Oct. 12, 1943. R. C. MARSHALL, JR 2,331,867

CHICK SHIPPING BOX

Filed Sept. 25, 1941 2 Sheets-Sheet 1

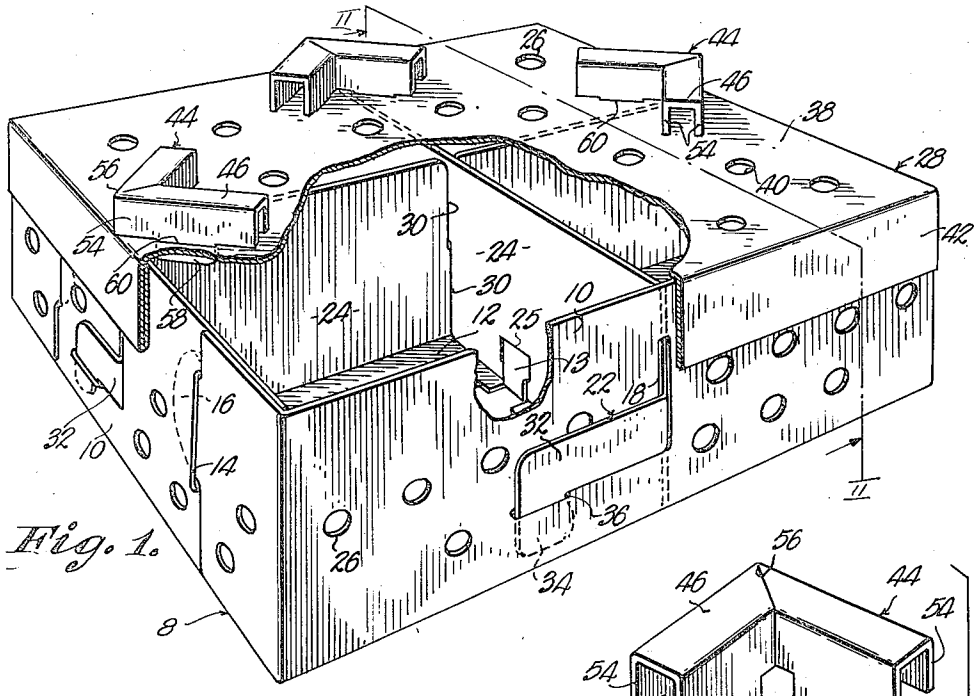


Fig. 1.

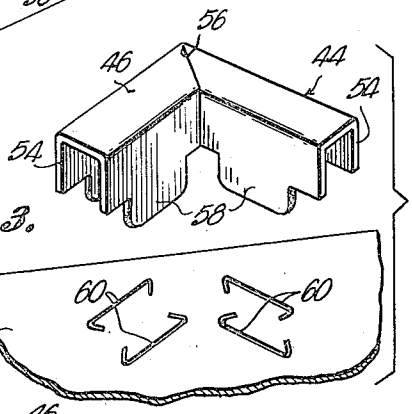
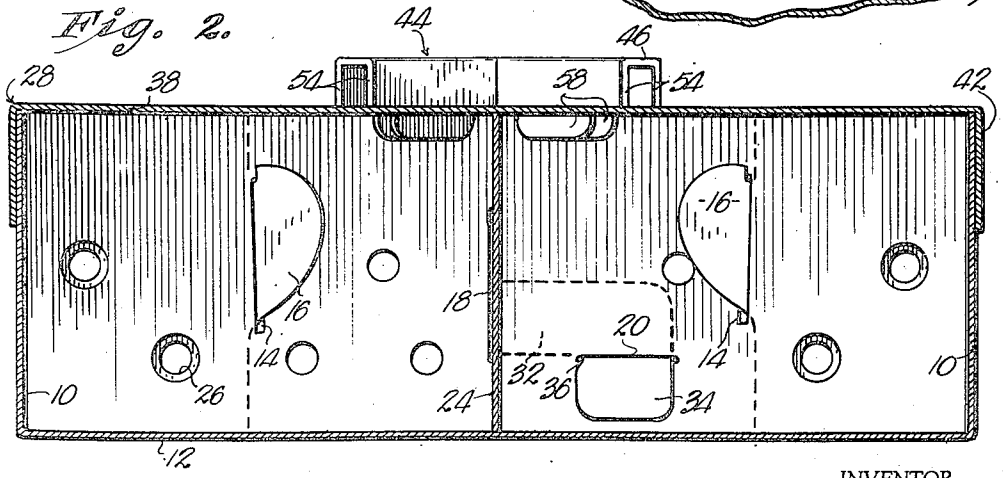


Fig. 3.

Fig. 2.



