

PatBase - Search results 25 November 2019

Search query (1): [SP]: Un extremo de metal para unir sobre un cuerpo del recipiente de metal, el extremo comprendiendo: un rizo externo (1); un panel central (4) dentro del rizo externo (1); una anilla (9) que tiene un eje longitudinal (A); un remache (8) que asegura la anilla (9) al panel central (4); una marca (14) en el panel central (4) que tiene dos extremos separados que definen una bisagra (7) entre ellos, la bisagra (7) tendiéndose sobre un lado de dicho eje longitudinal (A) cuando la anilla (9) está en su orientación no abierta normal, de tal manera que la operación de la anilla (9) fractura la marca (14) y hace que la región del panel central dentro de la marca (14) gire alrededor de la bisagra (7) y provea una apertura en el panel central (4), en donde, cuando la anilla (9) se encuentra en su orientación no abierta normal, la marca (14) se extiende dentro de una región del panel central (4) que está detrás de una línea central (B) que atraviesa el centro del remache (8) y es perpendicular a dicho eje longitudinal (A), y en el otro lado del eje longitudinal (A) y la línea central (B) desde la bisagra (7).

Results: 11

1) Family number: 58072004 (US2016130031A) © PatBase

Title: CAN LID AND BEVERAGE CAN

Priority: JP20130125055 20130613 JP20130245407 20131127 JP20130245408 20131127
JP20140121887 20140612 CN201480032377 20140613 EP20140811374 20140613
WO2014JP65798 20140613

Family:	Publication number	Publication date	Application number	Application date
	CN105263812 A	20160120	CN201480032377	20140613
	CN105263812 B	20180406	CN201480032377	20140613
	CN106428898 A	20170222	CN201611089811	20140613
	CN106428898 B	20180828	CN201611089811	20140613
	CN108177847 A	20180619	CN201810127496	20140613
	CN108177847 B	20190913	CN201810127496	20140613
	EP3009370 A1	20160420	EP20140811374	20140613
	EP3009370 A4	20170426	EP20140811374	20140613
	EP3009370 B1	20190918	EP20140811374	20140613
	EP3366601 A1	20180829	EP20180166343	20140613
	JP2015000734 A2	20150105	JP20130125055	20130613
	JP2015101398 A2	20150604	JP20130245407	20131127
	JP2015101399 A2	20150604	JP20130245408	20131127
	JP2016000621 A2	20160107	JP20140121887	20140612
	JP6168653 B2	20170726	JP20130125055	20130613
	JP6243207 B2	20171206	JP20130245408	20131127
	JP6335490 B2	20180530	JP20130245407	20131127
	US2016130031 AA	20160512	US20140897384	20140613
	WO14200098 A1	20141218	WO2014JP65798	20140613

Probable Assignee: SHOWA ALUMINUM CAN CORP

Assignee(s):(std): SHOWA ALUMINIUM CAN KK ; SHOWA ALUMINUM CAN CORP

Assignee(s): SHOWA ALUMINUM KAN KK

Inventor(s):(std): IKEDA KAZUNORI ; TASHIRO YASUSHI ; OJIMA SHINICHI ; SUWA ASUMI ; KASHIWAZAKI TETSUO ; OKADA HIROYUKI ; KOJIMA SHINICHI

Agent(s): STREHL SCHUEBEL HOPF AND PARTNER; FURUBE JIRO; FURUBE JIRO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B65D1/20 B65D17/00 B65D17/28 B65D17/32 B65D17/34 B65D17/347 B65D17/353 B65D8/00 (Advanced/Invention)

CPC: B65D17/4012 B65D2517/0014 B65D17/404 B65D1/20 B65D7/04 B65D17/02

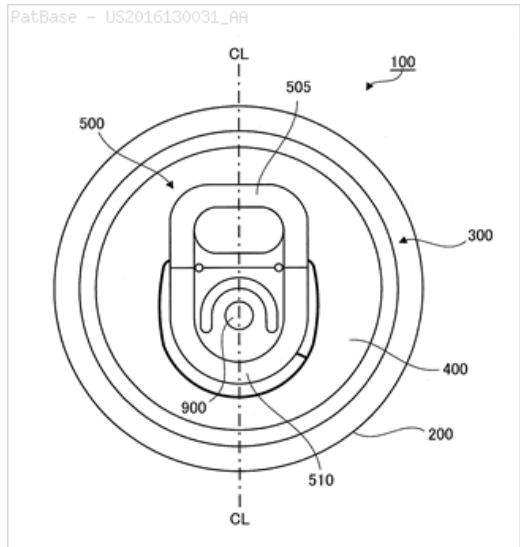
US class: 220/269

[Classification Explorer](#)

Cited documents: WO12091430 A2, WO12091430 A2, US8870012 BB, US8783496 BB, US6354453 BA, US6354453 B1, US6164480 A, US5219257 A, US5219257 A, US3900128 A, US3894651 A, US2008067171 AA, JP9039962 A2, JP9039962, JP7132937 A2, JP63028633 U1, JP63028633 U, JP63028633 U, JP63028633 U, JP6219448 A2, JP61008525 U1, JP61008525 U, JP61008525 U, JP55050108 Y2, JP5178345 A2, JP51082188 A2, JP51082188 A2, JP4187144 B2, JP4187144 B2, JP2012166826 A2, JP2012166826 A2, JP2009067407 A2, JP2009067407 A2, JP2004035063 A2, JP2003517974 T2, JP2003517974, JP2003095264 A2, JP2003095264 A2, JP11321860, EP0993408 A2, CN201347226 Y, CN102951343 A, CN102123917 A,

Forward Citations: WO19169281, WO16139274, GB2545403,

Abstract:
A first score line (430) is curled inward at one end section (431) and the other end section (432) of the first score line (430) so as to go into a region enclosed by the first score line (430), and the first score line (430) approaches a center line (CL) of a tab as going to the trailing ends thereof. In addition, a curvature at which the first scored line (430) is brought closer to the other end section (432) side is applied to the one end section (431) of the first score line (430), and a curvature at which the first score line (430) is brought closer to the one end section (431) side is also applied to the other end section (432) of the first score line (430).



