Sept. 28, 1937. H. C. KRANNERT ET AL 2,094,175

STICKLESS VENTILATED CHICK BOX

Filed Jan. 15, 1936

FIG. 1

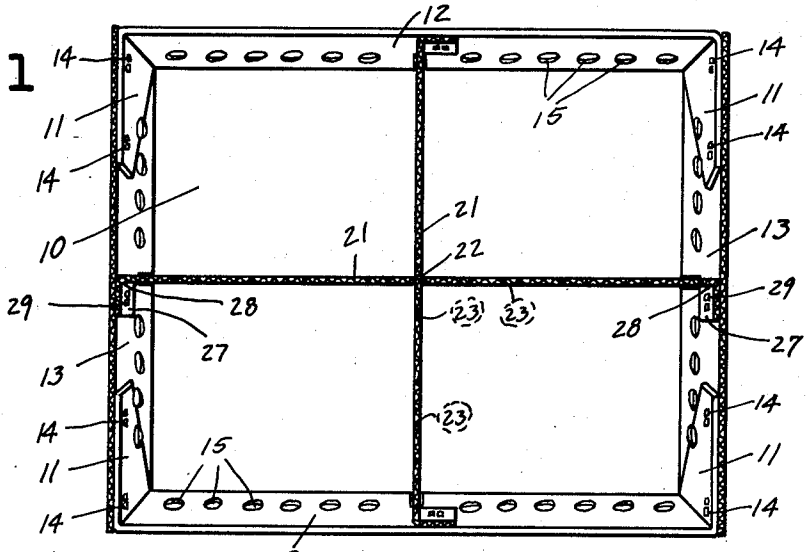



FIG. 2

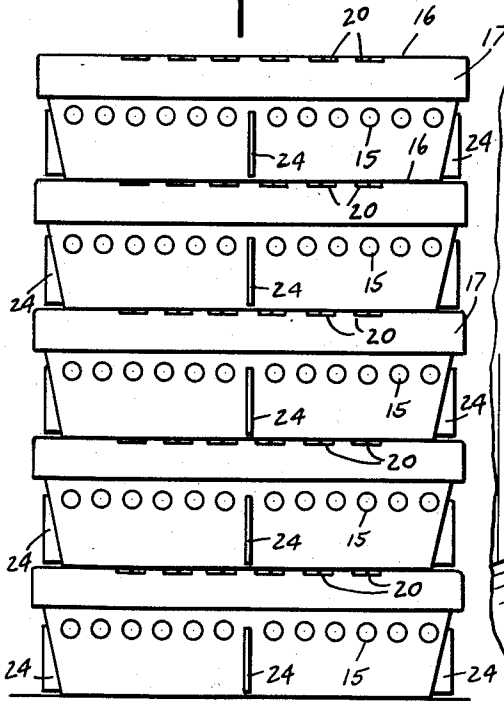
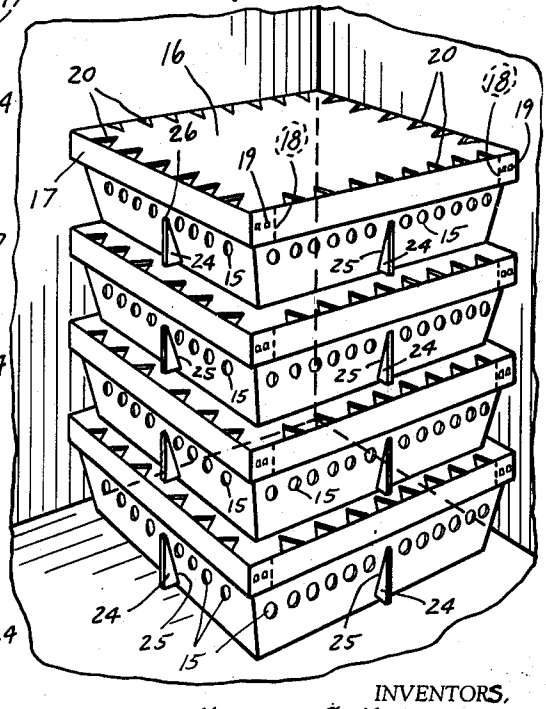



FIG. 3




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2,094,175

# UNITED STATES PATENT OFFICE

2,094,175

## STICKLESS VENTILATED CHICK BOX

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14 Claims. (Cl. 229—6)

This invention relates to a stickless container of the general type known as a chick box suitable for shipment of live chicks, the container being of the ventilating type and being capable of association with other like containers in stacked relation.