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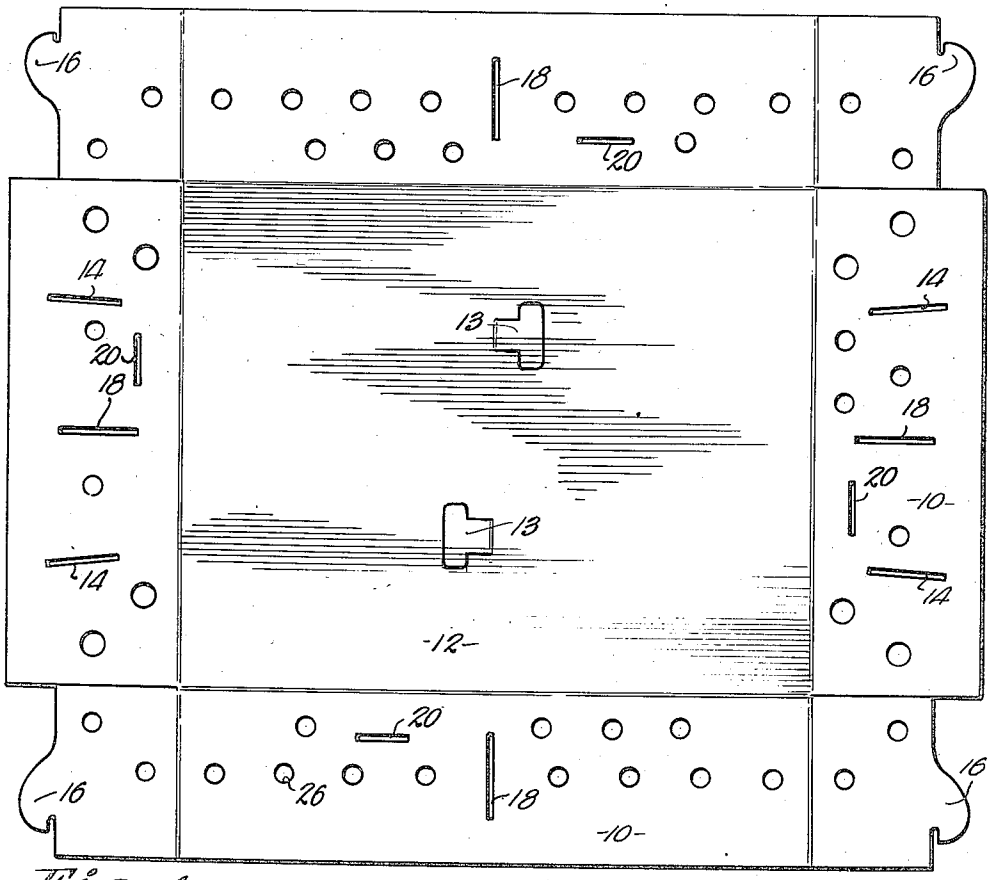


Fig. 4.

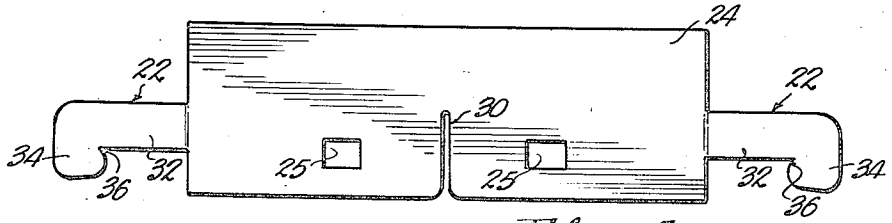


Fig. 5.

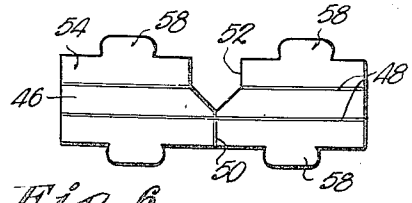


Fig. 6.

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UNITED STATES PATENT OFFICE

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CHICK SHIPPING BOX

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Application September 25, 1941, Serial No. 412,259

9 Claims. (Cl. 229—6)

This invention relates to shipping containers for poultry and particularly, ventilated boxes used in shipping chicks in large quantities where many of the boxes must be used, and therefore stacked one upon the other.

One of the primary aims of this invention is to provide a chick shipping box having partitions therein constructed to contribute rigidity to the box, after they have been inserted through the employment of special interlocking parts formed on the partitions per se and the main section of the container.

Another important aim of this invention is to provide a shipping box for chicks having a cover equipped with a plurality of spacers arranged with particular regard to the underlying partitions in the box, and constructed to present a flat bearing face of an appreciable area, upon which the overlying box may rest.