2) Family number: 6653037 (US3952912A)

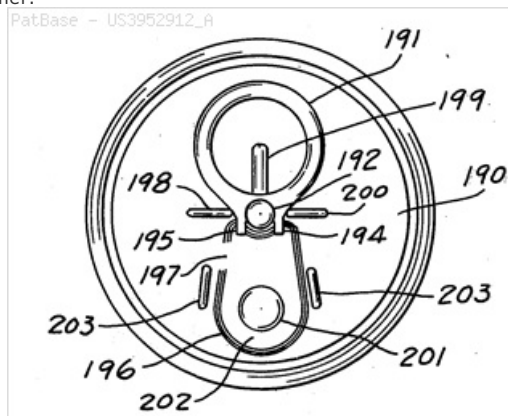
© PatBase

Title:	CONTAINER WITH ATTACHED CLOSURE																															
Priority:	US19720231124 19720302	US19740514069 19741011	US19740515444 19741017																													
	US19760712839 19760809	US19760717993 19760826	US19760744162 19761122																													
Family:	<table><tr><th>Publication number</th><th>Publication date</th><th>Application number</th><th>Application date</th></tr><tr><td>US3843011 A</td><td>19741022</td><td>US19720231124</td><td>19720302</td></tr><tr><td>US3952912 A</td><td>19760427</td><td>US19740514069</td><td>19741011</td></tr><tr><td>US3977578 A</td><td>19760831</td><td>US19740515444</td><td>19741017</td></tr><tr><td>US4051976 A</td><td>19771004</td><td>US19760712839</td><td>19760809</td></tr><tr><td>US4062471 A</td><td>19771213</td><td>US19760717993</td><td>19760826</td></tr><tr><td>US4084721 A</td><td>19780418</td><td>US19760744162</td><td>19761122</td></tr></table>				Publication number	Publication date	Application number	Application date	US3843011 A	19741022	US19720231124	19720302	US3952912 A	19760427	US19740514069	19741011	US3977578 A	19760831	US19740515444	19741017	US4051976 A	19771004	US19760712839	19760809	US4062471 A	19771213	US19760717993	19760826	US4084721 A	19780418	US19760744162	19761122
Publication number	Publication date	Application number	Application date																													
US3843011 A	19741022	US19720231124	19720302																													
US3952912 A	19760427	US19740514069	19741011																													
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US4062471 A	19771213	US19760717993	19760826																													
US4084721 A	19780418	US19760744162	19761122																													
Probable Assignee:	CONTINENTAL GROUP																															
Assignee(s):(std):	PERRY DECEASED WALTER MERTON ; PERRY EXECUTRIX BY ELIZABETH D ; PERRY W ; PERRY WALTER MERTON ; CONTINENTAL GROUP																															
Assignee(s):	CONTINENTAL GROUP INC ; PERRY W US ; THE CONTINENTAL GROUP INC																															
Inventor(s):(std):	PERRY W ; PERRY WALTER MERTON ; PERRY DECEASED WALTER MERTON ; PERRY EXECUTRIX BY ELIZABETH D																															
Inventor(s):	PERRY W US																															
International class (IPC 8-9):	B21D51/38 B21D51/44 B65D17/32 B65D17/50 (Advanced/Invention); B21D51/38 B65D17/00 B65D17/28 (Core/Invention)																															
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Forward Citations:	WO9714621, WO8907556, WO17097903, WO16132287, WO14003586, WO14003585, WO13018110, WO12112487, WO11117772, WO09051409, WO09051409, WO08104392, WO08051099, WO07147542, WO07056844, WO06010688, WO04113186, WO02070165, WO0183303, WO0146025, WO0105663, WO0105663, WO0069735, WO0056613, WO0037323, USRE42485, USD762114, USD750488, USD749415, USD727725, USD715647, USD715144, USD691039, USD582274, USD582273, USD533452, USD532691, USD532298, USD530610, USD513452, USD509426, USD507485, USD476889, US9901972, US9714115, US9694935, US9592928, US9566634, US9540137, US9446879, US9359108, US9267705, US9233784, US9163653, US9033174, US8998015, US8973780, US8950619, US8875936, US8870012, US8783495, US8733576, US8627979, US8616399, US8567158, US8556104, US8371467, US8328492, US8215513, US8196767, US8104319, US8080770, US8052005, US8011527, US7975884, US7950542, US7812292, US7748563, US7644833, US7594585, US7556168, US7378625, US7350392, US7174762, US7165696, US7112771, US7051896, US7004345, US7000797, US6772900, US6761281, US6748789, US6715629, US6405889, US6354453, US6330954, US6260728, US6244455, US6234336, US6161717, US6129230, US6079583, US6024239, US5967726, US5931331, US5860553, US5806757, US5715964, US5711448, US5692636, US5566850, US5555992, US5402921, US5375729, US5335808, US5219257, US5129541, US5085348, US5065882, US5064087, US5007231, US4901880, US4801038, US4624386, US4585140, US4446985, US4411370, US4387827, US4372462, US4322016, US4184607, US4155480, US4141464, US4078695, US4078694, US4054228, US4030631, US4024981, US4024980, US3997075, US3977578, US3977561, US3972445, US3967753, US3967752, US3967750, US3935961, US2015353229, US2015176622, US2012043325, US2012031056, US2010269345, US2010213194, US2010200590, US2010163560, US2010065568, US2009269169, US2009266824, US2009206083, US2009090716, US2008257900, US2008073343, US2008050207, US2008011786, US2007284368, US2007108208, US2007108198, US2007108197, US2007108196, US2007102425, US2006163253,																															

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Abstract:

Improved easy opening means for containers. Especially adapted to those used for liquids, including carbonated beverages, and permitting drinking from the container or pouring out contents. An important feature is attachment of closure to container after opening to avoid litter. Another feature is lift tab for easy opening, and with closure sealed by either a frangible adhesive sealant or by membrane sealing means. Lift tab initiates rupture of sealant, and then is pushed below container top with means to hold tab below opening so there is no interference when drinking from the can. Another closure has a small end for initial pressure release, and then whole closure hinges inwardly. Still another means comprises a slide gate with frangible membrane for sealing and for very easy opening. Optionally a pressure release button is provided to release the internal pressure before pulling the slide gate. An improved forming method for making the opening smaller than the closure where the closure is cut from the ductile metal top material. Partial use of score lines is included. Container top may be of ductile metal or of plastic for some of the designs. Primary objectives are the elimination of separate closure device that would cause litter, closure easier to open than heretofore, low cost, and no danger of a piece coming loose inside container.



