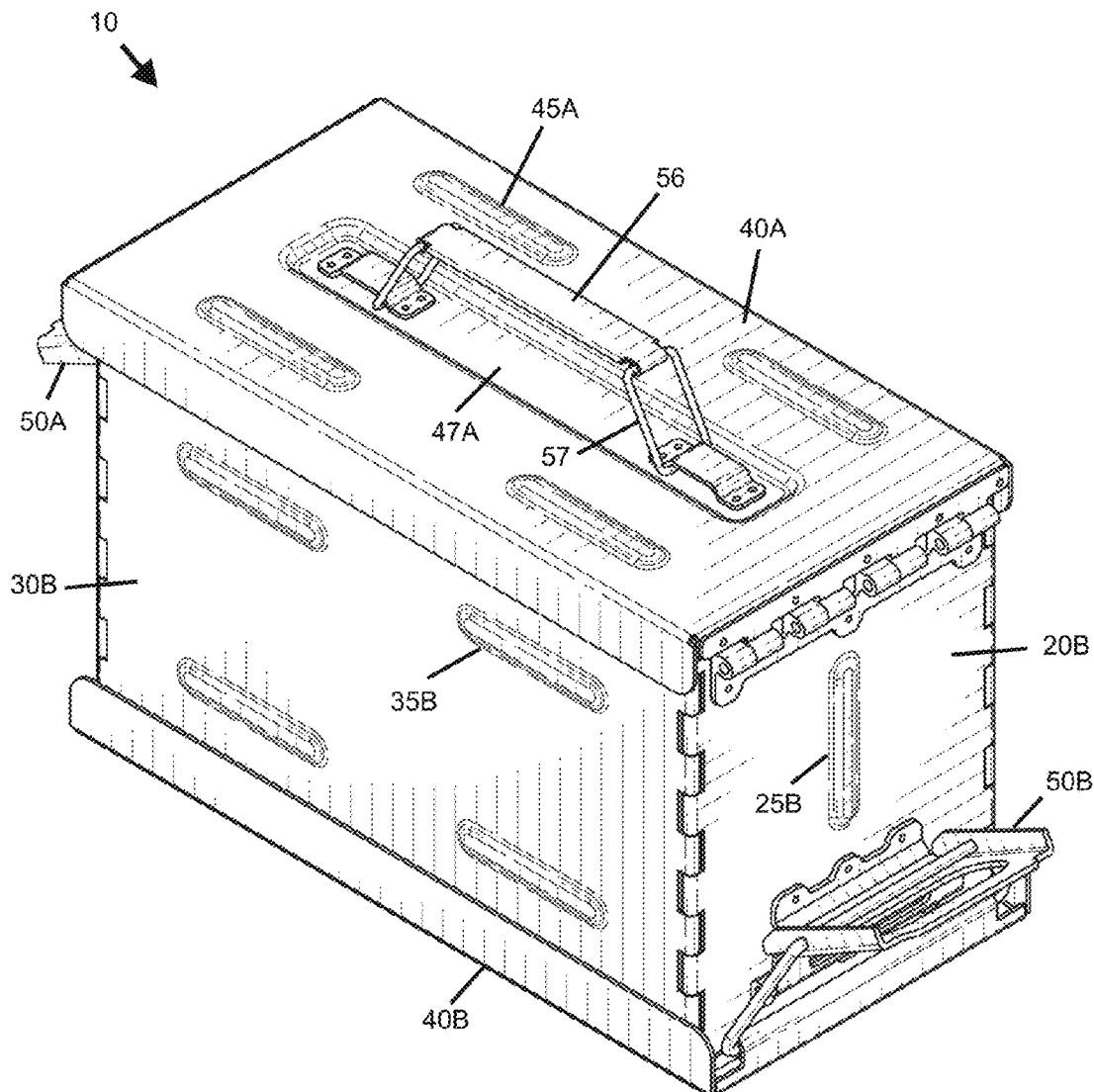




US 20220097910A1

(19) **United States**(12) **Patent Application Publication**
EIDib et al.(10) **Pub. No.: US 2022/0097910 A1**(43) **Pub. Date: Mar. 31, 2022**(54) **COLLAPSIBLE CONTAINER FOR
AMMUNITION AND OTHER ARTICLES**(52) **U.S. Cl.**CPC *B65D 21/086* (2013.01); *B65D 51/242*
(2013.01); *B65D 43/167* (2013.01); *F42B*
39/26 (2013.01)(71) Applicant: **ASU RESEARCH ENTERPRISE,**
Scottsdale, AZ (US)(72) Inventors: **Claudia EIDib**, Scottsdale, AZ (US);
Christian Michael Fortunato, Gilbert,
AZ (US)(21) Appl. No.: **17/036,788**(22) Filed: **Sep. 29, 2020****Publication Classification**(51) **Int. Cl.**
B65D 21/08 (2006.01)
F42B 39/26 (2006.01)
B65D 43/16 (2006.01)
B65D 51/24 (2006.01)(57) **ABSTRACT**

A collapsible container that includes a collapsible plate assembly formed by four plates joined by hinge pins along edges thereof, and includes a top lid and a bottom lid that may be joined to the collapsible plate assembly and latched into place. Each lid may be affixed to the collapsible plate assembly along one edge thereof with hinge pin segments configured to cooperate with hinge pin receiver segments, and along an opposing edge thereof with a clasp configured to engage a clasp receiver. A liner may be received within a plate assembly cavity formed by the collapsible plate assembly, with opposing end faces of the liner being configured to be depressed against the top and bottom lid to form a water-tight cavity. Methods for fabricating a collapsible container are also provided.



