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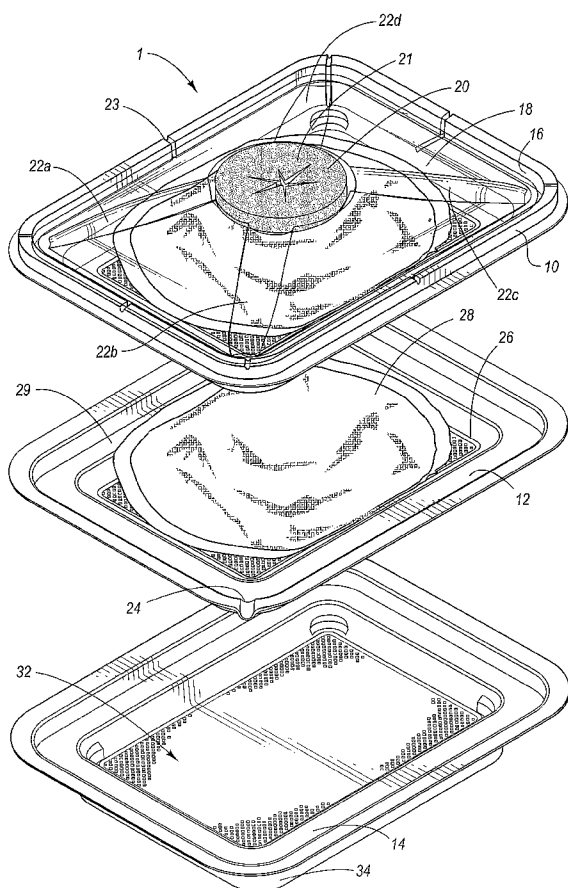
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(54) Title: MULTI-PART WASTE CONTAINER APPARATUS



(57) Abstract: A multi-part biowaste container (1) having plurality of biowaste containers (10, 12, 14) having a low profile design and collectively providing sufficient storage volume to accommodate the amount of blood, tissues, and other biological materials generated during a typical surgical procedure. In one embodiment, the multi-part biowaste container (1) includes an anti-splash container (10), a dual purpose lid container (12), and a supplementary container (14). The use of three separate container members (10, 12, 14) increases the total volume and storage capacity of the biowaste containers (10, 12, 14) while minimizing the overall profile or height of the containers (10, 12, 14). The individual containers (10, 12, 14) of the multi-part biowaste container (1) can include adhesive backing allowing the containers to be secured to the surgical work surface.



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MULTI-PART WASTE CONTAINER APPARATUS

BACKGROUND OF THE INVENTION

1. The Field of the Invention

5 The present invention relates to biowaste containers. In more particular, the present invention relates to a multipart biowaste container for use in a surgical setting.

2. The Relevant Technology

A great amount of attention has been focused on the appropriate disposal of blood, tissue, and other biological materials that are produced in modern surgical settings. Much of this focus results from concerns regarding contamination, possible infection, and exposure to such materials, as well as bioethical considerations directed to proper disposal of human tissues.

As a result, a number of basins and other specialized receptacles for blood, tissue, and other biological materials have been developed. Typically, during a medical procedure such blood, tissue, and biological materials are deposited into specially designed containers and/or receptacles until the completion of the procedure. After the completion of the procedure, the attending staff can then quickly and readily identify blood, tissues, and other biological materials that require special handling or special disposal procedures. The attending staff can then simply discard the entire container without the need to separately attend to individual biowaste elements.

Some biowaste containers suffer from a number of deficiencies. For example, one problem presented by such biowaste containers is that they must be sufficiently large to accommodate the volume of biowaste that is typically produced during a typical surgical procedure. As a result, the biowaste containers must either have a fairly large footprint or have a sufficient depth to accommodate the required amount of biological waste.

Due to the fact that surgical working surfaces available to hold the biological waste container must also accommodate a number of other surgical implements, biological waste containers covering a large surface area are typically impractical. As a result, a biological waste container covering a smaller surface area but having a greater depth relative to their overall size are typically provided in such surgical settings. While biological waste containers having a greater height relative to their

settings. While biological waste containers having a greater height relative to their overall size are more practical due to surgical area surface constraints, such waste containers can be somewhat cumbersome to use. Additionally, the greater height can make it difficult to reach other tools or implements located close to the biological waste container. In some circumstances, attempts to access implements positioned adjacent the biological waste container can even result in tipping of the biological waste container when inadvertently bumped or contacted by a practitioner during surgery.

The size of such biological waste containers can also be fairly cumbersome to ship and store due their overall size. This can be particularly problematic where the biological waste container includes a lid or other secondary member. To alleviate this problem, the lids are sometimes shipped in place on the biological waste container. During preparation for surgery, the surgical staff simply removes the lid and places it to the side until the end of surgery. While this alleviates some of the problems with storage and shipping of the lid member, it can be inconvenient to find a place to store the lid during surgery. After the surgery is completed it can be difficult to locate the lid in order to place it on the biological waste container for disposal.

Some biological waste container designs utilize a lid that nests on the underside of the biological waste container. During the procedure the lid remains in contact with the biological waste container until the procedure is completed. The lid can then be removed from the bottom of the biological waste container and placed over the top of the biological waste container to secure the contents of the biological waste container during disposal. Unfortunately, where the biological waste container becomes somewhat full of blood, tissue, or other biological materials, removal of the lid from beneath the biological waste container can result in inadvertent spillage or other issuance of such materials from the biological waste container. As a result of the various complications and limitations of existing biological waste containers practitioners are forced to select biological waste containers having the least number of deficiencies for the type of procedure being performed. However, this can be impractical due to the purchasing constraints and storage realities inherent in hospital and surgical center economics.

BRIEF SUMMARY OF THE INVENTION

The present invention is directed to a multi-part biowaste container configured to provide a low profile design while providing sufficient storage volume to accommodate the amount of blood, tissues, and other biological materials generated during a typical surgical procedure. In one embodiment, the multi-part biowaste container includes an anti-splash container, a dual purpose lid container, and a supplemental container. The use of three separate container members increases the total volume and storage capacity of the biowaste containers while minimizing the overall profile or height of the containers.

To reduce the amount of surgical space occupied by three separate containers, the containers can be placed in various useful or convenient locations as needed during surgery. Because the containers have a relatively low profile relative to their overall size, the containers are not easily bumped or tipped during the procedure. According to one embodiment of the present invention, an adhesive pad is provided in connection with the bottom surface of one or more of the containers. The adhesive pad allows the containers to be adhered to the working surface to prevent inadvertent knocking or spilling of the container. This also allows the containers to be positioned in unconventional locations such as directly on the patient's chest or abdomen.

The anti-splash container includes a basin and a splash guard positioned to cover the basin. The basin is selected to have an overall surface area that corresponds to the surface area of biological waste containers typically used in a surgical setting. As previously discussed, the height of the wall of the basin is selected to provide an overall low profile to facilitate use of the container in a restricted surgical settings. The splash guard is provided to cover to the basin. The splash guard allows the introduction of fluid materials into the biological waste container in a manner which contains the fluids from inadvertent splashing or other release of the fluids once placed within the basin. According to one embodiment of the present invention, the splash guard includes one or more openings to provide access to the volume of the basin. For example, the splash guard according to one embodiment includes three openings. According to further embodiments, each opening may include one or more valves associated with one or more of the openings, such as silt valves, that allows for

the introduction of blood, tissues, or other biological materials into the basin in a safe and advantageous manner.

According to another embodiment of the present invention, an absorbent pad is provided in the bottom of the basin. The absorbent pad is configured to absorb
5 blood, fluids, and other biological materials in a manner to facilitate containment of the biological materials in the basin. The absorbent pad can include chemical properties that solidify, or coagulate the biological materials such as in a gel form to maximize the containment of such materials.

The dual purpose lid container is provided as a secondary receptacle for
10 receiving biological materials. The dual purpose lid container has overall dimensions that are similar to the anti-splash container. For example, the dual purpose lid container has a somewhat low profile while conforming to the overall footprint typically utilized by biological waste containers. The dual purpose lid container includes a pour spout positioned at a corner of the upper rim of the dual purpose lid
15 container. The pour spout allows for controlled and advantageous drainage of any excess blood, fluid, or biological materials from the dual purpose lid container into a secondary container.

Typically such blood, fluid, or other biological materials are drained from the dual purpose lid container into the slit valve of the anti-splash container. In this
20 manner, all biological materials are consolidated in a manner allowing the containers to be easily and quickly disposed of through proper procedures. Once the dual purpose lid container has been appropriately drained, the dual purpose lid container is configured to fit over the anti-splash container as a secondary and reliable containment mechanism. As a result, during disposal, the anti-splash container can be
25 handled without leakage, splashing, or spilling of blood, fluids, or other materials from the anti-splash container.

According to one embodiment of the present said invention, an absorbent pad is also provided in connection with the dual purpose lid container. The absorbent pad performs essentially the same function as the absorbent pad of the anti-splash
30 container. In this embodiment, the overall depth of the dual purpose lid container is designed such that when the absorbent pad of the dual purpose lid container is saturated with blood, fluid, or other materials, the saturated absorbent pad does not

interfere with proper operation of the dual purpose lid container in covering and cooperatively engaging the anti-splash container. According to another embodiment of the present invention, the rim of the dual purpose lid container is slightly narrower than the rim of the anti-splash container. As a result, the rim of the dual purpose lid container is not inadvertently contacted and loosened relative to the anti-splash container.

The supplementary container is provided as a tertiary receptacle for biological materials in addition to the anti-splash container and the dual purpose lid container. The supplementary container also has dimensions similar to the anti-splash container and the dual purpose lid container. According to one embodiment of the present invention, the supplementary container is not only provided as a supplementary biowaste container, but may be utilized for other surgical purposes, such as a receptacle for saline or other flushing fluids. The supplementary container may also be utilized to hold surgical instruments, or gauze pads. The supplementary container can also be designed to provide a lid for the anti-splash container in the event that the volume of fluid in the dual purpose lid container is in excess of that which can be accommodated by the anti-splash container. According to one embodiment of the present invention, the dual purpose lid container and the supplementary container also utilize adhesive pads or other gripping surfaces to minimize slippage or tipping of these containers.

The dual purpose lid container and supplementary container are configured to nest beneath the anti-splash container during shipping. By having the ability to nest beneath the anti-splash container, the dual purpose lid container and supplementary container provide an overall low profile and efficient storage volume for the multipart biowaste container. This can substantially reduce the cost of packaging and storage of the multipart biowaste containers while facilitating preparation for the surgical procedure to be performed.

Once the multipart biowaste container is ready to be utilized in the surgical setting, the anti-splash container, dual purpose lid container, and supplementary container can be separated from one another. By utilizing three separate containers, the overall storage volume of the three containers is comparable to that of other biowaste containers without encumbering substantial amounts of the working surface

or interfering with the use of other instruments and materials positioned on the working surface. According to one embodiment of the present invention, the height of the walls of one or more of the anti-splash container, the dual purpose lid container, and/or the supplementary container is less than two inches. According to another
5 embodiment, when the anti-splash container, dual purpose lid container, the supplementary container are nested one within another, the height of the multipart biowaste container is less than three inches. According to another embodiment of the present invention, the anti-splash container, the dual purpose lid container, and the supplementary container have an individual wall height that is less than 1.5 inches and
10 a total overall height when nested for shipping of less than 2 inches.

These and other objects and features of the present invention will become more fully apparent from the following description and appended claims, or may be learned by the practice of the invention as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

15 To further clarify the above and other advantages and features of the present invention, a more particular description of the invention will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings. It is appreciated that these drawings depict only typical embodiments of the invention and are therefore not to be considered limiting of its scope. The invention will be
20 described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 is a perspective view of a multipart biowaste container illustrating an anti-splash container, a dual purpose lid container, and a supplementary container;

25 Figure 2 is a perspective view of the multipart biowaste container in which the anti-splash container, dual purpose lid container, and supplementary container are nested together to provide an efficient volume for shipping and/or storage;

Figure 3 is a cross-sectional partial view of the anti-splash container, dual purpose lid container, and supplementary container illustrating the profile of the walls of the containers.

30 Figure 4 is a perspective exploded view of the anti-splash container illustrating the splash guard and the basin;

Figure 5 is a bottom view of the anti-splash container illustrating the adhesive pad utilized to secure the anti-splash container to a working surface;

Figure 6 is a perspective view of the anti-splash container and dual purpose lid container illustrating operation of the pour spout of the dual purpose lid container;

5 Figure 7 is a perspective view of the dual purpose lid container secured as a covering to the anti-splash container in preparation for disposal of the anti-splash container;

Figure 8 is a perspective view of an embodiment of a biowaste container including an anti-splash container and a dual purpose lid;

10 Figure 9 illustrates the biowaste container of Figure 8, in which fluid from a syringe is being injected into the anti-splash container;

Figure 10 is a perspective view of the biowaste container of Figure 8, in which a dual purpose lid is utilized with a catheter during a catheterization exchange procedure;

15 Figure 11 is a perspective view of the biowaste container of Figure 8, in which fluid from a dual purpose lid is being poured into the anti-splash container;

Figure 12 is a perspective view of the biowaste container of Figure 8, in which the dual purpose lid has been positioned in a fluid-tight configuration over the anti-splash container; and

20 Figure 13 is a perspective view of an anti-splash container according to an alternative embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Reference will now be made to figures wherein like structures will be provided with like reference designations. It is understood that the drawings are diagrammatic and schematic representations of presently preferred embodiments of the invention, and are not limiting of the present invention nor are they necessarily drawn to scale.

30 Figure 1 illustrates the multipart biowaste container 1 including an anti-splash container 10, a dual purpose lid container 12, and a supplementary container 14. The multipart biowaste container is configured to provide a receptacle for blood, tissue, and other biological materials that result from a surgical procedure being performed. Additionally, the multipart biowaste container 1 is designed to allow safe and

effective disposal of the materials contained therein. Anti-splash container 10 is configured to allow the introduction of blood, tissues, or other biological wastes while preventing the inadvertent splashing or spillage of such materials once introduced into anti-splash container 10.