3) Family number: 61247072 (US2015367984A)

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Title: ECOLOGY CAN END WITH PRESSURE EQUALIZATION PORT

Priority: US20140312296 20140623 WO2015US37147 20150623

Family:	Publication number	Publication date	Application number	Application date
	BR112016030113 A2	20170822	BR20161130113	20150623
	CA2951394 AA	20161206	CA20152951394	20150623
	CA2951394 C	20190312	CA20152951394	20150623
	CN106536358 A	20170322	CN201580041183	20150623
	CN106536358 B	20180918	CN201580041183	20150623
	EP3157826 A1	20170426	EP20150734514	20150623
	MX2016015817 A1	20170227	MX20160015817	20150623
	US2015367984 AA	20151224	US20140312296	20140623
	US9884701 BB	20180206	US20140312296	20140623
	WO15200301 A1	20151230	WO2015US37147	20150623

Probable Assignee: REXAM BEVERAGE CAN CO

Assignee(s): REXAM BEVERAGE CAN CO ; REXAM BEVERAGE CAN CO LTD

Assignee(s): FORREST RANDALL G ; GOGOLA MICHAEL R

Inventor(s): FORREST RANDALL G ; GOGOLA MICHAEL R ; MICHAEL R GOGOLA ; RANDALL G FORREST

Agent(s): SMART AND BIGGAR; TOMKINS AND CO; GREER BURNS AND CRAIN LTD; KLOBUCHAR PETER M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class B65D17/00 B65D17/32 B65D17/34 B65D17/347 B65D47/32 (Advanced/Invention);
(IPC 8-9): B65D17/00 (Core/Invention)

CPC: B65D47/32 B65D2517/0013 B65D2517/0091 B65D2517/0014 B65D2517/0062 B65D2517/0071 B65D2517/0074 B65D2517/0082 B65D2517/0092 B65D17/4012 B65D17/32

US class: 220/269

[Classification Explorer](#)

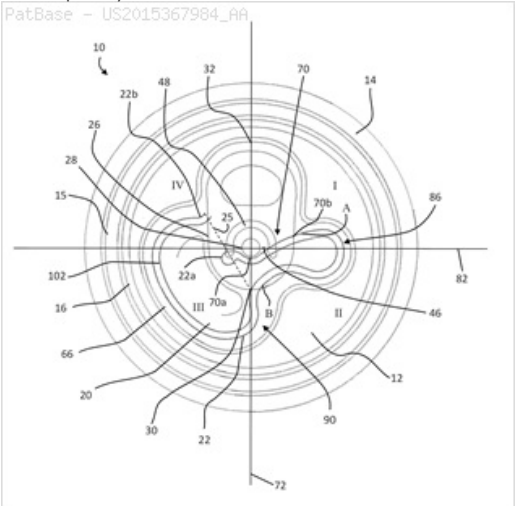
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Forward Citations: WO17207277, US9969524, US9714115, US9694935, US2016052667, US10358257, US10246217, US10017295, GB2545403,

Abstract:

An ecology stay-on tab beverage can end has a first curvilinear segment of frangible score severable to form a vent region and a pressure equalization port. A second curvilinear segment of frangible score has opposing terminal ends separated by a hinge segment of the center panel. The second curvilinear segment of frangible score is severable to form a pour opening. A lifting of a

lift end of a tab actuates an opening sequence in which the first curvilinear segment of frangible score is severed causing the vent region and the pressure equalization port to form before the pour opening is completely formed.



4) Family number: 8457178 (US5950858A) © PatBase

Title: CONTAINER END CLOSURE
Priority: GB19930003218 19930218 GB19930025192 19931208 WO1994GB00335 19940218
Family:

Publication number	Publication date	Application number	Application date
AU199460408 A1	19940914	AU19940060408	19940218
AU687378 B2	19980226	AU19940060408	19940218
CN1041188 C	19981216	CN19941091228	19940218
CN1118150 A	19960306	CN19941091228	19940218
EP0683746 A1	19951129	EP19940906958	19940218
GB2275248 A1	19940824	GB19930025192	19931208
GB2275248 B2	19961204	GB19930025192	19931208
GB9303218 A0	19930407	GB19930003218	19930218
GB9325192 A0	19940209	GB19930025192	19931208
JP8506786 T2	19960723	JP19940518754T	19940218
KR19960700937 A	19960224	KR19950703409	19940218
RU2121456 C1	19981110	RU19950121599	19940218
RU95121599 A	19970910	RU19950121599	19950918
US5950858 A	19990914	US19950507339	19951002
WO9419246 A2	19940901	WO1994GB00335	19940218
WO9419246 A3	19941013	WO1994GB00335	19940218

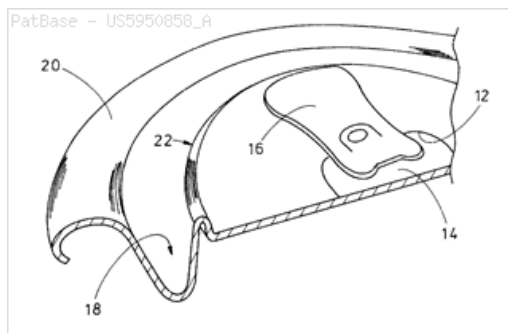
Probable Assignee: SERGEANT DAVID R
Assignee(s):(std): SARDZHENT DEJVID ROBERT ; SERGEANT DAVID R ; SERGEANT DAVID ROBERT ; D R SERGEANT
Assignee(s): DAVID ROBERT SERGEANT
Inventor(s):(std): SERGEANT DAVID ROBERT ; SERGEANT D R ; SARDZHENT DEJVID ROBERT
Inventor(s): DAVID ROBERT SERGEANT ; D R SERGEANT
Agent(s): HALFORDS IP
Designated states: AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK ES FI FR GA GB GN GR HU IE IT JP KP KR KZ LK LU LV MC MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SK SN TD TG UA US UZ VN
International class (IPC 8-9): B21D22/20 B21D22/21 B65D17/00 B65D17/34 B65D41/32 B65D8/08 (Advanced/Invention); B65D17/00 (Advanced/Non-invention); B21D22/20 B65D17/00 B65D17/28 B65D41/32 B65D8/04 (Core/Invention)
International class (IPC 1-7): B21D22/02 B21D22/20 B21D22/21 B21D51/44 B65D17/00 B65D17/28 B65D17/34 B65D41/32 B65D43/14 B65D51/00 B65D8/08
CPC: B65D17/401 B65D17/4012 B21D22/20 B21D22/21
European class: B21D22/20 B21D22/21 B65D17/16B B65D17/16B2
US class: 220/269 220/617 220/619 220/624

Cited documents: [Classification Explorer](#)
WO9109784 A1, US5217134 A, US5152421 A, US5105977 A, US5038956 A, US4832223 A, US4606472 A, US4511299 A, US4448322 A, US4254890 A, US4109599 A, US4093102 A, US4055134 A, US3893325 A, US3843014 A, US3696961 A, US3494169 A, US3432067 A, JP59225830 A2, JP59225830, JP2205208 A2, GB609907 A, GB2241184 A1, GB2234497 A1, GB2234197 A1, GB2191168 A1, GB2107273 A1, GB2060548 A1, GB2050879 A1, GB2040200 A1, GB1300340 A, FR2112318 A1, EP0524098 A1, EP0241788 A2, DE477766 A, DE2315832 A1,

