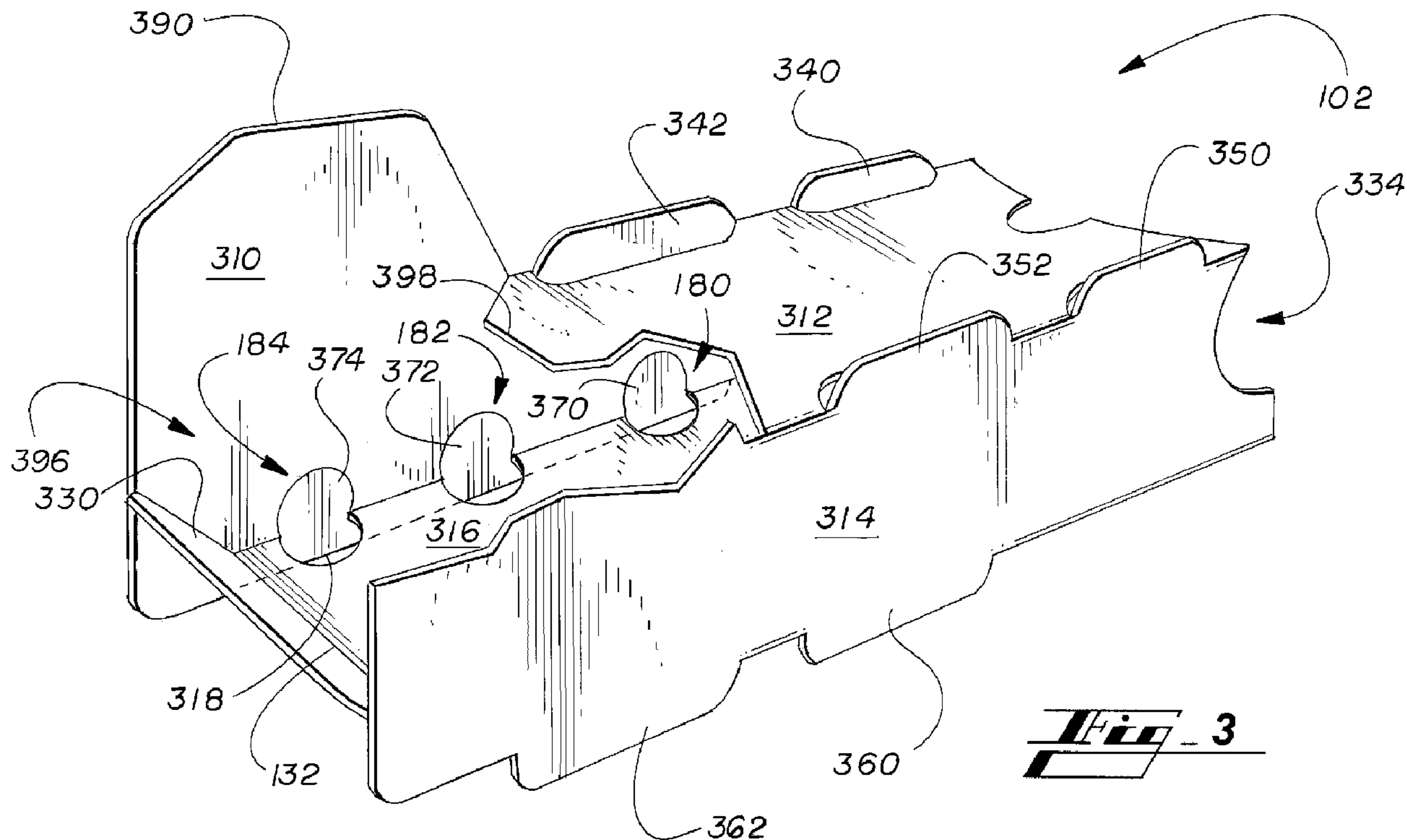




(86) **Date de dépôt PCT/PCT Filing Date:** 2014/12/12
 (87) **Date publication PCT/PCT Publication Date:** 2015/06/18
 (85) **Entrée phase nationale/National Entry:** 2016/06/09
 (86) **N° demande PCT/PCT Application No.:** US 2014/069890
 (87) **N° publication PCT/PCT Publication No.:** 2015/089348
 (30) **Priorité/Priority:** 2013/12/13 (US61/915,551)

(51) **Cl.Int./Int.Cl.** *B65D 5/72* (2006.01),
A47F 1/08 (2006.01), *A47F 1/12* (2006.01),
B65D 25/24 (2006.01), *B65D 5/32* (2006.01),
B65D 5/52 (2006.01)
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(54) **Titre : SYSTEMES ET PROCEDES POUR LA DISTRIBUTION D'ARTICLES**
 (54) **Title: SYSTEMS AND METHODS FOR DISPENSING ARTICLES**



(57) **Abrégé/Abstract:**

A device for dispensing articles includes an outer shell formed from a first blank and an insert formed from a second blank. The insert includes a backward slanted upper deck and a forward slanted lower deck. The insert is received in the outer shell and

(57) Abrégé(suite)/Abstract(continued):

frictionally retained in its operative position wherein the upper deck directs cylindrical articles toward the back end of the dispensing device onto the lower deck. The lower deck directs the cylindrical articles toward the front end of the dispensing device.

