

Dec. 27, 1927.

1,653,633

E. W. KOESER

EGG CARTON

Filed Oct. 1, 1924

2 Sheets-Sheet 1

Fig. 2

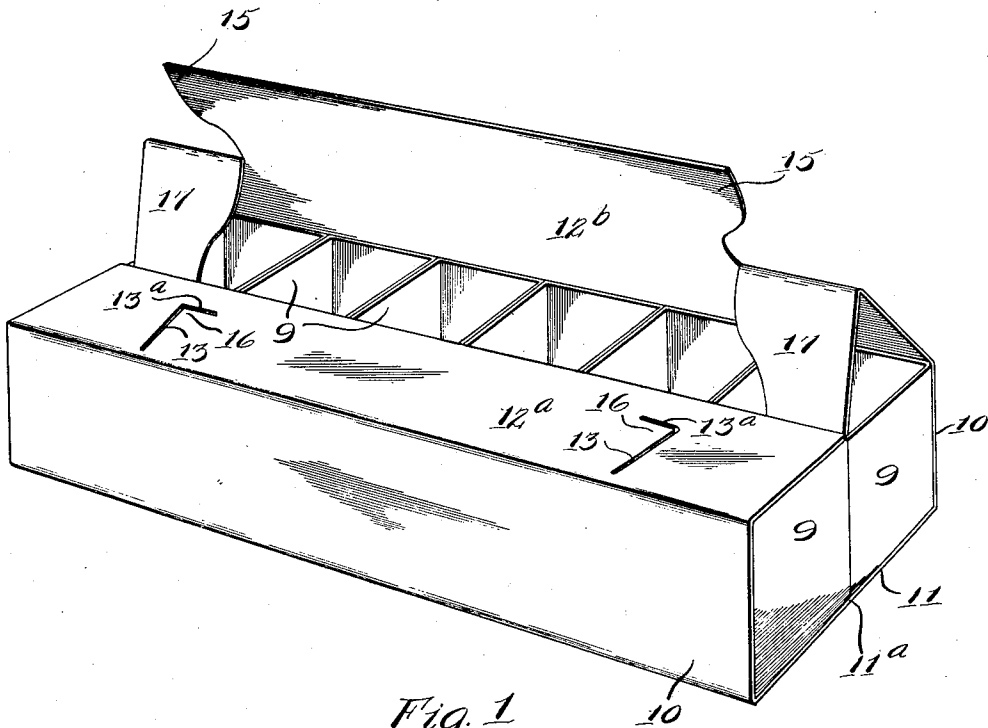
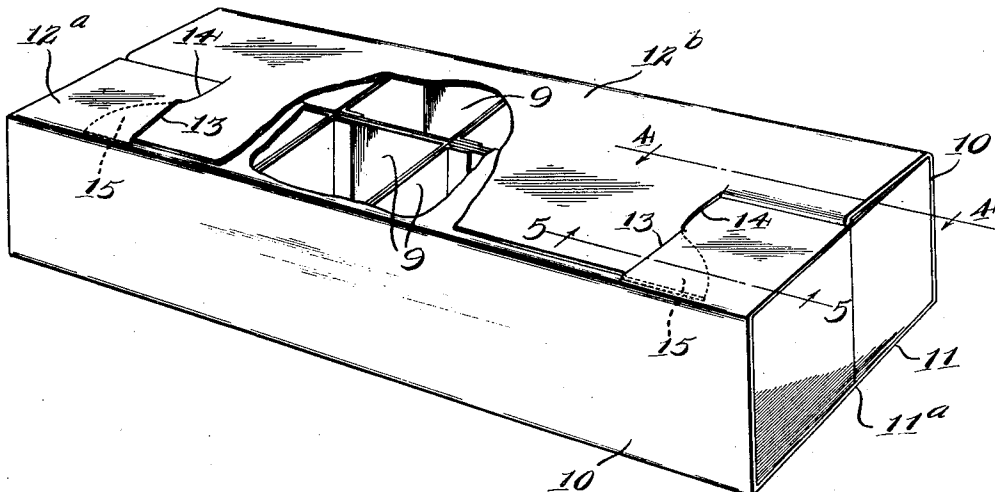


Fig. 1



Inventor
Earl William Kooser

By Bradbury & Caswell
Attorneys

Dec. 27, 1927.