5 Dual purpose lid container 12 provides an additional receptacle for receiving blood, tissues, or other biological materials. Because dual purpose lid container 12 does not include an anti-splash component or other covering, larger biological materials or implements that may be used during the course of the procedure can easily be placed in dual purpose lid container 12. At the conclusion of the procedure,
10 dual purpose lid container 12 provides a secure lid for covering anti-splash container 10. Once dual purpose lid container 12 is securely secured to the top of anti-splash container 10, dual purpose lid container 12 can then be disposed of without spillage of fluids from anti-splash container 10.

Supplementary container 14 provides yet another receptacle for receiving
15 blood, tissues, or fluids during the course of the surgical procedure. The use of anti-splash container 10, dual purpose lid container 12, and supplementary container 14 provide the ability to hold a significant total volume of blood, tissues, or other biological materials that may be produced during the course of the procedure. By providing three separate biowaste containers, multipart biowaste container 1 also
20 allows individual anti-splash container 10, dual purpose lid container 12, and a supplementary container 14 to be placed in strategic locations in the surgical work area. The ability to strategically locate containers 10, 12, and 14 facilitates simultaneous operation of different aspects of the procedure being performed. In the illustrated embodiment, anti-splash container 10, dual purpose lid container 12, and
25 supplementary container 14 all have a low profile relative to their overall size, to minimize spilling, tipping, or other interference with containers 10, 12, and 14 during the course of the surgical procedure. During shipping and storage of the multipart biowaste container 1, anti-splash container 10, dual purpose lid container 12, and supplementary container 14 are nested within one another providing a single item
30 having a relatively low profile and overall efficient storage volume.

In the illustrated embodiment, anti-splash container 10 includes a basin 16 and a splash guard 18. Basin 16 is adapted to receive and contain blood, fluids, and other

biological materials that are introduced to anti-splash container 10. Basin 16 includes a multipart wall 17 and vent channels 23. Multipart wall 17 has a relief surface configured to nest with one or both of dual purpose lid container 12 and supplementary container 14. Multipart wall 17 has a height of less than two inches
5 providing an overall low profile relative to the overall size of anti-splash container 10. This minimizes spillage or tipping of anti-splash container 10 during use. Vent channels 23 provide venting to the interior of basin 16 allowing the passage of air from the volume of basin 16 as blood, fluids, and other materials are introduced into basin 16. Additionally, the configuration of vent channels 23 minimizes the passage
10 of fluids or other biological materials from the interior basin the exterior of basin 16.

Splash guard 18 is configured to nest within the rim of basin 16 in a simple and secure manner. Splash guard 18 provides a covering to the interior of basin 16. Splash guard 18 allows the introduction of blood, fluids, and other biological materials into basin 16 while minimizing splashing or the inadvertent spilling of
15 materials within basin 16. Splash guard 18 includes an input site 20, a slit valve 21, and flow channels 22a, b, c, d. Input site 20 comprises a bore in the middle of the plastic material forming splash guard 18. Input site 20 allows for the introduction of fluid and materials through the plastic guard portion of splash guard 18 and into the volume of basin 16.

20 Slit valve 21 is secured over the top of input site 20. Slit valve 21 permits the introduction of blood, fluids, and other biological materials through input site 20 while controlling inadvertent splashing or spillage of materials from the volume of basin 16. In the illustrated embodiment, slit valve 21 comprises a compressible foam material which allows the passage of air while minimizing the inadvertent flow of
25 fluids from within the volume of basin 16. For example, in a catheterization procedure, a catheter is introduced through the slits of slit valve 21 and into the volume of basin 16. When the opposing end of the catheter is inserted into the patient, saline, blood, contrast media, or other fluids which may be positioned in the catheter flow directly into the volume of basin 16. Splash guard 18 and a corresponding slit
30 valve 21 minimize the splashing of such blood, fluids, or other biological material to the external environment.

Flow channels 22a, b, c, d are provided at the four angular ridges of splash guard 18. Flow channels 22a, b, c, d originate adjacent the slit valve 21 and input site 20 and run in a funnel type fashion to the corners of splash guard 18. Flow channels 22a, b, c, d provide a contained and efficient mechanism for directing the flow of blood, fluid, or other biomaterials that contact the exterior splash guard 18 but are not introduced into the volume of basin 16 through slit valve 21. Such blood, fluid, or other biological materials can flow along the length of flow channels 22a, b, c, d and enter the volume of basin 16 through corresponding vent channels 23.

As will be appreciated by those skilled in the art, a variety of types and configurations of anti-splash containers can be utilized without departing from the scope and spirit of the present invention. For example, a valve member not comprising a slit valve can be utilized in connection with the input site. Additionally a valve formed from elastomeric or other deformable materials can be utilized in connection with the input site. In another embodiment, the flow channels correspond with a low elevation portion of the splash guard such that the splash guard facilitates funneling of fluids not introduced through the input site. In another embodiment, the shape, size, and/or juxtaposition of elements of the anti-splash container are varied.

Dual purpose lid container 12 is provided as an additional receptacle for the containment of blood, tissues, or other biological materials. Dual purpose lid container 12 includes a pour spout 24, a waste basin 26, and absorbent pad 28. Waste basin 26 is configured to receive and effectively hold biological materials introduced into dual purpose lid container 12. Pour spout 24 is provided at the corner of waste basin 26 to allow a practitioner to safely and efficiently pour excess fluids collected in waste basin 26 into a disposal receptacle or into anti-splash container 10. Absorbent pad 28 is provided at the inside bottom surface of waste basin 26. Absorbent pad 28 absorbs blood, fluid, or other biological materials which are introduced into dual purpose lid container 12 to effectively contain such materials within dual purpose lid container 12. According to one embodiment of the present invention, absorbent pad 28 is imbued with chemical properties which solidify, coagulate, or otherwise contain biological waste materials (such as by forming a gel or other acceptable material properties to contain such materials.) According to one embodiment of the present

invention, the absorbent pad is imbued with Sodium Polyacrylate [sp?] or the equivalent.

Multipart wall 29 has an interior relief which is configured to nest on the underside of anti-splash container 10. Nesting of dual purpose lid container 12
5 beneath anti-splash container 10 provides a minimal overall size and volume of multipart biowaste container 1 during shipping and storage of multipart biowaste container 1. Additionally, the overall height of multipart wall 29 is less than two inches, minimizing the potential for tipping or spillage of dual purpose lid container 12.

10 Because dual purpose lid container 12 does not include a splash guard, larger biological waste or materials imbued with biological waste can be received by dual purpose lid container 12. For example, a sponge utilized to absorb blood during the course of the procedure may be temporally, or permanently placed in dual purpose lid container 12. When the surgical procedure is completed, any excess blood, fluid, or
15 other biological waste not solidified by absorbent pad 28 can be poured from waste basin 26 and into a secondary receptacle such as anti-splash container 10. The dual purpose lid container 12 can then be placed over the top and securely fastened to anti-splash container 10 to secure the biological waste during disposal of both anti-splash container 10 and dual purpose lid container 12.

20 The height of multipart wall 29 is designed to provide clearance between absorbent pad 28 and splash guard 18 of anti-splash container 10. When dual purpose lid container 12 is securely fastened to the top of anti-splash container 10, dual purpose lid container 12 can accommodate splash guard 18 without interference from absorbent pad 28, even when absorbent pad 28 is saturated with blood, fluid, or other
25 materials. The plurality of grip members 80a, b, c, d are positioned at the corners of multipart wall 17 of anti-splash container 10 to secure anti-splash container 10 into dual purpose lid container 12 when dual purpose lid container 12 is nested on the underside of anti-splash container 10.

Supplementary container 14 is provided as another receptacle for biological
30 waste in addition to anti-splash container 10, and dual purpose lid container 12. Supplementary container 14 includes a liquid basin 32 and a multipart wall 34. As with anti-splash container 10 and dual purpose lid container 12, the multipart wall 34

of supplementary container 14 has sufficiently low profile to minimize spilling or tipage of materials within supplementary container 14.

Supplementary container 14 does not include an absorbent pad as depicted with dual purpose lid container 12. This allows a surgical staff to utilize supplementary container 14 for saline, flushing fluids, or other liquids that may be used during the course of the procedure. For example, in the event that a volume of saline is used early in the procedure, when minimum amounts of biological materials need to be disposed of, the surgical staff may utilize supplementary container 14 as receptacle for such saline at the early portions of the procedure. During later stages of the procedure when more biological waste is produced and needs to be disposed, the surgical staff can utilize supplementary container 14 as a receptacle for such biological waste.

At the completion of the procedure, supplementary container 14 can be disposed in connection with anti-splash container 10 and dual purpose lid container 12 or separately as dictated by the surgical procedure. The relief of multipart wall 34 of supplementary container 14 is designed to nest on the underside of dual purpose lid container 12 during shipping. This provides an overall low profile design to optimize shipping and storing of the multipart biowaste container 1.

As will be appreciated by those skilled in the art a variety of types and configurations of multipart biowaste containers can be utilized without departing from the scope and spirit of the present invention. For example, in one embodiment, the multipart biowaste container does not include a supplementary container but instead utilizes only an anti-splash container and a dual purpose lid container. In another embodiment, one or both of the supplementary container and dual purpose lid container are configured to nest on top of anti-splash container during shipping and storage of the multipart biowaste container. In another embodiment, both the dual purpose lid container and supplementary container include pour spouts. In yet another embodiment, the supplementary container is provided with an absorbent pad.

Figure 2 illustrates multipart biowaste container 1 in which anti-splash container 10, dual purpose container 12, and supplementary container 14 are configured for shipping and storage of the multipart biowaste container 1. In the illustrated embodiment, anti-splash container 10 is positioned on top of dual purpose

lid container 12 and supplementary container 14. Positioning of anti-splash container 10 on top of the other containers can be utilized due to the use and positioning of anti-splash guard 18. In the illustrated embodiment, dual purpose lid container 12 is nested beneath anti-splash container 10. The primary visible portion of dual purpose lid container 12 when nested with supplementary container 14 and anti-splash container 10 is limited to the outside rim of dual purpose lid container 12. Supplementary container 14 is nested beneath dual purpose lid container 12. In the illustrated embodiment, supplementary container 14 is positioned such that bottom 70 of supplementary container 14 provides the bottom contact surface for multipart biowaste container 1.

Multipart wall 34 of supplementary container 14 provides the bulk of the exposed wall surface of multipart biowaste container 1 when anti-splash container 10, dual purpose lid container 12, and supplementary container 14 are nested together for shipping and storage purposes. In other words, the height of multipart wall 34 corresponds with the majority of the overall height of multipart biowaste container 1 when configured for shipping and storage purposes. In the illustrated embodiment, upper rim 36 of anti-splash container 10 is positioned as the upper contact surface of multipart biowaste container, when anti-splash container 10, dual purpose lid container 12, and supplementary container 14 are nested together for shipping and storage purposes.

In the illustrated embodiment, multipart wall 34 of supplementary container 14 has an overall height of less than two inches and multipart biowaste container 1 has an overall height of less than 3 inches when anti-splash container 10, dual purpose lid container 12, and supplementary container 14 are nested together for shipping and storage purposes. In another embodiment, multipart wall 34 of supplementary container 14 has an overall height of less than 1.5 inches and multipart biowaste container 1 has an overall height of less than two inches when anti-splash container 10, dual purpose lid container 12, and supplementary container 14 are nested together for shipping and storage purposes.

As will be appreciated by those skilled in the art, a variety of types and configurations of multipart biowaste containers can be utilized without departing from the scope and spirit from the present invention. For example, in one embodiment one

or both of dual purpose lid container 12 and supplementary container 14 are configured to be positioned on top of anti-splash container 10 during shipping and storage. In another embodiment, the splash guard 18 of the anti-splash container is configured to be removed during shipping and storage of multipart biowaste container. In another embodiment, the anti-splash container is configured to be the bottom most container and nests beneath one or both of the dual purpose lid container and the supplementary container. In yet another embodiment, the multipart biowaste container only utilizes two containers rather than three containers.

Figure 3 is a cross-sectional partial end view of anti-splash container 10, dual purpose container 12, and supplementary container 14 illustrating the relief surfaces that allow for nesting and cooperative engagement between anti-splash container 10, dual purpose lid container 12, and supplementary container 14. In the illustrated embodiment anti-splash container 10 includes an upper rim 36, an angular upper surface 39, an extension rim 40, an inner wall 41, an inner rim 42, a lower vertical wall 44, and a bottom 46.

Upper rim 36 is provided as the upper most surface of anti-splash container 10. Upper rim 36 is configured to contact a portion of dual purpose lid container 12 when dual purpose lid container 12 is cooperatively coupled to anti-splash container 10 to provide a lid for anti-splash container 10. Angular upper surface 39 is positioned adjacent and to the outside of upper rim 36. Angular upper surface 39 is configured to allow for the cooperative engagement between anti-splash container 10 and dual purpose lid container 12. Extension rim 40 extends horizontally from the volume of anti-splash container 10. Extension rim 40 abuts against dual purpose lid container 12 when the dual purpose lid container 12 is positioned over anti-splash container 10. Inner wall 41 extends downward from upper rim 36 in an angular fashion. The angular configuration of inner wall 41 secures splash guard 18 (not shown) in its correct position relative to the volume of basin 16.

Inner rim 42 extends horizontally from inner wall 41 in an inward direction. Inner rim 42 provides a bottom contact surface for splash guard 18 (not shown) securing the juxtaposition of splash guard 18 relative to basin 16. Lower vertical wall 44 extends horizontally downward from inner rim 42. Lower vertical wall 44 provides the volume of basin 16 for holding blood, fluid, or other biological materials.

Bottom 46 extends horizontally from lower vertical wall 44 to provide the bottom surface of anti-splash container 10. As will be appreciated by those skilled in the art, a number of different types and configurations of multipart walls can be utilized without departing from the scope and spirit of the present invention.

5 Dual purpose lid container 12 is configured to nest on the underside of anti-splash container 10 during shipping and storage of the multipart biowaste container 1. In the illustrated embodiment, dual purpose lid container includes an extension rim 50, a first upper angular surface 52, a second upper angular surface 54, an inner rim 56, a lower vertical wall 58, and a bottom 59. Extension rim 50 is positioned as the
10 upper surface of dual purpose lid container 12. Extension rim 50 extends vertically outward from the inner volume of dual purpose lid container 12. Extension rim 50 is configured to contact extension rim 40 of the anti-splash container when dual purpose lid container 12 is positioned over anti-splash container 10 in a lid configuration.

