US 20030192483A1

(19) **United States**

(12) **Patent Application Publication**

Saxe et al.

(10) **Pub. No.: US 2003/0192483 A1**

(43) **Pub. Date: Oct. 16, 2003**

(54) **STACKABLE PET SHELTER**

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(21) Appl. No.: **10/440,988**

(22) Filed: **May 19, 2003**

Related U.S. Application Data

(63) Continuation of application No. 09/948,506, filed on Sep. 6, 2001, now Pat. No. 6,606,965.

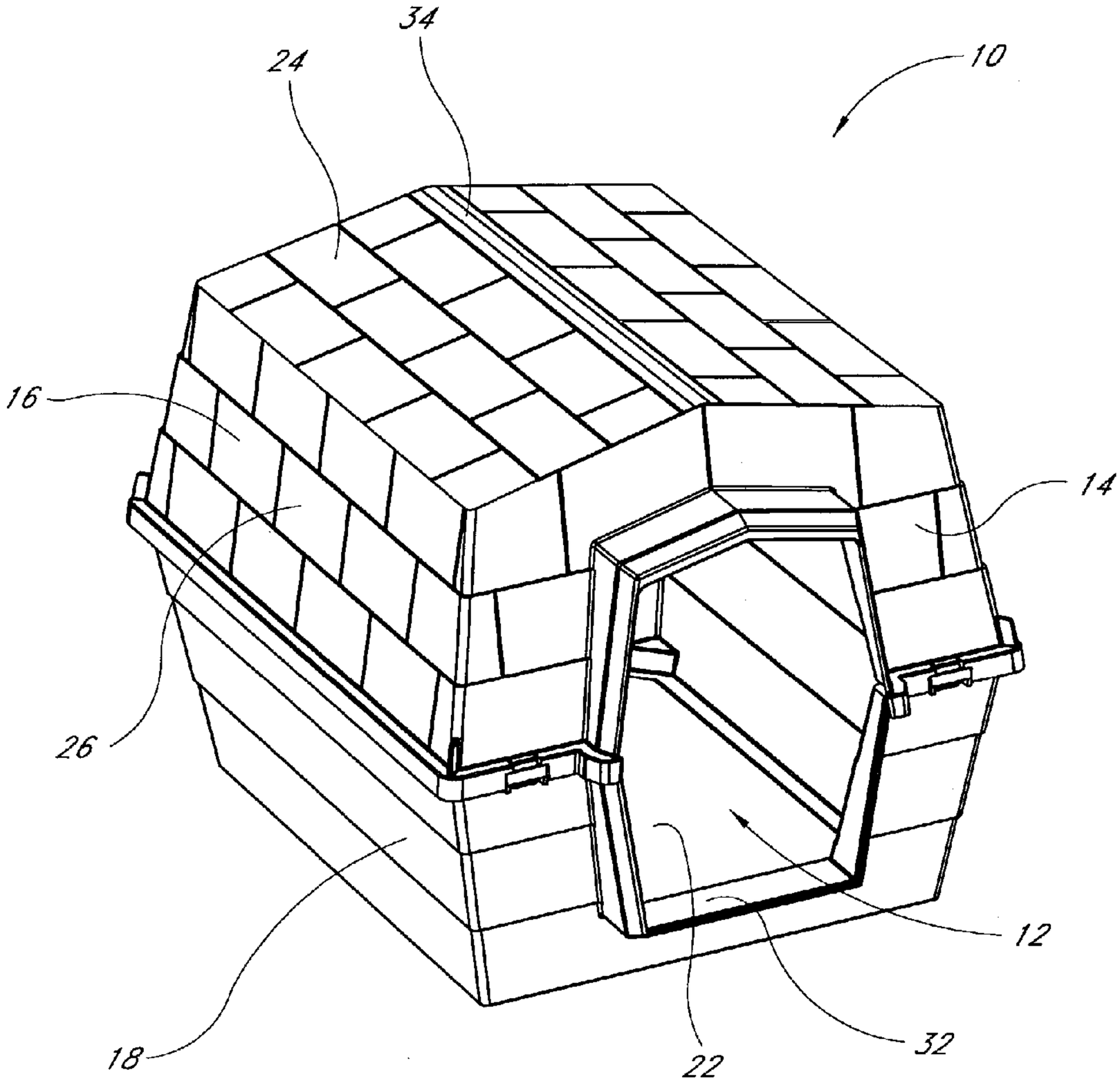
Publication Classification

(51) **Int. Cl.**[7] **A01K 1/03**

(52) **U.S. Cl.** **119/498**

(57) **ABSTRACT**

A pet shelter that enables efficient stacking of multiple shelters in a bottom-top-bottom-top-bottom-etc. arrangement is provided. The shelter comprises a bottom section and a top section. Both the top and bottom sections are preferably hollow rectangular boxes with one missing side. Both sections have sloping sidewalls and a substantially U-shaped opening in one sidewall. The sidewalls of the top and bottom sections slope at roughly equal angles. The legs of the U-shaped openings are bent at roughly equal angles on both the top and bottom sections. The height of the top section is roughly equal to the height of the bottom section. The roof of the top section has a very gradual slope, such that the peak of the roof does not obstruct insertion of a top section into a bottom section. Thus, the top and bottom sections are configured such that an inverted top section fits snugly within an interior of a bottom section, and a bottom section fits snugly within an interior of an inverted top section.



