April 12, 1932. J. T. ROBIN 1,853,746

CARTON, BOX, OR OTHER CONTAINER OR HOLDER

Filed Jan. 2, 1930 3 Sheets-Sheet 1

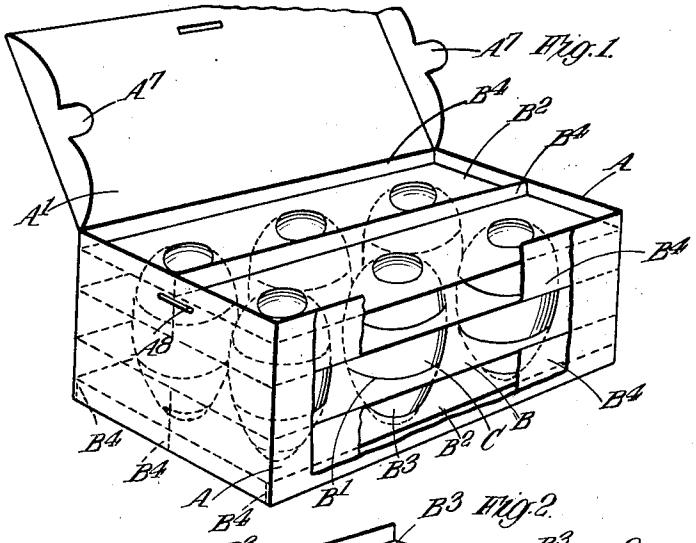


Fig. 1.

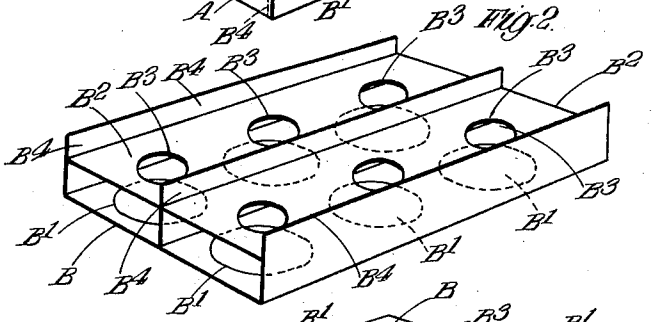
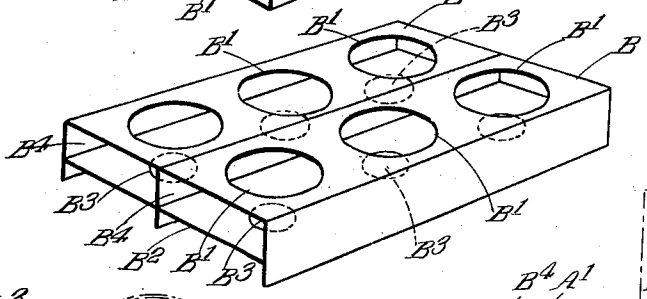


Fig. 2.



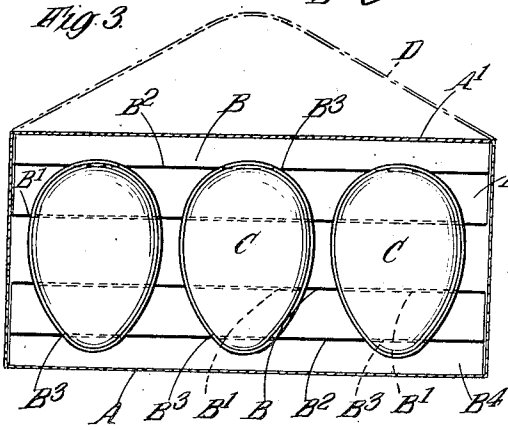


Fig. 3.

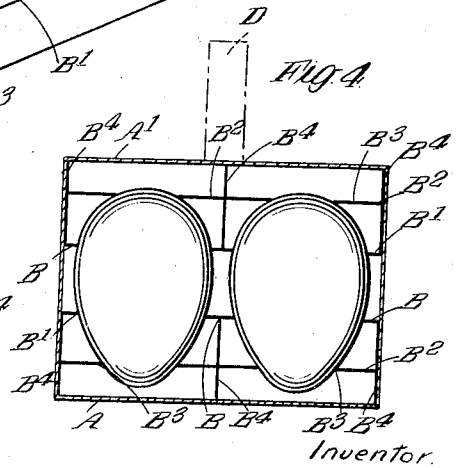


Fig. 4.

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Fig.5.

