(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
01 February 2018 (01.02.2018)

WIPO | PCT

(10) International Publication Number
WO 2018/019531 A1

(51) International Patent Classification:
B65D 5/02 (2006.01) *B65D 5/54* (2006.01)
B65D 81/36 (2006.01)

(21) International Application Number:
PCT/EP2017/066716

(22) International Filing Date:
05 July 2017 (05.07.2017)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
A 2016/10599 29 July 2016 (29.07.2016) TR

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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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, ST, 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:** CORRUGATED BOARD SHIPPING PACKAGE FOR HOUSEHOLD APPLIANCE WHICH CAN BE TRANSFORMED INTO A CABIN, METHOD, USE

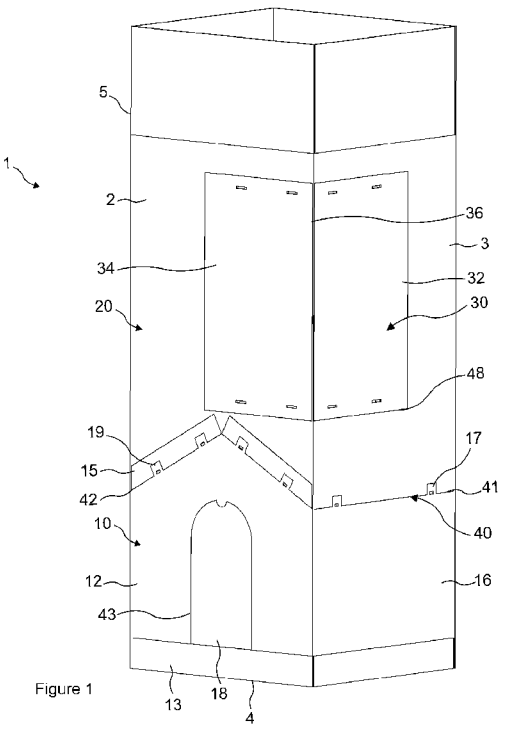


Figure 1

(57) **Abstract:** The present invention is a corrugated board shipping package for a household appliance comprising a front panel and a back panel and mutual side panels provided between thereof fixed to each other to keep a household appliance in an empty volume delimited by said panels.

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Description

CORRUGATED BOARD SHIPPING PACKAGE FOR HOUSEHOLD APPLIANCE WHICH CAN BE TRANSFORMED INTO A CABIN, METHOD, USE

[0001] The present invention relates to recycling methods decreasing waste levels of corrugated board shipping packages, particularly shipping packages in the form of enclosed cardboard box for household appliances.

[0002] Packages made of corrugated board having a shockproof box structure are used for shipping household appliances, particularly refrigerators, ovens and washing machines to consumers or warehouses after production. After packed products are transported to the consumer, they are removed from the shipping package, and household appliances are installed. The package becomes a complete waste and is treated as a waste material upon uncasing of the household appliance from the shipping package. Considering standard sizes of household appliances, the sizes of waste packages are not suitable for comfortable placing into a small waste container of household type. Therefore, in order to dispose waste shipping package it is necessary for the user to locate a suitably-sized waste container or to deliver it to a recycling facility.

[0003] For complete disposal of waste packages, patent publication no. US2009209166 suggests the using of a shipping package for the main body of a toy in addition to its safeguarding function. After the shipping package fulfils its primary function, as a secondary function it constitutes a toy ride or the main part of a toy house which can be entered. To achieve this, an outer shipping box and a similarly sized inner box have similar edge flaps closed by means of staple, die-cut and/or adhesive in order to stack them into each other. Eight closure flaps suitably arranged for corresponding boxes, provide the needed sloped joints to build the sloped roof component by their cut corners. Further, dovetail holes are formed through appropriate points of the entire box walls to provide instant joints between house components. Main support of playhouse is provided by four telescope boxes, one of which is pulled up for opening. Each box comprises an inner tube tightly inserted in an outer tube.

