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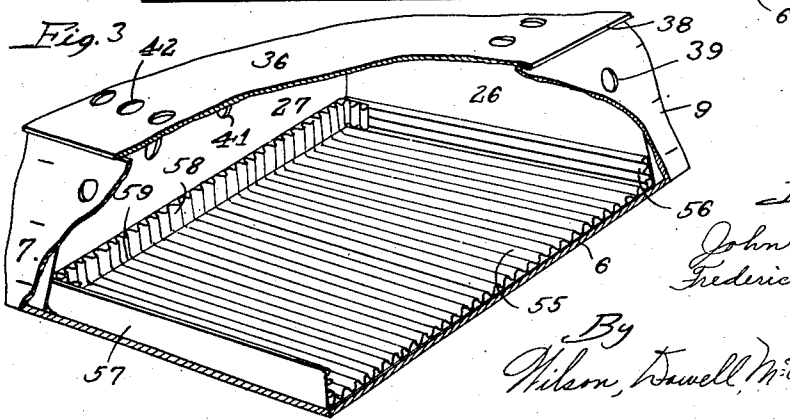
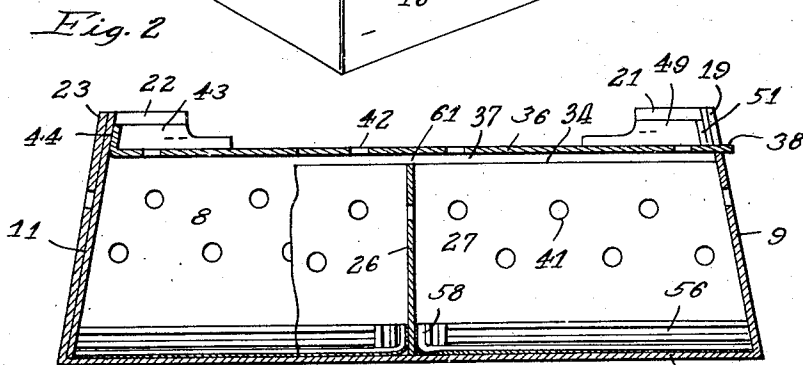
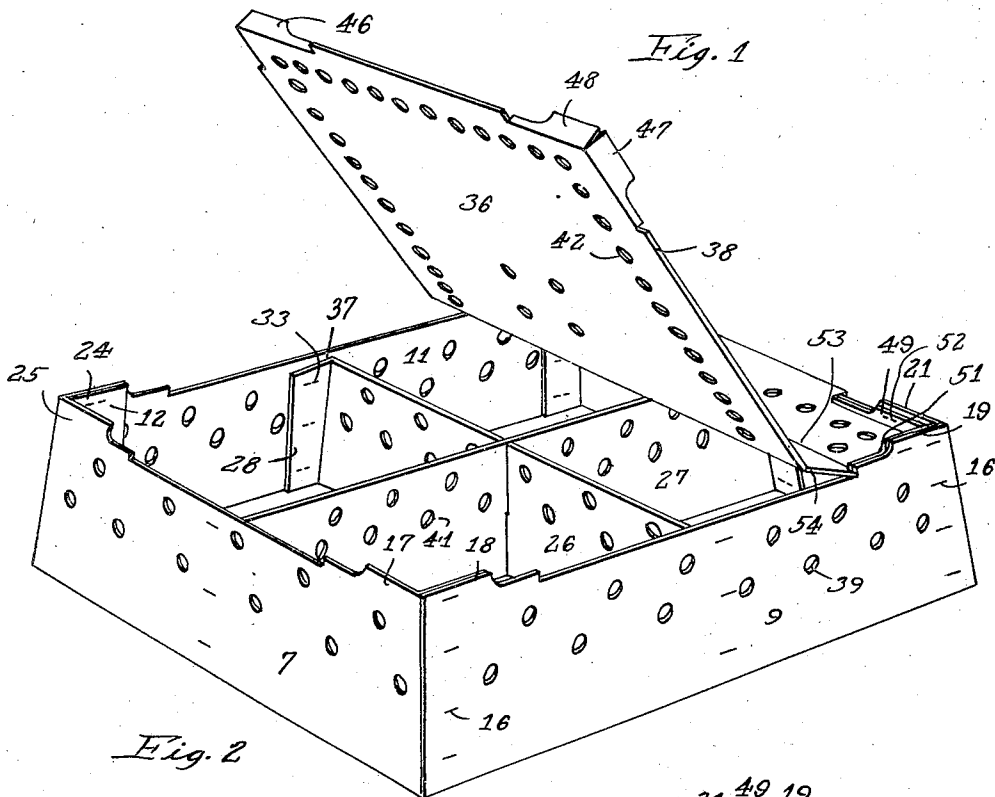
J. H. CONWAY ET AL

