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(54) IMPROVEMENTS IN OR RELATING TO POUR SPOUT DEVICES

VERBESSERUNGEN VON GIESSTÜLLENVORRICHTUNGEN ODER DIESE BETREFFEND

AMELIORATIONS APPORTEES OU LIEES A DES DISPOSITIFS DE BEC VERSEUR

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(56) References cited:

EP-A- 1 216 927

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US-A- 5 799 840

US-A1- 2002 030 092

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Description

[0001] This invention relates to a method of applying a pour spout device to a container and also relates to a package comprising a pour spout device .

[0002] US-A-5,108,029 discloses a reclosable, one piece, pour spout device for attaching to a container, the device including a pour spout comprised of a flange and a pour spout body which consists of a cylindrical extension which extends upwards from the flange and a cylindrical stem which extends downwards from the flange. A cap-form cover is hingedly connected to the flange and is adapted to be engaged with and disengaged from the cylindrical extension in order to prevent or permit discharge of the contents from the container. The device has a tamper-evident feature which may be in the form of a pair of footless legs which are formed integrally with the cover and subsequently have their free ends bead-welded to the upper surface of the flange.

[0003] GB-A-2,301,098 discloses a tamper-evident, thermoplastics, pour spout device having a spout and a plug-form cover attached to a plastics or plastics-coated container. The fitment and the cover are moulded simultaneously with a substantial space between them and with an elongate runner connecting them. Upon retraction of the mould core, the cover is pulled into the spout until shoulders on the parts engage, whereupon the cover is stripped from the mould core. The runner comprises a tear tab which slides through an apertured space on the cover. When the parts engage, tangs on the tear tab engage in the space, making the assembly tamper-evident. The device has a flange which may be welded or otherwise secured to the container. The tab may be pulled by the consumer to open the container. The cover may be unscrewed from the spout or otherwise disengaged. Internally, the inner end of the spout has integrally formed therewith a sealing ring which slants downwardly and inwardly to engage a smooth surface on the exterior of a skirt of the cover, the primary liquid-tight seal of the device being preferably the sealing effect between that ring and that smooth surface.

[0004] US-A-5,799,840 discloses a closure for a container wherein the closure has a spout with flange, a cap and a link connecting the spout and the cap. The link has a joint at its connection to the spout which allows for the folding of a portion of the link toward the flange for binding thereto. The link portion may be folded into a cutout on the flange. A method of securing the closure to a container includes bonding the link portion to the flange simultaneously with the binding of the closure to a thermoplastic surface of a container using an energy emission process such as ultrasonic sealing. The closure may also have a tamper evident structure attached thereon to provide a visual indication that the closure has been opened. That structure includes an L-shaped leg secured to the cap at a tear joint that, for example, includes one or more notches. A gripping arm extends from the main part of the leg. The flange includes a cutout that is dimensioned

to accommodate the foot therein. The cutout may merely be a recess or may extend completely through the flange.

[0005] WO-A-0 1/15979 discloses a closable opening device having a flanged frame which defines a pour opening and is fittable to a wall of a sealed package for a pourable food product and about a removable portion of the package; a screw cap co-operating with the frame to close the pour opening; and tamperproofing means connected to the cap by breakable connecting means and defining an inviolable closed position of the cap on the frame. The tamperproofing means comprises a block of plastics which is connected externally to the side of the cap by two thin, low-break-strength strips, engages a through hole formed in the flange, and is heat-sealed to the lateral edge of the hole and to a surface film of the wall of the package. The block is substantially in the form of a triangular prism and is connected integrally, by means of strips and along one of its lateral edges, to a projection projecting radially outwards from a portion of the cap. In production of the device, the cap is preferably pressed into the frame, after first aligning the block with the hole in the frame.

[0006] CA-A-2,502,868 discloses a hatch-type pour spout device for a container of composite packaging material. The device comprises a pour spout and a flanged, tub-shaped cover moulded thereto via a hinge arrangement. The pour spout is fused or bonded to the outside of the container with the flat underside thereof and comprises a rounded enclosing projection extending upwards to form a pouring spout body. The inner end of the projection is open. In the opened state, the tub-shaped portion of the cover projects upwards to present a planar upper surface and, in the closed state, is a positive fit in the pouring opening in the underside of the spout. In the closed state, that planar surface either is flush with the underside of the spout, or extends below the same by a maximum of 0.5mm., and is either bonded with the outside of a pre-punched zone of the composite packaging or fused to a sealing film of the composite packaging which is exposed due to punching. The cover also includes an external flange, and the hinge arrangement extends between that flange and an external flange of the spout. On both sides of the tub-shaped portion of the cover there are L-shaped tamper-evident wings moulded to the underside of the flange of the cover. The shorter parts of these wings are dimensioned in such a way that, when the cover is turned onto the spout, they fit into square indentations in the flange of the spout, with which they are fused after initial closing.

[0007] WO-A-2004/058574 discloses an apparatus for use in welding a pour spout fitment to a container comprising an ultrasonic welding horn formed with a recess at one end for receiving part of the fitment, an anvil between an annular surface portion of which and that one end of the horn are vibrantly pressed a wall of the container and a flange of the fitment to weld the wall and the flange to each other, and a head fixed relative to and protruding from the anvil for receiving the fitment over a

free end thereof, and a ring substantially co-axial with the head and protruding substantially radially outwards from the head at the opposite end of the head for maintaining an annular, radially inner portion of the flange spaced axially outwards from the annular surface portion of the anvil, the outer periphery of the ring being radially dimensioned to be received in the recess.