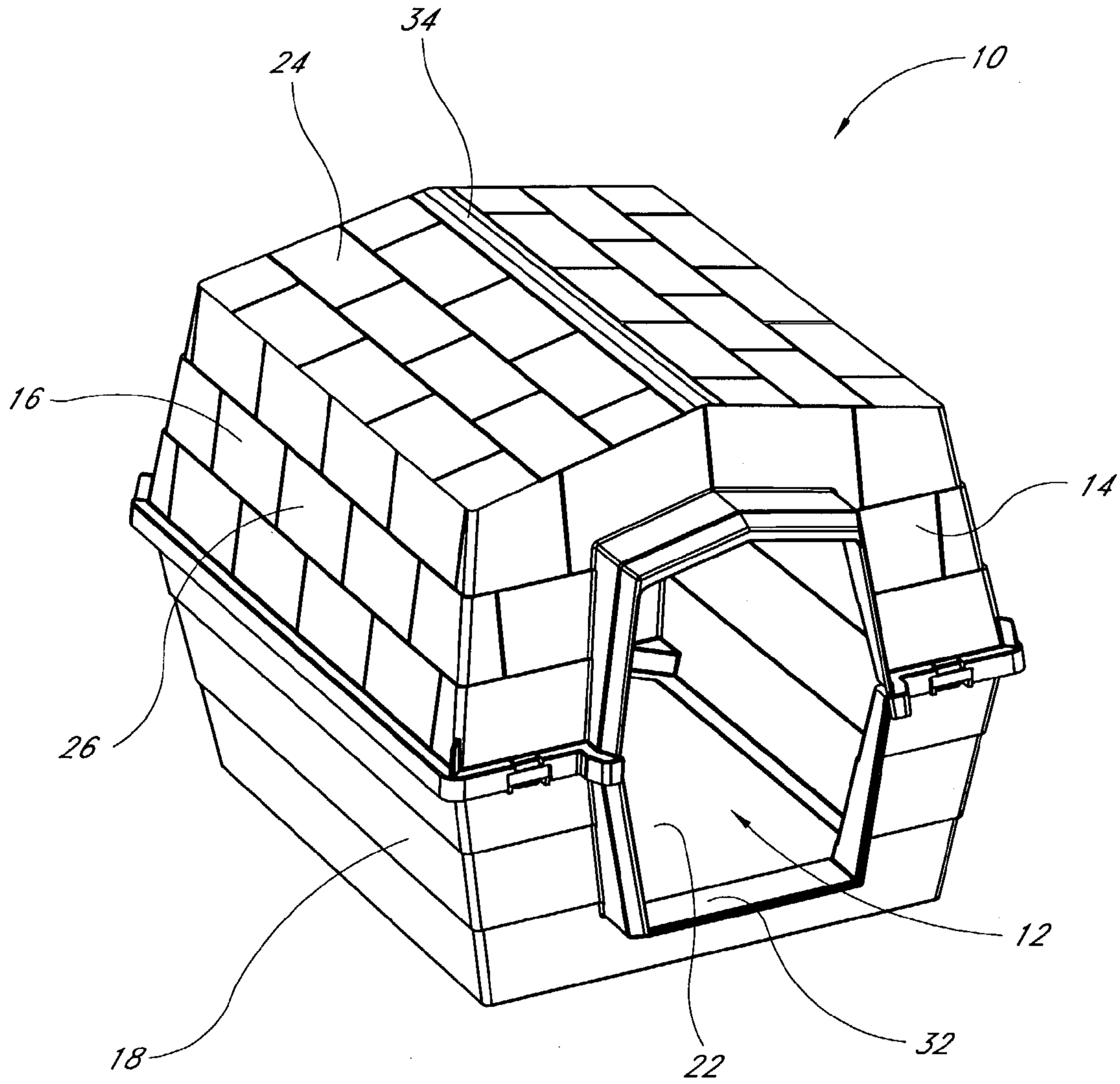


FIG. 1

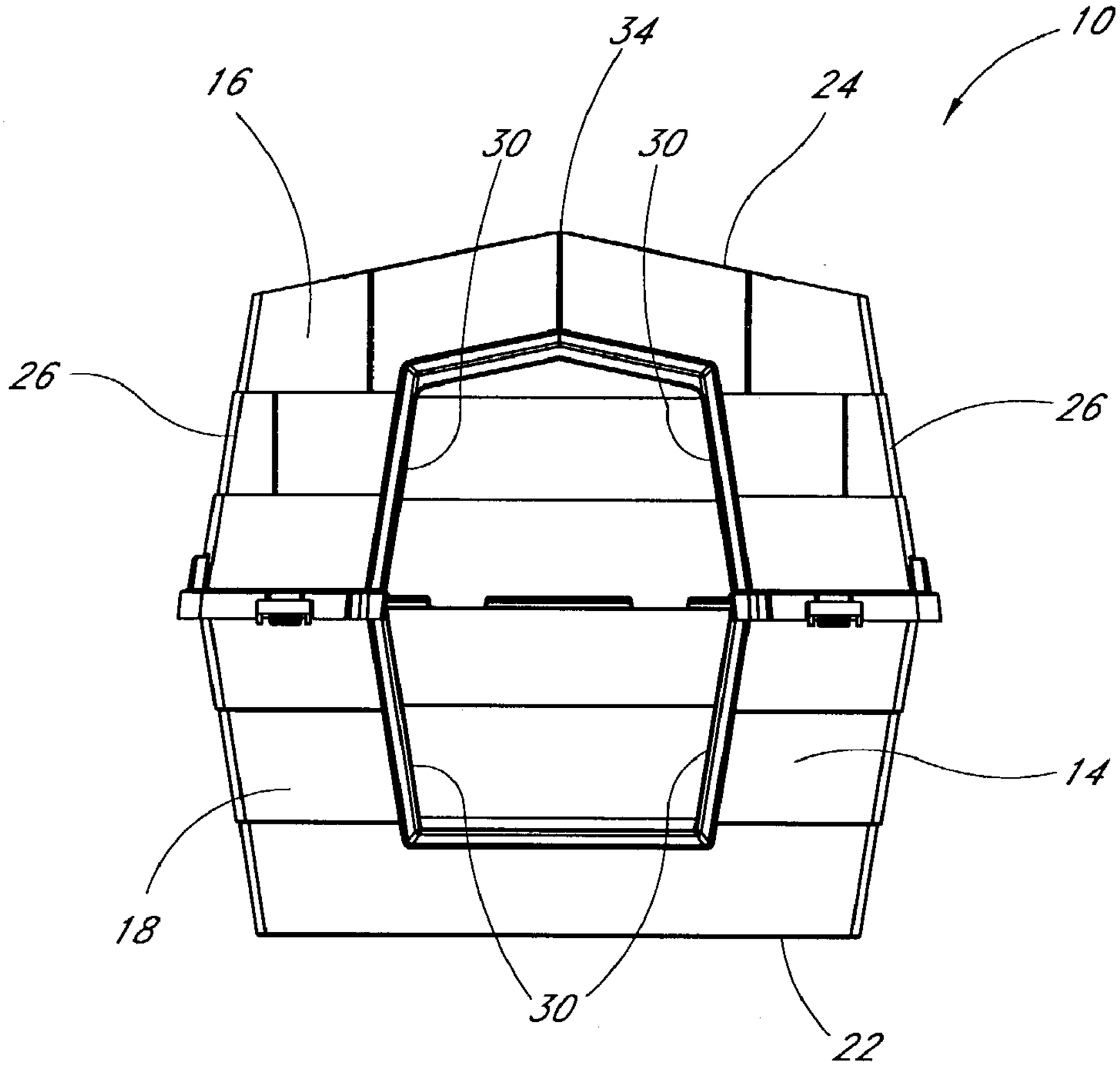


FIG. 2A

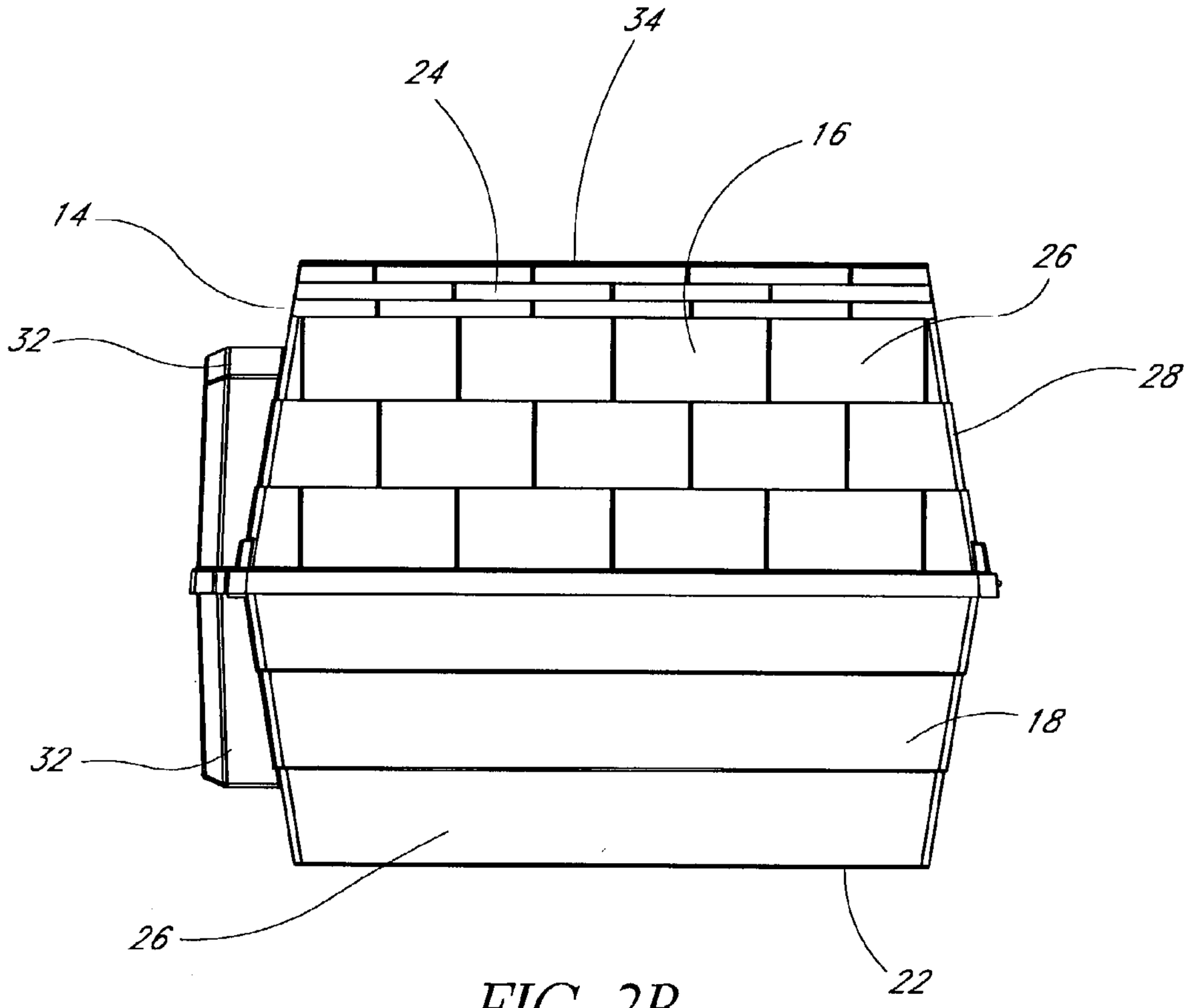


FIG. 2B

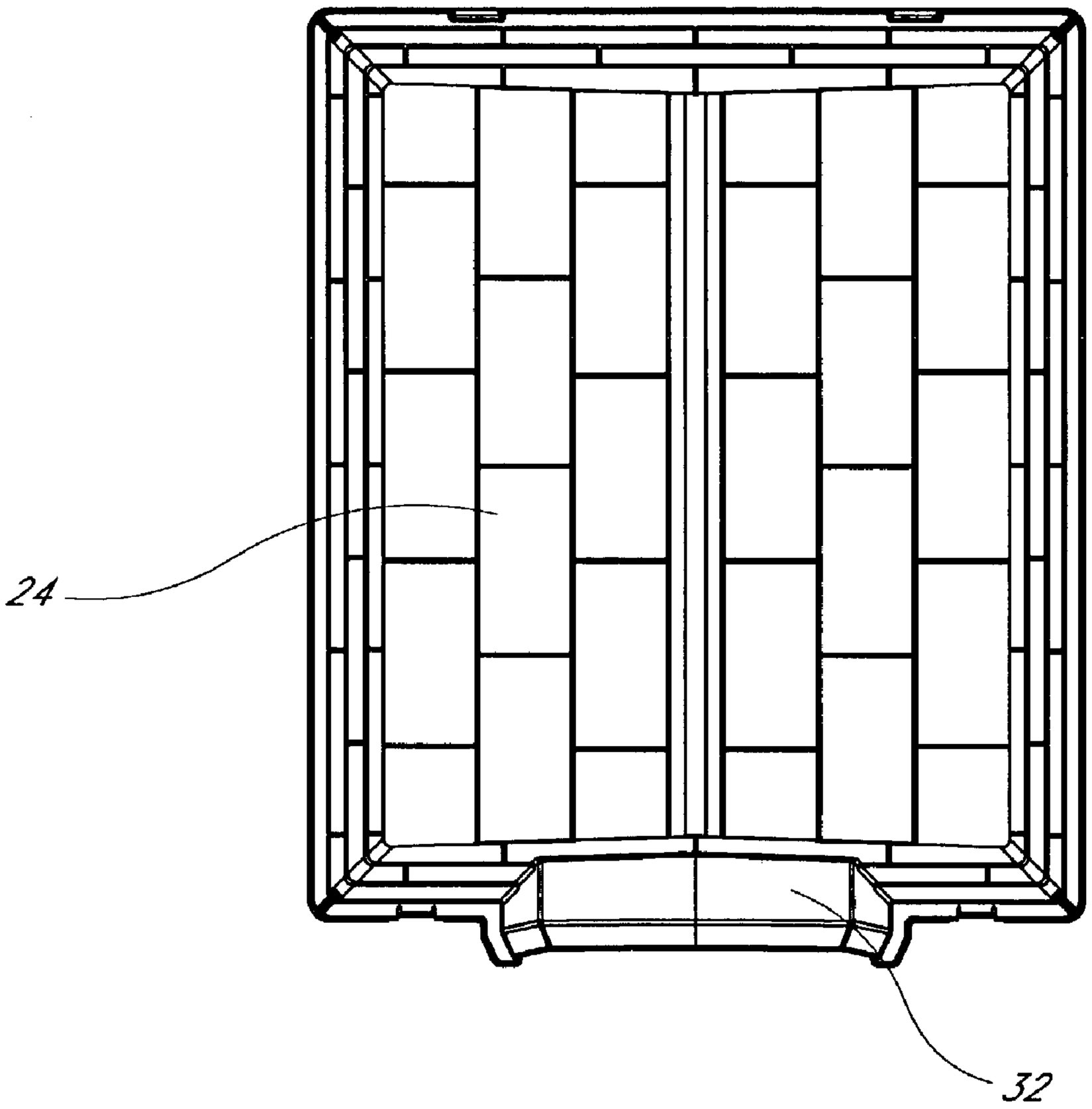


FIG. 2C

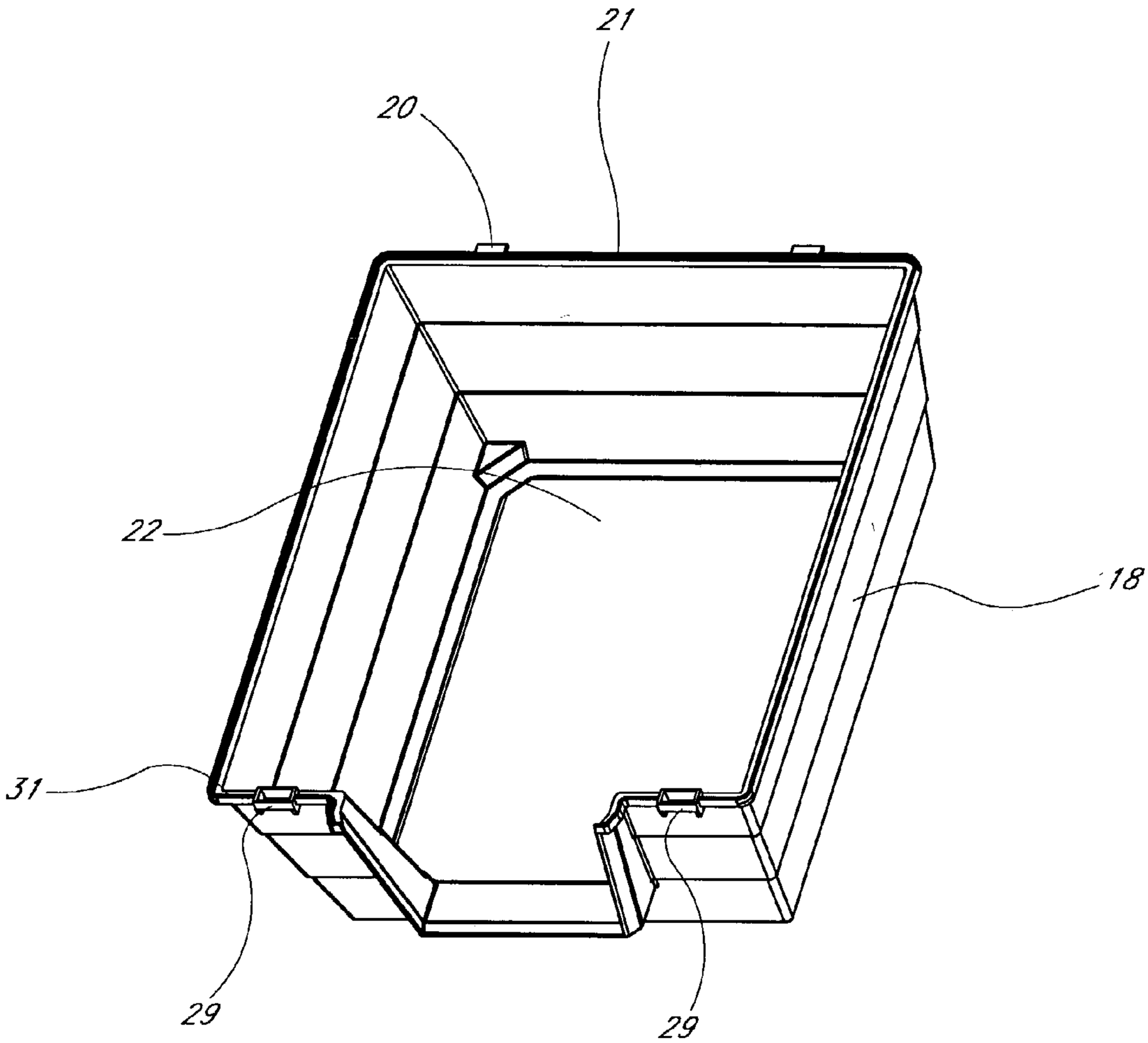


FIG. 3

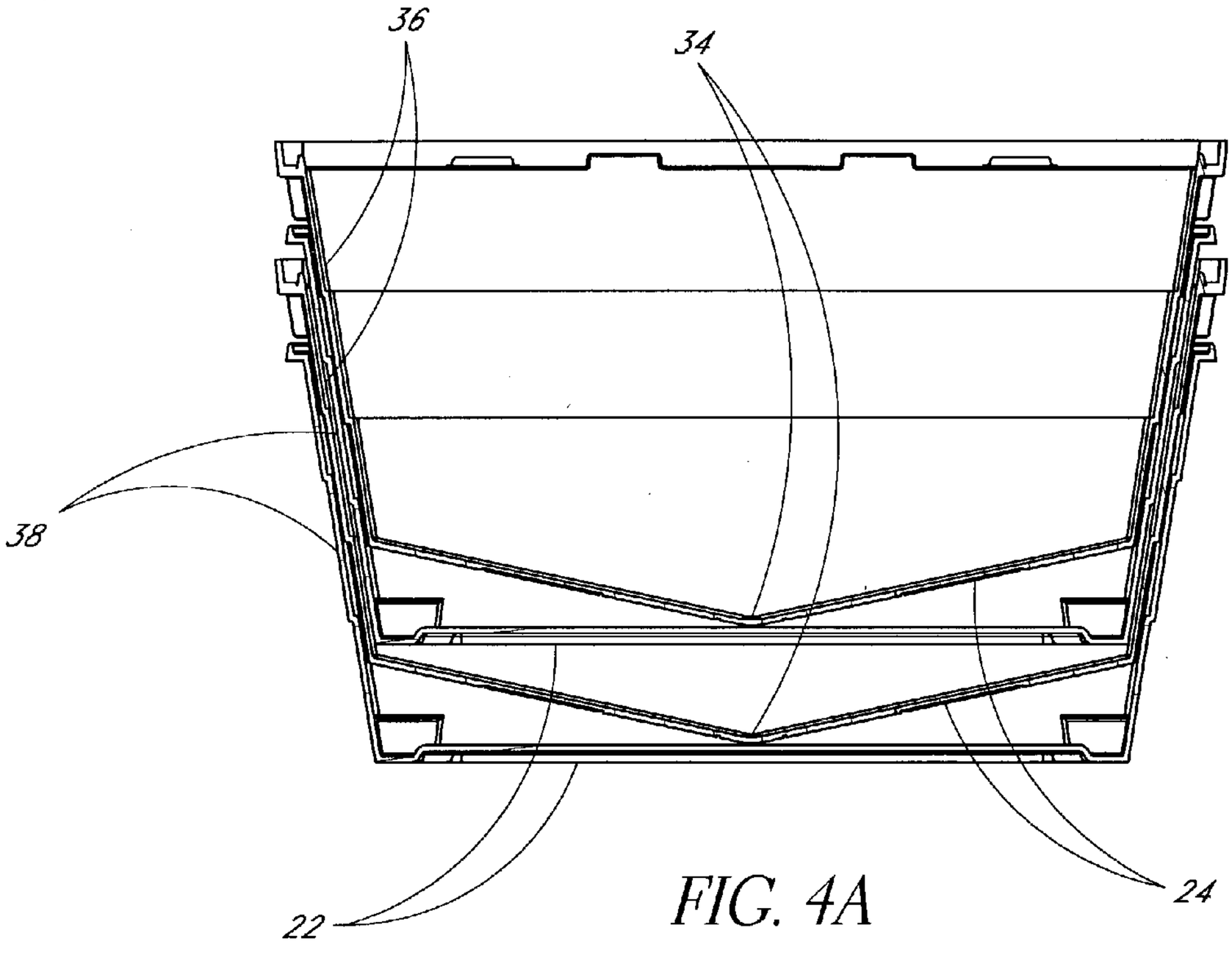


FIG. 4A

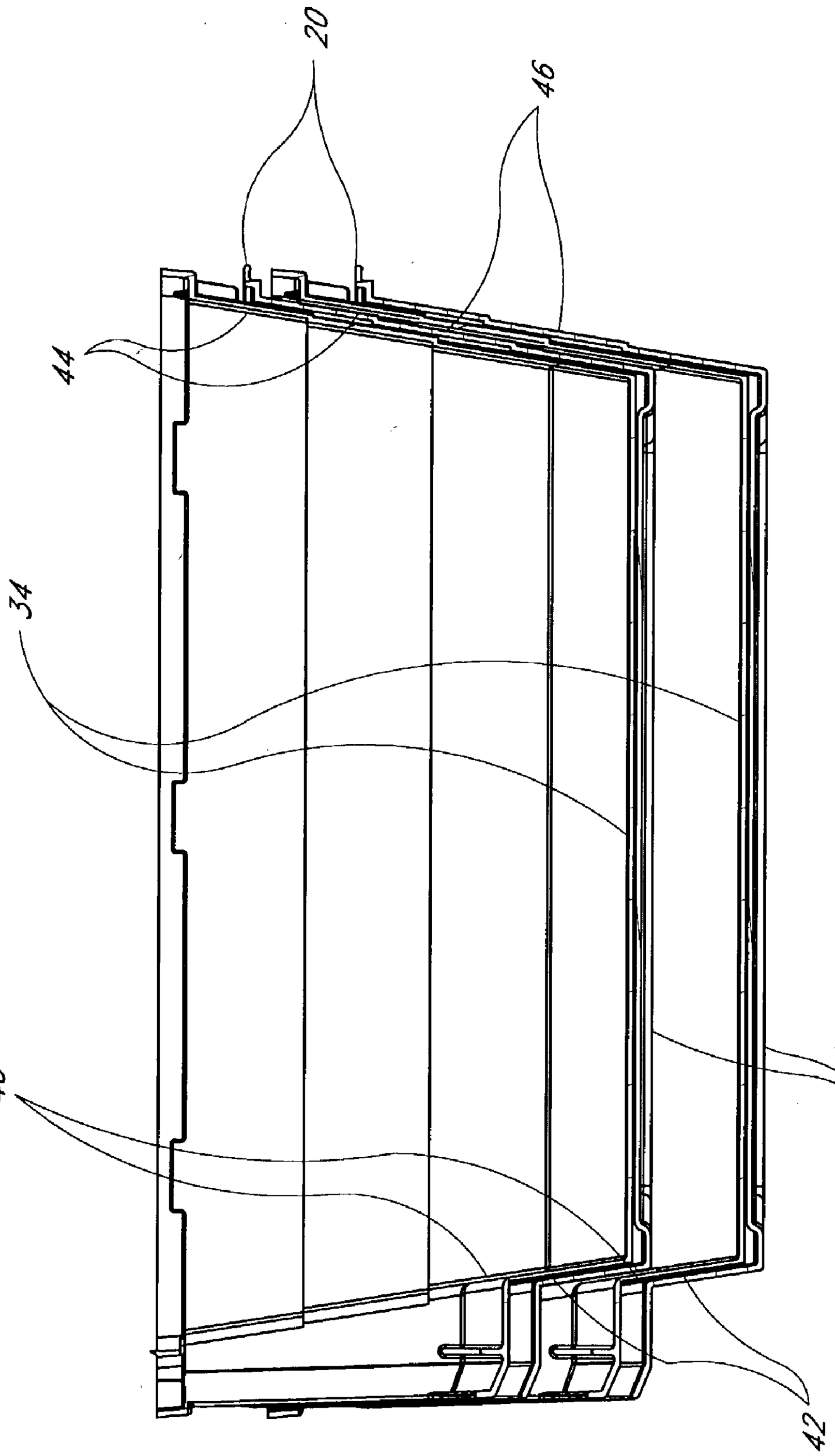


FIG. 4B

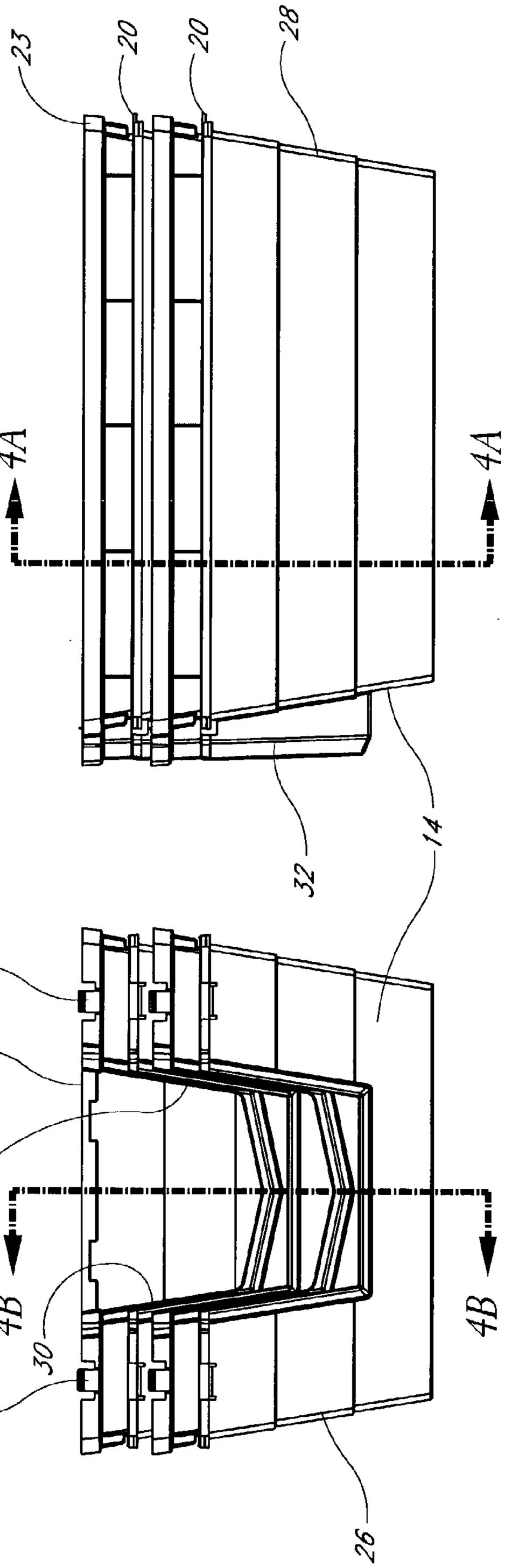


FIG. 5B

FIG. 5A

STACKABLE PET SHELTER

REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a continuation of U.S. patent application Ser. No. 09/948,506, filed Sep. 6, 2001, entitled "*Stackable Pet Shelter*," and claims priority benefit under 35 U.S.C. § 120 to the same. The present application also incorporates the foregoing disclosure herein by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The invention relates to pet enclosures that are readily stackable so as to occupy as little retail space as possible. More particularly, the pet shelter includes a top section and a bottom section, and both the top and bottom sections fit snugly within each other when one section is inverted.

[0004] 2. Description of the Related Art

[0005] Pet shelters that are available for purchase at retail pet stores are well known. Many of these shelters have a two-piece construction, consisting of a top section and a bottom section. Typically, the bottom section is a substantially rectangular box with a flat bottom and an open top. The top section is often shaped like a prism, with a triangular cross-section. This top section thus provides the shelter with a steeply sloped roof. This slope allows the roof to easily shed rain water, and discourages pets from climbing on top of the shelter.

