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(54) **LID FOR A CONTAINER FOR SMOKELESS TOBACCO PRODUCTS AND METHOD OF MANUFACTURING SUCH A LID**

DECKEL FÜR EINEN BEHÄLTER FÜR RAUCHLOSE TABAKPRODUKTE UND VERFAHREN ZUR HERSTELLUNG SOLCH EINES DECKELS

COUVERCLE POUR UN RÉCIPIENT POUR PRODUITS DE TABAC SANS FUMÉE ET PROCÉDÉ DE FABRICATION D'UN TEL COUVERCLE

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US-A1- 2010 043 812 **US-A1- 2011 121 009**

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Description

FIELD OF THE DISCLOSURE

[0001] The present disclosure relates to lids and containers using the same. More particularly, the disclosure relates to lids for packaging products made or derived from tobacco, or that otherwise incorporate tobacco, and are intended for human consumption in a smokeless form.

BACKGROUND OF THE DISCLOSURE

[0002] Various types of containers for dispensing solid objects, particularly solid products intended for human consumption, are known in the art. Such containers are often characterized by a hand-held size that can be easily stored and transported. Example consumable products that are often packaged in such containers include a wide variety of consumer products, including "smokeless" tobacco-related products.

[0003] Particularly popular smokeless tobacco products are employed by inserting some form of processed tobacco or tobacco-containing formulation into the mouth of the user. See for example, the types of smokeless tobacco formulations, ingredients, and processing methodologies set forth in U.S. Pat. Nos. 1,376,586 to Schwartz; 3,696,917 to Levi; 4,513,756 to Pittman et al.; 4,528,993 to Sensabaugh, Jr. et al.; 4,624,269 to Story et al.; 4,991,599 to Tibbetts; 4,987,907 to Townsend; 5,092,352 to Sprinkle, III et al.; 5,387,416 to White et al.; 6,668,839 to Williams; 6,834,654 to Williams; 6,953,040 to Atchley et al.; 7,032,601 to Atchley et al.; 7,694,686 to Atchley et al.; 7,810,507 to Dube et al.; 7,819,124 to Strickland et al.; 7,861,728 to Holton, Jr. et al.; 7,901,512 to Quinter et al.; 8,168,855 to Nielsen et al.; 8,336,557 to Kumar et al.; 8,469,036 to Strickland et al.; 8,627,828 to Strickland et al.; and 8,940,344 to Crawford et al.; U.S. Patent Application Pub. Nos. 2004/0020503 to Williams; 2007/0062549 to Holton, Jr. et al.; 2008/0029116 to Robinson et al.; 2008/0029117 to Mua et al.; 2008/0173317 to Robinson et al.; 2008/0196730 to Engstrom et al.; 2009/0065013 to Essen et al.; and 2010/0291245 to Gao et al.; PCT Pub. Nos. WO 04/095959 to Arnarp et al.; and WO 10/132444 to Atchley.

[0004] Representative smokeless tobacco products that have been marketed include those referred to as CAMEL Snus, CAMEL Orbs, CAMEL Strips and CAMEL Sticks by R. J. Reynolds Tobacco Company; GRIZZLY moist tobacco, KODIAK moist tobacco, LEVI GARRETT loose tobacco and TAYLOR'S PRIDE loose tobacco by American Snuff Company, LLC; KAYAK moist snuff and CHATTANOOGA CHEW chewing tobacco by Swisher International, Inc.; REDMAN chewing tobacco by Pinkerton Tobacco Co. LP; COPENHAGEN moist tobacco, COPENHAGEN Pouches, SKOAL Bandits, SKOAL Pouches, RED SEAL long cut and REVEL Mint Tobacco Packs by U.S. Smokeless Tobacco Company; and

MARLBORO Snus and Taboka by Philip Morris USA.

[0005] Representative types of snuff products, commonly referred to as "snus," are manufactured in Europe, particularly in Sweden, by or through companies such as Swedish Match AB, Fiedler & Lundgren AB, Gustavus AB, Skandinavisk Tobakskompagni A/S and Rocker Production AB. Snus products previously or currently available in the U.S.A. have been marketed under the trade names such as CAMEL Snus Frost, CAMEL Snus Original, and CAMEL Snus Spice, CAMEL Snus Mint, CAMEL Snus Mellow, CAMEL Snus Winterchill, and CAMEL Snus Robust by R. J. Reynolds Tobacco Company.

[0006] Snus products, such as CAMEL Snus Original, are commonly supplied in small teabag-like pouches. The pouches are typically a nonwoven fleece material, and contain about 0.4 to 1.5 grams of pasteurized tobacco. These products typically remain in a user's mouth for about 10-30 minutes. Unlike certain other smokeless tobacco products, snus does not require expectoration by the user.

[0007] Smokeless tobacco products have been packaged in tins, "pucks" or "pots" that are manufactured from metal or plastic such as those disclosed in U.S. Patent Nos. 4,098,421 to Foster; 4,190,170 to Boyd; 8,556,070 to Bried et al.; 8,910,781 to Pipes et al.; and U.S. Patent Application Pub. Nos. 2010/0065076 to Bergstrom et al.; and 2010/0065077 to Lofgreen-Ohrn et al.

[0008] A desirable feature for certain containers configured to store a product such as snus is the protection of the product from environmental effects, particularly those effects that may degrade the product stored in the container. For example, in humid environments, moisture may invade the storage space housing the product, thereby damaging the product or otherwise rendering the product unusable. Conversely, moisture may escape the product and exit the storage space, rendering the product overly dry.

[0009] It would thus be desirable to provide an improved packaging for smokeless tobacco products and the like, wherein the packaging, particularly the lid, is aesthetically pleasing, reasonable to manufacture, and provides various advantageous features, such as protection from environmental effects by venting the container.

[0010] US 2010/043812A1 discloses a can for holding and compacting smokeless tobacco that has a bottom member and a lid. The bottom member has a closed bottom, an open top, and a first compacting vane located within the bottom member. The lid is adapted to slidably fit on the bottom member and has a second compacting vane located within the lid. With smokeless tobacco in the closed can, tobacco located between the first and second vanes in the can is compacted into a tight wad by simply rotating the lid, either clockwise or counter-clockwise, relative to the bottom member.

[0011] US 2011/121009 A1 discloses a composite lid for a container that includes a tubular body carrying an annular upper wall made of sheet metal, in which is de-

fined an opening surrounded by a seat, which is configured to receive and retain the lid. The lid includes a base portion peripherally incorporating a retention portion to be seated and retained on the seat when the lid is closed. The base portion includes a peripheral annular element molded in a plastic material as a single piece with the retention portion, and a central element in the form of a sheet metal plate that has an outer peripheral edge attached to the peripheral annular element. The peripheral annular element includes, internally and in a single piece, a central panel disposed on the central element, which is incorporated to the lid during its injection or attached thereto afterwards.

[0012] GB 943117 A discloses a container that comprises an outer shell of a rigid material, e.g. sheet steel, an inner liner of a flexible material, e.g. polyethylene, and a neck portion which is curled over to receive a snap-on-cap of similar material to that of the liner. A metal seal cap is placed over the cap and the edge of its skirt is crimped under the rim of the cap. In a modification the snap-on-cap has a recessed top into which a metal support is placed to support the curled-over portion of the neck during the crimping of the seal cap

[0013] US 2009/289074 A1 discloses a container lid which seals about a peripheral lip contacting a corresponding container. A flexible material, such as a silicone rubber, thermoplastic elastomer, or the like, is attached to at least a peripheral lip formed in a flexible substrate, such as a flexible metal or plastic material, having a first and second surface. The peripheral lip includes notches or slots to create individual sections in the lip to allow inward and outward flexing of the sections. When fitted to a container, the coated flexible substrate forms a seal between the container and the container lid.

[0014] US 3782575 A discloses a safety closure for a container having an annular lip and a shoulder adjacent the lip. The closure includes a unitary cap, having a rim and a dome, and a snap-action disc which is coupled to the cap. The rim of the unitary cap includes a locking projection which engages the lip on the container. The closure is placed in an unlocked position by applying a downward force to the snap-action disc to change the disc from a convex position to a concave position.

[0015] GB 1571938 A discloses a patch top container and closure assembly comprising a container body formed with an outwardly extending collar surrounding an opening at one end thereof and a closure for said opening comprising an impervious patch top member extending transversely across said one end of the container; a first adhesive layer hermetically but releasably bonding the patch top member with said one end of the container body, an overcap member extending transversely across said container with an inner surface of said overcap member contiguous with an outer surface of said patch top member, a second adhesive layer securing together said contiguous surfaces of said patch top member and said overcap member, said second adhesive layer producing a stronger bond between said

patch top member and the overcap member than that produced by said first adhesive layer between said patch top member and the container body, and means releasably coupling said overcap member with said container, whereby when said overcap member is removed from the container the hermetically sealed bond between the patch top member and the container is automatically broken and access is afforded to the interior of the container, whereafter the overcap may be reapplied to sealingly close the container.