Forward Citations: WO03016155, USD559680, US9540137, US9371152, US8973780, US8931660, US8875936, US8851323, US8727169, US8505765, US8496132, US8328492, US8313004, US8235244, US8205477, US8157119, US8104319, US8052005, US8011527, US7938290, US7743635, US7673768, US7644833, US7591392, US7556168, US7506779, US7500376, US7350392, US7174762, US7100789, US7004345, US6772900, US6460723, US6386013, US2010044383, US2009269169, US2009266824, US2009039091, US2008257900, US2008050207, US2006096994, US2005161453, US2005115976, US2005006388, US2004226955, US2004211780, US2004200838, US2004065663, US2003001788, US10246217, RU2679505, EP1834885, EP1425225, CN108430878, AU2002326666, AU2002326666,

Abstract:
PCT No. PCT/GB94/00335 Sec. 371 Date Oct. 2, 1995 Sec. 102(e) Date Oct. 2, 1995 PCT Filed Feb. 18, 1994 PCT Pub. No. WO94/19246 PCT Pub. Date Sep. 1, 1994An end closure for a container has a central panel, a circumferential countersink (18)

formed around the center panel and adjacent the periphery of the end closure, and a fold (22) formed at the junction between the countersink and the center panel, the fold having opposite side walls which lie closely adjacent or in contact with each other and project upwards from the end closure. The fold may instead be formed at the base of the countersink. The fold forms an annular rigid zone in the end closure.



5) Family number: 1301246 (US3836038A)

© PatBase

Title: EASY-OPEN WALL

Priority: US19720293115 19720928 US19730378448 19730712 US19740488805 19740715
US19740492033 19740726 US19740506453 19740916 US19740519992 19741101
US19740529461 19741204 US19750592232 19750701 US19750634755 19751124
BR19760002984 19760512

Family:	Publication number	Publication date	Application number	Application date
	AU197359924 A1	19750327	AU19730059924	19730903
	AU197587205 A1	19770609	AU19750087205	19751203
	AU472924 B2	19760610	AU19730059924	19730903
	AU498737 B2	19790322	AU19750087205	19751203
	BR7602984 A	19771116	BR19760002984	19760512
	CA1005004 A1	19770208	CA19730179593	19730824
	CA1034520 A1	19780711	CA19750240694	19751128
	DE2348648 A1	19740404	DE19732348648	19730927
	DE2348648 B2	19800221	DE19732348648	19730927
	DE2348648 C3	19840830	DE19732348648	19730927
	DE2365887 A1	19770224	DE19732365887	19730927
	DE2365888 A1	19770224	DE19732365888	19730927
	DE2553835 A1	19760610	DE19752553835	19751129
	DE2553835 B2	19800214	DE19752553835	19751129
	FR2293369 A1	19760702	FR19750036975	19751203
	FR2293369 B1	19800411	FR19750036975	19751203
	GB1447776 A	19760902	GB19730045131	19730926
	GB1540229 A	19790207	GB19750049077	19751128
	HK4482 A	19820212	HK19820000044	19820204
	IT1060391 A	19820710	IT19750029843	19751201
	JP1150186 C3	19830614	JP19750143819	19751202
	JP1252429 C3	19850226	JP19730109190	19730928
	JP49101193 A2	19740925	JP19730109190	19730928
	JP51082188 A2	19760719	JP19750143819	19751202
	JP57042544 B4	19820909	JP19750143819	19751202
	JP59000417 B4	19840106	JP19730109190	19730928
	US3836038 A	19740917	US19720293115	19720928
	US3967750 A	19760706	US19750592232	19750701
	US3967752 A	19760706	US19750634755	19751124
	US3967753 A	19760706	US19740492033	19740726

Probable Assignee: REYNOLDS METALS CO

Assignee(s):(std): REYNOLDS METALS CO

Assignee(s): REYNOLDS METALS CO US ; REYNOLDS METALS CO HENRICO COUNTY VA V ST A ; REYNOLDS METALS CO HENRICO COUNTY VA US ; REYNOLDS METALS CY ; REYNOLDS METALS COMPANY ; CUDZIK DANIEL F ; REINORUZU METARUSU CO

Inventor(s):(std): CUDZIK D ; CUDZIK DANIEL F ; CUDZIK D F ; CUDZIK DANIEL FRANK ; DANIERU FURANKU KADOZUITSUKU

Inventor(s): DANIEL FRANK CUDZIK ; DANIERU FURANKU KAZUITSUKU ; CUDZIK DANIEL FRANK RICHMOND VA ; GODZIK D F ; CUDZIK DANIEL FRANK RICHMOND VA VSTA ; DF CUDZIK ; D F CUDZIK ; CUDZIK D US ; FRANK CUDZIK DANIEL ; CUDZIK DANIEL FRANK RICHMOND VA V ST A ; CUDZIK DANIEL FRANK RICHMOND VA US

Agent(s): CA; DAVIES COLLISON CAVE PTY LTD

International class (IPC 8-9): B65D17/00 B65D17/32 B65D17/34 B65D17/347 B65D17/353 B65D41/32 (Advanced/Invention); B65D17/00 B65D17/28 B65D41/32 (Core/Invention); B61B (Subclass/Invention)

International class (IPC 1-7): B65D17/00 B65D17/02 B65D17/16 B65D17/18 B65D17/20 B65D17/24 B65D17/32 B65D17/34 B65D41/32

CPC: B65D17/4012 B65D17/404 B65D17/28

European class: B65D17/16 B65D17/16B2 B65D17/24

US class: 220/266 220/269 220/270 220/277 220/4.8 220/48 D9/438

[Classification Explorer](#)

Cited documents: US3843011 A, US3813000 A, US3749275 A, US3744667 A, US3744666 A, US3730379 A, US3446389 A,

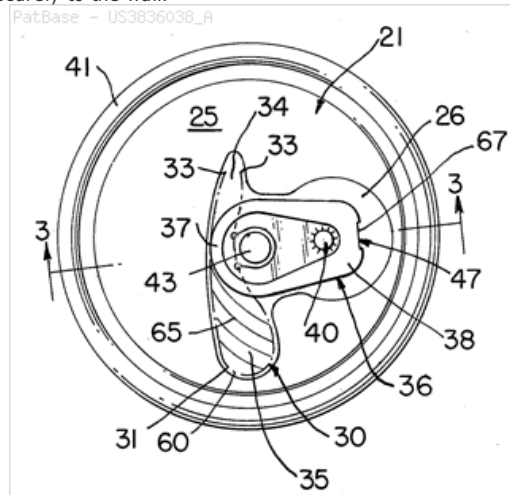
US3435977 A, US3401823 A, US3338460 A, US3322296 A, US3289880 A, US3215305 A, US2828883 A, US2085200 A, DE2126933 A1, DE1761153 A, AT283191 B, AT258781 B,