First upper angular surface 52 extends downward and at an angle relative to
15 extension rim 50. Second upper angular surface 54 extends downward and inward relative to first upper angular surface 52. The juxtaposition of first upper angular surface 52 and second upper surface 54 is configured to fit and facilitate engagement with angular upper surface 39 when dual purpose lid container 12 is positioned over anti-splash container 10 in a lid configuration. Inner rim 56 extends horizontally
20 inward from second upper angular surface 54. Inner rim 56 is configured to contact upper rim 36 of anti-splash container 10 when dual purpose lid container 12 is positioned over anti-splash container 10 in a lid configuration. Lower vertical wall 58 extends downward from inner rim 56. Lower vertical wall 58 is configured to be positioned adjacent lower vertical wall 44 when dual purpose lid container is nested
25 beneath anti-splash container 10. Bottom 59 extends horizontally inward from lower vertical wall 58.

Supplementary container 14 is configured to nest beneath dual purpose lid container 12 when multipart biowaste container 1 is being shipped and/or stored. In the illustrated embodiment supplementary container 14 includes an extension rim 60,
30 a first upper angular surface 62, a second upper angular surface 64, an inner rim 66, a lower vertical wall 68, and a bottom 70. Extension rim 60 is positioned as the upper

surface of dual purpose lid container 12. Extension rim 60 extends vertically outward from the inner volume of dual purpose lid container 12.

First angular surface 62 extends downward and at an angle relative to extension rim 60. Second angular surface 64 extends downward and inward relative to first upper angular surface 62. The juxtaposition of first upper angular surface 62 and second upper surface 64 is configured to fit and make engagement with angular upper surface 39 in the event that supplementary container 14 is positioned over anti-splash container 10 in a lid configuration. Inner rim 66 extends horizontally inward from second angular surface 64. Inner rim 66 is configured to contact upper rim 36 of anti-splash container 10 when supplementary container 14 is positioned over anti-splash container 10 in a lid configuration. Lower vertical wall 68 extends downward from inner rim 66. Lower vertical wall 68 is configured to be positioned adjacent lower vertical wall 44 or 58 when supplementary container 14 is nested beneath anti-splash container 10 or dual purpose lid container 12. Bottom 70 extends horizontally inward from lower vertical wall 68.

In the illustrative embodiment supplementary container 14 is configured to be optionally utilized with anti-splash container 10 in a lid configuration. In this embodiment, in the event that both anti-splash container 10 and dual purpose lid container 12 are substantially filled with biological waste, the dual purpose lid container 12 can be disposed of and the supplementary container 14 can be utilized as a covering for the anti-splash container 10.

As will be appreciated by those skilled in the art, a variety of types and configurations of multipart walls of an anti-splash container, a dual purpose lid container, and a supplementary container can be utilized without departing from the scope and spirit of the present invention. For example, in one embodiment, the lower vertical walls of the anti-splash container, dual purpose lid container, and supplementary container all are of similar height allowing the containers to be nested within one another. The upper angular surfaces of dual purpose lid container and supplementary container are eliminated and a secondary securement mechanism is provided to secure one or both of the dual purpose lid container and the supplementary container relative to the anti-splash container in a cover configuration.

Figure 4 is a perspective view of the anti-splash container according to one embodiment of the present invention. In the illustrated embodiment, splash guard 18 is shown separated from basin 16. Splash guard 18 is clear or transparent to allow a practitioner to view the volume of materials positioned in basin 16. Splash guard 18 is configured to nest inside inner wall 41 while abutting against inner rim 42. Inner wall 41 slants slightly inward to cooperatively secure splash guard 18 without requiring a separate securement apparatus or adhesive materials.

In the illustrated embodiment, vent channels 23 are shown. Vent channels 23 provide a passageway for air and materials to facilitate passage of fluid into basin 16. In the illustrated embodiment, vent channels 23 comprise a slot on the inside surface of inner wall 41 and inner rim 42. This facilitates the passage not only past the outside rim of splash guard 18, but also to/from the volume of basin 16. Grip members 80a, b facilitate the cooperative engagement of anti-splash container 10 with the dual purpose lid container 12 and the supplementary container 14.

Figure 5 is a bottom view of basin 16 of anti-splash container 10 according to one embodiment of the present invention. In the illustrated embodiment, the adhesive pad 82 is secured to bottom 46 of basin 16. Adhesive pad 82 allows the surgical staff to anti-splash container 10 to a work surface, such as the operating table, surgical instrument support surface, or the patient, so as to minimize movement or tipping of anti-splash container 10 during surgery. Adhesive pad 82, in combination with the low-profile of anti-splash container 10, provides a safe and effective mechanism for containing biological materials introduced into anti-splash container 10 while preventing inadvertent spilling of the contents of anti-splash container 10.

In the illustrated embodiment, adhesive pad 82 includes a removable backing 84 and an adhesive layer 86. When a user is preparing to utilize adhesive pad 82, the user grasps removable backing 84 and pulls in a rearward direction. As removable backing 84 is pulled in rearward direction it separates from adhesive pad 82. Removable backing 84 maintains the adhesive properties of adhesive layer 86 prior to placement of anti-splash container 10 on the working surface. Once removable backing 84 is removed, adhesive layer 86 is exposed and can be applied directly to the work surface in which the practitioner desires to position anti-splash container 10.

As will be appreciated by those skilled in the art, a variety of types and configurations of mechanisms for maintaining the positioning of anti-splash container can be utilized without departing from the scope and the spirit of the present invention. For example, in one embodiment a hook and loop type device such as
5 Velcro® can be positioned on the bottom of the anti-splash container. One of the hook and loop component members can be placed on the work surface and the other can be placed on bottom of the anti-splash container. The hook and loop members can then be mated to secure the anti-splash container relative to the work surface. In another embodiment, the bottom of the anti-splash container can be textured or
10 provided with other mechanical properties which secure the positioning of the anti-splash container to minimize tipping or spillage of the anti-splash container. As will be appreciated by those skilled in the art, an adhesive pad or other acceptable alternative can be used with the dual purpose lid and the supplementary container instead of, or in addition to, that used with the anti-splash container.

15 Figure 6 is a perspective view of the anti-splash container 10 and dual purpose lid container 12 illustrating the manner in which materials can be poured from the dual purpose lid container 12 into the anti-splash container 10. In the illustrated embodiment, a volume of fluid 88 is positioned in dual purpose lid container 12. For one or a variety of reasons a user may desire to empty the volume of fluid 88 from
20 dual purpose lid container 12 into anti-splash container 10. For example, at the end of the procedure the user may desire to position dual purpose lid container 12 over anti-splash container 10 in a lid configuration as previously discussed. Alternatively, the user may simply desire to consolidate all biological waste in a single container at the end of the procedure.

25 To drain the volume of fluid 88 from dual purpose lid container 12 the user tilts dual purpose lid container 12 in an angular fashion such that pour spout 24 is at a lower elevation than the other corners of dual purpose lid container 12. As the user tips dual purpose lid container 12, the volume of fluid consolidates at the corner of the basin corresponding with pour spout 24. As the user continues to tilt dual purpose lid
30 container 12 the volume of fluid begins to flow through pour spout 24 to the exterior of dual purpose lid container 12.

In the illustrated embodiment, the user has begun to tilt dual purpose lid container 12. The user has simultaneously positioned pour spout 24 inside slit valve 21 such that the pour spout 24 has opened the slits of slit valve 21. The opening of slit valve 21 allows the passage of the fluids flowing from pour spout 24. In other words, fluids pour directly from pour spout 24, through slit valve 21, and into basin 16. This provides a simple and effective mechanism for transferring fluids from dual purpose lid container 12 into anti-splash container 10. Once the volume of fluid 88 has been completely drained from dual purpose lid container 12 into anti-splash container 10, dual purpose lid container 12 can be positioned over anti-splash container 10 in a lid-like fashion.

Figure 7 illustrates the juxtaposition of dual purpose lid container 12 and anti-splash container 10 when dual purpose lid container 12 has been positioned over anti-splash container 10 in a lid-like fashion. In the illustrated embodiment, dual purpose lid container 12 has been turned upside down such that bottom 59 is facing in an upwards direction. The extension rim 50 of dual purpose lid container 12 is positioned directly in contact with extension rim 40. Extension rim 50 extends outward a lesser amount than extension rim 40 making it difficult for a user to inadvertently grasp extension rim 50 and separate it from extension rim 40. This provides an efficient and reliable securement between dual purpose lid container 12 and anti-splash container 10.

First upper angular surface 52 and second upper angular surface 54 are positioned adjacent extension rim 50. First upper angular surface 52 and second upper angular surface 54 provide proper engagement with angular upper surface 39 (not shown) of anti-splash container 10. Inner rim 56 of dual purpose lid container 12 is positioned in contact with upper rim 36 (not shown) of anti-splash container 10. The overall height of anti-splash container 10 in combination with dual purpose lid container 12 is slightly less than the sum of the height of multipart wall 17 of anti-splash container 10 and multipart wall 29 of dual purpose lid container 12. This is due to the overlap and cooperative engagement between first upper angular surface 52 and second upper angular surface 54 of dual purpose lid container 12 and angular upper surface 39 (not shown) of anti-splash container 10.

Figure 8 is a perspective view of a biowaste container according to one embodiment of the present invention. In the illustrated embodiment, biowaste container 100 comprises an anti-splash container 110 and a dual purpose lid container 112. Anti-splash container 110 provides a receptacle for receiving fluids in a manner so as to prevent splashing of the fluids in a manner that may result in infectious or biological waste being splashed onto a practitioner. Dual purpose lid container 112 provides a secondary receptacle for receiving materials that may not be easily introduced into the anti-splash container 110 such as blood falling from a catheter during exchange of guide wires, materials, and so forth. By providing both an anti-splash container 110 and a dual purpose lid container 112 the total volume of fluid that can be contained within the combination of the anti-splash container 110 and the dual purpose lid 112 approximates the amount of volume that would be held within a much larger container. However, by utilizing more than one container within the biowaste container 100, components of the biowaste container 100 can be strategically located on the operating surface. Additionally, the total size of each individual container such as anti-splash container 110 and dual purpose lid container 112 is much smaller preventing obstruction of the operating procedure that may lead to accidental bumping or tipping of the containers 110, 112.

In the illustrated embodiment, anti-splash container 110 comprises a basin 116 and a splash guard 118. Basin 116 provides a dish, or other volume containing mechanism within which fluids can be stored. The overall dimensions of basin 116 such as the width, length, and depth largely define the volume of biological waste that can be stored within basin 116. The splash guard 118 is positioned over the upper surface of basin 116. The inward facing lip on the upper rim of basin 116 allows for the retention of splash guard 118 in position over basin 116. In the illustrated embodiment, an absorbent pad 117 is depicted being positioned within basin 116. Absorbent pad 117 is configured to absorb blood or other fluid-type materials which are positioned within anti-splash container 110 to minimize leakage or spillage of such fluids from the anti-splash container.

In the illustrated embodiment, splash guard 118 includes input sites 120a, b, c, slit valves 121a, b, c, flow channels 122a, b, c, d, and channeling ridges 119a, b. Input sites 120a, b, c are positioned along the ridge of splash guard 118. A first input

site 120a is positioned on the center upper portion of splash guard 118. Input sites 120b, c are positioned on opposed outward facing surfaces of the splash guard 118. Input sites 120a, b, c are configured to allow the introduction of biological waste through the splash guard 118 and into the interior of basin 116. In the illustrated
5 embodiment, slit valves 121a, b, c are utilized in connection with input sites 120a, b, c. In the illustrated embodiment, slit valves 121a, b, c comprise foam members, which have one or more slits positioned in the surface thereof. In this manner, a syringe or a similar instrument can be positioned through the slits of slit valves 121a, b, c in a manner so as to further prevent splashing of fluids while also allowing
10 sufficient deformation and resilience to allow for the introduction of different sized syringes or other instruments.

Splash guard 118 also includes a number of relief surfaces, such as 119, 122 which facilitate drainage of fluids or other biological waste into the basin 116. In the illustrated embodiment, each of the four angular outward facing surfaces of splash
15 guard 118 are slanted toward the outer rim of basin 116. In this manner, in the event that blood or other fluids inadvertently contact the outer surface of the splash guard 118 instead of being introduced into the basin 116, such blood or other fluids will flow along the surface of splash guard 118 and toward the rim of anti-splash container 110. The rim of anti-splash container 110 extends an amount in a vertical direction
20 above the outer rim of splash guard 118 so as to catch such fluids or liquids flowing along the surface of splash guard 118. Additionally, the rim of basin 116 includes a plurality of vent channels 123. Vent channels 123 allow for the passage of blood or other fluids from the upper surface of splash guard 118 to the interior of basin 116. In the illustrated embodiment, vent channels 123 do not extend through the entire upper
25 portion of the rim of basin 116. Instead, they are only positioned on the inward portion of the upper surface of the rim of basin 116. In this manner, vent channels 123 do not allow for the passage of fluids to the exterior of the biowaste container 100 when dual purpose lid container 112 is positioned over anti-splash container 110 in a lid-like fashion.

30 A plurality of flow channels 122a, b, c, d are also positioned in the upper surface of splash guard 118. Flow channels 122a, b, c, d also facilitate the channeling of fluid or materials toward vent channels 123 positioned in the corners of the basin

116. Flow channels 122a, b, c, d comprise curved channels which extend from input site 120a to the outer rim of basin 116. Flow channels 122a, b, c, d also extend an amount below adjacent surfaces of the splash guard 118. Channeling ridges 119a, b are also illustrated. Channeling ridges 119a, b are positioned adjacent input sites 120b, c. Channeling ridges 119a, b extend an amount upward to an elevation higher than input sites 120b, c so as to channel fluids into input sites 120b, c or the corresponding vent channels 123.