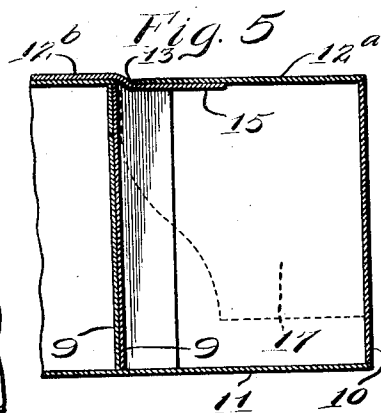
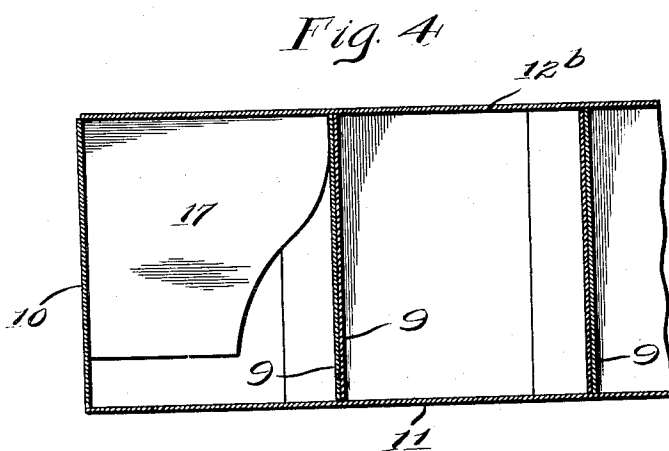
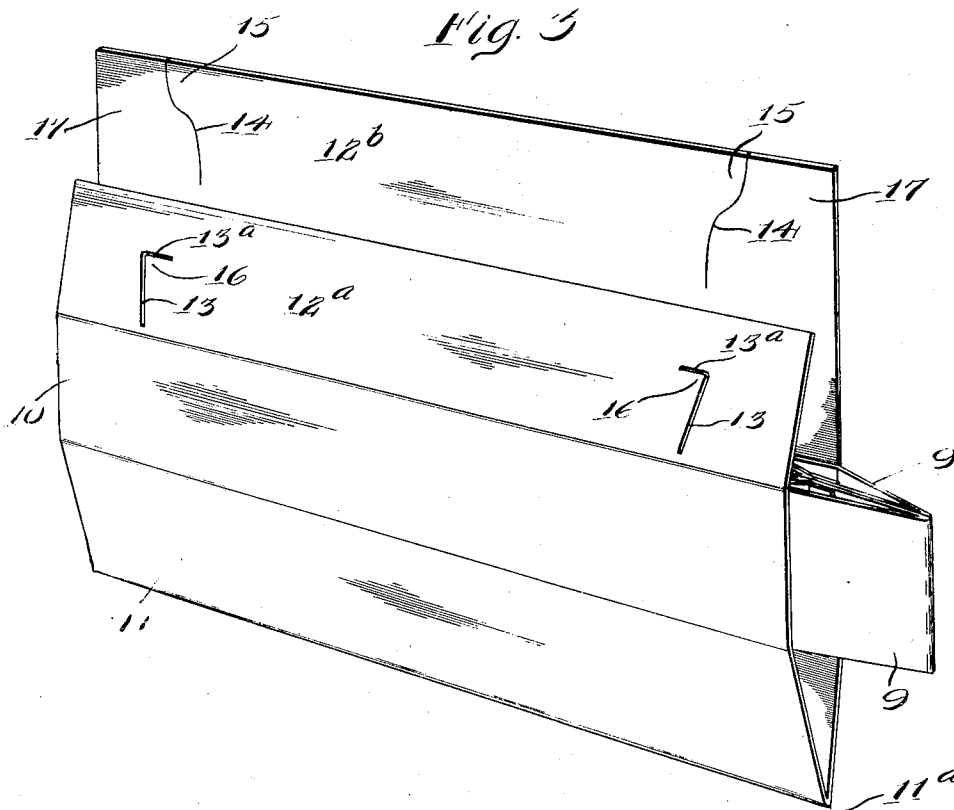
1,653,633

E. W. KOESER

EGG CARTON

Filed Oct. 1, 1924

2 Sheets-Sheet 2



Inventor
Earl William Koester

By Bradbury & Caswell
Attorneys

Patented Dec. 27, 1927.

1,653,633

UNITED STATES PATENT OFFICE.

EARL WILLIAM KOESER, OF MINNEAPOLIS, MINNESOTA.

EGG CARTON.

Application filed October 1, 1924. Serial No. 740,890.

My invention relates to improvements in egg cartons, particularly of the type constructed from paper board and used commercially in packaging eggs by the dozen.

6 An object of my invention is to provide an egg carton of the instant nature adapted to be economically constructed and to be quickly and easily expanded, filled with eggs and closed, said carton, when closed, afford-
10 ing a strong and durable container capable of resisting relatively strong forces acting to crush it.

Another object of the invention is to provide a novel cover for a carton having a
15 folding body and folding cells therein adapted, when open, to reinforce the body, said cover being part of the blank from which the body is formed and designed not only to close the carton, but to lock the cells in
20 body reinforcing relation.