Forward Citations:

WO9822356, WO9730902, WO9729960, WO9729960, WO8403080, WO8204026, WO17097903, WO15200301, WO15004965, WO14200098, WO14073350, WO13161021, WO13080117, WO07081349, WO0146025, USRE42485, USD828753, USD795693, USD762114, USD750488, USD749415, USD747649, USD747199, USD727725, USD715647, USD715144, USD691039, USD559680, USD507485, USD476889, USD424438, US9901972, US9884701, US9878833, US9850025, US9850024, US9714115, US9694935, US9649254, US9637269, US9592936, US9533800, US9446879, US9371152, US9321562, US9315290, US9272819, US9254945, US9233784, US9199763, US9016034, US8931660, US8857644, US8844761, US8783495, US8733576, US8727169, US8640905, US8627979, US8567158, US8505765, US8328041, US8313004, US8235244, US8205477, US8196767, US8061544, US7938290, US7743635, US7673768, US7594585, US7513383, US7506779, US7500577, US7500376, US7380684, US7165696, US7152766, US7100789, US7000797, US6935826, US6889862, US6877941, US6848875, US6837093, US6761281, US6666933, US6575684, US6460723, US6408498, US6405889, US6354467, US6354453, US6330954, US6260728, US6234336, US6164480, US6161717, US6138856, US6129230, US6079583, US6065634, US6024239, US5967726, US5964366, US5931331, US5806757, US5749488, US5738237, US5715964, US5711448, US5653355, US5219257, US5190149, US5133473, US5129541, US5007554, US4402421, US4399925, US4387827, US4322016, US4257529, US4253582, US4215794, US4184607, US4150765, US4130074, US4084721, US4062471, US4051976, US4030631, US4024981, US4015744, US4002262, US2014054332, US2013126528, US2012292329, US2012205378, US2011186575, US2010133275, US2010089923, US2009200306, US2008302756, US2008230548, US2007131690, US2007007294, US2006163254, US2006071005, US2006042344, US2005247717, US2005173437, US2005064755, US2005006395, US2004056032, US2003202862, US2003173367, US2003116574, US2003080132, US2002170913, US10450103, US10427832, US10358257, US10246217, US10017295, NL7705102, JP8268429, JP60179629, JP55143248, JP54176568, JP4201851, JP2957930, JP2006232306, FR2648113, FR2550767, FR2508417, FR2486495, FR2459181, FR2408530, EP3366601, EP3020645, EP3009370, EP3009370, EP2918507, EP2750981, EP2356037, EP1210273, EP1210273, EP1194337, EP1194337, EP0929450, EP0704382, EP0704382, EP0564725, EP0289022, EP0289022, EP0080775, EP0080775, EP0079673, EP0079673, EP0043786, DE3941239, DE3110770, DE2855037, DE2842449, DE2637420, DE202015002495, DE102012023131, AU705788, AU576900,

Abstract:

An easy-open wall is provided for a container and comprises an approximately U-shaped score line in such wall with the score line having a bight and a pair of extensions extending from the bight and terminating in spaced ends having a portion of the wall therebetween. The score line defines a panel which is completely severable from the wall along the bight and along parts of the extensions adjoining the bight while remaining attached at the wall portion to define an opening in the wall. A non-detachable tab is attached substantially flatly against the wall and the tab has a forward portion which overlies part of the panel and has a rear portion. The rear portion is easily grasped and lifted to urge the forward portion against the panel to thereby sever such panel and move it within the container with the wall portion holding the panel securely to the wall.



6) Family number: 126370 (US3662916A)

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Title: EASY OPENING CONTAINER
Priority: US19700091645 19701123
Family:

Publication number	Publication date	Application number	Application date
AU197134360 A1	19730412	AU19710034360	19711007
BE775647 A	19720316	BE19710775647	19711122
BR7103958 A0	19730208	BR19710003958	19710624
CA951656 A1	19740723	CA19710106108	19710223
DE2126933 A1	19720531	DE19712126933	19710529
FR2115133 A1	19720707	FR19710021795	19710616
FR2115133 B1	19780317	FR19710021795	19710616
JP47000297 U1	19720626	JP19710109728U	19711122
JP52035243 Y1	19770811	JP19710109728U	19711122
JP52035243 Y2	19770811	JP19710109728U	19711122
NL167921 B	19810916	NL19710015720	19711115
NL167921 C	19820216	NL19710015720	19711115
NL7115720 A	19720525	NL19710015720	19711115
US3662916 A	19720516	US19700091645	19701123
ZA7100770 A	19720927	ZA19710000770	19710208

Probable Assignee: CONTINENTAL CAN CO
Assignee(s):(std): CONTINENTAL CAN CO
Assignee(s): CONTINENTAL CAN CO INC ; CONTINENTAL CAN CO INC TE NEW YORK ; CONTINENTAL CAN COMPANY INC ; CONTINENTAL CAN COMPANY INC TE NEW YORK ; CONTINENTAL CAN CY INC ;

CONTINENTAL CAN CY INC NEW YORK V S A ; HOLK ALBERT J

Inventor(s):(std): HOLK A ; HOLK A J ; HOLK ALBERT J JR

Inventor(s): HOLK ALBERT J ; A J HOLK ; AJ HOLK ; ALBERT J HOLK JR

International class (IPC 8-9): B65D17/00 B65D17/34 B65D5/00 (Advanced/Invention); B65D17/00 B65D17/28 B65D5/00 (Core/Invention); B65D (Subclass/Invention)

International class (IPC 1-7): B65D17/00 B65D17/16 B65D17/24 B65D17/34 B65D5/00

CPC: B65D17/4011

European class: B65D17/16B1

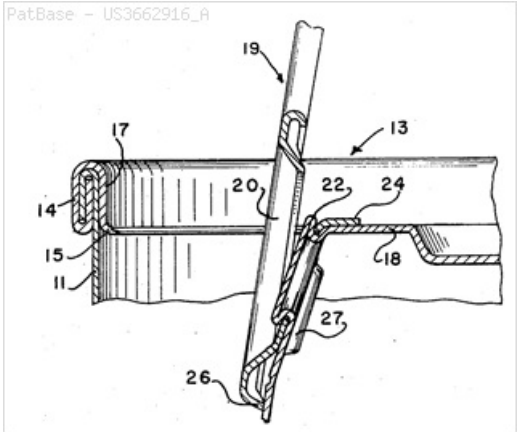
US class: 220/273 220/54

[Classification Explorer](#)

Cited documents: US3591037 A, US3404801 A,

Forward Citations: US9199763, US9016034, US8733576, US8454292, US8371467, US8113375, US5713481, US3891117, US3874553, US3858753, US3838788, US3795342, US3752353, US3712503, US2011186575, US2010287886, US2010116374, US2007108209, US2004099665, JP59184404, JP57185109, JP57163641, JP56041140, JP50052779, JP50027681, FR2393733, EP0236736, EP0236736, DE2348648, CN108430878,

Abstract:
A full panel type of easy opening container having means for increasing the initial opening arc of the score line during upward tilting of the pull tab. The rigidifying means comprises beads arranged to form a rigid panel portion at the rivet so that a bend line occurs behind the rivet upon penetration of the pull tab nose into the container.