[0006] U.S. Pat. No. Des. 349,980 to Northrop et al. discloses an ornamental design for a pet house. The house has a two-piece construction. The bottom section comprises a rectangular box with an open top and sidewalls that gradually slope outward from the bottom. The top section is shaped generally like a prism, with an open rectangular bottom and seven walls. The two end walls are generally hexagonal, the bottom edge of each being the longest edge. One end face of both the bottom and top sections includes a substantially U-shaped opening. When the top and bottom sections are assembled, the open ends of the U-shaped openings face each other, creating a substantially rectangular opening that serves as an entrance/exit for the shelter.

[0007] U.S. Pat. No. Des. 366,541 to Bradburn et al. discloses a doghouse that is remarkably similar in shape and design to the Northrop shelter. The main difference between the Bradburn and Northrop shelters is that the end faces of the top section of the Bradburn shelter have only five edges, whereas the end faces of the top section of the Northrop shelter have six edges.

[0008] In both the Northrop and Bradburn designs, the top section is readily insertible within the interior of the bottom section once the top section has been inverted. Because of the shapes and sloped edges of the top, sections of both designs, however, the bottom section does not fit snugly within the interior of the top section. The base of the bottom section is too wide to fit very far into the open end of the top section. Thus, a stack of either of these shelters that was arranged bottom, top, bottom, top, bottom, etc. would be very unstable and quite high in relation to the number of shelters in the stack.