The absorbent pad 117 may occupy a portion of the surface of the basin 116 of the anti-splash container 110 below at least one of the input sites 120a, b, c. According to the illustrated embodiment, the absorbent pad 117 occupies a portion of the surface of the basin 116 of the anti-splash container below all of the input sites 120a, b, c. Thus, a portion of liquid introduced into the anti-splash container 110 through any of the input sites 120a, b, c will be absorbed by the absorbent pad 117.

In the illustrated embodiment, a dual purpose lid container 112 is also shown. Dual purpose lid container 112 includes a pour spout 124, a basin 126, an absorbent pad 128, an inside surface of a multi-part wall 129a, an outside surface of a multi-part wall 129b, and a bottom surface 130. Basin 126 is configured to receive a volume of fluid which is positioned within dual purpose lid container 112. Dual purpose lid does not include a splash guard so as to facilitate introduction of larger biological waste or for the utilization of different instruments that may not be as easily utilized in the context of a splash guard 118. In the illustrated embodiment, a pour spout 124 is positioned in a corner of dual purpose lid container 112. Pour spout 124 facilitates the channeling of fluid from basin 126 of dual purpose lid container 112 into one or more of the input sites 120a, b, c of anti-splash container 110. In the illustrated embodiment, pour spout 124 does not extend beyond the outer rim of dual purpose lid 112. In this manner, the pour spout 124 does not inadvertently puncture or damage the sterile packaging within which the biowaste container 1 is packaged. Additionally, in the event that the user is utilizing dual purpose lid container 112 in a sealed and lid-like fashion over anti-splash container 110, the user may not inadvertently grasp the pour spout 124 to lift the dual purpose lid container 112 off of the anti-splash container 110 and inadvertently allow for spilling of the fluids or materials positioned therein.

In the illustrated embodiment, an absorbent pad 128 is depicted. Absorbent pad 128 is utilized to absorb fluid, liquids, or other biological waste positioned within the dual purpose lid container 112. In this manner, inadvertent spilling of such blood, fluid, or the like is minimized. This can be particularly helpful, in the event that a large amount of fluid is positioned within dual purpose lid container 112. Where a large amount of fluid is positioned within dual purpose lid container 112, a portion of that fluid can be absorbed with an absorbent pad 128. Any remaining fluid can be introduced into anti-splash container 110 in connection with pour spout 124.

Dual purpose lid container 112 can then be snapped in a lid-like fashion over anti-splash container 110 effectively sealing all materials within the biowaste container 100. In the illustrated embodiment, the inside surface of multi-part wall 129a and the outside surface of multi-part wall 129b have a height which is greater than one inch. In this manner, the total volume of liquid or other material that can be held within dual purpose lid container 112 can be sufficient to contain a volume of fluid that may result from different types of procedures being utilized. For example, during a femoral artery catheter exchange procedure, a substantial amount of liquid such as blood, serum, or the like may be generated. In this manner, all such fluid can be contained within a single container such as the dual purpose lid container 112. In the illustrated embodiment, a secondary pour spout is also positioned in the opposite corner of the rim of the dual purpose lid container 112. This allows the practitioner to quickly pour the contents of the fluid from dual purpose lid container 112 into the anti-splash container 110 without needing to substantially reposition the dual purpose lid 112. In the illustrated embodiment, the rim of dual purpose lid container 112 is also somewhat smaller than the rim of anti-splash container 110. This minimizes the risk that a practitioner may inadvertently grasp the rim of dual purpose lid container 112 and remove or loosen the dual purpose lid container 112 from its sealed position over anti-splash container 110.

As previously introduced, an absorbent pad 117 is also associated with the anti-splash container 110. The combination of absorbent pad 117 with the anti-splash container 110 and the absorbent pad 128 with the dual purpose lid container 112 provide the biowaste container 100 with a large absorbent capacity. The absorbent capacity of the biowaste container 100 may refer generally to the amount of fluid

retained absorbed and retained by each absorbent pad 117, 128. According to one embodiment, the combined absorbent capacity of the absorbent pads 117, 128 may be about 250 mL of fluid or larger. Further, according to one embodiment, one or both of the absorbent pads 117, 128 can optionally include sodium polyacrylate.

5 Figure 9 is a perspective view of a biowaste container 100 depicting the introduction of biological fluid such as blood into an anti-splash container 110. In the illustrated embodiment, a syringe 131 is being positioned through a slit valve 121c. Materials within syringe 131 can comprise blood, medicines, fluids, or other materials that can potentially be contaminated. The practitioner can simply insert the tip of
10 syringe 131 through the input site 120c and optionally through a slit valve 121c and forcefully eject the contents of syringe 131 into the anti-splash container 110. Any splashing of such fluids from syringe 131 is effectively contained by splash guard 118. In this manner, the practitioner need not be concerned with slowly ejecting such fluid and can move to other potentially more urgent and/or time sensitive matters.
15 Additionally, in the event that some of the fluids leak onto the exterior surface of splash guard 118, such fluids will carefully be caught by one of the relief surfaces such as channel ridges 119a, b, or flow channels 122a, b, c, d. Additionally, the positioning of multiple input sites facilitates more advantageous positioning of the syringe as desired by the practitioner performing a particular procedure, or other
20 convenience or access type issues that can arise during a surgical procedure having a certain degree of complexity.

Figure 10 is a perspective view of a dual purpose lid container 112 being utilized during the course of a procedure. In the illustrated embodiment, a catheter 133 is being utilized with a dual purpose lid container 112. During many
25 catheterization procedures, multiple components utilized with a catheter may need to be withdrawn and exchanged during the course of the procedure. For example, an introducer sheathe, guide wire, medicine, fluid, or the like may need to be exchanged during the course of the procedure. Having an open container such as dual purpose lid container 112 allows for such a procedure to be performed while capturing any
30 blood, or other fluid which is expelled from the proximal end of the catheter during the course of the procedure. In the illustrated embodiment, an absorbent pad 128 is shown separated from the dual purpose lid container 112. As will be appreciated by

those skilled in the art, the absorbent pad 128 is typically positioned within the dual purpose lid container 112 to absorb any materials such as blood, liquid, or the like which are introduced into the dual purpose lid container 112. Absorbent pad 128 is shown separated from the dual purpose lid container 112 simply for the sake of clarity and to illustrate the general context of an absorbent pad 128 within the dual purpose lid container 112. As was previously discussed, such absorbent pads can comprise any absorbent material such as a sodium polyacrylate. Also as previously introduced, sodium polyacrylate and other absorbent pads can optionally provide an absorbent volume of up to 125 ml or more each. As a result, a fairly substantial volume of fluid can be absorbed within the dual purpose lid container 112 without detracting from the ability of dual purpose lid container 112 to be positioned in a lid-like fashion over anti-splash container 110. In the illustrated embodiment, a volume of fluid 135 is shown within dual purpose lid container 112. In the illustrated embodiment, a first pour spout 124a is positioned in one corner of a dual purpose lid container 112 and a secondary pour spout 124b is positioned in the other corner of dual purpose lid container 112. As previously discussed, the use of first and second pour spouts 124a, b provides a degree of convenience in the event that the practitioner desires to drain the contents of the dual purpose lid container 112 into anti-splash container 110. According to one embodiment of the present invention, a tertiary container is provided. In this embodiment as shown in Figure 11, supplementary container 114 can be utilized in the absence of an absorbent pad. The supplementary container 114 can provide yet another receptacle for receiving fluids or other material utilized during the course of a procedure. For example, supplementary container 114 can be utilized to hold gauze squares or other material which are utilized during the course of the procedure. According to one embodiment of the present invention, the bottom surface 130 of dual purpose lid container 112 includes a textured knurling. The textured knurling 181 can provide one or both of an anti-slip friction texturing on the underside of the dual purpose lid container 112 and/or an anti-slip friction texture on the interior surface of the supplementary container 114. The anti-slip friction surface on the interior surface of the supplementary container 114 can minimize the slippage of materials that are positioned within the supplementary container 114.

Supplementary container 114 includes a volume of fluid 188 positioned therein. The volume of fluid is being poured through a pour spout 124a and into introduction site 120c of the splash guard 118 of anti-splash container 110. In the illustrated embodiment, a textured knurling 181 is also positioned in the inward
5 bottom surface of the supplementary container 114. As previously discussed, a textured knurling 181 minimizes the slippage of gauze squares or other materials positioned within supplementary container 114. The positioning of input sites 120a, b, c facilitates the flow of fluids from the supplementary container 114 and into the basin 116.

10 In the illustrated embodiment of Fig. 11, the dual purpose lid container 112 is positioned on the underside of anti-splash container 110. This may be due to a number of factors. For example, the type of procedure being performed may not have required the use of a dual purpose lid container 112. In this context, the supplementary container 114 can also be positioned in a fluid-tight lid configuration
15 over the surface of anti-splash container 110. According to one embodiment of the present invention, the supplementary container 114 does not include pour channels 124a and 124b as are depicted in the current embodiment. Instead, the entire rim of the supplementary container has a substantially uniform configuration. According to another embodiment of the present invention, the depth of the pour spouts 124a, 124b
20 are somewhat reduced such that when the supplementary container 114 or dual purpose lid container 112 are positioned in a lid-like fashion over the anti-splash container 110, the pour spouts 124a, b does not provide a channel for leakage of fluid from the interior of the anti-splash container 110 and the corresponding lid.

Figure 12 is a perspective view of a biowaste container 100 in which a dual
25 purpose lid container 112 is positioned in a lid-like configuration over an anti-splash container 110. In the illustrated embodiment, anti-splash container 110 includes a multi-part wall 132. Multi-part wall 132 includes an extension rim 140. In the illustrated embodiment, dual purpose lid container 112 also includes an extension rim 150. Additionally, dual purpose lid container 112 includes a first upper angular
30 surface 152, a second upper angular surface 154 and an inner rim 156. Extension rim 150 of dual purpose lid 112 is somewhat shorter or narrower than extension rim 140 of anti-splash container 110. This is due to the fact that once the dual purpose lid

container 112 has been positioned in a lid-like fashion over anti-splash container 110, the inadvertent removal of dual purpose lid container 112 is minimized by the difficulty of grasping or inadvertently contacting the extension rim 150 of the dual purpose lid container 112. According to one embodiment of the present invention, the
5 width of the extension rim 150 of the dual purpose lid container 112 and the width of the extension rim 140 of the anti-splash container 110 are configured to terminate approximately in the same location.

In the illustrated embodiment, first upper angular surface 152, second upper angular surface 154 and inner rim 156 are utilized to facilitate a seal between dual
10 purpose lid container 112 and anti-splash container 110. According to one embodiment of the present invention, first upper angular surface 152 substantially contacts a corresponding angular surface of anti-splash container 110. Second upper angular surface 154 substantially contacts with corresponding angular surface of anti-splash container 110. Inner rim 156 extends sufficiently inward to contact the upper
15 contact surface of the rim of basin 116. In this manner, a plurality of contact surfaces are provided on both anti-splash container 110 and dual purpose lid container 112 to maximize contact on the sealing surfaces of anti-splash container 110 and dual purpose lid container 112. Maximizing contact between multiple surfaces creates a more tortuous path for fluid to travel when the dual purpose lid 112 is coupled to the
20 anti-splash container 110. A more tortuous path may decrease the likelihood that fluid will thus escape.

According to one embodiment of the present invention, a fluid-tight fitting is provided between anti-splash container 110 and dual purpose lid container 112.

According to another embodiment of the present invention, the actual
25 circumference of the lid of dual purpose lid container is configured 112 to provide a compression fitting with the rim of anti-splash container 110. In particular, according to one embodiment, one or more features of the rim of the dual purpose lid 112 container may be slightly narrower than corresponding features on the outer perimeter of the rim of the anti-splash container 110. As a result, when such a feature of the
30 dual purpose lid container 112 is urged into contact with a corresponding feature on the anti-splash container 110, that feature on the anti-splash container 110 is compressed, the feature on the dual purpose lid container 112 is expanded, or both. In

either case, the two features are held together in compression. The compression may be sufficient to reduce or prevent leakage of fluid from within the assembled anti-splash container 10 and the dual purpose lid 112.

According to one embodiment of the present invention, the dual purpose lid
5 container 112 is configured to remain in place over the anti-splash container 110 such that the entire biowaste container 100 can be disposed as a single unit.

According to one embodiment of the present invention, the fitting between the dual purpose lid container 112 and the anti-splash container 110 is sufficiently tight that a casual attempt to remove the dual purpose lid container 112 is not possible
10 without some extraordinary or measured approach to removal of the lid.

Figure 13 is a perspective view of a biowaste container system 200 according to an alternative embodiment of the present invention. In the illustrated embodiment, an anti-splash container 210 includes a splash guard 218. Splash guard 218 includes input sites 220a, b, c. Input sites 220a, b, c do not include a slit valve as illustrated in
15 Figures 1 through 12. Instead, input sites 220a, b, c are open to the internal portion of anti-splash container 210. In this manner, a user can simply insert an implement, instrument, or other tool for the injection of fluids, biowaste material or the like into the internal portion of the anti-splash container 210. In the illustrated embodiment, a tapered surface is positioned around the outer rim of input sites 220a, b, c. In this
20 manner, inadvertent dripping or splashing around the exterior of input sites 220a, b, c results in the flow of material into the internal portion of the anti-splash container 210. Additionally, the tapered surface or channel configuration of the portion of the splash guard 218 surrounding input sites 220a, b, c facilitates directioning or channeling of the syringe, tool, or other implement into the input site. In this manner,
25 the practitioner is not required to precisely position such tool or implement, but can pay attention to other portions of the procedure to be performed.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of
30 the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

1. A multipart biowaste container system configured to provide a low profile design while providing sufficient storage volume to accommodate the amount of blood, tissues, and other biological materials generated during a typical surgical procedure, the multipart biowaste container comprising:
- a first biowaste container adapted to accommodate blood, fluids, and other biological waste material, the first biowaste container comprising:
 - a basin for holding the blood, fluids, and other biological material introduced into the first biowaste container; and
 - a cover positioned over the basin to minimize splashing or spilling of materials positioned in the basin while providing a plurality of openings to allow passage of blood, fluids, and other biological materials through the cover into the basin; and
 - a second biowaste container adapted to accommodate blood, fluids, and other biological waste material, the second biowaste container comprising:
 - a basin adapted to accommodate the blood, fluids, and other biological waste material introduced into the second biowaste container, the basin having a multipart wall adapted to nest with the basin of the first biowaste container during shipping and storage of the multipart biowaste container while also being adapted to be secured in a lid configuration to the first biowaste container to retain the materials in the first biowaste container during disposal.
2. The multipart biowaste container of claim 1, further comprising a third biowaste container configured to nest with one or both of the first biowaste container and the second biowaste container.