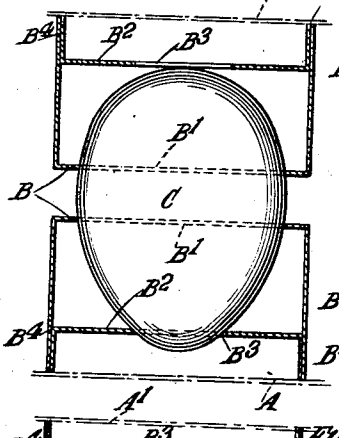

Fig.6.

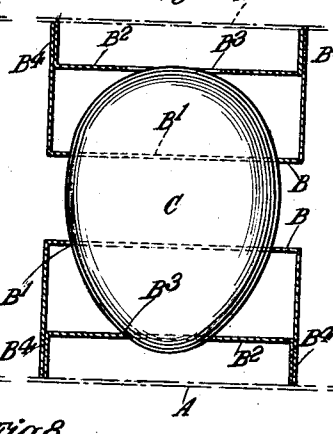

Fig.7.

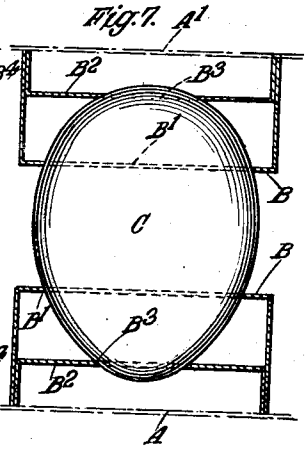

Fig.8.

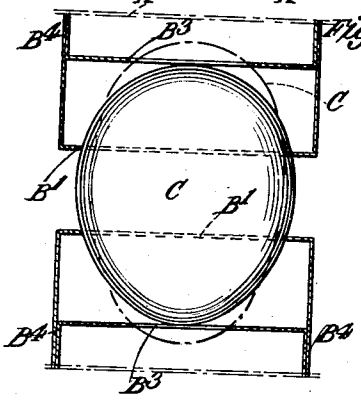

Fig.9.

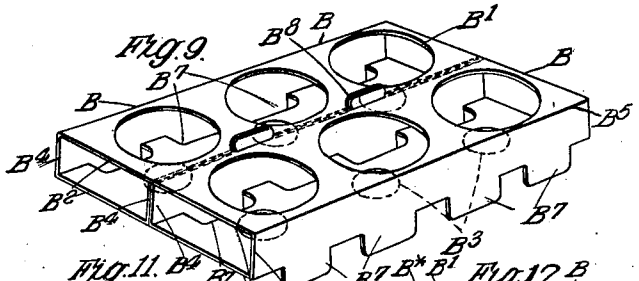

Fig.11.

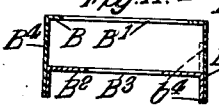

Fig.12.

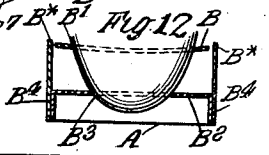

Fig.10.

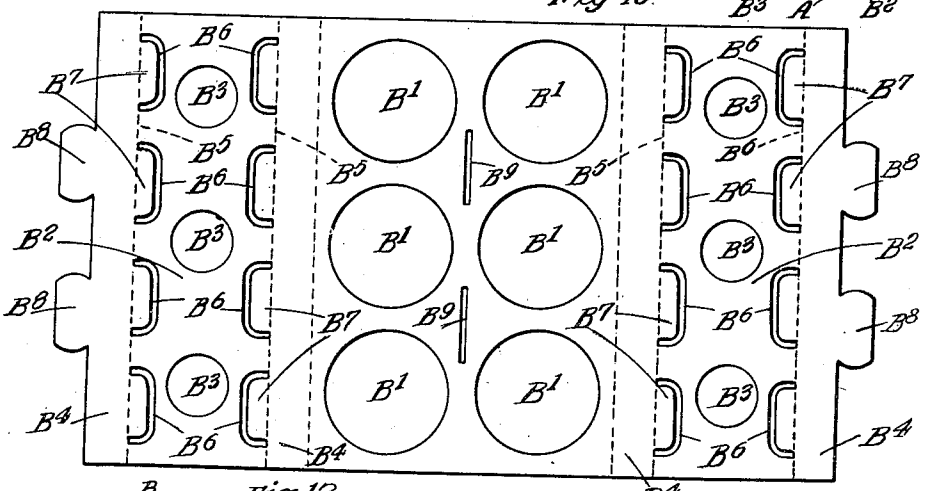

Fig.13.

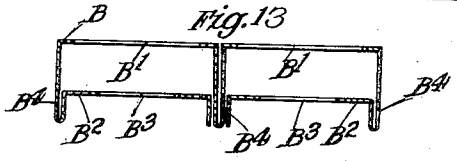

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Fig. 14.