A still further object of the instant invention is the provision of a box of the aforementioned character constructed of relatively thin, foldable material, the parts of which may all be shipped in a flat condition for assembly at the point of first use, without tools or special equipment, said box being extremely light, strong, rigid and capable of withstanding stresses and strains imparted thereto while enroute.

Other objects of the invention will appear during the course of the following specification, referring to the accompanying drawings wherein:

Fig. 1 is a perspective view of a chick shipping box made in accordance with the present invention, parts being broken away to reveal the nature of the special partitions.

Fig. 2 is a vertical cross sectional view through the box, taken on line II—II of Fig. 1.

Fig. 3 is a perspective view of the spacer embodying this invention, removed from its operative position but showing the manner in which the ears thereof enter slits in the top of the cover.

Fig. 4 is a plan view of the blank from which the tray-like section of the box is formed.

Fig. 5 is a plan view of one of the partitions in a stretched out condition prior to its introduction into the main section of the box; and

Fig. 6 is a similar stretch-out view of the blank from which the spacers are created.

Heretofore, chick shipping boxes of the "knock down" type have been made of relatively heavy corrugated board or thick material, the weight of which was relied upon to contribute the necessary rigidity to the box when in the assembled condition. The cardboard or fiber board from which the box embodying this invention is made, may be of thin and light weight, especially as compared to the materials heretofore used. The particular form and manner of securing the partitions in the box allows the employment of such material as does the unique way of constructing and placing the spacers on the cover.

The tray-like section of the box is designated by the numeral 8 and is formed of a blank, shown in Fig. 4. This section 8 comprises vertical side walls 10, hingedly secured to bottom 12 and joined at the corners through the medium of interlocking slots and wings 14 and 16 respectively. Each of the side walls 10 is provided with a vertical slot 18 and a horizontal slot 20, the latter being to one side of and near the lower end of the former, to receive the specially designed extensions 22 of partitions 24.

Partitions 24 are necessary in order that section 8 might be divided into a number of stalls to receive a predetermined quantity of live chicks—these partitions 24 being necessary to preclude bunching, and therefore, damage to the stock during shipment.

It is conventional to provide air holes 26 through side walls 10 of the box, and also through the hereinafter described cover, which is generally designated by the numeral 28.

Partitions 24 are notched inwardly from one longitudinal edge, as at 30, to afford interlocking elements at their point of intersection. In the preferred manner of constructing the box and case, shown in the drawings, the point of intersection of partitions 24 is at the center of section 8, and when notches 30 of partitions 24 are disposed as illustrated in Fig. 1, the ends of partitions 24 abut the inner faces of side walls 10. The width of partitions 24 is the same as the height of walls 10 and the upper edges of partitions 24 lie in the same plane as the upper edges of side walls 10.

When the immediately foregoing condition exists in the combination of parts, extensions 22 are threaded through slots 18 and 20, as shown in Figs. 1 and 2.

Extension 22 is L-shaped and leg 32 passes outwardly through vertical slot 18. Extension 22 is then bent toward slot 20 where leg 34 is threaded through said slot to terminate within the box in superimposed relation with the inner surface of the wall. Leg 34 is undercut as at 36 to preclude accidental displacement.

Tongues 13 struck from bottom 12 enter openings 25 when the box is fully assembled. These tongues hold bottom 12 against the lower edges

of partition 24 to prevent sagging when chicks are occupying the box during shipping. Tongues 13 are T-shaped and have the heads thereof forced through openings 25 as shown in Fig. 1 while their stems lie close to one side of the partitions. The slot 30 of partition 24 in which openings 25 are formed must extend upwardly from the bottom of the box to insure support by the partition having its slot extending downwardly.

Cover 28 comprises a top wall 38 having air holes 40 therethrough and depending peripheral flanges 42, which telescopically engage side walls 10 when the box is assembled as illustrated in Figs. 1 and 2.

It is imperative that chick boxes of the type contemplated by this invention, be stacked one upon the other during transportation, and also that adequate air space be provided between the stacked boxes.

Strong, inexpensive and foldable spacers, generally designated by the numeral 44, are necessary, and in the preferred form, these spacers 44 present a relatively wide bearing face 46 created by forming a blank, shown in Fig. 6, into a spacer clearly illustrated in Fig. 3. This spacer is U-shaped in transverse cross section and the bearing face 46 is on the outer side of the bight.

Longitudinal scorings 48, a transverse scoring 50, and a notch 52 permits folding legs 54 into a position substantially parallel with each other and bending the spacer near its medial line to provide a V-shaped spacer, the point of juncture 56 of which is specially disposed immediately above the ends of partitions 24 and the upper edges of side walls 10.