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

(19) World Intellectual Property
Organization
International Bureau(10) International Publication Number
WO 2015/089348 A3(43) International Publication Date
18 June 2015 (18.06.2015)

(51) International Patent Classification:

B65D 5/72 (2006.01) *B65D 25/24* (2006.01)
A47F 1/08 (2006.01) *B65D 5/32* (2006.01)
A47F 1/12 (2006.01) *B65D 5/52* (2006.01)

(21) International Application Number:

PCT/US2014/069890

(22) International Filing Date:

12 December 2014 (12.12.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/915,551 13 December 2013 (13.12.2013) US

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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, 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).

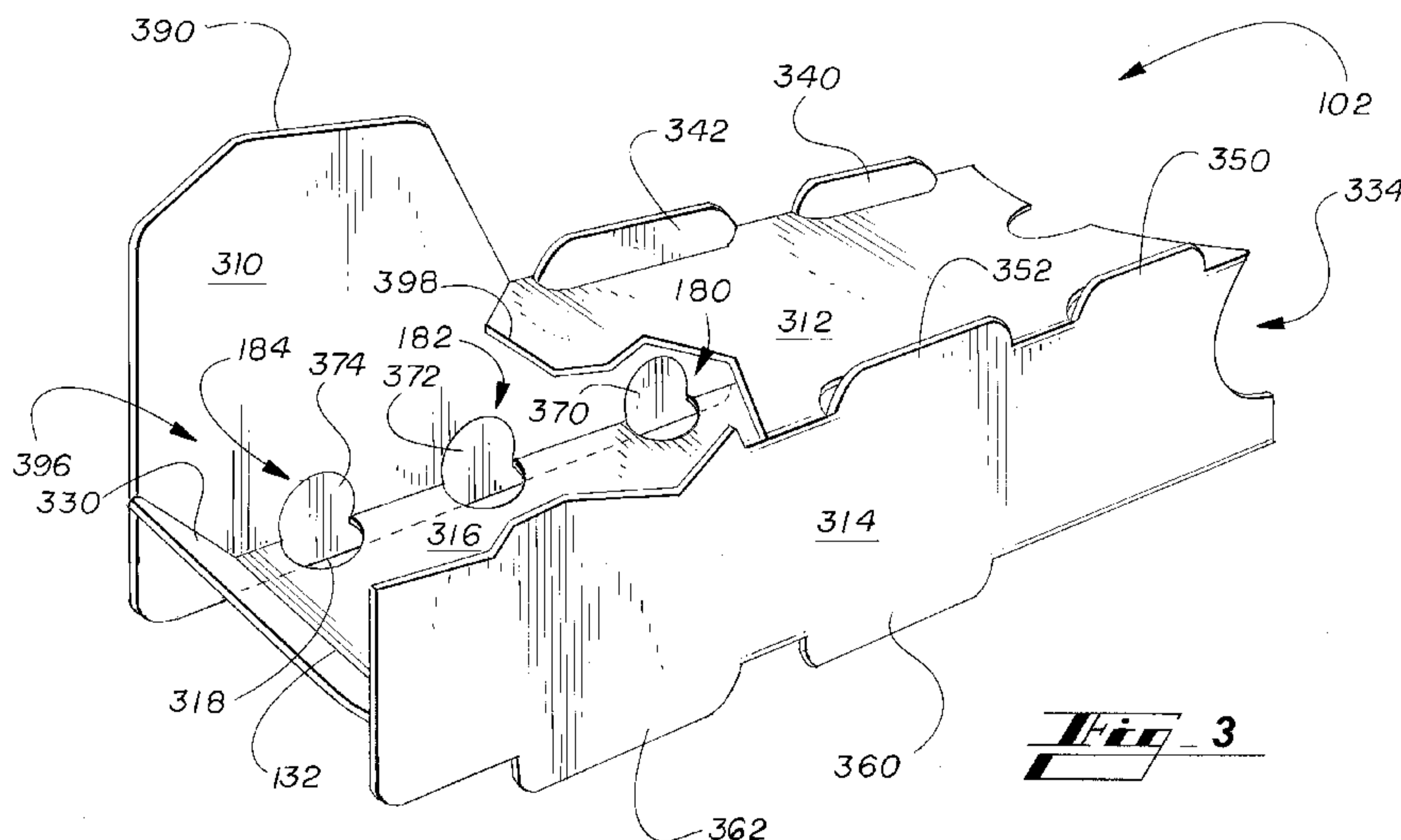
Published:

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

(88) Date of publication of the international search report:

30 July 2015

(54) Title: SYSTEMS AND METHODS FOR DISPENSING ARTICLES



(57) Abstract: A device for dispensing articles includes an outer shell formed from a first blank and an insert formed from a second blank. The insert includes a backward slanted upper deck and a forward slanted lower deck. The insert is received in the outer shell and frictionally retained in its operative position wherein the upper deck directs cylindrical articles toward the back end of the dispensing device onto the lower deck. The lower deck directs the cylindrical articles toward the front end of the dispensing device.