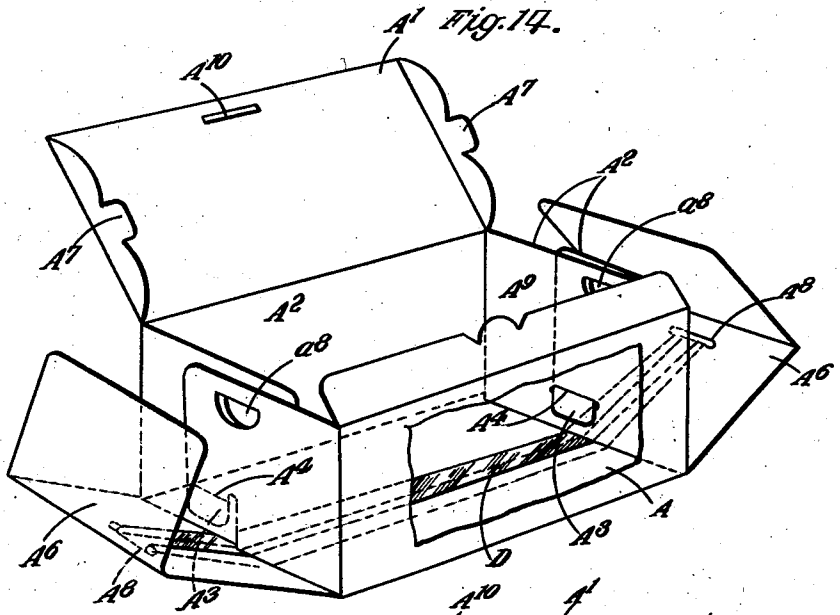
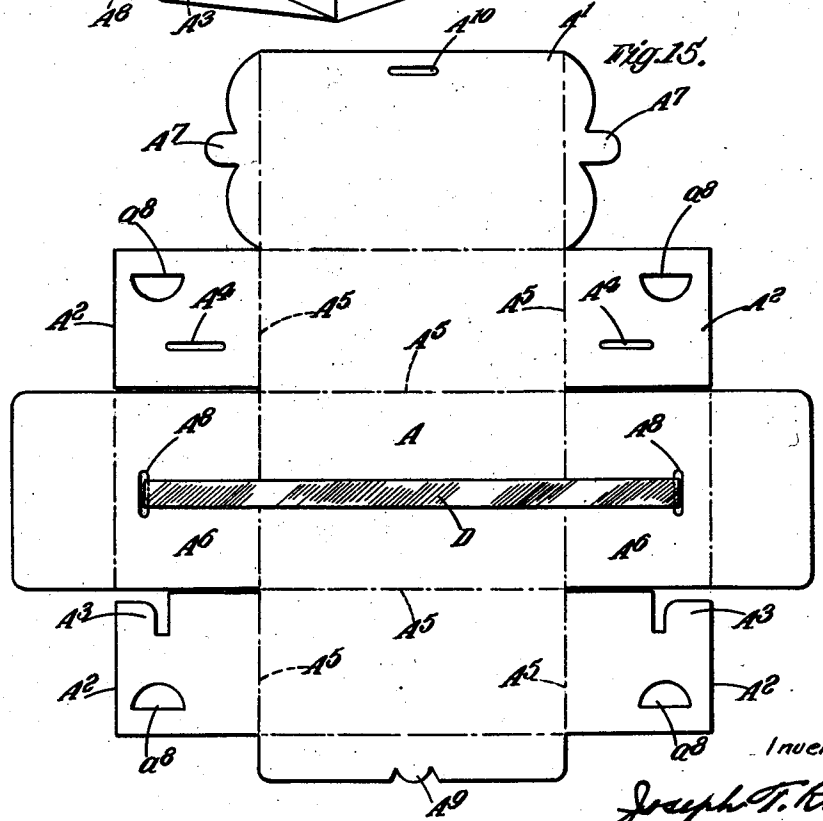


Fig. 15.



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Patented Apr. 12, 1932 1,853,746

UNITED STATES PATENT OFFICE

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CARTON, BOX, OR OTHER CONTAINER OR HOLDER

Application filed January 2, 1930, Serial No. 418,095, and in Great Britain January 7, 1929.

This invention relates to containers for eggs or other articles and has more particular but not exclusive reference to cartons of the kind having or provided with interior retaining means for holding the eggs in spaced relation and out of contact with the carton. The chief object of the present invention is to provide a container which is of such a character that it is especially suitable for use in connection with the packing of graded eggs, for example at packing stations or other places where the eggs are handled in bulk, so as to provide a package that can be transported with the eggs held securely and protected against damage, to shopkeepers and retailers who sell the packages without it being necessary to remove the eggs, the said package presenting a neat and attractive appearance and being convenient for a customer to carry.

