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2,556,707

CONVERTIBLE SHIPPING CARTON AND SELF-FEEDER

Filed Dec. 31, 1948

2 Sheets-Sheet 1

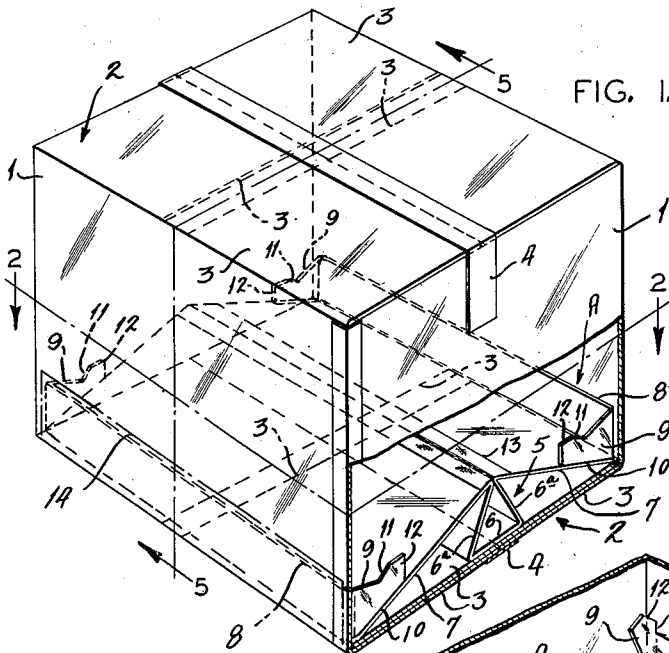


FIG. 1.

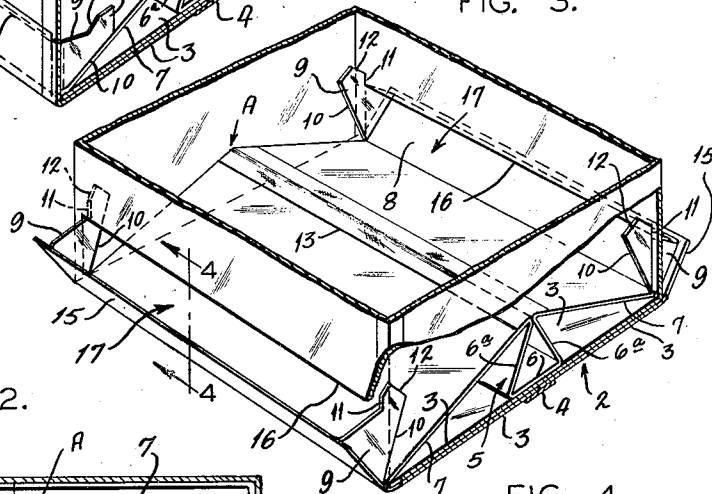


FIG. 2.

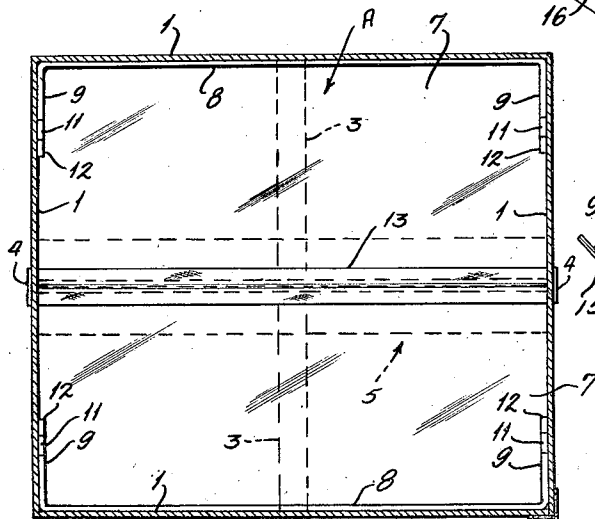


FIG. 3.

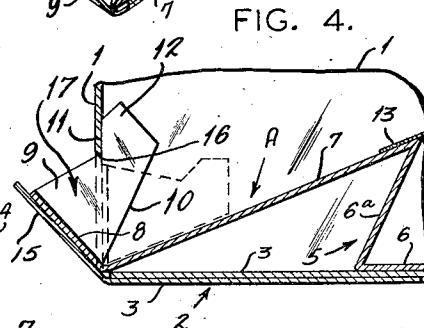


FIG. 4.