The chief object of the invention is to provide a ventilated stickless chick box capable of stacking and which will insure ventilation to the chicks through the cover as well as through the side walls when placed against a wall, or walls, or other packages.

Another object of the invention is to construct a stickless chick box of the general character before mentioned, which is formed of less stock than heretofore required for containers of the same general character.

The chief feature of the invention consists in forming the lid in a conventional manner and associating therewith a box proper which has downwardly and inwardly inclined sides, the latter being perforated or semi-perforated as is well known in the art but said perforations being positioned below the lower edge of the rim of the cover or lid, the latter adjacent its periphery and rim connection including ventilating apertures, whereby when a plurality of containers are arranged in stacked relation, ventilation through the cover and sides is assured.

The downwardly and inwardly directed walls permit the use of a "stitched" rim cover, the rim portion enclosing the upper edge of the wall and assisting in retaining side wall positioning and preventing collapse if the container is unduly loaded when in a stack.

Another feature of the invention is that the hatcherman during his idle time, may assemble the box bottoms and nest same for subsequent use. Storage thereof when nested, requires but little floor space or volume. The covers of course, could be similarly fabricated although they should not nest for storage, it being understood that in many instances for large users, the blanks are shipped to the hatcherman who assembles each box, as shown in the drawing.

Another feature of the invention is the advantage or economy in labor cost obtained because of the fact that there is no added labor in the cost for building of a box of the stickless type over that of the non-stickless type, when the present invention is utilized.

Another feature of the invention consists in providing a container of the general character before mentioned, with partitions usually of intersecting character and suitably anchored to an intermediate portion of the side wall. In the present instance, said partitions have their upper edges for a material distance—and in the specific instance, the entire distance—from side wall to side wall, coincident with the plane of the top edges of the container to function as a cover support for the central portion of the cover or lid.

Another feature of the invention is, the partition anchorage is of interlocking type to prevent upward movement of the same in the container and such interlocking connection is obtained by means of a projecting tongue which is associated with the side wall below the lower edge of the rim of the cover or lid when the latter is associated therewith, the projecting portion of the partition preferably being of such length that it lies within a depending projecting plane of the adjacent rim portion of the lid, such interlocking anchorage requiring no further connection between the side wall and the partition, although if, as and when desired, the partition may have an extension flap adapted to lie within the container and parallel to the side wall and if, as and when desired, rigidly secured thereto.

The full nature of the invention will be understood from the accompanying drawing and the following description and claims:

In the drawing, Fig. 1 is a top plan view of the chick box embodying the invention, the cover having been removed.

Fig. 2 is a side elevation of a plurality of chick boxes arranged in stacked formation.

Fig. 3 is a perspective view of a corner of a vehicle or a compartment with a stack of chick boxes embodying the invention positioned therein.

In the drawing there is illustrated a box of paper board, herein shown in the form of corrugated board, although not necessarily restricted thereto, said box includes the bottom 10, and since it is illustrated in Fig. 1 as of a rectangular outline, it includes two side walls 12 and two end walls 13. Herein the side walls are shown provided with flap extensions 11 which are secured to the end walls by the staples 14. It will be noted these flaps are of truncated triangular outline and the staples are positioned near the upper edge of the box for cover concealment.

Intermediate between the top and bottom edges of each wall, there is illustrated a plurality of primarily ventilating apertures 15. These are shown as fully formed, although as is well known in this art, they may be semi-die cut and preformed, as it were, and the aperture-forming portion may be readily removed by finger pressure exerted thereon when the box is set up.