[0009] U.S. Pat. No. 5,551,371 to Markey et al. discloses a pet enclosure that has a generally hollow box-shaped base and a roof hingedly attached to the base. The roof is gable-styled, with triangular end faces. The side edges of each triangle slope sharply. The side edges of the bottom section slope very gradually. Therefore, the bottom section will not nest within the inverted top section.

[0010] U.S. Pat. No. 5,154,137 to Stanaland discloses a whelping box having a top section and a bottom section. Both sections are substantially rectangular boxes with open ends. The bottom section includes a removable insert having a ledge around the inside surface of three walls. The insert is nearly identical to the bottom section, but is slightly smaller for snug engagement with the interior of the bottom section. Even without the insert, the top and bottom sections are not capable of very efficient stacking. The sides of the top section include ventilation openings that protrude from the outer surface of each side. Thus, the openings obstruct the path of the inverted top section as it is slid into the bottom section. Furthermore, the ledge around the inside of the insert creates empty space beneath the ledge into which neither an inverted top section nor an inverted bottom section can advance.

[0011] In retail outlets, where pet shelters are often sold, display space is at a premium. Therefore, two-piece shelters are typically broken down into their separate sections so that the sections can be stacked, thereby maximizing the number of shelters per unit area of shelf space. Unfortunately, pet shelters having sloped roofs are not very