SYSTEMS AND METHODS FOR DISPENSING ARTICLES

TECHNICAL FIELD

This disclosure relates generally to systems and methods for dispensing
5 cylindrical articles.

BACKGROUND

Various dispensing devices are used to display and to dispense cylindrical
articles, such as beverage cans or bottles. However, such dispensing devices
10 are generally formed from rigid plastics, which are costly.

SUMMARY

Supporting devices described below are configured to support cartons
from which cylindrical articles (e.g., cans, bottles, rolled web like items).

15 According to one aspect of the present disclosure, a supporting device
includes opposed ends, a top panel slanted downwardly towards one of the
opposed ends, a bottom panel, and a pair of first and second opposed side
panels disposed between the top and bottom panels to form a tubular structure.
At least one of the first and second side panels is hingedly connected to the top
20 panel, and the at least one of the first and second side panels comprises at least
one guide that extends above the top panel.

In one embodiment, the at least one guide may be formed from part of the
top panel.

Dispensing devices described below are configured to receive cylindrical
25 articles (e.g., cans, bottles, rolled web-like items), either in a packaged or discrete
condition, on a backward slanted upper deck. The backward-slanted upper deck
directs the cylindrical articles toward a back end of the dispensing device onto a
forward-slanted lower deck of the dispensing device. The forward slanted lower
deck directs the cylindrical articles toward a front end of the dispensing device
30 where the cylindrical articles may be removed one at a time. As the forward most

cylindrical article is removed, the remaining articles are gravity fed backward along the backward-slanted upper deck and forward on the forward-slanted lower deck until another article is in position to be removed.

According to an exemplary embodiment, a dispensing device includes an
5 insert and an outer shell formed from two separate blanks respectively. The insert includes an upper deck slanted downwardly towards a back end and a lower deck slanted downwardly towards a front end.

The foregoing has broadly outlined some of the aspects and features of the present disclosure, which should be construed to be merely illustrative of
10 various potential applications. Other beneficial results can be obtained by applying the disclosed information in a different manner or by combining various aspects of the disclosed embodiments. Accordingly, other aspects and a more comprehensive understanding may be obtained by referring to the detailed description of the exemplary embodiments taken in conjunction with the
15 accompanying drawings, in addition to the scope defined by the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of an insert blank.

FIG. 2 is a plan view of an outer shell blank.

20 FIG. 3 is a cut-away perspective view of an insert/supporting device formed from the insert blank of FIG. 1.

FIG. 4 is an exploded perspective view of a dispensing device and a carton, the dispensing device including the insert of FIG. 3 and an outer shell formed from the outer shell blank of FIG. 2.

25 FIG. 5 is a partial perspective view of the dispensing device of FIG. 4.

FIG. 6 is a partial perspective view of the dispensing device of FIG. 5.

FIG. 7 is a perspective view of the dispensing device and carton of FIG. 4.

DETAILED DESCRIPTION

Detailed embodiments are disclosed herein. It must be understood that the disclosed embodiments are merely exemplary of various and alternative forms, and combinations thereof. As used herein, the word “exemplary” is used
5 expansively to refer to embodiments that serve as illustrations, specimens, models, or patterns. The figures are not necessarily to scale and some features may be exaggerated or minimized to show details of particular components. In other instances, well-known components, systems, materials, or methods have not been described in detail in order to avoid obscuring the present disclosure.
10 Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art.

A dispensing device described herein is formed from two or more blanks. Each blank useful to form the device is a sheet of substrate. As used herein, the
15 term “substrate” includes all manner of foldable sheet material such as paperboard, corrugated board, cardboard, plastic, and the like.

A supporting device described herein may be formed from one blank. The blank useful to form the supporting device is a sheet of substrate such corrugated board. The dispensing may be used alone to display a carton or cartons
20 supported thereon or may be used along with an outer shell to provide a dispensing device described herein.

Exemplary embodiments of dispensing devices described herein are configured to dispense cans from a carton. However, dispensing devices can be configured to dispense cans or other cylindrical articles such as bottles, rolled
25 web-like articles or the like, either in a packaged or discrete condition. The term “discrete condition” used herein refers to the condition wherein the cylindrical articles are not packaged in a carton or other container, or otherwise not bundled or clustered into a single unit.

Exemplary embodiments of supporting devices described herein each is
30 configured to support one carton. However, supporting devices can be configured to support two or more cartons each containing multiple cylindrical articles such as cans, bottles, rolled web-like articles or the like.