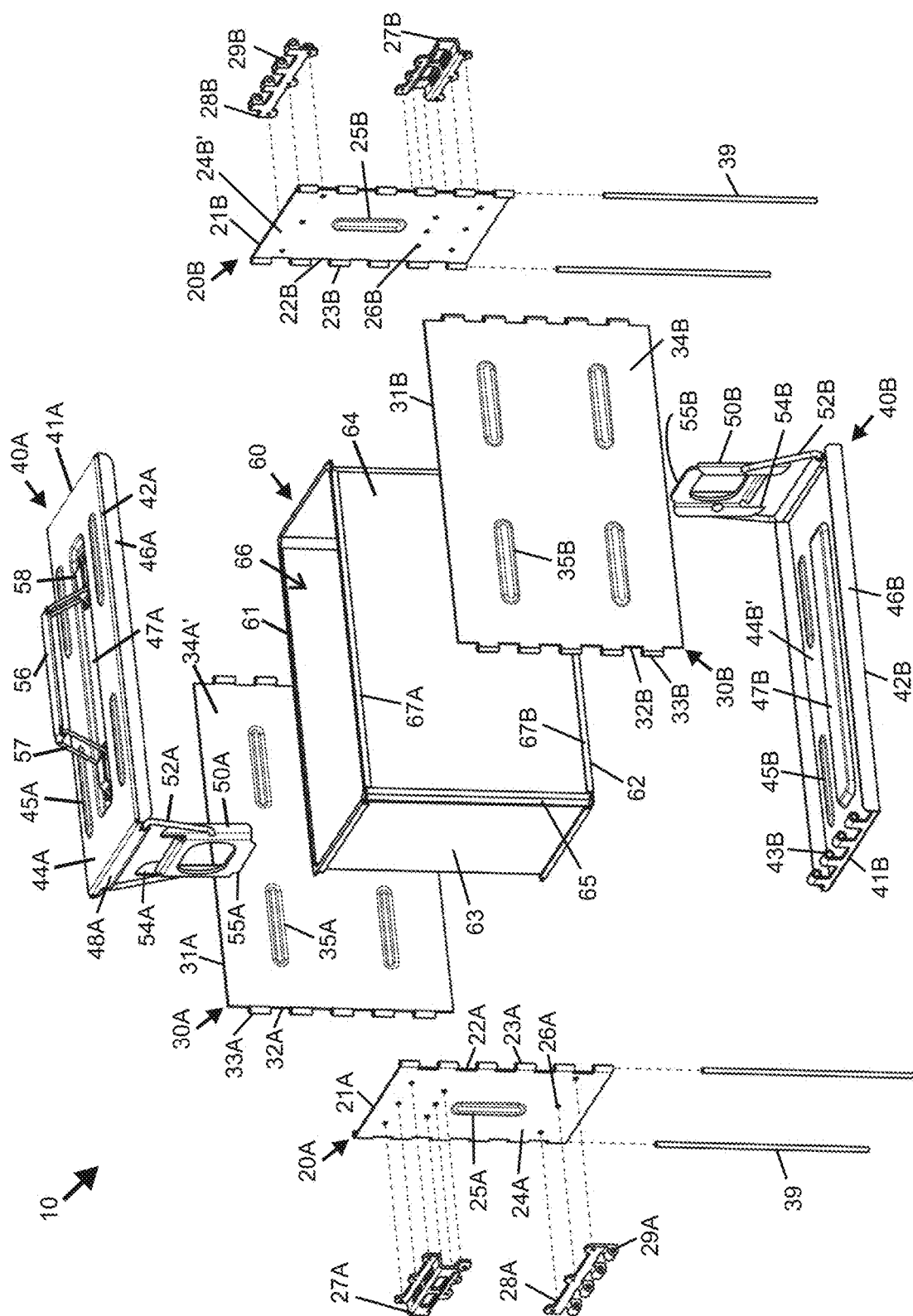


FIG. 1

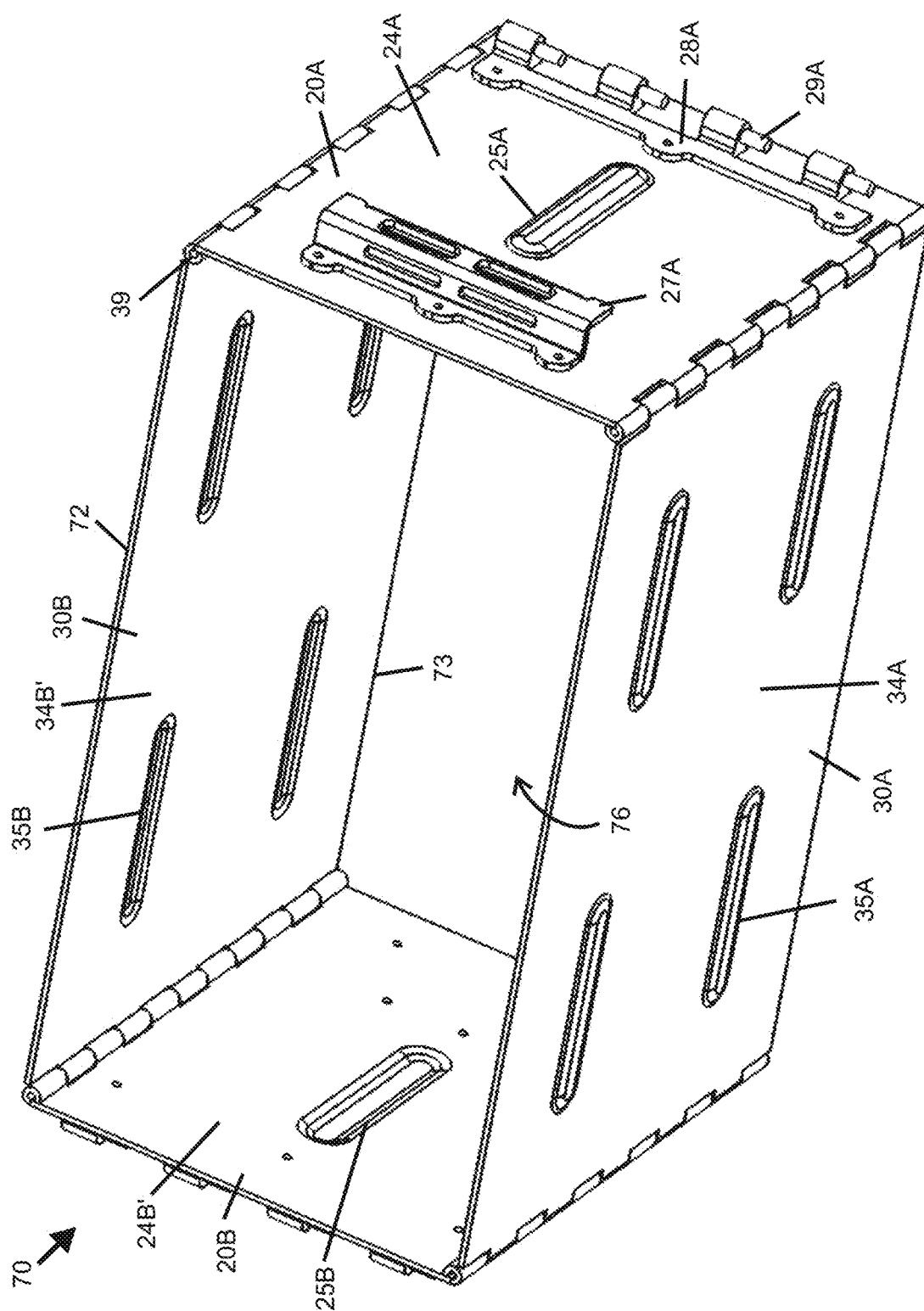


FIG. 2

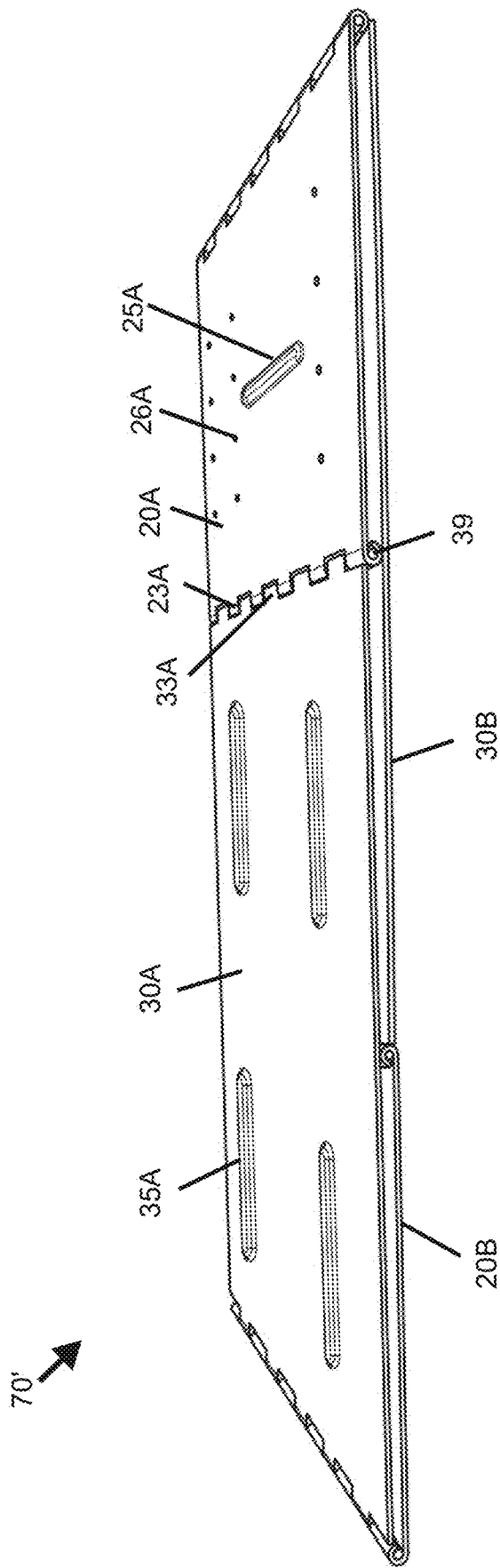
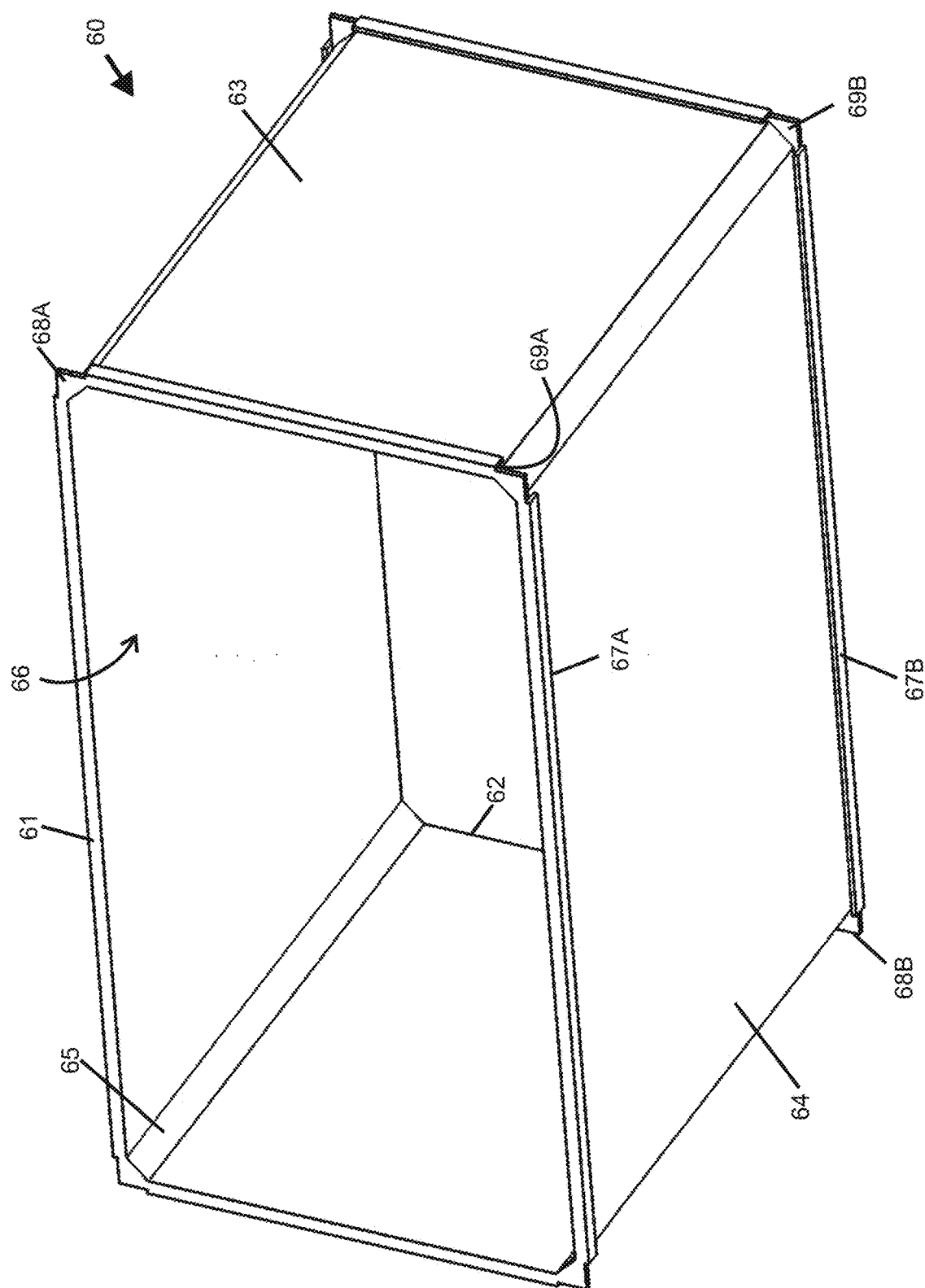


FIG. 3



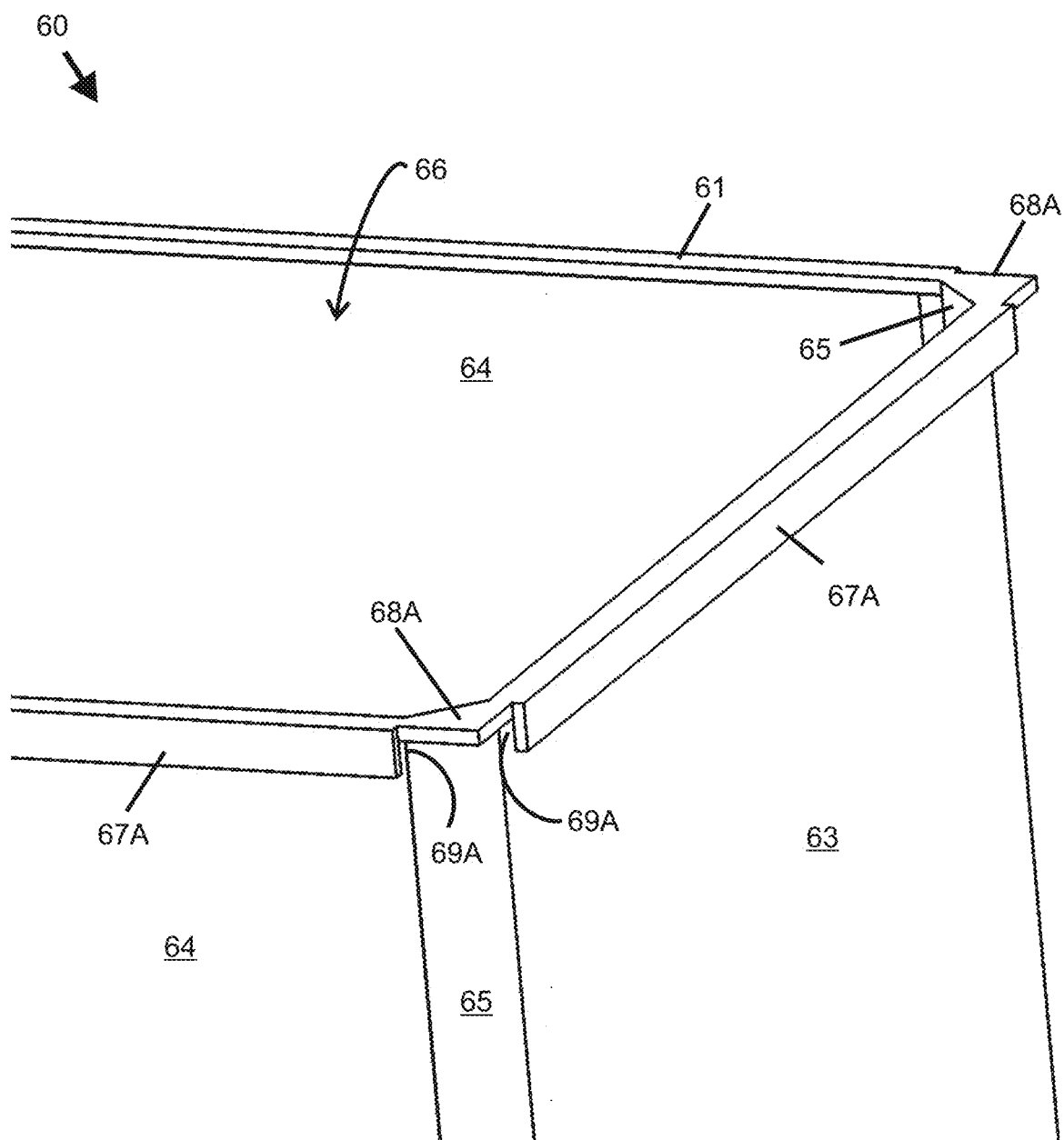


FIG. 5

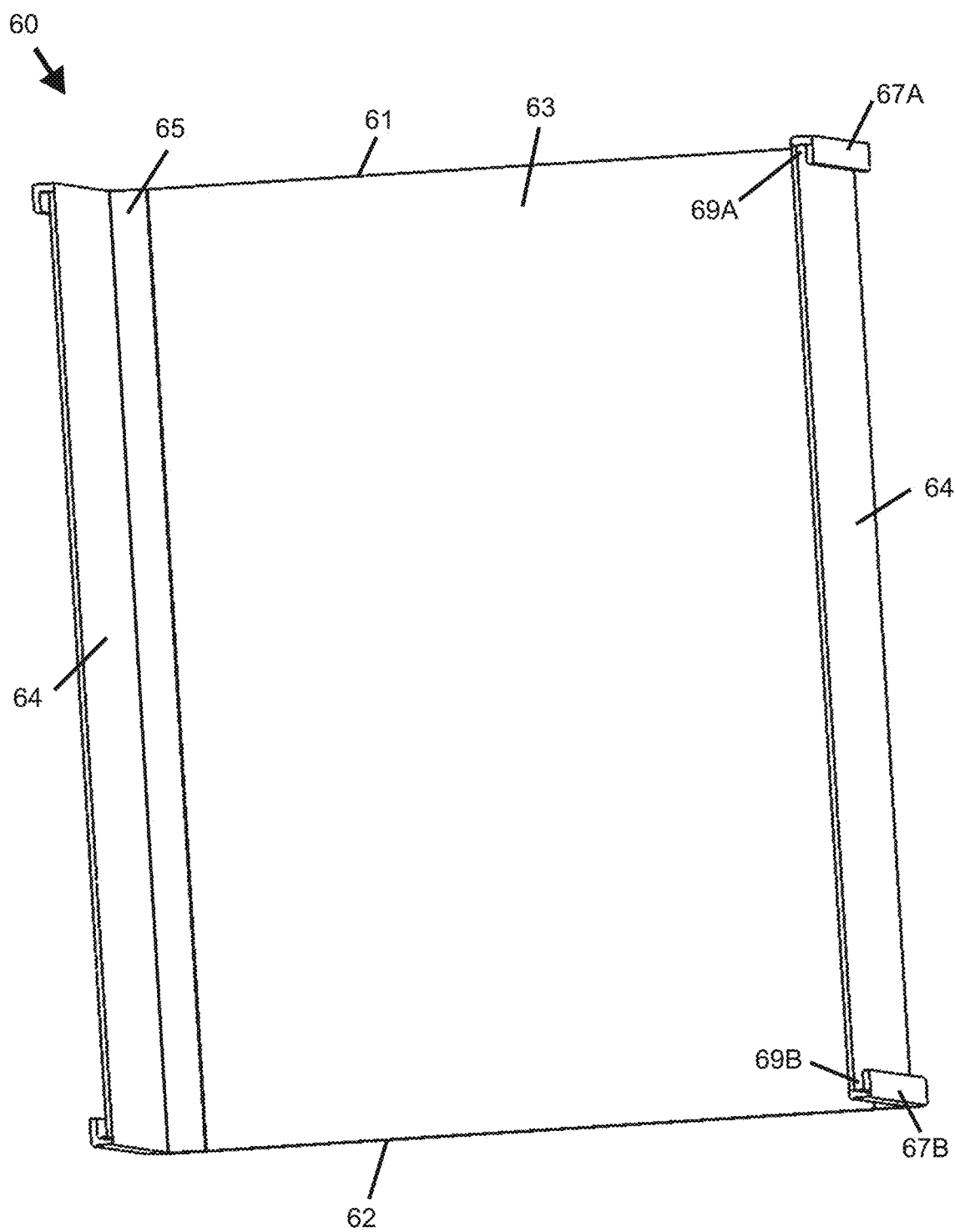
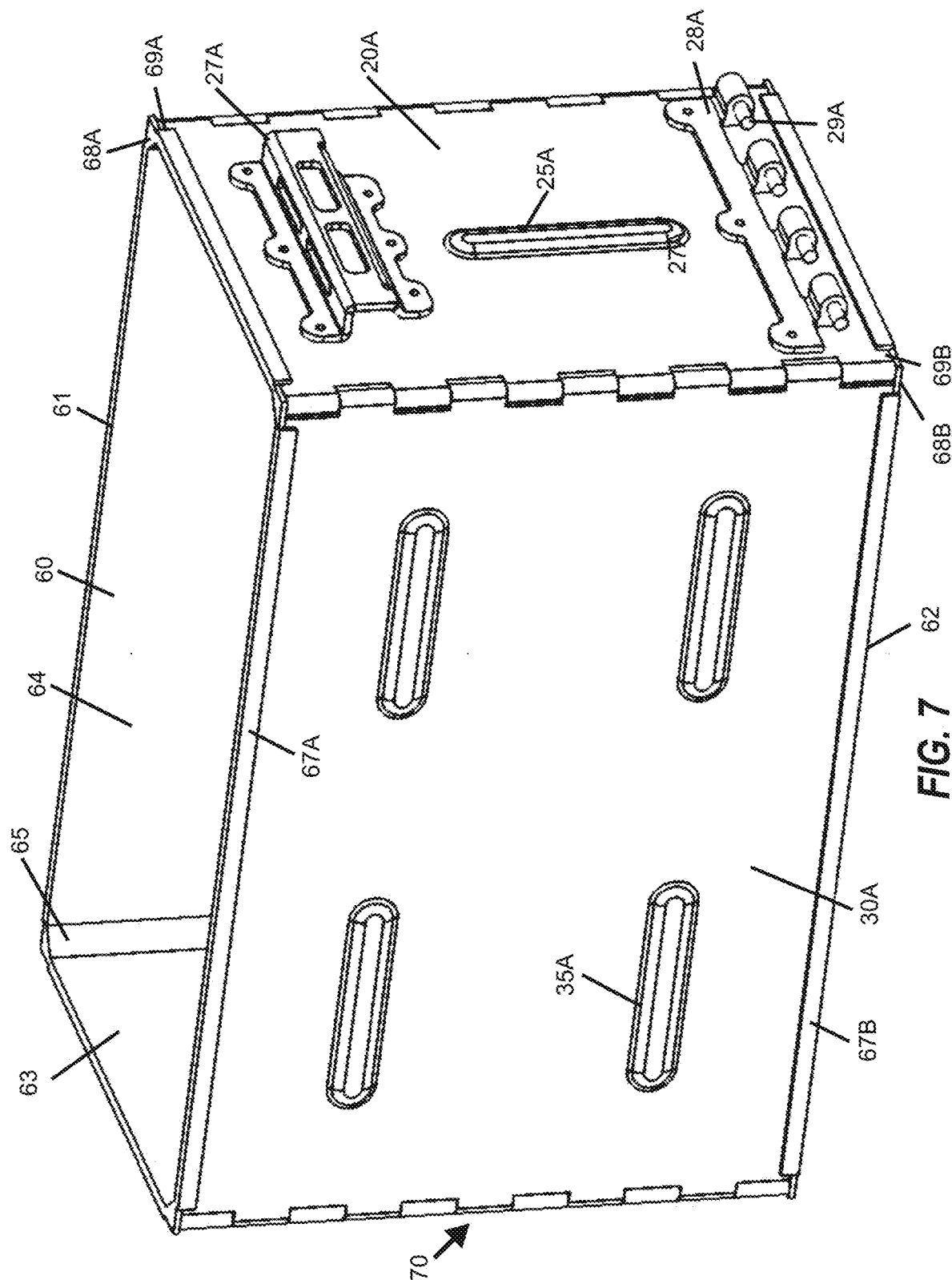