2,026,417

SHIPPING CONTAINER

Filed March 19, 1934

2 Sheets-Sheet 1



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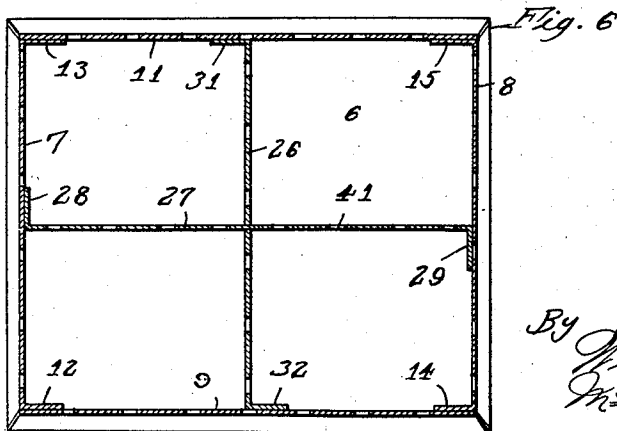
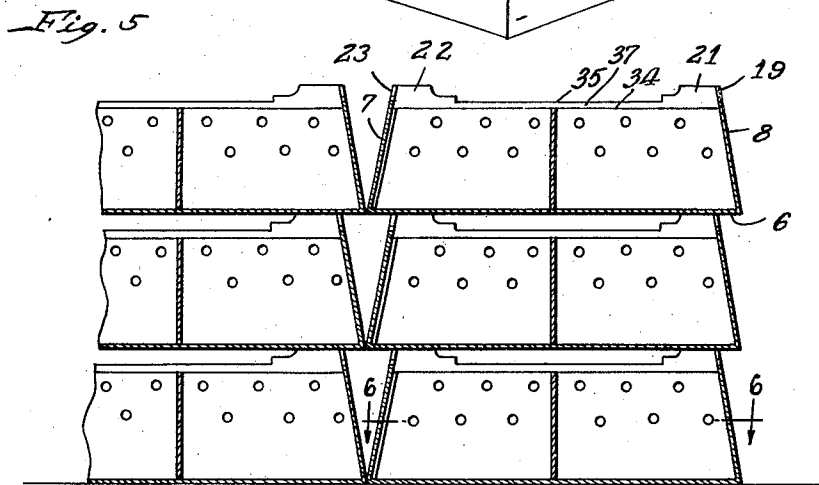
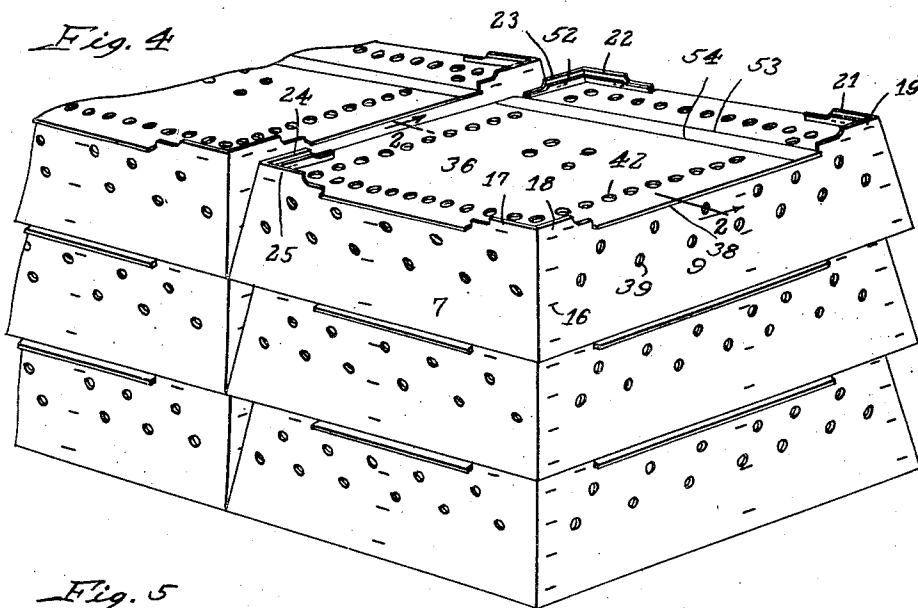
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SHIPPING CONTAINER

