Oct. 16, 1934. G. E. BOMBERGER ET AL 1,977,467

SHIPPING BOX AND BROODER

Filed Feb. 23, 1929

FIG. 1

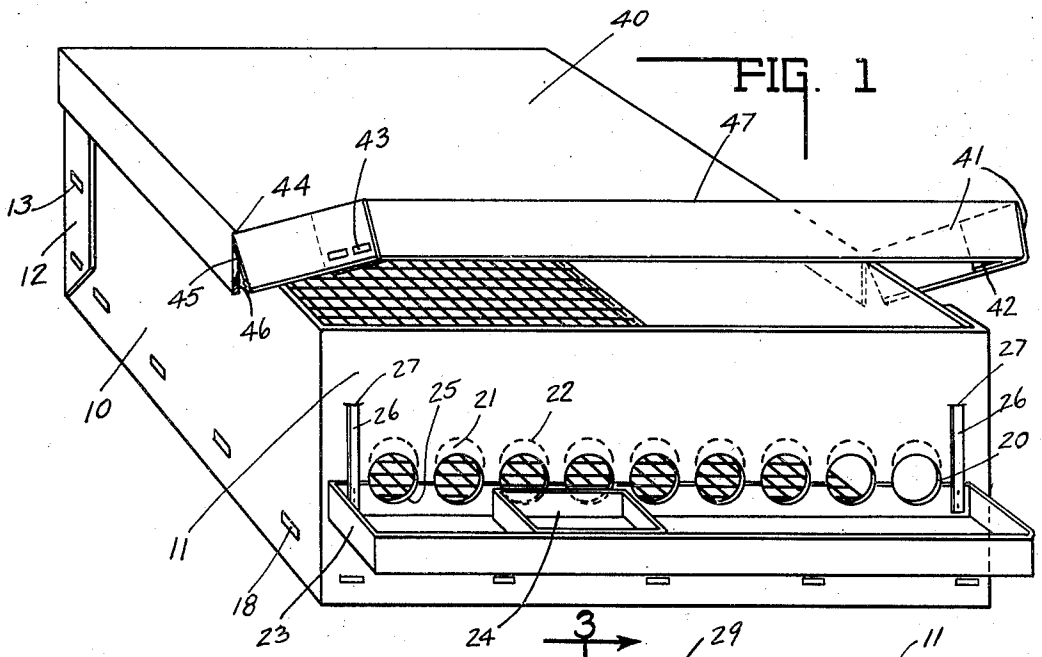


FIG. 2

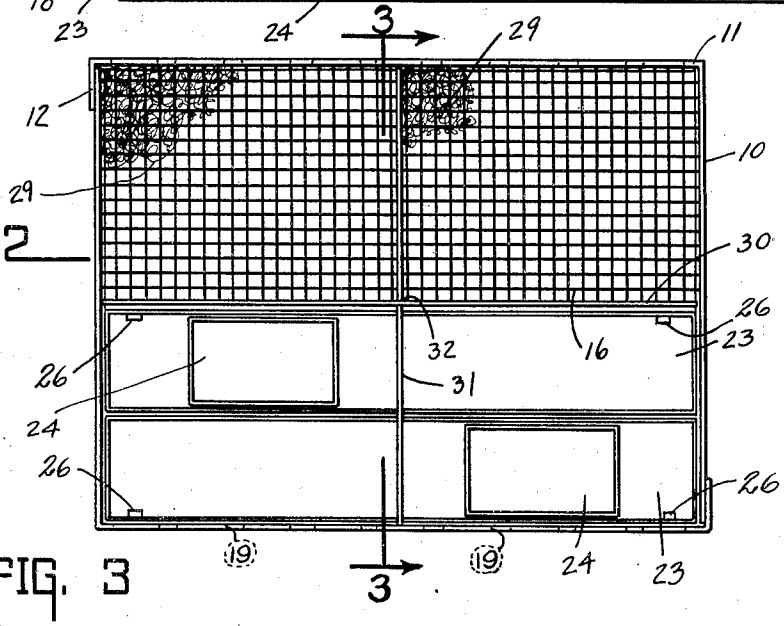
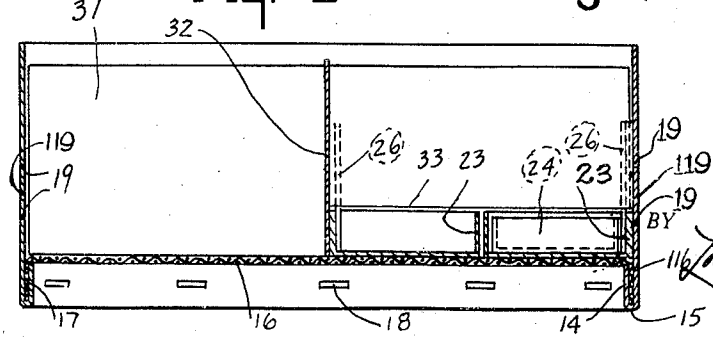


FIG. 3



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SHIPPING BOX AND BROODER

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8 Claims. (Cl. 119—19)

This invention relates to a combination shipping box and brooder construction for chicks and other small fowl or animals.