[0008] According to one aspect of the present invention, there is provided a method comprising:-

providing a pour spout device comprising a pour spout, a cover for closing said pour spout, and a tamper-evidence arrangement attached to said cover and comprising tamper-evidence, footed legs which are each in a condition with a proximal end attached to said cover and a distal end free, attachingly applying said device to said wall of said container, and attaching said arrangement to an external flange of a pour spout body of said pour spout,

said attaching of said arrangement being substantially simultaneous with said attachingly applying of said device, characterized by said attaching of said arrangement comprising attaching the feet of the legs to an outer surface of said flange without said feet being recessed into respective hollows in said outer surface, and also characterized by, prior to said attachingly applying and to said attaching, producing relative displacement between said device and said container to cause said cover to pass from inside said container through a hole through said wall to outside of said container, and said attachingly applying comprising attaching said pour spout to the inside surface of said wall around said hole.

[0009] According to another aspect of the present invention, there is provided a package comprising a container and a pour spout device attachingly applied to a wall of said container, said device comprising a pour spout, a tamper-evidence arrangement attached to said cover and to a flange of said pour spout extending outwards from a pour spout body and by way of which said pour spout is attached to said wall, said arrangement comprising tamper-evidence, footed legs whereof the feet are attached to said flange, characterized in that the feet of the legs are attached to, but not recessed into respective hollows in, an upper surface of said flange, and also characterized in that said device extends from inside to outside of said wall through a hole through said wall, with said cover being outside said wall, and said flange and each foot are attached to the inside surface of said wall around said hole.

[0010] The tamper-evidence legs can be positioned at any appropriate locations at the periphery of the cover, for example at respective opposite sides of a front part of the cover and/or at the very front of that front part. The device may be applied to the outside surface of the wall of the container, around a pouring hole or potential site of a pouring hole through the wall, with the flange of the

pour spout being sealed, preferably ultrasonically, round the hole or the potential site, and with the legs being sealed, preferably ultrasonically, to that flange. Alternatively, the device may be introduced into the container before filling and brought to protrude outwardly through a hole through the wall, with the flange of the pour spout being sealed, preferably ultrasonically, to the inside surface of the wall round the hole and with the legs being sealed, again preferably ultrasonically, between the flange and the inside surface of the wall.

[0011] In a preferred embodiment there is a hinge arrangement between the pour spout and the cover and about which the cover may be turned relative to the pour spout; the cover comprises a ring-form skirt closely receivable in the pour spout body, the pour spout body including an inwardly protruding, ring-form, readily flexible, resilient lip defining the inflow mouth of the pour spout for sealingly bearing on the ring-form skirt; and the device has been moulded in one piece.

[0012] It is thus possible to provide a ring-form, relatively flexible, resilient lip seal at a location where it is particularly effective and yet can be provided in a simple manner.

[0013] The device may be hatch-form, with an arm projecting from and extending over an outer surface of the cover for use in opening the cover. It is thereby possible to facilitate opening of the cover, because the device presents to the consumer an arm which can be readily engageable for pulling open the cover.

[0014] In order that the invention may be clearly and completely disclosed, reference will now be made, by way of example, to the accompanying drawings, in which:-

Figure 1 is a top plan view of a pour spout device for a packaging carton, the device being in a condition following production thereof by moulding,

Figure 2 is a front elevation of the device in the condition shown in Figure 1,

Figure 3 is a view similar to Figure 1 but with the device in a closed condition,

Figure 4 is a view similar to Figure 2, but with the device in the closed condition,

Figure 5 shows a section taken on the line V-V of Figure 3,

Figure 6 is a view corresponding to Figure 5, but showing the device in a condition near to that of Figures 3 to 5,

Figure 7 is a fragmentary, diagrammatic, cross-sectional view illustrating a method of ultrasonically welding the device to a wall of a carton,

Figure 8 is a view similar to Figure 1 of a modified version of the device in the condition shown in Figure 1,

Figure 9 is an underneath plan view of the modified version in that same condition, and

Figure 10 is a side elevation of the modified version in that same condition.

[0015] Referring to Figures 1 to 7, the pour spout device 2 takes the form of a fitment which in the condition shown in Figures 1 and 2 is for applying, as shown in Figure 7, to a wall 4 of a packaging carton for a flowable substance, the wall 4 comprising a paperboard layer 4A coated at its inner and outer surfaces with thermoplastics layers 4B and 4C. The layers 4B and 4C may be of a moisture barrier plastics material, particularly low density polyethylene (LDPE), and there may be an oxygen barrier layer (not shown) of, for example, aluminium foil or ethylene vinyl alcohol (EVOH) between the layers 4A and 4B. The flowable substance contained may be a liquid, such as milk or fruit juice, or a powder, such as washing powder.

[0016] The device 2 comprises a pour spout 6 and a cover 8 for closing the spout 6. The pour spout 6 includes a pour spout body 10 encircling a pouring outlet 12 and having an inflow mouth 14 and an outflow mouth 16.

[0017] The body 10 is widened at its forward part so as to provide a widened pouring outlet 12.