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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SHIPPING CONTAINER

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Application March 19, 1934, Serial No. 716,260

13 Claims. (Cl. 119—19)

This invention relates to shipping containers and has special reference to containers adapted to be employed in the shipment of chicks, as, for example, from the hatchery to the chicken raiser.

These containers have in the past generally consisted of a rectangular container having a top of substantially conventional construction provided with a plurality of holes, to permit the admission of air into the container. In many instances openings have been provided in the side walls to admit air. In this type of box, strips of wood are glued across the top of the container so that the containers cannot be piled one above the other in a manner to completely exclude air from the top of the container below. The tops are normally secured to the container by tying a string or cord around the center thereof. Such a construction is subject to numerous disadvantages. For example, the containers may be so stacked as to completely exclude air from the openings in the side walls thereof. Furthermore, even though the strips are positioned on the top of each container, the fact that the boxes may be compactly piled, considerably hampers the movement of air between the containers, particularly if the boxes are stacked in large numbers.

Another objection to this type of container is the fact that they cannot be stacked before the top is placed upon the container without the provision of special racks to permit the access of air to the interior of the container.

We have, therefore, aimed to provide a generally improved shipping container in which the side walls lie at an angle other than 90° with respect to the top and bottom thereof.

A further object of the invention is the provision of a container having improved means for spacing the containers when stacked in rows.

Another object of the invention is the provision of a container having an improved top.

A still further object of the invention is the provision of a shipping container which may be manufactured at relatively small costs.

Another aim of the invention is to provide a shipping container wherein the top can be stapled in a closed position.

Another object of the invention is the provision of a shipping container having improved means for preventing the chicks from being injured or damaged in shipment.

Other objects and attendant advantages will become apparent to those skilled in the art from the following description and the accompanying drawings in which—

Figure 1 is a perspective view of a container

embodying our invention showing the top in open position to permit observation of the interior;

Fig. 2 is a vertical section on the line 2—2 of Fig. 4, and through a container showing the ventilating space between the top and the partitions, the floor covering, and the manner of supporting the top;

Fig. 3 is a fragmentary perspective view of one corner of the container, partly in section;

Fig. 4 is a perspective view of a stack of containers embodying our invention showing the manner in which the sloping side walls and the spacing legs serve to permit access of air to all of the containers of a stack;

Fig. 5 is a vertical section through a stack of containers showing the manner in which they may be stacked without the tops, and

Fig. 6 is a horizontal section on the line 6—6 of Fig. 5 through the container.

This is a continuation in part of our copending application Serial No. 497,676, filed November 24, 1930.

The invention contemplates the provision of a shipping container for chicks, of box board or other like material, having parallelly disposed top and bottom portions and sloping side walls, that is, side walls lying at an angle other than 90° with respect to the top or bottom. Legs are provided on the side walls normally projecting upward at each corner of the container. The top is adapted to be placed across the opening of the container between the spacing legs and is provided with flaps adapted to be secured to the legs, to hold the top onto the container and to lend rigidity to the whole structure. While we have described the container as being particularly well adapted for the shipment of chicks, it will be understood that it may also be used for other things such as rabbits, and other small animals, as well as for fruits and vegetables or other materials where it becomes of importance to insure adequate ventilation to the contents of the container.