BRIEF SUMMARY OF THE DISCLOSURE

[0016] In one aspect, a lid is provided. The lid may include a laterally-extending wall having opposing first and second surfaces and defining a periphery. The wall may have a central axis extending perpendicularly to the first and second surfaces. A sidewall may extend from the second surface parallel to the central axis and about the periphery of the wall. The wall and the sidewall are formed of a polymeric material. A metallic cladding is engaged with the wall so as to extend laterally across the first surface. The sidewall includes a groove recessed in an exterior surface thereof and the groove receiving a peripheral edge of the metallic cladding.

[0017] In another aspect, a method of manufacturing a lid for a container for storing a smokeless tobacco product is provided. The method may include coating at least a portion of a surface of a metallic cladding with a heat-actuated adhesive coating. The method may also include arranging the metallic cladding adjacent to a first surface of a laterally-extending wall such that the heat-actuated adhesive coating is positioned between the metallic cladding and the first surface and such that the cladding extends laterally across the first surface. The wall may have a second surface opposing the first surface, defining a periphery, having a central axis extending perpendicularly to the first and second surfaces, and having a sidewall extending from the second surface parallel to the central axis and about the periphery of the wall, with the wall and the sidewall being formed of a polymeric material. The method may also include exposing the metallic cladding and the heat-actuated adhesive coating to a magnetic field so as to actuate the heat-actuated adhesive coating to bond the metallic cladding to the first surface. The invention is defined in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] Having thus described the disclosure in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

Fig. 1 is a perspective view of a container comprising a lid and a body in a coupled configuration according to the present disclosure;

Fig. 2 is a top perspective view of the body of the

container of Fig. 1;

Fig. 3 is an interior perspective view of the lid of the container of Fig. 1;

Fig. 4A is a sectional view of a portion of a lid of the container according to the present disclosure along line 4-4 of Fig. 1;

Fig. 4B is a detailed sectional view of a portion of Fig. 4A;

Fig. 4C is an exploded sectional view of Fig. 4B;

Fig. 5A is a sectional view of a portion of a lid of the container according to the present disclosure;

Fig. 5B is a detailed sectional view of a portion of Fig. 5A;

Fig. 6A is a sectional view of a portion of a lid of the container according to the present disclosure;

Fig. 6B is a detailed sectional view of a portion of Fig. 6A;

Fig. 7A is a sectional view of a portion of a lid of the container according to an embodiment of the invention; and

Fig. 7B is a detailed sectional view of a portion of Fig. 7A.

DETAILED DESCRIPTION OF THE DISCLOSURE

[0019] The present disclosure now will be described more fully hereinafter with reference to certain preferred aspects. These aspects are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the disclosure to those skilled in the art. Indeed, the disclosure may be embodied in many different forms and should not be construed as limited to the aspects set forth herein.

[0020] The lids and containers described in the present application can be used to store a variety of products, but are particularly well-suited for products designed for oral consumption. Example consumable products that are often packaged in such containers include a wide variety of consumer products, including tobacco products in smokeless form.

[0021] Example tobacco products include pelletized tobacco products (e.g., compressed or molded pellets produced from powdered or processed tobacco, such as those formed into the general shape of a coin, cylinder, bean, pellet, sphere, orb, strip, obloid, cube, bead, or the like), extruded or cast pieces of tobacco (e.g., as strips, films, or sheets, including multilayered films formed into a desired shape), products incorporating tobacco carried by a solid substrate (e.g., where substrate materials range from edible grains to inedible cellulosic sticks), extruded or formed tobacco-containing rods or sticks, tobacco-containing capsule-like materials having an outer shell region and an inner body portion region, straw-like (e.g., hollow formed) tobacco-containing shapes, sachets or packets containing tobacco (e.g., snus-like products), pieces of tobacco-containing gum, and the like. Further, example tobacco products include tobacco formulations in a loose form such as, for example, a moist

snuff product. Example loose form tobacco used with the containers of the present disclosure may include tobacco formulations associated with, for example, commercially available GRIZZLY moist tobacco products and KODIAK moist tobacco products that are marketed by American Snuff Company, LLC.

[0022] Example smokeless tobacco compositions that can be packaged in the containers of the present disclosure are set forth in, for example, U.S. Patent Nos. 1,376,586 to Schwartz; 3,368,567 to Speer; 4,513,756 to Pittman et al.; 4,606,357 to Dusek et al.; 4,821,749 to Toft et al.; 5,167,244 to Kjerstad; 5,387,416 to White; 6,668,839 to Williams; 7,810,507 to Dube et al.; 7,819,124 to Strickland et al.; 8,469,036 to Strickland et al.; and 8,627,828 to Strickland et al.; and U.S. Patent Application Pub. No. 2008/0029116 to Robinson et al. Examples of tobacco-containing gum are set forth in U.S. Patent Nos. 4,624,269 to Story et al.; 4,975,270 to Kehoe; and 4,802,498 to Ogren. Various manners or methods for packaging smokeless tobacco products are set forth in U.S. Patent Application Pub. Nos. 2004/0217024 and 2006/0118589 to Amarp et al.; and 2009/0014450 to Bjorkholm; and PCT Pub. Nos. WO 2006/034450 to Budd; WO 2007/017761 to Kutsch et al.; and WO 2007/067953 to Sheveley et al.

[0023] Smokeless tobacco compositions utilized as the product contained in the containers of the disclosure will often include such ingredients as tobacco (typically in particulate form), sweeteners, binders, colorants, pH adjusters, fillers, flavoring agents, disintegration aids, antioxidants, oral care additives, and preservatives. See, for example, U.S. Patent No. 7,861,728 to Holton et al.

[0024] The tobacco formulation can be contained within a container, such as a pouch or bag, such as is the type commonly used for the manufacture of snus types of products (e.g., a sealed, moisture permeable pouch that is sometimes referred to as a "portion"). A representative moisture permeable pouch can be composed of a "fleece" type of material. The tobacco formulation is in turn contained within a package, such as the containers of the present disclosure described more fully hereinbelow. The package is closeable, and is composed of a suitable material, such that the atmospheric conditions within that closed package may be modified and/or controlled. In one example, the package can provide a good barrier that inhibits the passage of compositions such as moisture and oxygen therethrough. In addition, the atmosphere within the sealed package can be further modified by introducing a selected gaseous species (e.g., nitrogen, argon, or a mixture thereof) into the package prior to sealing, or by drawing a vacuum therein (vacuum sealing). As such, the atmospheric conditions to which the tobacco composition is exposed may be controlled during conditions of preparation, packing, storage and handling. In other examples, the atmospheric conditions are controlled by allowing for air exchange between the interior of the closed package and the ambient environment. Air exchange may be facilitated by the permeability of the

materials or through vents or other structures constructed as a portion of the package. A vented container may be particularly suitable for storing fermented moist tobacco products.

[0025] An example pouch may be manufactured from materials, and in such a manner, such that during use by the user, the pouch undergoes a controlled dispersion or dissolution. Such pouch materials may have the form of a mesh, screen, perforated paper, permeable fabric, or the like. For example, pouch material manufactured from a mesh-like form of rice paper, or perforated rice paper, may dissolve in the mouth of the user. As a result, the pouch and tobacco formulation each may undergo complete dispersion within the mouth of the user during normal conditions of use, and hence the pouch and tobacco formulation both may be ingested by the user. Other example pouch materials may be manufactured using water dispersible film forming materials (e.g., binding agents such as alginates, carboxymethylcellulose, xanthan gum, pullulan, and the like), as well as those materials in combination with materials such as ground cellulose (e.g., fine particle size wood pulp). Some pouch materials, though water dispersible or dissolvable, may be designed and manufactured such that under conditions of normal use, a significant amount of the tobacco formulation contents permeate through the pouch material prior to the time that the pouch undergoes loss of its physical integrity. If desired, flavoring ingredients, disintegration aids, and other desired components, may be incorporated within, or applied to, the pouch material. Descriptions of various components of snus products and components thereof also are set forth in U.S. Pat. Pub. No. 2004/0118422 to Lundin et al.

[0026] See, also, for example, U.S. Pat. No. 4,607,479 to Linden; U.S. Pat. No. 4,631,899 to Nielsen; U.S. Pat. No. 5,346,734 to Wydick et al.; and U.S. Pat. No. 6,162,516 to Derr, and U.S. Pat. Pub. No. 2005/0061339 to Hansson et al. See, also, the representative types of pouches, and pouch material or fleece, set forth in U.S. Pat. No. 5,167,244 to Kjerstad. Snus products can be manufactured using equipment such as that available as SB 51-1/T, SBL 50 and SB 53-2/T from Merz Verpackungsmaschinen GmbH. G.D SpA out of Italy also supplies tobacco pouching equipment. Snus pouches can be provided as individual pouches, or a plurality of pouches and can be connected or linked together (e.g., in an end-to-end manner) such that a single pouch or individual portion can be readily removed for use from a one-piece strand or matrix of pouches.