[0018] The pour spout 6 also includes a flange 18 which protrudes radially outwards from the body 10 and whereby the spout 6 is welded in a fluid-type manner to the layer 4B, the device 2 being of a thermoplastics material suitable for being ultrasonically welded to the layer 4B.

[0019] The device 2 is moulded in one piece, with the connection between the spout 6 and the cover 8 being in the form of an integral hinge arrangement 20 close to the body 10, with a detent 22 included in the spout 6 being engageable in a slot 24 formed in the cover 8 to maintain the cover 8 releasably in its fully open position shown in Figures 1 and 2. The cover 8 includes inner and outer, ring-form skirts 26 and 28 which extend substantially parallelly to each other. The skirt 26 is intended to engage sealingly inside the body 10 and for that purpose is formed with a ring-form rib 30 to engage sealingly beneath a ring-form rib 32 formed round the inside of the body 10. The body 10 may be formed with an inwardly protruding, ring-form, readily flexible, resilient lip 34 defining the inflow mouth 14 for sealingly bearing on the radially outer surface of the ring-form skirt 26. The ring-form skirt 28, which may be omitted, but which has the advantage of improving the stability of the device 2, sealingly engages the radially outer surface of the ring-form body 10. It will be appreciated that the co-operation between the skirt 26 and the lip 34, between the ribs 30 and 32, and between the body 10 and the skirt 28 provides

a plurality of ring-form seals arranged in series with each other and thus providing fluid-tightness, even if one of the seals, owing to manufacturing tolerances, for example, is ineffective. Provision of a sealing lip, such as 34, on the inside of the body 10 as compared with the provision of such a lip on the outside of the skirt 26, has the advantage of simpler moulding thereof, particularly if the lip is provided at the level of the flange 18.

[0020] Moulded integrally with the cover 8, at respective opposite sides of the front portion thereof ("front" in the condition shown in Figures 3 and 4), are a pair of laterally and downwardly protruding, tamper-evidence legs 36 including respective feet 38.

[0021] Following moulding of the device 2 in the form shown in Figures 1 and 2, the cover 8 is turned about the integral hinge arrangement 20 relative to the pour spout 6 so as to cause the body 10 to be received sealingly to the outside of the skirt 26, and sealingly to the inside of the skirt 28 if provided, as illustrated in Figure 5. Then, the device in the condition shown in Figures 3 to 5 is mounted upon an anvil (not shown) and is introduced into an as-yet-to-be-filled carton and caused to protrude through a pouring hole 40 formed through the wall 4, with the feet 38 extending to between the layer 4B and the flange 18. Then an ultrasonic horn 42 with a ring-form rim 44 corresponding in shape to the flange 18 clamps the wall 4 and the flange 18 together, with the interposition therebetween of the feet 38 and ultrasonically welds those three items together round the hole 40. If desired (although not according to the invention), to promote fluid-tight welding of the joint between the flange 18 and the layer 4B, the feet 38 may be recessed into hollows (not shown) in the upper surface of the flange 18 such that, following welding, the lower surface of the layer 4B is flush with the upper surface of the flange 18 and, at the hollows, with the upper surfaces of the feet 38.

[0022] After filling and top-closing and -sealing of the carton on the form-fill-seal machine, the package so formed is ultimately supplied to a consumer. At its corners adjacent to the legs 36, the cover 8 includes turned-up ears 46, whereby the consumer can insert a finger or thumbnail under each of the ears 46 in turn and press those corners upwards to break the tamper-evidence legs 36, so that the cover 8 can be turned backwards about the hinge arrangement 20 into the condition shown in Figures 1 and 2, in which the detent 22 engages in the slot 24 to retain the cover 8 open relative to the spout 6. To facilitate breaking of the legs 36 at desired locations therealong, they may be formed at those locations with respective thinnings 48. With the cover 8 fully open, the consumer can empty at least part of the content of the package through the outlet 12. To deter liquid content being poured from the outlet 12 from running down the outside surface of the carton, the front edge of the flange 18 is undercut, as indicated at 50. Unless the whole of the content is poured out, the package can be re-sealed by turning the cover 8 back into the condition shown in Figures 3 to 5.

[0023] The version shown in Figures 8 to 10 differs from that shown in Figures 1 to 7 in a number of respects. One difference is that each ear 46 is formed with respective upward and downward protrusions 52 and 54 therefrom in the form of angled ribs to facilitate gripping of the ear by the consumer. Another difference is that the cover 8 is formed with reinforcement in the form of ribs 55 extending from front to rear of the inner skirt 26. Thirdly, the body 10 has its upper part in the form of inner and outer skirts 10A and 10B, whereof the latter is discontinuous at the hinge 20. The skirt 10B is formed at its outer peripheral surface with small protrusions 56 positioned such that, when the device is in its closed condition, the feet 38 are immediately outward thereof, as indicated in dot-dash lines at 38 in Figure 8. Thereby, because those protrusions 56 obstruct inward movement of the legs 36 during the ultrasonic welding, they discourage undesired inward movement of the feet 38 during the welding. Fourthly, the flange 18 is formed with a reinforcing rib 58 around its outer edge zone. Fifthly, instead of or additionally to, the grippable ears 46, the cover 8 may be provided, at the front of its exterior, with a grippable tongue 60 shown in dot-dash lines and consisting of an upwardly extending part 60A and a substantially horizontal part 60B extending rearwardly over the outer surface of the cover 8. For opening of the cover 8, the consumer turns the part 60B into an upwardly extending condition and then pulls it upwards in order to break the legs 36 and turn the cover about the hinge 20. To facilitate such upward turning of the part 60B, the tongue 60 may be formed with a weakness 60C, in the form of a thinning serving to provide a hinge at the junction between the parts 60A and 60B.