7) Family number: 33901563 (US2010108678A)

PatBase

Title: EASISLY OPENABLE CAN AND METHOD OF OPENING THE CAN

Priority: JP20050178499 20050523 JP20050380869 20051208 JP20060133030 20060511
WO2006JP310062 20060519 WO2006JP310062 20060619 WO2006JP310062 20071114

Family:

Publication number	Publication date	Application number	Application date
AU2006250571 AA	20061130	AU20060250571	20060519
BRPI0612466 A2	20160906	BR2006PI12466	20060519
BRPI0612466 A2	20171010	BR2006PI12466	20060519
EP1884476 A1	20080206	EP20060746669	20060519
EP1884476 A4	20110629	EP20060746669	20060519
JP2007182257 A2	20070719	JP20060133030	20060511
JP3923071 B1	20070530	JP20060133030	20060511
KR100853811 B1	20080822	KR20077026449	20060519
KR20070118192 A	20071213	KR20077026449	20071114
US2010108678 AA	20100506	US20060993864	20060619
US2010108678 AA	20100506	US20060993864	20060519
US8540105 BB	20130924	US20060993864	20060519
WO06126463 A1	20061130	WO2006JP310062	20060519

Probable Assignee: NORY CO LTD

Assignee(s):(std): NORY CO LTD ; YASUI NORIO

Assignee(s): NORY CO

Inventor(s):(std): YASUI NORIO

Inventor(s): NORIO YASUI

Agent(s): FB RICE; FB RICE PTY LTD; SEIFFERT KLAUS ET AL; JOSEPH L STRABALA ESQ; JOSEPH L

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

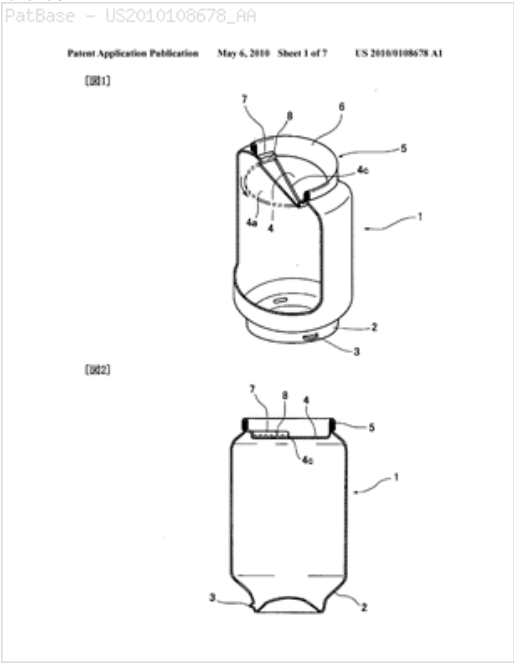
International class (IPC 8-9): B21D51/26 B21D51/44 B65D17/30 B65D17/32 B65D17/34 B65D17/36 B65D17/40 B65D17/42 B65D41/32 B65D43/03 B65D47/36 B65D8/04 (Advanced/Invention); B65D17/42 B65D41/32 B65D47/36 (Advanced/Non-invention); B21D51/26 B21D51/38 B65D17/00 B65D17/28 B65D41/32 B65D47/00 B65D8/04 (Core/Invention)

International class (IPC 1-7): B65D17/42 B65D41/32 B65D47/36

CPC: B65D17/4012 B65D17/401 B65D2517/0011 B65D2517/0056

European class: B65D17/16B B65D17/16B2 L65D517/00Y2A L65D517/00Y6Z
US class: 206/504 206/508 206/509 220/23.4 220/23.6 220/266 220/270 220/277 220/380 220/906
[Classification Explorer](#)
Cited documents: US6112932 A, US5573133 A, US5076430 A, US4930636 A, US4913305 A, US4386713 A, US4084723 A, US3815281 A, US3139211 A, US2957601 A, US2149308 A, KR200218626 Y1, KR200187666 Y1, JP9240758 A2, JP8217106 A2, JP6169026 U, JP58177325 U1, JP2152667 A2, JP2006001586, JP1161426 U,
Forward Citations: WO18007651, WO17097903, USD787952, US9265287, US8960487, US2015375889, US2014262870,

Abstract:
An easily openable metal can largely openable in the arranged state of two sheet metal-made cans in series. A means such as a projection for opening the drinking mouth of another can is formed at the lower part of a can body, and a break line and a means for guiding the means such as the projection are formed at the upper part thereof.



8) Family number: 60278595 (US2015251803A) © PatBase

Title: END CLOSURE WITH LARGE OPENING RING PULL TAB
Priority: US20140949404P 20140307 US20150641035 20150306 WO2015US19265 20150306
US20180866839 20180110
Family:

Publication number	Publication date	Application number	Application date
CN106132837 A	20161116	CN201580017661	20150306
CN106132837 B	20190514	CN201580017661	20150306
CN110015485 A	20190716	CN201910018540	20190109
JP2017512163 T2	20170518	JP20160573709T	20150306
US2015251803 AA	20150910	US20150641035	20150306
US2018126442 AA	20180510	US20180866839	20180110
US9901972 BB	20180227	US20150641035	20150306
WO15134913 A1	20150911	WO2015US19265	20150306