The chief object of this invention is to improve and simplify a box of the aforesaid character which is of the general type as that shown in the patent to Robert A. Gorsuch, No. 1,594,170 dated July 27, 1926 and reissued as Re. 16,518 dated January 4, 1927.

The several features of the present invention are directed to the following improvements: the improved box footing and simultaneous bottom anchorage, the tilt type parted lid adapted for brooder inspection, the simplified mounting of the feeding trough and the simplified feeding openings with resulting increase in side wall strength, the provision for readily increasing each feeding opening to the growth of the chicks, and the simplified and reinforced construction of the box itself, all of which permit a better box to be produced and at a relatively low cost.

As shown in the Gorsuch Patent No. 1,734,481, dated November 5, 1929, the box may receive a heating device which may be of the type illustrated therein or any other suitable type for the same purpose.

In the drawing Fig. 1 is a perspective view of the combination box in brooder formation with a portion of the cover tilted for brooder inspection. Fig. 2 is a top plan view of the combination box in shipping box formation and ready for chick reception. Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 2 and in the direction of the arrows.

In the drawing 10 indicates an end wall, 11 a side wall and 12 a flap extension all formed as one piece. A pair of the aforesaid are arranged as shown in Fig. 2 in rectangular form with the flap 12 overlapping the remote edge of end 10 of the other member. The flap and adjacent edge are secured together by stapling 13 or other suitable means. Each side or end may be a unit and secured as described. Each of the lower edges of the sides and ends is turned upwardly as at 14 forming a footing or base portion 15 with a groove 116 therebetween. A reticulated bottom such as a wire mesh screen 16 has down turned edges or flanges 17 receivable by grooves 116 and the stapling 18 rigidly secures all of the aforesaid in box bottom formation with the screened bottom 16 in spaced relation to the supporting surface. This arrangement likewise permits the box to be handled by grasping beneath the sides or ends without danger of cutting or tearing the hands by reason of the projecting wire ends. If waterproof material is employed, the exposed edge is water resistant. Likewise the aforesaid construction reinforces the side walls around the bottom thereof and increases the rigidity of the whole construction. The aforesaid construction also constitutes a simple, economical and satisfactory arrangement for uniting the screen bottom to the box sides and ends and with but few parts and provides strength, protection and security of anchorage. The screen bottom may be secured as ilustrated in the Gorsuch patent or by clips or clamps. To reduce moisture absorption when the upturned flange 17 is omitted, the wire screen may be tucked between the liners of the sides and ends and sealed therein. The first mentioned and illustrated form also presents an imperforate supporting edge so that moisture absorption is eliminated.

Herein each side of the box is shown provided with substantially circular cuts or slits 19 and in Fig. 1 the circular portions have been removed forming the circular feed openings 20. The body wall portion 119, see Fig. 3, is defined by the cuts 19. Also as shown in these figures each circular cutting or knockout may be extended by removing with a pen knife, or the like, the lunar or other shaped segment 21. This is accomplished by the knife cutting the uncut portions between the cut portions 22, and in this manner the circular holes are increased in height into elliptical holes. Such increase is made when the chicks have increased in size, for example about the tenth or twelfth day. The holes are not initially made as large as they are indicated by the dotted line 22 because in that event the smaller chicks can escape from the brooder into the trough and may die of exposure. The circular holes are sufficiently large for the smaller chicks to stand upon the wire bottom 16 and project their heads and bills through the openings 20 into a metal feed trough 23, or the metal water trough 24 positioned therein. The feed trough is shown provided with cut out portions or notches 25 that register with the openings 20 when the trough is mounted upon the exterior of the box. The metal feed trough, since its upper rear edge conforms to the lower edges of openings 20, protects the paper stock. Chicks will not peck the wall of the opening and thus enlarge the opening and will not become sick because of eating the stock of the box, instead of the feed in the feed trough. One form of such exterior mounting includes the strap extensions 26 that are passed through the openings 27 formed in the side of the box. These openings constitute slits

and the extended ends of the straps are turned either upwardly or downwardly as desired to hang the trough with the cut outs 25 registering with the openings 20.

As set forth in the Gorsuch patent it is customary for the hatcheryman to ship newly hatched chicks about the first day, during which period they require no water and no feed. They must, however, be protected from drafts and therefore the box is provided with a removable layer of suitable material, the same being indicated by the numeral 29. A pair of interlocking transversely arranged partitions 30 and 31 with an interlock at 32 is provided to segregate the chicks into standard groups so they can huddle together and retain their animal heat. Each of the chick receiving compartments is provided with the removable layer of suitable material, which may be excelsior or the like. The excelsior prevents excessive draft and prevents the chicks from receiving physical injury in shipment. The partitions also may reinforce the box.