FIG. 6



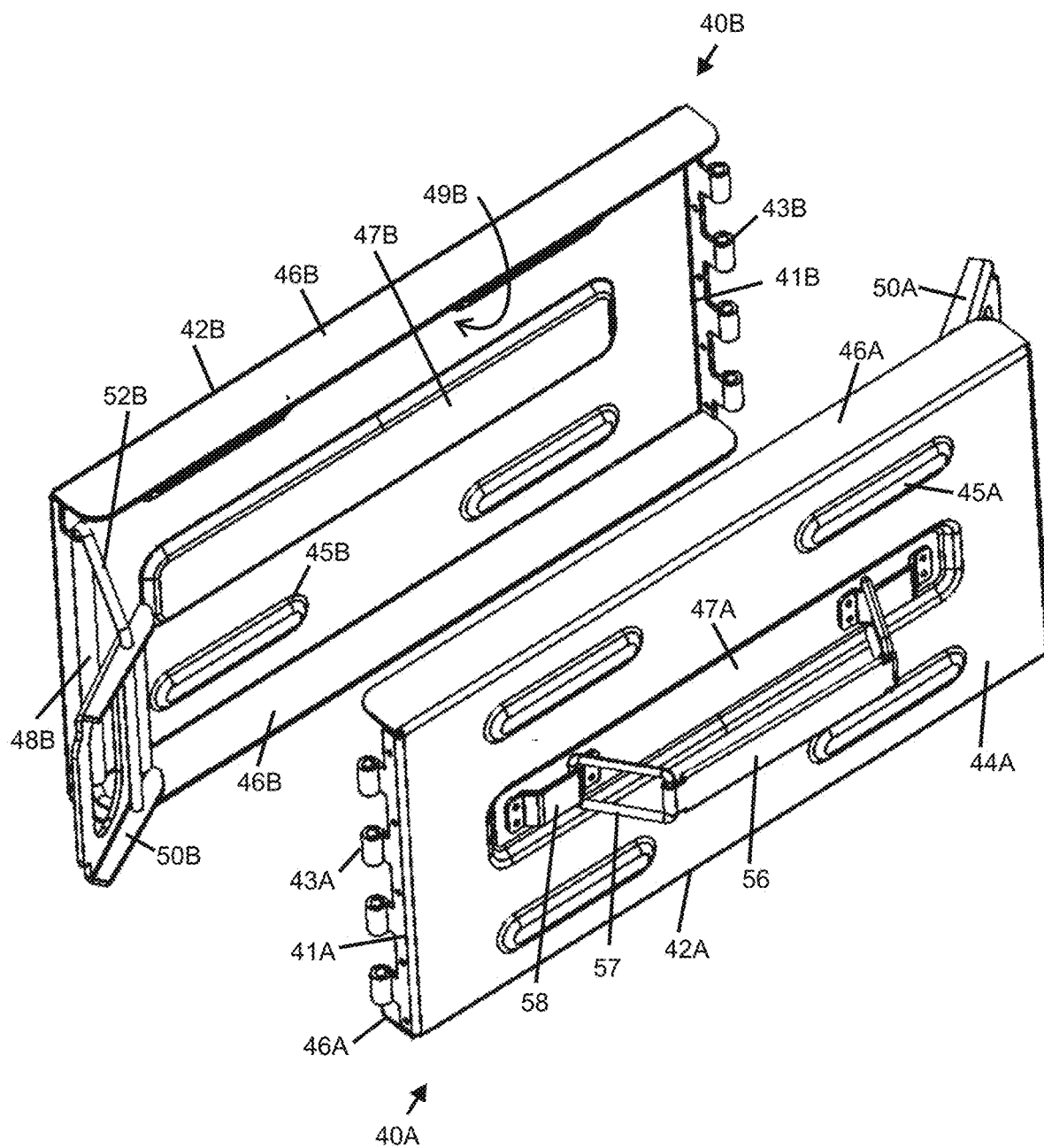


FIG. 8

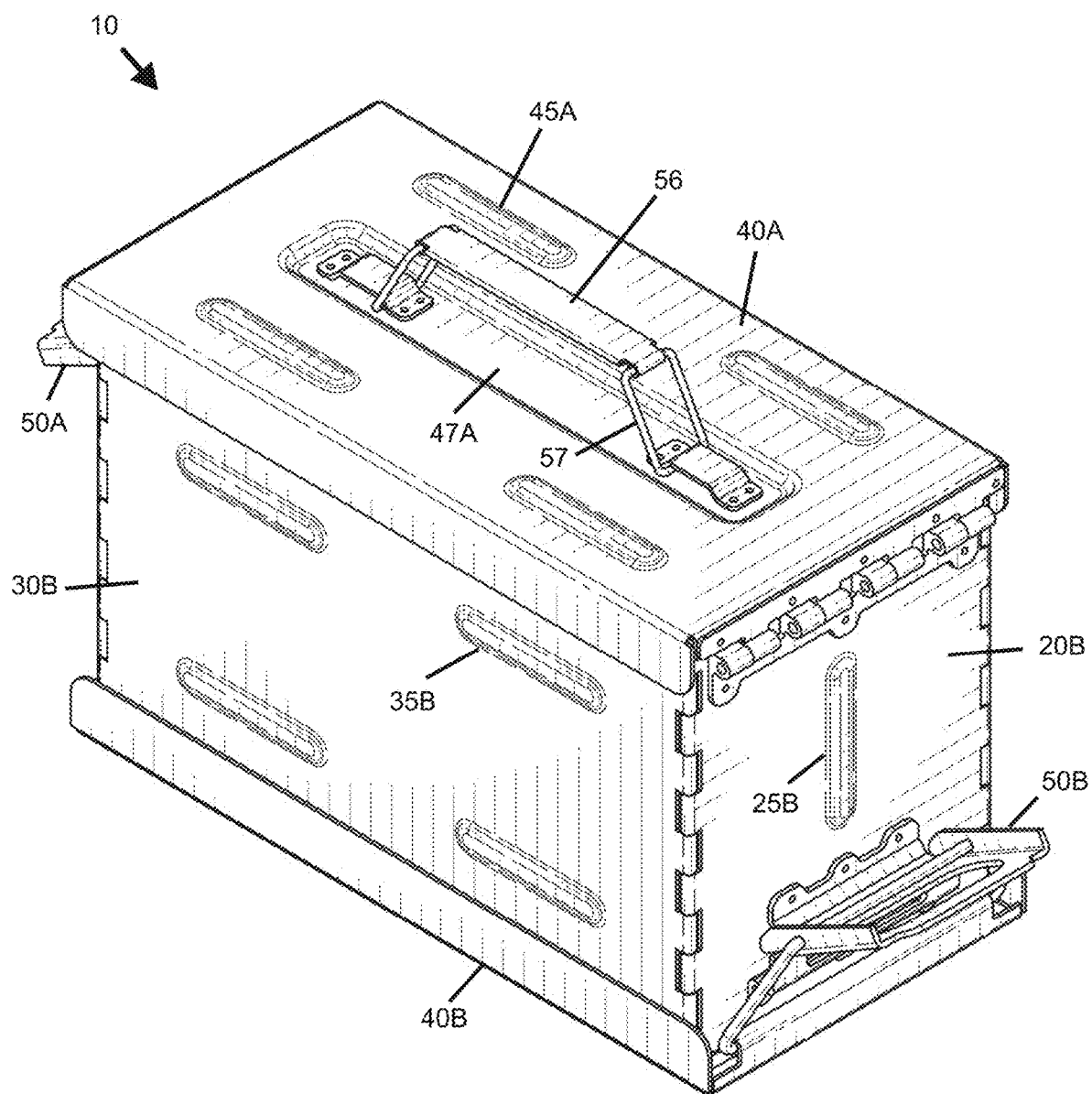


FIG. 9

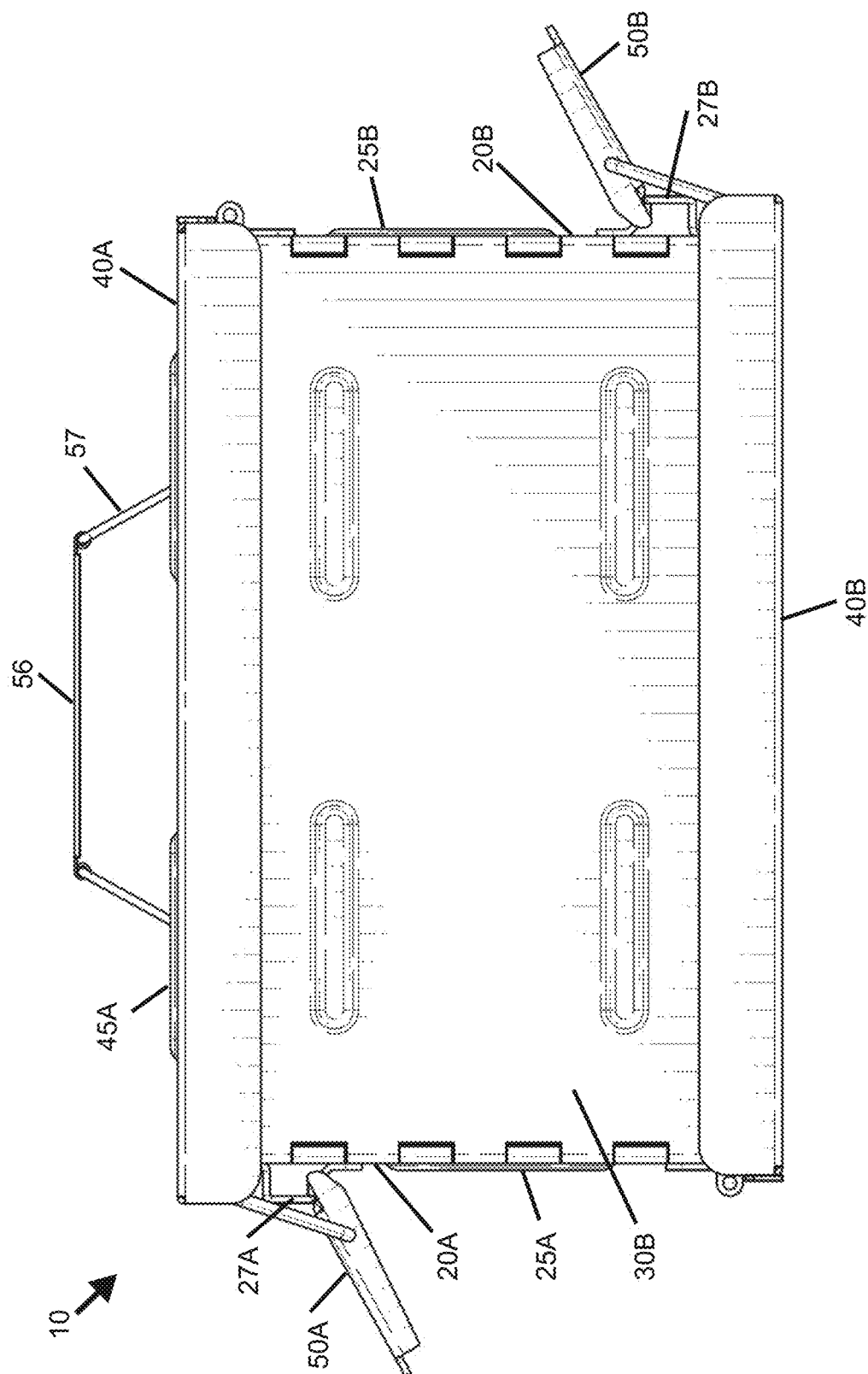


FIG. 10

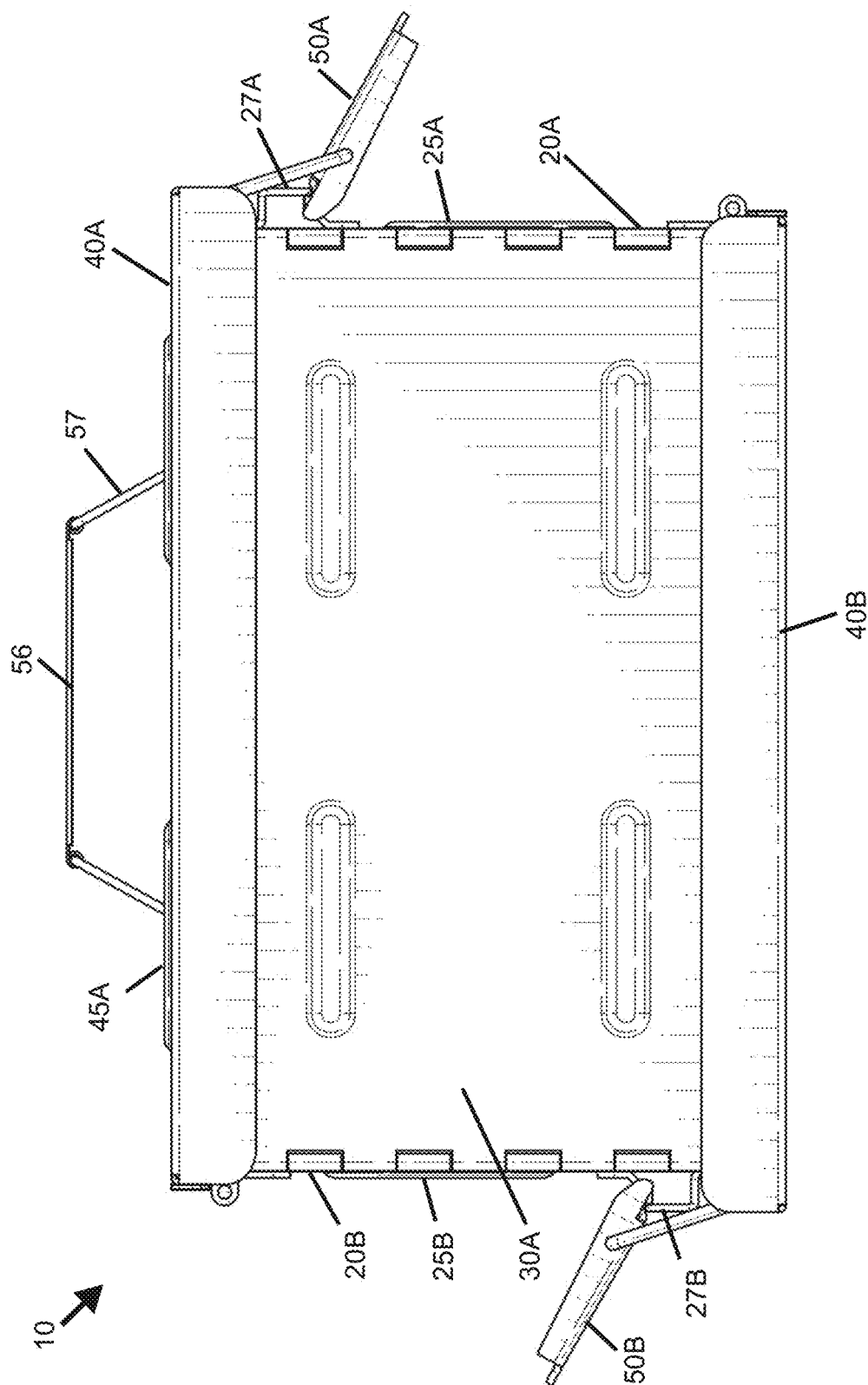


Fig. 1

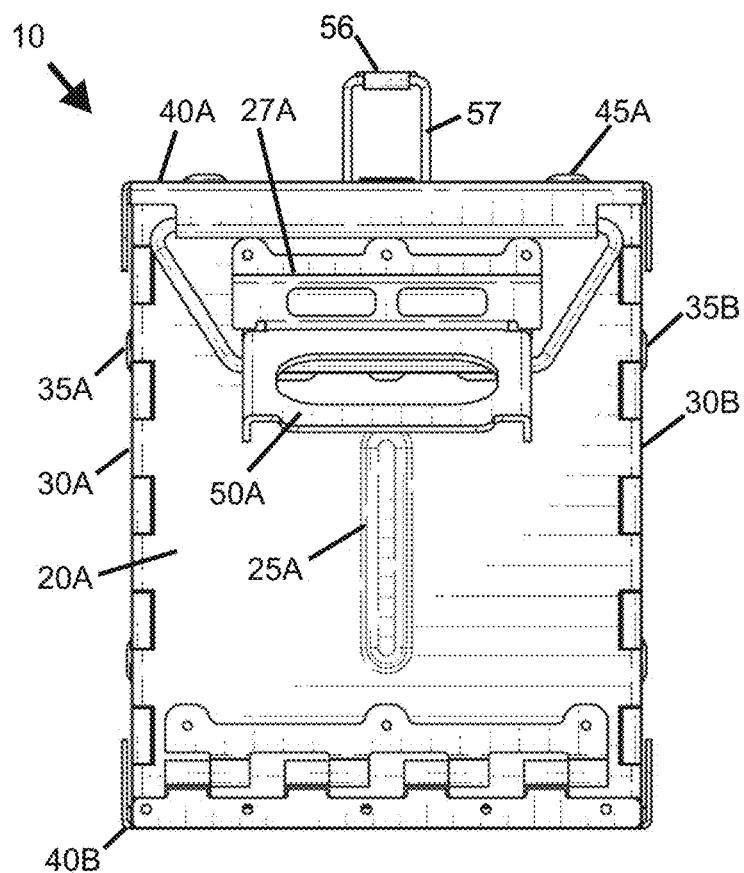


FIG. 12

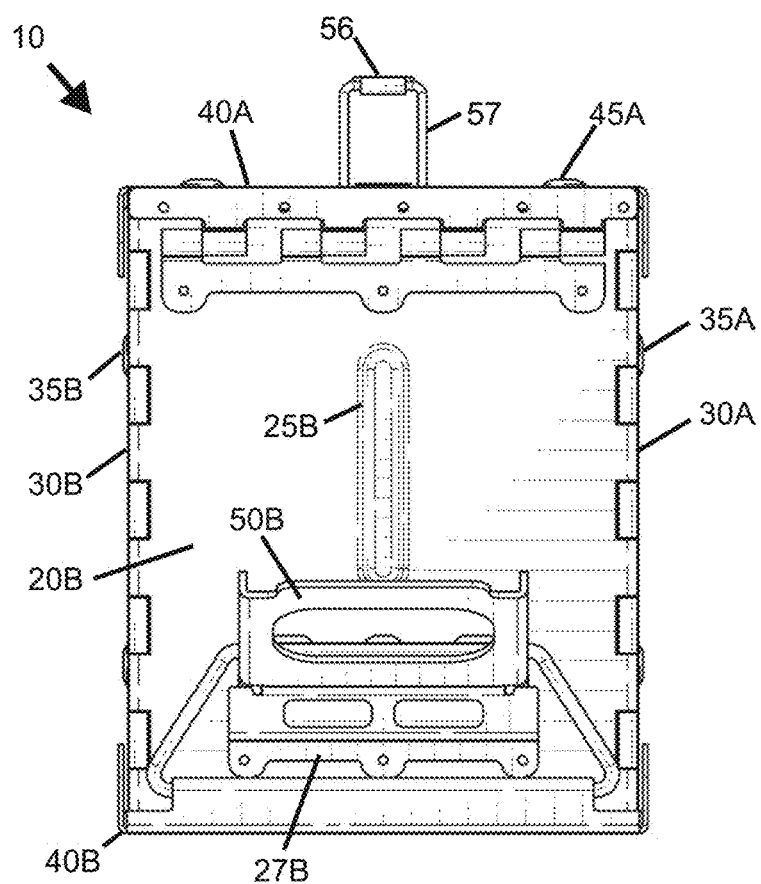


FIG. 13

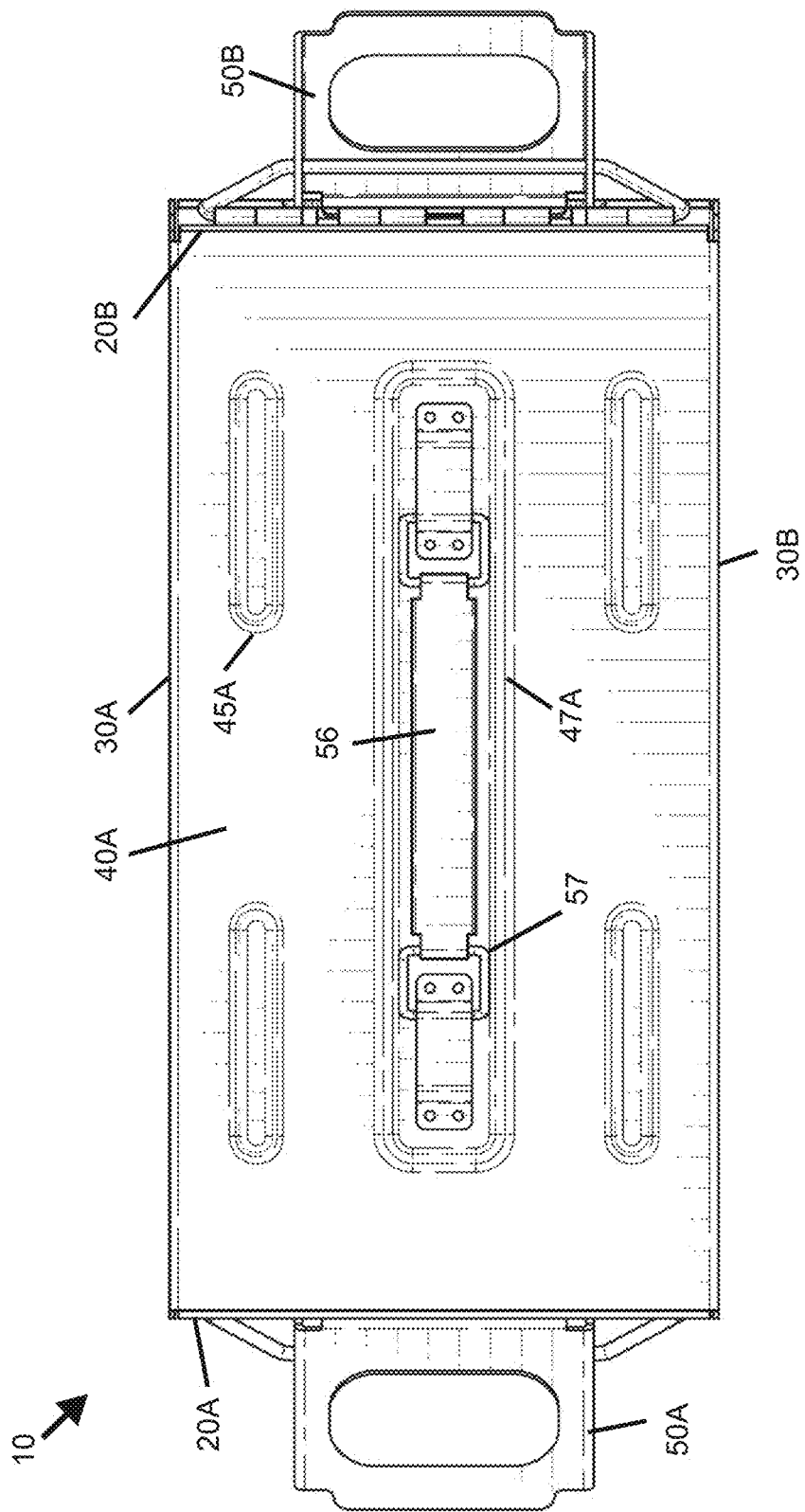


FIG. 14

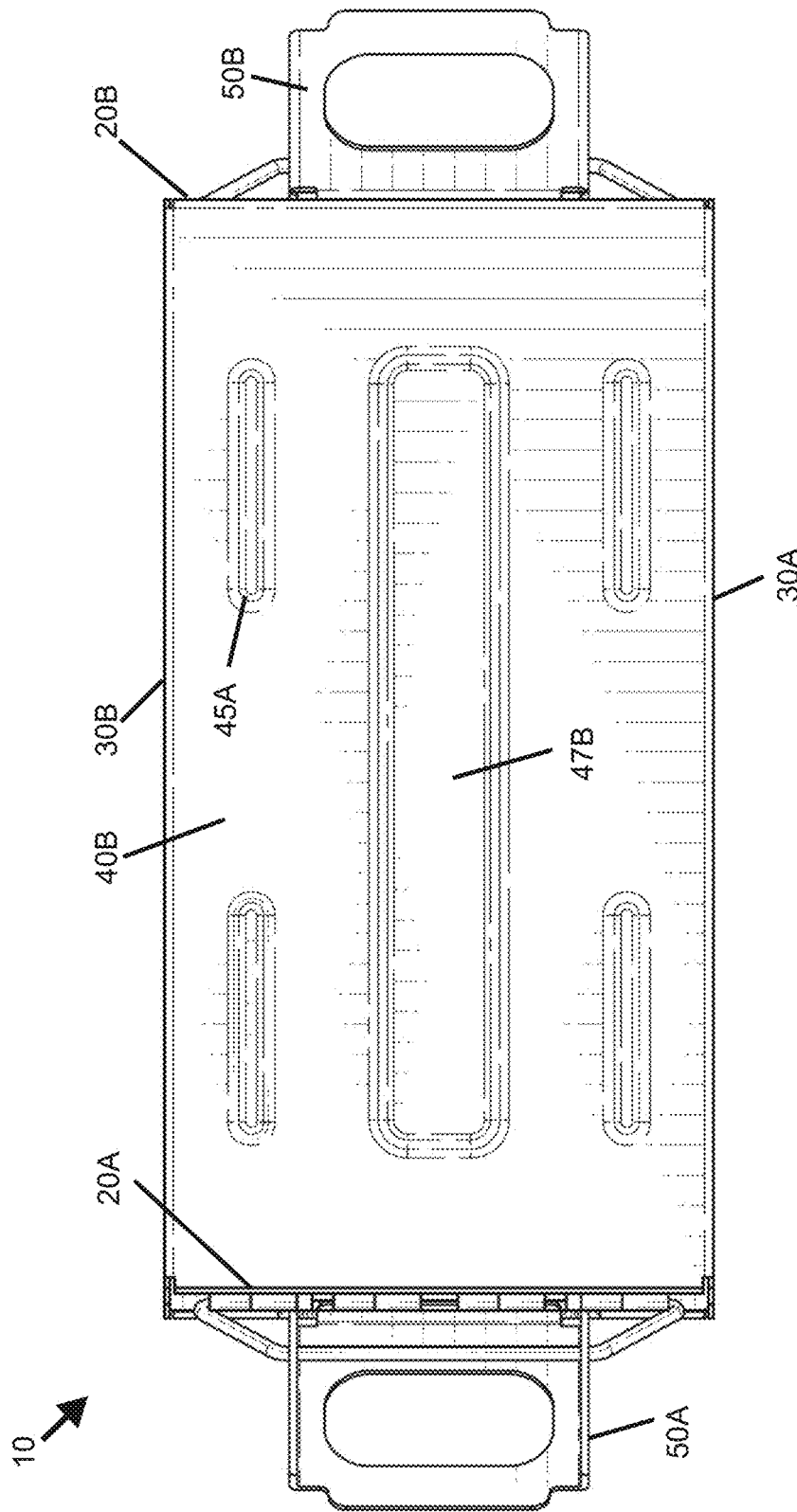


FIG. 15

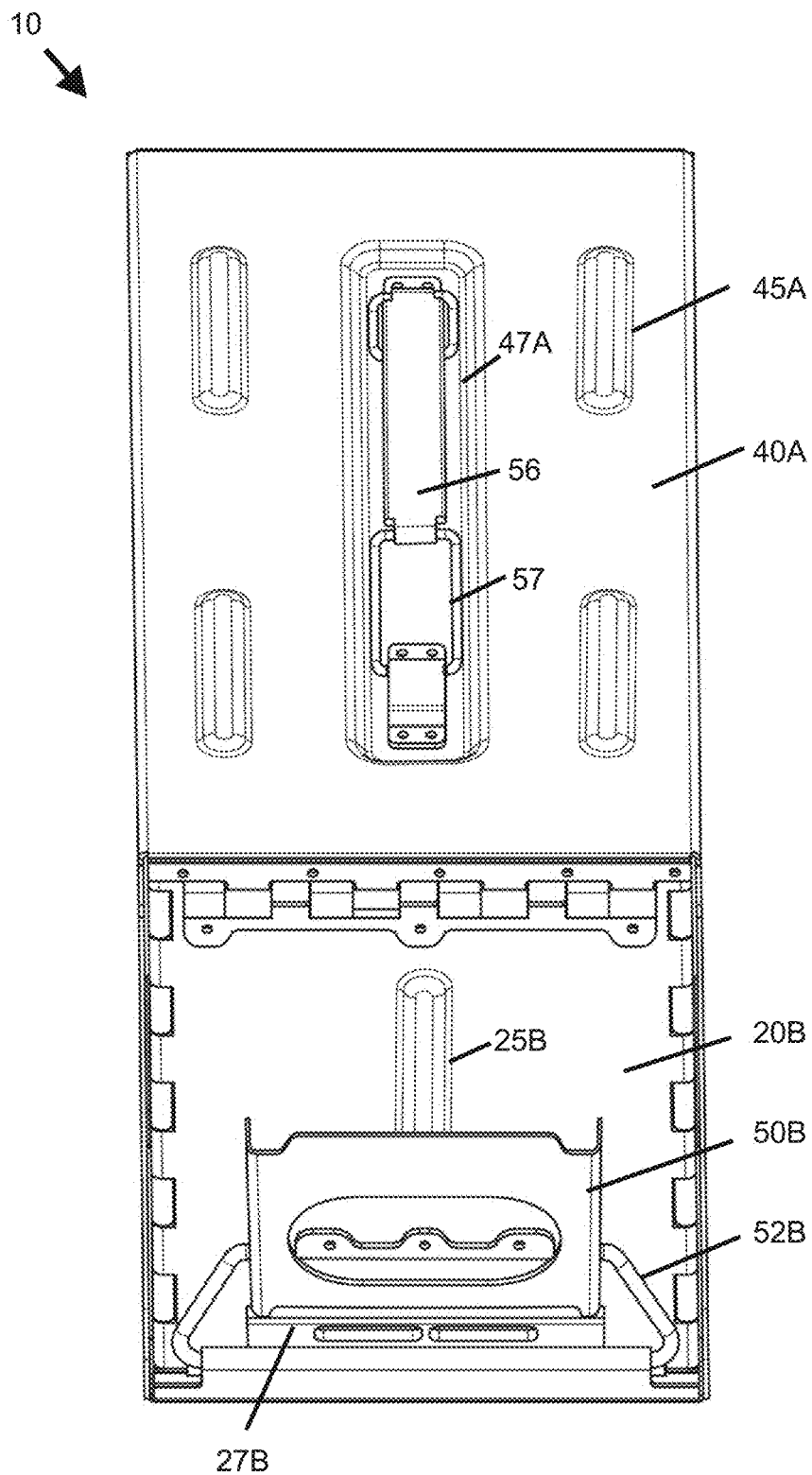


FIG. 16

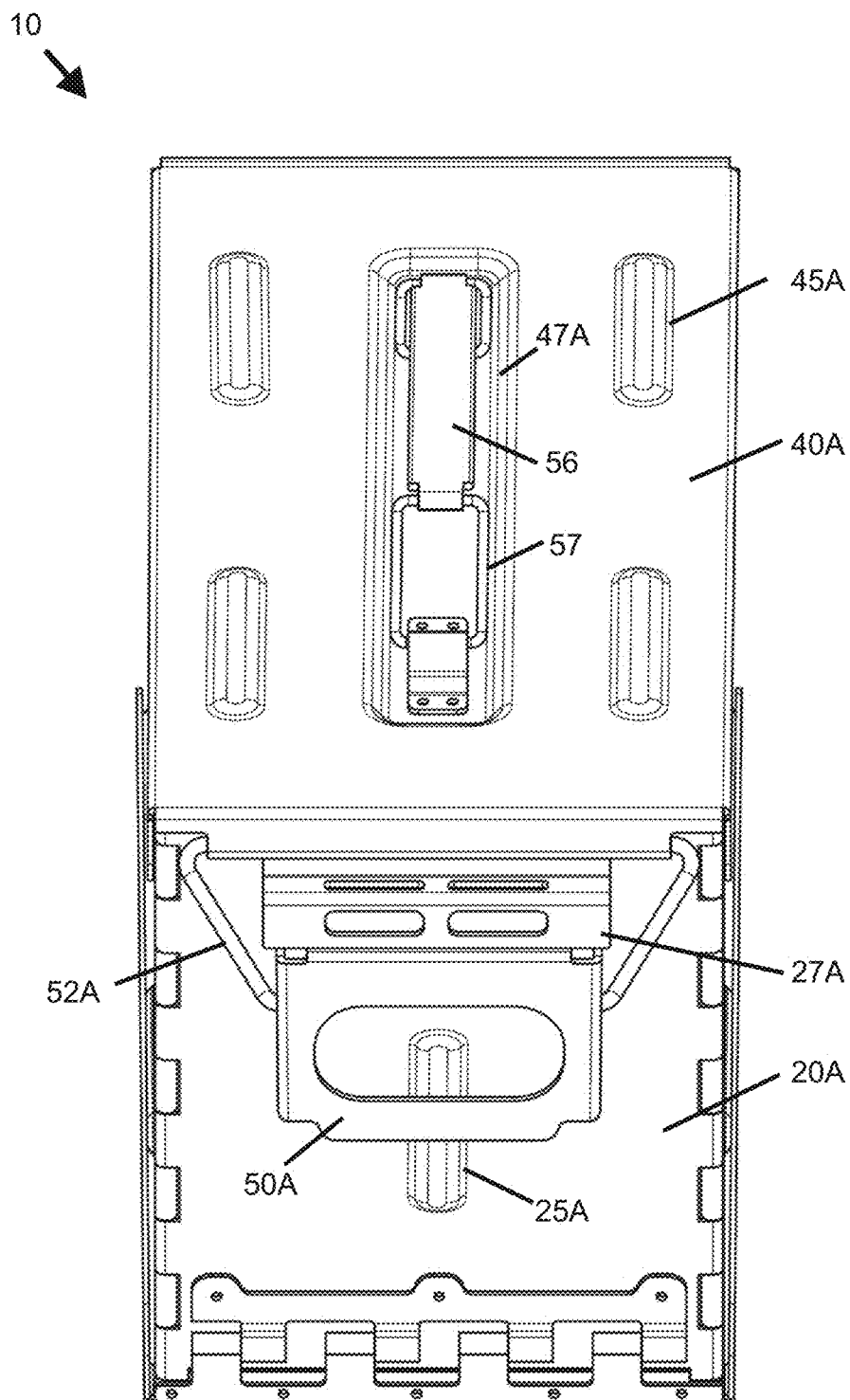


FIG. 17

COLLAPSIBLE CONTAINER FOR AMMUNITION AND OTHER ARTICLES

GOVERNMENT RIGHTS

[0001] This invention was made with government support under Contract Number N4175619C3006 awarded by the Combating Terrorism Technical Support Office (CTTSO). The government has certain rights in the invention.

TECHNICAL FIELD

[0002] This disclosure concerns reusable containers for storage and/or transport of goods, including collapsible containers for ammunition and other articles, as well as methods for their fabrication.

BACKGROUND

[0003] Various goods may be packaged in reusable containers for storage and/or transport. After such goods are removed therefrom, such containers may be returned to a shipper for re-use. Collapsing a reusable container may dramatically reduce the volume requirements and cost associated with return shipment. However, it may be difficult to achieve a high degree of volume reduction while also addressing the potential needs for a collapsible container to be durable, liquid-impermeable, light in weight, shock-resistant, and substantially undeformable in character.

[0004] As one class of articles that may be stored and transported in reusable containers, ammunition (e.g., bullets and shells) requires special care. Moisture is detrimental to the longevity of ammunition since exposure to moisture may cause metal components of ammunition to corrode. Strength and durability are also required for ammunition containers to protect their contents and ensure that ammunition is immediately ready for use when needed. Minimizing noise occasioned by removing ammunition from containers may also be tactically important to preserve an element of surprise in battlefield situations.

[0005] The art continues to seek collapsible containers for ammunition and other articles that are capable of providing improved performance. Aspects of this disclosure address shortcomings associated with conventional containers.

SUMMARY