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FIG. 5.

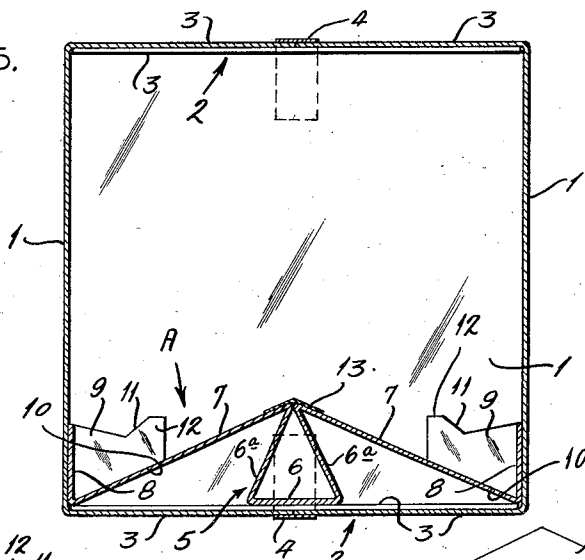


FIG. 6.

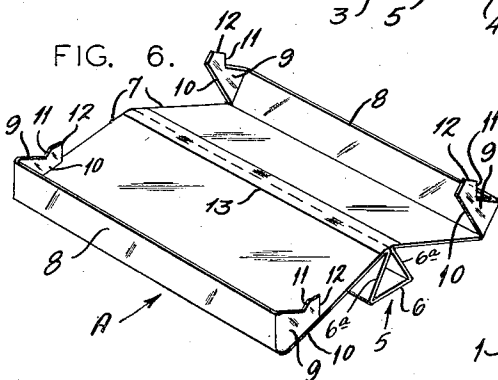


FIG. 8.

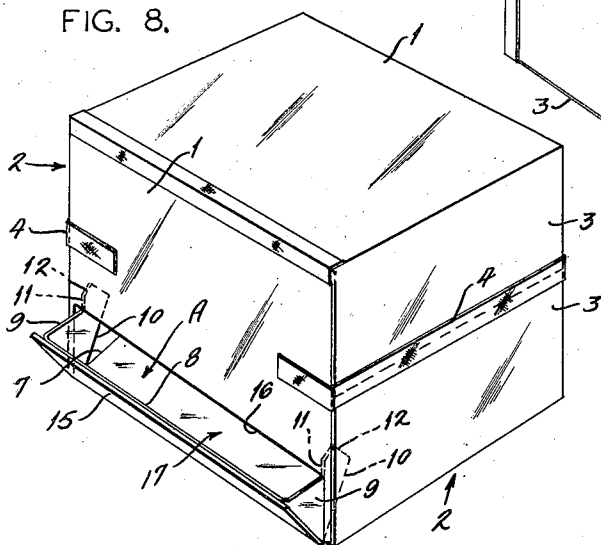
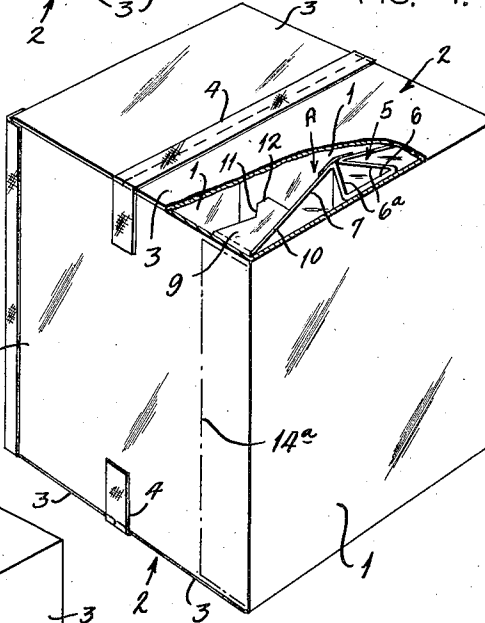


FIG. 7.