[0004] The aim of the present invention is to provide substantially recycling after

use by attributing a second function to the package box of the household appliance in a practically manner.

[0005] In order to achieve said aim, the invention is a corrugated board shipping package for a household appliance comprising a front panel and a back panel and mutual side panels (3) provided between thereof fixed to each other to keep a household appliance in an empty volume delimited by said panels. The preferred embodiment of the invention comprises a circumferential segmentation path circumferentially surrounding the front panel, back panel and the side panels arranged in such a manner to split them into a cabin body upon applying a force. Instead of entirely disposing the package, the circumferential segmentation path allows obtaining a cabin body for use for various purposes after the household appliance is removed from the shipping package. Moreover, the amount of waste corrugated board left after the cabin body is removed from the shipping package allows comfortable placement of the same by the user into a waste container of household type. The cabin body can be used for different domestic purposes such as a toy house or pet house.

[0006] In one preferred embodiment of the invention, the circumferential segmentation path comprises a perforated portion. The corrugated board, for example the cardboard package can be easily detached by pulling without using an additional tool, for example scissors, knife, etc. thanks to the perforated portion. The perforated portion may constitute the entirety of the circumferential segmentation path as well as be combined with different separation members, for example weakened, etched areas, paths formed by pressure, etc..

[0007] In one preferred embodiment of the invention, the circumferential segmentation path has an enclosed shape extending continuously to the front panel, side panel and the back panel respectively and closing via the opposite side panel. Thus the cabin body can be detached in a single piece in such a manner to thoroughly take a transverse section from the shipping package. The continuous circumferential segmentation path may be a single line as well as may be provided as double or triple lines, in combination thereof or in combination with various discontinuous

circumferential segmentation paths.

[0008] In one preferred embodiment of the invention, the circumferential segmentation path comprises a roof line surrounding a roof extending so as to cover the cabin body from top, and wherein a first extension of the circumferential segmentation path extends to the front panel or to the back panel and a second extension adjacent and angled to the first extension extends to the adjacent side panel. In addition to the cabin body, the roof line can be detached from the shipping package and mounted on the cabin body. The shipping package is thus recycled more efficiently after the household appliance is removed.

[0009] In one preferred embodiment of the invention, the length of the first and the second extension are larger than the width of the side panel. In this case, when the roof is mounted on the cabin body, the portion projecting from the upper edge formed by said side panel forms an overhang.

[0010] In one preferred embodiment of the invention, the front panel and the back panel have the same shape and the circumferential segmentation path comprises a front line and a back line portion aligned on the same axial direction so as to form the corresponding upper edge of the cabin body. Thus, the cabin body can be stably covered on top by a panel, for example by the roof.

[0011] In one preferred embodiment of the invention, the circumferential segmentation path is configured in the form of a tab extending along the circumferential edges of the cabin body and bendable at its end. The tabs are formed by means of the circumferential segmentation path by detachment of the cabin body, and provide a joint point from top to another panel, for example to the roof, by bending them inwardly or outwardly.

[0012] A preferred application of the invention to achieve above-mentioned aims is a method for producing shipping package for a household appliance. The production method comprises the steps of forming the circumferential segmentation path extending transversely in identical form on the front panel, back panel and the side panels, and fixing the front panel and the back panel with the side panels to each other along the longitudinal edges thereof.

[0013] A preferred application of the invention comprises the step of forming of the perforated portion defining the transverse front line and the back line in a way to define the cabin body and the adjacent upper part by placing the front panel and the back panel in identical form on top of each other.

[0014] A preferred application of the invention comprises the use of the cabin body of a shipping package produced according to the above methods for a pet shelter.

[0015] A preferred application of the invention comprises the use of the cabin body of a shipping package produced according to the above methods for a toy house.

[0016] The household appliance realized to achieve the aims of the present invention is illustrated in the accompanying drawings, wherein:

[0017] Figure 1 is a front perspective view of a representative embodiment of a corrugated board shipping package of the invention for a refrigerator in an empty state.