[0006] Aspects of this disclosure relate to a collapsible container that includes a collapsible plate assembly formed by four plates joined by hinge pins along edges thereof, as well as a top lid and a bottom lid that may be joined to the collapsible plate assembly and latched into place. When the top and bottom lids are removed, the collapsible plate assembly may be collapsed by pivoting adjacent plates along edges thereof at the hinge pins, in a manner similar to flattening a parallelogram. The top and bottom lids may be affixed to plates of the collapsible plate assembly with (i) hinge pin segments configured to cooperate with hinge pin receiver segments, and (ii) clasps configured to engage clasp receivers. Certain embodiments include a liner configured to be received within a plate assembly cavity formed by the collapsible plate assembly when in a deployed state, with the liner including opposing end faces configured to be depressed against the top and bottom lid, respectively, to form a water-tight inner cavity of the collapsible container.

[0007] In one aspect, the disclosure relates to a collapsible container that comprises a collapsible plate assembly, a top

lid, and a bottom lid. The collapsible plate assembly comprises: first and second end plates each having two opposing edges defining a series of end plate hinge pin receivers; first and second side plates each having two opposing edges defining a series of side plate hinge pin receivers; and a plurality of hinge pins joining edges of the first and second end plates to edges of the first and second side plates, wherein each hinge pin of the plurality of hinge pins extends through the hinge pin receivers of one end plate and through the hinge pin receivers of one side plate. The collapsible plate assembly is configured to be manipulated between a collapsed state having a flattened configuration and a deployed state having a rectangular configuration, with the collapsible plate assembly in the deployed state having a top opening and a bottom opening. The top lid is configured to cooperate with the collapsible plate assembly to cover the top opening, and the bottom lid is configured to cooperate with the collapsible plate assembly to cover the bottom opening.

[0008] In certain embodiments, the first end plate comprises a first clasp receiver; the top lid comprises a first pivotal linkage coupled with a first clasp that is configured to engage the first clasp receiver; the second end plate comprises a second clasp receiver; and the bottom lid comprises a second pivotal linkage coupled with a second clasp that is configured to engage the second clasp receiver.

