 124 of the base cap 112 is provided according to the present invention. The first portion 122 is a circular cap with a central gripper 202 for
15 holding the first portion when rotating it to adjust height of the dispenser 100. Further, the gripper 202 includes arrows marked on its surface to point towards a meter or marking 204 at a base of the second portion 124. The meter or marking 204 at the base assists in setting the predetermined amount of product required to be dispensed.

20

Referring to Fig. 3, 3a and 3b a perspective view 300 of the lid 116, a bottom view 300a of the sliding plate 118 and a top view 300b of the sliding plate 118 of the dispenser 100 is provided according to the present invention. The lid includes a first lid portion 302 accommodating a pair of protruded second portion 304 (304a, 304b) on top of the first lid

portion 302 such that a space created between the pair of second portion 304 is configured to accommodate the sliding plate 118. Further, the first lid portion 302 includes a cavity 306 configured to accommodate a sliding plate protrusion 308. The sliding plate protrusion 308 is provided on bottom surface of the sliding plate 118. The top surface of the sliding plate 118 includes a plurality of seal grip lines 310 for easy operation of the sliding plate 118.

In one embodiment, the product is a consumable comestible item such as salt, sugar, candies etc.

10

In an alternate embodiment, the product is a non-consumable item like powder and other cosmetic items.

In another embodiment, the product is any dry, semi fluid or fluid material.

15

Each of the above identified elements or components of the dispenser performs a function as described above. The above identified elements need not be implemented as separate disintegrated elements, and thus various subsets of these elements may be combined or otherwise re-arranged in various embodiments. Also, the terminology used herein is for the purpose of description and should not be regarded as limiting. The use of “including,” “comprising,” “having,” “containing” and variations thereof herein, is meant to encompass the items listed thereafter and equivalents thereof as well as additional items.

20

From the foregoing, it will be appreciated that specific embodiments of the invention have been described herein for purposes of illustration, but that various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the invention is not limited except as by the appended claims.

CLAIMS

1. A dispenser 100 comprises:

a body 102 having a first chamber 104 for retaining a product and a second chamber 106 configured for dispensing the product when the dispenser 100 is tilted;

- 5 a top portion 108 of the body 102 having a protruded portion 114 at an end of the second chamber 106 for dispensing the product, and

a bottom portion 110 of the body 102 having an adjustable base cap 112 configured to control flow of a predetermined amount of product required to be dispensed.

10

2. The dispenser of claim 1 wherein the top portion 108 includes a lid 116 and a sliding plate 118 to lock the dispenser from top.

3. The dispenser of claim 2 wherein the body 102 is partitioned with a separator 120 to
15 create the first chamber 104 which is bigger than the second chamber 106.

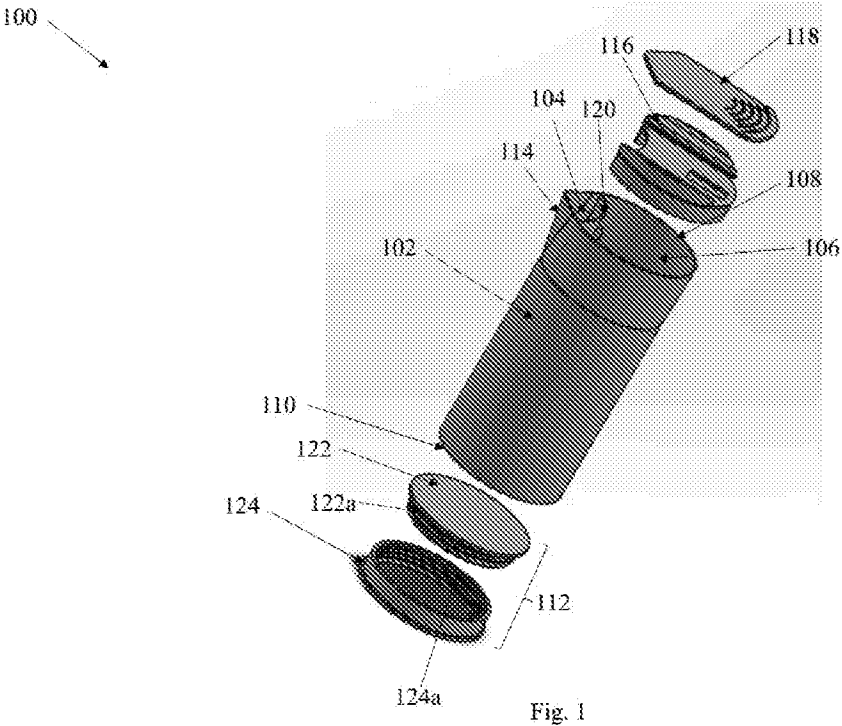
4. The dispenser of claim 3 wherein the lid 116 is configured to cover the first chamber 104 by engaging with the separator 120 to avoid transfer of the product from first chamber 104 to second chamber 106 from top.

