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Jenkins

(54) **APPARATUS AND PROCESS FOR SECURING AN OBJECT TO THE SEAT OF AN AUTOMOBILE**

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(57) **ABSTRACT**

A box or carton for storing floral arrangements or other objects on an automobile seat is disclosed. The box has openings which allow it and the object to be secured to the automobile seat by the seat belt. The box may have an automatic bottom which allows it to be stored flat and quickly erected, and may have an insert which has a slit and circular cutout and further secures the object. Instead of a box or carton, the invention may be applied by using only one or two sidewalls with openings and a bottom.

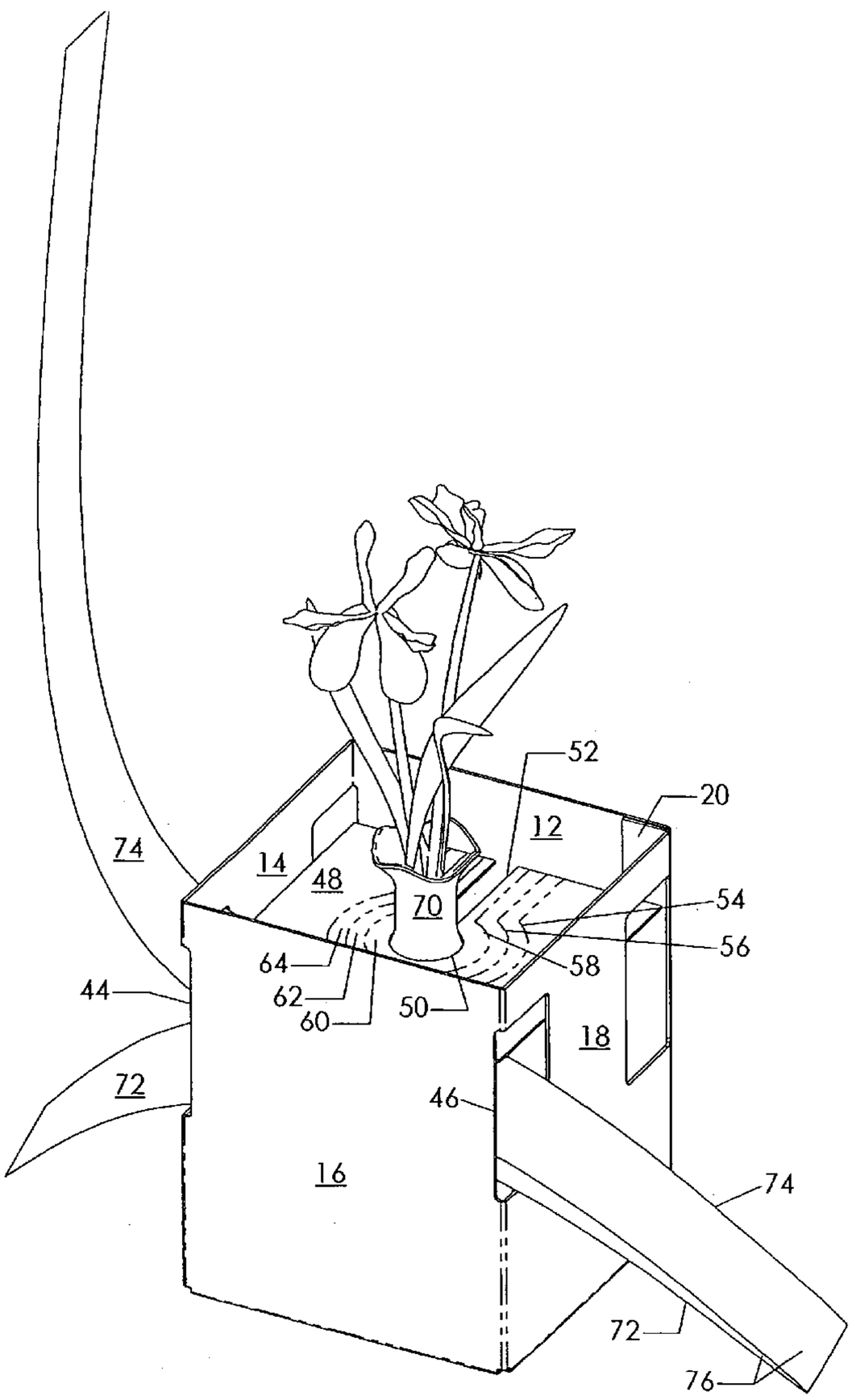


Fig. 1

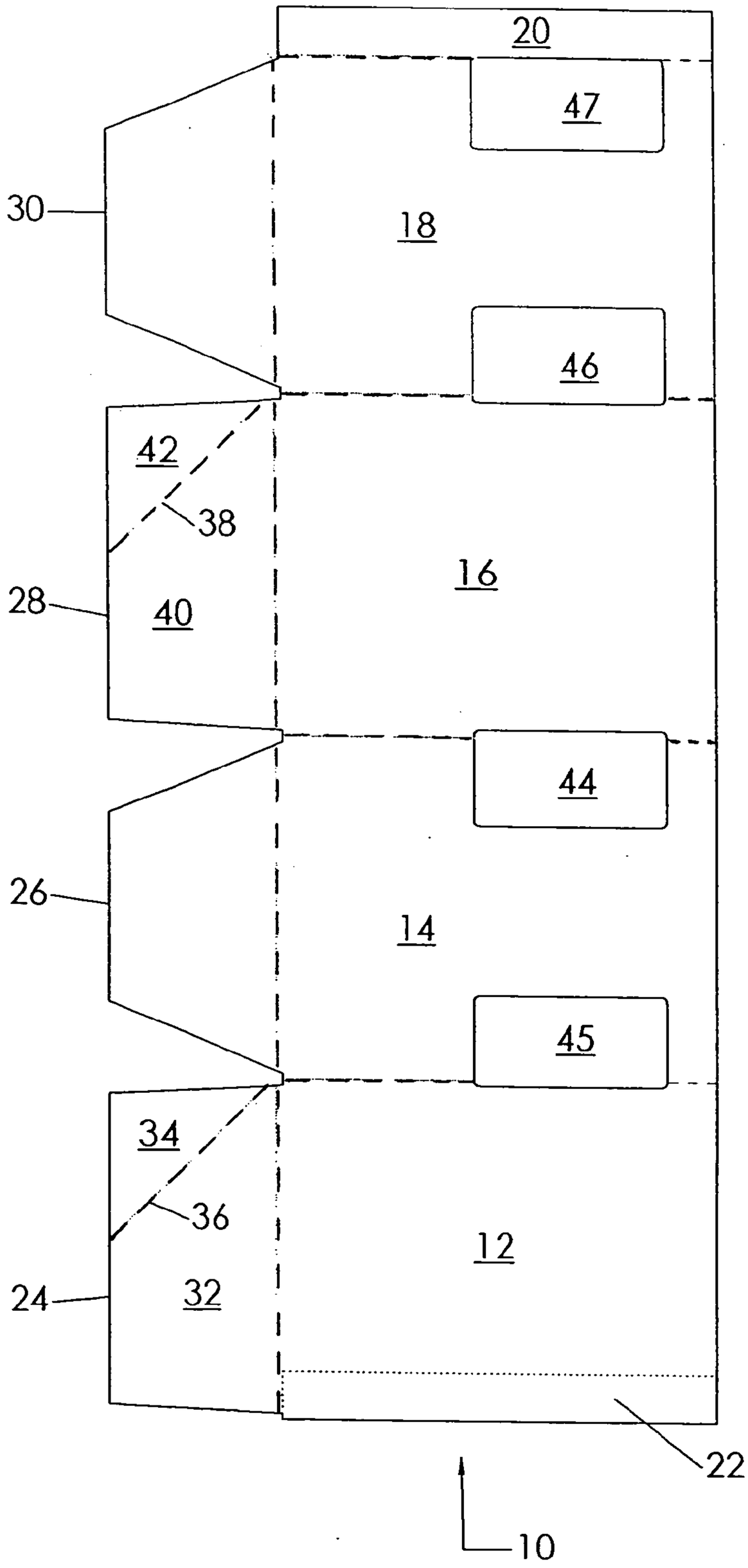


Fig. 2

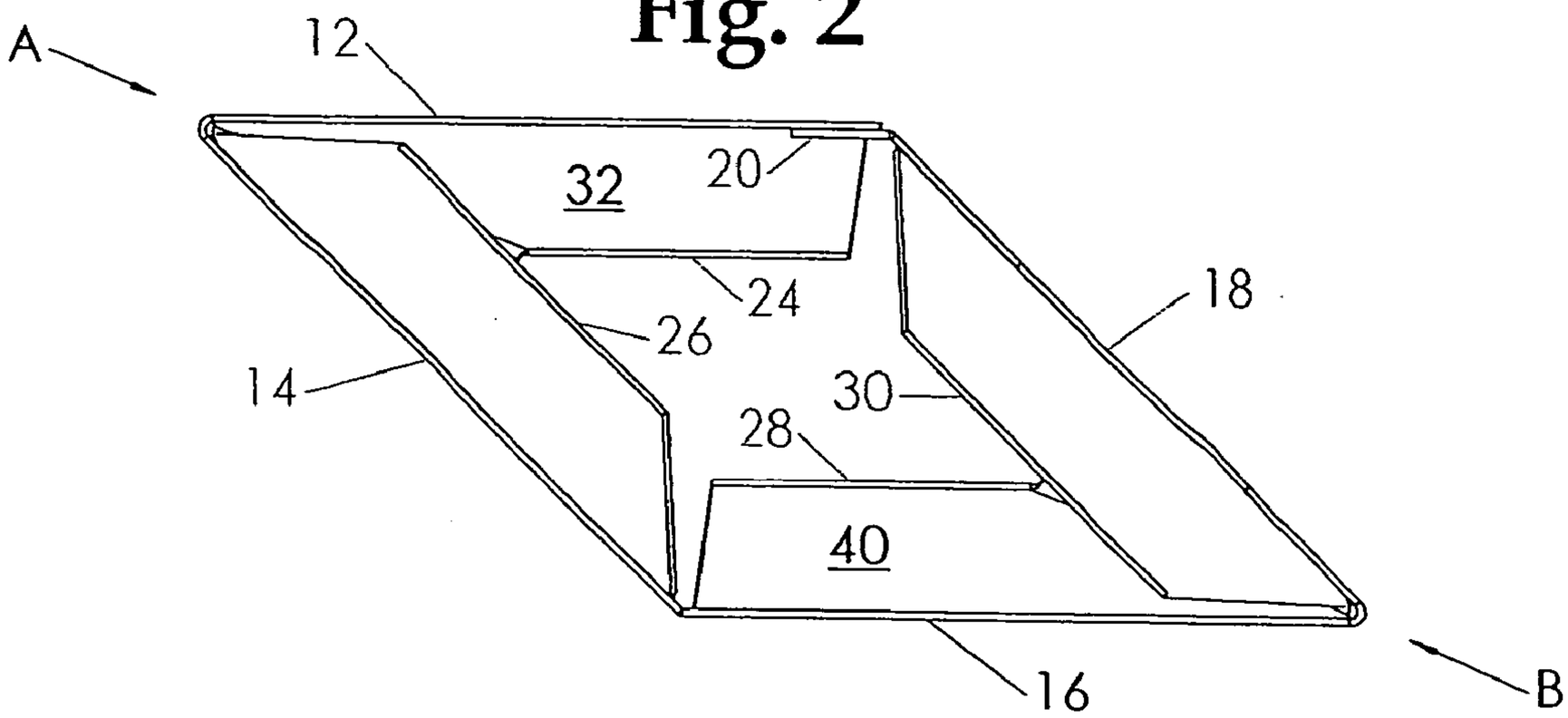


Fig. 3

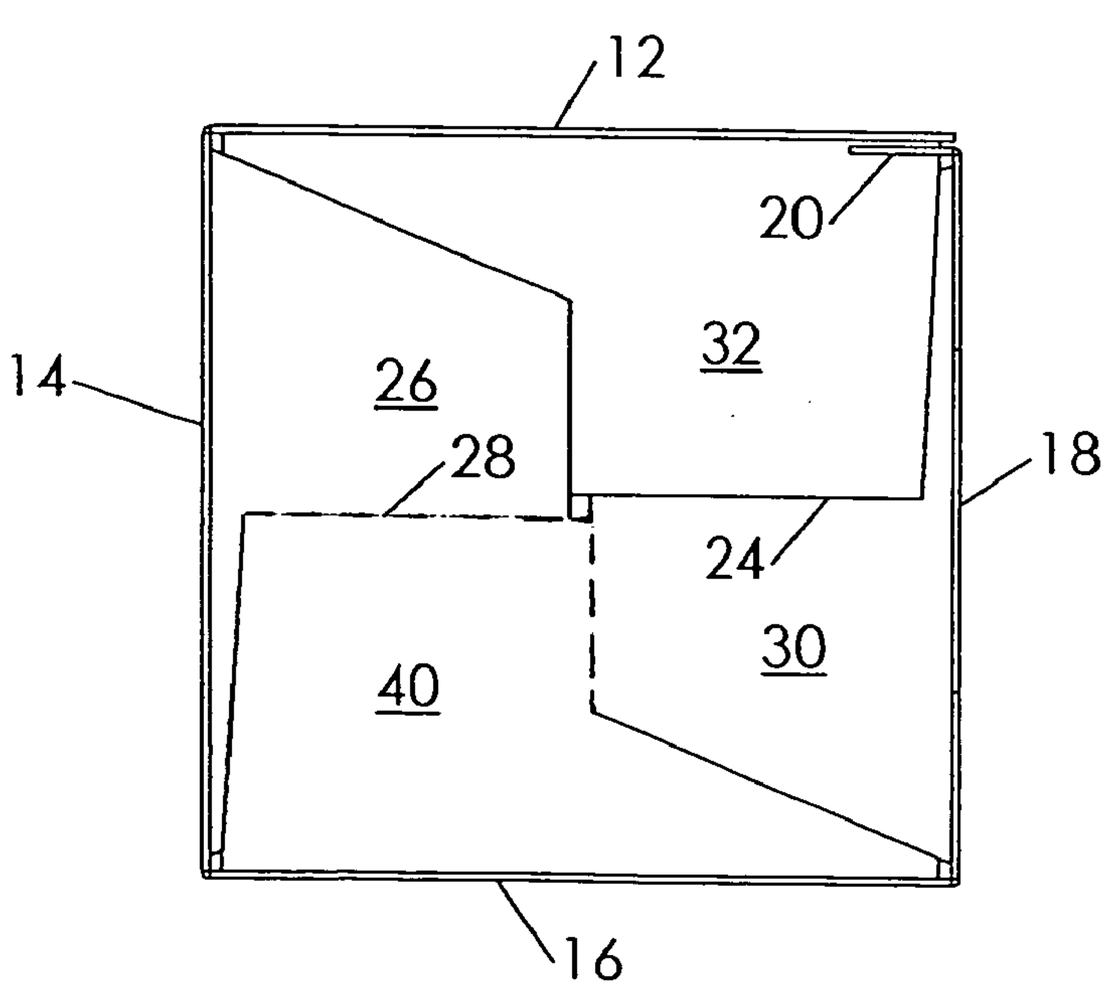


Fig. 4