[0027] Figs. 1-3 illustrate one container 10 in accordance with the present disclosure. The container 10 may be formed by an open-ended body 20 and a lid 40. The lid 40 is removable from the body 20 to provide access to a product held within the container 10. The body 20 has a bottom wall 22 (see Fig. 2), which, in some instances, may be substantially planar, and a peripheral flange 24 depending from the bottom wall 22 which, in some instances, may be cylindrical as shown. The peripheral

flange 24 may define a peripheral portion of the container 10 such that the peripheral flange includes an outer peripheral surface 28. The bottom wall 22 and the peripheral flange 24 cooperate to define an internal storage compartment 26 for storage of a plurality of units of a product. In some instances, an upper portion 30 of the peripheral flange 24 may define a lip 32 in such a manner that the upper portion 30 the peripheral flange has a neck region 34 of reduced diameter (as compared to the diameter of the remainder of the outer surface of the peripheral flange). Note that the location of the lip 32 along the peripheral flange 24 of the body 20 can vary without departing from the present disclosure, meaning that distance between the lip 32 and the top edge 38 of the body 20 is not critical to the present disclosure. A projection 39 may extend from the neck region 34 and be provided about the periphery of the upper portion 30 of the peripheral flange 24 to provide an interference fit with the lid 40.

[0028] The lid 40 may be provided for enclosing the units of product within the internal storage compartment 26. In this regard, the lid 40 is typically removably secured to the body 20 by a snap-fit or an interference fit. As shown in Fig. 1, the lid 40 has a laterally-extending wall 42, which, in some instances, may be substantially planar. The wall 42 has opposing outer and inner surfaces 44, 46 and defines a periphery. The wall 42 has a central axis C extending perpendicularly to the outer and inner surfaces 44, 46. A sidewall 48 extends from the inner surface and about the periphery of the wall. In one embodiment, the sidewall 48 extends parallel to the central axis C. In the illustrated example, the sidewall 48 is cylindrical. The sidewall 48 of the lid 40 may be received over the peripheral flange 24 of the body 20 so as to form an enclosure therebetween. In instances where the lip 32 is provided on the body 20, an edge 50 of the sidewall 48 may interact with a surface 36 of the lip 32 to form a stop when the lid 40 is received upon the body 20. In other words, the edge 50 of the lid 40, which is typically substantially planar, will abut the surface 36 of the lip 32, which is also typically substantially planar, when the lid 40 is fully seated upon the body 20. A cylindrical exterior surface 52 of the lid 40 may have the same approximate size or diameter as the peripheral flange 24 of the body 20 such that the lid and body form a smooth exterior surface when the lid is placed over the neck region 34 of the peripheral flange and fully seated upon the body. In another example, the exterior surface 52 of the lid 40 may have a size or diameter that is larger than the peripheral flange 24 of the body 20 so the user may access the edge 50 of the lid 40 for removing the lid from the body.

[0029] The material for constructing the body 20 can vary. Example materials include metal, wood, and synthetic plastic materials. In one example, the body 20 is formed from a polymeric material. Polymeric materials that can be extruded and/or molded into desired shapes are typically utilized, such as polypropylene, polyethylene, polystyrene, polyamide, and the like.

[0030] Fig. 3 shows an interior perspective view of the

lid 40. A rib structure 60 projects from the inner surface 46 of the laterally extending wall 42. In some aspects, the rib structure 60 may be integrally formed with the wall 42. According to some aspects of the present disclosure, the rib structure 60 may be formed by a plurality of rib segments 62 arranged in spaced relation around the periphery of the wall 42 (e.g., positioned circumferentially about the wall 42 where the lid 40 is cylindrical). Any number of rib segments 62 greater than one may be provided in accordance with the present disclosure (e.g., about 2 to about 20 rib segments or about 5 to about 15 rib segments). The rib segments 62 are separated from one another by a vent channel 64.

[0031] When the lid 40 is engaged with the body 20, each pair of adjacent rib segments 62 may form a vent channel 64 therebetween that allows venting from the interior of the container 10 to the atmosphere exterior of the container.

[0032] The sidewall 48 of the lid 40 may include a radially inward extending detent 68 extending circumferentially around the central axis C of the lid 40. The detent 68 may be configured to engage with the projection 39 of the body 20 to assist with retention of the lid 40 on the body 20.

[0033] In an example, the laterally extending wall 42, sidewall 48, and rib structure 60 of the lid 40 are integrally formed into a base 70 from polymeric materials. Example polymeric materials that can be formed into the base 70 are materials that can be extruded and/or molded into the desired shapes, such as polypropylene, polyethylene, polystyrene, polyamide, and the like.

[0034] The shape of the exterior surface 52 of the lid 40 of the disclosure can vary. Therefore, although the container 10 is represented as a substantially cylindrical "puck" shape, the container 10 may be configured with alternative peripheral shapes, such as a square, a rectangle, various other regular or irregular polygonal shapes, an oval, or other suitable shapes. Further, the sides or edges of the containers of the disclosure could be flattened, rounded, or beveled, and the various surfaces or edges of the container exterior could be concave or convex unless expressly stated otherwise in claimed embodiments. Further, the opposing sides, ends, or edges of the container can be parallel or non-parallel such that the container becomes narrower in one or more dimensions.

[0035] The dimensions of the containers described herein can vary without departing from the disclosure. However, in some examples, the containers of the disclosure can be described as having a cylindrical size suitable for handheld manipulation and operation. Example dimensions for such handheld cylindrical embodiments include diameters in the range of about 50 mm to about 100 mm, and more typically about 60 mm to about 80 mm. Example wall thicknesses include the range of about 0.5 mm to about 1.5 mm, and more typically about 0.8 mm to about 1.4 mm. Example depths for handheld container embodiments of the present disclosure range from

about 5 mm to about 50 mm, more typically about 8 mm to about 30 mm, and most often about 15 mm to about 25 mm.

[0036] The number of solid product units stored in the containers of the disclosure can also vary, depending on the size of the container and the size of the product units. Typically, the number of stored product units will vary from about 5 to about 100, more typically about 10 to about 50, and most often about 15 to about 30.

[0037] Turning to Figs. 4A-C, a cross section of the lid 40 according to a first example, which is not part of the invention, is illustrated in further detail. Notably, the polymeric base 70 of the lid 40, which includes at least the laterally extending wall 42 and the sidewall 48, supports a metallic cladding 80 engaged with the wall 42 so as to extend laterally across the outer surface 44 of the wall.

[0038] The cladding 80 comprises a metallic material, such as tin, brass, bronze, nickel, aluminum, steel, or tin coated steel plate. The cladding 80 may be formed from a single sheet of metal via punching, stamping, trimming, forming the sheet of metal and/or via other operations. Providing a metallic cladding 80 engaged with a polymeric base 70 may be advantageous in that the illustrated combination may provide an aesthetically appealing appearance by using a metallic material to form the prominent merchandizing portion of the container 10, while also allowing the remainder of the base 70 and container to be less expensively produced using, for example, an injection molding process.

[0039] Advantageous examples of the present disclosure utilize an adhesive to bond the cladding 80 to the polymeric base 70. Alternatively, the metallic cladding 80 can be bonded to the polymeric base 70 during a molding operation. For example, insert molding techniques could be used to affix the cladding 80 to the base 70 during an injection molding process used to create the final shape of the base portion of the lid structure. Such processes typically involve placing an insert, in this case a cladding material, within a mold prior to injection of a polymeric material into the mold. As the final polymeric structure is formed, structural integration with the insert takes place.

[0040] The cladding 80 may provide a merchandizing portion of the lid 40 by being embossed with product branding or other aesthetically pleasing or informative labeling 82. The labeling 82 may additionally or alternatively be provided integrally with the cladding 80 through other processes such as casting, printing (e.g., infusing dyes into the surface of the cladding), etching (e.g., via various laser, chemical, and/or other suitable etching techniques), or other suitable process for adding text, graphics, and/or other ornamentation to a metal surface. The labeling 82 may alternatively be separately attached to the cladding, such as by use of a labeling sticker.

[0041] As illustrated in Figs. 4A-C, the cladding 80 may be substantially planar. In one example, the cladding 80 comprises a metallic sheet having a thickness between about 0.1 mm and about 0.5 mm. In one example, the metallic sheet has a thickness between about 0.1 mm

and about 0.2 mm. The cladding 80 may be a foil. In other examples, the cladding 80 may be a coating applied to the base 70. In further examples, the cladding 80 may comprise a film applied to the base 70. As illustrated in Figs. 4A-C, the cladding 80 may be engaged with the outer surface 44 of the wall 42 using an adhesive layer 84 disposed therebetween. The adhesive layer 84 may have a thickness of between about 0.01 mm and about 0.5 mm. In one example, as shown in the exploded view of Fig. 4C, the adhesive layer 84 is a coating applied to a surface of the cladding 80 in a step separate from joining the cladding to the base 70. In one embodiment, the coating is a solvent-based polyolefin dispersion heat-seal coating, which may be a heat-actuated adhesive coating. In one example, a suitable coating may be sold under the tradename MORPRIME™ by the Dow Chemical Company. Acrylic, aqueous heat seal coatings available from Roymal Inc. may also be suitable. Aqueous emulsion waterborne heat-seal coatings available from Mico-Corp may also be suitable. The coatings may be applied to the cladding with known processes such as printing, gravure, rotogravure, flexographic, and offset.