3. The multipart biowaste container of claim 2, wherein the third biowaste container is adapted to be secured to at least one of the first biowaste container and the second biowaste container in a lid configuration.

5 4. The multipart biowaste container of claim 1, wherein the cover of the first biowaste container comprises a splash guard.

5. The multipart biowaste container of claim 4, wherein the cover includes at least one valve associated with at least one of the openings to facilitate passage of blood, fluids, and other material into the basin while minimizing splashing of such materials.
10

6. The multipart biowaste container of claim 1, further comprising at least one absorbent member positioned within the basin of at least one of the first and second biowaste container to retain blood, fluids, and other biological waste material.

7. The multipart biowaste container of claim 6, wherein at least one absorbent member is positioned within the basin of each of the first and second biowaste corners, the absorbent members having a total absorbent capacity of about 250 mL or greater.
15

8. The multipart biowaste container of claim 7, wherein at least one of the absorbent members includes sodium polyacrylate.

9. The multipart biowaste container of claim 1, wherein the height of the multipart wall of the second biowaste container minimizes contact between the absorbent member of the second biowaste container and the cover of the first biowaste container when the second biowaste container is secured to the first biowaste container in a lid configuration.
20

10. The multipart biowaste container of claim 1, the cover positioned over the basin to minimize splashing or spilling of materials positioned in the basin including three openings to allow passage of blood, fluids, and other biological materials through the cover into the basin.
25

11. The multipart biowaste container of claim 1, further comprising an adhesive member secured to the bottom of at least one of the first biowaste container and the second biowaste container.
30

12. A multipart biowaste container system configured to provide a low profile design while providing sufficient storage volume to accommodate the amount of blood, tissues, and other biological materials generated during a typical surgical procedure, the multipart biowaste container comprising:

5 a first biowaste container to accommodate blood, fluids, and other biological waste material, the first biowaste container having a length of at least 3.5 inches, a width of at least 2.5 inches, and a height of no more than 2.0 inches having a plurality of openings adapted therein; and

10 one or more secondary biowaste containers adapted to accommodate blood, fluids, and other biological waste material, the one or more secondary biowaste containers having a length of at least 3.5 inches, a width of at least 2.5 inches, and a height of no more than 2.0 inches, wherein at least one of the one or more secondary biowaste
15 containers is configured to be secured to the first biowaste container in a lid fashion to retain the contents of the first biowaste container during disposal, and wherein the first biowaste container and the secondary biowaste containers are configured to nest with one another to minimize the size of the multipart biowaste container system during
20 shipping and storage and when the first biowaste container and the one or more secondary biowaste containers are separated from one another, the containers being configured to provide sufficient storage volume to provide an absorbent capacity of about 250 mL or more.

13. The multipart biowaste container of claim 12, wherein the first
25 biowaste container comprises an anti-splash container and an absorbent member.

14. The multipart biowaste container of claim 12, wherein at least one of the one or more secondary biowaste containers comprises a dual purpose lid container.

15. The multipart biowaste container of claim 12, wherein at least one of
30 the one or more secondary biowaste containers comprises a supplementary container having reverse knurling on an inward bottom surface of the supplementary container.

16. The multipart biowaste container of claim 12, wherein at least one of the first biowaste container and the one or more secondary biowaste containers have a length of at least four inches, a width of at least three inches and a height of no more than 1.5 inches.

5

17. The multipart biowaste container of claim 12, wherein the first biowaste containers and the one or more secondary biowaste containers have a total overall height when nested for shipping of less than 2 inches.

18. The multipart biowaste container of claim 12, wherein the first
10 biowaste container includes a cover adapted to minimize splashing or spilling of the contents of the multipart biowaste container.

19. The multipart biowaste container of claim 18, further comprising one or more vent channels in connection with the cover, the vent channels being defined in an interior of the perimeter of the cover.

20. The multipart biowaste container of claim 19, wherein the one or more
15 vent channels minimize the flow of fluid to an exterior of the perimeter of the cover.

21. The multipart biowaste container of claim 20, wherein the cover
comprises one or more flow channels to facilitate passage of blood, fluids, or other
materials from the outside surface of the cover to the interior of the biowaste
20 container.

22. A multipart biowaste container system configured to provide a low
profile design while providing sufficient storage volume to accommodate the amount
of blood, tissues, and other biological materials generated during a typical surgical
procedure, the multipart biowaste container comprising:

25 a first biowaste container adapted to accommodate blood,
fluids, and other biological waste material, the first biowaste container
comprising:

a basin for holding the blood, fluids, and other
biological material introduced into the first biowaste container;

30 a cover positioned over the basin to minimize splashing
or spilling of materials positioned in the basin while providing

three openings to allow passage of blood, fluids, and other biological materials through the cover into the basin; and

an adhesive member attached to a bottom of the basin to secure the basin to a surgical work surface to minimize tipping of the basin during surgery; and

a dual purpose lid means for accommodating blood, fluids, and other biological waste material during a surgical procedure while also being adapted to be secured in a lid configuration to the first biowaste container to retain the materials in the first biowaste container during disposal.

23. The multipart biowaste container of claim 22, wherein the adhesive member comprises an adhesive layer.

24. The multipart biowaste container of claim 22, wherein the adhesive member comprises an adhesive pad.

25. The multipart biowaste container of claim 22, wherein the dual purpose lid means comprises a secondary biowaste container having an absorbent pad.

26. The multipart biowaste container of claim 22, wherein the dual purpose lid means is configured to nest with the first biowaste container during shipping and storage of the multipart biowaste container.

27. The multipart biowaste container of claim 25, wherein the secondary biowaste container includes at least one pour channel.

28. The multipart biowaste container of claim 27, wherein the pour channel is adapted to facilitate transition of fluids from the interior of the secondary biowaste container to the first biowaste container.

29. The multipart biowaste container of claim 28, wherein the pour channel comprises at least one pour spout positioned in a corner of the secondary biowaste container, the pour channel being deeper near the interior of the biowaste container.

30. A multipart biowaste container system comprising:
an anti-splash container comprising a basin adapted to accommodate blood, fluid, and other materials resulting from a surgical procedure;

a dual purpose lid container adapted to accommodate blood, fluid, and other materials resulting from a surgical procedure while also being configured to be secured on the anti-splash container as a lid;

5 a supplementary container, wherein the anti-splash container, dual purpose lid container; and supplementary container are configured to be secured to one another to provide a substantially fluid tight seal.

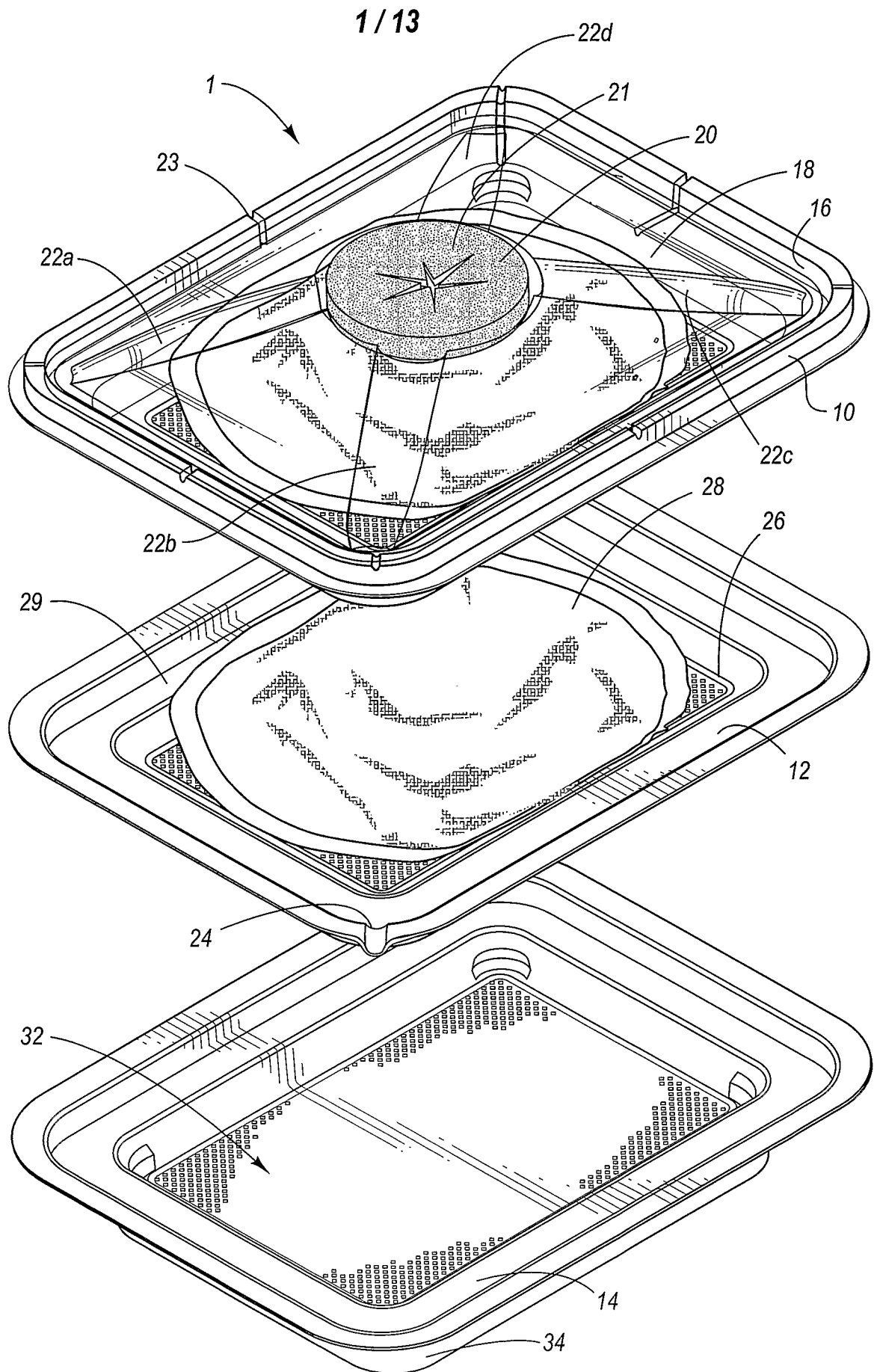
31. The multipart biowaste container of claim 30, wherein the anti-splash container includes a splash guard to minimize splashing or spilling of fluids from the
10 anti-splash container.

32. The multipart biowaste container of claim 31, wherein the splash guard includes three input sites to allow the passage of blood, fluids, and other materials into the anti-splash container.

33. The multipart biowaste container of claim 32, wherein the splash guard
15 includes and at least one valve member associated with at least one input site.

34. The multipart biowaste container of claim 33, wherein the at least one valve member comprises a slit valve.

35. The multipart biowaste container of claim 32, wherein the splash guard includes a plurality of valve members associated with at least one input site.



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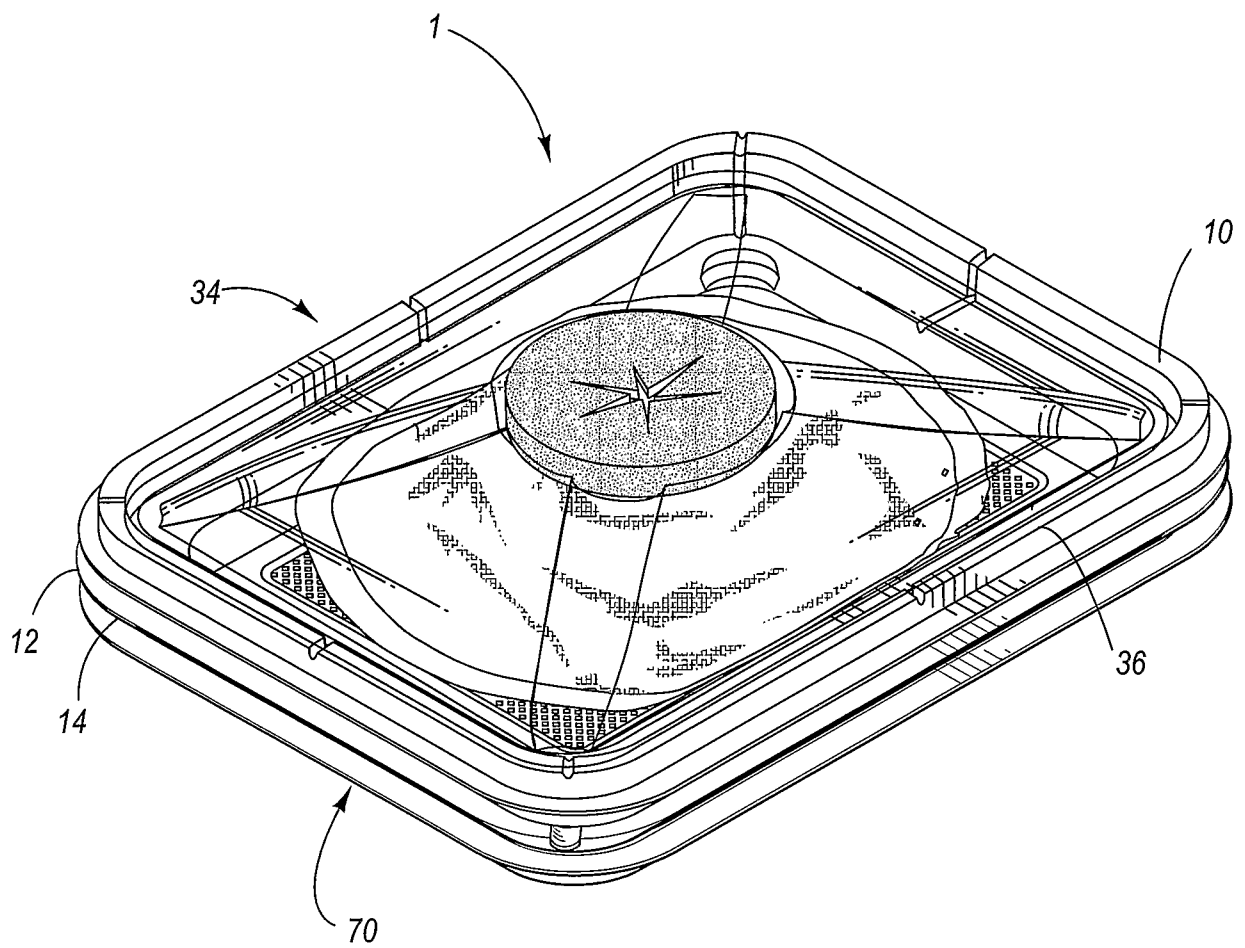