Claims

1. A method comprising:-

providing a pour spout device (2) comprising a pour spout (6), a cover (8) for closing said pour spout (6), and a tamper-evidence arrangement (36) attached to said cover (8) and comprising tamper-evidence, footed legs (36) which are each in a condition with a proximal end attached to said cover (8) and a distal end free, attaching said device (2) to a wall (4) of a container, and :
attaching said arrangement (36) to an external flange (18) of a pour spout body (10) of said pour spout (6),
said attaching of said arrangement (36) being substantially simultaneous with said attaching applying of said device (2), **characterized by** said attaching of said arrangement (36) comprising attaching the feet (38) of the legs (36) to an outer surface of said flange (18) without said feet (38) being recessed into respective hollows

in said outer surface, and also **characterized by**, prior to said attaching applying and to said attaching, producing relative displacement between said device (2) and said container to cause said cover (8) to pass from inside said container through a hole (40) through said wall (4) to outside of said container, and said attaching applying comprising attaching said pour spout (6) to the inside surface of said wall (4) around said hole (40).

2. A method according to claim 1, wherein said attaching applying and said attaching are performed by ultrasonic welding.
3. A package comprising a container and a pour spout device (2) attachingly applied to a wall (4) of said container, said device (2) comprising a pour spout (6), a tamper-evidence arrangement (36) attached to said cover (8) and to a flange (18) of said pour spout (6) extending outwards from a pour spout body (10) and by way of which said pour spout (6) is attached to said wall (4), said arrangement (36) comprising tamper-evidence, footed legs (36) whereof the feet (38) are attached to said flange (18), **characterized in that** the feet (38) of the legs (36) are attached to, but not recessed into respective hollows in, an upper surface of said flange (18), and also **characterized in that** said device (2) extends from inside to outside of said wall (4) through a hole (40) through said wall (4), with said cover (8) being outside said wall (4), and said flange (18) and each foot (38) are attached to the inside surface of said wall (4) around said hole (40).
4. A package according to claim 3, wherein each foot (38) is attached to said flange (18) as aforesaid by ultrasonic welding.
5. A package according to claim 3 or 4, wherein said body (10) has projecting outwardly relative thereto a protrusion (56) associated with each leg (36) and having served as a limit to undesired inward movement of said leg (36).

Patentansprüche

1. Verfahren mit den folgenden Schritten:

Vorsehen einer Ausgießstülvorrichtung (2) mit einer Ausgießtülle (6), einem Deckel (8) zum Schließen der Ausgießtülle (6) und einer Sicherheitsanordnung (36), die an dem Deckel (8) angebracht ist und mit Füßen versehenen Sicherheitsschenkeln (36), die jeweils derart vorgesehen sind, dass ein proximales Ende an dem Dekkel (8) angebracht ist und das distale Ende

- frei ist,
befestigendes Anbringen der Vorrichtung (2) an einer Wand (4) eines Behälters, und Befestigen der Anordnung (36) an einem äußeren Flansch (18) eines Ausgießtüllenkörpers (10) der Ausgießtülle (6), wobei das Befestigen der Anordnung (36) im Wesentlichen gleichzeitig mit dem Befestigen der Vorrichtung (2) erfolgt, **dadurch gekennzeichnet, dass** das Befestigen der Anordnung (36) das Befestigen der Füße (38) der Schenkel (36) an einer Außenfläche des Flanschs (18) umfasst, ohne dass die Füße (38) in jeweilige Hohlräume in der Außenfläche eingesetzt sind, und ferner **gekennzeichnet durch** das vor dem Befestigen Anbringen und dem Befestigen erfolgende Herstellen einer relativen Verschiebung zwischen der Vorrichtung (2) und dem Behälter, um zu bewirken, dass der Deckel (8) aus dem Inneren des Behälters **durch** ein Loch (40) **durch** die Wand (4) aus dem Behälter herausgelangt, und wobei das Befestigende Anbringen das Befestigen der Ausgießtülle (6) an der Innenfläche der Wand (4) um das Loch (40) herum aufweist.
2. Verfahren nach Anspruch 1, bei welchem das Befestigende Anbringen und das Befestigen durch Ultraschallschweißen erfolgen.
3. Verpackung mit einem Behälter und einer Ausgießtüllenvorrichtung (2), die Befestigend an einer Wand (4) des Behälters angebracht ist, wobei die Vorrichtung (2) eine Ausgießtülle (6) und eine Sicherheitsanordnung (36) aufweist, die an dem Deckel (8) und an einem Flansch (18) der Ausgießtülle (6) befestigt ist, der sich von einem Ausgießtüllenkörper (10) nach außen erstreckt und mittels welchem die Ausgießtülle (6) an der Wand (4) befestigt ist, wobei die Anordnung (36) mit Füßen versehene Sicherheitsschenkel (36) aufweist, deren Füße (38) an dem Flansch (18) befestigt sind, **dadurch gekennzeichnet, dass** die Füße (38) der Schenkel (36) an einer Oberfläche des Flanschs (18) befestigt, jedoch nicht in jeweilige Hohlräume in dieser eingesetzt sind, und ferner **dadurch gekennzeichnet, dass** die Vorrichtung (2) sich von der Innenseite der Wand (4) durch ein Loch (40) in der Wand (4) zur Außenseite derselben erstreckt, wobei der Deckel (8) sich außerhalb der Wand (4) befindet, und wobei der Flansch (18) und jeder Fuß (38) an der Innenseite der Wand (4) um das Loch (40) herum angebracht sind.
4. Verpackung nach Anspruch 3, bei welcher jeder Fuß (38) an dem Flansch (18) wie vorerwähnt durch Ultraschallschweißen befestigt ist.