[0042] Use of a heat-seal coating or heat-actuated adhesive coating as the adhesive layer 84 allows the cladding 80 to be pre-coated with the adhesive layer for later attachment to the base 70. The coating, particularly a heat-seal coating, can then be activated by heat to facilitate a bond between the metallic cladding 80 and the polymeric base 70. Prior to being heated, the coating may not be tacky, facilitating use of a cladding 80 with an adhesive layer coating in high-speed production lines.

[0043] In one example, heat for activating the adhesive layer 84 coating may be created using induction heating. Adherence between the cladding 80 with the adhesive layer 84 and the base 70 may be generated using the same or similar methodology as employed within known induction sealing or heat sealing machines. Such machines, including production line machines, are available from companies such as Relco UK, Selig Sealing Products, Inc., and ME.RO S.p.A, and Enercon Industries. Induction sealers would be used to create an electromagnetic field in the presence of the metallic cladding 80. Exposure of the cladding 80 and heat-actuated adhesive layer 84 to the magnetic field induces eddy currents within the cladding that causes the cladding to quickly generate heat therein, wherein the heat would be conducted to the adhesive layer 84. The heating of the adhesive layer 84 activates or otherwise actuates the adhesive layer 84 to form a bond between the cladding 80 and the base 70. Typical induction sealers include a power source, a coil for generating a magnetic field, and a cooling system.

[0044] The lid 40 may have a maximum height along a direction parallel with the central axis C of less than about 8.89 mm (0.35 inches). In another embodiment, the maximum height of the lid 40 may be less than about 7.62 mm (0.30 inches) and may be less than about 7.112 mm (0.28 inches). The height includes both the body 70 and the cladding 80. The same suitable dimensions may

apply to the further examples discussed below.

[0045] Figs. 5A and 5B show a lid 40a according to a second example of the present disclosure. The interior of the lid 40a may be substantially similar to the lid 40 discussed above, and as a result, the lid 40a may be configured to engage the body 20 in the same manner as discussed above.

[0046] The lid 40a illustrates the cladding 80a extending across substantially the entirety of the top surface 44 of the wall 42. Particularly, as illustrated, the top surface 44 of the polymeric base 70 is substantially entirely hidden from view by the cladding 80a. The cladding 80a may include an adhesive layer 84, coated thereon in advance, that may be active by heat through an induction bonding machine as discussed hereinabove.

[0047] Figs. 6A and 6B show a lid 40b according to a third example of the present disclosure. The interior of the lid 40b may be substantially similar to the lid 40 discussed above, and as a result, the lid 40b may be configured to engage the body 20 in the same manner as discussed above.

[0048] In the illustrated example of Figs. 6A and 6B, the cladding 80b is engaged with the wall 42 using an adhesive layer 84, such as the induction bonded, heat seal coating layer described above.

[0049] The wall 48 of the base 70b may also include a groove 49 recessed in the exterior surface 52. The groove 49 may be configured to receive the peripheral edge 86 of the cladding 80b. In the illustrated example, the peripheral edge 86 may be bent or otherwise angled to reside in the groove 49. By positioning the peripheral edge 86 within the groove 49, the cladding 80b may be less susceptible to peeling away from the base 70b. The depth of the groove 49 in the radial direction toward axis C may be selected such that the exterior surface 52 is flush with the surface of the cladding 80b when the peripheral edge 86 is disposed within the groove 49. In another example, the groove 49 is deeper than the thickness of the cladding 80b such that the cladding is recessed relative to the exterior surface 52.

[0050] Figs. 7A and 7B show a lid 40c according to an embodiment of the present invention. The interior of the lid 40c may be substantially similar to the lid 40 discussed above, and as a result, the lid 40c may be configured to engage the body 20 in the same manner as discussed above.

[0051] In the illustrated embodiment of Figs. 7A and 7B, the cladding 80c is engaged with the wall 42 using an adhesive layer 84, such as the induction bonded, heat seal coating layer described above.

[0052] The wall 48 of the base 70b may also include a groove 49 recessed in the exterior surface 52. The groove 49 may be configured to receive the peripheral edge 86 of the cladding 80c. In the illustrated embodiment, the peripheral edge 86 may be bent or otherwise angled, such as by stamping, to reside in the groove 49. By positioning the peripheral edge 86 within the groove 49, the cladding 80c may be less susceptible to peeling away

from the base 70b. The depth of the groove 49 in the radial direction toward axis C may be selected such that the exterior surface 52 is flush with the surface of the cladding 80c when the peripheral edge 86 is disposed within the groove 49. In another embodiment, the groove 49 is deeper than the thickness of the cladding 80c such that the cladding is recessed relative to the exterior surface 52.

[0053] In the illustrated embodiment of Figs. 7A and 7B, the cladding 80c may be pre-formed, such as by stamping, with a peripheral ridge 87. The peripheral ridge 87 may assist with the rigidity of the cladding 80c and help minimize warping near the center of the cladding. In addition, the peripheral ridge 87 may provide a tactile feature that assist the user with at least one of adding or removing the lid 40c from the body 20 (FIG. 1). The material and thickness of the cladding 80c may be selected such that the peripheral ridge 87 is self-supporting and would remain raised under force conditions typical to opening or closing the container 10 and force conditions typically encountered during transportation of the container. By being self-supporting, the peripheral ridge 87 of the cladding 80c may avoid the use of an upward projection formed from the polymeric material of the base 70b.

[0054] Returning to Fig. 1, as part of the final packaging process, once the containers 10 of the disclosure are filled with the desired product, the containers can be sealed with a circumferential label or wrapper of a pervious or impervious material. The label or wrapping material useful in accordance with the present disclosure can vary. Typically, the selection of the packaging label or wrapper is dependent upon factors such as aesthetics, desired barrier properties (e.g., so as to provide protection from exposure to oxygen, or so as to provide protection from loss of moisture), or the like.

Claims

1. A lid (40, 40c) for a container (10) for storing a smokeless tobacco product, the lid (40, 40c) comprising:

a laterally-extending wall (42) having opposing first and second surfaces (44, 46) and defining a periphery, the laterally-extending wall (42) having a central axis (C) extending perpendicularly to the first and second surfaces (44, 46); a sidewall (48) extending from the second surface (46) about the periphery of the laterally-extending wall (42), with the laterally-extending wall (42) and the sidewall (48) being formed of a polymeric material;

a metallic cladding (80, 80c) comprising a metallic sheet, said metallic sheet comprising a raised ridge (87) adjacent to a periphery thereof, the metallic cladding (80, 80c) engaged with the laterally-extending wall (42) so as to extend

laterally across the first surface (44), wherein the sidewall (48) includes a groove (49) receiving a peripheral edge (86) of the metallic cladding (80c said lid being **characterised in that:** said groove (49) is recessed in an exterior surface of said sidewall (48).

2. The lid (40, 40c) of claim 1, wherein the peripheral edge (86) of the cladding (80, 80c) is angled to reside in the groove (49).

3. The lid (40, 40c) of claim 1, wherein the groove (49) is recessed radially inward toward the central axis (C) of the laterally-extending wall (42) from the exterior surface of the sidewall by a distance greater than or about equal to a thickness of the cladding; and optionally:

wherein the metallic sheet is embossed; and optionally

wherein the raised ridge (87) is self-supporting; and optionally

wherein the metallic sheet has a thickness between about 0.1 mm and about 0.5 mm; and optionally

wherein the sidewall (48) extends substantially parallel to the central axis (C) of the laterally-extending wall (42).

4. The lid (40, 40c) of claim 1, further comprising a rib structure (60) projecting from the second surface (46) of the laterally-extending wall (42), the rib structure (60) comprising a plurality of rib segments (62) arranged in spaced relation proximate the periphery of the laterally-extending wall (42).

5. The lid (40, 40c) of claim 1, wherein the sidewall (48) further comprises a radially inward extending detent (68) extending circumferentially around the central axis (C) of the laterally-extending wall (42).

6. The lid (40, 40c) of claim 1, wherein an adhesive layer (84) is positioned between the cladding (80, 80c) and the first surface (44); and optionally

wherein the adhesive layer (84) is a coating which can be pre-applied to the cladding (80, 80c); and optionally

wherein the adhesive layer (84) can be actuated by heat to form a bond between the cladding (80, 80c) and the wall (42) when the cladding is subjected to a magnetic field; and optionally

wherein the adhesive layer (84) comprises a heat-actuated adhesive.