As used herein, the term “fold line” refers to all manner of lines that define hinge features in a substrate of sheet material, for facilitating folding portions of the substrate with respect to one another, or otherwise for indicating optimal folding locations in the substrate. For example, a fold line should not be construed as necessarily referring to a single fold line only: indeed a fold line can be formed from one or more parallel weakened lines. A fold line may be, but not limited to, a single score line, a single half cut, a line of perforations, a line of short slits (i.e., an interrupted slit), a line of half-cuts, a line of cuts (i.e., an interrupted cut line), a series of short score lines (i.e., an interrupted score line), any combination thereof or the like. For ease of distinguishing, fold lines are shown as dashed lines in illustrations of blanks.

As used herein, the term “severance line” refers to all manner of lines formed in a substrate of sheet material, that facilitate separating portions of the substrate from one another, or otherwise indicate optimal separation locations on the substrate. For example, a severance line in a substrate of sheet material is predisposed to allow a tear to propagate there-along. A severance line may be a weakened line which includes, but not limited to, a single cut, a single slit, a single half cut, a line of perforations, a line of short slits (i.e., an interrupted slit), a line of half-cuts, a line of cuts (i.e., an interrupted cut line), a series of short score lines (i.e., an interrupted score line), any combination thereof or the like. The elements of a fold line or severance line (such as cuts, scores and half cuts) may be dimensioned and arranged to provide the desired functionality.

The elements of each fold line or each severance line, such as perforations, short slits, half-cuts, slits and scores, can be dimensioned and arranged to provide the desired functionality. For example, a line of perforations can be dimensioned or designed with degrees of weakness to define a fold line and/or a severance line. The line of perforations can be designed to facilitate folding and resist breaking to provide a fold line, to facilitate folding and facilitate breaking with more effort to provide a severable or frangible fold line, or to facilitate breaking with little effort to provide a severance line.

The words “aligned” and “alignment” as used herein each refers to alignment of two or more elements in an erected device, such as an aperture formed in a first of two overlapping panels and a second aperture formed in a second of two

overlapping panels. Those elements aligned or in alignment with each other may be aligned with each other in the direction of the thickness of the overlapping panels, the direction along a plane of a panel or simply either vertically or horizontally aligned. For example, when an aperture in a first panel is “aligned with” or “in alignment with” a second aperture in a second panel that is placed in an overlapping arrangement with the first panel, an edge of the aperture may extend along at least a portion of an edge of the second aperture and may be aligned, in the direction of the thickness of the first and second panels, with the second aperture.

10 Referring now to the drawings, wherein like numerals indicate like elements throughout the several views, the drawings illustrate certain of the various aspects of exemplary embodiments of a dispensing device that is configured to dispense articles from a carton that is supported on the dispensing device.

15 Referring to FIGs. 1-7, an insert blank (or bank of a supporting device) 100 (see FIG. 1) is formed from corrugated board. The blank 100 is configured to be folded and secured to form an insert 102 (see FIGs. 3 and 4) of a tubular structure. An outer shell blank 104 (see FIG. 2) is formed also from corrugated board. The blank 104 is separate from the blank 102. The blank 104 is
20 configured to be folded and secured to form an outer shell 106 (see FIG. 4) of a tubular structure. The insert 102 and the outer shell 106 are combined to form a dispensing device 108 (see FIGs. 4 and 7).

INSERT BLANK FIG. 1

25 Continuing with FIG. 1, the insert blank 100 includes a first side panel 110, a top panel 112, a second side panel 114, a bottom panel 116, and an edge panel 118. The panels are hingedly connected one to the next along fold lines. First side panel 110 is hingedly connected to the top panel 112 along a fold line 120, the top panel 112 is hingedly connected to the second side panel 114 along a fold line 122, the second side panel 114 is hingedly connected to the bottom panel 116 along a fold line 124, and the bottom panel 116 is hingedly connected to the edge panel 118 along a fold line 126.
30

A back guide panel 130 is hingedly connected to a back edge of the bottom panel 116 along a fold line 132.

The fold line 120 is interrupted by a curved severance line 140, a curved severance line 142, and an angled severance line 144. The fold line 122 is interrupted by a curved severance line 150, a curved severance line 152, and an angled severance line 154. The fold line 124 is interrupted by a curved severance line 160, a curved severance line 162, and a severance line 164. The fold line 126 is interrupted by a circular severance line 170, a circular severance line 172, a circular severance line 174, and a severance line 176.

A bottom edge of the first side panel 110 includes a circular cutout 180, a circular cutout 182, and a circular cutout 184. The first side panel 110 includes a wing portion 190 and the second side panel 114 includes a wing portion 192. The wing portion 190 and the wing portion 192 are separated from one another by a severance line 194. The wing portion 190 and the wing portion 192 are separated from the top panel 112 by an aperture 196.

The first side panel 110 includes a curved front edge 200. The top panel 112 includes a curved front edge 202. The second side panel 114 includes a curved front edge 206. The curved front edge 202 includes a medial cutout 204. The bottom panel 116 includes a slot 208.