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CONVERTIBLE SHIPPING CARTON AND
SELF-FEEDERWarren C. Rendall and Fred L. Rushing, Tampa,
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Application December 31, 1948, Serial No. 68,534

4 Claims. (Cl. 229-7)

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This invention relates to shipping containers, particularly cartons of the kind used for shipping poultry feed. It has for its principal object to provide a strong and durable, simple and economical feed shipping carton which can be quickly and easily converted into an efficient trough type self-feeder. Another object is to provide the carton with a folded-blank self-feeding insert which is snugly held inside the sealed carton during shipment and has a hinged trough-forming portion adapted to be swung outwardly into operative position through an opening formed by slitting an adjacent wall of said carton. The invention consists in the convertible shipping carton and self-feeder and in the parts and combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawings, which form part of the specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a perspective view of a combination shipping and self-feeder carton embodying my invention, the lower portion of one side wall of the carton being shown broken away to disclose the self-feeder insert,

Fig. 2 is a vertical cross-sectional view on the line 2-2 in Fig. 1,

Fig. 3 is a fragmentary perspective view similar to Fig. 1, showing the carton converted into a self-feeder,

Fig. 4 is a fragmentary vertical cross-sectional view on the line 4-4 in Fig. 3,

Fig. 5 is a vertical cross-sectional view on the line 5-5 in Fig. 1,

Fig. 6 is a perspective view of the self-feeder insert,

Fig. 7 is a perspective view of a modified form of shipping carton and self-feeder, the upper end of the carton being shown broken away to disclose the self-feeder insert; and

Fig. 8 is a view showing the carton of Fig. 6 turned on its side and converted into a self-feeder.

In the accompanying drawings, our invention is shown embodied in a conventional one-piece, folded-blank, multi-sided shipping carton comprising four single ply side walls 1 and two ply top and bottom or end walls 2 formed by folding over upper and lower marginal half closure flaps 3 of said side walls. At each end of the carton, the half closure flaps 3 of two opposite side walls are folded inwardly towards each other into substantially edgewise abutting relation and the half closure flaps of the two other opposite side walls are folded over upon the two first mentioned flaps and are secured together along their abut-

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ting edges by a strip of adhesive tape 4. The overlapped closure flaps 3 may also be adhesively secured together flatwise.

The above carton is provided with a separate, one-piece, folded-blank, self-feeder insert A which is formed midway between two opposite side margins thereof into a tubular supporting rib 5 that extends from one to the other of the other two opposite side margins of said insert and has a flat bottom 6 and upwardly converging side walls 6a that meet along their upper edges. The insert also includes two half-bottom panels 7 that slope downwardly and outwardly from the meeting upper edges of the upwardly converging side walls 6a of the hollow rib 5 and have upstanding flaps 8 along their remote or free outer side margins that terminate in end tabs 9 that are bent inwardly at right angles to said flaps. The lower edges 10 of the end tabs 9 incline upwardly from the upstanding side marginal flaps 8 in conformity with the slope of the half bottom panels 7 so as to seat thereon; and the upper edges of said end tabs are notched, as at 11, to provide locking lugs or tongues 12 at the inner upper corners thereof. The meeting edges of the half-bottom panels 7 are preferably covered by a strip of adhesive tape 13 that seals and prevents spreading of the joint between said edges.

The self-feeder insert A is positioned horizontally within the carton and snugly fits therein with its hollow supporting rib 5 seated on the two ply bottom of the carton midway of two opposing side walls thereof and with its half-bottom panels 7 sloping downwardly to said side walls where they seat on said bottom with their upstanding marginal flaps 8 lying against said side walls and with the intumed end tabs 9 of said flaps lying against the other two opposite side walls of the carton and seated edgewise on said half-bottom panels. For the purpose hereinbefore described, the carton has lines of severance 14 marked on the outer surface of the two side walls engaged by the marginal flaps 8 of the insert, said lines extending from end to end of said walls at or slightly above the level of the top edges of said flaps and thence downwardly along the corners of the carton to the bottom thereof.