Fig. 2

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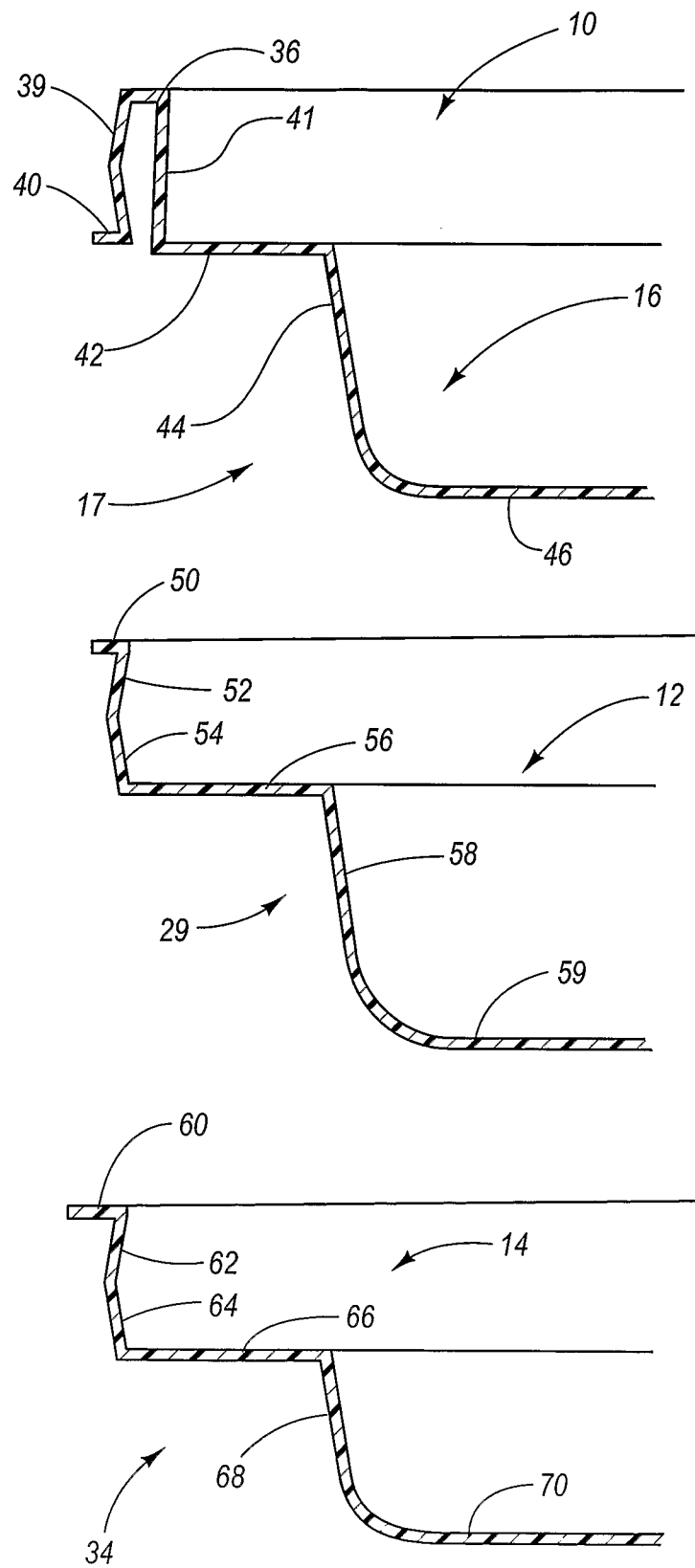


Fig. 3

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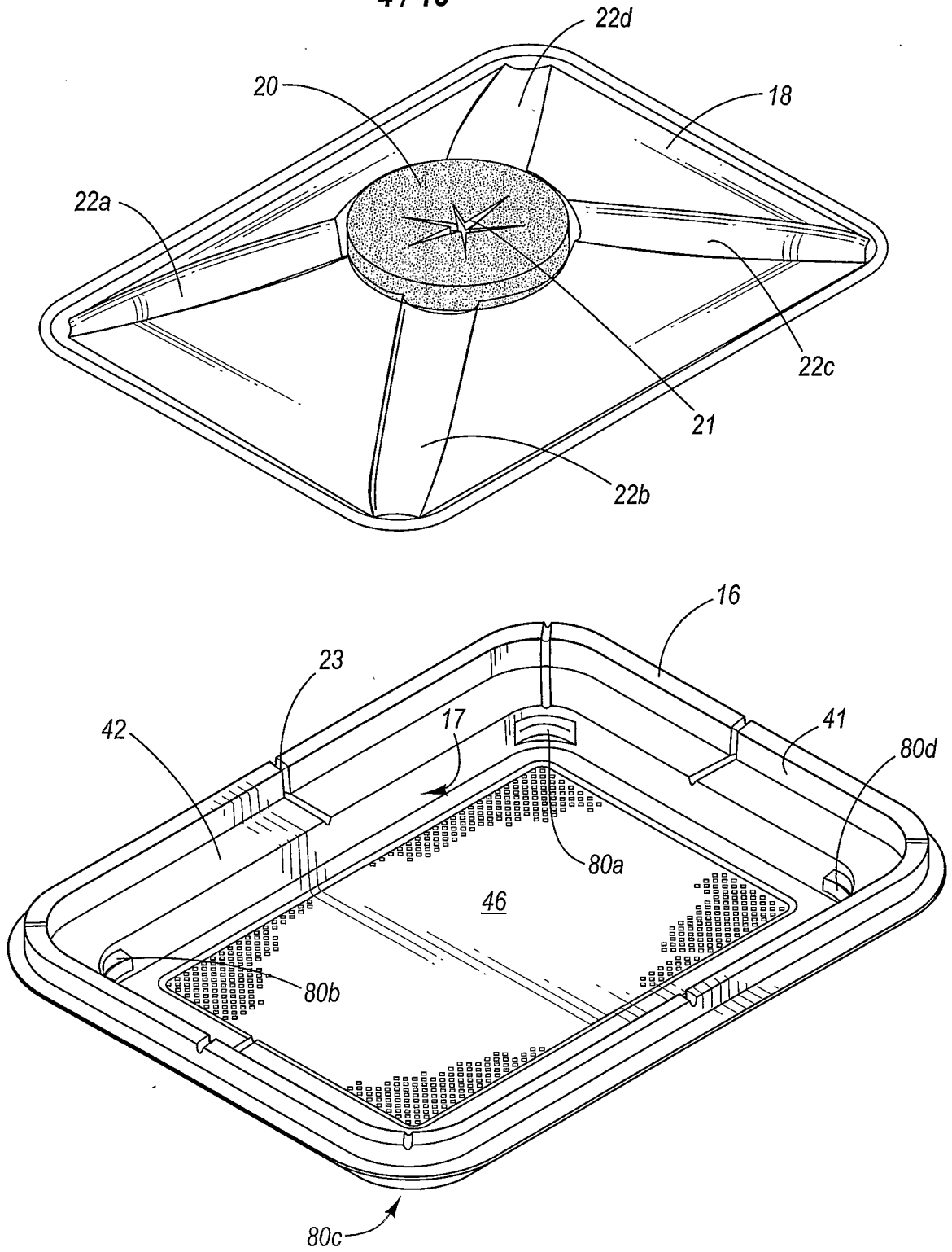


Fig. 4

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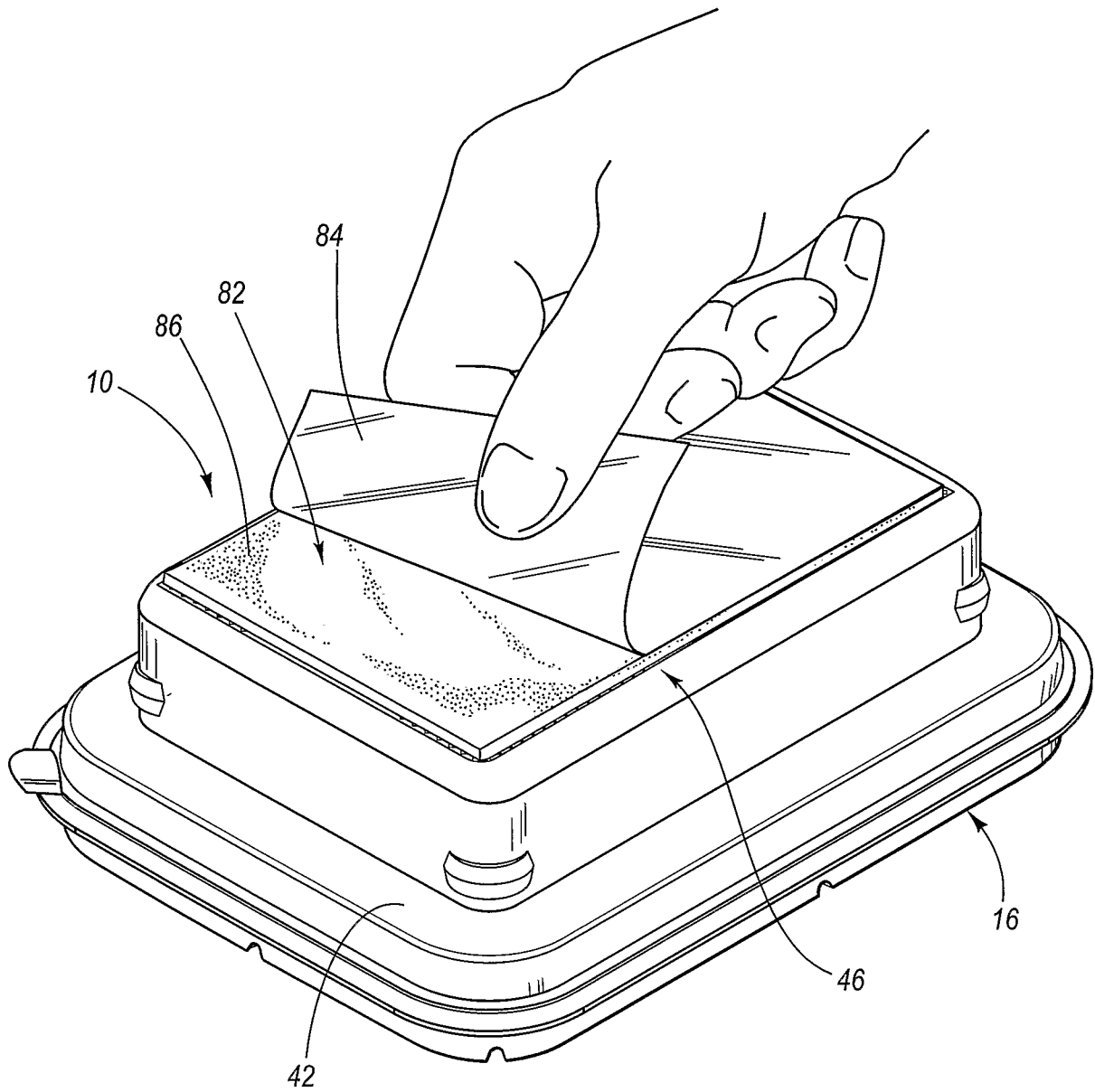


Fig. 5

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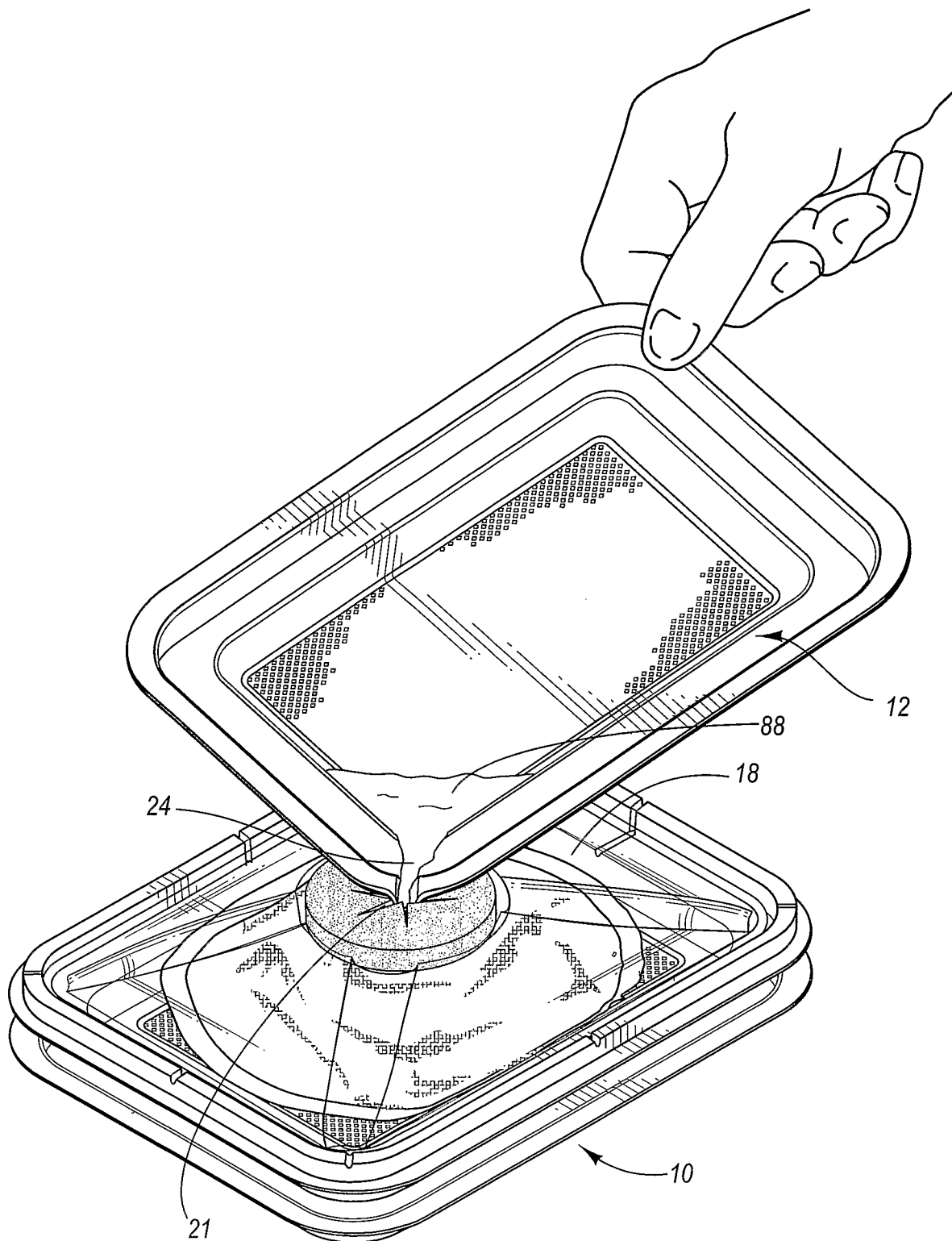