OUTER SHELL BLANK FIG. 2

Referring to FIG. 2, the outer shell blank 104 includes an edge panel 210, a top panel 212, a first side panel 214, a bottom panel 216, and a second side panel 218. The edge panel 210 is hingedly connected to the top panel 212 along a fold line 220. The top panel 212 is hingedly connected to the first side panel 214 along a double fold line 222. The first side panel 214 is hingedly connected to the bottom panel 216 along a fold line 224. The bottom panel 216 is hingedly connected to the second side panel 218 along a double fold line 226.

The outer shell blank 104 includes a back panel 232, a first back flap 234, and a second back flap 238 that are configured to form a back wall of the outer shell 106. The back panel 232 is hingedly connected to the top panel 212 along

a fold line 242. The first back flap 234 is hingedly connected to the first side panel 214 along a fold line 244. The second back flap 238 is hingedly connected to the second side panel 218 along a fold line 248. A securing tab 250 is hingedly connected to the back panel 232 along a fold line 252 at a bottom edge of the back panel 232.

The outer shell blank 104 includes features for forming a front stopping wall of the dispensing device 108. The outer shell blank 104 includes a first front flap 254, a front wall panel 256, and a second front flap 258. The first front flap 254 is hingedly connected to the first side panel 214 along a fold line 264. The front wall panel 256 is hingedly connected to the bottom panel 216 along a fold line 266. The second front flap 258 is hingedly connected to the second side panel 218 along a fold line 268.

The front wall panel 256 includes an inner panel 270 and an outer panel 272. The inner panel 270 is hingedly connected to the outer panel 272 along a double fold line 274. The fold line 274 is substantially parallel to the fold line 266 along which the outer front panel 272 is hingedly connected to the bottom panel 216. The inner panel 270 is distal from the fold line 266 and the outer panel 272 is proximal to the fold line 266.

The bottom panel 216 includes a slot 276 that is adjacent the fold line 266. The inner panel 270 includes a locking tab 278. The locking tab 278 is positioned at the distal end of the front wall panel 256 and is configured to be received in the slot 276.

The top panel 212 includes a curved front edge 280, the first side panel 214 includes a curved front edge 282, and the second side panel 218 includes a curved front edge 284. The first side panel 214 includes a cutout 286 adjacent the fold line 264. The second side panel 218 includes a cutout 288 adjacent the fold line 268.

FORMING DISPENSING DEVICE

The insert/supporting device 102, the outer shell 106, and the dispensing device 108 can be erected from the insert blank 100 and the outer shell blank

104 with folding and securing operations described below. The order of the steps can be altered according to manufacturing requirements, steps may be added or omitted, and the means for securing components to one another may vary. For example, the surfaces of sheet material may be secured together by means for
5 securing including tape, staples, interlocking folds, hook and loop fasteners, glue or other adhesives, combinations thereof, and the like.

FORMING INSERT OR SUPPORTING DEVICE

Referring to FIGs. 1, 3, and 4, an exemplary method of folding and
10 securing the blank 100 to form the insert/supporting device 102 is now described. The outside surface of the insert blank 100 is shown in FIG. 1. The edge panel 118 is folded along fold line 126 toward the outside surface of the bottom panel 116 to be substantially perpendicular to the bottom panel 116. The first side panel 110, the top panel 112, and the second side panel 114 are folded toward the
15 inside surface of the bottom panel 116 along the fold line 120, the fold line 122, and the fold line 124.

The circular cutout 180, the circular cutout 182, and the circular cutout 184 are positioned to receive engaging tabs 370, 372, 374 (Figure 3) that are defined by the circular severance lines 170, 172, 174 respectively. The engaging tabs
20 370, 372, 374 are received in the circular cutouts 180, 182, 184 to be coplanar with the first side panel 110. The tab and cutout locking mechanism that connects the bottom panel 116 and the first side panel 110 does not protrude into the insert/supporting device 102 and thereby provides a clear pathway for an article moving through the insert/supporting device 102.

25 The tab and cutout locking mechanism restricts movement of the first side panel 110 in the plane defined by the first side panel 110 (e.g., longitudinal and vertical movement). The insert/supporting device 102 is further supported by the outer shell 106 as described in further detail below to restrict movement perpendicular to the plane defined by the first side panel 110 (e.g., horizontal
30 movement).

The first side panel 110, the top panel 112, the second side panel 114, and the bottom panel 116 provide a tubular structure and define the walls of the

insert/supporting device 102. The first side panel 110 defines a first side wall 310, the top panel 112 defines a top wall 312, the second side panel 114 defines a second side wall 314, and the bottom panel 116 defines a bottom wall 316.

The curved severance line 140 defines a carton guide 340, the curved
5 severance line 142 defines a carton guide 342, the curved severance line 150 defines a carton guide 350, and the curved severance line 152 defines a carton guide 352. The carton guides extend above the top wall 312 along the length of the top wall 312 to position and keep a carton straight as it is inserted into the dispensing device 108 and moves across the top wall 312.