As will be clear from an inspection of the drawing, the box preferably has all four sides extending downwardly and inwardly toward the bottom from the upper edge, thereby forming an inverted, truncated pyramidal box.

The cover includes a top 16 and is of an area substantially equal to the area defined by the top edge of the box and each edge of the cover is provided with a depending rim 17 positioned substantially at 90° to the adjacent main cover-forming portion and certain of the rim portions have extensions indicated at 18 which overlap the other adjacent rim portions 17 but inwardly of the latter, and are suitably secured thereto as by the staples 19.

It will be noted—see Figs. 2 and 3—that the rim 17 substantially overlies or covers, as it were, all of the box-forming staples 14 so the latter are not exposed. The cover along each edge, in the present instance, is provided with a plurality of apertures 20. These are herein shown triangular with the base substantially coincident with the connection of the rim to the cover. They are shown as fully formed, although as hereinbefore recited, relative to apertures 15, they may be semi-die cut and permitting ready removal by the insertion of the finger, or the like, when the box is set up. Also apertures 20 may be other than triangular in outline.

The purpose of such preformed and not fully completed apertures, as is well known in this art, is to secure the conservation of heat during the winter months. When the containers are stacked one above the other, as shown in Figs. 2 and 3, since the bottom 10 is of less area than the lid, each superposed box does not cover the lid apertures so that ventilation to the interior of the box through the top or lid is provided for.

Likewise, when the boxes are arranged in stacked relation, side by side in rows, so that one or more sides, such as a wall or the walls in a corner—see Fig. 3—are flat and the lids abut the same, ventilation is insured through all sides of the box which include the perforations 15 therein.

In the shipment of chicks to prevent undue mortality due to crowding, it is common practice to provide partitions in order to separate the total number of chicks to be shipped in a box into groups and thus remove the possibility of chick loss. In the present instance, two transverse partitions intersecting and interlocking at the midportion of the box, are provided, said partitions being indicated by the numeral 21 and the intersection by the numeral 22. This intersection is of conventional character.

Likewise, in the present box, the partition is provided with ventilating openings 23 providing cross ventilation from compartment to compartment within the box. These apertures 23 preferably are placed at different levels with reference to the bottom and the initial level is approximately midway between the top and bottom of the partition. These may be die cut if desired.

In the present instance, the top edge of each partition lies substantially in the same plane as the top edges of the side walls and thus the top edges of the partition serve as a support for the central portion of the cover so there is no inward flaring or bulging of the cover when the boxes are arranged in stacked formation.

Since the box is of frusto-pyramidal form to prevent upward movement of the partitions, if they be mounted in the box without stapling, or the like, depending upon the shipper's preference, said partitions at each end are provided with tongues 24 which extend through elongated vertical slots 25 in the box walls. These slots herein are shown extending from the bottom of each wall and terminate slightly above the midportion of the wall so that no interference with the cover is possible by the projecting portions of the partition. Preferably, as illustrated in Fig. 2, the overall length of the partition is less than the overall length of the cover so that in stacked relation, a flat surface engaged by all of the boxes, does not prevent air circulating around the box and between that wall and the ends of the superposed partition. The upper edge 26 of the tongue surface serves as a lock to prevent upward movement as aforesaid.

The partition may also be provided with a flap or extension 27 which has a biased scored connection 28 with the partition to form a flap adapted to lie parallel to and inside the adjacent wall. This serves as an additional bearing for the partition. If a further and more rigid anchorage is desired, a staple 29 may secure said flap to the adjacent wall and this staple 29, it will be noted, also is covered by the rim of the box when the rim is mounted thereon.

It will be particularly noted that the walls of the box are inclined to the vertical as well as the bottom of the box and since the rim of the cover is substantially 90° to the bottom of the box and the main body portion of the cover, there is formed a channel between the adjacent wall portion overlapped by the rim. This permits the cover to be formed in overall dimensions so that there is, if desired, a friction lock, as it were, between the top edge or immediately adjacent portions of the walls and the rim but there is likewise provided by this arrangement, an excellent hand grip for readily removing the cover in opposition to this friction association by the person opening the box first inserting one or more fingers in the holes 15 in two opposite sides and then placing the thumbs on the cover and the first and second fingers under the rim, engaging, as it were, the lower edge of the cover rim and then elevating the cover thereby, the box being held relatively stationary by the other fingers in the holes 15.