20

5. The dispenser of claim 2 wherein the sliding plate 118 placed above the lid 116 is configured to seal the first chamber 104 and the second chamber 106 of the dispenser 100 when in a locked position.

6. The dispenser of claim 4 wherein the base cap 112 includes a first portion 122 with an external threading 122a configured to lock with a second portion 124 having an internal threading 124a when rotated wherein the flow of the predetermined amount of product to be dispensed is controlled based on the rotation of the base cap 112.
- 5
7. The dispenser of claim 6 wherein the product is transferred from the first chamber 104 to the second chamber 106 through a gap 126 created between a separator base 120a and the second portion 124 of the base cap 112 at the bottom portion 110.
- 10
8. The dispenser of claim 7 wherein the separator 120 includes a protrusion 128 configured to maintain the gap 126 and the separator base 120a is a flat surface positioned perpendicular to the separator 120 in a manner so as to form a L-shape separator 120.
- 15
9. The dispenser of claim 6 wherein the dispenser 110 includes a meter or marking 130 at a base of the second portion 124 to assist in setting the predetermined amount of product required to be dispensed.
- 20
10. The dispenser of claim 1 wherein the product is a consumable comestible item such as salt, sugar, candies etc.
11. The dispenser of claim 1 wherein the product is a non-consumable item like powder and other cosmetic items.