10 Similarly, the wing portion 190 defines a wing 390 and the wing portion 192 defines a wing 392. The wing 390 and the wing 392 position and secure a carton toward a back end of the first side wall 310 and the second side wall 314 adjacent a top opening 396. The top opening 396 is adjacent a back edge 398 of the top wall 312. The wings 390, 392 extend farther up the side wall of a carton
15 than the carton guides 340, 342, 350, 352 and thereby provide more support. Additional support at the back end of a carton keeps the carton square to facilitate movement of articles out of the carton and through the top opening 396 as described in further detail below.

The curved severance line 160 defines a foot 360 and the curved
20 severance line 162 defines a foot 362. The edge panel 118 defines a foot 318. The foot 360, the foot 362, and the foot 318 are tapered and angle the bottom wall 316. A plane of the bottom wall 316 is at an angle with respect to a plane that includes (e.g., is defined by) the coplanar bottom edges of the foot 360, the foot 362, and the foot 318. The bottom wall 316 slants downwardly from a back
25 end of the insert/supporting device 102 towards a front end of the insert/supporting device 102.

A plane of the top wall 312, for example as defined by the fold line 120 and the fold line 122, is at an angle with respect to a plane defined by the coplanar bottom edge of the foot 360, the foot 362, and the foot 318. The top wall 312
30 slants downwardly from the front end of the insert/supporting device 102 towards the back in of the insert/supporting device 102.

The back guide panel 130 is folded toward the back edge 398 of the top wall 312 along the fold line 132 to provide a back guide 330. The back guide 330 is positioned below the top opening 396 to facilitate the movement of articles from the top wall 312 to the bottom wall 316.

5 The curved front edge 200, the curved front edge 202, and the curved front edge 206 define a front end opening 334 that facilitates removing an article from the dispensing device 108. The front end opening 334 extends along the side walls 310, 314 to allow a hand to grasp the ends of an article.

The insert/supporting device 102 thus constructed may be used alone to display a carton which may be placed on the top wall 312. To use the supporting device 102 alone without combining it with an outer shell, the supporting device 102 may be placed on a store shelf with the back guide 330 facing a store isle or consumers. A carton containing multiple cylindrical articles may be placed on the top wall with a dispensing feature (or otherwise access opening) of the carton facing the store isle or the consumers. The size of the supporting device may be enlarged or modified to support two or more cartons on the top wall.

FORMING OUTER SHELL

Referring to FIGs. 2 and 4, an exemplary method of folding and securing the outer shell blank 104 to form the outer shell 106 is now described. The inside surface of the outer shell blank 104 is shown in FIG. 2. The top panel 212 is folded toward the first side panel 214 along the fold line 222 such that the inside surface of the top panel 212 is in contact with the inside surface of the first side panel 214 and the inside surface of the edge panel 210 is in contact with the inside surface of the first side panel 214.

Glue or other adhesive is applied to the outside surface of the edge panel 210. The second side panel 218 is folded toward the inside surface of the bottom panel 216 and toward the inside surface of the first side panel 214. The inside surface of the second side panel 218 overlaps the inside surface of the bottom panel 216, the inside surface of the first side panel 214, and the outside surface of the edge panel 210. The inside surface of the second side panel 218 is

secured to the outside surface of the edge panel 210 and the second side panel 218 is thereby hingedly connected to the top panel 212 along the fold line 220.

The top panel 212, the first side panel 214, the bottom panel 216, and the second side panel 218 provide a collapsed tubular structure. The collapsed
5 tubular structure is erected by folding along the fold line 220, the fold line 222, the fold line 224, and the fold line 226 until the top panel 212 is substantially perpendicular to the first side panel 214 in the second side panel 218 and the bottom panel 216 is substantially perpendicular to the first side panel 214 and the second side panel 218. The top panel 212 defines a top wall 412, the first side
10 panel 214 defines a first side wall 414, the bottom panel 216 defines a bottom wall 416, and the second side panel 218 defines a second side wall 418. The erected tubular structure includes a front open end 434 and a back open end.

The curved front edge 280, the curved front edge 282, the curved front edge 284, the cutout 286, and the cutout 288 define the front open end 434. The
15 curved front edges 280, 282, 284 together provide a recessed upper area of the front open end 434, which facilitates displaying, inserting, and removing a carton. The cutouts 286, 299 extend along the side walls 414, 418 to allow a hand to grasp the ends of an article.

The first back flap 234 and the second back flap 238 are folded inwardly
20 along the fold line 244 and the fold line 248 toward the back open end until they are substantially coplanar. The back panel 232 is folded inwardly toward the back open end and overlaps the outside surfaces of the first back flap 234 and the second back flap 238. The tab 250 is folded along the fold line 252 and tucked under a lower edge the first back flap 234 and a lower edge of the second
25 back flap 238 with the outside surface of the tab 250 in contact with the bottom wall 416. The tab 250 includes hooked ends and secures the back panel 232 in place. The back panel defines a back wall 432 of the outer shell 106.

COMBINING INSERT AND OUTER SHELL

30 Referring to FIG. 4, the dispensing device 108 is further formed by inserting the insert 102 into the outer shell 106. The back end of the insert 102 is inserted through the front open end 434 of the outer shell 106 until the back edge

of the insert 102 is against the back wall 432. The foot 318, the foot 360, and the foot 362 rest on the bottom wall 416. The slot 208 aligns with the slot 276. The curved front edges 200, 206 align with the cutouts 286, 288. A distal edge of the back guide 330 is in contact with the back wall 432.