With the foregoing and other objects in view, which will appear in the following description, the invention resides in the novel combination and arrangement of parts and
25 in the details of construction hereinafter described and claimed.

In the drawings, Fig. 1 is a perspective view of a carton embodying my invention, portions of the cover flaps being broken
30 away to disclose a part of the egg cell structure within the carton; Fig. 2 is a similar view illustrating one of the cover flaps partly raised and showing, particularly, the cover securing and cell locking tabs on said
35 flap; Fig. 3 is a perspective view of the carton collapsed and Figs. 4 and 5 are detail sectional views taken, respectively, on the lines 4-4 and 5-5 of Fig. 1.

Referring to the drawings, it will be seen
40 that the carton comprises an elongated, open ended shell for encasing two rows of eggs cells 9. The shell is formed from an oblong blank scored transversely on parallel lines to form body portions, viz; sides 10 and a
45 bottom 11 having a medial longitudinal line of fold 11^a therein. The ends of the blank comprise complementary cover flaps 12^a, 12^b forming the cover of the shell. The cells 9 within the shell, each comprise a strip of
50 paper board overlapped at its ends and gummed, said strip being scored on four equidistant transverse lines to provide a foursided cell foldable diagonally into compact form. There are six mutually abutting
55 cells in each row or series, one side of each cell of each series being secured to one of

the sides 10. Said cells of the two series are arranged in opposition, the adjacent or meeting sides of the opposing cells being gummed together in pairs over the medial line 11^a of
60 fold in the bottom 11. Thus constructed, the bottom 11 and sides 10 may be folded upon themselves (Fig. 3) with the cells 9 folded between them, or may be expanded (Figs. 1 and 2) with said cells 9 extended.
65 In extended right angular form, the cells 9 supply a substantial reinforcement for the body of the shell and also for the cover, which secures said cells in extended relation, as will now be explained.

The flap 12^a, constituting one of the complementary members of the cover, is formed near its ends with substantially transverse slits 13, said slits being cut with-
70 in the margin at the free side of the flap 12^a and supplemented at their outer extremities with branch slits 13^a directed toward each other. The lateral dimension of said
75 flap 12^a is limited to the width of the row of cells 9 on its respective side of the body. The flap 12^b comprising the second complementary member of the cover is substan-
80 tially twice as wide as the flap 12^a and practically covers the same when folded down upon it (Fig. 1). Said second or upper flap 12^b has opposed symmetrical slits 14 therein, one at each end thereof, each slit
85 being cut inward through the margin of the flap. Noting either one of the slits 14, it will be observed that the inner reach of the slit traverses the flap 12^b at a distance from the adjacent end thereof equal to the
90 inside dimension of an expanded cell 9; that said reach of said slit terminates medially of the flap 12^b and that from the outer extremity of said reach, the slit 14 extends
95 through the margin at the free side of the flap 12^b in a curving sweep toward, but falling short of the end of said flap. Out in this manner the slits 14 provide tabs 15
100 for entry into the slits 13 in the flap 12^a, the insertion of said tabs 15 into said slits 13 being facilitated by the branch slits 13^a, which together with the slits 13 define angular portions 16 in the flap 12^a that may be
105 conveniently depressed to temporarily enlarge the openings for the tabs 15. Inserted in the slits 13, the tabs 15 interlock with the flap 12^a and hold the cover members in closed overlapping relation. The material
110 between the ends of the flap 12^b and the slits 14 therein provide cell locking tabs 17

that are folded down on a line medially of the tab and into end cells 9 of the structure. Each tab 17 is tucked downwardly inside of the free edge of the flap 12^a and between
 5 an egg and the adjacent inner wall of its respective egg cell 9. Upon opening the body of the carton, the cells 9 tend to fold toward one end of the body in the direction wherein they were disposed (Fig. 3)
 10 when the carton was collapsed. This tendency to resist movement into fully expanded right angular relation would require a user to shift and hold the cells 9 in such relation during the insertion of the tabs 17
 15 thereinto, were it not for the inclination given to the inner edges of said tabs in the cutting of the curved reaches of the slits 14. Thus formed, however, the tab 17, over the leading end cell projecting from
 20 the casing, is readily inserted into said cell and upon depression retracts said cell into right angular position within the casing, under cam-like coaction of the inclined edge of said tab with the adjacent wall of
 25 said cell. Such retraction of the leading cell results in squaring the remaining cells, whereupon the second cell locking tab may be readily inserted in its place. With the cells 9 locked from opposite ends of the
 30 series against folding in either direction, the entire shell is effectively reinforced against crushing by reason of the bracing characteristics of said cells.

From the foregoing, the dual result
 35 attended with the peculiar cutting of the slits 14 will be understood. It will also be appreciated that the present carton is cut to no waste whatever and that in addition to being adapted for folding into com-
 40 pact confines, the carton, when expanded and locked, supplies a sturdy and protective package for eggs despite the light and inexpensive material of which it is constructed.