Fig. 6

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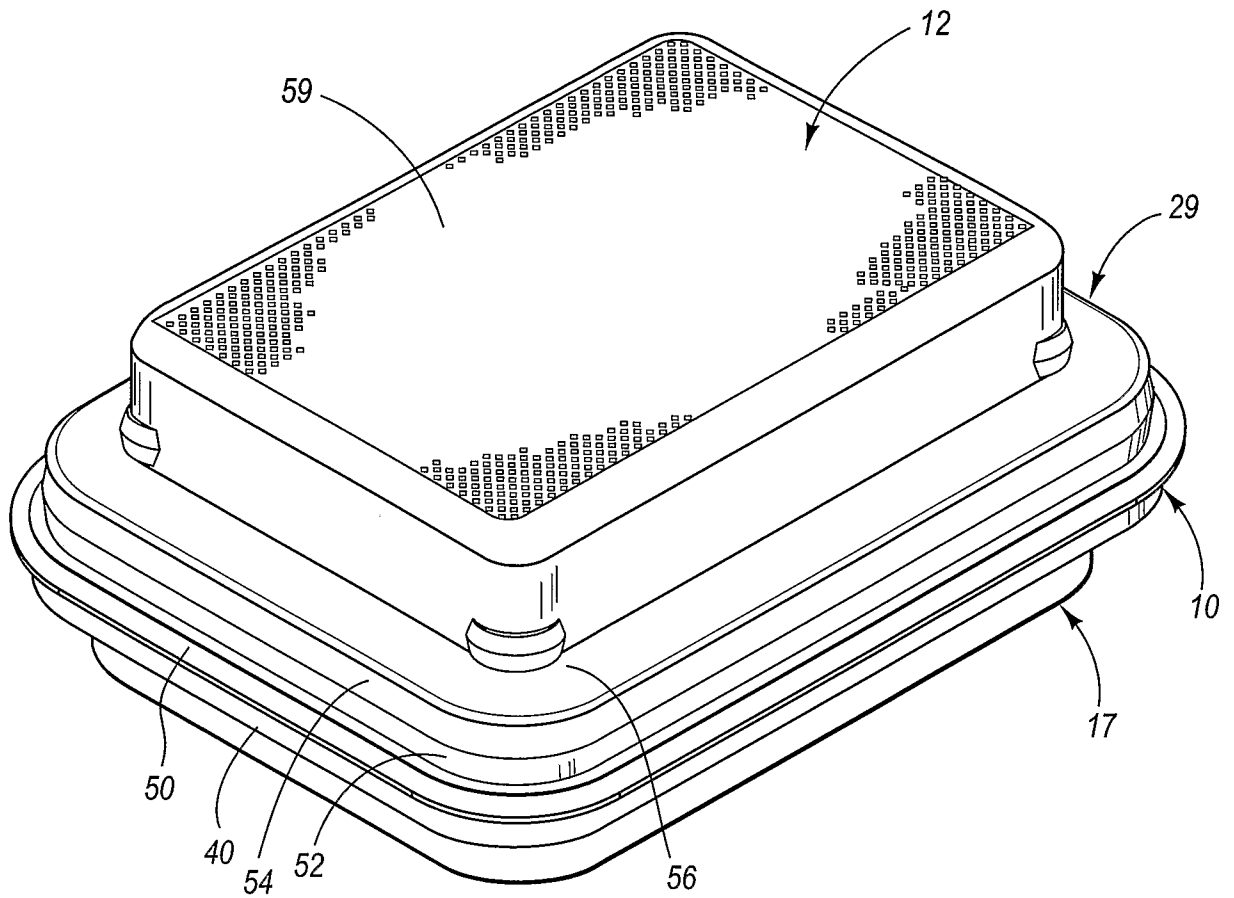


Fig. 7

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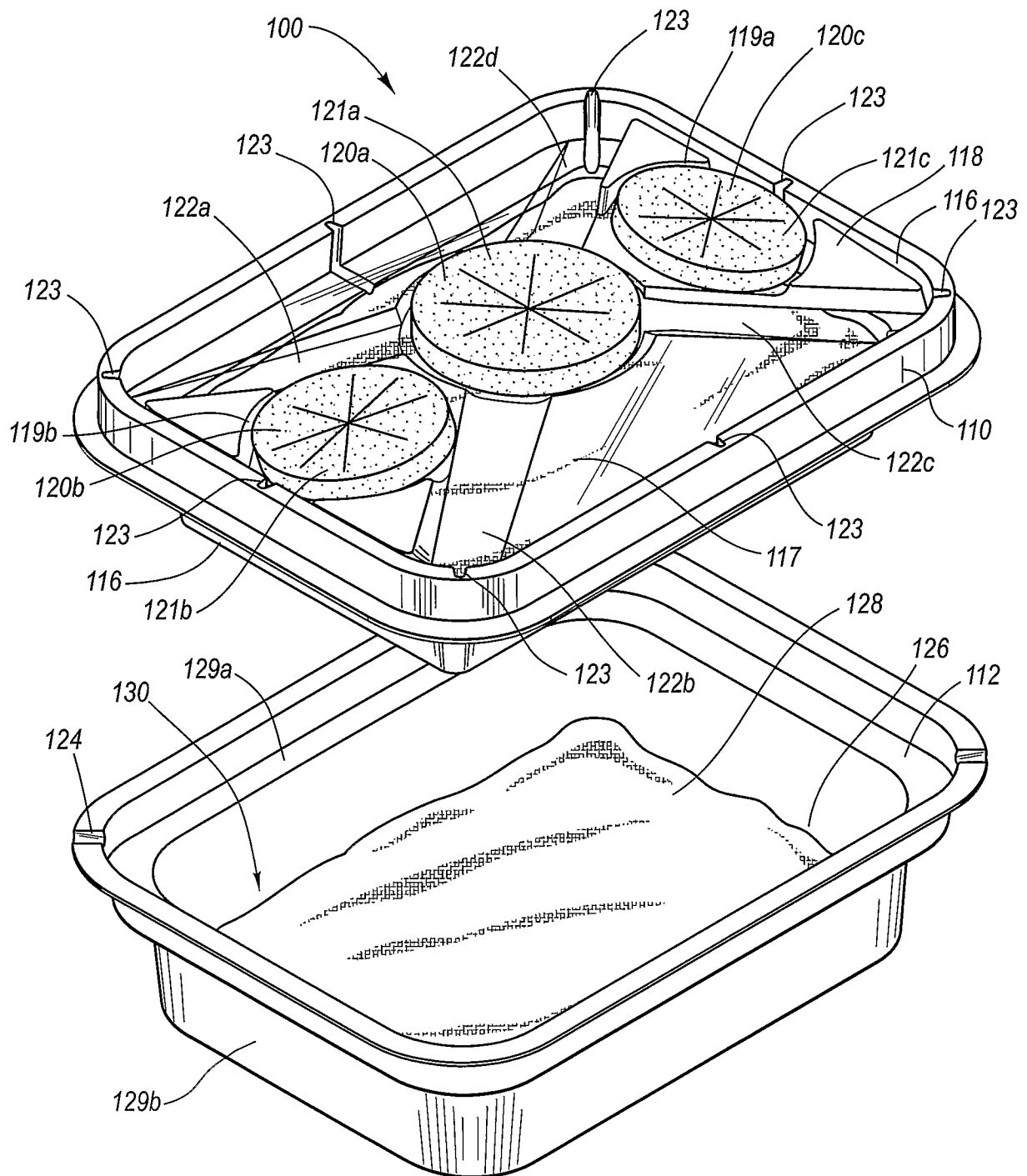