amenable to efficient stacking. One way to stack these shelters is to create two stacks, one stack of bottom sections, and one stack of top sections. This method has the obvious drawback of occupying double the shelf space of a single stack. This method also disadvantageously requires additional warehouse space and is expensive to transport.

[0012] In order to eliminate one stack from the above method, another method of stacking is to place the stack of top sections upon the stack of bottom sections. This method reduces the amount of shelf space occupied by the two stacks, but makes the job of removing one pet shelter from the stack very difficult. When a customer wishes to purchase one of the shelters, he or she or a store employee must remove the entire stack of top sections from the stack of bottom sections in order to extract a bottom section. The stack of top sections is sometimes quite heavy, making this method very inconvenient.

[0013] Another method of stacking is to invert a top section and place it inside a bottom section. This method eliminates the difficulty of having to move a large stack of top sections in order to extract a bottom section. Depending upon the angle of slope in the top section, however, this method may create a large amount of empty space between the top and bottom sections. With very steeply sloped roofs, the top section may even lean to one side within the bottom section. Further, a second bottom section typically will not fit within the inverted top section, at least not without creating a very large amount of empty space between the two. Such a stack tends to be very unstable and unsafe. In addition the stack occupies a great deal of vertical space compared to the number of pet shelters in the stack.

[0014] Thus a pet shelter that is amenable to stacking in a bottom-top-bottom-top-bottom-etc. fashion would be of sig-

nificant advantage to pet store owners and pet product consumers. The device should enable a stable stack that is comparatively short in comparison to the number of shelters in the stack.

SUMMARY OF THE INVENTION

[0015] The preferred embodiments of the stackable pet shelter have several features, no single one of which is solely responsible for their desirable attributes. Without limiting the scope of this invention as expressed by the claims that follow, its more prominent features will now be discussed briefly. After considering this discussion, and particularly after reading the section entitled "Detailed Description of the Preferred Embodiments," one will understand how the features of the preferred embodiments provide advantages, which include ready stackability in an efficient and stable manner.

[0016] Preferred embodiments of the stackable pet shelter comprise a bottom section and a top section that mate to form a sturdy shelter. The bottom section is shaped substantially as a hollow rectangular box having a floor and four sidewalls. The sidewalls slope outwardly, and a first sidewall includes a substantially U-shaped opening. The legs of the U are bent slightly outward. The top section is shaped substantially as a hollow six-walled structure having two opposite rectangular walls, two opposite pentagonal walls and a peaked roof. The sidewalls slope outwardly away from the roof, and a first sidewall includes a substantially U-shaped opening, with the legs of the U bent slightly outward.