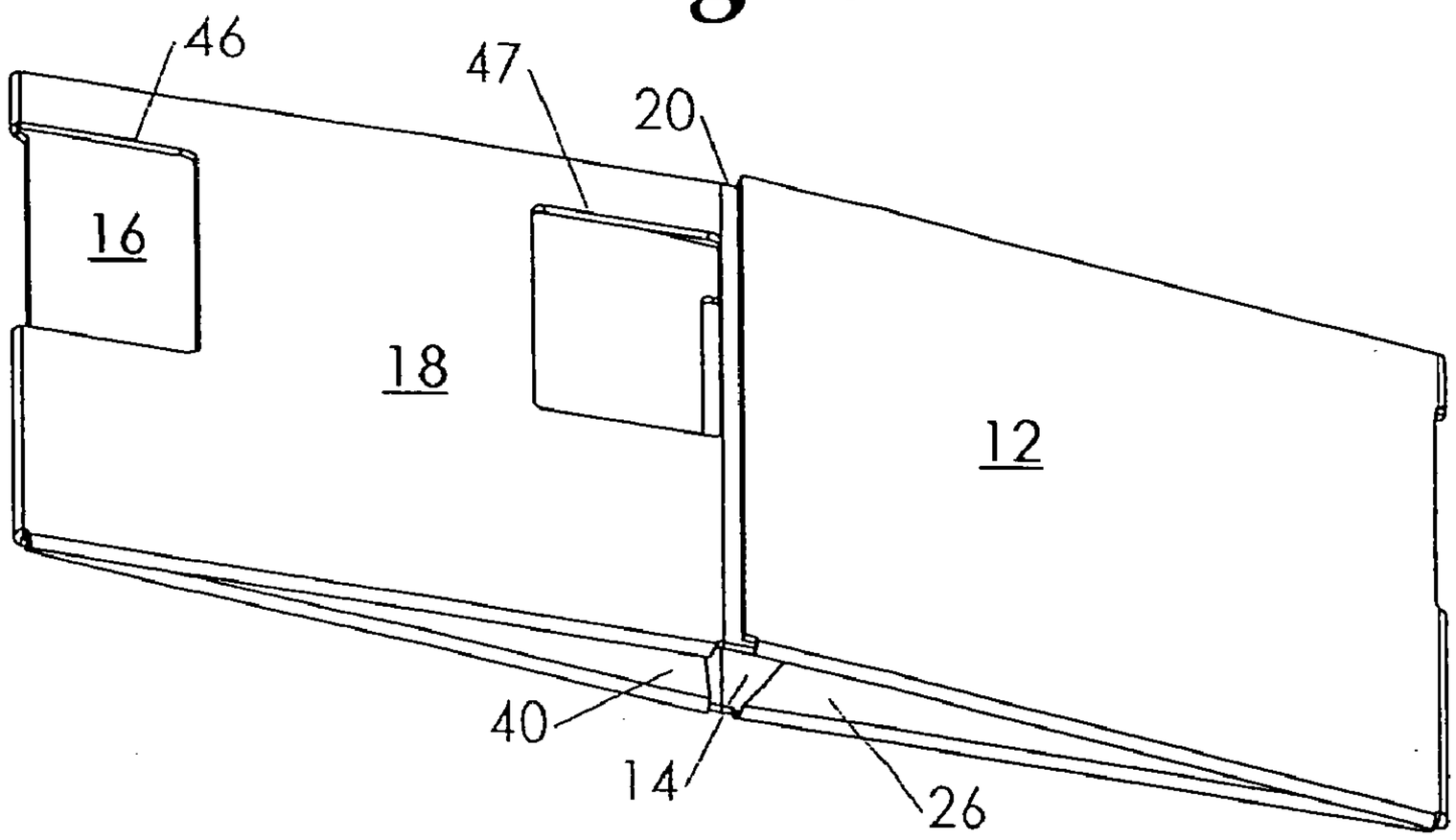


Fig. 5

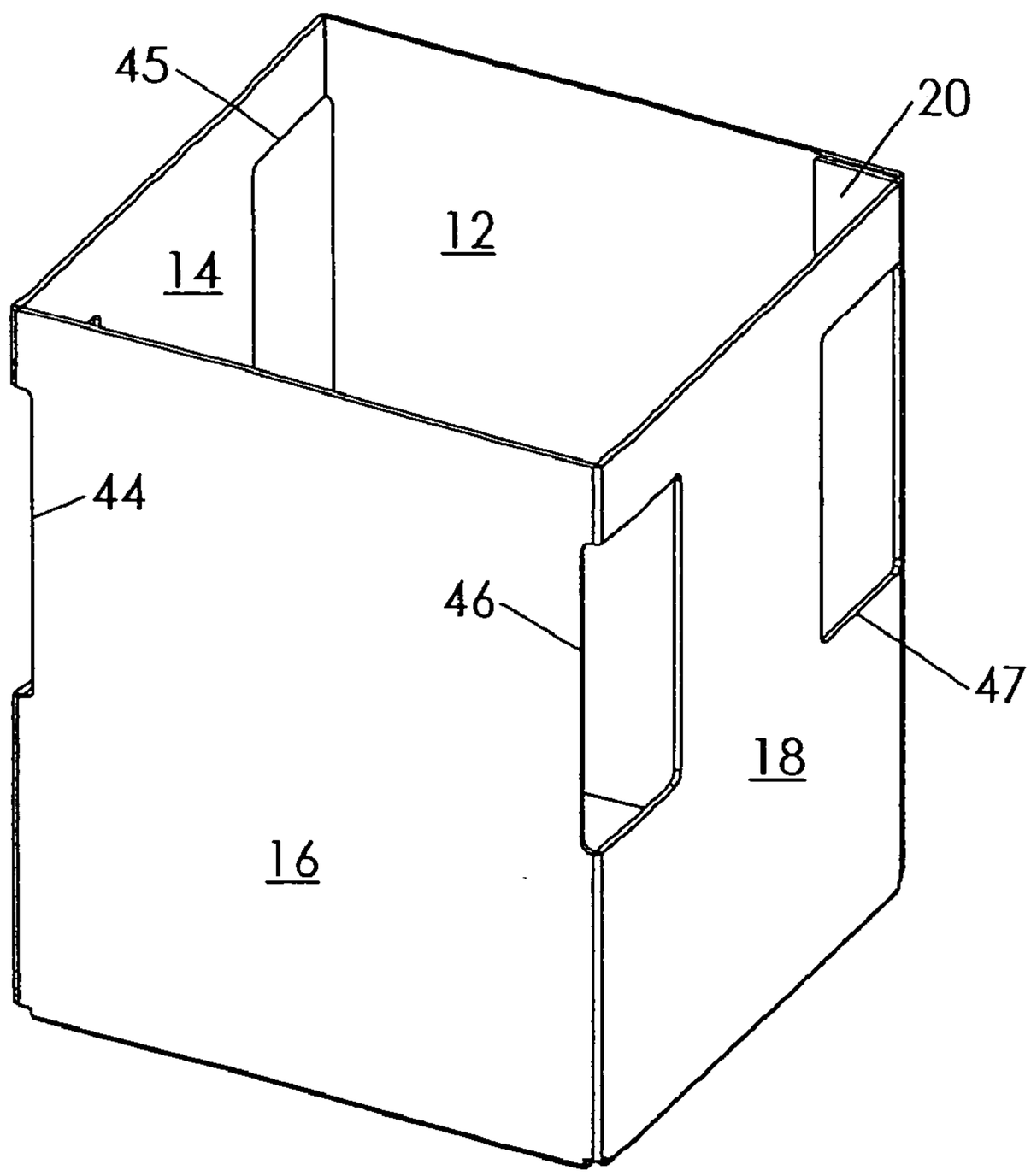


Fig. 6

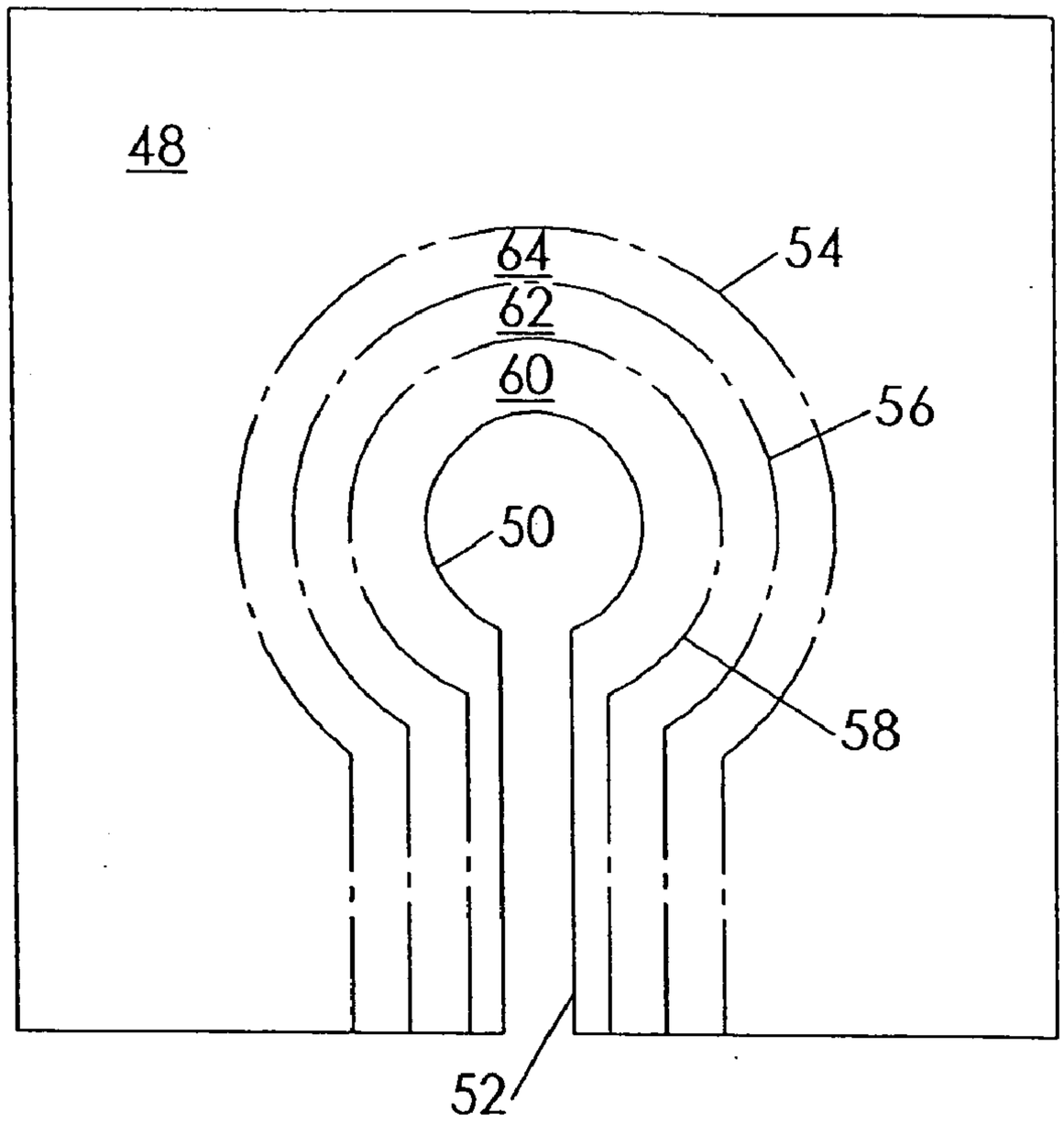


Fig. 7

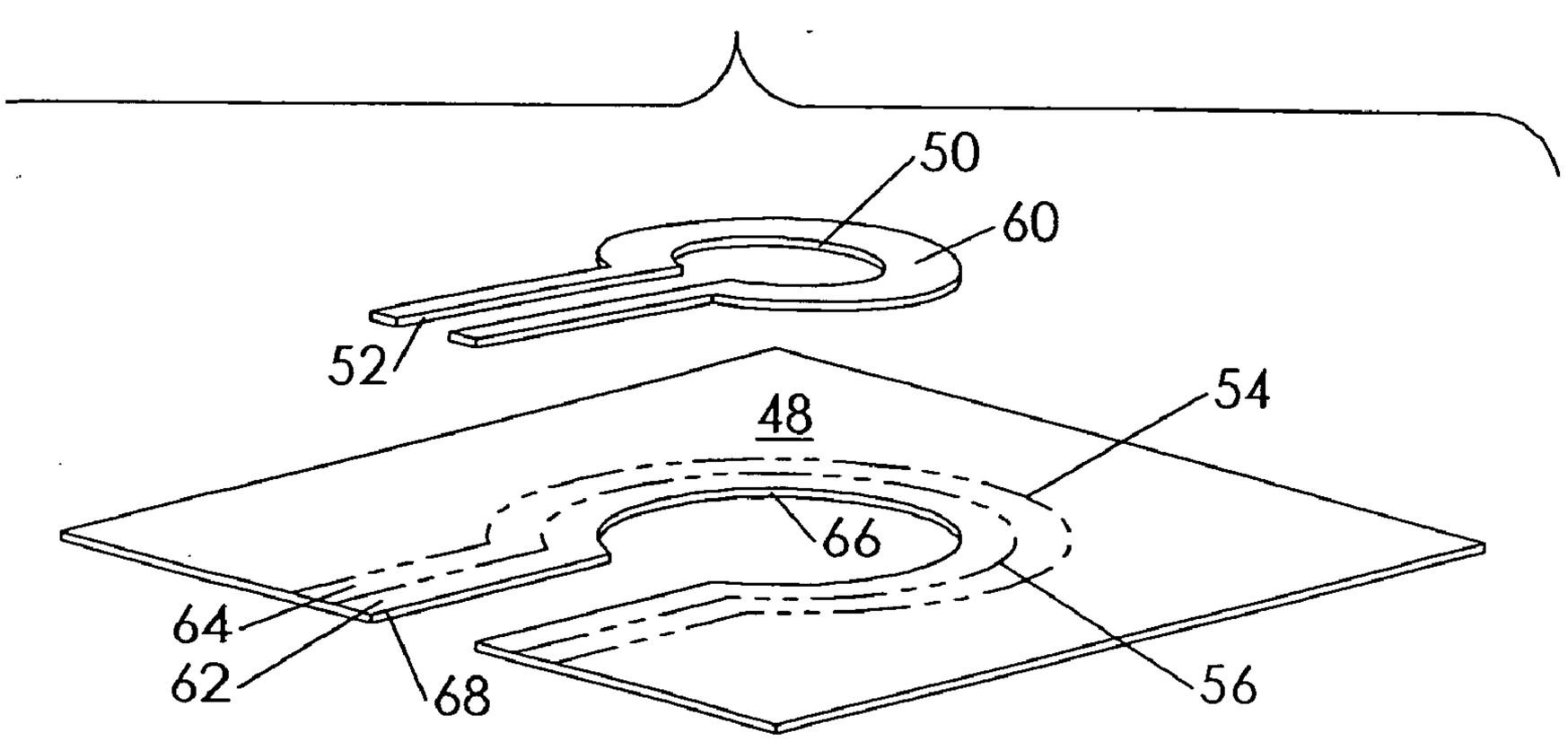


Fig. 8

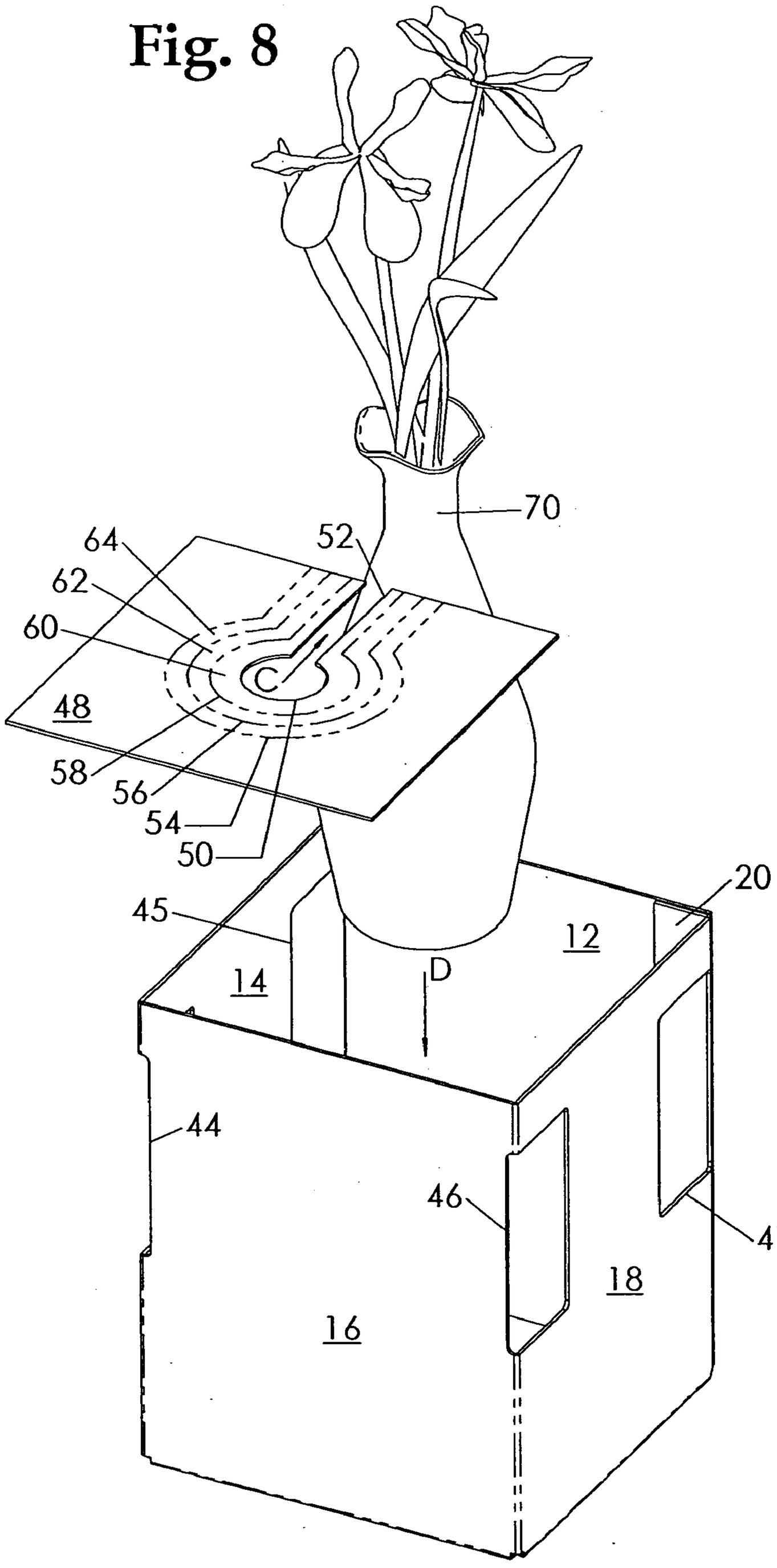


Fig. 9

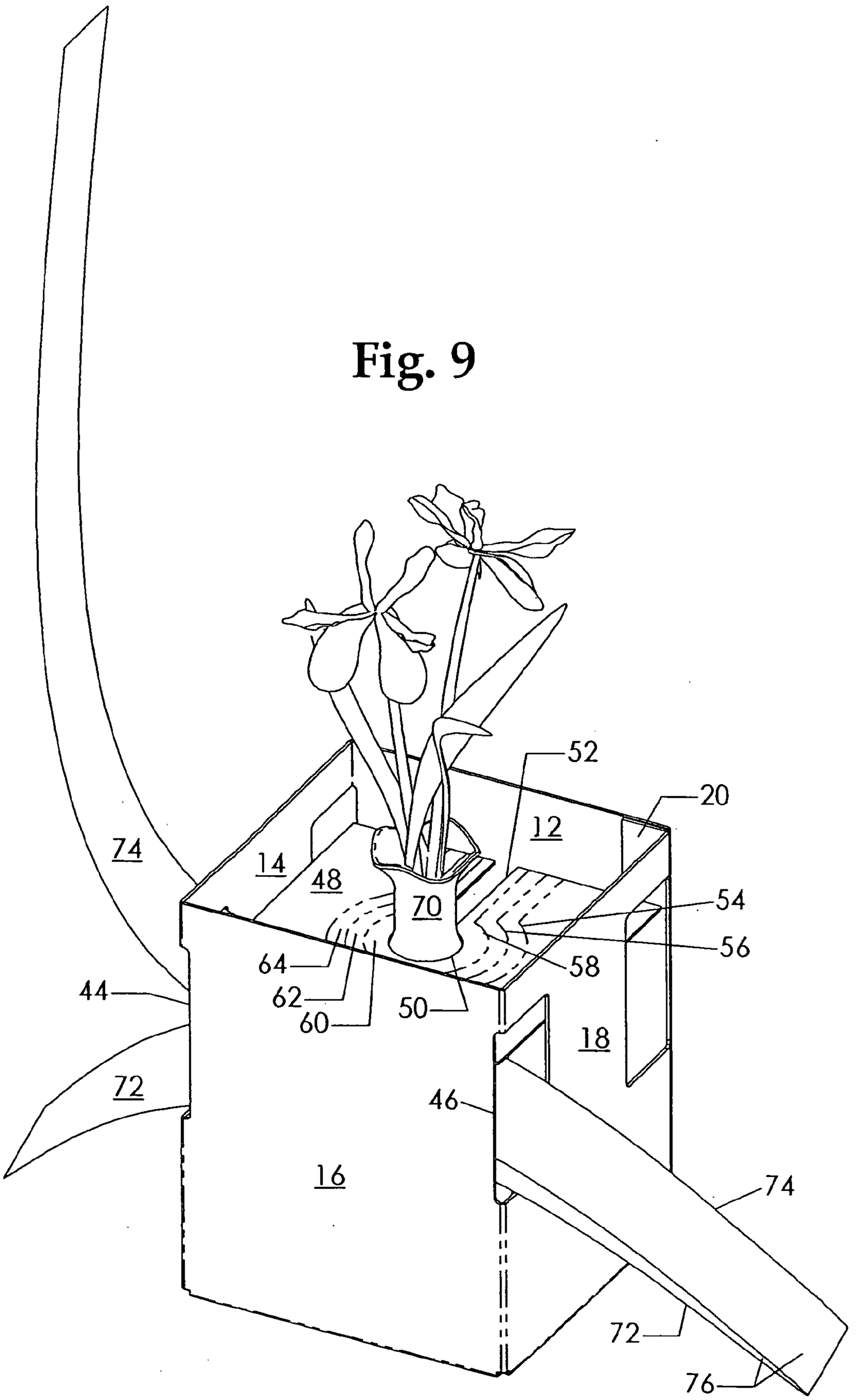
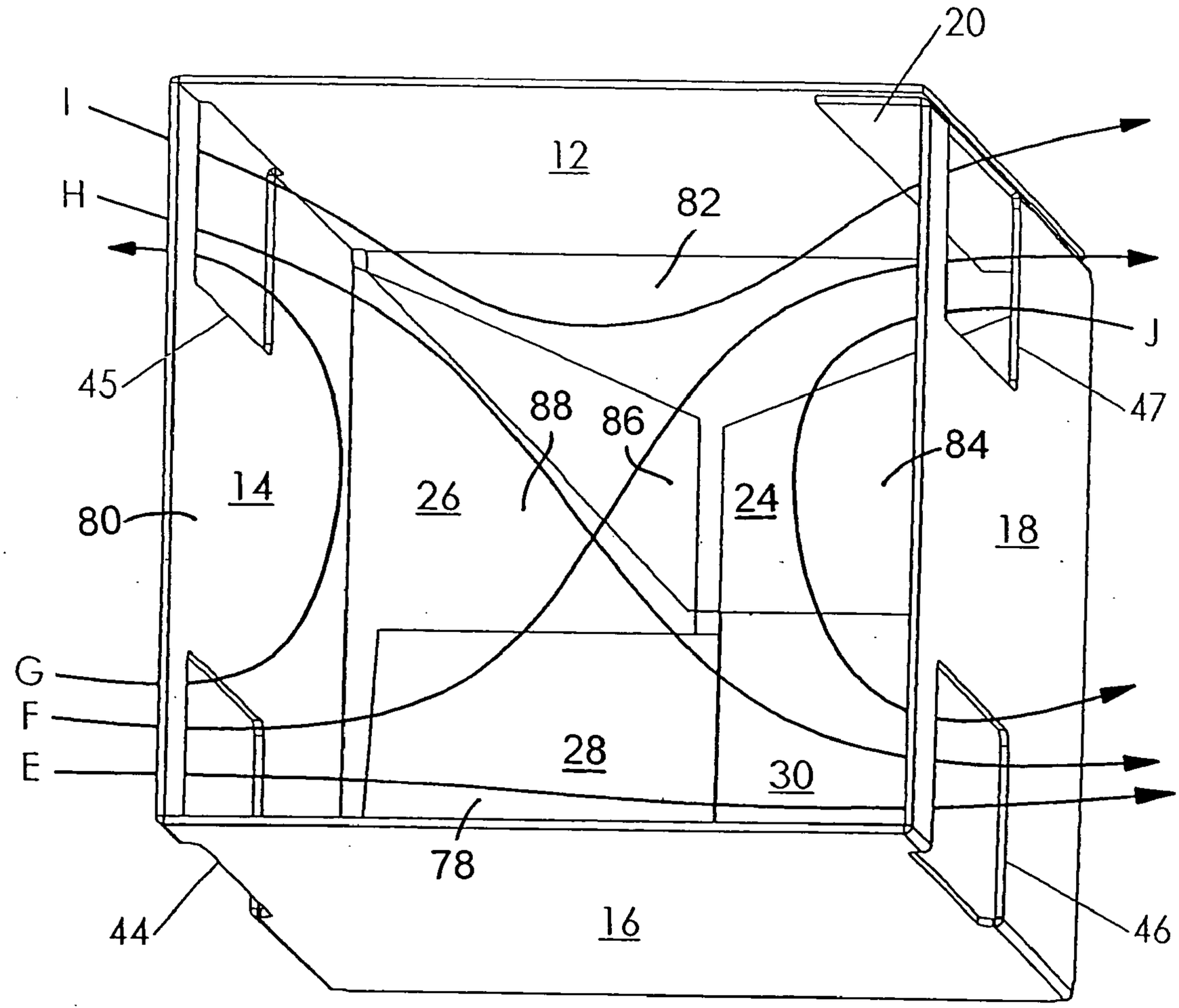