45 Changes in the specific form of my invention, as herein disclosed, may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I
 50 claim as new and desire to protect by Letters Patent is:

1. In a carton of the class described, an open ended shell consisting of a blank foldable on parallel lines to form a body portion, medially foldable, and sides, also to
 55 form opposed complementary cover flaps for the body, a series of mutually abutting cells secured to either side portion of the body, each cell of one series meeting and
 60 connected with the opposing cell of the other series over the medial line of fold of said bottom, said cells being foldable endwise of the body from expanded shell reinforcing relation to permit of the folding
 65 of said body and the collapsing of the car-

ton, one of said cover flaps having transverse slits, one at each end thereof within the margin at the free side of said flap, the other flap having corresponding marginal
 70 slits cut therein and forming cover securing tabs adapted to enter the slits in said first flap, also cell locking tabs adapted to be turned down into open terminal cells within the body.

2. In a carton of the class described, a
 75 shell consisting of a body, foldable upon itself, and opposed complementary cover flaps on the body, a series of egg cells within the body foldable endwise thereof from expanded shell reinforcing relation to permit of the
 80 folding of the body and the collapsing of the carton, one of said flaps having a slit therein near the end of the body occupied by the leading cell of the series, the other flap having a slit in the margin thereof and
 85 forming a cover securing tab for insertion into the slit in said first flap, also a cell locking tab adapted to be turned down into said leading cell.

3. In a carton of the class described, a
 90 shell consisting of a body, foldable upon itself, and a cover flap, a series of mutually abutting egg cells within the body foldable toward one end of said body from expanded shell reinforcing relation to permit of the
 95 folding of the body and the collapsing of the carton, said cover flap being formed with a foldable tab thereon providing an abutment for the leading cell of the series, said tab being adapted to lock said cell and
 100 the remaining cells of the series against folding.

4. In a carton of the class described, a shell consisting of a body, foldable upon
 105 itself, and a cover flap, a series of mutually abutting egg cells within the body foldable endwise thereof from expanded shell reinforcing relation to permit of the folding of said body and the collapsing of the carton, said cover flap being formed with two foldable
 110 tabs thereon, one for each terminal cell, each tab providing an abutment for its respective cell to lock the same against folding.

5. In a carton of the class described, a
 115 shell consisting of a body, foldable upon itself, and a cover flap, a series of mutually abutting egg cells within the body foldable endwise thereof from expanded shell reinforcing relation to permit of the folding of
 120 said body and the collapsing of the carton, said cover flap being formed with a foldable tab thereon providing an abutment for one of the cells adapted to lock said cell against
 125 folding.

6. In a carton of the class described, a shell consisting of a body, foldable upon
 130 itself, and a cover flap, a series of mutually abutting egg cells within the body foldable from expanded shell reinforcing relation to

permit of the folding of said body and the collapsing of the carton, and releasable means providing for interlocking coaction between cover flap and cells to secure the latter against folding.

7. In a carton of the class described, a collapsible shell comprising a body foldable upon itself, sides connected with said body and a cover flap hingedly connected to one of said sides, partitions extending across said sides to provide egg cells, said partitions being foldable intermediate the ends thereof, means secured to said cover flap for engaging one of said partitions along the line of fold thereof to hold the egg cells in extended position, and means for securing said flap in closing position.

8. In a carton of the class described, a collapsible shell comprising a body foldable upon itself, sides connected with said body and a cover flap hingedly connected to one of said sides, partitions extending across said sides to provide egg cells, said partitions being foldable intermediate the ends thereof, a depending tab formed on said cover flap adapted to extend in between two of said partitions and to bring the edges thereof into engagement with one of said partitions along the line of fold thereof, and means for securing said cover flap in closed position.

9. In a carton of the class described, a collapsible shell comprising a body foldable upon itself, sides connected with said body and a cover flap hingedly connected to one of said sides, partitions extending across said sides to provide egg cells, said partitions being foldable intermediate the ends thereof, a tab formed on said cover flap extending in between two of said partitions, said tab being arranged at right angles thereto and engaging one of said partitions along its line of fold.

10. In a carton of the class described, a collapsible shell comprising a body portion foldable upon itself, sides connected with said body portion and a cover flap hingedly connected to one of said sides, partitions extending across said sides to provide egg cells, said partitions being foldable intermediate the ends thereof, means connecting said partitions at their lines of fold to cause the same to fold simultaneously in the same direction, means secured to said cover flap for engagement with one of said partitions along the line of fold thereof to hold the egg cells in extended position, and means for securing said flap in closed position.

In testimony whereof, I have signed my name to this specification.

EARL WILLIAM KOESER.