[0017] The top and bottom sections are configured such that an inverted top section fits snugly within an interior of a bottom section, and a bottom section fits snugly within an interior of an inverted top section. Thus, preferred embodiments of the pet shelter enable efficient stacking of multiple shelters in a bottom-top-bottom-top-bottom-etc. arrangement. Several features of the pet shelter contribute to its stackability. First, the sidewalls of the top and bottom sections slope at roughly equal angles. Second, the legs of the U-shaped openings are bent at roughly equal angles on both the top and bottom sections. Third, the height of the top section is roughly equal to the height of the bottom section. Fourth, the roof of the top section has a very gradual slope, such that the peak of the roof does not obstruct nesting of a top section within a bottom section.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The preferred embodiments of the stackable pet shelter, illustrating its features, will now be discussed in detail. These embodiments depict the novel and non-obvious stackable pet shelter shown in the accompanying drawings, which are for illustrative purposes only. These drawings include the following figures, in which like numerals indicate like parts:

[0019] **FIG. 1** is a front perspective view of a preferred embodiment of the stackable pet shelter;

[0020] **FIGS. 2***a*-**2***c* are, respectively, front elevational, right-side elevational and top plan views of the stackable pet shelter of **FIG. 1**;

[0021] **FIG. 3** is a front perspective view of a bottom section of the stackable pet shelter of **FIG. 1**;

[0022] **FIGS. 4***a* and **4***b* are, respectively, front section and right-side section views of the stackable pet shelter of **FIG. 1**, illustrating bottom-top-bottom-top stacking; and

[0023] **FIGS. 5***a* and **5***b* are, respectively, front and right-side views of the stackable pet shelter of **FIG. 1**, illustrating bottom-top-bottom-top stacking.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0024] As **FIG. 1** illustrates, a preferred embodiment of the stackable pet shelter **10** includes a hollow, substantially rectangular box with a substantially rectangular opening **12** in a front wall **14**. One of skill in the art will appreciate, however, that the shelter **10** may include any number of sides or curved surfaces. The shelter **10** may, for example, be substantially triangular in plan aspect, hexagonal, octagonal or even round.

[0025] The shelter **10** is preferably constructed of a high-impact plastic, or another material that is lightweight and durable such as wood or fiberglass. The shelter **10** is constructed of two sections, a top section **16** and a bottom section **18**. Both the top and bottom sections are shaped substantially as rectangular boxes with one missing side, and a substantially U-shaped opening in a side adjacent to the missing side. **FIG. 3** illustrates the bottom section **18** in isolation.

[0026] The top and bottom sections of the shelter may be secured to one another with tab and slot connectors. Generally horizontally extending tabs **20** (**FIGS. 3, 4***b* and **5***b*) on a back upper edge **21** of the bottom section **18** mate with generally horizontally oriented slots (not shown) on a back lower edge **23** (**FIG. 5***b*) of the top section **16**. Generally vertically extending tabs **25** (**FIG. 5***a*) on a front lower edge **27** of the top section **16** mate with generally vertically oriented slots **29** (**FIG. 3**) on a front upper edge **31** of the bottom section **18**. In profile, the tabs **25** resemble an arrowhead that has been bisected lengthwise. Thus, a narrow leading portion of each tab **25** is able to penetrate a slot **29**. Once the tab **25** advances through the slot **29** past a shoulder portion, the tab **25** snaps into place and can only be removed from the slot **29** by deforming the slot **29**.

[0027] To assemble the shelter **10**, the top and bottom sections are oriented such that their missing sides face each other and the open ends of both U-shaped openings are aligned. With the bottom section **18** resting on a flat horizontal surface, the back lower edge **23** of the top section is brought into contact with the back upper edge **21** of the bottom section **18** such that the tabs **20** extend through the slots on the top section. Next, the front lower edge **27** of the top section **16** is brought into contact with the front upper edge **31** of the bottom section **18**, such that the tabs **25** snap into and extend through the slots **29**.

[0028] One of skill in the art will appreciate that the illustrated manner of attaching the top section **18** to the bottom section **16** is merely exemplary. Many other methods of attachment are equally suitable, including providing horizontally extending lip members on both sections that receive vertically extending pins or bolt and nut fasteners, or providing a vertically extending and overlapping lip on the top portion that receives horizontally extending pins or bolt and nut fasteners. Alternatively, an interference fit or any other attachment mechanisms known to those of skill in the art may be used.

[0029] The side of the bottom section **18** opposite its missing side defines a shelter floor **22**, while the side of the top section **16** opposite its missing side defines a shelter roof **24**. The remaining sides of the two sections define shelter walls. The shelter floor **22** may include grooves (not shown) for channeling water away from a pet.

[0030] Two shelter **10** walls are preferably longer than the two remaining walls. The long walls define sidewalls **26**, while the shorter walls define a front wall **14** and a back wall **28** of the shelter **10**. The front wall **14** preferably includes a substantially rectangular opening **12** formed by the adjoining U-shaped openings of the top and bottom sections. The rectangular opening **12** defines a shelter entrance. One of skill in the art will appreciate that the shelter entrance may be any shape, such as triangular, hexagonal, octagonal, or even round. One of skill in the art will also appreciate that the shelter entrance may be formed in any of the shelter sidewalls.

[0031] As best seen in **FIGS. 2***a* and **2***b*, each of the shelter walls slopes gradually from vertical. For the top section **16**, the walls slope inward from the missing side to the shelter roof **24**. For the bottom section **18**, the walls slope outward from the shelter floor **22** to the missing side. Thus, the shelter **10** is preferably widest at a point roughly equidistant from the shelter roof **24** and floor **22**.

[0032] Legs **30** of each U-shaped opening are preferably bent outward, such that the legs **30** roughly parallel the shelter **10** walls, as best seen in **FIG. 2***a*. Thus, the widest portion of the shelter entrance is at the junction of the top and bottom sections. As illustrated in **FIG. 2***b*, a narrow lip **32** preferably extends outward from the shelter entrance. The lip **32** prevents water, such as rainwater, from entering the shelter **10**. One of skill in the art will appreciate, however, that the lip **32** is not a necessary component of the shelter **10**.

[0033] The shelter floor **22** is preferably crowned slightly so that moisture runs away from a pet in the shelter. Alternatively, the floor **22** can be flat or slightly sloped. The shelter roof **24** is preferably slightly peaked, such that a ridge **34** stretches along the center of the roof **24** from the front wall **14** to the back wall **28**. The roof **24** thus slopes downward from the ridge **34** toward either sidewall **26**. The slope preferably is steep enough to allow the shelter roof **24** to shed rainwater and to discourage pets from climbing on top of the shelter **10**. However, the slope is preferably gradual enough to facilitate stacking and nesting of the shelter tops and bottoms, as explained below.