12. The dispenser of claim 1 wherein the product is any dry, semi fluid or fluid material.



100a

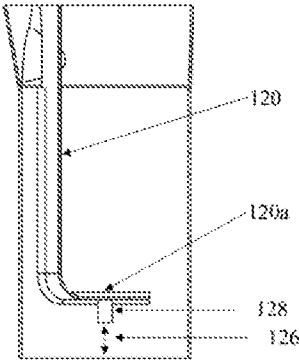


Fig. 1a

100b

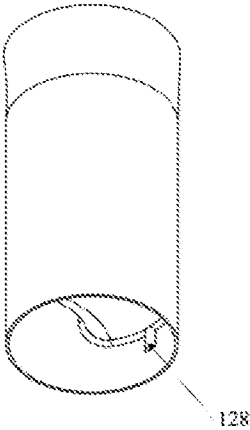


Fig. 1b

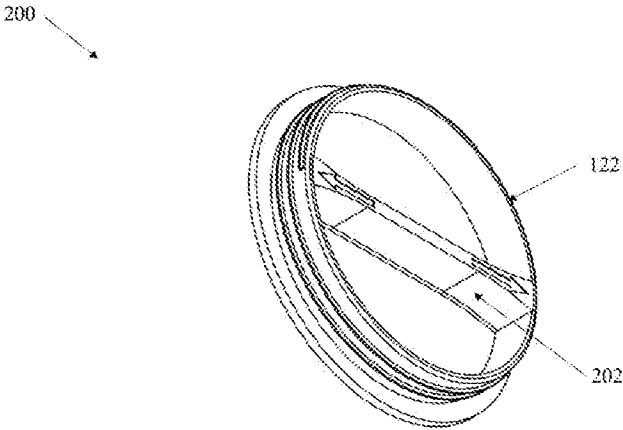


Fig. 2

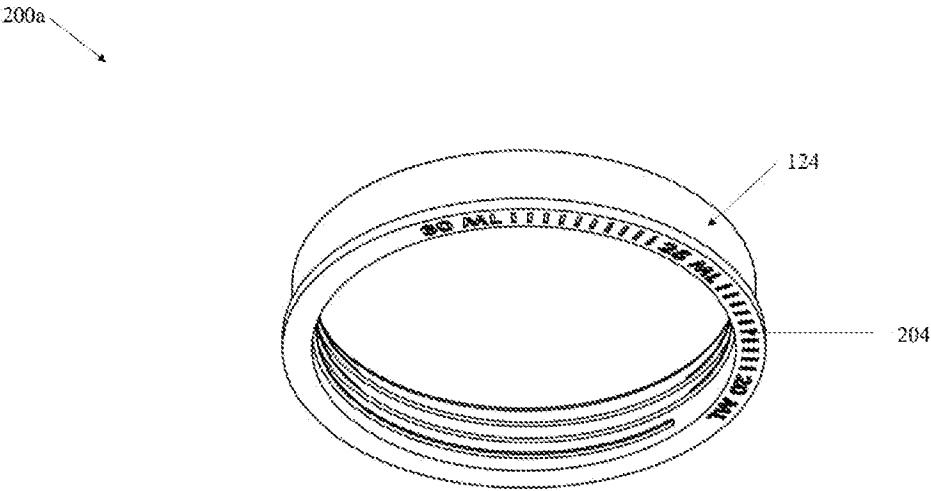


Fig. 2a

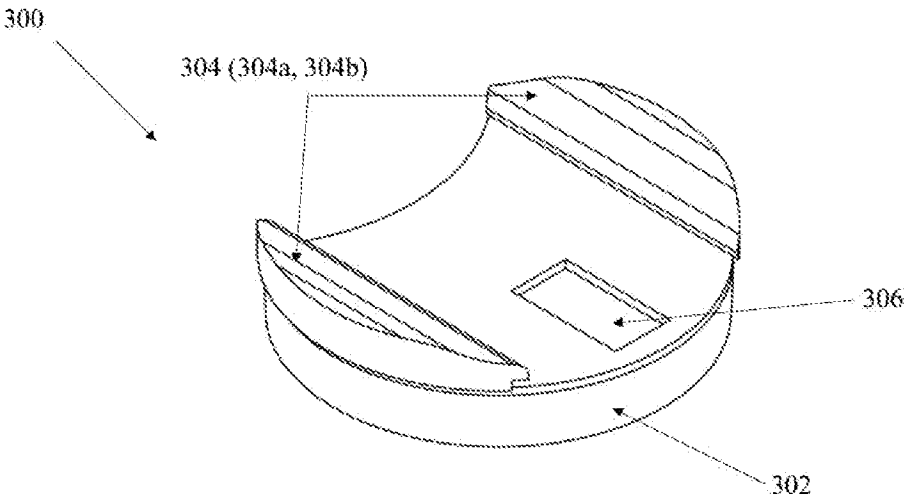


Fig. 3

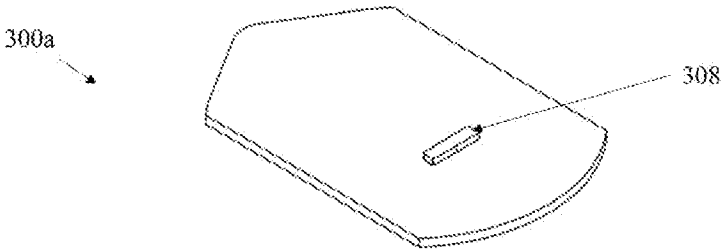


Fig. 3a

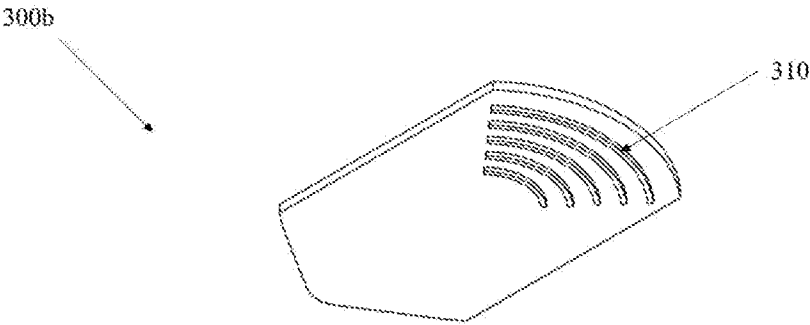


Fig. 3b

INTERNATIONAL SEARCH REPORT

International application No.

PCT/MY2019/050095

A. CLASSIFICATION OF SUBJECT MATTER

B65D 83/04 (2006.01) B65D 83/06 (2006.01)

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)

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)

EPODOC, WPIAP - IPC/CPC: B65D83/04, B65D83/06, B67D3/0051, B65D25/52, B65D25/04 G01F15/001, G01F11/02, G01F11/26, A47G19/24, A47G19/32, B65D5/76; Keywords: BASE+, BOTTOM+, CAP+, HUB+, TWIST+, ROTAT+, ADJUST+, METER+, DOSE+, DISPENS+, PARTITION+, SEPARAT+, GAP+, TWO_PIECE+ and similar terms. See SIS for details; Applicant/Inventor name(s): "CHOW CHEE YUT"

ESPACENET, Internal databases provided by IP Australia - Applicant/Inventor name(s): "CHOW CHEE YUT"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Documents are listed in the continuation of Box C	



Further documents are listed in the continuation of Box C



See patent family annex

* "A" "D" "E" "L" "O" "P"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance document cited by the applicant in the international application earlier application or patent but published on or after the international filing date 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) document referring to an oral disclosure, use, exhibition or other means 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 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" 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 "&" document member of the same patent family
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Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaustralia.gov.au	Authorised officer SuMei Van AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. +61262256111
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INTERNATIONAL SEARCH REPORT		International application No.
C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		PCT/MY2019/050095
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4579256 A (HEIMLICH) 01 April 1986 Abstract; Fig. 1-7; Col. 2 lines 60 – col. 3 lines 56; col. 4 lines 51 – col. 6 line 6	1-12
X	US 2015/0330823 A1 (THE QUAKER OATS COMPANY) 19 November 2015 Abstract; Fig. 1-6C; [0031-0035], [0042-0053]	1-12
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A	US 5839619 A (WILLER) 24 November 1998 Whole Document	1-12

INTERNATIONAL SEARCH REPORT Information on patent family members	International application No. PCT/MY2019/050095
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This Annex lists known 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