[0018] Figure 2 is a rear perspective view of the corrugated board shipping package shown in figure 1.

[0019] The elements in the figures are numbered individually and the correspondence of these numbers are given hereinafter.

[0020] 1 Shipping package

[0021] 2 Front panel

[0022] 3 Side panel

[0023] 4 Base

[0024] 5 Upper flaps

[0025] 6 Back panel

[0026] 10 Cabin body

[0027] 12 Front wall

[0028] 13 Base frame

[0029] 14 Back wall

[0030] 15 Tab

[0031] 16 Side wall

[0032] 17 Side slot

[0033] 18 Door piece

[0034] 19 Front slot

[0035] 20 Upper segment

[0036] 30 Roof

[0037] 32 First extension

[0038] 34 Second extension

[0039] 36 Front corner

[0040] 40 Circumferential segmentation path

[0041] 41 Perforated portion

[0042] 42 Front line

[0043] 43 Door line

[0044] 44 Back line

[0045] 45 Side line

[0046] 46 Connecting piece line

[0047] 48 Roof line

[0048] Figure 1 is a perspective view of a shipping package (1) of the invention made of corrugated board for a refrigerator before loading the product, open from above. The hollow corrugated board shipping package (1) shaped as a rectangular prism comprises a planary front panel (2) and two mutually side panels (3) vertically mounted on thereof by their two long sides. A base (4) comprising two adjacent flaps (not shown) is fixed to the shipping package (1) in such a way that the side panels (3) and the front panel (2) covers it by their bottom edges. The base (4) has a base frame (13) standing circumferentially from bottom. The side panels (3) are narrower then the front panel (2) but are lengthwise equal with the front panel (2). Mutually independent upper flaps extend upwards from each one of the upper edges of the shipping package (1), i.e. from the front panel (2), side panels (3) and from a back panel (6) parallel to the front panel (2).

[0049] The front panel (2) is split transversally into two parts by means of a front line (42) of the circumferential segmentation path (40) so as to comprise a cabin body (10) in a lower part and an upper segment (20) in an upper part. The front line (42) has an upside down V-like shape forming an angular apex in the middle portion, and extends on the front wall (12) from

one of the vertical long sides to the opposite side. The front line (42) comprises small rectangular outwardly front slots (19). The slots (19) extend on the front line (42) to the upper part (20) in such a way to have an outer margin and comprise a bore on their inner portions. An offset tab (15) is provided on the upper portion of the front line (42). The outer margin of the front line (42) is formed by the outer edge of the tab (15) on the upper segment (20). The front line (45) reaches with its mutual ends a side line (45) on the side panel (3). The side line (45) is provided as a transverse planary line. Side slots (17) with a shape similar to the ones on the front line (42) are formed on the side line (45).

[0050] The cabin body (10) represents a roofless cabin form. The circumferential segmentation path (40) circumferentially delimits the cabin body (10) in an open top structure so that the inner chamber it forms is accessible from above. On the other side, the cabin body (10) is closed from bottom by the base (4). A door piece (18) is defined on the middle portion of the front wall (12) of the cabin body (10) by a door line (43). The door line (43) is configured in a size through which a child or a pet can pass.

[0051] A roof (30) is defined on the upper segment (20) by a roof line (48). The roof (30) consists of a first extension (32) on the side panel (3) and a second extension (34) extending perpendicularly to the first extension (32) on the front panel (2). The first extension (32) and the second extension (34) are integral on the side facing each other.

[0052] Figure 2 shows a rear perspective view of the same shipping package (1). A connecting piece line (46) is arranged on the back panel (6) so as to enable forming a plurality of connecting members in the form of short bolts, A back line (44) with the same structure as the one on the front panel (2) extends on the back panel (6). A front slot (19) structure similar to that on the front panel (2) is incorporated into the back line (44). In addition, a tab (15) of identical form with the one on the front panel (2) is provided on the front slot (19). The circumferential segmentation path (40) circumferentially circulates the entire shipping package (1) by the front line (42), the side lines (45) connected to thereof and the back line (44) connected to the side lines (45) by both ends, so as to separate the cabin

body (10) from the upper segment (20).

