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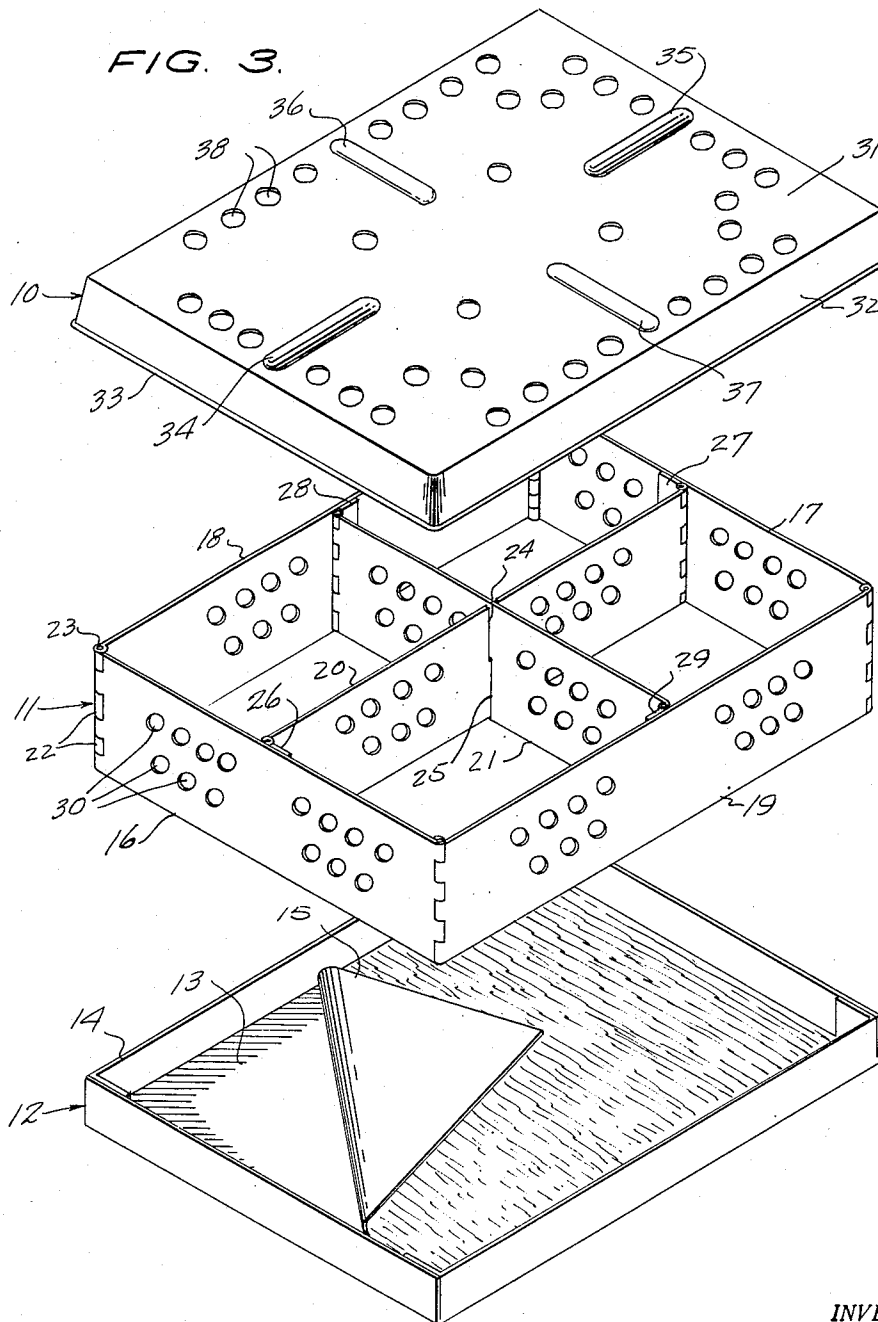
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TRANSPORTING RECEPTACLE FOR BABY CHICKS

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TRANSPORTING RECEPTACLE FOR BABY CHICKS

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2 Claims. (Cl. 220-4)

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This invention relates to transporting receptacles for baby chicks and more particularly to a returnable receptacle having a disposable bottom on which the chicks are supported.