The other two compartments are adapted to receive the feed and water troughs, and for this purpose the partition 31 may be cut away as at 33 to receive a water and a feed trough or a pair of water and a pair of feed troughs. As illustrated, the water troughs are nested or telescoped within the feed troughs. If desired, one method of rigidly securing the water trough thereto is by springing in nested relation the water trough within the feed trough. The two trough constructions provided may be utilized after the chicks have been received at their destination, and with this arrangement the brooder may be divided by the partition 30 so that half of the chicks may be housed, fed and watered using half of the brooder and the other half of the chicks can be accommodated in the other half of the brooder until the chicks become too large when other provision must be made for some of them. When thus divided two heaters should be employed. Preferably, therefore, all partitions are removed upon receipt of the chicks, and one or both sets of troughs may be employed.

The cover comprises a top 40 with depending sides 41 some of which have angular flap extensions 42 whereby said sides may be stapled together as at 43 to form the cover. As shown in Fig. 1 the top 40 is scored along a line 44 and in the sides continuations thereof are provided as transverse cuts 45 which terminate adjacent the free edge. Said cuts, however, do not extend through the edge but must be severed subsequently and that portion to be severed is indicated at 46. This severance is performed upon receipt of the chicks so that a quick inspection may be made of the brooder interior without exciting the chicks and by merely tilting the forward portion 47 from the plane of the top 40. This feature is especially valuable when brooders are arranged in racks since it eliminates complete brooder withdrawal for inspection. The top also may be perforated for ventilation if desired.

For brooder purposes the removable layer of excelsior is removed upon receipt of the chicks and the troughs are also removed together with the transverse partitions 30 and 31. The holes 20 are formed upon one or both sides of the box and the feeding and water troughs are mounted as aforesaid upon either or both sides. The brooder is then ready for use during the next several weeks for the newly hatched chicks. Except for the troughs, the wire screen and the staples, all of the box parts are of water proof paper board, which is relatively light, sufficiently strong and relatively long lived. This board has unusual insulating properties against heat and cold, is sanitary and provides smooth walls.

The invention claimed is:

1. A combination shipping box and brcoder for chicks including a cover having a top, and depending side walls, said top having a scoring therein substantially parallel to one side wall, each adjacent side wall including a slot substantially continuous with the scoring and terminating short of the free edge of the side wall for the purpose described.

2. In a brooder, the combination of a side wall of paper board having a plurality of relatively small feed openings arranged in spaced relation and having curved bottom edges, and a single trough positioned without the side wall for access from within the brooder through the openings, said trough upon the side adjacent the brooder side wall having cut-out portions with similar edges registering with the side wall openings for permitting access to the trough and for the purpose described.

3. In a brooder, the combination of a side wall having a plurality of relatively small feed openings arranged in spaced relation, a single trough positioned immediately adjacent the same and without the brooder for access thereto from within the brooder through the openings, said side wall except for the feed openings being substantially imperforate except for a plurality of anchoring slots therein, and straps secured at one end to said trough and extending through said side wall anchoring slots and having angular ends for supporting said trough in predetermined position relative to said openings.

4. In a brooder, the combination of a side wall of paper board stock and having a plurality of initially relatively small feed openings arranged in horizontally spaced relation, and a predetermined readily detachable portion of said side wall adjacent each opening for initially and partially defining the same and integral with said side wall preventing small chick escapement and permitting small chick feeding, and when subsequently detached as by cutting or the like forming a vertical enlargement of said opening without materially reducing the strength of the side wall and parts thereof between the openings for larger chick use.

5. In a brooder, the combination of a side wall of paper board having a plurality of relatively small openings arranged side by side in spaced relation, a single metal trough positioned outside the brooder and having a back wall operatively abutting the side wall, said back wall having an upper edge registering with the bottoms of said openings for the purpose set forth.

6. In a shipping box and brooder, the combination of substantially imperforate side walls of paper board stock for shipping purposes, one of said side walls including a plurality of feeding openings, each initially partially defined by a predefined readily detachable superposed portion, said openings being arranged in horizontally spaced relation, whereby upon detachment of the detachable portions said side wall is provided with a plurality of longitudinally arranged spaced elongated openings without materially reducing the strength of the side wall therebetween.

7. A paper board box having bottom, side walls and cover, certain of the same having cuts and slits whereby said box may be initially used as a

shipping box and subsequently as a feeding box, said cuts and slits forming outlines defining openings, each sufficient to admit the head of a large chick, said cuts and slits also being so formed and arranged as to facilitate the initial provision of an opening within said outline of a size smaller than the first mentioned opening outline for the adimssion only of the head of a small chick.

8. A paper board box having bottom, side walls and cover, certain of the same having cuts and slits whereby said box may be initially used as a shipping box and subsequently as a feeding box, said cuts and slits forming outlines defining openings, each substantially sufficient to admit the head of a large chick, said cuts and slits also being so formed and arranged as to facilitate the provision of an opening within said outline of a size smaller than the first mentioned opening outline for the admission only of the head of a small chick, said outlines each being composed in part by one or more slits.

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