Probable Assignee: BALL CORP
Assignee(s):(std): BALL CORP
Inventor(s):(std): RAYBURN ROBERT M ; ROBERT M RAYBURN
Agent(s): ONDA MAKOTO; ONDA HIRONORI; SHERIDAN ROSS PC; KUGLER BRUCE A
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B21D51/38 B21D51/44 B65D17/00 B65D17/28 B65D17/34 B65D17/347 B65D17/40 (Advanced/Invention)
CPC: B21D51/383 B65D2101/00 B65D17/4012 B21D51/443 B65D2517/0002 B65D2517/0071 B65D2517/0077
US class: 1/1 220/270 413/14 413/16
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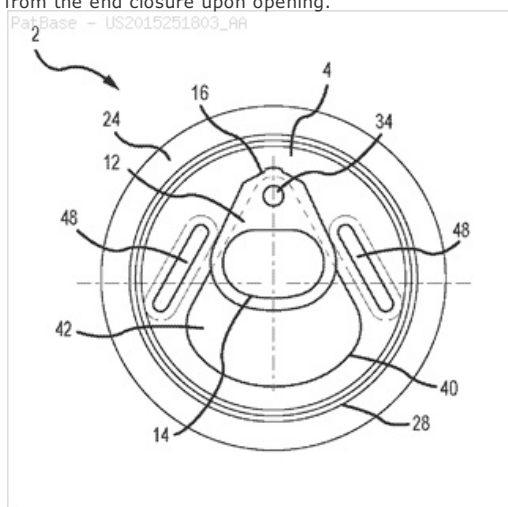
Cited documents: WO17097903 A1, WO15070051 A1, WO13182354 A1, WO11156140 A1, WO11053776 A1, WO11026900 A1, WO07054568 A1, USRE28910 E, USD636265 S1, USD632958 S1, USD606864 S1, USD582275 S1, USD576878 S1, USD406236 S1, USD371073 S1, USD366832 S1, USD365988 S1, USD365274 S1, USD364807 S1, USD352898 S1, USD337521 S1, USD315507 S1, USD304302 S1, USD300608 S1, USD285661 S1, USD279265 S1, USD257228 S1, US9714114 BB, US9616483 BB, US9592569 BB, US8720717 BB, US8157119 BB, US7950542 BB, US7823740 BB, US7591392 BB, US7549547 BB, US7513381 BB, US7237698 BB, US7198170 BB, US7198168 BB, US7178683 BB, US7152766 BA, US6910598 BB, US6889862 BB, US6883689 BB, US6851576 BB, US6851568 BB, US6817819 BB, US6793087 BB, US6772901 BB, US6763963 BA, US6755315 BA, US6739471 BB, US6626314 BA, US6450358 BA, US6431384 BA, US6405889 BA, US6260728 BA, US6216904 BA, US6206227 BA, US6206222 BA, US6164480 A, US6158608 A, US6059137 A, US6050440 A, US6024239 A, US5947318 A, US5947315 A, US5934498 A, US5850951 A, US5829623 A, US5762230 A, US5758793 A, US5738236 A,

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Forward Citations: WO19040128, US9969524, US9714115, US9694935, US10479550, US10358257, US10017295,

Abstract:

An end closure for food and beverage containers is provided. The end closure comprises a central panel with a large opening defined by a score line. The end closure further comprises a ring pull tab operably interconnected to the central panel proximate to a peripheral edge of the central panel. Prior to opening the end closure, a tail end of the ring pull tab is positioned over the tear panel. In some embodiments, the tear panel may completely detach from the end closure upon opening.



9) Family number: 61691733 (US2018362209A)

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Title: CAN END WITH VENTING FEATURE
Priority: GB20150021700 20151209 WO2016EP80252 20161208
Family:

Publication number	Publication date	Application number	Application date
AU2016366496 AA	20180621	AU20160366496	20161208
BR112018011566 A2	20181127	BR20181111566	20161208
CA3007522 AA	20180606	CA20163007522	20161208
CN108430878 A	20180821	CN201680072324	20161208
CO20180006523 A2	20180710	CO20180006523	20180625
EP3386878 A1	20181017	EP20160808654	20161208
GB201521700 A0	20160120	GB20150021700	20151209
GB2545403 A1	20170621	GB20150021700	20151209
GB2545403 B2	20190410	GB20150021700	20151209
JP2018536592 T2	20181213	JP20180525647T	20161208
MX20180006514 A1	20180906	MX20180006514	20161208
SG11201804382Q A1	20180628	SG20181104382	20161208
US2018362209 AA	20181220	US20160060713	20161208
WO17097903 A1	20170615	WO2016EP80252	20161208

Probable Assignee: CROWN PACKAGING TECHNOLOGY INC
Assignee(s):(std): CROWN PACKAGING MFG UK LTD ; CROWN PACKAGING TECH INC ; CROWN PACKAGING TECHNOLOGY INC
Assignee(s): FRANCO ANTHONY CHARLES ; RAMSEY CHRISTOPHER PAUL ; GROVES THOMAS ALEXANDER
Inventor(s):(std): RAMSEY CHRISTOPHER PAUL ; GROVES THOMAS ALEXANDER ; FRANCO ANTHONY CHARLES ; THOMAS ALEXANDER GROVES ; ANTHONY CHARLES FRANCO ; CHRISTOPHER PAUL RAMSEY
Agent(s): PHILLIPS ORMONDE FITZPATRICK; MARKS AND CLERK; JOSE ANDRES RINCON USCATEGUI; LIND ROBERT
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC

SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class
(IPC 8-9):

B65D17/00 B65D17/28 B65D17/32 B65D17/34 (Advanced/Invention)

International class
(IPC 1-7):

B65D17/00

CPC:

B65D17/02 B65D17/28 B65D17/401 B65D17/404 B65D2517/0092 B65D2517/0082 B65D2517/0062
B65D2517/0014 B65D17/4012 B65D17/32 B65D17/34

US class:

1/1 220/269

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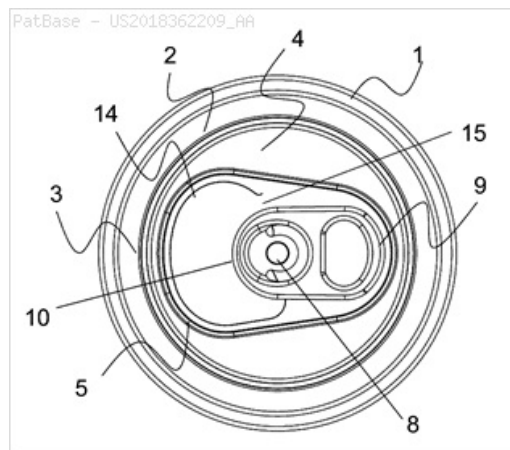
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EP1884476 A1, CN1118150 A, CN102951343 A,

Forward Citations:

US9901972,

Abstract:

A metal end for seaming onto a metal container body. The end comprises an outer curl, a centre panel within the outer curl, and a tab having a longitudinal axis (A). The end further comprises a rivet securing the tab to the centre panel, and a score in the centre panel having two spaced apart ends which define a hinge therebetween, the hinge lying on one side of said longitudinal axis (A), such that operation of the tab fractures the score and causes the region of the centre panel within the score to pivot about the hinge and provide an aperture in the centre panel. The score extends into a region of the centre panel that is behind a centre line (B) running through the centre of the rivet and perpendicular to said longitudinal axis (A), and on the other side of the longitudinal axis (A) from the hinge.