Fig. 10



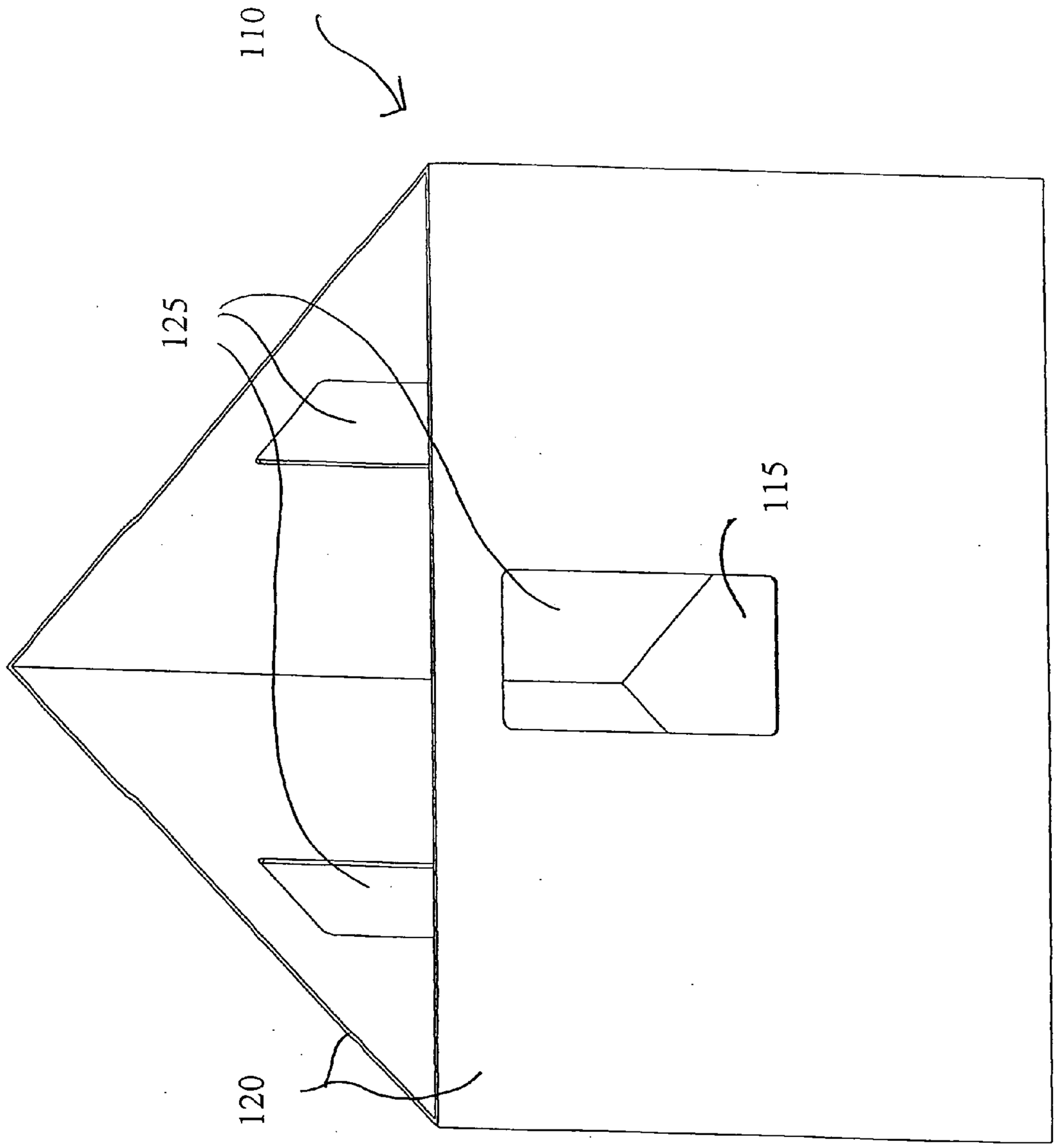


Figure 11

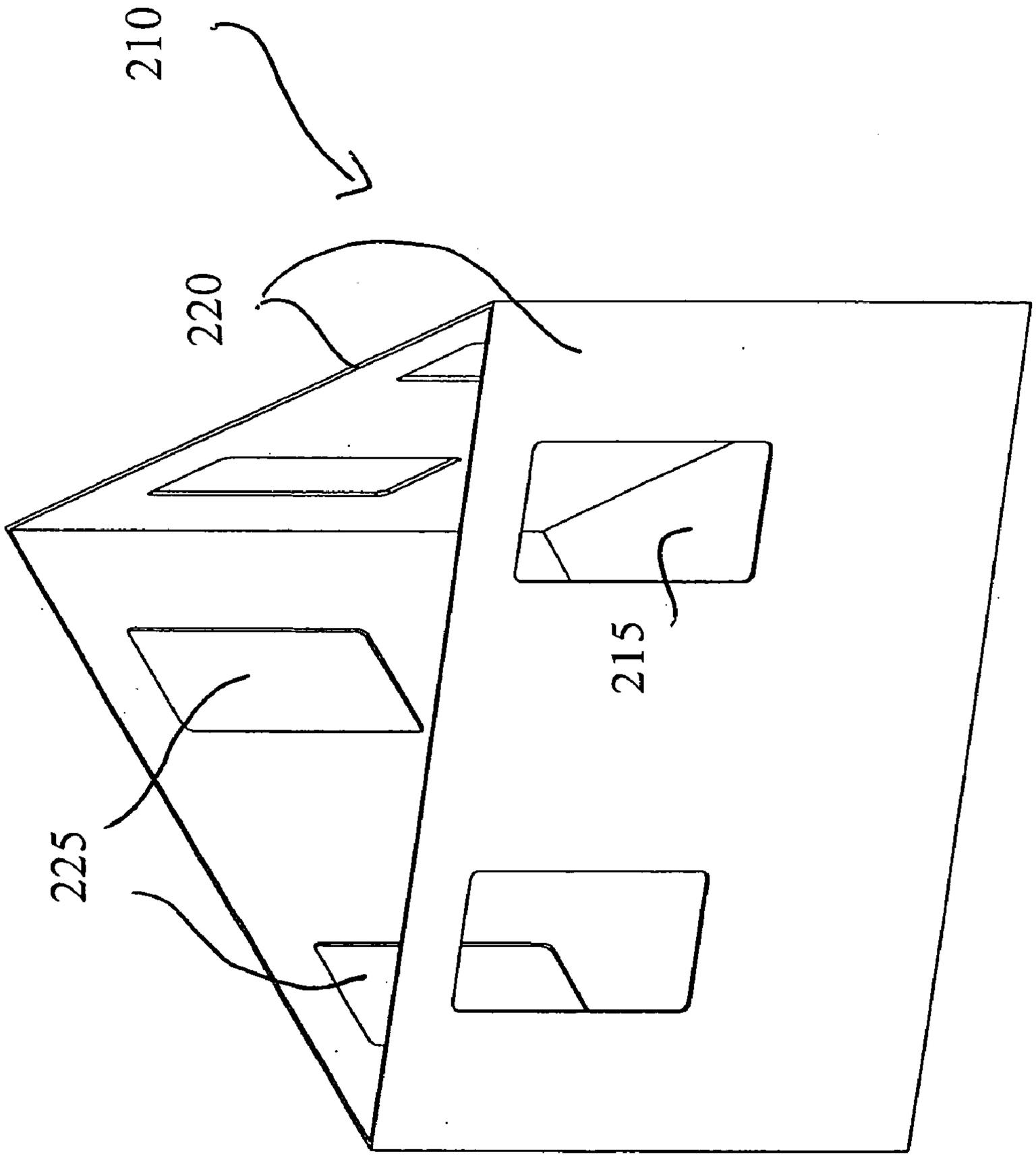


Figure 12

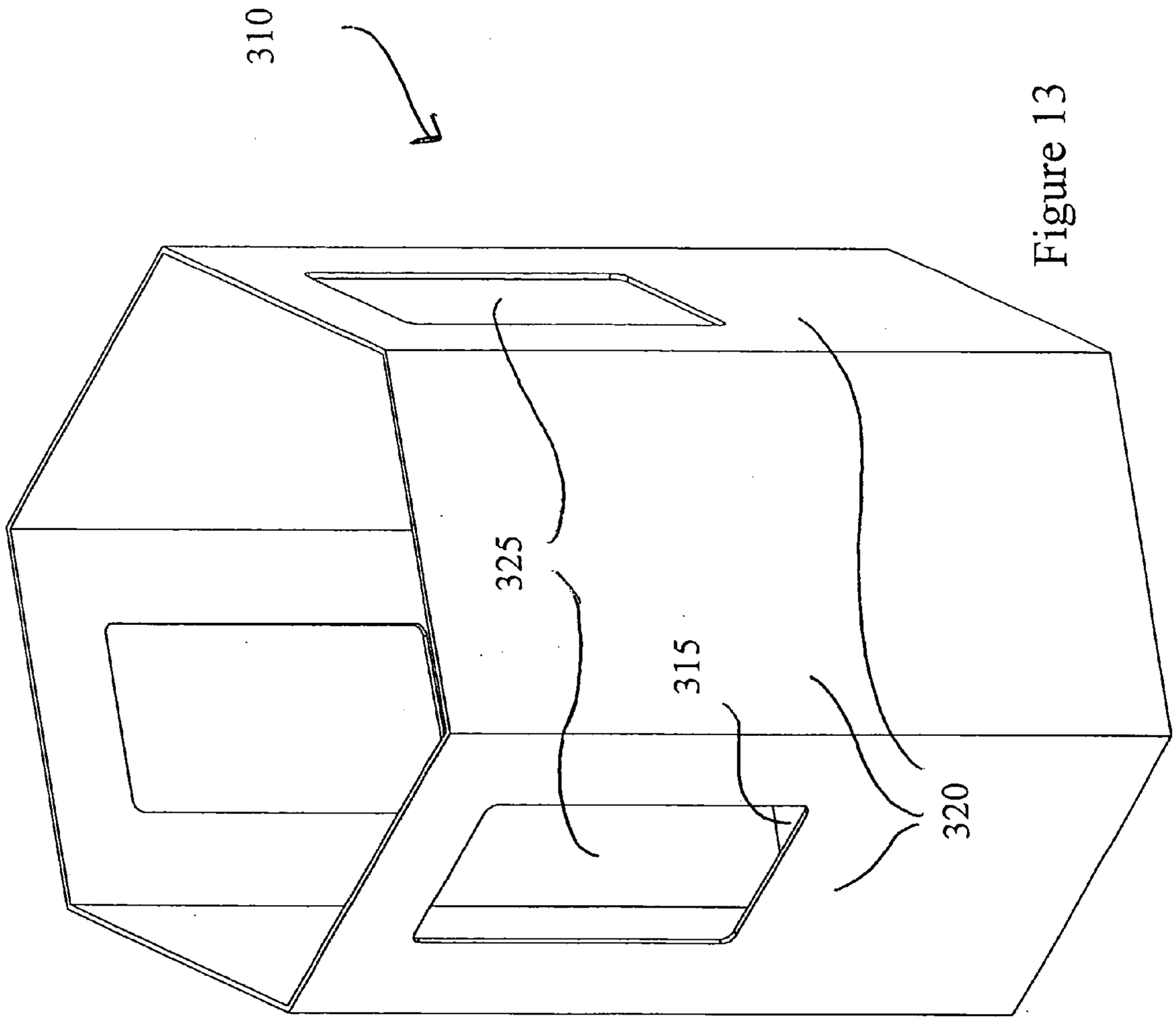


Figure 13

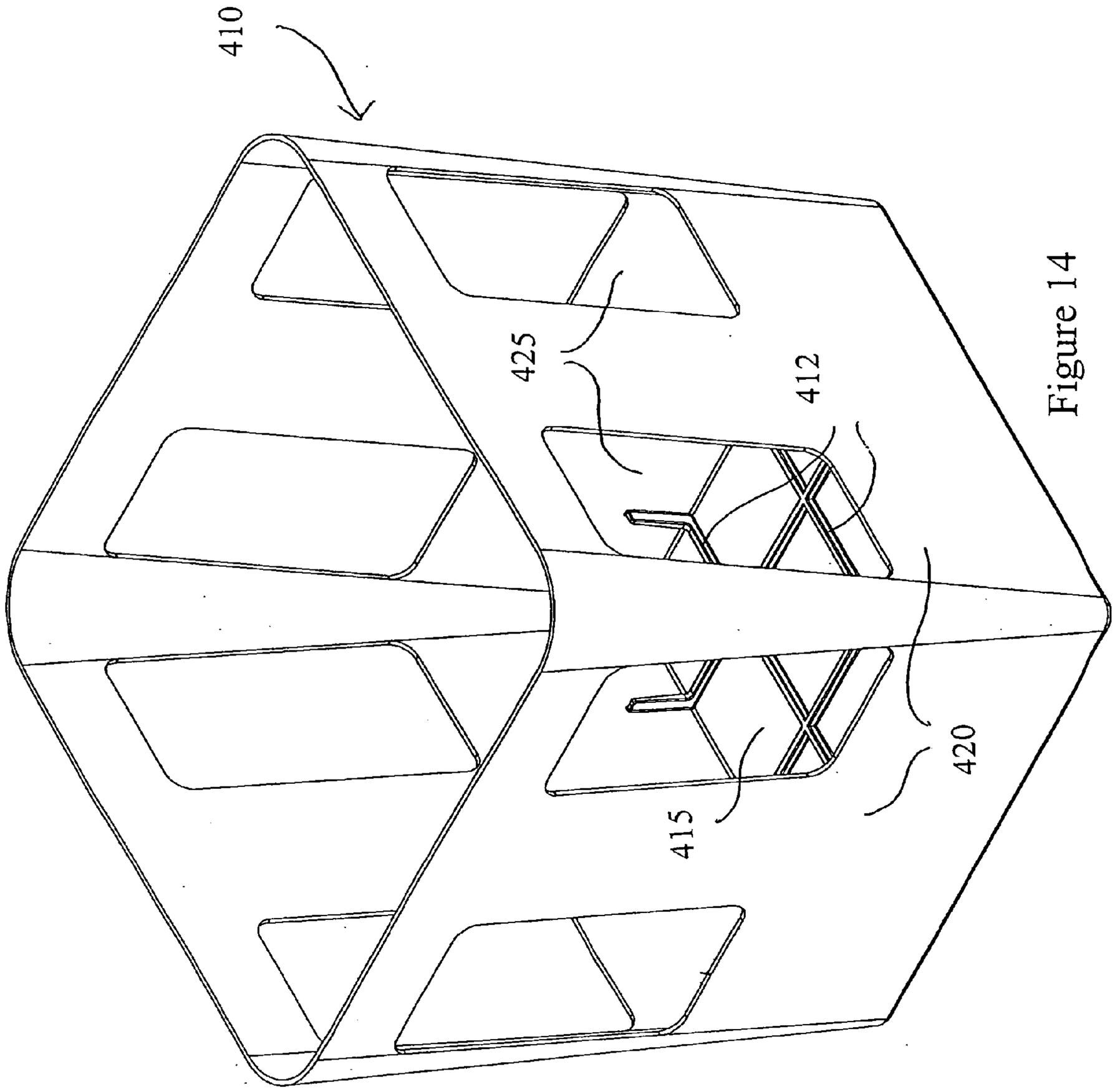


Figure 14

Fig. 15

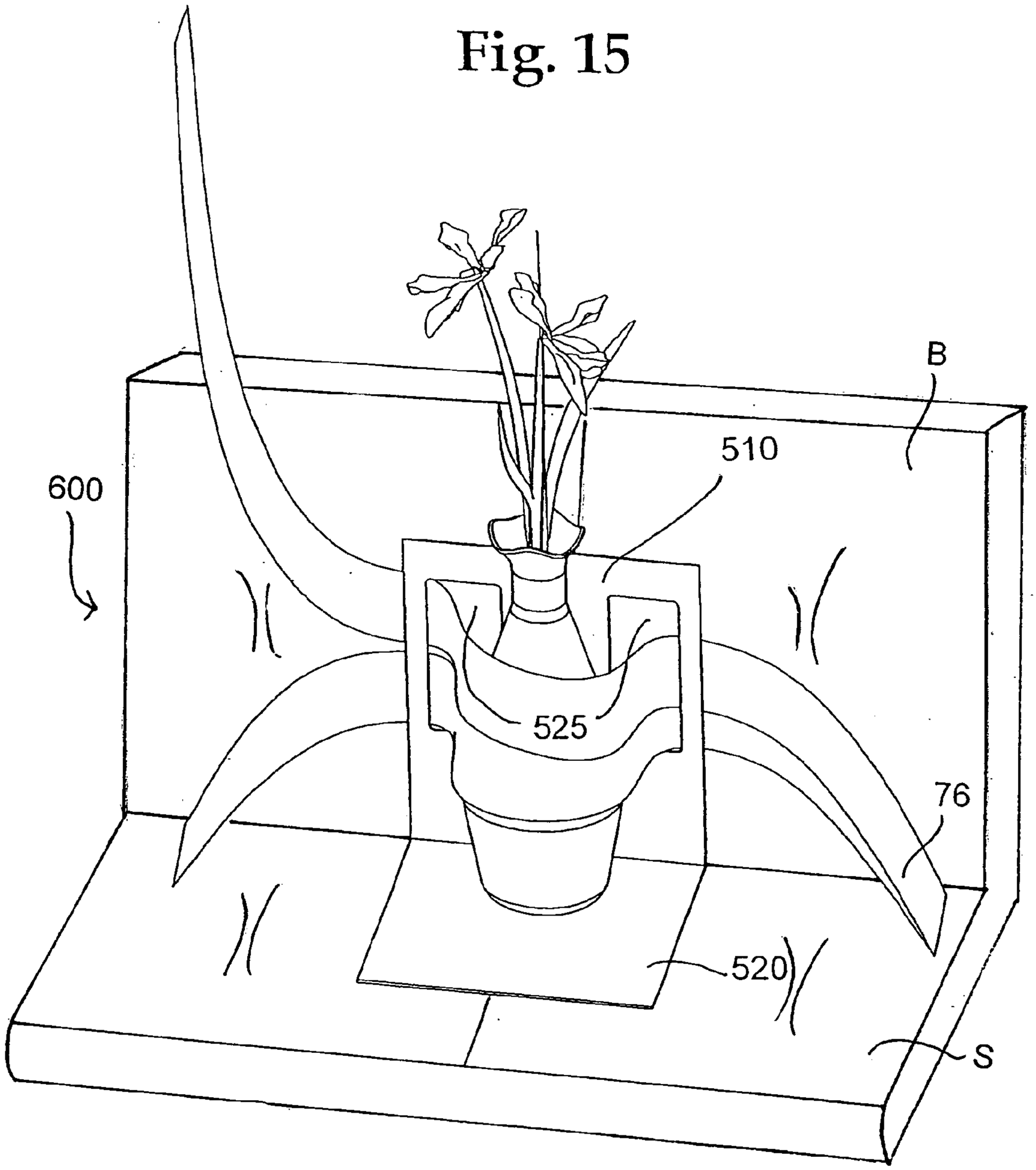
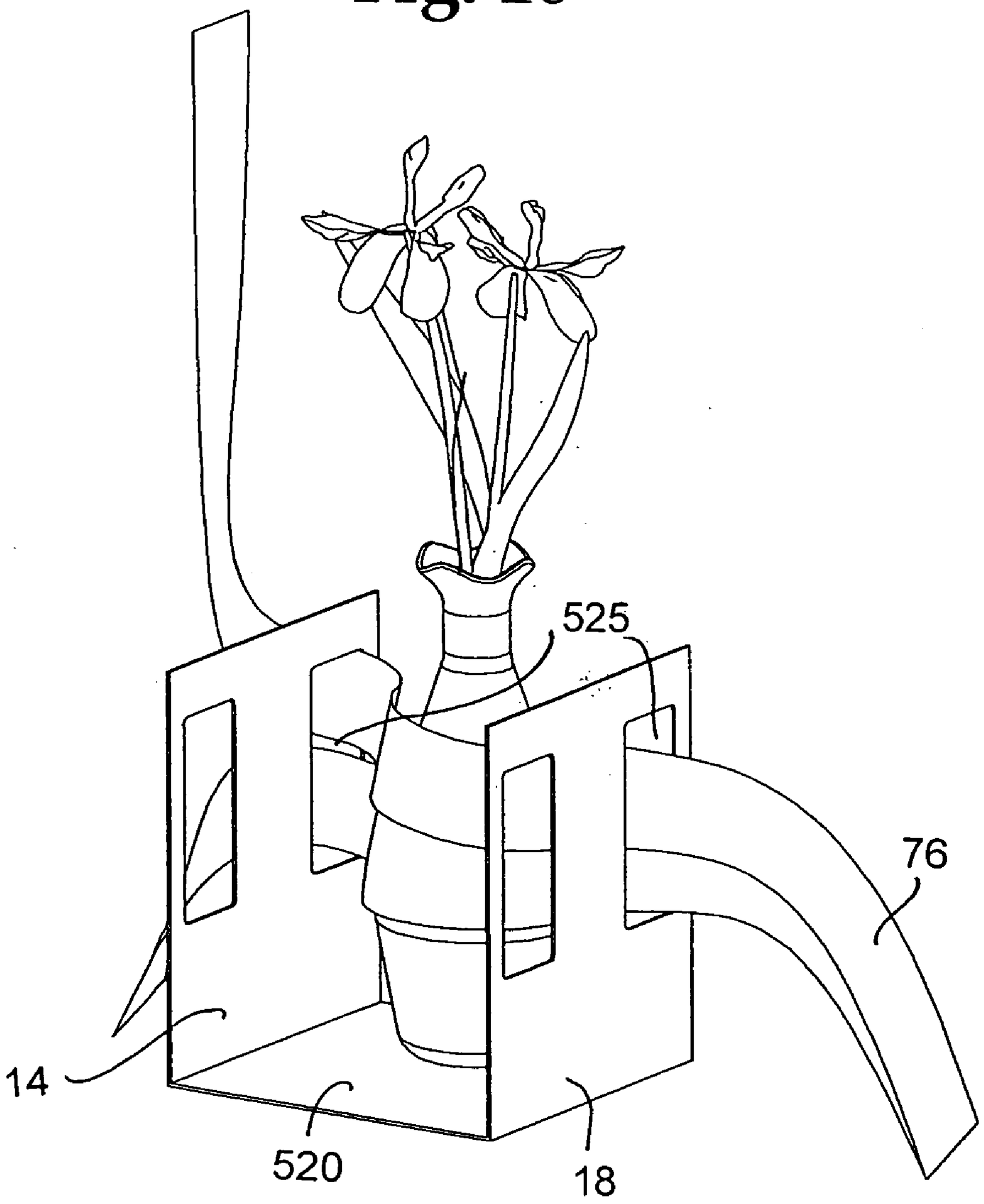


Fig. 16



APPARATUS AND PROCESS FOR SECURING AN OBJECT TO THE SEAT OF AN AUTOMOBILE

[0001] This application is a non-provisional application, and claims priority from Provisional U.S. Patent Application Ser. No. 60/499,672, filed on Sep. 2, 2003, entitled "Collapsible Container With Restraining Features and Means of Securing," the disclosure of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] This invention relates to a collapsible container which can be stored flat until used, then erected quickly, having a sturdy bottom, and features which allow the container to be restrained in a vehicle by means of a safety belt, and which can be used to transport objects which are susceptible to tipping, shifting, sliding, or falling over in a moving vehicle. More particularly, this invention relates to a container style and system that can be used to substantially improve time and space efficiencies in a retail store, provide superior protection of the product being transported, and enhance customer satisfaction and safety.