7. A method of manufacturing a lid (40, 40c) for a container (10) for storing a smokeless tobacco product, the method comprising:

- receiving a lid structure (40, 40c) comprising a laterally-extending wall (42) having opposing first and second surfaces (44, 46) and defining a periphery, the laterally-extending wall (42) having a central axis (C) extending perpendicularly to the first and second surfaces (44, 46), and a sidewall (48) extending from the second surface (46) about the periphery of the laterally-extending wall (42) wherein said sidewall (48) includes a groove (49) recessed in an exterior surface thereof, with the laterally-extending wall (42) and the sidewall (48) being formed of a polymeric material;
- receiving a metallic cladding (80, 80c), wherein the metallic cladding (80, 80c) comprises a metallic sheet, said metallic sheet comprising a raised ridge (87) adjacent to a periphery thereof arranging the metallic cladding (80, 80c) adjacent to the first surface (44) of the laterally-extending wall (42) such that the metallic cladding (80, 80c) extends laterally across the first surface (44) with a heat activated adhesive (84) positioned between the metallic cladding (80, 80c) and the first surface (44);
- arranging a peripheral edge (86) of the metallic cladding (80, 80c) within the groove (49):
- exposing the metallic cladding (80, 80c) and the heat-actuated adhesive (84) to heat so as to actuate the heat-actuated adhesive to bond the metallic cladding (80, 80c) to the first surface (44).
8. The method of claim 7, further comprising embossing the metallic cladding (80, 80c).
 9. The method of claim 7, further comprising the step of coating the heat-actuated adhesive (84) onto either at least a portion of a surface of the metallic cladding (80, 80c) or at least a portion of the first surface (44) of the laterally-extending wall (42) of the lid structure (40, 40c) prior to said arranging step.
 10. The method of claim 9, wherein the coating step comprises printing the heat-actuated adhesive (84) on at least a portion of a surface of the metallic cladding (80, 80c).
 11. The method of claim 7, wherein either the metallic cladding (80, 80c) or the lid structure (40, 40c) is received pre-treated with the heat-actuated adhesive (84).
 12. The method of claim 7, wherein exposing the the metallic cladding (80, 80c) and the heat-actuated adhesive (84) to heat comprises using an induction sealer.

Patentansprüche

1. Deckel (40, 40c) für einen Behälter (10) zum Aufbewahren eines rauchlosen Tabakprodukts, wobei der Deckel (40, 40c) Folgendes umfasst:
 - eine sich lateral erstreckende Wand (42), die eine erste und eine zweite Fläche (44, 46), die sich gegenüberliegen, aufweist und einen Umfang definiert, wobei die sich lateral erstreckende Wand (42) eine Mittelachse (C) aufweist, die sich senkrecht zur ersten und zur zweiten Fläche (44, 46) erstreckt;
 - eine Seitenwand (48), die sich von der zweiten Fläche (46) um den Umfang der sich lateral erstreckenden Wand (42) erstreckt, wobei die sich lateral erstreckende Wand (42) und die Seitenwand (48) aus einem polymeren Material ausgebildet sind;
 - einen metallischen Überzug (80, 80c), der ein Metallblech umfasst, wobei das Metallblech einen erhabenen Steg (87) umfasst, der an einen Umfang davon angrenzt, wobei der metallische Überzug (80, 80c) mit der sich lateral erstreckenden Wand (42) so im Eingriff steht, dass er sich lateral über die erste Fläche (44) erstreckt, wobei die Seitenwand (48) eine Nut (49) beinhaltet, die eine Umfangskante (86) des metallischen Überzugs (80c) aufnimmt;
 - wobei der Deckel **dadurch gekennzeichnet ist, dass:**
 - die Nut (49) in eine äußere Fläche der Seitenwand (48) vertieft ist.
2. Deckel (40, 40c) nach Anspruch 1, wobei die Umfangskante (86) des Überzugs (80, 80c) so abgewinkelt ist, dass sie in der Nut (49) liegt.
3. Deckel (40, 40c) nach Anspruch 1, wobei die Nut (49) radial nach innen zur Mittelachse (C) der sich lateral erstreckenden Wand (42) von der äußeren Fläche der Seitenwand um eine Strecke vertieft ist, die größer oder gleich einer Dicke des Überzugs ist; und optional:
 - wobei das metallische Blech geprägt ist; und optional
 - wobei der erhabene Steg (87) selbsttragend ist; und optional
 - wobei das metallische Blech eine Dicke zwischen etwa 0,1 mm und etwa 0,5 mm aufweist; und optional
 - wobei sich die Seitenwand (48) im Wesentlichen parallel zur Mittelachse (C) der sich lateral erstreckenden Wand (42) erstreckt.
4. Deckel (40, 40c) nach Anspruch 1, ferner eine Rippenstruktur (60) umfassend, die sich von der zweiten

- Fläche (46) der sich lateral erstreckenden Wand (42) erstreckt, wobei die Rippenstruktur (60) eine Vielzahl von Rippensegmenten (62) umfasst, die in beabstandeter Beziehung nahe dem Umfang der sich lateral erstreckenden Wand (42) angeordnet sind. 5
5. Deckel (40, 40c) nach Anspruch 1, wobei die Seitenwand (48) ferner eine sich radial nach innen erstreckende Raste (68) umfasst, die sich in Umfangsrichtung um die Mittelachse (C) der sich lateral erstreckenden Wand (42) erstreckt. 10
6. Deckel (40, 40c) nach Anspruch 1, wobei eine Haftschrift (84) zwischen dem Überzug (80, 80c) und der ersten Fläche (44) angeordnet ist; und optional 15
- wobei die Haftschrift (84) eine Beschichtung ist, die auf den Überzug (80, 80c) voraufgebracht werden kann; und optional
- wobei die Haftschrift (84) durch Wärme so aktiviert werden kann, dass sie eine Verbindung zwischen dem Überzug (80, 80c) und der Wand (42) ausbildet, wenn der Überzug einem Magnetfeld ausgesetzt wird; und optional 20
- wobei die Haftschrift (84) ein durch Wärme aktiviertes Haftmittel umfasst. 25
7. Verfahren zum Herstellen eines Deckels (40, 40c) für einen Behälter (10) zum Aufbewahren eines rauchlosen Tabakprodukts, wobei das Verfahren Folgendes umfasst: 30
- Aufnehmen einer Deckelstruktur (40, 40c), die eine sich lateral erstreckende Wand (42), die eine erste und eine zweite Fläche (44, 46), die sich gegenüberliegen, aufweist und einen Umfang definiert, wobei die sich lateral erstreckende Wand (42) eine Mittelachse (C) aufweist, die sich senkrecht zur ersten und zur zweiten Fläche (44, 46) erstreckt, und eine Seitenwand (48) umfasst, die sich von der zweiten Fläche (46) um den Umfang der sich lateral erstreckenden Wand (42) erstreckt, wobei die Seitenwand (48) eine Nut (49) beinhaltet, die in eine äußere Fläche davon vertieft ist, wobei die sich lateral erstreckende Wand (42) und die Seitenwand (48) aus einem polymeren Material ausgebildet sind; 35
- Aufnehmen eines metallischen Überzugs (80, 80c), wobei der metallische Überzug (80, 80c) ein Metallblech umfasst, wobei das Metallblech einen erhabenen Steg (87) umfasst, der an einen Umfang davon angrenzt; 40
- Anordnen des metallischen Überzugs (80, 80c) angrenzend an die erste Fläche (44) der sich lateral erstreckenden Wand (42), sodass sich der metallische Überzug (80, 80c) lateral über die erste Fläche (44) erstreckt, wobei ein wärmeaktiviertes Haftmittel (84) zwischen dem me- 45
- tallischen Überzug (80, 80c) und der ersten Fläche (44) positioniert ist;
- Anordnen einer Umfangskante (86) des metallischen Überzugs (80, 80c) innerhalb der Nut (49);
- Aussetzen des metallischen Überzugs (80, 80c) und des wärmeaktivierten Haftmittels (84) gegenüber Wärme, um so das wärmeaktivierte Haftmittel zu aktivieren, sodass es den metallischen Überzug (80, 80c) mit der ersten Fläche (44) verbindet.
8. Verfahren nach Anspruch 7, ferner das Prägen des metallischen Überzugs (80, 80c) umfassend.
9. Verfahren nach Anspruch 7, ferner den Schritt des Beschichtens des wärmeaktivierten Haftmittels (84) auf entweder mindestens einen Teil einer Fläche des metallischen Überzugs (80, 80c) oder mindestens einen Teil der ersten Fläche (44) der sich lateral erstreckenden Wand (42) der Deckelstruktur (40, 40c) vor dem Schritt des Anordnens.
10. Verfahren nach Anspruch 9, wobei der Schritt des Beschichtens das Drucken des wärmeaktivierten Haftmittels (84) auf mindestens einen Teil einer Fläche des metallischen Überzugs (80, 80c) umfasst.
11. Verfahren nach Anspruch 7, wobei entweder der metallische Überzug (80, 80c) oder die Deckelstruktur (40, 40c) mit dem wärmeaktivierten Haftmittel (84) vorbehandelt aufgenommen wird.
12. Verfahren nach Anspruch 7, wobei das Aussetzen des metallischen Überzugs (80, 80c) und des wärmeaktivierten Haftmittels (84) gegenüber Wärme das Verwenden einer Induktionsversiegelungsvorrichtung umfasst. 50

Revendications

1. Couvercle (40, 40c) destiné à un récipient (10) permettant de stocker un produit de tabac sans fumée, le couvercle (40, 40c) comprenant :

une paroi s'étendant latéralement (42) ayant des première et seconde surfaces opposées (44, 46) et définissant une périphérie, la paroi s'étendant latéralement (42) ayant un axe central (C) qui s'étend perpendiculairement aux première et seconde surfaces (44, 46) ;

une paroi latérale (48) s'étendant à partir de la seconde surface (46) autour de la périphérie de la paroi s'étendant latéralement (42), la paroi s'étendant latéralement (42) et la paroi latérale (48) étant constituées d'un matériau polymérique ;

