

Dec. 2, 1930.

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1,783,397

CUSHIONED CARTON

Filed Jan. 28, 1929

2 Sheets-Sheet 1

Fig. 1.

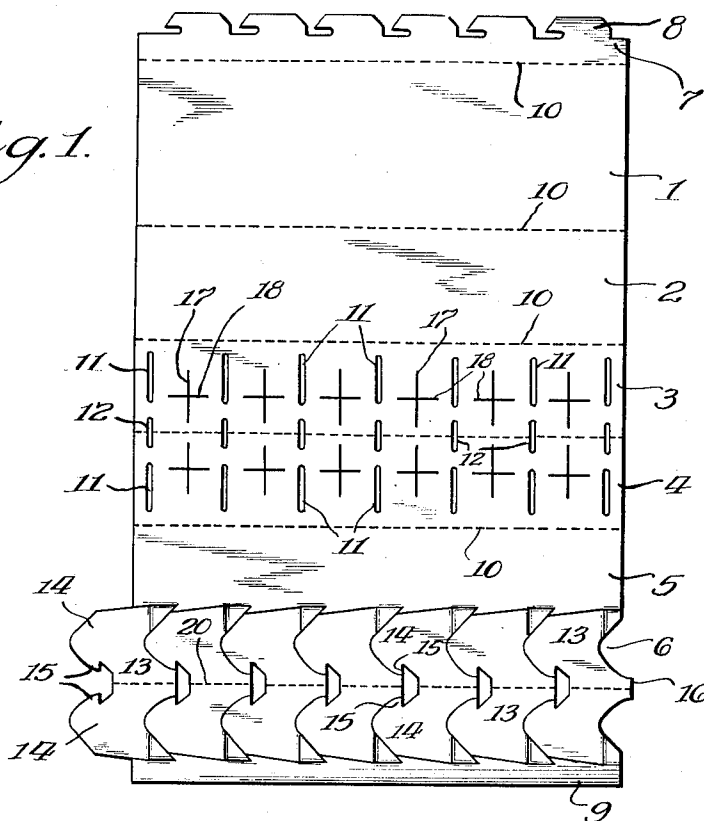
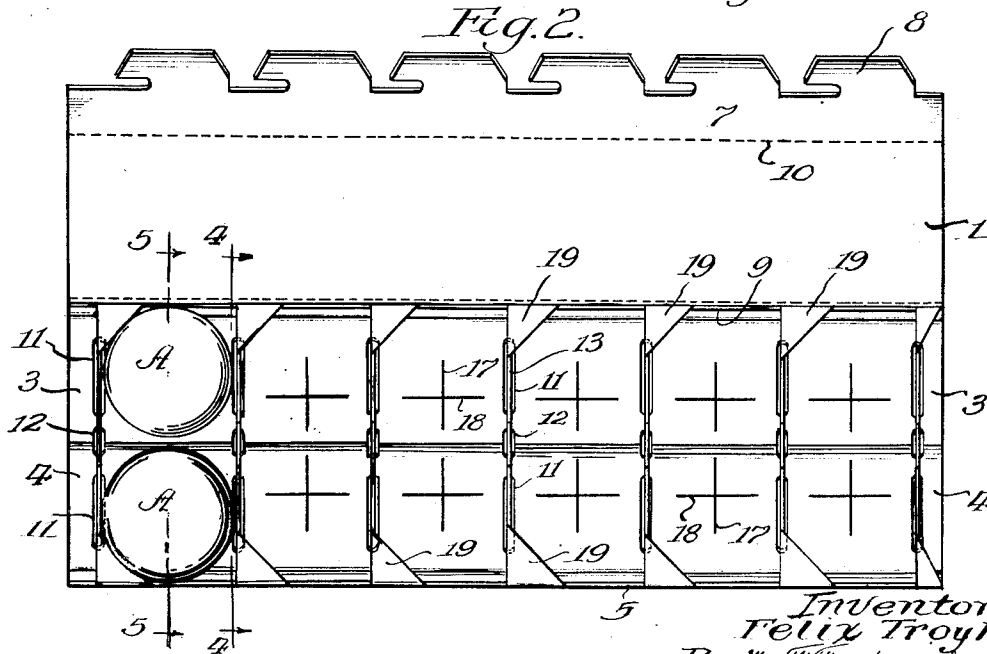


Fig. 2.