[0009] In certain embodiments, a first hinge joint is provided between the first end plate and the bottom lid, and a second hinge joint is provided between the second end plate and the top lid. In certain embodiments, the first hinge joint comprises a first plurality of hinge pin segments that are received by a first plurality of hinge pin segment receivers; and the second hinge joint comprises a second plurality of hinge pin segments that are received by a second plurality of hinge pin segment receivers. In certain embodiments, the bottom lid comprises the first plurality of hinge pin segment receivers; the first end plate comprises the first plurality of hinge pin segments; the top lid comprises the second plurality of hinge pin segment receivers; and the second end plate comprises the second plurality of hinge pin segments.

[0010] In certain embodiments, the top lid comprises an upper surface, a plurality of protruding features that protrude upward from the upper surface, a handle recess that is recessed relative to the upper surface, and a deployable handle that is configured to be received in the handle recess when the deployable handle is in a non-deployed position; the bottom lid comprises a lower surface, and a plurality of recessed features that are recessed relative to the lower surface; and the plurality of protruding features of the top lid correspond in size, shape, and placement to the plurality of recessed features of the bottom lid.

[0011] In certain embodiments, the top lid comprises a peripheral lip that extends downward relative to the upper surface, with the peripheral lip of the top lid laterally bounding a lower recess of the top lid; and the bottom lid comprises a peripheral lip that extends upward relative to the lower surface, with the peripheral lip of the bottom lid laterally bounding an upper recess of the bottom lid. In such an embodiment, when the collapsible plate assembly is in the deployed state, an upper perimeter of the collapsible plate assembly is configured to be received within the lower recess of the top lid, and a lower perimeter of the collapsible plate assembly is configured to be received within the upper recess of the bottom lid.

[0012] Another aspect relates to a method for fabricating a collapsible container as disclosed herein, the method comprising: inserting the first plurality of hinge pin segments into the first plurality of hinge pin segment receivers to join the first end plate and the bottom lid; inserting the second plurality of hinge pin segments into the second plurality of hinge pin segment receivers to join the second end plate and the top lid; engaging the first clasp with the first clasp receiver to secure the top lid in a position to cover the top opening; and engaging the second clasp with the second clasp receiver to secure the bottom lid in a position to cover the bottom opening.