Fig. 8

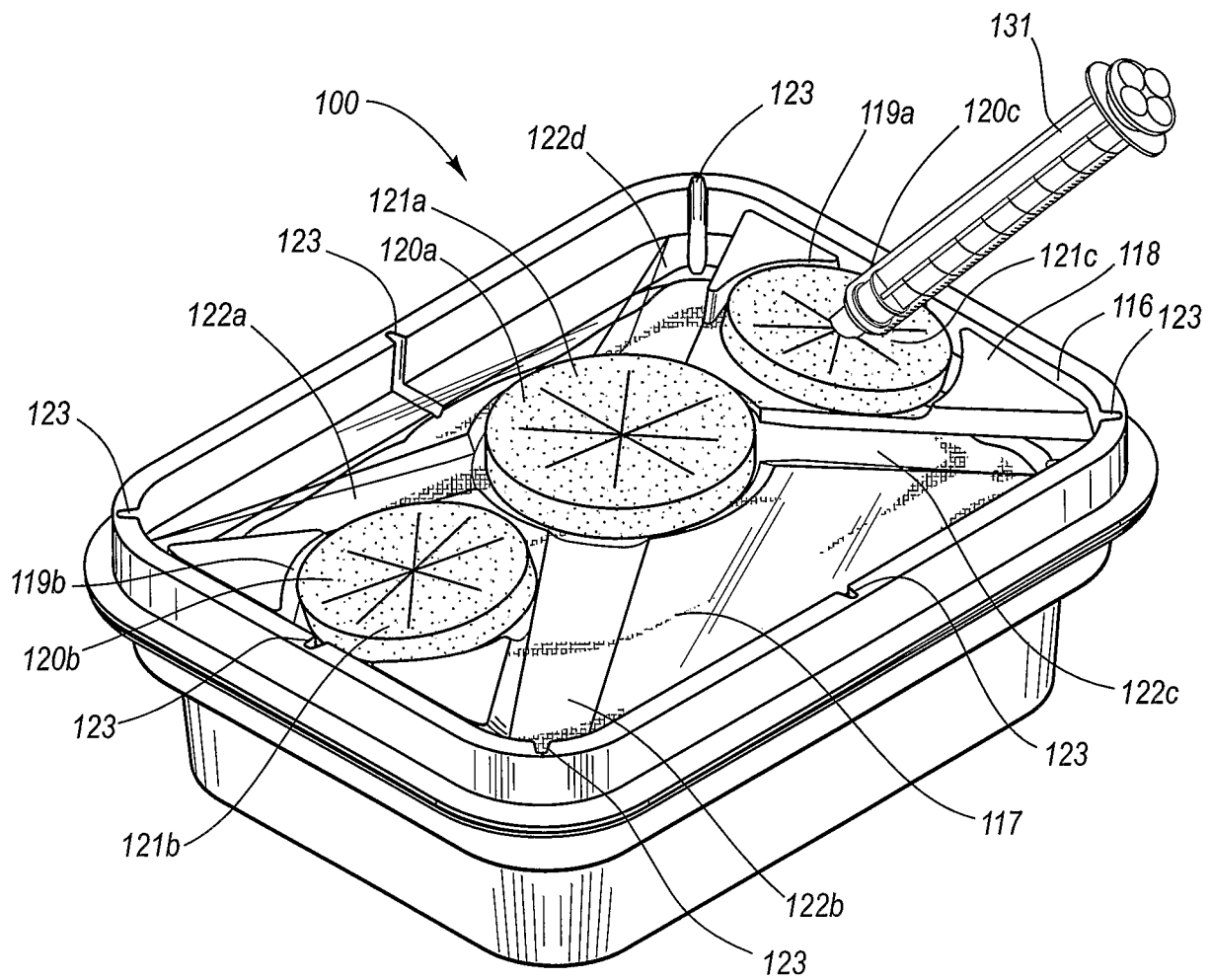


Fig. 9

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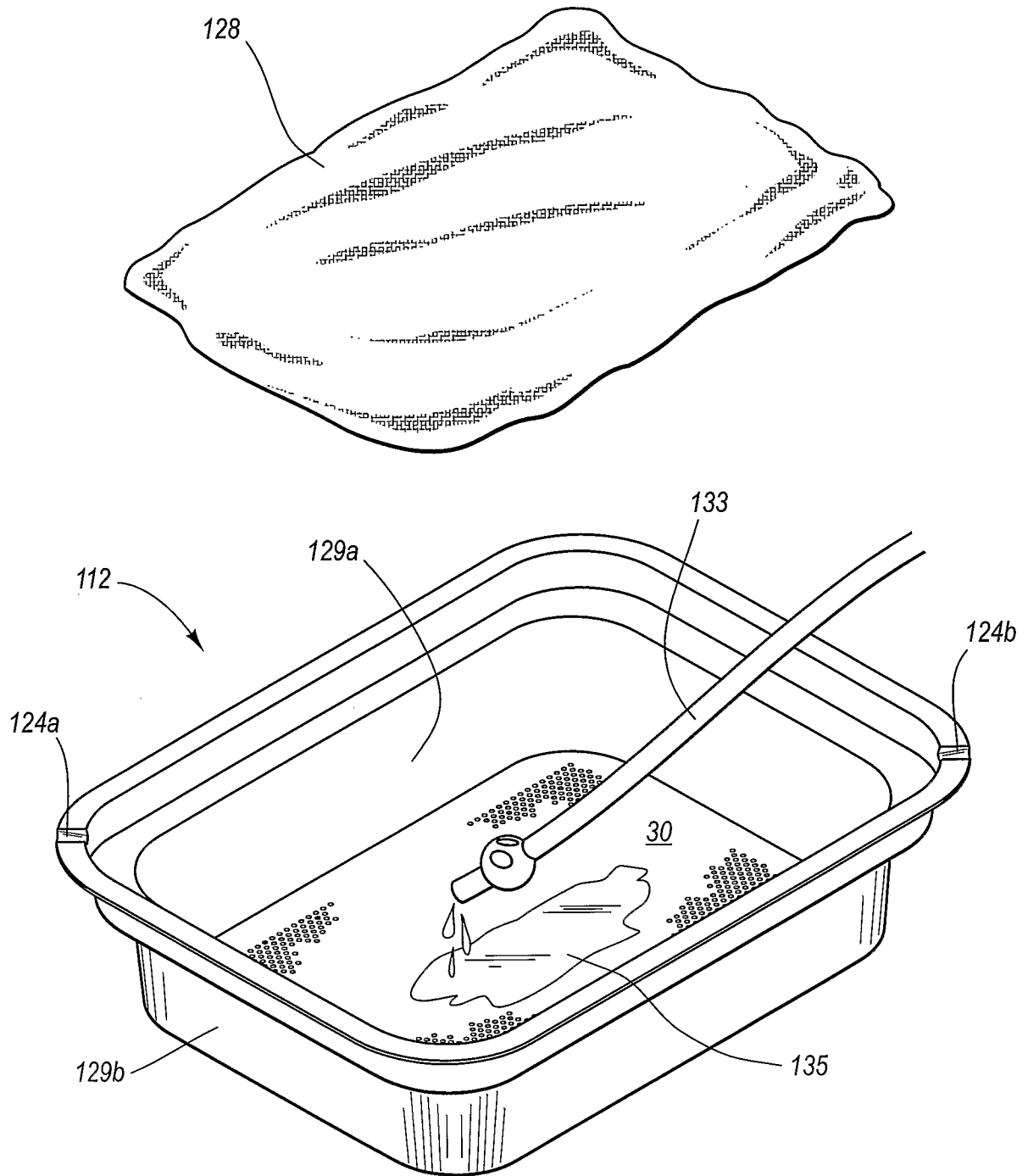


Fig. 10

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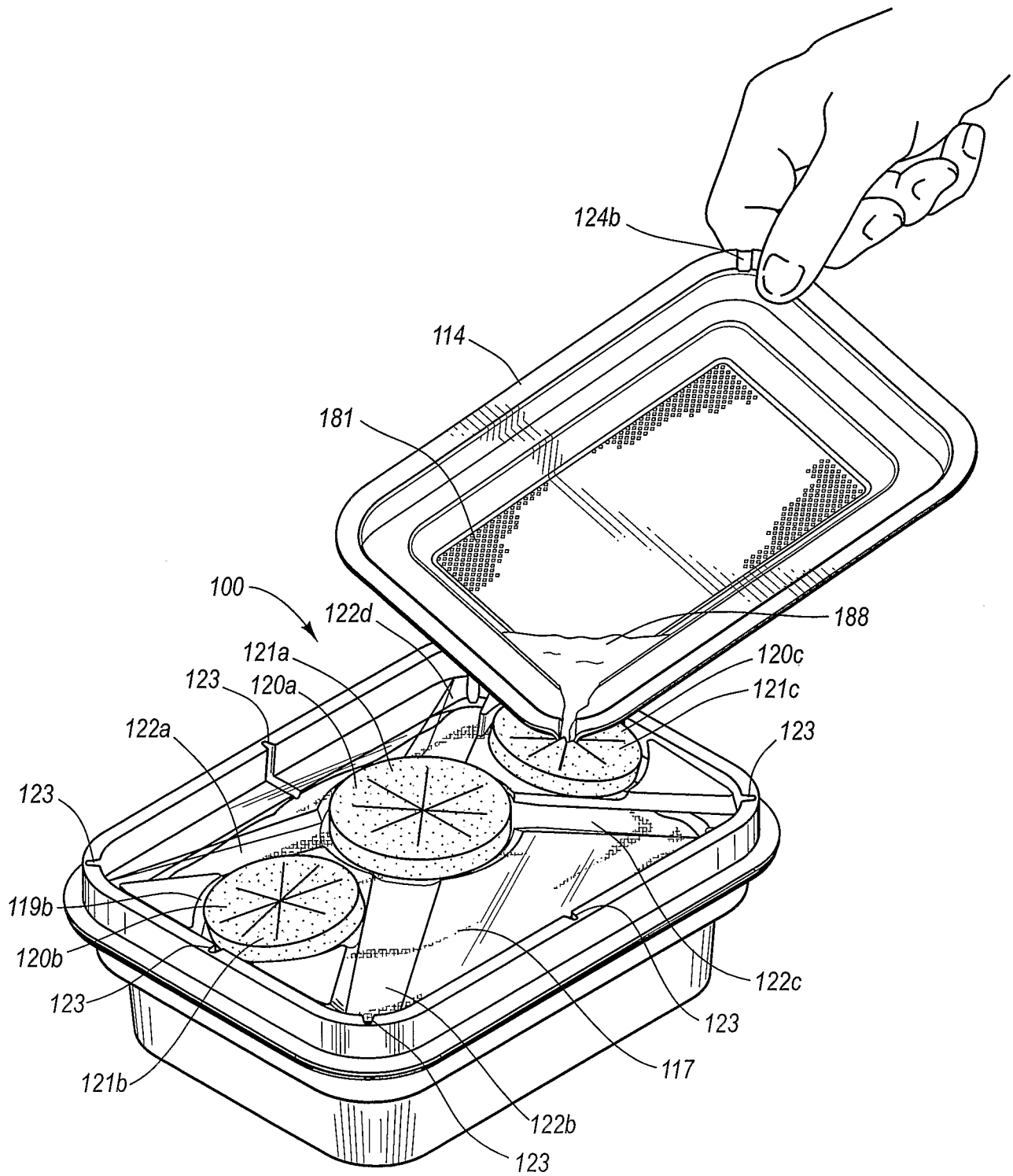


Fig. 11

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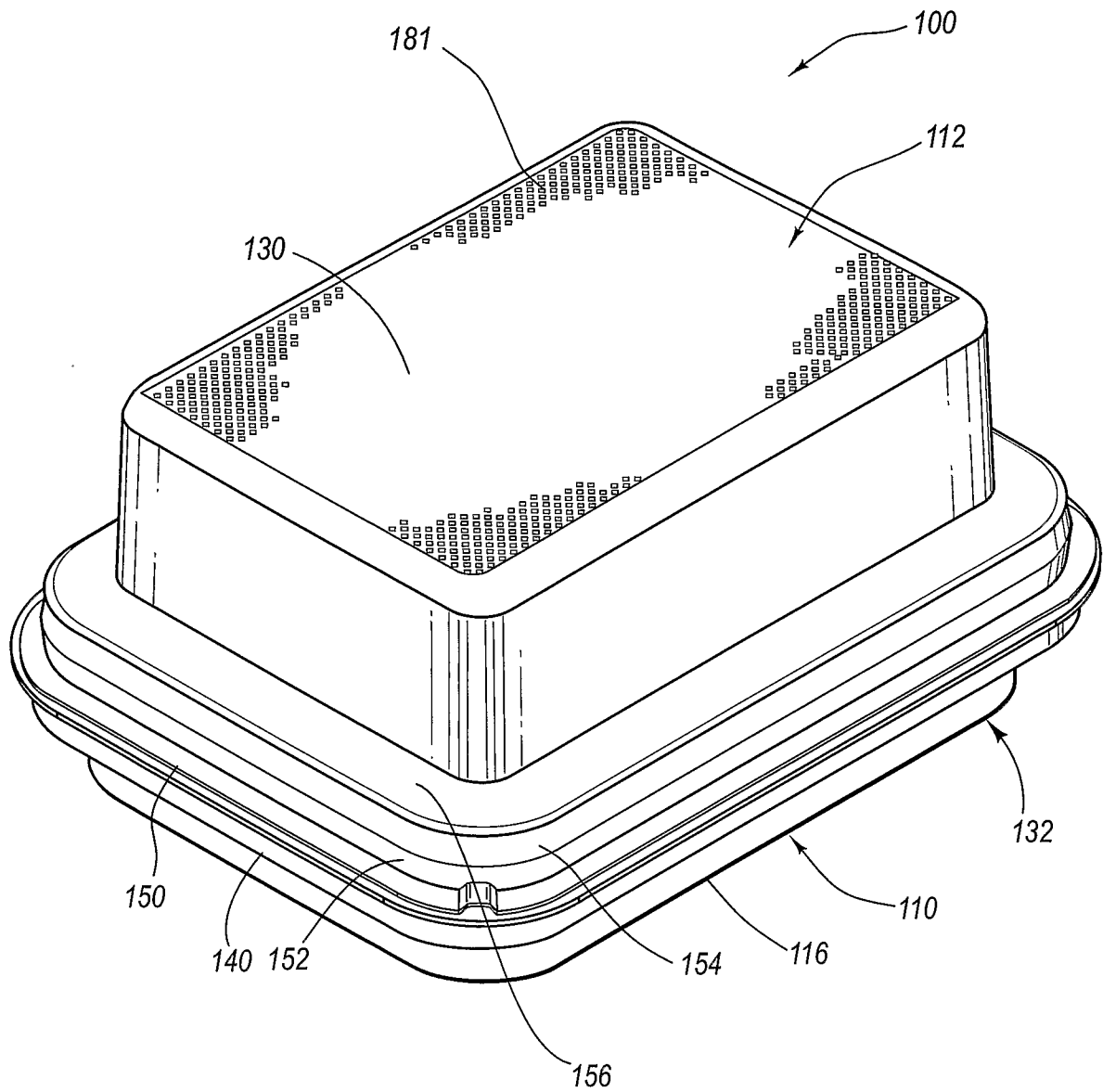


Fig. 12

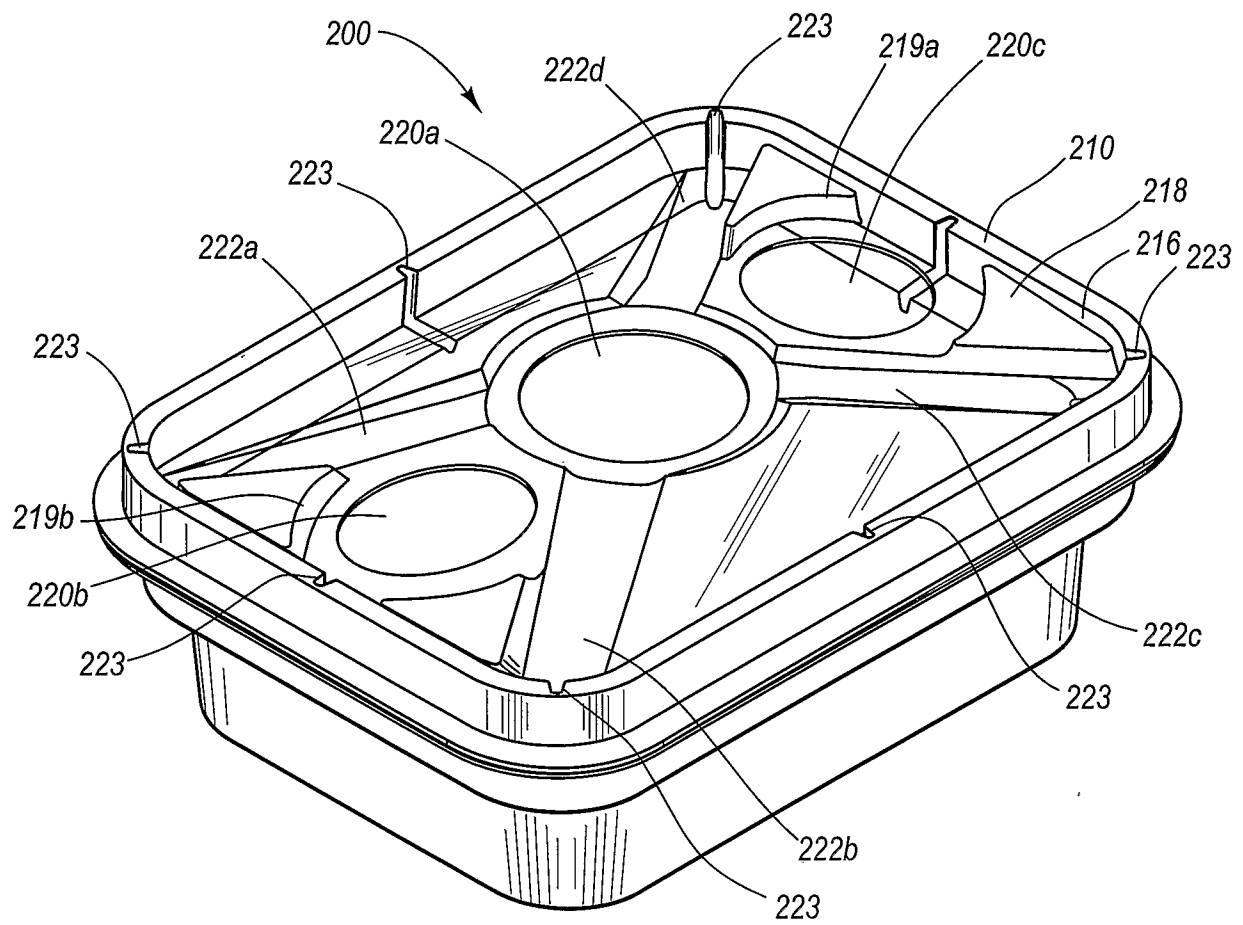


Fig. 13