It is among the objects of the invention to provide an improved chick transporting receptacle having a foldable wall and partition structure which is returnable to the shipper for reuse and a disposable bottom portion which is left with the chicks at the delivery location and is disposed of by the purchaser after the chicks are moved into the brooder; which has a wall and partition structure which can be repeatedly sterilized without damage and maintained in a clean and sterile condition; which also includes a returnable top or cover which can be repeatedly sterilized and is so constructed that when the receptacles are stacked one on the other an air space will be provided between each cover and the bottom superimposed thereon; which provides a foldable wall and partition structure the parts of which are hingedly connected together so that the structures remain in unitary condition at all times; and which is simple and durable in construction, economical to manufacture, easy to handle, and efficient and effective in use.

Other objects and advantages will become apparent from a consideration of the following description and the appended claims in conjunction with the accompanying drawings wherein:

Figure 1 is a top plan view of a chick transporting receptacle illustrative of the invention;

Figure 2 is a side elevational view showing two of the receptacles in stacked condition;

Figure 3 is an exploded perspective view of a receptacle;

Figure 4 is a fragmentary cross sectional view on an enlarged scale on the line 4-4 of Figure 1; and

Figure 5 is a top plan view of the wall and partition structure of the receptacle when in folded condition.

With continued reference to the drawings, and particularly to Figure 3, the receptacle comprises a top or cover, generally indicated at 10, an upstanding wall and partition structure, generally indicated at 11 and a bottom, generally indicated at 12.

The bottom 12 is preferably formed of an inexpensive sheet material of suitable rigidity, such as corrugated cardboard, and includes a bottom wall 13 of rectangular shape and a flange 14 upstanding marginally from the bottom wall 13 and extending around the latter. The flange 14 includes bent-up portions extending one along

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each edge of the rectangular bottom wall portion 13, and is of a height only sufficient to provide a barrier for baby chicks so that the chicks will be retained in the bottom 12 of the receptacle.

The bottom wall 13 of the bottom 12 is covered by a sheet 15 of crepe paper which provides a sanitary covering for the bottom and also, because of its creped or slightly corrugated construction, provides a secure footing for the baby chicks on the upper surface of the bottom 12 of the receptacle and does away with the necessity of placing any loose material, such as sawdust or shavings, in the bottom of the receptacle to provide a proper surface for the chicks.

The bottom 12 being of inexpensive material is disposable by the purchaser of the chicks and is not returned to the shipper as are the wall and partition structure 11 and the top 10.

The structure 11 comprises a pair of side walls 18 and 19 arranged in parallel spaced relation and a first end wall 16 extends transversely between said side walls adjacent one of the complementary ends of said walls, one end of the end wall 16 being hingedly connected to the complementary end of the side wall 18, as at 23, and the other end of the end wall 16 being hingedly connected to the complementary end of the side wall 19 as likewise indicated by the numeral 23. A second end wall 17 extends transversely between the side walls 18 and 19 adjacent the other complementary ends of the latter-named side walls and has one end hingedly connected in like manner to the complementary end of the side wall 18, not indicated, and has the other end hingedly connected to the complementary end of the side wall 19, as indicated at 23.

Positioned within the structure 11 is a pair of partition pieces 20 and 21 arranged in criss-cross intersecting relation. The partition piece 20 has one of its ends hingedly connected to the end wall 16 intermediate its ends, as indicated at 26, and has the other end hingedly connected to the end wall 17 intermediate its ends, as indicated at 27. The partition piece 21 has one of its ends hingedly connected to the side wall 18 intermediate its ends, as at 28, and has the other end hingedly connected to the side wall 19 intermediate its ends, as at 29. The pieces 20 and 21 are connected at the criss-cross intersecting point for hinged movement. Specifically, the partition pieces 20 and 21 are oppositely notched at their midlength locations as indicated at 24 and 25 respectively, with each notch extending substantially one-half the width of the corresponding partition piece and the two pieces are

fitted together with a portion of each piece between the corresponding notch and the opposite edge of the piece received in the notch of the other piece. The notches 24 and 25 have a width sufficient to permit the partition pieces 20 and 21 to move angularly relative to each other from the position illustrated in Figure 3 to that illustrated in Figure 5.