5 The first side wall 310 is supported by the first side wall 414 and the tabs 370, 372, 374 are supported in the circular cutouts 180, 182, 184 by the first side wall 414. For example, the first side wall 414 restricts the horizontal or lateral movement of the first side wall 310 or the tabs 370, 372, 374.

10 Referring to FIGs. 4-6, a front stopping wall of the dispensing device 108 is formed and the front end of the insert 102 is thereby secured in place in the outer shell 106. The first front flap 254 and the second front flap 258 are folded inwardly towards the front open end 434 of the outer shell 106 along the fold line 264 and the fold line 268 to be substantially coplanar with one another. The front wall panel 256 is folded along the fold line 266 and the fold line 274 over the first
15 front flap 254 and the second front flap 258. The inside surface of the outer panel 272 is in flat face contact with the outer surfaces of the first and second front flaps 254, 258. The inside surface of the inner panel 270 is in flat face contact with the inside surfaces of the first and second front flaps 254, 258. The locking tab 278 is inserted into the aligned slots 208 276 to lock the inner and
20 outer front panels 270, 272 in place and thereby to form a front wall 456.

DISPENSING DEVICE

25 The dispensing device 108 is thereafter formed as shown in FIG. 7. The dispensing device 108 includes a first side wall 510, a top wall 512, a second side wall 514, a bottom wall 516, a front wall 518, a back wall 520, a forward slanted lower deck 530, and a backward slanted upper deck 532. The first side wall 310 and the first side wall 414 define the first side wall 510; the top wall 412 defines the top wall 512; the second side wall 314 and the second side wall 418 define the second side wall 514; the bottom wall 416 defines the bottom wall 516; the
30 front wall 456 defines the front wall 518; the back wall 432 defines the back wall 520; the bottom wall 316 defines the forward slanted lower deck 530; and the top wall 312 defines the backward slanted upper deck 532.

The dispensing device includes a carton opening 540 for receiving a carton on the backward slanted upper deck 532 and includes a dispensing opening 542 through which articles 602 can be removed. The carton opening 540 is defined by an upper portion of the front open end 434 and the backward slanted upper deck 532. The dispensing opening 542 is defined by a lower portion of the front open end 434, the front end opening 334, and the front wall 518. The front wall 518 obstructs the movement of articles at the lower end of the forward slanted lower deck 530 to position articles to be removed through the dispensing opening 542. The dispensing opening 542 extends along the first side wall 510 and the second side wall 514 to allow a hand to engage ends of a forwardmost article 602.

CARTON

The carton 600 illustrated in FIG. 4 is packaging for a plurality of cylindrical articles 602. The carton 600 includes a first side wall 610, a top wall 612, a second side wall 614, a bottom wall 616, a front wall 618, and a back wall 620. When inserted into the carton opening 540, the bottom wall 616 of the carton 600 rests on the backward slanted upper deck 532 of the dispensing device 108, the first side wall 610 is supported by the first side wall 510, the top wall 612 is supported by the top wall 512, the second side wall 614 is supported by the second side wall 514, and the back wall 620 is supported by the back wall 520. The curved front edge 202 of the backward slanted upper deck 532 is offset or not parallel to the lower edge of the front wall 618 to prevent wear or other damage to the curved front edge 202.

The bottom wall 616 of the carton 600 includes a bottom opening 630. The bottom opening 630 is formed toward the back wall 620 such that, when the carton 600 is received in the dispensing device 108, the bottom opening 630 aligns with the top opening 396 and articles 602 are allowed to move through both the bottom opening 630 and the top opening 396.

30

DISPENSING METHOD

The carton 600 is inserted into the carton opening 540 and slides across the backward slanted upper deck 532 until it reaches the back wall 520. As the carton 600 rests on the backward slanted upper deck 532, articles 602 in the carton 600 are biased or directed toward a back end of the dispensing device 108 (e.g., back wall 520) where the articles 602 can move through the aligned openings 396, 630, and onto the forward slanted lower deck 530.

To prevent bridging, the back guide 330 is configured to push an article that moves through the aligned openings 396, 630 forward towards the front end of the dispensing device 108 (e.g., away from back wall 520). The back guide 330 is angled with respect to the back wall 520.

The forward slanted lower deck 530 biases or directs the articles 602 toward a front end of the dispensing device 108 (e.g., the front wall 518). The front wall 518 stops an article 602 and positions the article 602 next to the dispensing opening 542 where the article 602 can be dispensed from the dispensing device 108 through the dispensing opening 542.

The above-described embodiments are merely exemplary illustrations of implementations set forth for a clear understanding of principles. Variations, modifications, and combinations may be made to the above-described embodiments without departing from the scope of the claims. All such variations, modifications, and combinations are included herein by the scope of this disclosure and the following claims.