The carton is filled with poultry feed or other material that is to be dispensed therefrom and the top closed and sealed in the manner hereinbefore described for shipment to the ultimate purchaser. Upon receiving the sealed combination feed shipping and dispensing carton, the feeder places the carton, insert end down, where the poultry is to be fed and slits the two side walls

along the lines 14 from end to end and downwardly at the vertical corners of the carton to the bottom thereof, thereby forming flaps 15 that are hinged to the bottom of said carton and are adapted to swing outwardly and downwardly out of the planes of said walls to form openings 16 therein opposite the upstanding marginal flaps 8 of the self-feeder insert A. The flaps 8 of the insert are then swung outwardly through the side wall openings 16 to form outstanding feed troughs 17 along the lower portions of two opposite sides of the carton, the feed flowing by gravity from the carton into said troughs through said side wall openings. The trough-forming flaps 8 incline upwardly and outwardly at an angle of about 45 degrees, in which position the upstanding locking tongues 12 at the inner upper corners of the end tabs 9 of said flaps abut against the side walls above the openings 16 therein and thus prevent further outward swinging movement of said flaps. The flaps 15 produced by severing the two opposite side walls of the carton remain attached to the bottom thereof and extend upwardly along the undersides of the upwardly and outwardly inclined trough-forming flaps 8. When it is desired to discontinue the feeding, the trough-forming flaps 8 of the self-feeder insert may be swung inwardly through the openings 16 and returned to their original position and the flaps 15 cut from the side walls may be swung upwardly and inwardly into the planes of the latter and secured by adhesive tape, thus retaining said trough-forming flaps in inoperative position.

The foregoing arrangement provides a strong and durable, simple and economical feed shipping carton which may be quickly and easily converted into an efficient trough type self-feeder whose feeding troughs may be returned to their original positions when it is desired to render the feed inaccessible. The two ply bottom of the carton and the self-feeder insert therein strengthen the lower end portion thereof and protect the feed from floor moisture and the flaps cut from the side walls of the carton also protect the undersides of the trough-forming flaps from moisture and damage. The sloping false half-bottom panels of the insert are held in inclined position by the tubular supporting rib thereof and facilitates movement of the feed into the troughs. The insert has a snug fit in the carton and thus prevents sifting of the feed around the edges of the insert; and the joints between the meeting edges of said half bottom panel is covered by the adhesive sealing strip which prevents sifting of the feed through said joint and sidewise spreading of said rib.

In the modified construction shown in Figs. 6 and 7, the self-feeder insert is positioned against one of the vertical side walls 1 of the carton so as to relieve the insert of the weight of the feed during shipment. In use, the modified carton is positioned with its insert engaging side wall down and is cut along lines 14a marked on the side walls engaged by the trough-forming flaps 8 and opened and used in the manner hereinbefore described.

What we claim is:

1. A convertible shipping carton and self-feeder comprising four side walls, a top and a

bottom, a self-feeder false bottom insert snugly fitting within said carton and having a supporting rib located between two opposite side walls of said carton and seating on the bottom thereof, panels sloping downwardly on opposite sides of said rib to said bottom at said opposite side walls and flaps extending upwardly from the outer edges of said panels and seating against said opposite side walls, said flaps having end flanges extending inwardly alongside of the other two opposite side walls of said carton, said two first mentioned opposite side walls being adapted to be cut along said flaps to provide openings opposite the latter and said flaps being constructed and arranged to be swung outwardly through said openings at an upwardly and outwardly inclined angle to provide feed troughs outside of said two first mentioned opposite side walls.

2. The combination set forth in claim 1 wherein said end tabs have portions thereof constructed and arranged to engage said two first mentioned opposite side walls to limit the outward swinging movement of said trough-forming flaps.

3. The combination set forth in claim 1 wherein said two first mentioned opposite side walls are cut along the upper edges of said flaps and thence downwardly to the bottom of the carton to provide flaps constructed and arranged to be swung outwardly to form said openings and to extend upwardly and outwardly beneath said flaps in the trough-forming positions thereof.

4. A convertible shipping carton and self-feeder comprising four side walls, a top and a bottom, a self-feeder false bottom insert snugly fitting within said carton between two opposite side walls and having opposite edge portions thereof seating on the bottom, the false bottom including panels sloping downwardly on opposite sides from a longitudinally extending ridge to the carton bottom at opposite side walls, flaps extending upwardly from the outer edges of said panels and seating against said opposite side walls, the flaps having end flanges extending inwardly of said carton, said two first mentioned opposite side walls being adapted to be cut along said flaps to provide openings opposite the latter, and the said flaps being constructed and arranged to be swung outwardly through said openings at an upwardly and outwardly inclined angle to provide feed troughs outside of said two first mentioned opposite side walls.

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