[0013] In another aspect, the disclosure relates to a collapsible container that comprises a collapsible plate assembly, a top lid, a bottom lid, and a liner configured to be received within the collapsible plate assembly. The collapsible plate assembly comprises: first and second end plates each having two opposing edges defining a series of end plate hinge pin receivers; first and second side plates each having two opposing edges defining a series of side plate hinge pin receivers; and a plurality of hinge pins joining edges of the first and second end plates to edges of the first and second side plates, wherein each hinge pin of the plurality of hinge pins extends through the hinge pin receivers of one end plate and through the hinge pin receivers of one side plate. The collapsible plate assembly is configured to be manipulated between a collapsed state having a flattened configuration and a deployed state having a rectangular configuration, with the collapsible plate assembly in the deployed state having a top opening and a bottom opening. The top lid is configured to cooperate with the collapsible plate assembly to cover the top opening, and the bottom lid is configured to cooperate with the collapsible plate assembly to cover the bottom opening. The liner is configured to be received within a plate assembly cavity formed by the collapsible plate assembly when in the deployed state, with the liner having a generally rectangular tubular shape, comprising a top end face, and comprising a bottom end face. When the liner is received within the plate assembly cavity and when the top lid and the bottom lid are secured in closed positions against the collapsible plate assembly, the top end face is configured to be depressed against the top lid and the bottom end face is configured to be depressed against the bottom lid to form a water-tight inner cavity of the collapsible container.

[0014] In certain embodiments, the first end plate comprises a first clasp receiver; the top lid comprises a first pivotal linkage coupled with a first clasp that is configured to engage the first clasp receiver; the second end plate comprises a second clasp receiver; and the bottom lid comprises a second pivotal linkage coupled with a second clasp that is configured to engage the second clasp receiver.

[0015] In certain embodiments, a first hinge joint is provided between the first end plate and the bottom lid, and a second hinge joint is provided between the second end plate and the top lid. In certain embodiments, the first hinge joint comprises a first plurality of hinge pin segments that are received by a first plurality of hinge pin segment receivers; and the second hinge joint comprises a second plurality of hinge pin segments that are received by a second plurality of hinge pin segment receivers. In certain embodiments, the bottom lid comprises the first plurality of hinge pin segment receivers; the first end plate comprises the first plurality of hinge pin segments; the top lid comprises the second plu-

rality of hinge pin segment receivers; and the second end plate comprises the second plurality of hinge pin segments.

[0016] In certain embodiments, the top lid comprises an upper surface, a plurality of protruding features that protrude upward from the upper surface, a handle recess that is recessed relative to the upper surface, and a deployable handle that is configured to be received in the handle recess when the deployable handle is in a non-deployed position; the bottom lid comprises a lower surface, and a plurality of recessed features that are recessed relative to the lower surface; and the plurality of protruding features of the top lid correspond in size, shape, and placement to the plurality of recessed features of the bottom lid.

[0017] In certain embodiments, the top lid comprises a peripheral lip that extends downward relative to the upper surface, with the peripheral lip of the top lid laterally bounding a lower recess of the top lid; and the bottom lid comprises a peripheral lip that extends upward relative to the lower surface, with the peripheral lip of the bottom lid laterally bounding an upper recess of the bottom lid. When the collapsible plate assembly is in the deployed state, an upper perimeter of the collapsible plate assembly as well as the top end face are configured to be received within the lower recess of the top lid, and a lower perimeter of the collapsible plate assembly as well as the bottom end face are configured to be received within the upper recess of the bottom lid.

[0018] In certain embodiments, the liner comprises an upper peripheral skirt that extends downward from a peripheral edge of the top end face and defines an upper skirt recess, and the liner comprises a lower peripheral skirt that extends upward from a peripheral edge of the bottom end face and defines a lower skirt recess.

[0019] In certain embodiments, when the collapsible plate assembly is in the deployed state and the liner is received within the plate assembly cavity, at least a portion of an upper perimeter of the collapsible plate assembly is received within the upper skirt recess, and at least a portion of a lower perimeter of the collapsible plate assembly is received within the lower skirt recess.

[0020] In certain embodiments, the first and second end plates, the first and second side plates, the top lid, and the bottom lid comprise aluminum; and the liner comprises a thermoplastic material.

[0021] In certain embodiments, a storage container disclosed herein contains ammunition within the water-tight inner cavity.

[0022] Another aspect of the disclosure relates to a method for fabricating a collapsible container as disclosed herein, the method comprising: inserting the first plurality of hinge pin segments into the first plurality of hinge pin segment receivers to join the first end plate and the bottom lid; inserting the second plurality of hinge pin segments into the second plurality of hinge pin segment receivers to join the second end plate and the top lid; engaging the first clasp with the first clasp receiver to depress the top lid against the top end face of the liner; and engaging the second clasp with the second clasp receiver to depress the bottom lid against the bottom end face of the liner. In certain embodiments, the method further comprises inserting the liner into the plate assembly cavity when the collapsible plate assembly is in the deployed state.

[0023] In certain aspects, any of the preceding aspects or other features disclosed herein may be combined for additional advantage.

[0024] Those skilled in the art will appreciate the scope of the present disclosure and realize additional aspects thereof after reading the following detailed description of the preferred embodiments in association with the accompanying drawing figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] FIG. 1 is an exploded view of a collapsible container that includes four plates, a top lid, a bottom lid, and a liner according to one embodiment of the present disclosure.

[0026] FIG. 2 is a perspective view of a collapsible plate assembly formed from the four plates (including hinge pin segment assemblies and clasp receivers associated with end plates) of FIG. 1 joined by four hinge pins along edges thereof, with the collapsible plate assembly in a deployed state.

[0027] FIG. 3 is a perspective view of a collapsible plate assembly in a collapsed state, with the collapsible plate assembly being similar to the collapsible plate assembly shown in FIG. 2 but omitting hinge pin segment assemblies and clasp receivers associated with end plates of the collapsible plate assembly.

[0028] FIG. 4 is a perspective view of the liner shown in FIG. 1.

[0029] FIG. 5 is a magnified perspective view of a portion of the liner shown in FIG. 4.

[0030] FIG. 6 is a cross-sectional view of a portion of the liner shown in FIG. 4.

[0031] FIG. 7 is a perspective view of the liner shown in FIGS. 1 and 4 received within a plate assembly cavity of the collapsible plate assembly of FIG. 2.

[0032] FIG. 8 is a perspective view of the top lid and the bottom lid shown in FIG. 1.

[0033] FIG. 9 is a perspective view of the collapsible container of FIG. 1 in an assembled state, with clasps along opposing ends in a partially engaged but unlocked position.

[0034] FIG. 10 is a front elevational view of the collapsible container of FIG. 9.

[0035] FIG. 11 is a rear elevational view of the collapsible container of FIG. 9.

[0036] FIG. 12 is a left side elevational view of the collapsible container of FIG. 9.

[0037] FIG. 13 is a right side elevational view of the collapsible container of FIG. 9.

[0038] FIG. 14 is a top plan view of the collapsible container of FIG. 9.

[0039] FIG. 15 is a bottom plan view of the collapsible container of FIG. 9.

[0040] FIG. 16 is an upper right perspective view of the collapsible container of FIG. 9, showing one clasp in a fully engaged and locked position.

[0041] FIG. 17 is an upper left perspective view of the collapsible container of FIG. 9, showing another clasp in a fully engaged and locked position.

DETAILED DESCRIPTION

[0042] In various aspects, this disclosure relates to a collapsible container that includes a collapsible plate assembly formed by four plates joined by hinge pins along edges

thereof, as well as a top lid and a bottom lid that may be joined to the collapsible plate assembly and latched into place. Methods for fabricating a collapsible container are also provided. When the top and bottom lids are removed, the collapsible plate assembly may be collapsed by pivoting adjacent plates along edges thereof at the hinge pins. The top and bottom lids may be affixed to plates of the collapsible plate assembly with (i) hinge pin segments configured to cooperate with hinge pin receiver segments, and (ii) clasps configured to engage clasp receivers. In certain embodiments, the collapsible container includes a liner configured to be received within a plate assembly cavity formed by the collapsible plate assembly when in a deployed state, with the liner including opposing end faces configured to be depressed against the top and bottom lid, respectively, to form a water-tight inner cavity of the collapsible container. A method for fabricating a collapsible container includes joining hinge pin segments with hinge pin segment receivers arranged between lids (i.e., top and bottom lids) and end plates of a plate assembly, and engaging clasps of the lids with clasp receivers associated with the end plates. If a liner is received by a plate assembly of the collapsible container, then engaging clasps of the lids with the clasp receivers serves to depress the lids against opposing end faces of the liner.

[0043] The embodiments set forth below represent the necessary information to enable those skilled in the art to practice the embodiments and illustrate the best mode of practicing the embodiments. Upon reading the following description in light of the accompanying drawing figures, those skilled in the art will understand the concepts of the disclosure and will recognize applications of these concepts not particularly addressed herein. It should be understood that these concepts and applications fall within the scope of the disclosure and the accompanying claims.

[0044] It will be understood that, although the terms first, second, etc. may be used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element from another. For example, a first element could be termed a second element, and, similarly, a second element could be termed a first element, without departing from the scope of the present disclosure. As used herein, the term “and/or” includes any and all combinations of one or more of the associated listed items.

[0045] Relative terms such as “below” or “above” or “upper” or “lower” or “horizontal” or “vertical” may be used herein to describe a relationship of one element, layer, or region to another element, layer, or region as illustrated in the Figures. It will be understood that these terms and those discussed above are intended to encompass different orientations of the device in addition to the orientation depicted in the Figures.

[0046] The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of the disclosure. As used herein, the singular forms “a,” “an,” and “the” are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms “comprises,” “comprising,” “includes,” and/or “including” when used herein specify the presence of stated features, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, steps, operations, elements, and/or components, or groups thereof.

[0047] Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this disclosure belongs. It will be further understood that terms used herein should be interpreted as having a meaning that is consistent with their meaning in the context of this specification and the relevant art and will not be interpreted in an idealized or overly formal sense unless expressly so defined herein.

[0048] As noted previously herein, a collapsible container according to certain embodiments includes four plates, a top lid, and a bottom lid. The four plates may include two end plates and two side plates. In certain embodiments, the two end plates are interchangeable with and/or mirror images of one another, and the two side plates are interchangeable with and/or mirror images of one another. The four plates may include hinge pin receivers along vertical edges thereof to permit the plates to be joined by hinge pins (upon insertion through cooperating hinge pin receivers of the plates) to form a collapsible plate assembly. In particular, a collapsible plate assembly may include first and second end plates each having two opposing edges defining a series of end plate hinge pin receivers, as well as first and second side plates each having two opposing edges defining a series of side plate hinge pin receivers, plus the hinge pins. Each hinge pin extends through the hinge pin receivers of one end plate and through the hinge pin receivers of one side plate. When the top and bottom lids are not affixed to the collapsible plate assembly, collapsible plate assembly may be manipulated between a collapsed state having a flattened configuration and a deployed state having a rectangular configuration. When in the deployed state, the collapsible plate assembly has a top opening and a bottom opening, wherein the top lid is configured to cooperate with the collapsible plate assembly to cover the top opening (e.g., close the top opening from above), and the bottom lid is configured to cooperate with the collapsible plate assembly to cover the bottom opening (e.g., close the bottom opening from below).

[0049] In certain embodiments, the top lid is configured to pivot by a first hinge joint along an upper edge of one end plate, and the bottom lid is configured to pivot by a second hinge joint along a lower edge of the opposing end plate. Additionally, the top lid may include a clasp configured to engage a clasp receiver associated with the opposing end plate, and the bottom lid may include a clasp configured to engage a clasp receiver associated with the one end plate. Each clasp may include a pivotal linkage that permits a degree of movement between clasp and an associated lid, to enable the clasp to be moved into positions to selectively engage or disengage a clasp receiver. In certain embodiments, clasp receivers may be prefabricated (e.g., by stamping, machining, casting, etc.) and joined to an end plate by any suitable technique such as riveting, screwing, brazing, welding, or the like.

[0050] In certain embodiments, some or all of the end plates, side plates, and lids may be fabricated of a metal or metal alloy (e.g., aluminum, titanium, stainless steel, etc.), with hard anodized aluminum being particularly preferred due to its light weight, relatively low cost, and corrosion resistance. Suitable methods that may be employed for fabricating the end plates and lids (or portions thereof) include one or more of stamping, die cutting, laser cutting, casting, forging, machining, rolling, bending, and similar techniques known to one skilled in the art.

[0051] In certain embodiments, the plates and lids may comprise one or more rib segments to enhance torsional rigidity and bend resistance. Such rib segments may include indentations that extend outward or inward relative to an external surface of a container, and may desirable be formed by pressing (e.g., as part of a stamping operation) or other metal shaping techniques.

[0052] In certain embodiments, some or all of the end plates, side plates, and lids may be fabricated of polymeric materials and/or composite materials (e.g., fiberglass, carbon fiber, etc.), optionally being reinforced with fibers or other strength-enhancing materials. In such embodiments, the end plates, side plates, and/or lids may be fabricated by techniques such as injection molding, compression molding, lamination, three-dimensional printing, or the like.

[0053] In certain embodiments, a liner is configured to be received within a plate assembly cavity formed by the collapsible plate assembly when in a deployed state. A liner may include an upper face configured to be pressed against a lower surface of the upper lid, and may include a lower face configured to be pressed against an upper surface of the lower lid when a collapsible container is fully assembled in order to provide a water-tight inner cavity of the collapsible container. Such a liner may be fabricated of a polymeric material such as thermoplastic polymer. In certain embodiments, a liner may be fabricated by injection molding or three-dimensional printing by a thermoplastic polymer such as thermoplastic polyurethane (TPU). In certain embodiments, a liner may have an average wall thickness in a range of 0.02 inch to 0.2 inch, or 0.02 inch to 0.1 inch, or 0.03 inch to 0.05 inch. A liner may be received within a plate assembly cavity formed by a collapsible plate assembly in a deployed state. In certain embodiments, the dimensions (e.g., wall thickness) and material or a liner may be selected to permit the liner to be collapsed together with the collapsible plate assembly into a substantially flat configuration. In certain embodiments, a liner includes an upper end face, a lower end face, an upper peripheral skirt that extends downward from a peripheral edge of the top end face and defines an upper skirt recess, and a lower peripheral skirt that extends upward from a peripheral edge of the bottom end face and defines a lower skirt recess. The upper skirt recess and the lower skirt recess may be sized and shaped to receive an upper perimeter and a lower perimeter, respectively, of the collapsible plate assembly. In certain embodiments, the upper skirt recess and the lower skirt recess may each include multiple skirt recess segments that are discontinuous along corners of the liner. In certain embodiments, the liner may have a generally rectangular configuration with open upper and lower ends that are bounded by side walls and end walls of the liner, and the side walls and end walls may be joined along angled inset corners (rather than at right angled corners) to avoid interference with hinge pin receivers disposed at vertical edges of the collapsible plate assembly.