The walls 16, 17, 18 and 19 and the partition pieces 20 and 21 are fabricated wholly of durable and corrosion resistant material and are all provided with ventilating openings, as indicated at 30, to provide free circulation therethrough. The thus described wall structure is set into the bottom 12 so that the bottom edges of such structure rest upon the flat bottom wall 13 with the flange 14 bearing against the exterior portions of the wall structure.

The top 10 is also formed of durable and corrosion resistant material and includes a flat top wall 31 and a flange 32 extending about the boundary of said top wall and dependently secured to the latter wall. The top wall 31 is adapted to rest upon the top edges of the structure 11 with the flange 32 bearing against the exterior adjacent portions of said structure.

The top wall 31 of the top is provided with upwardly extending ridge formations 34, 35, 36 and 37, the formations 34 and 35 being disposed along one longitudinal center line of the top wall 31 and extending inwardly from the adjacent edges of the top wall and the formations 36 and 37 being disposed along a center line of the top wall perpendicular to the center line along which the formations 34 and 35 are disposed and extending inwardly from the adjacent edges of the top wall. These ridge formations provide supports for a bottom superimposed on the top 10 so that an air space will be provided between the bottom wall of the superimposed bottom and the top wall 31 of the corresponding top to insure adequate ventilation of the receptacle. The top wall 31 of the top 10 is also provided with ventilating openings 38 arranged along the edges of the top wall 31 and between the inner ends of the ridge formations 34 to 37 inclusive.

In the use of the improved receptacle, at the shipping point a bottom 12 is placed on a suitable supporting bench or table and a sheet 15 of creped paper of the same size as the bottom wall 13 is placed in the bottom. A side wall and partition structure 11 in squared or rectangular condition is then placed within the flange 14 of the bottom and baby chicks are placed in the compartment provided by the partition pieces 20 and 21. A cover 10 is then placed on the upper side of the structure 11, the structure 11 having a height such that the bottom edge of the cover flange 32 is spaced from the top edge of the flange 14 of the bottom, with the ventilation openings 30 in the side wall bodies of the structure 11 disposed between the adjacent edges of the bottom flange and the top flange, as is clearly illustrated in Figure 2. If several receptacles are to be carried to the same delivery location they may now be stacked one on top of the other to a height of two or three receptacles and the stacked receptacles are then tied so that the bottom 12 at the bottom of the stack and the top 10 at the top of the stack will be maintained in place on the corresponding wall and partition structures 11 or, each receptacle may be separately tied, if desired. The provision of the separate bottoms 12 is not a disadvantage since the receptacles have to be tied in any case to retain the tops on the

receptacles against accidental displacement during transportation.

At the delivery location the receptacles are placed on a suitable support and the ties released. The cover is then removed from each receptacle and the corresponding wall and partition structure 11 then removed by simply lifting it out of the associated bottom leaving the chicks on the disposable bottom. This leaves the chicks in an undisturbed condition on the bottom on which they were already supported and avoids the necessity of having to dump or pour the baby chicks from the receptacle around a brooder stove or other brooder structure thus avoiding injury to the chicks and greatly increasing their livability.

After the tops and the wall and partition structures have been removed from the bottoms the tops are stacked together in nesting condition and the wall and partition structures are folded to a substantially flat condition, as illustrated in Figure 5 thereby materially reducing the bulk of these parts of the receptacles. The wall and partition structures and the tops are then returned to the shipper where they are cleaned and sterilized and used over again for another delivery of chicks. These wall and partition structures and tops, while originally more expensive than the cardboard cartons or receptacles now in general use for the delivery of baby chicks, are so durable and may be used so many times that the cost of the transportation of the receptacles is reduced to an insignificant figure, the main cost becoming that of the disposable bottoms which is relatively insignificant when compared with the cost of an entire cardboard receptacle.