Ears 58 enter slits 60 in top wall 38 to operably support spacers 44 in the positions shown in Fig. 1. Slits 60 are on each side of a partition 24 near the ends thereof, and are disposed at the proper angle to maintain the spacers in shape when the ears 58 thereof are forced through the slits. Each spacer 44 converges inwardly from point 56 and an even distribution of weight is thereby effected.

Locating spacers 44 as just described and illustrated in the drawings, is advantageous in permitting the entire assembly to be made of lighter material than has heretofore been employed, and when the boxes are stacked one upon the other, bearing faces 46 of spacers 44 engage the bottom of the box above immediately below the partitions therein.

All of the parts of this shipping box may be made and initially delivered to the user in a flat condition; partitions 24, spacers 44 and section 8 may be stacked compactly and thereafter, assembled as needed. Shipping boxes having physical characteristics different from those illustrated and described might be made without departing from the spirit of the invention or scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a shipping box for live poultry, a tray-like section having a bottom and vertical side walls, each of the latter being provided with at least two slots; vertical partitions in the section to divide the same into a number of stalls; and extensions on the partitions threaded through the slots to hold the partitions in place, each of said extensions projecting outwardly through one of the two slots of a wall, thence inwardly through the other of said slots, said one slot of each wall being disposed vertically, the other of said slots being disposed horizontally.

2. In a shipping box for live poultry, a tray-like section having a bottom and vertical side walls, each of the latter being provided with at least two slots; vertical partitions in the section to divide the same into a number of stalls; and extensions on the partitions threaded through the slots to hold the partitions in place, each of said extensions projecting outwardly through one of the two slots of a wall thence inwardly through the other of said slots, said one slot of each wall being disposed vertically, the other of said slots being disposed horizontally, said extensions being L-shaped to enter the respective slots.

3. In a shipping box of the character described, a tray-like section having a bottom and vertical side walls, each of the latter being provided with a pair of slots; partitions in the section to divide the same into a number of stalls; and extensions on the partitions each threaded through a pair of slots to hold the partitions in place, said slots of each pair being arranged at substantially right angles to each other, said extensions being correspondingly angular to enter the slots when folded to extend laterally from the respective partition.

4. In a shipping box of the character described, a tray-like section having a bottom and vertical side walls, each of the latter being provided with a pair of slots; partitions in the section to divide the same into a number of stalls; and extensions on the partition each threaded through a pair of slots to hold the partitions in place, said slots of each pair being arranged at substantially right angles to each other, said extensions having portions at substantially right angles to each other to enter the slots when folded to extend laterally from the respective partition, the ends of the partitions being held against the inner faces of the side walls when the extensions are in place in the said slots.

5. In a shipping box of the character described, a tray-like section having a bottom and vertical side walls, each of the latter being provided with a pair of slots; a vertical partition in the section to divide the same into a number of stalls; and an L-shaped extension on each end of the partition having a width appreciably less than the height of the partition, one of the slots of said pair being vertically disposed, the other of said slots of the pair being horizontally disposed to one side of the vertical slot and near the lower end thereof, said L-shaped extension extending outwardly through the vertical slot thence along the outer face of the side and thence inwardly through the horizontal slot.

6. In a shipping box of the character described, a tray-like section having a bottom, vertical side walls and vertical partitions; a cover for the section provided with a top wall overlying the side walls and partitions, and having slits therein; and spacers on the cover having portions thereof entering the slits, each of said spacers being above a partition and projecting to each side of the extended plane thereof when the cover is in place, each of said spacers being V-shaped with the point thereof overlying the zone of juncture between the end of a partition and the side wall it abuts when the cover is in place.

7. In a shipping box of the character described, a tray-like section having a bottom, vertical side walls and vertical partitions; a cover for the section provided with a top wall overlying the side walls and partitions, and having slits therein;

and spacers on the cover having portions thereof entering the slits, each of said spacers being above a partition and projecting to each side of the extended plane thereof when the cover is in place, said spacers being intermediate the ends of the side walls of the tray-like section and each having legs diverging from a point on the periphery of the top of the cover above the end of a partition.

8. In a shipping box of the character described, a tray-like section having a bottom, vertical side walls and vertical partitions; a cover for the section provided with a top wall overlying the side walls and partitions, and having slits therein; and spacers on the cover having portions thereof entering the slits, said spacers each being U-shaped in transverse cross section to present a flat upper bearing face, the free edges of said spacers having ears for entering the slits in the top wall of the cover, said slits being arranged in pairs on each side of the underlying partition and disposed at an angle to hold the spacer in a V-shape when the ears thereof are projecting into the slits.

9. As a new article of manufacture, a spacer for shipping boxes of the character described comprising an initially flat piece of material notched and scored to present, when formed, a V-shaped body, U-shaped in transverse cross section, and providing a flat outer bearing surface at the bight thereof, said body having ears at the free edges of the legs thereof for securing the spacer in place.

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