Referring now to the drawings, the numeral 6 designates the bottom of the shipping container which is provided with upwardly extending end walls 7 and 8 and side walls 9 and 11. The bottom and side walls may advantageously be formed from a single sheet of box board by suitably cutting out the corners and creasing the sheet to facilitate the bending thereof along the proper lines. Thus the walls 7 and 8 may be formed to provide flaps 12 and 13 on the side wall 7 and flaps 14 and 15 on the side wall 8. The flaps 12 and 14 are then secured to the side wall 9 by

means of staples 16 while the flaps 13 and 15 are secured to the side wall 11 in the same manner. The blank is so creased and secured together as to result in a box-like structure in which the upper diameter is less than the lower diameter, that is, with the side walls sloping inward from bottom to top as shown in the drawings. The blank is further cut to provide projections 17, 18, 19, 21, 22, 23, 24 and 25, on the upper edge of the side walls, the projections 17 and 18 being brought together at one upper corner of the box, the projections 19 and 21 at a second corner, the projections 22 and 23 at a third corner and the projections 24 and 25 at the remaining corner. Each pair of projections constitutes an upwardly projecting spacing leg whereby the bottom of a vertically adjacent box may be rested thereon as shown in Fig. 5, without the entire upper edge of the side walls 7, 8, 9 and 11 coming completely in contact with the bottom of the upper box. Partitions 26 and 27 are positioned within the box and are provided with flanges 28, 29, 31 and 32, through which the partitions are secured to the side walls of the box by means of staples 33. The widths of the partitions 26 and 27 are such that the upper edges 34 thereof lie in a plane below the plane of the upper edge 35 of the side walls a short distance such as to permit cross-ventilation between the upper edges of the partitions and the lower surface of the top. Thus the side walls project upward above the upper edge 34 of the partitions as shown at 37 and the cover 36 rests upon the side walls, the cover having outwardly extending edges projecting over the side walls as shown at 38. These overhanging side edges of the cover and the corner staples give the cover support along substantially its entire periphery. Openings 39 may be provided in each of the side walls if desired, to permit the access of air to the interior of the container. Further openings 41 may be provided in the partitions to permit the circulation of air through the container.

Referring now more particularly to Figs. 1 and 3, the cover 36 of the container is provided with a series of openings 42 adapted to permit the passage of air through the top and is of such outside diameter at its widest points as to permit it to rest upon the upper edge 34 of the side walls 7, 8, 9 and 11. Upwardly projecting flaps 43 and 44; 45 and 46; 47 and 48; and 49 and 51; are provided at each corner of the top 36 and are adapted to register with the spacing legs of the box, when the top is placed thereon. It will be seen that contact between the flaps and the spacing legs will normally be sufficient to hold the top on the box, since the inward slope of the side walls and spacing legs tends to pinch or hold the top downward. However, when the container is closed for shipment staples 52 may be passed through the flaps and the adjoining spacing legs to firmly secure the top upon the box and lend rigidity to the container. We have also so arranged the cover that two corners of the same may be stapled in place and a portion of the cover swung to open and close the container. Thus, as shown in Figs. 1 and 4, the cover is scored at two lines, as shown along 53 and 54. If the flaps 43-44 and 49-51 are stapled to the legs 22-23 and 21-19, the opposite edge of the cover may be swung about the scored lines 53 and 54, as shown in Figure 1. In this manner, the cover is secured firmly to the container but may be opened for inspection of the contents thereof. The op-

posite corners of the container may also be stapled for shipping.

In the shipping of chicks, it has been common to place straw on the bottom of the box to prevent the chicks from getting their feet caught between the partitions and the bottom of the container. This arrangement is objectionable because of the ease with which the straw can be moved about, and, when the straw is moved away from the partitions, it no longer serves its function. According to our invention, a corrugated paper sheet 55 is inserted in one or more compartments of the container, as shown in Figs. 2 and 3, the sheet being of slightly greater dimensions than the bottom of the compartments, so that, when inserted therein, edges 56, 57, and 58 will project upward along the walls. The sheet may be creased along its edge, as shown at 59, if desired, and is so inserted that the upstanding edges will lie against the partitions of the box. This floor covering member serves a number of purposes. Because of its relative stiffness, it is wedged firmly in place between the walls of the compartment, and, consequently, cannot be moved by the chicks. The upstanding edges positively prevent the feet of the chicks from becoming wedged between the partitions and the bottom of the container, regardless of how the container may be bent while being handled in shipment. Furthermore, the corrugations on the upper side of the floor covering serve to provide surface projections which can be grasped by the chicks so that they will not slide about and pile up in the compartments while the container is being handled. A further function of the corrugations is to receive the droppings so that the chicks standing on the upper edges of the ribs will have their feet supported practically free of the droppings.