[0034] When the top section **16** is removed from the bottom section **18** and inverted, the top section **16** fits snugly within the interior of the bottom section **18**, and the bottom section **18** fits snugly within the interior of the top section **16**. **FIGS. 5***a* and **5***b* illustrate a bottom-top-bottom-top stacking arrangement. **FIGS. 4***a* and **4***b* illustrate the internal configuration of the various shelter walls in the stacked arrangement of **FIGS. 5***a* and **5***b*.

[0035] As shown in **FIG. 4***a*, the sidewalls **36** of each top section **16** rest against the sidewalls **38** of each bottom section **18**, and vice versa. As shown in **FIG. 4***b*, the front walls **40** of each top section **16** rest against the front walls **42** of each bottom section **18**, and vice versa, and the rear walls **44** of each top section **16** rest against the rear walls **46** of each bottom section **18**, and vice versa.

[0036] Also as shown in both **FIGS. 4***a* and **4***b*, the ridge **34** of the top section **16** rests on the floor **22** of the bottom section **18**. Further, as **FIG. 4***a* illustrates, there is very little empty or wasted space between the top sections **16** and bottom sections **18**.

[0037] The snug fit between the inverted top sections **16** and bottom sections **18** results from a combination of features of the two sections. One of skill in the art will appreciate, however, that not all of these features are required for snug nesting. The scope of the shelter **10** is not limited to a shelter having all of these features.

[0038] First, the front wall **14**, back wall **28** and sidewalls **26** of the top section **16** slope at angles that are roughly equal to the slope of the front wall **14**, back wall **28** and sidewalls **26**, respectively, of the bottom section **18**. Second, the legs **30** of the U-shaped opening in the top section **16** slope at roughly equal angles as the legs **30** of the U-shaped opening in the bottom section **18**. Third, the top section **16** is approximately the same height as the bottom section **18**. Fourth, the shelter floor **22** is generally flat, and the shelter roof **24** slopes very gradually.

[0039] The snug fit of inverted top sections within bottom sections and bottom sections within inverted top sections enables retailers to stack the shelters **10** in a bottom-top-bottom-top-bottom-etc arrangement. Thus, a large number of shelters **10** can be kept on hand by the retailer in a single, space-efficient stack. The space between each inverted top section **16** and bottom section **18** may include accessories for the shelter **10**, such as a pad or a door. If such accessories are stored, the inverted top section and bottom section may be removably secured to retain the accessories therebetween and prevent loss or theft of the accessories.

[0040] The present invention also advantageously reduces the amount of warehouse space needed to store multiple pet shelters. Moreover, the present invention reduces transport costs of the shelters as more shelters fit within a standard shipping container.

[0041] In this configuration, the shelters **10** not only occupy relatively little inventory space, but a single shelter **10** can be removed from the top of the stack with minimal effort. Any accessories that the shelter **10** features may be already neatly packaged within. Furthermore, the snug fit of each section within the others leads to greater stability of a large stack. The stack is thus less prone to tipping over and causing injury.

[0042] The above presents a description of the best mode contemplated for the present stackable pet shelter, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains to make and use this stackable pet shelter. This stackable pet shelter is, however, susceptible to modifications and alternate constructions from that discussed above which are fully equivalent. Consequently, it is not the intention to limit this stackable pet shelter to the particular embodiments disclosed. On the contrary, the intention is to cover all modifications and alternate constructions coming within the spirit and scope of the stackable pet shelter as generally expressed by the following claims, which particularly point out and distinctly claim the subject matter of the stackable pet shelter.

What is claimed is:

1. A stable stack of nested pet shelter sections, the stable stack comprising:

a first pet shelter comprising a first group of pet shelter sections including:

a first bottom comprising a substantially rectangular box missing one side and including at least one opening, and

a first top grouped with the first bottom within the stable stack and comprising a roof including a peaked center ridge; and

a second pet shelter comprising a second group of pet shelter sections including:

a second bottom comprising a substantially rectangular box missing one side and including at least one opening, and

a second top grouped with the second bottom within the stable stack and comprising a roof including a peaked center ridge,

wherein the second group of pet shelter sections are above the first group of pet shelter sections in the stable stack facilitating acquisition of the second pet shelter by removing the second group of pet shelter sections from one end of the stable stack.

2. The stable stack of claim 1, wherein the second group further includes at least one accessory item.

3. The stable stack of claim 2, wherein the at least one accessory item is grouped such that the acquisition of the second pet shelter from the stable stack automatically includes acquisition of the at least one accessory item.

4. The stable stack of claim 1, wherein the first top is inverted within the stable stack and nested within the first bottom, the second bottom is nested within the inverted first top, and the second top is inverted and nested within the second bottom to form a bottom-top-bottom-top arrangement within the stable stack.

5. The stable stack of claim 4, wherein the first top includes two side walls, a front wall including at least one opening, and a back wall, and wherein the side walls, the front wall, and the back wall, each provide support to walls of the substantially rectangular box of the first bottom in the stable stack.

6. The stable stack of claim 4, wherein at least a portion of the peaked center ridge of the first top contacts a floor of the first bottom.

7. The stable stack of claim 1, wherein the first and second pet shelters each comprise a durable plastic material.

8. The stable stack of claim 1, wherein the first and second roofs include a plurality of sloped shingle-like surfaces.

9. A method of stacking pet shelters to form a stable stack that reduces space needed for displaying the pet shelters, the method comprising:

nesting together a first roof section and a first base section of a first pet shelter, wherein the first roof section includes a cross sectional configuration which is different than a cross sectional configuration of the first base section when the first roof section and the first base section are nested;

nesting together a second roof section and a second base section of a second pet shelter, wherein the second roof section includes a cross sectional configuration which is different than a cross sectional configuration of the second base section when the second roof section and the second base section are nested; and

nesting the second pet shelter within the first pet shelter into a stable stack of pet shelters where selection of the second pet shelter from the stable stack includes removal of the second roof section and the second base section from one end of the stable stack.

10. The method of claim 9, further comprising including at least one accessory item within the nested second roof section and second base section.

11. The method of claim 10, wherein the at least one accessory item is grouped such that acquisition of the second pet shelter from the stable stack automatically includes acquisition of the at least one accessory item.

12. The method of claim 9, wherein the nesting together of the first roof section and the first base section further comprises inverting the first roof section within the first base section, and wherein the nesting together the second roof section and the second base section further comprises inverting the second roof section within the second base section.

13. The method of claim 12, wherein the first roof section also includes two side walls, a front wall including at least one opening, and a back wall, and wherein the side walls, the front wall, and the back wall, each provide support to walls of the first base section when the first pet shelter is part of the stable stack.

14. The method of claim 12, wherein the first roof section includes a center ridge.

15. The method of claim 14, wherein center ridge contacts the first base section.

16. The method of claim 9, wherein the first and second pet shelters each comprise a durable plastic material.

17. The method of claim 9, wherein the first and second roof sections each include a plurality of sloped shingle-like surfaces.

* * * * *