[0054] Permitting formation of a water-tight inner cavity within a collapsible container may be particularly important when such a container is to be used for storing and/or transporting moisture-sensitive contents (such as ammunition) to avoid degradation of the contents. Another benefit that may be provided by a liner is reducing noise occasioned by removing ammunition from a collapsible container, which may be particularly desirable in an unsecured (e.g., combat) area subject to presence of enemy combatants.

[0055] A container according to an exemplary embodiment will be described in connection with the accompanying drawing figures. While illustrated embodiments may include a liner, it is to be appreciated that in certain embodiments a liner may be omitted.

[0056] FIG. 1 is an exploded view of a collapsible container 10 including two end plates 20A, 20B, two side plates 30A, 30B, a top lid 40A, a bottom lid 40B, and a liner 60 according to one embodiment of the present disclosure. Each end plate 20A, 20B includes horizontal edges 21A, 21B and vertical edges 22A, 22B, with the vertical edges 22A, 22B each including multiple hinge pin receivers 23A, 23B. Each end plate 20A, 20B further includes a rib segment 25A, 25B having a rounded rectangular shape and oriented vertically in a center of the end plate. Each end plate 20A, 20B additionally includes an outer face (e.g., outer face 24A of the first end plate 20A) and an inner face (e.g., inner face 24B of the second end plate 20B), and defines mounting holes 26A, 26B (for receiving rivets or other fasteners (not shown)) to permit attachment of a respective clasp receiver 27A, 27B and attachment of a respective hinge pin segment assembly 28A, 28B. Each clasp receiver 27A, 27B is configured to receive a clasp 50A, 50B of the top lid 40A or the bottom lid 40B. Each hinge pin segment assembly 28A, 28B includes hinge pin segments 29A, 29B (which are generally cylindrical in shape) configured to cooperate with hinge pin receiver segments 43A, 43B of the top lid 40A or the bottom lid 40B, to form a hinge joint between one of the end plates 20A, 20B and a corresponding one of the top lid 40A or the bottom lid 40B.

[0057] Each side plate 30A, 30B includes horizontal edges 31A, 31B and vertical edges 32A, 32B, with the vertical edges 32A, 32B each including multiple hinge pin receivers 33A, 33B. Each side plate 30A, 30B further includes rib segments 35A, 35B each having a rounded rectangular shape and oriented horizontally. Each side plate 30A, 30B additionally includes an outer face (e.g., outer face 34A of the second side plate 30A) and an inner face (e.g., inner face 34B' of the second side plate 30B). To assemble a collapsible plate assembly (such as the collapsible plate assembly 70 shown in FIG. 2), the hinge pin receivers 33A, 33B of the side plates 30A, 30B may be registered with corresponding hinge pin receivers 23A, 23B of the end plates 20A, 20B, and the hinge pins 39 may be inserted therethrough to form four hinge joints, with each hinge pin 39 extending through the hinge pin receivers 23A, 23B of one end plate 20A, 20B and through the hinge pin receivers 33A, 33B of one side plate 30A, 30B.

[0058] With continued reference to FIG. 1, the end plates 20A, 20B and side plates 30A, 30B are configured to laterally surround a liner 60 that includes a top end face 61, an opposing bottom end face 62, end walls 63, and side walls 64, with the end walls 63 and side walls 64 bounding an internal cavity 66. As shown, the side walls 64 and end walls 63 may be joined along angled inset corners 65 (rather than at right angled corners) to avoid interference with hinge pin receivers 22A, 22B, 32A, 33B of the plates 20A, 20B, 30A, 30B when assembled with the hinge pins 39 to form a collapsible plate assembly. The liner 60 further includes an upper peripheral skirt 67A that extends downward from a peripheral edge of the top end face 61, and includes a lower peripheral skirt 67B that extends upward from a peripheral edge of the bottom end face 62. As will be described hereinafter, the peripheral skirts 67A, 67B bound recesses

for receiving upper and lower perimeter portions of a collapsible plate assembly formed by the end plates 20A, 20B and side plates 30A, 30B.

[0059] FIG. 1 further illustrates a top lid 40A and a bottom lid 40B that are configured to cooperate with the end plates 20A, 20B to enclose the cavity 66 of the liner 60 when the liner 60 is received within a collapsible plate assembly formed by the end plates 20A, 20B and side plates 30A, 30B. The top lid 40A includes end edges 41A and side edges 42A, with each of the side edges 42A including a peripheral lip 46A. Multiple rib segments 45A protrude upward from an outer surface 44A of the top lid 40A, while a handle recess 47A is recessed relative to the outer surface 44A. The handle recess 47A includes two handle retainers 58 having horizontal slots that receive handle rings 57 coupled to a handle 56. FIG. 1 illustrates the handle 56 in an elevated position, with the handle 56 positioned above the outer surface 44A, but it is to be appreciated that at least a portion of (or in some embodiments an entirety of) the handle 56 and the handle rings 57 may fit within the handle recess 47A when the handle 56 is in a stowed position. One end of the top lid 40A includes a linkage retainer 48A configured to receive first ends of a pivotal linkage 52A, wherein second ends of the pivotal linkage 52A are coupled to a clasp 50A configured to cooperate with the clasp receiver 27A of the first end plate 20A. The pivotal linkage 52A may include two generally C-shaped links, which may be coupled to the clasp 50A along a vertical midpoint thereof to permit the clasp 50A to pivot relative to the pivotal linkage 52A. The pivotal linkage 52A is also configured to pivot relative to the linkage retainer 48A. The clasp 50A includes a gripping end 55A configured to be manipulated by a user, and a hook end 54A that opposes the gripping end 55A, wherein the hook end 54A is configured to be received within at least one recess of the clasp receiver 27A of the first end plate 20A.

[0060] The bottom lid 40B includes end edges 41B and side edges 42B, with each of the side edges 42B including a peripheral lip 46B. Multiple rib segments 45B and a central recess 47B protrude upward from an inner surface 44B' of the bottom lid 40B. The central recess 47B is shaped and positioned to generally correspond with the handle recess 47A defined in the top lid 40A, so that any portion of the handle 56, handle rings 57, and/or handle retainers 58 of an underlying top lid 40A may be accommodated within the central recess 47B of the bottom lid when two containers 10 are vertically stacked. The rib segments 45B of the bottom lid 40B may generally correspond in size, shape, and placement to the rib segments 45A of the top lid 40A to cause an upper container to interlock with a lower container (and thereby prevent sliding and provide a more stable stacking arrangement) when two containers 10 are vertically stacked. One end of the bottom lid 40B includes a linkage retainer 48B configured to receive first ends of a pivotal linkage 52B, wherein second ends of the pivotal linkage 52B are coupled to a clasp 50B that is configured to cooperate with the clasp receiver 27B of the second end plate 20B. The pivotal linkage 52B may include two generally C-shaped links, which may be coupled to the clasp 50B along a vertical midpoint thereof to permit the clasp 50B to pivot relative to the pivotal linkage 52B, wherein the pivotal linkage 52B is also configured to pivot relative to the linkage retainer 48B. The clasp 50B includes a gripping end 55B configured to be manipulated by a user, and a hook end 54B that opposes the gripping end 55A, wherein the hook end 54 is configured to

be received within at least one recess of the clasp receiver 27B of the second end plate 20B.

[0061] FIG. 2 is a perspective view of a collapsible plate assembly 70 formed from the two side plates 30A, 30B and the two end plates 20A, 20B (plus hinge pin segment assemblies 28A, 28B and clasp receivers 27A, 27B associated with the end plates 20A, 20B) of FIG. 1 joined by four hinge pins 39 along edges thereof, with the collapsible plate assembly 70 in a deployed state having a generally rectangular state in which the end plates 20A, 20B are perpendicular relative to the side plates 30A, 30B. Four hinge pins 39 are provided to join each side plate 30A, 30B with each end plate 20A, 20B, wherein the plates 20A, 20B, 30A, 30B bound a plate assembly cavity 76. The plate assembly 70 includes an upper perimeter (or upper peripheral edge) 72 defined by upper horizontal edges of the plates 20A, 20B, 30A, 30B, and includes a lower perimeter (or lower peripheral edge) 73 defined by lower horizontal edges of the plates 20A, 20B, 30A, 30B. In the illustrated perspective view, the outer face 34A of the first side plate 30A, the inner face 34B' of the second side plate 30B, the outer face 24A of the first end plate 20A, and the inner face 24B' of the second end plate 20B are visible, together with rib segments 25A, 25B, 35A, 35B of the four plates 20A, 20B, 30A, 30B. When in the deployed state shown in FIG. 2, the collapsible plate assembly 70 may receive a liner (e.g., liner 60 as shown in FIG. 1) and/or top and bottom lids (e.g., lids 40A, 40B as shown in FIG. 1).

[0062] FIG. 3 is a perspective view of a collapsible plate assembly 70' in a collapsed state, with the collapsible plate assembly 70' including the same end plates 20A, 20B and side plates 30A, 30B as shown in FIG. 2, but omitting hinge pin segment assemblies and clasp receivers associated with the end plates 20A, 20B. The illustrated view shows rib segments 25A, 35A of the first end plate 20 and first side plate 20, mounting holes 26A defined in the first end plate 20, and shows hinge pin receivers 23A, 33A of the first end plate 20A and first side plate 30A being registered to receive a hinge pin 39 to form a hinge joint. As shown, the collapsed state of the collapsible plate assembly 70' causes the side plates 30A, 30B to be nearly parallel to the end plates 20A, 20B, thereby dramatically reducing the overall volume occupied by the collapsible plate assembly 70' relative to the collapsible plate assembly 70 in a deployed state as illustrated in FIG. 2.

[0063] FIG. 4 is a perspective view of the liner 60 previously illustrated in FIG. 1. The liner 60 includes a top end face 61, an opposing bottom end face 62, end walls 63, and side walls 64, with the end walls 63 and side walls 64 bounding an internal cavity 66. The side walls 64 and end walls 63 are joined along angled inset corners 65. An upper peripheral skirt 67A extends downward from a peripheral edge of the top end face 61 to bound an upper skirt recess 69A, and a lower peripheral skirt 67B extends upward from a peripheral edge of the bottom end face 62 to bound a lower skirt recess 69B. The upper skirt recess 69A is configured to at least a portion of an upper perimeter of a collapsible plate assembly (e.g., according to FIG. 2), and the lower skirt recess 69B is configured to receive at least a portion of a lower perimeter of the collapsible plate assembly when the liner is 60 is received by the collapsible plate assembly. As shown, each of the upper skirt recess 69A and the lower skirt recess 69B may include multiple skirt recess segments that are discontinuous along the angled inset corners 65 of the

liner 60, with the upper and lower end faces 61, 62 including horizontally arranged corner tabs 68A, 68B that protrude laterally outward relative to the angled inset corners 65. The inset corners 65 of the liner 60 avoid interference with hinge pin receivers disposed at vertical edges of a collapsible plate assembly in which the liner 60 may be inserted.

[0064] FIG. 5 is a magnified perspective view of a portion of the liner 60 of FIG. 4, showing the top end face 61, two side walls 64, two angled inset corners 65, and one end wall 63 that bound an internal cavity 66. Further shown are portions of the upper peripheral skirt 67A defining the upper skirt recess 69A and disposed in segments that do not overlap the angled inset corners 65.

[0065] FIG. 6 is a cross-sectional view of a portion of the liner 60 of FIG. 4, showing two side walls 64, one end wall 63, and two angled inset corners 65 bounded by the top end face 61 and the bottom end face 62. Further shown are portions of the upper peripheral skirt 67A defining the upper skirt recess 69A and portions of the lower peripheral skirt 67B defining the lower skirt recess 69B.

[0066] FIG. 7 is a perspective view of the liner 60 of FIGS. 1 and 4 received within a plate assembly cavity of the collapsible plate assembly 70 of FIG. 2. The first side plate 30A (with rib segment 35A) and the first end plate 20A (with the associated clasp receiver 27A, hinge pin segment assembly 28, hinge pin segments 29A, and rib segment 25A) of the collapsible plate assembly 70 are shown. Additionally shown are the top end face 61 and upper peripheral skirt 67A defining the upper skirt recess 69A that receives an upper perimeter of the collapsible plate assembly 70, as well as the bottom end face 62 and lower peripheral skirt 67B defining the lower skirt recess 69B that receives a lower perimeter of the collapsible plate assembly 70. Two walls 63, 64 of the liner joined by an angled inset corner 65 are also shown, together with a proximate to an upper peripheral, together with various horizontally arranged corner tabs 68A, 68B along the end faces 61, 62.

[0067] FIG. 8 is a perspective view of the top lid 40A and the bottom lid 40B of FIG. 1. As noted previously, the top lid 40A and bottom lid 40B are configured to cooperate with the end plates of a collapsible plate assembly (as shown in FIG. 1). The top lid 40A includes end edges 41A and side edges 42A, with each of the side edges 42A including a peripheral lip 46A. The top lid 40A defines a lower recess (not shown, but similar to the upper recess 49B of the bottom lid 40B) between the peripheral lips 46A and the end edges 41A, wherein peripheral portions of the lower recess may receive a top end face of a liner and/or an upper perimeter portion of a collapsible plate assembly when the top lid 40A positioned to close an upper opening of a collapsible container. Multiple rib segments 45A protrude upward from an outer surface 44A of the top lid 40A, while a handle recess 47A is recessed relative to the outer surface 44A. The handle recess 47A includes two handle retainers 58 having horizontal slots that receive handle rings 57 coupled to a handle 56. FIG. 8 illustrates the handle 56 in an elevated position, with the handle 56 positioned above the outer surface 44A, but it is to be appreciated that at least a portion of (or in some embodiments an entirety of) the handle 56 and the handle rings 57 may fit within the handle recess 47A when the handle 56 is in a stowed position. One end of the top lid 40A includes a linkage retainer 48A configured to receive first ends of a pivotal linkage 52A, wherein second ends of the pivotal linkage 52A are coupled to a clasp 50A configured to

cooperate with the clasp receiver 27A of the first end plate 20A. The pivotal linkage 52A may include two generally C-shaped links, which may be coupled to the clasp 50A along a vertical midpoint thereof to permit the clasp 50A to pivot relative to the pivotal linkage 52A. The pivotal linkage 52A is also configured to pivot relative to the linkage retainer 48A. The clasp 50A includes a gripping end 55A configured to be manipulated by a user, and a hook end 54A that opposes the gripping end 55A, wherein the hook end 54 is configured to be received within at least one recess of the clasp receiver 27A of the first end plate 20A.