It will be seen that the present construction offers a number of very decided advantages over those previously known. Referring to Fig. 5, it will be seen that because of the sloping side walls it becomes impossible to stack a plurality of these containers in such a manner that air cannot pass into them through the openings in the side walls or the openings in the top. The sloping side walls insure that at all times there will be ample air spaces throughout the stack and ample ventilation of each container regardless of its position in the stack. It is impossible to stack a plurality of the containers so that the openings in the side walls will be shut off.

A feature of the invention is the fact that the top lies in spaced relation to the upper edges of the partitions, as best shown at 61 in Fig. 2. It will be seen that this leaves a narrow space, usually a quarter inch is sufficient, for free intercommunicating top ventilation across the top of the compartments. Because of this arrangement, the top ventilation of the container will be substantially uniform even though a part of the openings in the top of the container may have become closed off, that is, even though all of the openings in the top of one compartment are accidentally closed off, this compartment will have substantially the same ventilation as the remaining compartments because of this open space between the top and the upper edges of the partition. We have found that this space should be sufficient to provide free cross-ventilation along the upper surface of the top but insufficient to permit the heads of the chicks to be passed between the top and the partition, whereby they might become injured.

Because of the sloping side walls and the spacing legs it is possible to stack the containers without placing the tops thereon or without providing special racks for the purpose. This is shown in Fig. 5 of the drawings. The sloping side walls provide a bottom for each container that is considerably larger than the top of the vertically adjacent container so that the spacing legs serve to adequately space the vertically adjacent containers. The fact that the spacing legs are provided on the walls permits the containers to be stacked in spaced relation before the tops are positioned on the box. This is a matter of particular advantage inasmuch as it is necessary in most instances to hold the chicks a period of time in the container before it is closed for shipment. During this period the chicks give off a considerable quantity of heat and it is necessary to provide more than the usual amount of ventilation to properly care for them during this period. Therefore, they may be placed in the boxes and the boxes stacked as shown in Fig. 5, without the provision of special racks for the purpose. This cannot be accomplished with the usual type of box since the means for spacing the boxes are positioned on the tops and it is necessary to place the tops on the boxes before they can be stacked.

Another advantage of our improved construction is that the container may be shipped complete to the user who is only required to suitably fold and staple the box.

The present shipping container provides a much more rigid structure than that previously known, since the top is stapled to the box at each corner, while in most of the prior constructions the top was secured to the box by tying a cord completely about the container. Furthermore, the top may be stapled to the box or container at all four corners due to the provision of upstanding flaps on said top. These flaps are for the purpose of making it possible to accomplish the stapling from the exterior of the container. If the flaps on the top extended in the opposite direction, it would be necessary to have access to the interior of the box to perform the stapling operation.

While we have thus described and illustrated a specific embodiment of our invention we are aware that numerous alterations and changes may be made therein without materially departing from the spirit of the invention and we do not wish to be limited except as required by the prior art and the scope of the appended claims in which—

We claim:

1. The combination, in a box board shipping container for chicks, of a bottom, sloping side walls provided with a plurality of openings, spacing legs on said side walls at the corners of said container, and a top provided with a plurality of openings, said sloping side walls and said spacing legs preventing a plurality of containers from being stacked to close said openings.

2. The combination in a box board shipping container, of a bottom, side walls having projecting portions at the corners of said container to provide separate spacing legs at each corner, and a top between said legs having a plurality of openings, said spacing legs serving to support a vertically adjacent container in spaced relation.

3. The combination in a box board shipping container for chicks, of a bottom, sloping side walls integral with said bottom having a plurality of openings, upwardly projecting spacing

legs integral with said side walls at the corners of said container, and a top provided with a plurality of openings adapted to close the upper side of said container, said spacing legs serving to support a vertically adjacent container in spaced relation to said top to permit air to pass through the openings therein.

4. The combination in a box board shipping container for chicks, of a bottom, side walls, separate upwardly projecting spacing legs at each corner of said container integral with said side walls to support a vertically adjacent container in spaced relation for the admission of air therebetween from all sides, a top between said legs provided with a plurality of openings and upwardly projecting flaps registering with said spacing legs, and fastening means through said legs and said flaps for securing said top to said side walls.