CLAIMS

What is claimed is:

1. A supporting device, comprising:
 - opposed ends;
 - a top panel slanted downwardly towards one of the opposed ends;
 - a bottom panel; and
 - a pair of first and second opposed side panels disposed between the top and bottom panels to form a tubular structure, at least one of the first and second side panels being hingedly connected to the top panel,wherein the at least one of the first and second side panels comprises at least one guide that extends above the top panel.
2. The supporting device of claim 1, wherein the at least one guide is formed from part of the top panel.
3. The supporting device of claim 2, wherein the supporting device is formed from a blank of foldable sheet material, and wherein the at least one guide is defined by a severance line in the top panel when the supporting device is in a form of the blank.
4. The supporting device of claim 1, wherein the at least one of the first and second side panels is connected to the top panel along a fold line, and wherein the at least one guide extends above the fold line.
5. The supporting device of claim 4, wherein the supporting device is formed from a blank of foldable sheet material, and wherein the at least one guide extends across the fold line into the top panel when the supporting device is in a form of the blank.

6. The supporting device of claim 5, wherein the at least one guide interrupts the fold line and divide the fold line into at least two fold line sections.
7. The supporting device of claim 6, wherein the at least one guide is defined by a severance line in the top panel when the supporting device is in a form of the blank, the severance line extending between the at least two fold line sections.
8. The supporting device of claim 1, wherein the at least one of the first and second side panels is connected to the top panel along a fold line, the at least one guide comprises a plurality of guides, and the guides are disposed along the fold line.
9. The supporting device of claim 1, wherein the first and second side panels are hingedly connected to opposed side edges of the top panel respectively, and wherein the at least one guide comprises guide panels extending from the first and second side panels respectively.
10. The supporting device of claim 1, wherein the at least one guide is brought into contact with a carton when the carton is placed on the top panel so as to position and keep the carton straight.
11. A dispensing device, comprising:
an outer shell formed from a first blank; and
an insert formed from a second blank separate from the first blank, the insert being received in the outer shell, the insert comprising:
an upper deck slanted downwardly towards a back end of the dispensing device; and

a lower deck slanted downwardly towards a front end of the dispensing device.

12. The dispensing device of claim 11, wherein the insert further comprises a pair of first and second opposed side walls interconnecting the upper and lower decks to form a tubular structure.

13. The dispensing device of claim 12, wherein at least one of the first and second side walls comprises a guide portion that extends above the upper deck.

14. The dispensing device of claim 12, wherein the insert comprises a first foot that is hingedly connected to the lower deck.

15. The dispensing device of claim 14, wherein the first foot at least partially defines the downward slanting angle of the lower deck.

16. The dispensing device of claim 15, wherein one of the first side wall and the second side wall includes a second foot, the second foot at least partially defining the downward slanting angle of the lower deck.

17. The dispensing device of claim 14, wherein the first foot comprises an engaging tab and one of the first and second side walls comprising a cutout, wherein the engaging tab is received in the cutout to connect the first foot to the one of the first and second side walls.

18. The dispensing device of claim 17, wherein the tab is coplanar with the one of the first and second side walls.

19. The dispensing device of claim 17, wherein the first foot and the one of the first and second side walls are disposed in flat face contacting relationship with a side wall of the outer shell such that the first foot and the one of the first and second side walls are substantially vertically aligned..

20. The dispensing device of claim 11, wherein a back guide is hingedly connected to a back edge of the lower deck.

21. The dispensing device of claim 20, wherein a distal edge of the back guide is in abutment on a back wall of the outer shell.

22. The dispensing device of claim 21, wherein the insert has an opening defined in part by a back edge of the upper deck, the opening being positioned above, and in substantial vertical alignment with, the back guide.

23. The dispensing device of claim 11, the outer shell comprising:
a bottom wall, the bottom wall comprising a first slot; and
a front wall, the front wall comprising a locking tab, the lower deck of the insert comprising a second slot,
wherein the first slot is aligned with the second slot; and
wherein the locking tab is received in the first slot and the second slot.

24. The dispensing device of claim 23, the outer shell further comprising:
a first side wall and a first front flap hingedly connected to the first side wall;
and

a second side wall and a second front flap hingedly connected to the second side wall,

wherein the front wall further comprises a pair of inner and outer front panels disposed in opposed parallel relationship with the first and second front flaps disposed therebetween, the outer front panel being hingedly connected to the bottom wall.

25. The dispensing device of claim 24, wherein the inner front panel includes the locking tab.

26. The dispensing device of claim 24, wherein the outer front panel overlaps an outside surface of each of the first front flap and the second front flap.

27. The dispensing device of claim 11, further comprises a dispensing opening at the front end.

28. The dispensing device of claim 27, wherein the dispensing opening is adjacent a lower end of the lower deck.

29. The dispensing device of claim 11, wherein the outer shell comprises a top wall, a first side wall, a second side wall, a bottom wall, and a front open end.

30. The dispensing device of claim 11, wherein the dispensing device is configured to receive a carton on the upper deck.