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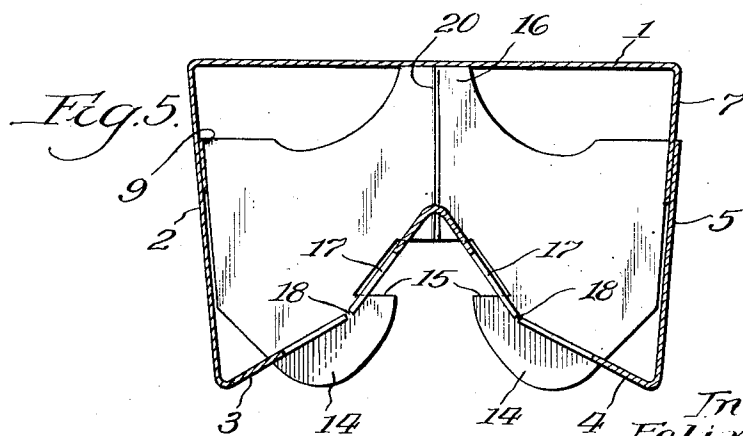
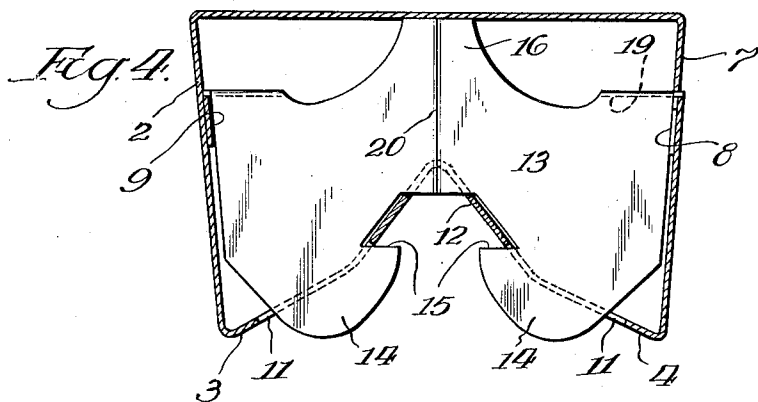
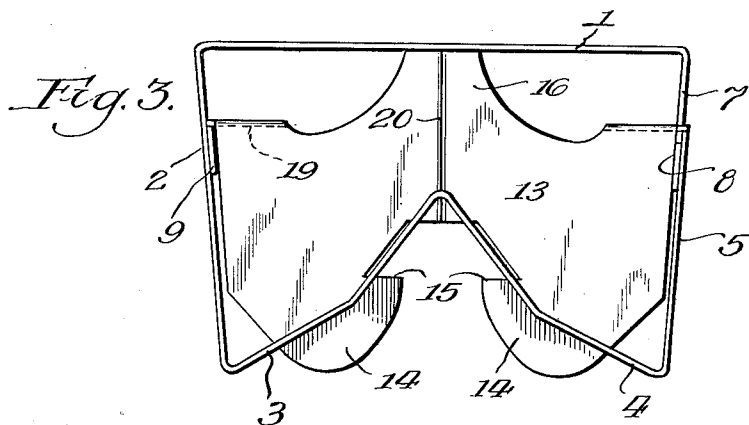
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UNITED STATES PATENT OFFICE

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CUSHIONED CARTON

Application filed January 28, 1929, Serial No. 335,547, and in Canada November 15, 1928.