Due to this friction arrangement or one substantially approximating the same, outward bulging of the inclined walls is prevented so that escape of the partitions, if not stapled to the wall, is prevented. It is the option of the shipper before placing the chicks in the container whether or not the flaps should be stapled to the adjacent wall. In the simplest form of the invention, the flaps themselves may well be omitted.

The present invention permits the formation of a ventilated, stickless container suitable for the shipment of live chicks and manufactured from the minimum amount of board material. Likewise, the present invention, if the area of the lid or cover is proportioned relative to the area of the top edge of the box, a friction lock is obtained therebetween as previously set forth which eliminates the necessity for tying the cover and box together, particularly for short hauls, although tying may be employed, if, as and when desired, for added security of connection between the cover and box proper, particularly for long hauls.

The terminology "pyramidal" is intended to include an arrangement wherein opposite sides are substantially equal in area and wherein adjacent sides may or may not be equal in area,

thus including a "rectangular" as well as a "square" sectioned box.

While the invention has been set forth in great detail in the foregoing specifications, the same are to be considered as illustrative only and not restrictive in character, and the several modifications which have been suggested herein, as well as illustrated, and as well as those which will readily suggest themselves to persons skilled in this art, are all considered to be within the broad scope of this invention, reference being had to the appended claims. Such a modification, for example, might be the slotting of the cover and extension of portions of the partition through the slots, as shown in either Lane No. 1,744,125 or Gorsuch No. 1,781,279.

The invention claimed is:—

1. A container for chicks and the like, including a lid having an area substantially of the same outline as the top of the box and with a depending rim of materially less depth than the height of the box, a box portion having downwardly and inwardly tapered walls, said walls having apertures therein between the top and bottom and below the lid-covered portion, and partition means extending from one side to another non-adjacent side and having an intermediate portion of a height substantially equal to the height of the box for lid support, each partition-associated wall having an elongated aperture therein, said partition means at opposite ends including tongues of less depth than the partition height and seatable in the elongated apertures, said partition means with the oppositely projecting tongues having an overall length not greater than the overall corresponding dimension of the lid.

2. A container for chicks and the like, including a lid having an area substantially of the same outline as the top of the box and with a depending rim of materially less depth than the height of the box, a box portion having downwardly and inwardly tapered walls, said walls having apertures therein between the top and bottom and below the lid-covered portion, and partition means extending from one side to another non-adjacent side and having an intermediate portion of a height substantially equal to the height of the box for lid support, each partition-associated wall having an elongated aperture therein, said partition means at opposite ends including tongues of less depth than the partition height and seatable in the elongated apertures, said partition means with the opposite projecting tongues having an overall length less than the overall corresponding dimension of the lid.

3. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support, and an interlocking connection between the ends of the partition and the side wall arrangement.

4. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support, an interlocking connection between the ends of the partition and the side wall arrangement, and a biased flap extension on the partition parallel to and bearing upon the interior face of the adjacent interlocking wall.

5. A container including a box having an inverted hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support, an interlocking connection between the ends of the partition and the side wall arrangement, and means independent of said connection rigidly securing each end of the partition to the wall arrangement.

6. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support, an interlocking connection between the ends of the partition and the side wall arrangement, a biased flap extension on each end of the partition parallel to and bearing upon the interior face of the adjacent interlocking wall, and means rigidly securing each extension to the wall arrangement.

7. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support, an interlocking connection between the ends of the partition and the side wall arrangement, the wall arrangement having ventilating apertures therein slightly below the lower edge of the rim when the cover is mounted on the box to facilitate cover removal and provide ventilation, and a biased flap extension on the partition parallel to and bearing upon the interior face of the adjacent interlocking wall.

8. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a cover having a top portion of an area and outline corresponding to the top edge of the box for the purpose described and a depending rim adjacent its top connection frictionally engaging the upper outer edge of the wall arrangement, and progressively spaced therefrom toward its lower edge, said wall arrangement having apertures therein adjacent the last-mentioned edge permitting ready separation of the cover and box substantially as described, said cover adjacent its rimmed edge having apertures therein whereby when a plurality of said containers are stacked in registration the apertures in the next lower container cover are exposed by the bottom of the next higher container, the wall arrangement apertures being slightly below the lower edge of the rim when the cover is mounted on the box, a partition in the hollow wall arrangement having an upper edge for central cover support, and a biased flap extension on the partition parallel to and bearing upon the interior face of the adjacent interlocking wall.

9. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support and provided with openings for ventilation, an interlocking connection between the ends of the partition and the side wall arrangement, a biased flap extension on each end of the partition

parallel to and bearing upon the interior face of the adjacent interlocking wall, and means rigidly securing each extension to the wall arrangement.

10. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a bottom, a cover having a depending rim and telescopically nesting the upper edge of the wall arrangement, and a partition therein having an upper edge for central cover portion support, an interlocking connection between the ends of the partition and the side wall arrangement, the wall arrangement having ventilating apertures therein slightly below the lower edge of the rim when the cover is mounted on the box, a biased flap extension on each end of the partition parallel to and bearing upon the interior face of the adjacent interlocking wall, and means rigidly securing each extension to the wall arrangement.

11. A container including a box having an inverted, hollow, frusto-pyramidal wall arrangement and a cover having a top portion of an area and outline corresponding to the top edge of the box for the purpose described and a depending rim adjacent its top connection frictionally engaging the upper outer edge of the wall arrangement, and progressively spaced therefrom toward its lower edge, said wall arrangement having apertures therein adjacent the last-mentioned edge permitting ready separation of the cover and box substantially as described, said cover adjacent its rimmed edge having apertures therein whereby when a plurality of said containers are stacked in registration the apertures in the next lower container cover are exposed by the bottom of the next higher container, the wall arrangement apertures being slightly below the lower edge of the rim when the cover is mounted on the box, a partition in the hollow wall arrangement having an upper edge for central cover support, a biased flap extension on each end of the partition parallel to and bearing upon the interior face of the adjacent interlocking wall, and means rigidly securing each extension to the wall arrangement.

12. A container including a box having a hollow, frusto-pyramidal wall arrangement of equal height throughout and a bottom integral therewith, a cover having an integral peripheral rim for nesting the upper edge of the box therein, and intersecting partitions extending from wall to wall and suitably anchored at the ends thereto, each partition except at the intersection extending from the box bottom to a top edge, all top edges lying substantially in the plane of the top edge of the wall arrangement for supporting the central portion of the cover, each face of the wall arrangement extending angularly and upwardly in a single plane from the bottom at its connection therewith and having its upper edge engaged by the cover when mounted on the box, permitting stacking of the containers without central bulging or depression of the bottoms and/or covers.

13. A container for chicks and the like, including a lid having an area substantially of the same outline as the top of the box and with a depending rim of materially less depth than the height of the box, a box portion having downwardly and inwardly tapered walls, said walls having apertures therein between the top and bottom and below the lid-covered portion, and partition means extending from one side to another non-adjacent side and having an intermediate portion of a height substantially equal to the height of the box for lid support, each partition-associated wall having an elongated aperture therein, said partition means at opposite ends including tongues of less depth than the partition height and seatable in the elongated apertures.

14. In a chick box, a body having side walls inclined inwardly from the top to the bottom thereof providing a substantial taper for said sides, a lid having the same area as the body top, a rim of substantial depth depending from the edges of the lid at substantially right-angles to the plane of the latter and adapted to frictionally engage with the top edges of said body, the body side and rim providing a space between said rim and sides, said sides having ventilating openings therein with their upper edges disposed relatively close to the lower edges of said rim when the lid is in applied position, said openings being of a size sufficient to permit of introduction of the fingers therein to facilitate removal of the lid.

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