- un revêtement métallique (80, 80c) comprenant une feuille métallique, ladite feuille métallique comprenant une arête surélevée (87) adjacente à une périphérie de celle-ci, le revêtement métallique (80, 80c) étant en prise avec la paroi s'étendant latéralement (42) de manière à s'étendre latéralement sur la première surface (44), dans lequel la paroi latérale (48) comporte une rainure (49) recevant un bord périphérique (86) du revêtement métallique (80c) ;
 ledit couvercle étant **caractérisé en ce que** :
 ladite rainure (49) est encastrée dans une surface extérieure de ladite paroi latérale (48).
2. Couvercle (40, 40c) selon la revendication 1, dans lequel le bord périphérique (86) du revêtement (80, 80c) est incliné pour résider dans la rainure (49).
3. Couvercle (40, 40c) selon la revendication 1, dans lequel la rainure (49) est encastrée radialement vers l'intérieur en direction de l'axe central (C) de la paroi s'étendant latéralement (42) à partir de la surface extérieure de la paroi latérale selon une distance supérieure ou égale à une épaisseur du revêtement ; et éventuellement :
- dans lequel la feuille métallique est gaufrée ; et éventuellement
- dans lequel l'arête surélevée (87) est autoportante ; et éventuellement
- dans lequel la feuille métallique a une épaisseur comprise entre environ 0,1 mm et environ 0,5 mm ; et éventuellement
- dans lequel la paroi latérale (48) s'étend de manière sensiblement parallèle à l'axe central (C) de la paroi s'étendant latéralement (42).
4. Couvercle (40, 40c) selon la revendication 1, comprenant en outre une structure de nervures (60) faisant saillie à partir de la seconde surface (46) de la paroi s'étendant latéralement (42), la structure de nervures (60) comprenant une pluralité de segments de nervure (62) disposés en relation espacée à proximité de la périphérie de la paroi s'étendant latéralement (42) .
5. Couvercle (40, 40c) selon la revendication 1, dans lequel la paroi latérale (48) comprend en outre un cran d'extension radialement vers l'intérieur (68) s'étendant circonférentiellement autour de l'axe central (C) de la paroi s'étendant latéralement (42).
6. Couvercle (40, 40c) selon la revendication 1, dans lequel une couche adhésive (84) est placée entre le revêtement (80, 80c) et la première surface (44) ; et éventuellement
- dans lequel la couche adhésive (84) est un revêtement qui peut être pré-appliqué sur le revêtement (80, 80c) ; et éventuellement
- dans lequel la couche adhésive (84) peut être activée par la chaleur pour créer une adhérence entre le revêtement (80, 80c) et la paroi (42) lorsque le revêtement est soumis à un champ magnétique ; et éventuellement
- dans lequel la couche adhésive (84) comprend un adhésif thermocollant.
7. Procédé de fabrication d'un couvercle (40, 40c) destiné à un récipient (10) permettant de stocker un produit de tabac sans fumée, le procédé comprenant :
- la réception d'une structure de couvercle (40, 40c) comprenant une paroi s'étendant latéralement (42) ayant des première et seconde surfaces opposées (44, 46) et définissant une périphérie, la paroi s'étendant latéralement (42) ayant un axe central (C) qui s'étend perpendiculairement aux première et seconde surfaces (44, 46), et une paroi latérale (48) qui s'étend à partir de la seconde surface (46) autour de la périphérie de la paroi s'étendant latéralement (42), dans lequel ladite paroi latérale (48) comporte une rainure (49) encastrée dans une surface extérieure de celui-ci, la paroi s'étendant latéralement (42) et la paroi latérale (48) étant constituées d'un matériau polymère ;
- la réception d'un revêtement métallique (80, 80c), dans lequel le revêtement métallique (80, 80c) comprend une feuille métallique, ladite feuille métallique comprenant une arête surélevée (87) adjacente à une périphérie de celle-ci ;
- la disposition du revêtement métallique (80, 80c) adjacente à la première surface (44) de la paroi s'étendant latéralement (42) de sorte que le revêtement métallique (80, 80c) s'étend latéralement sur la première surface (44) avec un adhésif thermocollant (84) placé entre le revêtement métallique (80, 80c) et la première surface (44) ;
- la disposition d'un bord périphérique (86) du revêtement métallique (80, 80c) dans la rainure (49) ;
- l'exposition du revêtement métallique (80, 80c) et de l'adhésif thermocollant (84) à la chaleur afin d'activer l'adhésif thermocollant pour coller le revêtement métallique (80, 80c) à la première surface (44).
8. Procédé selon la revendication 7, comprenant en outre le gaufrage du revêtement métallique (80, 80c).
9. Procédé selon la revendication 7, comprenant en outre l'étape de revêtement de l'adhésif thermocollant (84) sur soit au moins une partie d'une surface

du revêtement métallique (80, 80c), soit au moins une partie de la première surface (44) de la paroi s'étendant latéralement (42) de la structure de couvercle (40, 40c) avant ladite étape de disposition.

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10. Procédé selon la revendication 9, dans lequel l'étape de revêtement comprend l'impression de l'adhésif thermocollant (84) sur au moins une partie d'une surface du revêtement métallique (80, 80c).

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11. Procédé selon la revendication 7, dans lequel soit le revêtement métallique (80, 80c), soit la structure de couvercle (40, 40c) est reçue prétraitée avec l'adhésif thermocollant (84) .

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12. Procédé selon la revendication 7, dans lequel l'exposition à la chaleur du revêtement métallique (80, 80c) et de l'adhésif thermocollant (84) consiste à utiliser une scelleuse par induction.

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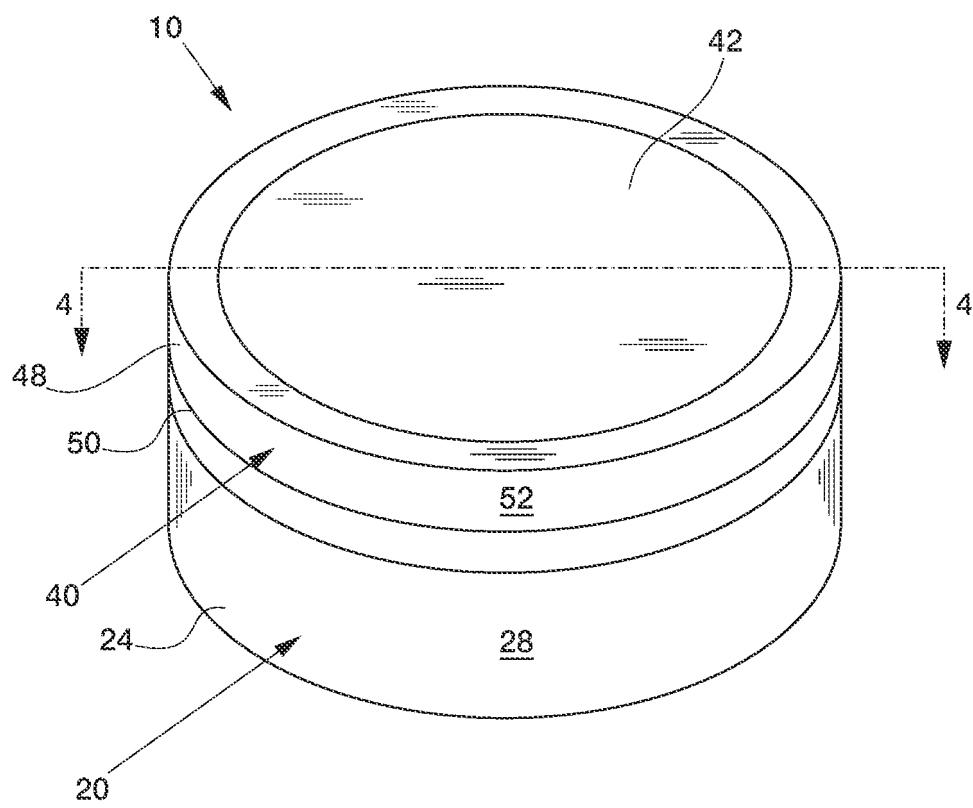