10) Family number: 53006885 (US2013037542A)

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Title:

CAN END

Priority:

US20110206231 20110809

Family:

Publication number	Publication date	Application number	Application date
CN102951343 A	20130306	CN201210273322	20120801
EP2557051 A1	20130213	EP20120177986	20120726
US2013037542 AA	20130214	US20110206231	20110809

Probable Assignee:

DRT MFG CO

Assignee(s):(std):

CROTHERS THOMAS GLENN ; DRT MFG CO

Assignee(s):

FIFTH THIRD BANK ADMINISTRATIVE AGENT AS

Inventor(s):(std):

CROTHERS THOMAS GLENN

Agent(s):

Wilhelms · Kilian & Partner Patentanwälte

Designated states:

AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR

International class
(IPC 8-9):

B65D17/34 (Advanced/Invention)

CPC:

B65D2517/0014 B65D2517/0089 B65D17/4012

US class:

220/269

[Classification Explorer](#)

Cited documents:

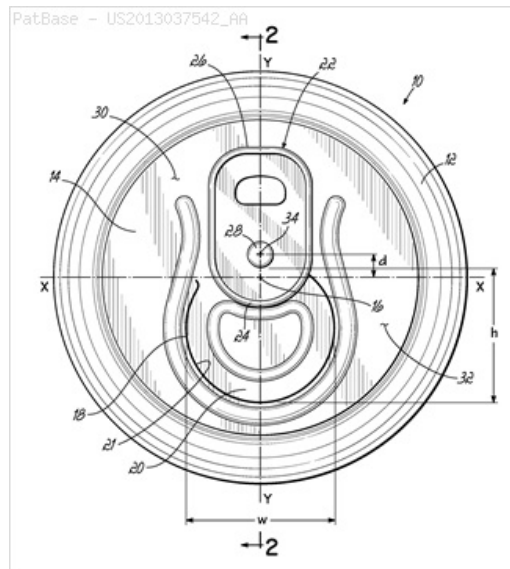
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US2002005408 AA, JP2009096493 A2, FR2687372 A1, CN1329559 A,

Forward Citations:

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US9850025, US9815590, US9714115, US9694935, US9446879, US9254945, US9233784,
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EP2969796, CN108430878, CN106604871, CN106428898, CN106428898, CN105873829, CN105873829,
CN105473455, CN105473455, CN105339278,

Abstract:

A can end comprises a center panel having a diameter, a geometric center lying on a transverse axis of symmetry of the center panel, and a score line defining a periphery of a tear panel, a lift tab having a nose portion and a lift portion opposite the nose portion, the nose portion configured to contact the tear panel as the lift portion is lifted so as to rupture the score line and swing the tear panel out of a plane of the center panel, thereby defining a tear panel aperture for accessing the contents of a can to which the can end is attached, and a rivet attaching the lift tab to the center panel and permitting the nose portion and lift portion to pivot out of the plane of the center panel. The rivet is located on a first side of the transverse axis of symmetry, and the tear panel is located substantially on a second side of the transverse axis of symmetry opposite the first side.



11) Family number: 50609953 (US2012031056A)

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Title: CONTAINER END CLOSURE WITH OPTIONAL SECONDARY VENT OPENING

Priority: US20100851979 20100806 EP20110815019 20110722 WO2011US44940 20110722
US20130066457 20131029 US20140039020P 20140819 US20150812146 20150729
US20150829887 20150819 WO2015US45839 20150819 WO2016US41243 20160707
US20180979153 20180514

Family:

Publication number	Publication date	Application number	Application date
AU2011286291 AA	20120209	AU20110286291	20110722
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AU2011286291 AA	20120209	AU20110286291	20110722
AU2011286291 AA	20130228	AU20110286291	20110722
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WO16028860 A1	20160225	WO2015US45839	20150819
WO17019269 A1	20170202	WO2016US41243	20160707

Probable Assignee: BALL CORP

Assignee(s):(std): BALL CORP ; BOL CORP ; CHASTEEN HOWARD C ; JACOBER MARK A ; BOL KORPOREJSHN

Assignee(s): GATEWOOD ERIK E ; BALL BROOMFIELD CORP

Inventor(s):(std): CHASTEEN HOWARD C ; JACOBER MARK A ; MARK A JACOBER ; HOWARD C CHASTEEN ; DZHEKOBER MARK A ; CHESTIN KHOVARD K ; GATEWOOD ERIK E ; CHASTEEN HOWARD ; JACOBER MARK ; DZHEJKOBER MARK A ; CHESTIN GOVARD S ; ERIK E GATEWOOD

Inventor(s): CHASTEEN HOWARD C WESTMINSTER ; JACOBER MARK A ARVADA

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; MADDERNS PTY LTD; GOODWIN MCKAY; GOODWIN LAW; PARLEE MCLAWS LLP; SMART AND BIGGAR; JOHANSSON AND LANGLOIS; JUAN PABLO CADENA SARMIENTO; HANNKE BITTNER AND PARTNER PATENT U RECHTSANWAELTE MBB; HANNKE CHRISTIAN; EISENFUEHR SPEISER; ISERN JORGE; SOYUZPATENT OOO; SHERIDAN ROSS PC; KUGLER BRUCE A; KUGLER BRUCE A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B65B43/39 B65B69/00 B65D17/00 B65D17/28 B65D17/32 B65D17/34 B65D17/40 B65D17/42 B65D25/00 B65D47/04 B65D47/32 B65D51/16 B67B7/00 (Advanced/Invention); B65D51/16 (Advanced/Non-invention)

International class (IPC 1-7): B65B43/39 B65D17/34 B65D25/00 B65D51/16

CPC: B65D47/32 B65B69/00 B65D2517/0007 B65D2517/0082 B65D2517/0089 B65D2517/0092 B65D2517/0013 B65D2517/007 B65D17/40 B65D2517/0071 B65D17/4012 B65D2517/0014 B65D2517/002 B65D2517/0094 B65D17/404

European class: B65D17/16B2 L65D517/00Y2C L65D517/00Y2Z L65D517/00Y7B1 L65D517/00Y8B

US class: 1/1 220/229 220/269 220/269S 220/272 53/381.1 53/382.1 53/492 53/492P

[Classification Explorer](#)

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AA, US2003098306 AA, US2003075544 AA,

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Abstract: