Sept. 4, 1934. C. H. GOODYEAR 1,972,622

ONE-PIECE BRACED EGG CARTON

Filed May 2, 1934 2 Sheets-Sheet 1

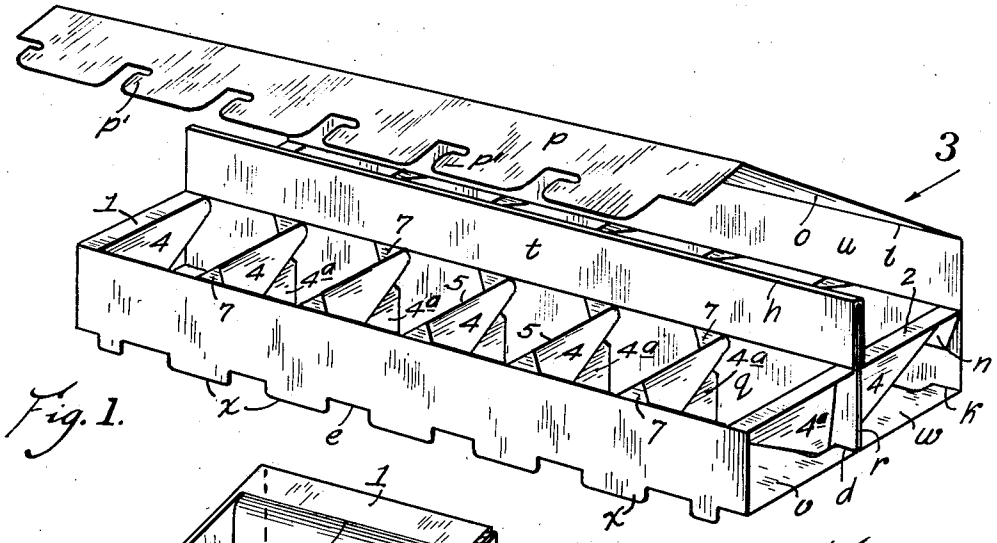


Fig. 1.

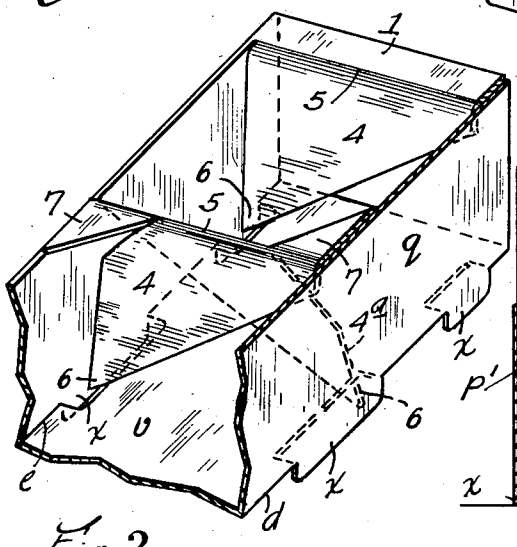


Fig. 2.

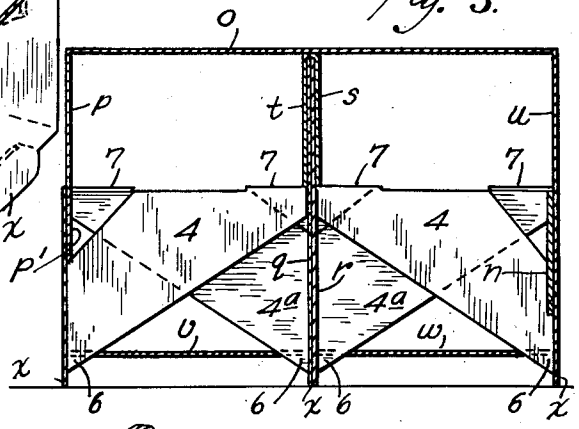


Fig. 3.

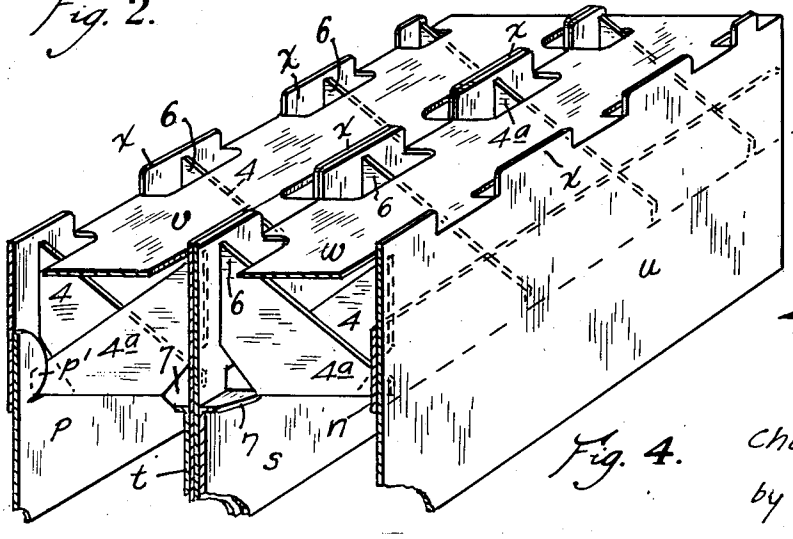


Fig. 4.

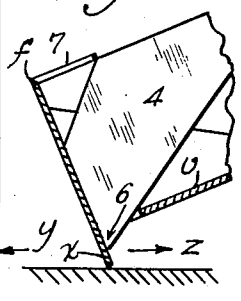


Fig. 10.

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ONE-PIECE BRACED EGG CARTON

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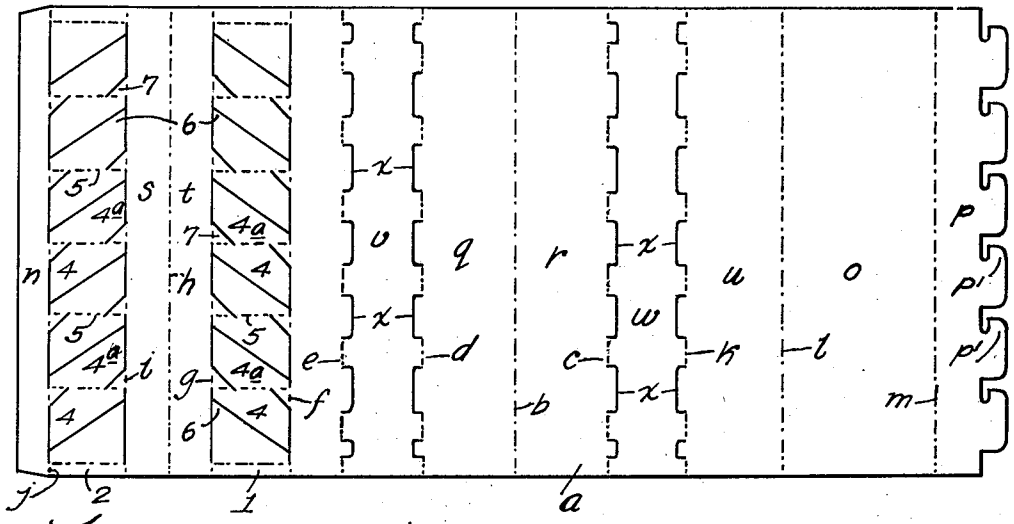


Fig. 5.

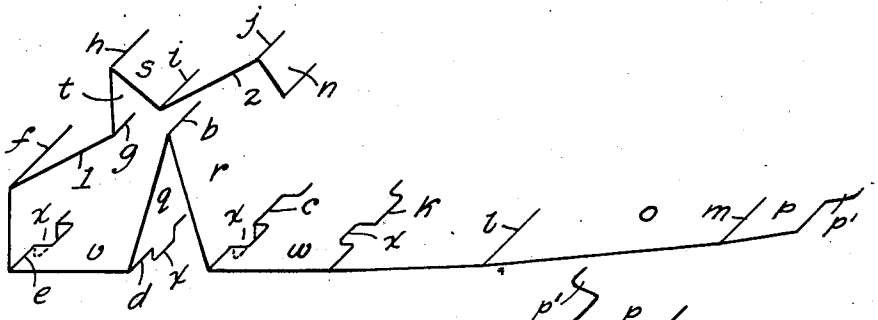


Fig. 6.

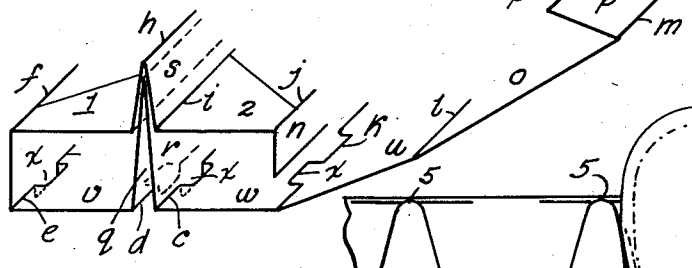


Fig. 7.

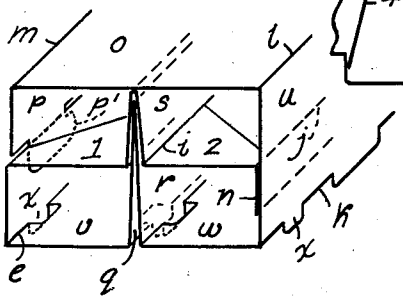


Fig. 8.

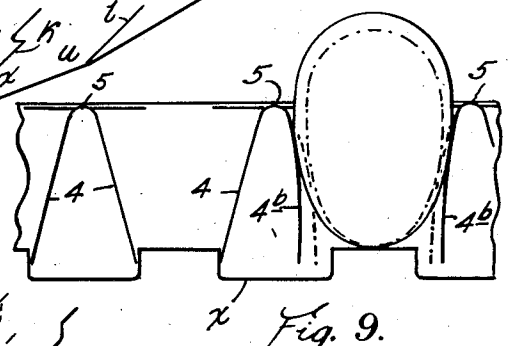


Fig. 9.

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Patented Sept. 4, 1934 1,972,622

UNITED STATES PATENT OFFICE

1,972,622

ONE-PIECE BRACED EGG CARTON

Charles H. Goodyear, Portland, Oreg.

Application May 2, 1934, Serial No. 723,568

5 Claims. (Cl. 229—29)

My invention relates to improvements in collapsible paper cartons especially such as intended for shipping eggs, although my carton is adapted also for shipping other fragile articles.

The object of my invention is to provide a carton made of a single sheet of paper-board so slitted and scored that it may be readily formed into a sturdy complete carton, that is consisting of body and integral cover, manufactured by the simplest process. This enables my carton to be produced at a very low cost.

A further object of my invention is to provide a carton consisting preferably of two elongate compartments whose interior side walls are joined together and form a rigid longitudinal truss-rib supporting the longitudinal middle of the cover of the carton.

By my invention the blank is cut and scored in such manner as to make up a sturdy, braced carton provided with legs so that the bottom of the carton is supported off the supporting surface, thus to prevent breaking concussion being transmitted from the supporting surface on which the carton is stood, to the contents of the carton.

Furthermore, the compartments of my carton are partitioned into cells by integral partitions so arranged as to constitute lateral braces between the side walls of each compartment, and this bracing element is extended down to the legs of the carton.

Furthermore, in my carton the partitions dividing the compartment into cells are so arranged as to serve as pads for the eggs, separating them and firmly holding them resiliently in place.

The further details of my invention are hereinafter fully described with reference to the accompanying drawings in which:

Fig. 1 shows a perspective view of my box;

Fig. 2 is a fragmentary perspective of the rear end of the left hand rows of cells with respect to Fig. 1;

Fig. 3 is a transverse section approximately taken on the line pointed by the arrow of Fig. 1;

Fig. 4 is a perspective fragmentary bottom plan view of my box;

Fig. 5 shows a blank of paper-board cut and scored in accordance with my invention for making up my box;

Figs. 6 to 8 show the process of setting up my box;

Fig. 9 illustrates how the partitions dividing the two compartments into cells serve in a resilient manner to hold eggs of different size firmly in place; and

Fig. 10 illustrates the manner in which the supporting legs are braced in my box.

Referring first to Fig. 5 and then to Figs. 6, 7 and 8 to show the cutting and scoring of the blank and the stages in the setting up of the box: *a* denotes the blank of paper board, cut in the shape shown in Fig. 5, the full lines on the blank indicating slits and the broken lines indicating the scoring or creases for folding. The blank is initially folded on the lines *b, c, d, e, f, g, h, i* and *j*, thereby causing the blank to assume the shape indicated successively by Figs. 6 and 7. Then, when the remaining portion of the blank is folded on lines *k, l* and *m*, the blank will be arranged in the form shown in Fig. 8. The adjacent faces *q* and *r* are fastened together with suitable adhesive, and, with the faces *s* and *t* which are fastened down and straddle the fold *b*, constitute the central longitudinal truss-rib of the carton. The flap *n* is then fastened to the inside of the side wall *u*, as shown in Fig. 8.

The cut-out portions *x* of the bottoms *v* and *w* constitute the legs of the carton. *o* is the cover of the carton, and the lip *p* provided with locking projections *p'* constitutes the means for holding the cover in position when the carton is closed.

The sections 1 and 2, which form the tops of the two compartments of the carton, have been slitted on the lines shown in Fig. 5 so as to make a series of trapezoidal partitions, 4, 4*a*. These partitions are now bent down on the horizontal lines 5 as shown in Fig. 1 and will then overlap. The lower corners 6 of these partitions 4 extend below the bottoms *v* and *w*, and into the rectangular openings in the bottoms cut to produce the legs *x*. The position of these partitions 4, 4*a* can be seen clearly from Figs. 2, 3 and 4. The partitions, with the lower corners 6 engaged in the said rectangular openings in the bottoms of the two compartments divide each of these into a series of cells; each cell in the carton illustrated being adapted to hold an egg. But the partitions, in addition to constituting the dividing walls between the cells, form strong lateral braces for the carton, including the legs, which feature is plainly seen from Figs. 3 and 4, and also illustrated in Fig. 10.