[0053] The user removes the product, for example the refrigerator from the shipping package (1) after purchase. Then the user detaches the upper segment (20) from the cabin body (10) by pulling upwards with the help of the perforated portion (41). Following, the user disconnects the roof (30) from the upper segment (20) with help of the roof line (48). He/she removes the door piece (18) from the front panel (2) with the help of the door line (43). The user then inwardly bends the tabs (15), and fixes the roof (30) to the cabin body (10) by placing the bolt shaped extensions detached with the help of the connecting piece line (46) on the back panel (6), to the front slots (19) and the side slots (17) engaged perpendicularly to the slits on the roof (30). Thus, only the portion of the upper segment (20) from which the roof (20) and the connecting bolts are removed is left of the shipping package (1).

Claims

1. Corrugated board shipping package (1) for household appliance comprising a front panel (2) and a back panel (6) and mutual side panels (3) provided between thereof fixed to each other to keep a household appliance in an empty volume delimited by the panels, characterized in that, a circumferential segmentation path (40) circumferentially surrounding the front panel (2), back panel (6) and the side panels (3) is arranged in such a manner to split them into a cabin body upon applying a force.
2. The shipping package (1) according to claim 1 wherein the circumferential segmentation path (40) comprises a perforated portion (41).
3. The shipping package (1) according to any one of the preceding claims, wherein the circumferential segmentation path (40) has an enclosed shape extending continuously to the front panel (2), side panel (3) and the back panel (6) respectively and closing via the opposite side panel (3).
4. The shipping package (1) according to any one of the preceding claims, wherein it comprises a roof line (48) surrounding a roof (30) extending so as to cover the cabin body (10) from top, and wherein a first extension (32) of the circumferential segmentation path (40) extends to the front panel (2) or to the back panel (6) and a second extension (34) adjacent and angled to the first extension (40) extends to the adjacent side panel (3).
5. The shipping package (1) according to claim 4, wherein the length of the first extension (32) and the second extension (34) are larger than the width of the side panel (3).
6. The shipping package (1) according to any one of the preceding claims, wherein the front panel (2) and the back panel (6) have the same shape and wherein the circumferential segmentation path (10) comprises a front line (42) and a back line (44) portion aligned on the same axial direction so as to form the corresponding upper edge of the cabin body (10).
7. The shipping package (1) according to any one of the preceding claims, wherein the circumferential segmentation path (40) is configured in the form of a tab (15) extending along the circumferential edges of the cabin body and bendable at its end.
8. Method for producing shipping package (1) for household appliance according

to any one of the preceding claims, comprising the steps of forming the circumferential segmentation path (40) extending transversely in identical form on the front panel (2), back panel (6) and the side panels (3), and fixing the front panel (2) and the back panel (6) along the longitudinal edges thereof with the side panels (3) to each other.

9. Method for producing shipping package according to claim 8, comprising the step of forming of the perforated portion (41) defining the transverse front line (42) and the back line (44) in a way to define the cabin body (10) and the adjacent upper part (20) by placing the front panel (2) and the back panel (6) in identical form on top of each other.
10. Use of the cabin body (10) of a shipping package (1) produced according to any one of claims 8 or 9 for a pet shelter.
11. Use of the cabin body (10) of a shipping package (1) produced according to any one of claims 8 or 9 for a toy house.

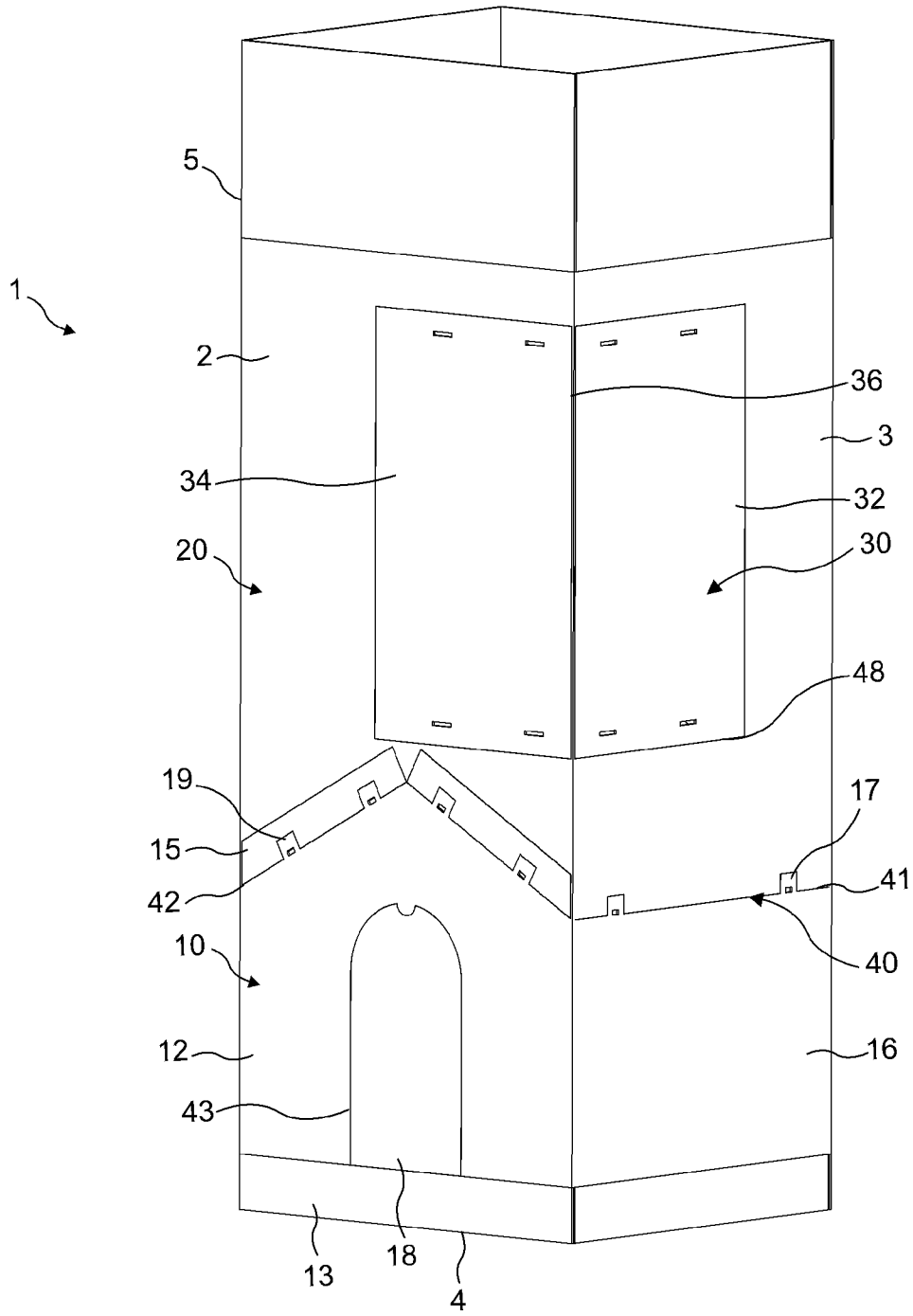


Figure 1

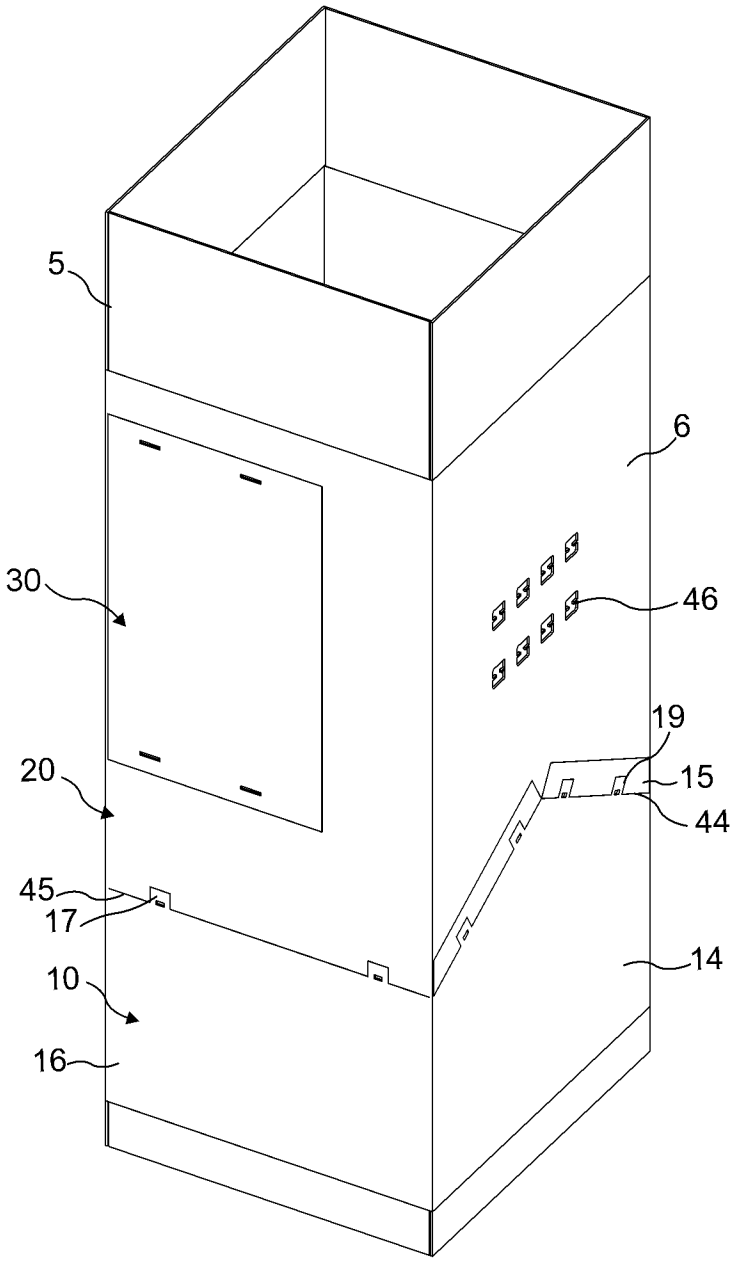


Figure 2

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/066716

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D5/02 B65D81/36 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	GB 2 447 280 A (DS SMITH PACKAGING LTD [GB]) 10 September 2008 (2008-09-10)	1-3,6-9
Y	page 3, line 18 - page 7, line 16; figures 1-10	4,5,10, 11

X	US 2003/080117 A1 (CHISHOLM GARY [US]) 1 May 2003 (2003-05-01)	1-3,6-9
Y	paragraph [0023] - paragraph [0045]; figures 2A, 2B, 2E	4,5,10, 11

Y	GB 529 913 A (GEORGE ROBERT YOUNGER) 2 December 1940 (1940-12-02)	4,5,10, 11
A	page 2, line 17 - page 2, line 89; figures 1-3	1-3,6-9

Y	GB 2 331 025 A (TOYBOARD LIMITED [GB]) 12 May 1999 (1999-05-12)	4,5,10, 11
A	page 2, line 4 - page 3, line 28; figures 1-5	1-3,6-9

☐ 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
30 August 2017	07/09/2017

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2017/066716

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2447280 A	10-09-2008	NONE	
US 2003080117 A1	01-05-2003	NONE	
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GB 2331025 A	12-05-1999	NONE	