FIG. 1

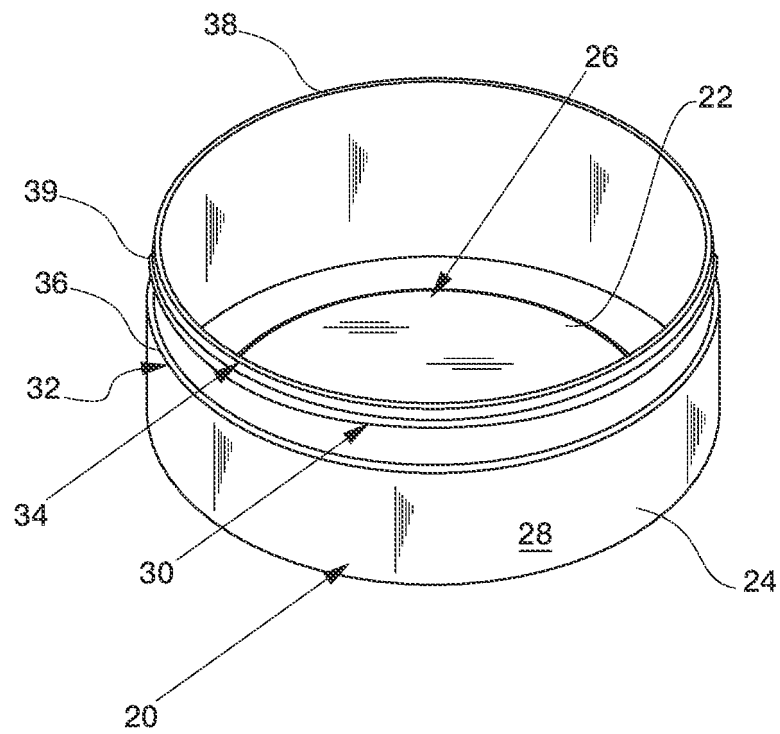


FIG. 2

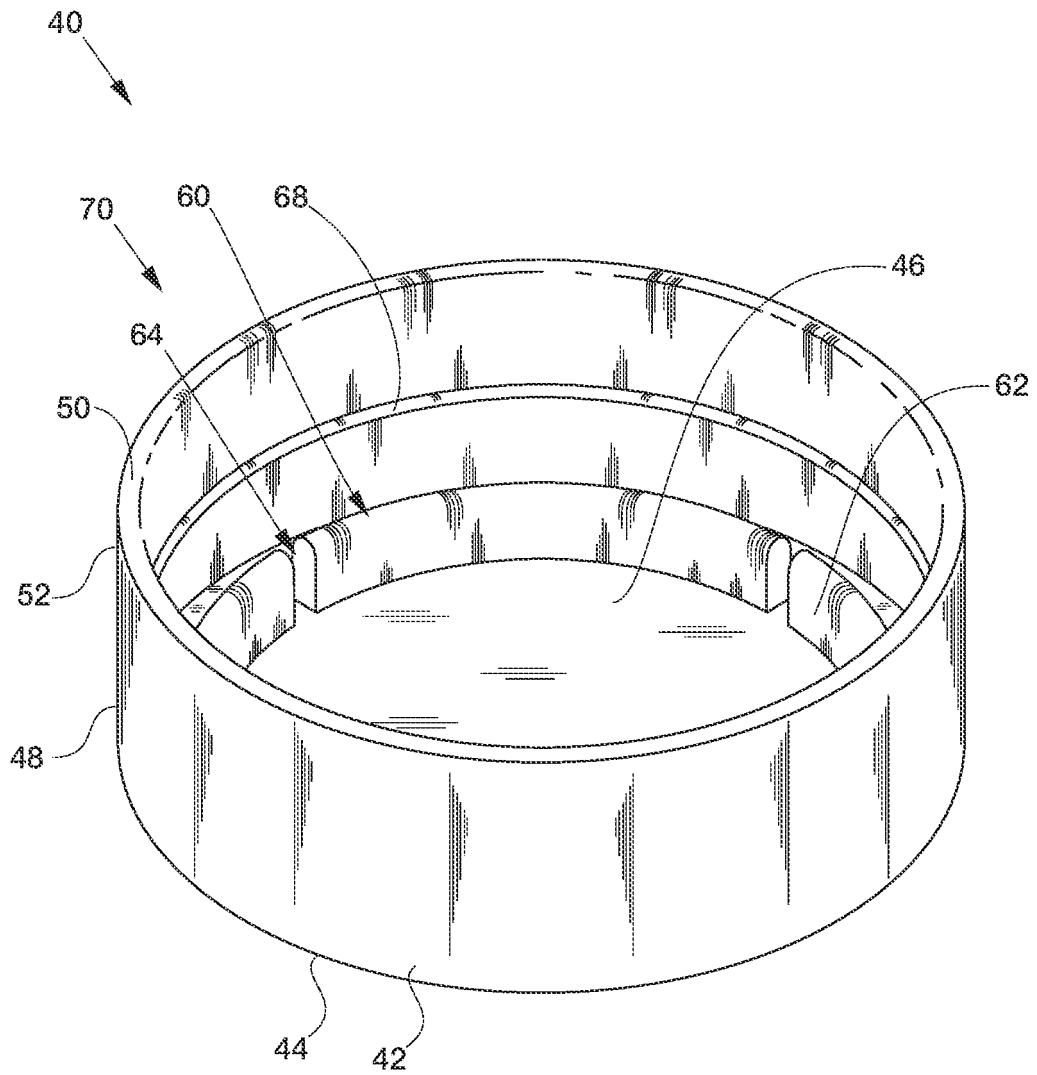
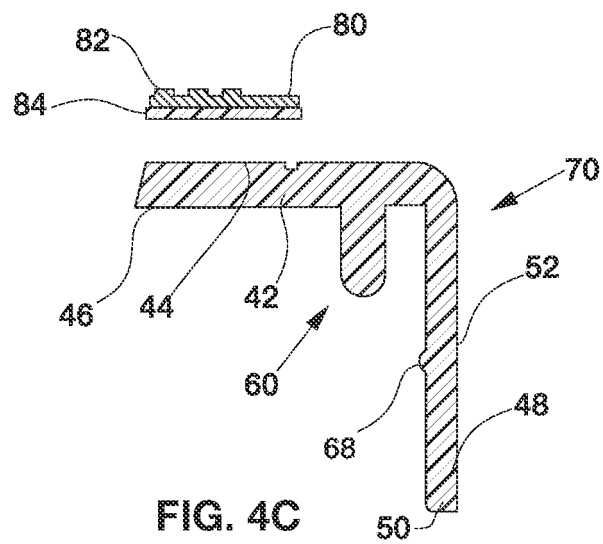
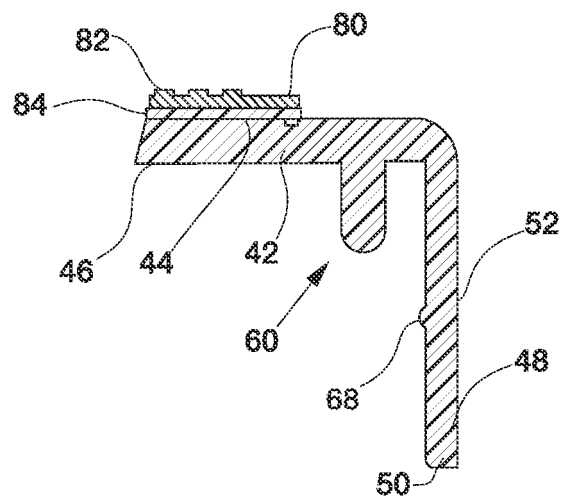
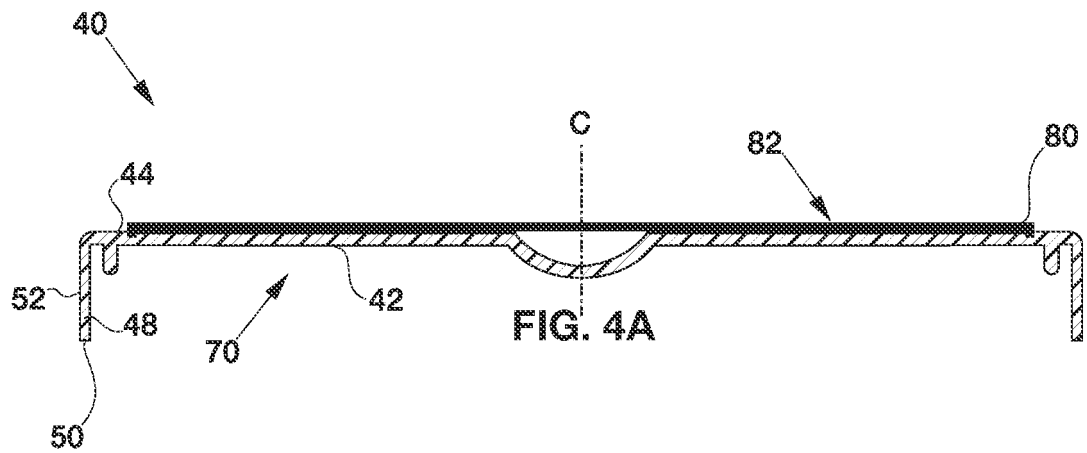
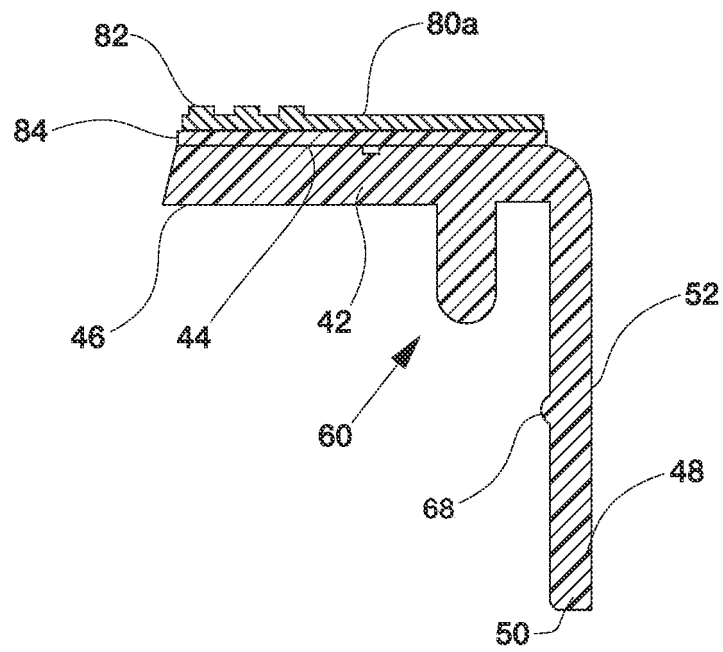
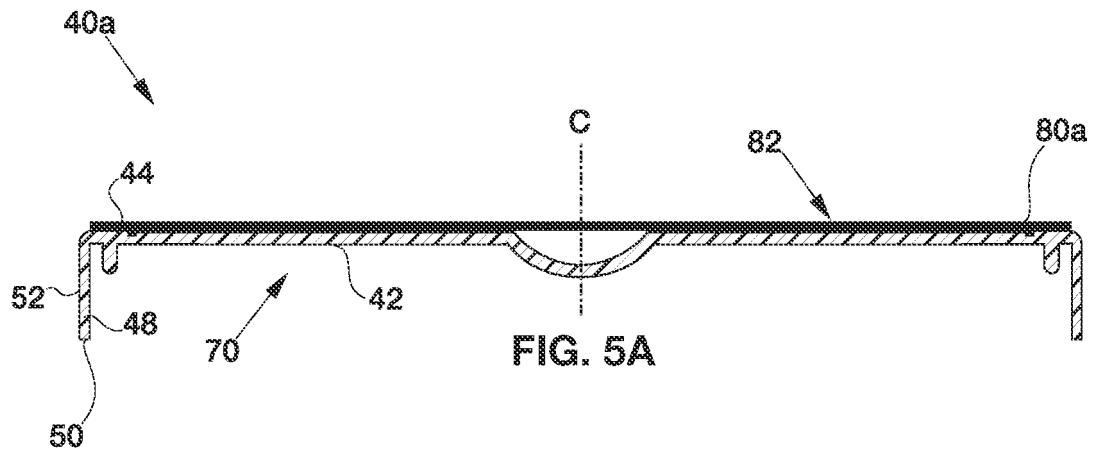