BACKGROUND OF THE INVENTION

[0003] Many retail businesses, particularly in the floral industry, sell items that are fragile and/or susceptible to tipping, sliding, or falling over in a moving vehicle. If the item has not been packaged properly, it can be very challenging and potentially hazardous for a customer who has purchased such an item to transport the item home, particularly if the customer is traveling alone. The roads would be much safer, and customers would be much more satisfied, if the customers could pay full attention to their driving instead of trying to keep their new purchase from falling over.

[0004] In the retail environment, where point of purchase packaging is used, it is important that the packaging materials can be quickly and easily used. It is also important to be able to stow sufficient quantities ready for use, close at hand, while taking up as little space as possible.

[0005] In the prior art, styles of packaging are available for the purpose of aiding in transporting and stabilizing products such as a vase floral arrangement or other unstable product. However, many of these styles were intended for commercial use, and are therefore too bulky, time consuming, too expensive, or difficult to use for point of purchase or consumer use.

[0006] Other prior art items, which are intended for point of purchase or consumer use, do not perform satisfactorily. They are frequently too flimsy or too short to adequately support the types of products that need support the most. In addition, the seats of vehicles are increasingly designed to conform to the human body; therefore the seats, not being flat, impede the stability of any rigid item placed thereon, which increases the need for the item to be restrained. Prior art styles of packaging or stabilizing devices fail to provide means for securing them in a vehicle. If a customer does attempt to secure an item such as a floral arrangement by means of a seatbelt, the lap belt usually slides to the bottom of the item where it does little if any good, while the shoulder strap frequently gets in the way or causes damage to the arrangement. Prior art styles of packaging also require a significant amount of time to assemble, and once assembled, they require a significant amount of space, which is a real problem particularly at busy times in the retail environment, when time and space are in short supply.

SUMMARY OF THE INVENTION

[0007] This invention comprises a container and method of using the same, wherein the container has a pair of openings which facilitate restraining of the container and its contents by means of a common automobile seat belt.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The accompanying drawings illustrate several aspects of embodiments of the present invention. The drawings are for the purpose only of illustrating preferred modes of the invention, and are not to be construed as limiting the invention. Preferred embodiments of the invention are shown in the attached drawings in which:

[0009] **FIG. 1** is a flat blank used to make the preferred embodiment of the invented container, a box.

[0010] **FIG. 2** is a plan view looking down into the inside of the box of **FIG. 1**, at the start of the action of erecting the box.

[0011] **FIG. 3** is a plan view looking down into the inside of the box of **FIGS. 1-2**, in its erected state.

[0012] **FIG. 4** is a perspective view of the side of the box of **FIGS. 1-3** at the start of the action of erecting the box, showing the tabs folded into the box.

[0013] **FIG. 5** is a perspective view of the side of the box of **FIGS. 1-4** after it has been erected.

[0014] **FIG. 6** is a plan view looking down on an insert which may be placed into the box of **FIGS. 1-5**.

[0015] **FIG. 7** is a perspective exploded view of the insert of **FIG. 6** with a section being removed.

[0016] **FIG. 8** is a perspective, exploded view of the box of **FIGS. 1-5**, with the addition of a floral arrangement and the insert of **FIG. 6**.

[0017] **FIG. 9** is a perspective view of the box of **FIGS. 1-5** and **8**, with the floral arrangement of **FIG. 8** and the insert of **FIGS. 6 and 8** inside, and a seat belt inserted through the openings in the box.

[0018] **FIG. 10** is a perspective view of the box of **FIGS. 1-5** and **8-9** with arrows showing various paths along which a seat belt may be inserted and various spaces in which an object may be placed.

[0019] **FIGS. 11 and 12** illustrate triangular embodiments of the invented container.

[0020] **FIG. 13** illustrates a hexagonal embodiment of the invented container.

[0021] **FIG. 14** illustrates a stackable embodiment of the invented container without an automatic bottom wherein the top end is wider than the bottom end.

[0022] **FIG. 15** illustrates an embodiment of the invented container, comprising a back panel with two openings and a bottom, resting on an automobile seat.

[0023] **FIG. 16** illustrates an embodiment of the invented container comprising two sidewalls with two openings each and a bottom.

DETAILED DESCRIPTION OF THE DRAWINGS

[0024] I do not intend to list all of the products for which this invention may be useful, nor do I intend to limit the scope of use to retail businesses, or the floral industry, since the specific applications which I envision are far too numerous. A reference to the specific product of a vase or to the industry is, however, useful for the purpose of example and for convenience of description.

[0025] The box blank **10** of **FIG. 1** includes cut lines that are shown in the drawing by means of solid inked lines and score lines that are shown in the drawing by means of phantom lines. First flap line **36** and third flap line **38**, however, may be either scored or semi-pierced. Although corrugated cardboard is the preferred choice of materials from which to make the box blank **10**, other materials that can be formed into a similar configuration and be either bonded or joined, such as paperboard, plastic, foam, or composites, would also work. In the event that another material is used, it may not be necessary for the box blank **10** to be pre-formed in a flattened state as shown; it could instead be pre-formed into a partially folded, or a fully folded state, as shown in **FIG. 2-FIG. 5**. This is possible with materials such as plastics or composites.

[0026] The box blank **10** is scored by four spaced parallel lines to form four side panels **12-18** and an end flap **20**. When the box blank **10** is folded along these score lines, and the end flap **20** is attached to the inside surface area **22** of first side panel **12**, the four side panels **12-18** form a tube with a square or rectangular cross section.

[0027] The box, when erected, is preferably greater than about 3¾ inches wide and greater than about 4½ inches tall. Preferred embodiments that will be usable for many floral arrangements will be in the range of between about 6 and 15 inches wide by between about 6 and 24 inches tall. The preferred embodiment of the box is comprised of side panels **12-18** which are 9⅛ inches high by 7 inches wide.

[0028] The range of dimensions discussed above for the box may be achieved with side panels **12-18** which are at least 3¾ inches wide and at least 4½ inches tall, and preferably between about 6 and 15 inches wide by between 6 and 24 inches high. If the side panels **12-18** are smaller than 4½ inches tall, there will not be room for openings **44,45,46,47** through which the seat belt **76** may easily pass, whereas if the side panels **12-18** are wider than 15 inches, the box may support itself in the upright position, which may obviate the need for the invention to prevent the box from tipping over; however, such a box would still slide along the automobile seat, the prevention of which is another benefit of the invention.

[0029] Extending from the bottom of each of the side panels **12-18** is an automatic bottom closure flap, **24,26,28, 30**. Of these closure flaps, first closure flap **24** and third closure flap **28** have attachment half-flap panels **34** and **42**, and bottom half-flap panels **32** and **40**. First bottom half-flap panel **32** and third bottom half-flap panel **40** form part of the bottom of the box. The inside surface of first attachment half-flap panel **34** is attached to the outer surface of second closure flap **26**. Likewise, the inside surface of third attachment half-flap panel **42** is attached to the outer surface of the fourth closure flap **30**.

[0030] It should be noted that first closure flap **24** is not connected to fourth closure flap **30**, and second closure flap **26** is not connected to third closure flap **28**. Thus when the box blank **10** is folded between second side panel **14** and third side panel **16**, and between first side panel **12** and fourth side panel **18**, the box lies flat, as the closure flaps fold up and into the box, as shown in **FIG. 2** and **FIG. 4**.

[0031] The aforementioned features of closure flaps **24-30** are the features of what is commonly termed in the corrugated box industry as an "automatic bottom". The bottom is considered "automatic" because the closure flaps slide into place, making a square box, when pressure is applied. Other features which may be incorporated into the automatic bottom, but are not necessary, are a locking bottom, various relief notches, guide contours, and other features that may or may not add utility.

[0032] The auto-bottom feature allows the pre-made boxes to be shipped and stored in a minimum amount of space, and with maximum cost savings. Because the boxes are pre-made, or in other words already folded and bonded, as much as 45 seconds per box can be saved in the time required to prepare a box to be filled, as compared to boxes which were not already folded and bonded. Because of the large amount of time required to assemble other boxes, many retail stores spend time pre-making boxes, in anticipation for the day's business, so that the customers will not have to wait for the boxes to be assembled. These other boxes take on their full cubic shape when pre-made, and require a significant amount of space while waiting to be filled. On the other hand, the box of **FIGS. 1-10** can be stored flat until ready to use.

[0033] I wish to make particular note of second opening **44** and third opening **46**, which are on opposing side panels **14, 18**. When the box blank **10** is erected into a box, second opening **44** and third opening **46** together form a passage through which a seat belt **76** or other strap may be passed to secure the box for transport in a vehicle. It is desirable that second opening **44** be placed in the upper front region of second side panel **14**. Likewise, third opening **46** should be situated at the upper front region of fourth side panel **18**. Each of second opening **44** and third opening **46** may cross partially or even entirely over into third side panel **16**; however it is not necessary that they do so.

[0034] First opening **45** and fourth opening **47**, also on opposing side panels **14, 18**, help create symmetry that make orienting the box simpler. Although this invention may be constructed with or without first opening **45** and fourth opening **47**, it is desirable to include them, since they provide increased functionality and greater flexibility in the way the box is used. A seat belt **76** may also be passed through first opening **45** and fourth opening **47**. The seat belt **76** may also be passed through the box in other configurations, as illustrated in **FIG. 10**.

[0035] While openings **44,45,46,47** are all illustrated as being at the same level above the bottom of the box and in about the top half of the side panels, the openings may be at different levels above the bottom, and/or in the middle or lower portions of the sidewall.

[0036] The openings **44,45,46,47** are preferably 4 inches long by 1⅞ inches wide. While openings **44,45,46,47** as small as about 2½ inches long by about 1 inch wide may be sufficient for receiving the seatbelt **76** and its tongue end, larger openings of about 3½ to 5 inches high by about 2 inches wide are preferred, because larger openings make it easier to "thread" the seat belt **76** tongue into the second opening **44** and out the third opening **46**. The openings **44,45,46,47**, are preferably vertical or diagonal, corresponding to the angle of the seat belt **76**; however, the openings **44,45,46,47**, may also be horizontal or any other angle.

[0037] The operation of the box is illustrated in **FIGS. 2-5**. The closure flaps **24-30** are pushed up and inside the box to make the box lie flat for shipment or storage, as shown in **FIG. 4**. When the opposite sides of the flattened box are pushed toward each other by a person in the direction of arrows A and B (**FIG. 2**), the closure flaps **24-30** are automatically pulled down into a single bottom plane which is perpendicular to the side panels **12-18**, forming a box.