Besides reducing the cost of delivering the chicks the improved receptacle of the present invention greatly increases the protection given to the chicks during transportation and avoids any injury to or disturbance of the chicks to an extent sufficient to affect their livability.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is, therefore, to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims, are, therefore, intended to be embraced therein.

What is claimed is:

1. In a transporting receptacle for baby chicks, an upstanding wall and partition structure fabricated wholly of durable and corrosion resistant material and comprising a pair of side walls arranged in parallel spaced relation, a first end wall extending transversely between said side walls adjacent one of the complemental ends of the latter walls and having one of its ends hingedly connected to one of the complemental ends of said side walls and having the other of its ends hingedly connected to the other of the complemental ends of said side walls, a second end wall extending transversely between said side walls adjacent the other of the complemental ends of the latter walls and having one of its ends hingedly connected to one of the complemental ends of said side walls and having the other of its ends hingedly connected to the other of the complemental ends of said side walls, said side and end walls having spaced apertures therein, a pair of partition pieces arranged in criss-cross intersecting relation positioned within said wall structure,

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one of said partition pieces having one end hingedly connected to one of the end walls intermediate its ends and having the other end hingedly connected to the other of the end walls intermediate its ends, the other of said partition pieces having one end hingedly connected to one of the side walls intermediate its ends and having the other end hingedly connected to the other of the side walls intermediate its ends, said partition pieces being connected at the criss-cross intersecting point for hinged movement, a cover also wholly fabricated of durable and corrosion resistant material and comprising a flat top wall, and a flange extending about the boundary of said top wall and dependingly secured to the latter wall, the top wall of said cover resting upon the top edges of said wall structure with its flange bearing against the exterior adjacent portions of said wall structure and a bottom fabricated wholly of disposable material, the bottom wall receiving the bottom edges of the wall structure, the free edge of the flange of the cover and the bounding edge of the bottom being spaced from each other and providing an unobstructed space therebetween for egress of air through the adjacent apertures.

2. A transporting receptacle for baby chicks including an upstanding wall and partition structure fabricated wholly of durable and corrosion resistant material and comprising a pair of side walls arranged in parallel spaced relation, a first end wall extending transversely between said side walls adjacent one of the complemental ends of the latter walls and having one of its ends hingedly connected to one of the complemental ends of said side walls and having the other of its ends hingedly connected to the other of the complemental ends of said side walls, a second end wall extending transversely between said side walls adjacent the other of the complemental ends of the latter walls and having one of its ends hingedly connected to one of the complemental ends of said side walls and having the other of its ends hingedly connected to the other of the

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complemental ends of said side walls, said side and end walls having spaced apertures therein, a pair of partition pieces arranged in criss-cross intersecting relation positioned within said wall structure, one of said partition pieces having one end hingedly connected to one of the end walls intermediate its ends and having the other end hingedly connected to the other of the end walls intermediate its ends, the other of said partition pieces having one end hingedly connected to one of the side walls intermediate its ends and having the other end hingedly connected to the other of the side walls intermediate its ends, said partition pieces being connected at the criss-cross intersecting point for hinged movement, a cover also wholly fabricated of durable and corrosion resistant material and comprising a flat top wall, and a flange extending about the boundary of said top wall and dependingly secured to the latter wall, the top wall of said cover resting upon the top edges of said wall structure with its flange bearing against the exterior adjacent portions of said wall structure, and a bottom fabricated wholly of disposable material and comprising a flat bottom wall and an upstanding flange extending about the boundary of said bottom wall, the bottom wall receiving the bottom edges of the wall structure with its flange bearing against the exterior adjacent portions of said wall structure the flanges of the cover and bottom unobstructing the apertures in the side and end walls to provide an egress of air through said apertures.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
875,011	Swift	Dec. 31, 1907
1,465,145	Park	Aug. 14, 1923
1,874,708	Palubiak	Aug. 30, 1932
2,065,923	Jessen	Dec. 29, 1936
2,328,689	Shafer	Sept. 7, 1943
2,345,000	Newsom	Mar. 28, 1944