5. Verpackung nach Anspruch 3 oder 4, bei welcher der Körper (10) einen in Bezug darauf nach außen vorstehenden Vorsprung (56) aufweist, der jedem der Schenkel (36) zugeordnet ist und als Anschlag gegen eine unerwünschte Einwärtsbewegung des Schenkels (36) dient.

Revendications

1. Un procédé comprenant:

la fourniture d'un système de bec verseur (2) comprenant un bec verseur (6), un couvercle (8) pour fermer ledit bec verseur (6), et un dispositif de témoin d'inviolabilité (36) fixé au dit couvercle (8) et comprenant le témoin d'inviolabilité, des pattes avec pieds (36) qui ont chacune une extrémité proximale attachée au dit couvercle (8) et une extrémité distale libre, l'accrochage en application du système (2) à une paroi (4) d'un conteneur, et la fixation dudit dispositif (36) à une bride externe (18) du corps de bec verseur (10) dudit bec verseur (6), ladite fixation dudit dispositif (36) étant sensiblement simultanée audit accrochage par application dudit système (2), **caractérisé en ce que** la fixation dudit dispositif (36) comprenant la fixation des pieds (38) des pattes (36) à une surface extérieure de ladite bride (18) sans que les dits pieds (38) soient encastrés dans les creux respectifs de ladite surface extérieure, et également **caractérisé en ce que**, préalablement audit accrochage par application et à ladite fixation, produisant un déplacement relatif entre ledit système (2), et ledit conteneur causant le passage dudit couvercle (8) de l'intérieur dudit conteneur à travers un trou (40) dans ladite paroi (4) vers l'extérieur dudit conteneur, et ledit accrochage par application comprenant la fixation dudit bec verseur (6) à la surface intérieure de ladite paroi (4) autour dudit trou (40).

2. Une méthode selon la revendication 1, dans laquelle ledit accrochage par application et ladite fixation sont effectués par soudage par ultrasons.
3. Un lot comprenant un conteneur et un système de bec verseur (2) appliqué pour l'attacher à une paroi (4) dudit conteneur, ledit système (2) comprenant un bec verseur (6), un dispositif de témoin d'inviolabilité (36) fixé audit couvercle (8) et à une bride (18) dudit bec verseur (6) se prolongeant vers l'extérieur du corps du bec verseur (10) et par l'intermédiaire duquel ledit bec verseur (6) est fixé à ladite paroi (4), ledit dispositif (36), un dispositif d'inviolabilité (36), les pattes à pieds (36) dont les pieds (38) sont atta-

chés à ladite bride (18), **caractérisé en ce que** les
pieds (38) des pattes (36) sont fixés à, mais pas en-
castrés dans les creux respectifs de la surface su-
périeure de ladite bride (18), et aussi **caractérisé**
en ce que ledit système (2) s'étend de l'intérieur 5
vers l'extérieur de ladite paroi (4) par un trou (40) à
travers ladite paroi (4), ledit couvercle (8) étant à
l'extérieur de ladite paroi (4), et ladite bride (18) et
chaque pied (38) sont attachés à la surface interne
de ladite paroi (4) autour dudit trou (40). 10

4. Un lot selon la revendication 3, dans lequel chaque
pied (38) est attaché à ladite bride (18) par soudage
par ultrasons comme mentionné plus haut. 15
5. Un lot selon la revendication 3 ou 4, dans lequel ledit
corps (10) a, projetant vers l'extérieur par rapport au
corps, une saillie (56) associée à chaque patte (36)
et servant à limiter tout mouvement indésirable de
ladite patte (36) vers l'intérieur. 20