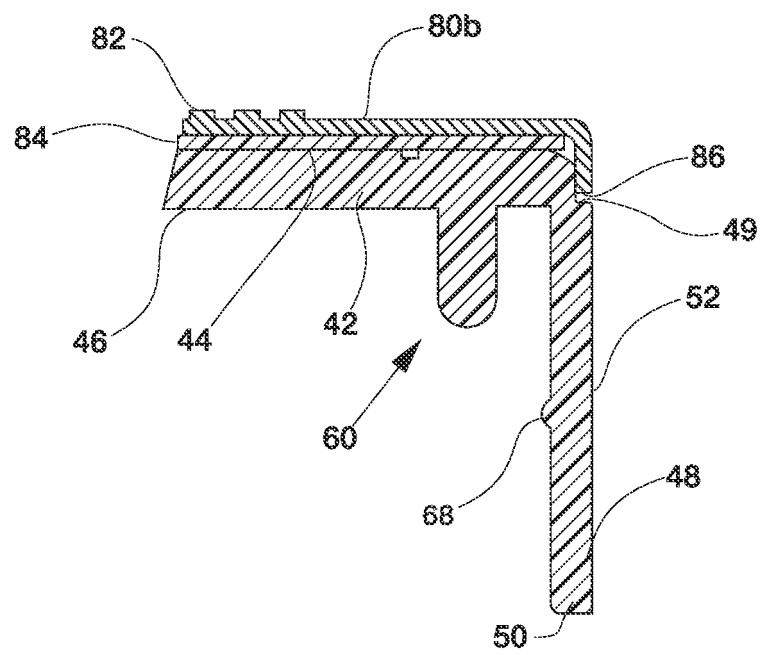
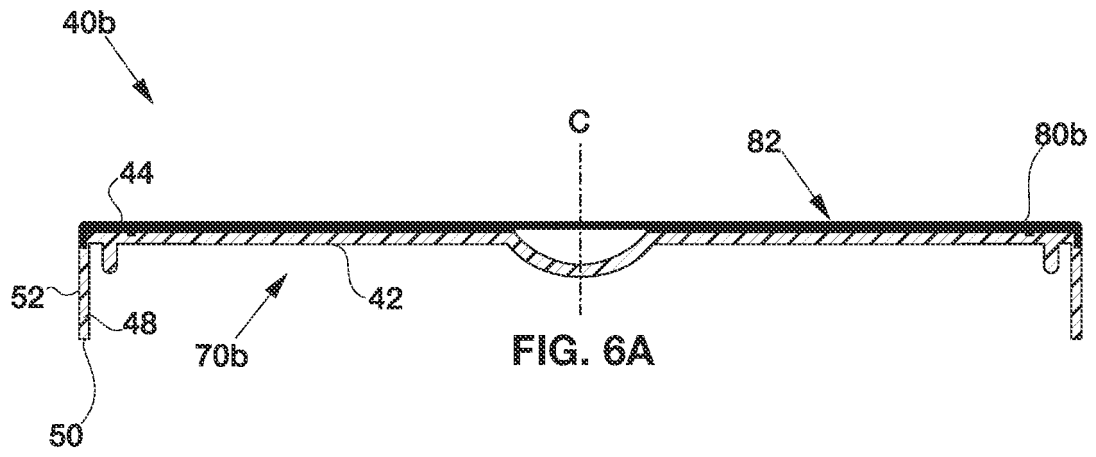
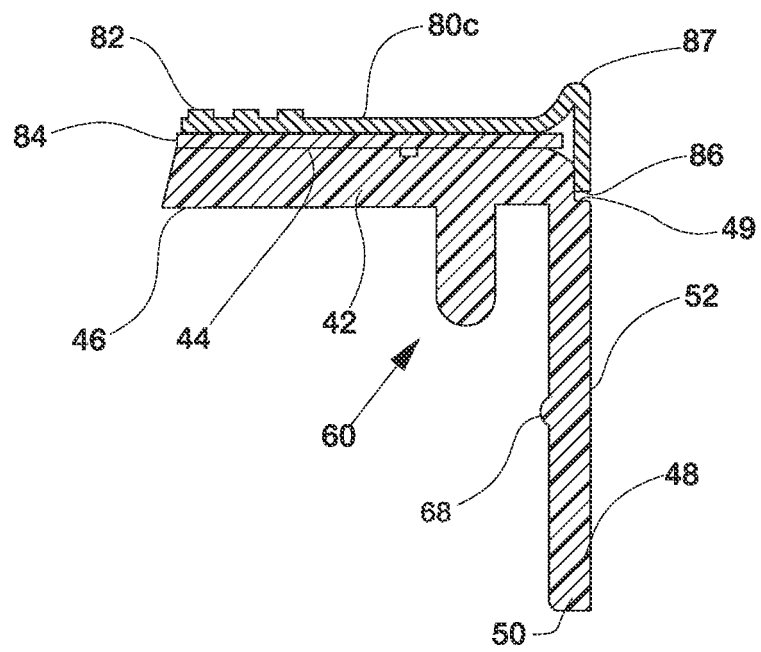
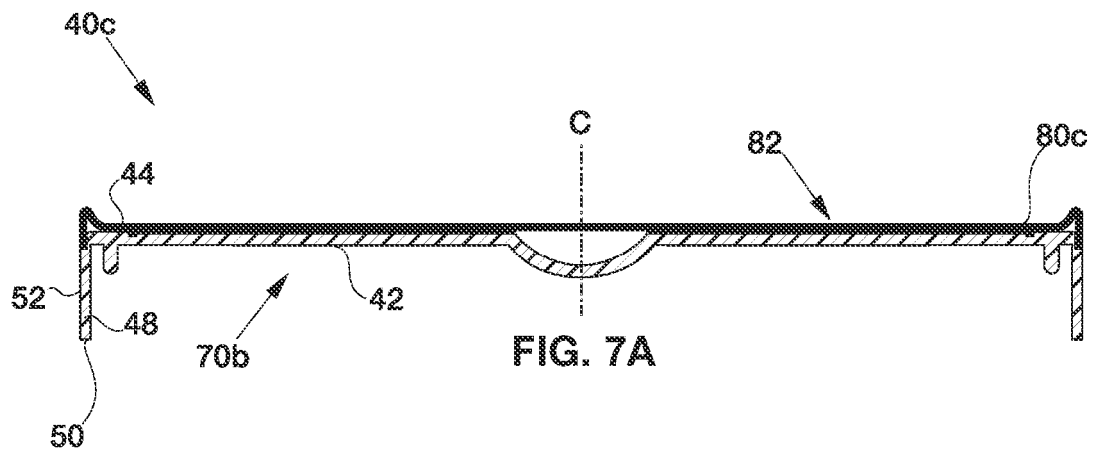


FIG. 3









REFERENCES CITED IN THE DESCRIPTION

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