In Fig. 10, which is a fragmentary sectional drawing of one side of the carton, the carton is illustrated as tilted on one side. The pressure against the legs of the carton will be in the direction indicated by the arrow *z* and not by the arrow *y*. The corners 6 of the partitions 4 brace and prevent the legs from bending in under pressure, and the entire partitions 4, with their edges

along the adjacent side wall serve as firm braces for the side walls and integral legs of the carton.

But a further important feature of the partitions 4, 4*a* is illustrated by Fig. 9. The partitions 4, 4*a* when bent down at 5 will tend, due to the resiliency of the paper board, to take the position shown on the left in Fig. 9, but will yield and be moved over as shown at 4*b* at the right, when an egg is inserted in the carton cell. In this way the cells can accommodate eggs of various sizes, as illustrated in Fig. 9; the broken lines indicating the outline of an egg of smaller size, and the corresponding position of the partitions, the resilient pressure of which against the eggs tends to keep the eggs firmly in place in the carton.

When the cover of the carton is closed the locking projections *p'* of the lip *p* engage the triangular webs 7 (see Fig. 1).

From this brief description of my invention it will be seen that I have provided, out of a single sheet of paper board, a simple and inexpensive, but very practical, sturdy carton, with protecting legs on the bottom, with a strong central longitudinal truss-rib, with lateral cross braces strengthening the legs and holding the carton rigid against lateral pressure, and with two compartments each containing a row of cells with resilient movable partitions firmly holding in place the eggs inserted between them.

Without confining myself to the exact details of construction shown except as necessary to the principle of construction of my egg carton:

I claim:

1. A carton consisting of a single sheet slitted and scored to form sides, top and bottom, leg portions cut out from the bottom at the sides, foldable, angular, overlapping, slitted transverse sections constituting cell-forming partitions integral with the top, the lower ends of said partitions extending below the bottom thru the leg-producing openings thereof and bracing the sides and the legs, the inherent resiliency of the partitions tending to spring them outward, thereby firmly, yieldingly holding the eggs placed in said cells.

2. A carton consisting of a single sheet slitted and scored to form sides, top and bottom, leg portions cut out from the bottom at the sides, the tops having transversely extending oblique slits and shorter oblique slits producing angular portions adapted to be folded down to form overlapping partitions dividing the carton into cells, the lower ends of said partitions extending below the bottom thru the leg-producing openings thereof and bracing the sides and the legs, the inherent resiliency of the partitions tending to spring them outward, thereby firmly, yieldingly holding the eggs placed in said cells.

3. A carton and cover consisting of a single sheet slitted and scored to form two abutting elongate compartments, each comprising outer and inner side walls, bottom and top, the bottom folded and extended above the top of the compartments and adapted to provide a central longitudinal truss-rib, the outer side wall of one compartment having an extension constituting the tops of said compartments, such extension formed with a folded middle straddle and fastened to and reenforcing said truss-rib, the free end of said extension fastened to the outer side wall of the other compartment; foldable, angular, overlapping, transverse partitions integral with the tops, the outer side wall of the said other compartment having an extension arranged to form the cover of the carton, with its extremity adapted to be engaged with the outer side wall of the first mentioned compartment.

4. A carton and cover consisting of a single sheet slitted and scored to form two abutting elongate compartments, each comprising outer and inner side walls, bottom and top, the bottom folded and extended above the top of the compartments and adapted to provide a central longitudinal truss-rib, the outer side wall of one compartment having an extension constituting the tops of said compartments, such extension formed with a folded middle straddle and fastened to and reenforcing said truss-rib, the free end of said extension fastened to the outer side wall of the other compartment, leg portions cut out from the bottoms at both sides of each compartment, foldable, angular, overlapping, transverse partitions integral with the tops, the lower ends of said partitions extending below the bottoms thru the leg-producing openings thereof, and bracing the sides and the legs, the outer side wall of said other compartment having an extension arranged to form the cover of the carton, with its extremity adapted to be engaged with the outer side wall of the first mentioned compartment.

5. In a carton and cover consisting of a single sheet slitted and scored to form two abutting elongate compartments, each comprising outer and inner side walls, bottom and top, the bottom folded and extended above the top of the compartments and adapted to provide a central longitudinal truss-rib, the outer side wall of one compartment having an extension constituting the tops of said compartments, such extension formed with a folded middle straddle and fastened to and reenforcing said truss-rib, the free end of said extension fastened to the outer side wall of the other compartment, the outer side wall of said other compartment having an extension arranged to form the cover of the carton, with its extremity adapted to be engaged with the outer side wall of the first mentioned compartment.

CHARLES H. GOODYEAR.