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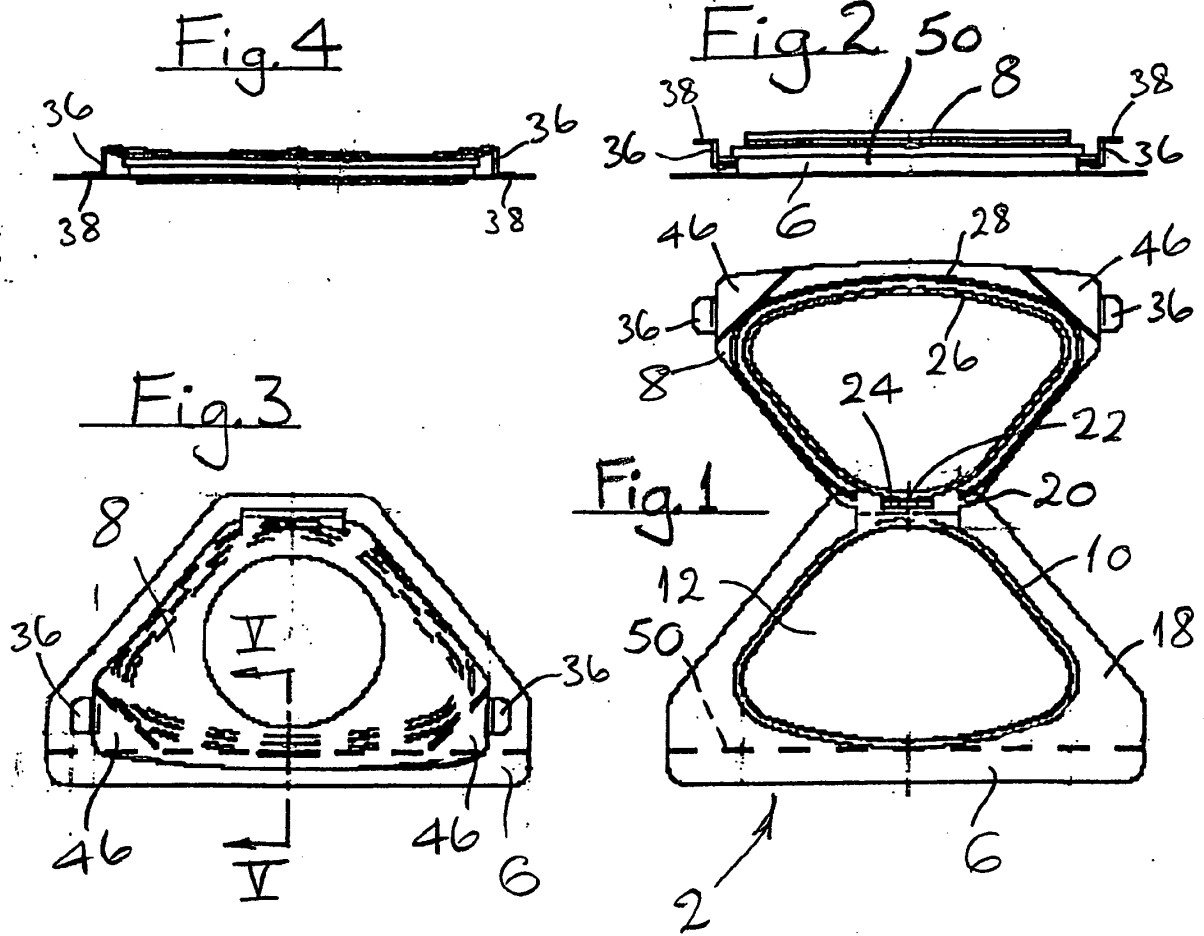
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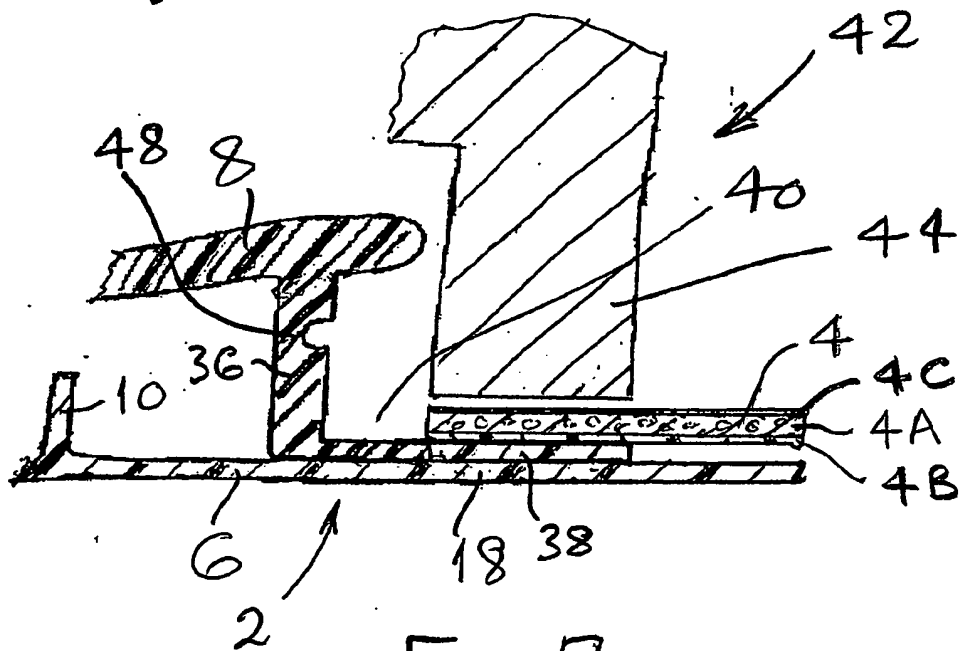
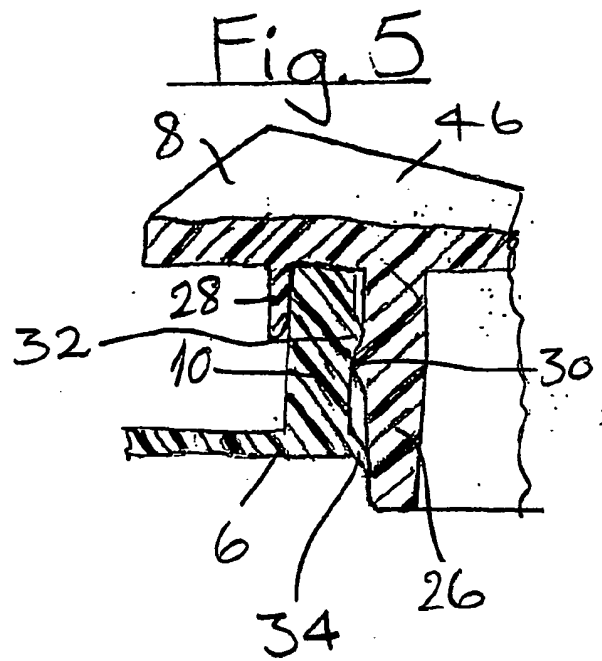
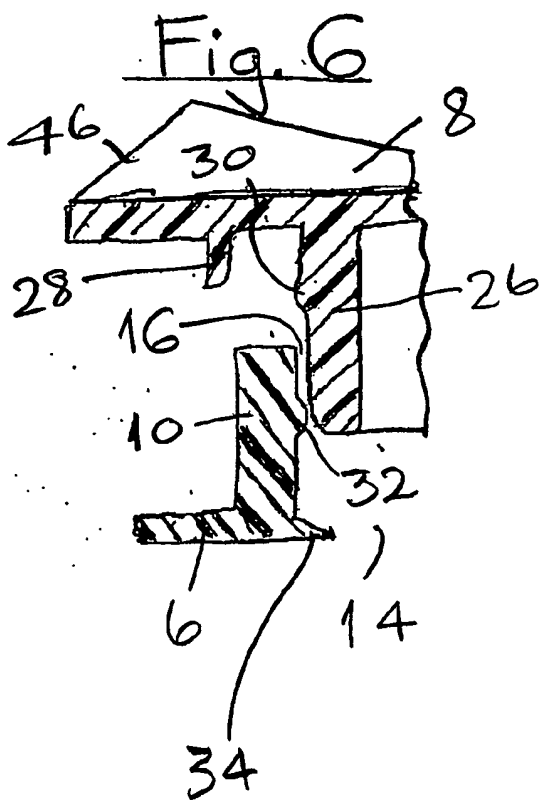