[0038] **FIG. 3** shows the inside of the closure flaps **24-30** when the box is in an erected state. At this stage, the box has an appearance best seen in **FIG. 5**.

[0039] **FIG. 6** shows one type of insert **48** that may be used to provide additional support which may be necessary for smaller, fragile objects. Other styles of inserts or means of support may be used as appropriate; however it is useful by way of example to provide a depiction of a particular insert. The phantom lines **54-58** depict semi-pierced lines that allow any of sections **60-64** to be easily detached, in order for the insert **48** to fit around a larger object. Insert **48** is designed to fit onto a cylindrically shaped object, such as a vase, by sliding the insert onto the object through slit **52** up to circular cutout **50**. The width of the insert **48** should be slightly less than the width of the side panels **12-18** so that the insert **48** will fit snugly into the box when erect.

[0040] **FIG. 7** shows how the insert **48** can be adjusted to fit over a larger object by removing one of sections **60-64**. **FIG. 7** is shown with first section **60** removed revealing a larger slit **68** and larger circular cutout **66**.

[0041] **FIG. 8** illustrates part of the system in which the box and insert **48** are used. In the case of the box being used with a floral arrangement **70**, the box is erected, and the insert **48** is slid onto the floral arrangement **70**, as indicated by arrow C, and then the vase with insert are placed inside the box, as indicated by arrow D. It should be understood that the use of an insert **48** or other means of support is not always necessary, as in the case of a larger or less fragile item.

[0042] **FIG. 9** illustrates an embodiment of the invention as it pertains to a retail customer using the box to transport purchased goods. The box with floral arrangement **70** and insert **48**, if needed, is placed on the seat of an automobile with first side panel **12** against the back of the seat. A seat belt **76** is then passed through second opening **44** and third opening **46**, and then fastened to secure the box and its contents in the vehicle. The seat belt **76** passes generally horizontally through the box and between the holes **44**, **46**. As shown in **FIG. 9**, the lap belt **72** secures the box to the seat. The shoulder strap **74** is kept from interfering with the floral arrangement by second opening **44** and third opening **46**. Once the seat belt **76** is buckled into the seat belt buckle, the box is secured to the seat of the automobile.

[0043] More than one pair of openings may be incorporated into the box at other locations, to facilitate multiple seat belt styles or multiple sizes of contained objects, or to allow installation in multiple orientations of belt to box or box to seat. **FIG. 10** illustrates various paths E, F, G, H, I, and J by which a seat belt may be passed through any two of the openings **44**, **45**, **46**, and **47**. These various paths allow objects of various sizes and shapes to be easily secured within the box in locations **78**, **80**, **82**, **84**, **86**, or **88**, with or without the use of the insert **48**.

[0044] While **FIGS. 1-10** illustrate a container that is a rectangular box with four panels, alternative embodiments of the invented container may comprise different numbers of parts and/or different arrangements of panels. Thus, the present invention may also be embodied in a triangle carton **110**, **210**, as illustrated in **FIGS. 11 and 12**, or a hexagon carton **310**, as illustrated in **FIG. 13**, for example. Alternatively, the present invention may be embodied in a stackable carton **410** without an automatic bottom wherein the top end is wider than the bottom end, as illustrated in **FIG. 14**. The stackable carton may not be foldable, but may rather be made of molded plastic or other suitable material so that it is a single, integral piece. Such an embodiment may also be beneficial for its ability to contain spilled water or condensed moisture and prevent the same from contacting or staining the vehicle upholstery. Optionally, spacers **412** may be added or molded integrally into the stackable carton **410** to prevent multiple stackable cartons **410** from stacking so closely and tightly that they cannot easily be separated.

[0045] Many other shapes, sizes and configurations are envisioned, with the preferred features being a carton bottom for stabilizing the floral arrangement or other item on a car seat and with a carton sidewall of one or more panels adapted to be secured by a seatbelt, preferably via openings through which the seatbelt is guided. As may be seen in the examples in **FIGS. 11-14**, cartons **110**, **210**, **310** and **410** include a bottom **115**, **215**, **315**, **415**, and a sidewall **120**, **220**, **320**, **420** with a plurality of openings **125**, **225**, **325**, and **425** through which the seatbelt may extend. The seatbelt pulls the carton sidewall against the back of the vehicle seat. Most preferably, the seatbelt portion that is inside the carton extends around the floral arrangement vase or container in such a way that the vase or container is between the seatbelt and at least one sidewall panel of the carton and the floral arrangement is pulled toward the back of the seat. The floral arrangement or other item is therefore stabilized, preferably by being supported by the bottom of the carton, at least partially surrounded by the sidewall of the carton, and secured relative to the carton and the vehicle seat by the seatbelt.

[0046] **FIGS. 15 and 16** illustrate embodiments of the invented container that include fewer panels and that do not surround all sides of the floral arrangement or other item. Thus, the present invention may be embodied in only a back panel **510** and a bottom **520**, wherein the back panel **510** comprises two openings **525** which are configured to allow a seatbelt **76** to pass through them, as shown in **FIG. 15**. In this embodiment, the generally vertical panel **510** rests against the back B of the vehicle seat **600** and the generally horizontal bottom **520** rests on the seat portion S of the vehicle seat **600**. The present invention may also be embodied in only two side panels **14**, **18**, and a bottom **520**, wherein the side panels **14**, **18** each comprise at least one

opening **525** configured to allow a seat belt **76** to pass through them, as shown in **FIG. 16**.

[**0047**] The top of the container is preferably left open and free from flaps that could interfere with loading the container. The open top allows delicate objects such as the flowers in a vase floral arrangement to extend freely out the top. The open top also reduces interference with other delicate items such as a bow or delicate glasswork that might be attached to the vase. The open top also reduces material requirements of the container, which is better for the environment, and reduces cost. However, flaps, sheath material, cellophane, or other protective material may extend up from the main body of the container to shield, support, or cover upper portions of the floral arrangement **70** or other item.

[**0048**] The openings, when used to restrain the container and its contents with a seat belt, help to keep the shoulder strap from interfering with a floral arrangement that may be contained in the container. The seat belt is preferably not attached or fixed to the container, but simply passes through the container. The seat belt secures the floral arrangement within the container by pressing against the floral arrangement. The floral arrangement is then pressed against the container and toward the seat of the automobile.

[**0049**] In its simplest embodiments, the invented floral arrangement stabilization container system may consist of or consist essentially of a container with one or more vertical side panels, a bottom, a plurality of openings in the side panel(s) receiving a seat belt, the seat belt extending between the openings and around a portion of a floral arrangement vase to pull the container and the box against the automobile seat.

[**0050**] Although this invention has been described above with reference to particular means, materials and embodiments, it is to be understood that the invention is not limited to these disclosed particulars, but extends instead to all equivalents within the scope of the following claims.

I claim:

1. An apparatus for stabilizing an item on a seat of a vehicle, the apparatus comprising:

a container having a sidewall, a bottom for placement on a seat of a vehicle, and an interior space for receiving an item to be stabilized, wherein the sidewall comprises at least one side panel extending generally vertically up from the bottom, and wherein the sidewall comprises at least two spaced openings; and

a vehicle seat belt extending through two of said at least two spaced openings to secure the container to the seat.

2. An apparatus according to claim 1, wherein the container sidewall has four side panels and is generally rectangular.

3. An apparatus according to claim 2, wherein two of said four side panels each have one of said openings.

4. An apparatus according to claim 2, wherein one of said four side panels has two of said openings.

5. An apparatus according to claim 1, wherein the container sidewall has three side panels and is generally triangular.

6. An apparatus according to claim 5, wherein two of said three side panels each have one of said openings.

7. An apparatus according to claim 1, wherein the container sidewall has only two side panels and each of said only two side panels has at least one of said openings, so that the seat belt passed through both of said only two side panels.

8. An apparatus according to claim 7, wherein said two side panels are on opposing sides of the bottom so that the container is generally a U-shape.

9. An apparatus according to claim 1, wherein the container sidewall has only one side panel, so that the container is generally an L-shape.

10. An apparatus of claim 1, further comprising:

a floral arrangement inserted into the interior space of the container, wherein the floral arrangement is the item to be stabilized.

11. An apparatus of claim 10, wherein the seat belt is pressing against a vase containing the floral arrangement to pull the vase against the sidewall of the container and stabilize the floral arrangement in the container.

12. An apparatus as in claim 1, further comprising an automatic bottom.

13. An apparatus for securing a box to a seat of an automobile comprising:

a box comprising four side panels; and

the box further comprising two openings on at least one of said four side panels;

wherein the box is on top of the seat of the automobile; and

a seatbelt passes through the two openings and is buckled into a seat belt buckle.

14. The apparatus of claim 13 wherein:

the side panels are between 4½ and 24 inches high, and between 3¾ and 15 inches wide; and

the openings are at least 2½ inches high and at least 1 inch wide.

15. The apparatus of claim 13 further comprising:

a floral arrangement;

wherein the floral arrangement is inside the box; and

the seat belt is pressing against the floral arrangement.

16. The apparatus of claim 13 further comprising:

an insert which is placed into the box;

wherein the insert is square and the width of the insert is slightly less than the width of the side panels; and

the insert comprises a slit and a circular cutout.

17. The apparatus of claim 16 wherein the insert receives a floral arrangement.

18. The apparatus of claim 13 wherein the box further comprises an automatic bottom.

19. The box of claim 13 further comprising an open top.

20. A process comprising:

placing a generally cylindrical object into a box;

placing the box onto a seat of an automobile;

passing a seat belt through two holes in the box and across the generally cylindrical object; and

buckling the seat belt into a seat belt buckle.

21. The process of claim 20 wherein the generally cylindrical object is a floral arrangement.

22. The process of claim 20 further comprising erecting a box blank into the box.

23. An apparatus for securing a carton to a seat of an automobile comprising:

the carton comprising a sidewall having a plurality of side panels;

wherein a shape of the carton is selected from the group consisting of a triangle, a square, and a hexagon;

the carton further comprises at least two openings on the sidewall;

wherein the carton is on top of the seat of the automobile; and

a seatbelt passes through the two openings and is buckled into a seatbelt buckle.

24. The apparatus of claim 23 wherein:

the side panels are between 4½ and 24 inches high, and between 3¾ and 15 inches wide; and

the openings are at least 2½ inches high and at least 1 inch wide.

25. The apparatus of claim 23 wherein a top end of the carton is wider than a bottom end of the box, and the carton is adapted to stack on top of another carton.

26. The apparatus of claim 23, wherein the seat belt comprises a lap belt and a shoulder belt, and both the lap belt and the shoulder belt extend through the openings.

27. An apparatus comprising:

at least one side panel and a bottom connected to said at least one side panel;

wherein said at least one side panel comprise a total of at least two openings; and

a seatbelt passes through said two openings and is buckled into a seatbelt buckle.

28. The apparatus of claim 27 comprising only one side panel.

29. The apparatus of claim 27 comprising only two side panels.

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