5. A shipping box of box-board comprising a bottom, opposed side walls integral with the bottom, each having upstanding projections on the upper edge thereof at each end, opposed end walls integral with the bottom each having upstanding projections on the upper edge thereof at each end, and flaps folded against the side walls and secured thereto, the upstanding projections of the side and end walls forming upstanding corners for the box, and a flat top insertible between the upstanding corners and having formed upstanding flaps at the corners whereby said upstanding corners of the box may be stapled to the top in the closed position.

6. A shipping box of box-board comprising a bottom, opposed side walls integral with the bottom sloping inwardly from bottom to top and having upstanding projections at the upper edges thereof at each end, opposed end walls integral with the bottom and sloping inwardly from bottom to top having upstanding projections on the upper edge thereof at each end, and flaps folded against the side walls and secured thereto, the upstanding projections of the side and end walls forming upstanding corners for the box, and a flat top insertible between the upstanding corners having formed upstanding flaps at the corners whereby said upstanding corners of the box may be stapled to hold the box in the closed position.

7. The combination in a box-board shipping container for chicks, of a bottom, sloping side walls on said bottom having a plurality of openings, upwardly projecting spacing legs on said side walls at the corners of said container, and a top provided with a plurality of openings adapted to close the upper side of said container, said spacing legs serving to support a vertically adjacent container in spaced relation to said top and to the top edges of said side walls between the legs thereof to permit air to pass through the openings therein and across said top.

8. The combination in a box-board shipping container for chicks, of a container, a top for the container, a partition within the container extending from the bottom of the container through substantially the depth of the same and separating the container into compartments, and a sheet of flexible floor covering of greater dimension than a compartment replaceably inserted against the bottom of the compartment completely covering the same and extending upward along said partition a distance sufficient to retain the sheet in place and to prevent the access of chicks to the junction therebetween,

said floor covering having a corrugated upper surface to provide a foothold for the chicks and to receive the droppings between the corrugations.

5 9. The combination in a box-board shipping container, of a bottom, side walls having project-
ing portions at the corners of said container to
provide a separate spacing leg at each corner and
having a plurality of ventilating openings, a top
10 between said legs having a plurality of openings,
and a partition connecting the side walls extend-
ing upward from the bottom, the upper edges
thereof lying in closely spaced relationship to
the top, said spacing legs serving to support a
15 vertically adjacent container in spaced relation
to said top, and said partition dividing the con-
tainer into compartments having communication
adjacent the top.

10 10. The combination in a box-board shipping container for chicks, of a bottom, side walls, sep-
arate upwardly projecting spacing legs on said
side walls at each corner of said container, to
support a vertically adjacent container in spaced
relation for the admission of air therebetween
25 from all sides, and a top between said legs over-
hanging the side walls and having support there-
from provided with a plurality of openings and
upwardly projecting flaps registering with said
legs.

30 11. The combination in a box-board shipping container for chicks, of a bottom, side walls, sep-
arate upwardly projecting spacing legs on said
side walls at each corner of said container, to
support a vertically adjacent container in spaced
35 relation for the admission of air therebetween

from all sides, a top between said legs overhang-
ing the side walls and having support therefrom
provided with a plurality of openings and up-
wardly projecting flaps registering with said legs,
and fastening means through said legs and said 5
flaps for securing said top to said side walls.

12. The combination in a box-board shipping container for chicks, of a bottom, side walls hav-
ing a plurality of ventilating openings, upwardly
extending spacing legs on said side walls at each
corner of said container to support a vertically
10 adjacent container in spaced relation, a top be-
tween said legs overhanging said side walls and
having support therefrom provided with a plu-
rality of openings, and partitions between said 15
side walls, the lower edge thereof resting against
said bottom and the upper edge thereof resting
in spaced relation to said top, whereby to provide
cross-ventilation between the compartments
formed by said partition. 20

13. The combination in a shipping container
of a box having a bottom, opposed side walls slop-
ing inwardly from bottom to top and provided
with a plurality of ventilation openings inter-
mediate the side edges, the side walls of the box 25
each being recessed along the upper edge inter-
mediate the ends to provide upstanding corners
at each corner of the box for contact with the
bottom of a like box positioned thereabove, and a
perforate top interposed between the upstanding 30
corners provided with upstanding tabs in regis-
tration with the corners for stapling thereto to
secure the top in place.

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