The present invention relates to cartons for packaging fragile articles, particularly eggs, and has for its object to produce a simple and novel carton requiring a minimum amount of material and adapted to house a plurality of such articles and effectively cushion the same.

A common form of egg carton is one in which eggs, usually a dozen, are housed in individual compartments arranged in two rows lying side by side. Viewed in one of its aspects, the present invention may be said to have for its object to produce from a single blank a carton in which eggs or other articles may be housed in individual compartments arranged in parallel rows, and at the same time be effectively cushioned.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claim; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a view of my improved blank in a flattened condition and before it is glued; Fig. 2 is a top plan view of the carton, set up, on a larger scale than Fig. 1, showing the cover open and two eggs positioned in the carton; Fig. 3 is an end view of the filled carton, with the cover closed; and Figs. 4 and 5 are sections taken respectively on lines 4—4 and 5—5 of Fig. 2, the cover of the carton being closed and the eggs being omitted.

The blank, of cardboard of any usual or suitable carton material, comprises six main sections, arranged one beside the other, and two narrow terminal sections. The first main section 1 forms the cover; the next section 2 is adapted to form the rear side or wall; the next two sections, 3 and 4 are adapted to form the bottom; the fifth section 5, somewhat wider than the section 2, is adapted to form the front side; and the sixth section 6 is adapted to form the transverse partitions and to connect the upper parts of the front and rear sides together. On the free long edge of the cover section is a locking strip 7 provided with hooks 8. At the opposite end

of the blank, following the section 6, is a narrow attaching strip 9.

The blank is scored along parallel lines, indicated at 10, to mark the dividing lines between the several sections, including the locking strip and the attaching strip.

Each of the two bottom sections, 3 and 4, is provided with slots 11 spaced apart from each other and arranged parallel with the long edges of the blank; there being one more slot in each section than there are to be compartments in one of the two rows in the completed carton. Each slot in one of the bottom sections is in line with the corresponding slot in the other section. Arranged between each pair of aligned slots 11, and crossing the line of juncture between the two bottom sections 3 and 4 is a slot 12.

The section 6 is cut up into partially severed flaps 13, there being as many flaps as there are slots 11 in each bottom section. Each flap is joined to the front wall or side member 5 at one end and also to the attaching strip 9 at the corresponding end; this end being the portion of the flap which is at the top when the carton is set up and the flaps are turned down to produce transverse partitions. Each flap decreases slightly in width from its attached end to its free end, and a deep V-shaped notch is cut out of the free end at the middle, thus dividing the lower end of the flap into two legs 14, spread apart from each other. In other words, each flap may be said to be composed of an upper cross-piece having on opposite sides tapered legs. Each leg is provided with a hook element 15 on its inner side or edge. In cutting out the legs at the lower end of one flap there is left a lateral projection 16 on the adjacent or upper end of the next succeeding flap.

In producing a carton from my improved blank, the blank is folded along the scored lines and, excepting the scored line between the two bottom sections, the folding is always in the same direction with respect to the original plane of the blank, and is continued until each section, including the end strips, is approximately at right angles to each of the adjacent sections; the two bottom sections

being folded upwardly so as to make them stand at an angle to each other and appear as an inverted V in end elevation. Suitable adhesive being applied to the attaching strip 9, it will be found that this strip, as shown in Figs. 4 and 5, will engage with the rear wall section 2 at some distance from the division line between this section and the cover section. When the attaching strip is properly pressed against the rear wall or side section 2 and the adhesive caused to set, it will be found that the section 6, with its flaps still in their original plane, will lie horizontal when the carton is set on a flat surface.

When the flaps are turned down, as shown in Figs. 2-5, the legs of each flap will pass through the corresponding slot 11 in the two inclined bottom sections, as best shown in Fig. 4; the shoulders 15 or hooks projecting into the inverted valley underneath the carton, while the crotch portion, between the legs, will enter the corresponding slot 12. The flaps are preferably made long enough so that, when turned down, their lowermost points will rest on a flat surface upon which the carton is set.

When eggs, of which two are indicated at A in Fig. 2, are placed in the carton, each will be in its own individual compartment bounded on two sides by the adjacent transverse partitions; the compartments in one row being separated from those in the other row by a central partition, shallower than the depth of the box, formed by the inverted V-shaped bottom wall. Each egg, it will be seen, rests on or is supported by a swing in the form of a yieldable, inclined bottom wall section. The weight of the eggs may cause each bottom wall section to bend down along its own longitudinal center, thus permitting larger eggs to be packed than would otherwise be possible. In order to afford still more room, in the vertical direction, for long or tall eggs, holes may be cut into the bottom wall of the carton to permit the eggs to project downwardly through the same more or less. In the arrangement shown, two slits 17 and 18 crossing each other at right angles are cut through the bottom of each individual compartment at the center of the latter. Consequently, when an egg is placed in a compartment or cell, it engages the bottom wall at the intersection of the corresponding slits, and the material of the bottom wall therefore yields and permits the egg to set lower down in the carton than would otherwise be possible.

When the transverse partitions are swung down, the only portions of the section 6 that remain in the normal plane are the triangular pieces 19 at the front and at the back, which triangular pieces form the connections between the transverse partitions and the front and rear wall of the carton. In closing the carton, the cover is folded down and the

hooks 8 on the locking strip along the free edge of the cover are engaged with the triangular pieces 19 along the front of the carton in the usual way.

It will be seen that when the carton is closed the projections 16 at the centers of the transverse partitions engage with the underside of the cover so as to prevent the latter from being pressed down and crushing the eggs. In other words, the cover is supported at its long edges by the front and rear walls of the carton and along the longitudinal center by the transverse partitions.

Ordinarily the cartons will be shipped in a flat condition. From an inspection of Fig. 4 it will be seen that if the cover is opened and the transverse partitions swung so as to lie horizontal then, by folding the partition section 6 on a longitudinal center line, the shell or body portion of the carton may be laid flat. In the flattened condition, the two halves of the partition section overlie each other as do the two halves of the bottom section, while the section 4 overlies the section 3 and the front wall section 5 overlies the rear wall section 2. In order to facilitate the collapsing of the carton into its flattened condition, I prefer to score the partition section 6 along the longitudinal center line, as indicated by the broken line 20.

It will thus be seen that I have produced a simple and novel multiple compartment carton in which the compartments are arranged in two rows side by side; the carton being made from a single blank; and the construction being such that the contents are effectively cushioned from below, while the carton is structurally strong to resist compression when a weight is placed upon the same. Consequently the carton will cost no more to make than does the ordinary uncushioned carton with the same number of compartments, while the contents are better protected against breakage than they are in an ordinary carton.

Because each transverse partition is interlocked with the bottom wall of the carton not only along the slopes but at the ridge, the eggs in each row are positively held in spaced relation to each other and cannot strike against each other under the influence of forces that would tend to drive all of the eggs toward one end of the carton. Furthermore, since the ridge or apex of the bottom wall lies far below the top or cover and therefore causes the inclined edges of the bottom wall to engage with the lower parts of the eggs, the division of the ridge portion of the bottom wall into individual sections permits each section to yield independently of the others so that the entire bottom will adjust itself most advantageously to all of the eggs.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be

limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claim.

I claim:

A carton having a continuous bottom wall built into the form of an inverted V whose ridge or apex lies a considerable distance below the top of the carton, and forked partitions secured at their upper ends to the adjacent side walls of the carton, said bottom wall having transverse slots in the slopes and through the ridge registering with the said partitions when the latter are swung down, the prongs of said partitions having hook elements extending through said slots in the slopes when the partitions are swung down, and the parts of the partitions connecting the prongs entering the slots in the ridge when the partitions are swung down.

In testimony whereof, I sign this specification.

FELIX TROYK.