[0068] The bottom lid 40B includes end edges 41B and side edges 42B, with each of the side edges 42B including a peripheral lip 46B. The bottom lid 40B defines an upper recess 49B between the peripheral lips 46B and the end edges 41B, wherein peripheral portions of the upper recess 49B may receive a bottom end face of a liner and/or an lower perimeter portion of a collapsible plate assembly when the bottom lid 40B positioned to close a lower opening of a collapsible container. Multiple rib segments 45B and a handle recess 47B protrude upward from an inner surface 44B' of the bottom lid 40B. The handle recess 47B is shaped and positioned to generally correspond with the handle recess 47A defined in the top lid 40A, so that any portion of the handle 56, handle rings 57, and/or handle retainers 58 of an underlying top lid 40A may be accommodated within the handle recess 47B of the bottom lid when two containers 10 are vertically stacked. The rib segments 45B of the bottom lid 40B may generally correspond in size, shape, and placement to the rib segments 45A of the top lid 40A to cause an upper container to interlock with a lower container (and thereby prevent sliding and provide a more stable stacking arrangement) when two containers 10 are vertically stacked. One end of the bottom lid 40B includes a linkage retainer 48B configured to receive first ends of a pivotal linkage 52B, wherein second ends of the pivotal linkage 52B are coupled to a clasp 50B that is configured to cooperate with the clasp receiver 27B of the second end plate 20B. The pivotal linkage 52B may include two generally C-shaped links, which may be coupled to the clasp 50B along a vertical midpoint thereof to permit the clasp 50B to pivot relative to the pivotal linkage 52B, wherein the pivotal linkage 52B is also configured to pivot relative to the linkage retainer 48B. The clasp 50B includes a gripping end 55B configured to be manipulated by a user, and a hook end 54B that opposes the gripping end 55A, wherein the hook end 54 is configured to be received within at least one recess of the clasp receiver 27B of the second end plate 20B.

[0069] FIGS. 9-17 provide various views of the collapsible container 10 of FIG. 1 in an assembled state, with FIGS. 9-15 showing the clasps 50A, 50B in a partially engaged but unlocked position, and with FIGS. 16 and 17 showing the clasps 50A, 50B engaged with clasp receivers 27A, 27B in a locked position.

[0070] FIG. 9 is a perspective view of the collapsible container 10 showing the top lid 40A, second end plate 20B, and second side plate 30B. Rib segments 45A, 25B, 35B are shown, and the handle 56 and handle rings 57 are illustrated as being in an elevated position above the handle recess 47A.

[0071] FIG. 10 is a front elevational view of the collapsible container 10, showing the top lid 40A, first and second end plates 20A, 20B, and second side plate 30B, with rib segments 25A, 25B, 35B, 45A also being shown. The handle

56 and handle rings 57 are illustrated as being in an elevated position relative to a remainder of the top lid 40.

[0072] FIG. 11 is a rear elevational view of the collapsible container 10, being substantially a mirror image of the view of FIG. 10. FIG. 11 shows the top lid 40A, first and second end plates 20A, 20B, and first side plate 30A, with rib segments 25A, 25B, 35A, 45A also being shown. The handle 56 and handle rings 57 are illustrated as being in an elevated position relative to a remainder of the top lid 40.

[0073] FIGS. 12 and 13 provide left side elevational and right side elevational views, respectively, of the collapsible container 10. FIG. 12 shows the top lid 40A, bottom lid 40B, side plates 30A, 30B, and first end plate 20A, with rib segments 45A, 30A, 30B, 25A also being shown. FIG. 13 shows the top lid 40A, bottom lid 40B, side plates 30A, 30B, and second end plate 20B, with rib segments 45A, 30A, 30B, 25B also being shown. In FIGS. 12 and 13, the handle 56 and handle rings 57 are illustrated as being in an elevated position relative to a remainder of the top lid 40.

[0074] FIG. 14 is a top plan view of the collapsible container 10 showing the top lid 40A overlapping the end plates 20A, 20B and the side plates 30A, 30B. The handle 56 and handle rings 57 are shown in an elevated state relative to a remainder of the top lid 40A, with the rib segments 45A and handle recess 47A of the top lid 40A also being shown.

[0075] FIG. 15 is a bottom plan view of the collapsible container 10 showing the bottom lid 40B overlapping the end plates 20A, 20B and the side plates 30A, 30B, with the rib segments 45B and central recess 47B of the bottom lid 40B also being shown.

[0076] FIG. 16 is an upper right perspective view of the collapsible container 10, showing the top lid 40A and second end plate 20B, showing the second end clasp 50B and pivot linkage 52B in a locked position, with the end clasp 50B engaged to the second clasp receiver 27B that is affixed to the second end plate 20B. FIG. 16 also shows rib segments 25B, 45A, and shows the handle 56 and handle rings 57 as being in an elevated position relative to the handle recess 47A.

[0077] FIG. 16 is an upper left perspective view of the collapsible container 10, showing the top lid 40A and first end plate 20A, showing the first end clasp 50A and pivot linkage 52A in a locked position, with the end clasp 50A engaged to the first clasp receiver 27A that is affixed to the first end plate 20A. FIG. 17 also shows rib segments 25A, 45A, and shows the handle 56 and handle rings 57 as being in an elevated position relative to the handle recess 47A.

[0078] Although the preceding figures illustrate a collapsible container according to one embodiment, it is to be appreciated that various modifications to a collapsible container may be made within the scope of the accompanying claims.

[0079] Unless otherwise expressly stated, it is in no way intended that any method set forth herein be construed as requiring that its steps be performed in a specific order. Accordingly, where a method claim does not actually recite an order to be followed by its steps, or it is not otherwise specifically stated in the claims or descriptions that the steps are to be limited to a specific order, it is in no way intended that any particular order be inferred.

[0080] It will be apparent to those skilled in the art that various modifications and variations can be made without departing from the spirit or scope of the invention. Since modifications, combinations, sub-combinations and varia-

tions of the disclosed embodiments incorporating the spirit and substance of the invention may occur to persons skilled in the art, the invention should be construed to include everything within the scope of the appended claims and their equivalents.

1. A collapsible container comprising:
 - a collapsible plate assembly comprising:
 - first and second end plates each having two opposing edges defining a series of end plate hinge pin receivers;
 - first and second side plates each having two opposing edges defining a series of side plate hinge pin receivers;
 - a plurality of hinge pins joining edges of the first and second end plates to edges of the first and second side plates, wherein each hinge pin of the plurality of hinge pins extends through the hinge pin receivers of one end plate and through the hinge pin receivers of one side plate;
 - wherein the collapsible plate assembly is configured to be manipulated between a collapsed state having a flattened configuration and a deployed state having a rectangular configuration, with the collapsible plate assembly in the deployed state having a top opening and a bottom opening;
 - a top lid configured to cooperate with the collapsible plate assembly to cover the top opening; and
 - a bottom lid configured to cooperate with the collapsible plate assembly to cover the bottom opening.
2. The collapsible container of claim 1, wherein:
 - the first end plate comprises a first clasp receiver;
 - the top lid comprises a first pivotal linkage coupled with a first clasp that is configured to engage the first clasp receiver;
 - the second end plate comprises a second clasp receiver; and
 - the bottom lid comprises a second pivotal linkage coupled with a second clasp that is configured to engage the second clasp receiver.
3. The collapsible container of claim 2, wherein:
 - a first hinge joint is provided between the first end plate and the bottom lid; and
 - a second hinge joint is provided between the second end plate and the top lid.
4. The collapsible container of claim 3, wherein:
 - the first hinge joint comprises a first plurality of hinge pin segments that are received by a first plurality of hinge pin segment receivers; and
 - the second hinge joint comprises a second plurality of hinge pin segments that are received by a second plurality of hinge pin segment receivers.
5. The collapsible container of claim 4, wherein:
 - the bottom lid comprises the first plurality of hinge pin segment receivers;
 - the first end plate comprises the first plurality of hinge pin segments;
 - the top lid comprises the second plurality of hinge pin segment receivers; and
 - the second end plate comprises the second plurality of hinge pin segments.
6. The collapsible container of claim 1, wherein:
 - the top lid comprises an upper surface, a plurality of protruding features that protrude upward from the upper surface, a handle recess that is recessed relative

- to the upper surface, and a deployable handle that is configured to be received in the handle recess when the deployable handle is in a non-deployed position;
- the bottom lid comprises a lower surface, and a plurality of recessed features that are recessed relative to the lower surface; and
- the plurality of protruding features of the top lid correspond in size, shape, and placement to the plurality of recessed features of the bottom lid.

7. The collapsible container of claim 1, wherein:
 - the top lid comprises a peripheral lip that extends downward relative to the upper surface, with the peripheral lip of the top lid laterally bounding a lower recess of the top lid;
 - the bottom lid comprises a peripheral lip that extends upward relative to the lower surface, with the peripheral lip of the bottom lid laterally bounding an upper recess of the bottom lid; and
 - when the collapsible plate assembly is in the deployed state, an upper perimeter of the collapsible plate assembly is configured to be received within the lower recess of the top lid, and a lower perimeter of the collapsible plate assembly is configured to be received within the upper recess of the bottom lid.

8.-20. (canceled)

21. A method for fabricating a collapsible container according to claim 4, the method comprising:

- inserting the first plurality of hinge pin segments into the first plurality of hinge pin segment receivers to join the first end plate and the bottom lid;
- inserting the second plurality of hinge pin segments into the second plurality of hinge pin segment receivers to join the second end plate and the top lid;
- engaging the first clasp with the first clasp receiver to secure the top lid in a position to cover the top opening; and
- engaging the second clasp with the second clasp receiver to secure the bottom lid in a position to cover the bottom opening.

22. A collapsible container comprising:

- a collapsible plate assembly comprising:
 - first and second end plates each having two opposing edges defining a series of end plate hinge pin receivers;
 - first and second side plates each having two opposing edges defining a series of side plate hinge pin receivers;
 - a plurality of hinge pins joining edges of the first and second end plates to edges of the first and second side plates, wherein each hinge pin of the plurality of hinge pins extends through the hinge pin receivers of one end plate and through the hinge pin receivers of one side plate;
 - wherein the collapsible plate assembly is configured to be manipulated between a collapsed state having a flattened configuration and a deployed state having a rectangular configuration, with the collapsible plate assembly in the deployed state having a top opening and a bottom opening;
- a top lid configured to cooperate with the collapsible plate assembly to cover the top opening;
- a bottom lid configured to cooperate with the collapsible plate assembly to cover the bottom opening; and

a liner configured to be received within a plate assembly cavity formed by the collapsible plate assembly when in the deployed state, the liner having a generally rectangular tubular shape, comprising a top end face, and comprising a bottom end face;

wherein, when the liner is received within the plate assembly cavity and when the top lid and the bottom lid are secured in closed positions against the collapsible plate assembly, the top end face is configured to be depressed against the top lid and the bottom end face is configured to be depressed against the bottom lid to form a water-tight inner cavity of the collapsible container.

23. The collapsible container of claim **22**, wherein: the first end plate comprises a first clasp receiver; the top lid comprises a first pivotal linkage coupled with a first clasp that is configured to engage the first clasp receiver;

the second end plate comprises a second clasp receiver; and

the bottom lid comprises a second pivotal linkage coupled with a second clasp that is configured to engage the second clasp receiver.

24. The collapsible container of claim **23**, wherein: a first hinge joint is provided between the first end plate and the bottom lid; and

a second hinge joint is provided between the second end plate and the top lid.

25. The collapsible container of claim **24**, wherein: the first hinge joint comprises a first plurality of hinge pin segments that are received by a first plurality of hinge pin segment receivers; and

the second hinge joint comprises a second plurality of hinge pin segments that are received by a second plurality of hinge pin segment receivers.

26. The collapsible container of claim **25**, wherein: the bottom lid comprises the first plurality of hinge pin segment receivers;

the first end plate comprises the first plurality of hinge pin segments;

the top lid comprises the second plurality of hinge pin segment receivers; and

the second end plate comprises the second plurality of hinge pin segments.

27. The collapsible container of claim **22**, wherein: the top lid comprises an upper surface, a plurality of protruding features that protrude upward from the upper surface, a handle recess that is recessed relative to the upper surface, and a deployable handle that is configured to be received in the handle recess when the deployable handle is in a non-deployed position;

the bottom lid comprises a lower surface, and a plurality of recessed features that are recessed relative to the lower surface; and

the plurality of protruding features of the top lid correspond in size, shape, and placement to the plurality of recessed features of the bottom lid.

28. The collapsible container of claim **22**, wherein:

the top lid comprises a peripheral lip that extends downward relative to the upper surface, with the peripheral lip of the top lid laterally bounding a lower recess of the top lid;

the bottom lid comprises a peripheral lip that extends upward relative to the lower surface, with the peripheral lip of the bottom lid laterally bounding an upper recess of the bottom lid; and

when the collapsible plate assembly is in the deployed state, an upper perimeter of the collapsible plate assembly as well as the top end face are configured to be received within the lower recess of the top lid, and a lower perimeter of the collapsible plate assembly as well as the bottom end face are configured to be received within the upper recess of the bottom lid.

29. The collapsible container of claim **22**, wherein:

the liner comprises an upper peripheral skirt that extends downward from a peripheral edge of the top end face and defines an upper skirt recess, and

the liner comprises a lower peripheral skirt that extends upward from a peripheral edge of the bottom end face and defines a lower skirt recess.

30. The collapsible container of claim **29**, wherein, when the collapsible plate assembly is in the deployed state and the liner is received within the plate assembly cavity, at least a portion of an upper perimeter of the collapsible plate assembly is received within the upper skirt recess, and at least a portion of a lower perimeter of the collapsible plate assembly is received within the lower skirt recess.

31. The collapsible container of claim **22**, wherein:

the first and second end plates, the first and second side plates, the top lid, and the bottom lid comprise aluminum; and

the liner comprises a thermoplastic material.

32. The collapsible container of claim **22**, containing ammunition within the water-tight inner cavity.

33. A method for fabricating a collapsible container according to claim **25**, the method comprising:

inserting the first plurality of hinge pin segments into the first plurality of hinge pin segment receivers to join the first end plate and the bottom lid;

inserting the second plurality of hinge pin segments into the second plurality of hinge pin segment receivers to join the second end plate and the top lid;

engaging the first clasp with the first clasp receiver to depress the top lid against the top end face of the liner; and

engaging the second clasp with the second clasp receiver to depress the bottom lid against the bottom end face of the liner.

34. The method of claim **33**, further comprising inserting the liner into the plate assembly cavity when the collapsible plate assembly is in the deployed state.

* * * * *