Fig. 7

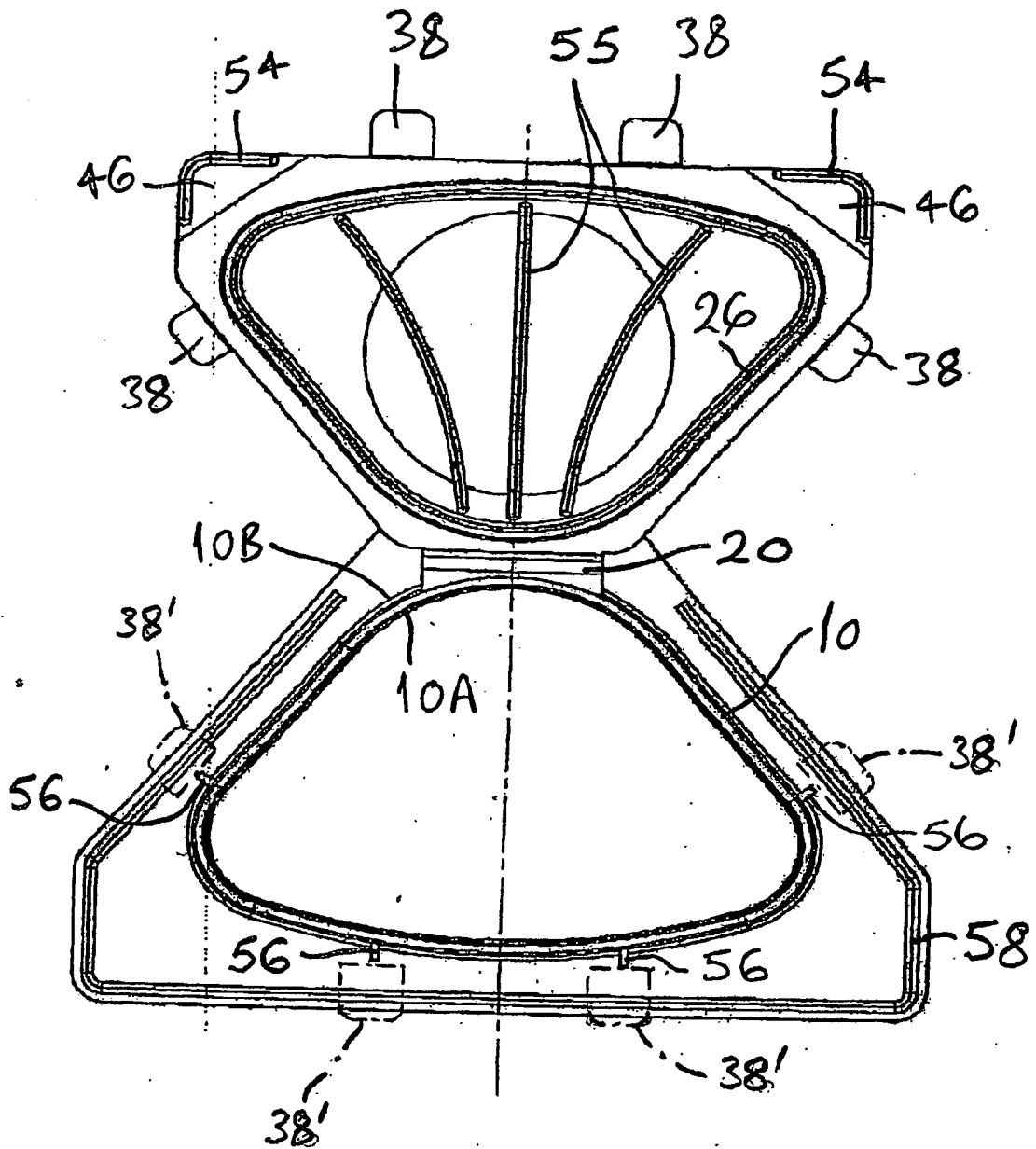
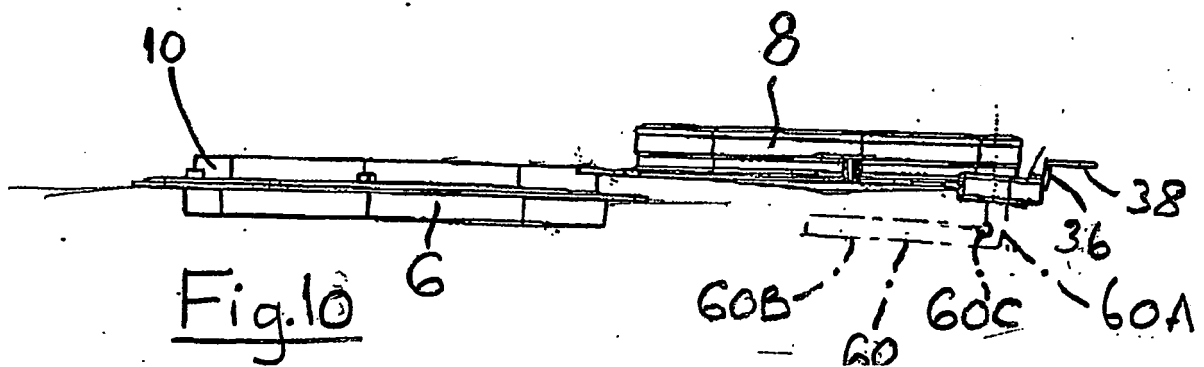
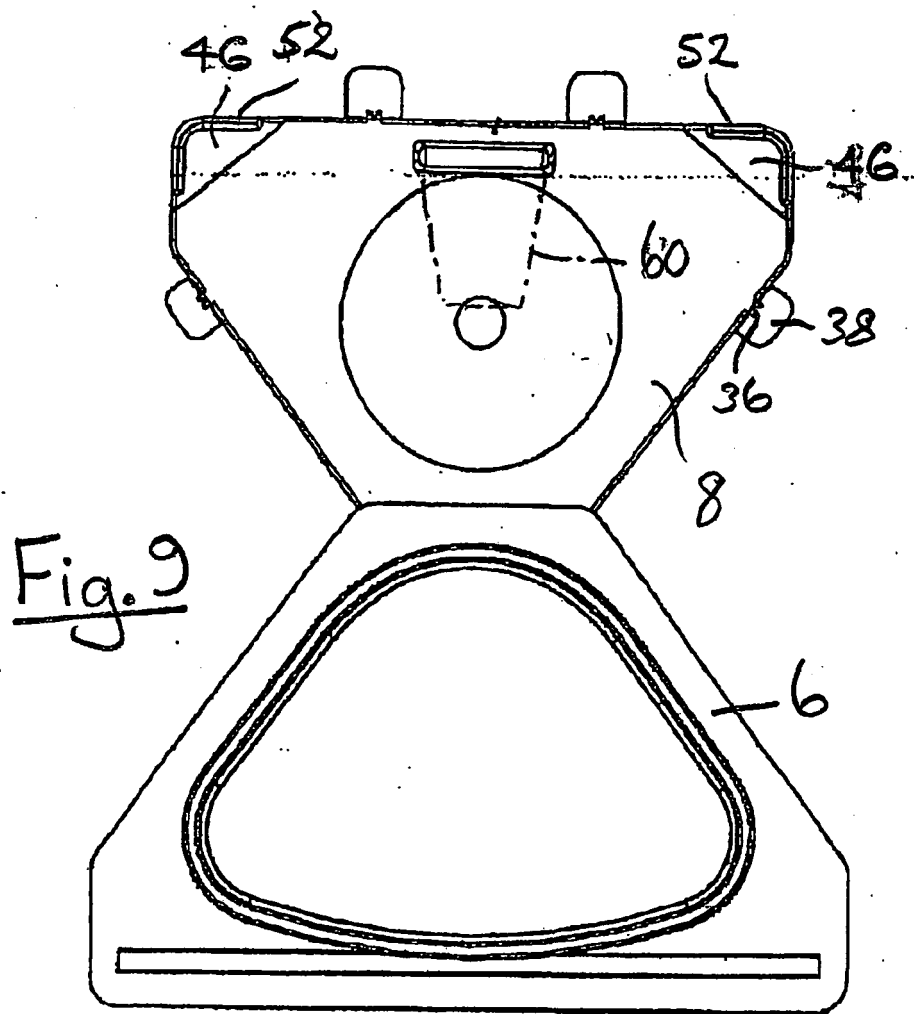


Fig. 8



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 5108029 A [0002]
- GB 2301098 A [0003]
- US 5799840 A [0004]
- WO 0115979 A [0005]
- CA 2502868 A [0006]
- WO 2004058574 A [0007]