According to this invention the container comprises retaining means for holding the eggs in spaced relation of such a character as to provide a plurality of superposed or spaced supporting or retaining positions or seatings for the upper or larger part of each egg, and a plurality of superposed or spaced supporting positions or seatings for the lower or smaller part of each egg. The two sets of supporting or retaining positions or seatings are spaced from each other so that one set is located above or on one side of the medial plane of the container whilst the other set is located below or on the other side of the said plane. Although the plurality of supporting or retaining positions or seatings is provided for the upper part of each egg as well as for the lower part as aforesaid, it does not necessarily follow that the egg will be engaged at all these positions, but the provision of the same enables eggs of various sizes to engage with at least one of the superposed retaining seatings at their upper or larger parts and with at least one of the said seatings at the lower or smaller part, so that any size or shape of egg can be supported or suspended by the said seatings without likelihood of coming into contact with each other or with any part of the container. Generally the retaining or supporting means are fitted or held within a carton or exterior casing or covering to retain the eggs as aforesaid but the retaining means may be otherwise held to provide the two sets of superposed seatings. For the purpose of this invention I may provide a pair of retaining members each of duplex formation to provide the plurality of superposed supporting or retaining positions or seatings. Each retaining member may comprise a pair of superposed or spaced strips of thin flexible material such as cardboard in which registering or co-axial holes or apertures of different sizes may be formed. One of these members may be located in the lower part of a carton with the strip having the larger holes disposed uppermost to receive the lower or smaller part of each egg which projects through the larger hole and into or through the smaller hole in the lower strip. The other retaining member is disposed in the upper part of the carton with the strip having the larger holes lowermost so as to fit over the upper or larger parts of the eggs which project through the larger holes and into or through the smaller holes in the upper strip. The eggs are therefore held between upper and lower retaining members which when made separately from the cartons fit closely in the latter and are held against displacement between the bottom and lid although they are spaced from the latter by distance pieces so that the edges of the registering holes in each member provide a plurality of supporting of retaining seatings at superposed positions for the eggs, which are therefore resiliently supported or suspended in spaced relation and out of contact with any part of the carton. An egg of any particular grade for example, will, according to its size or shape seat itself against the edges of at least one of the registering holes in each of the retaining members. The construction may be such that for a given or uniform size of carton a series of different retaining members may be used to suit various grades of eggs. This may be accomplished by providing retaining members having different distances between the two strips formed with the registering holes. The arrangement and dispo-

sition of the registering holes in the retaining members designed for any particular grade are such that different sizes or shapes of eggs in this particular grade can be adequately supported by engaging with the edges of at least one of the registering holes in each duplex retaining member. For example, the eggs may be such that they are supported or held by engaging the seatings or edges around the larger holes in the duplex members, but in other instances the eggs may be such that they are held by engaging with the seatings or edges around the smaller holes, whilst in other cases the eggs may be such as to be held by engaging with the seatings or edges around the larger holes in one duplex member and with the seatings or edges around the smaller holes in the other duplex member. If desired the smaller holes need not be provided as a resilient strip or the like may be provided for engaging with the extremities of the eggs. Although it may be preferred to provide separate retaining members, the construction may be such that the retaining members form part of or are attached to the carton. Instead of using a carton or exterior casing or the like, the two retaining members may be held or secured together with the eggs between them in any appropriate manner. Although the eggs are usually vertically supported the construction may be such that they are horizontally disposed between retaining members that provide two sets of superposed retaining positions or seatings.

In the construction of carton or exterior casing which may be made by shaping or folding a suitably designed blank, interlocking end portions are provided and are covered by end flaps extending from the base or bottom, which flaps are adapted to be folded inwardly over the interlocked end portions so as to be retained in the closed position by the retaining members or one of them when inserted within the carton.

In order that the said invention may be clearly understood and readily carried into effect, the same will now be described more fully with reference to the accompanying drawings, in which :—

Figure 1 is a perspective view of one embodiment of the invention illustrating the carton or exterior casing partly broken away in order to show how the eggs are held and spaced therein.

Figure 2 is a perspective view showing the retaining or spacing members which are adapted to be inserted in the carton and to hold the eggs between them.

Figures 3 and 4 are respectively a longitudinal sectional view and a cross sectional view of the package shown in Figure 1.

Figures 5, 6 and 7 are diagrammatic views illustrating how different sizes or grades of eggs can be packed in a standard or uniform size of carton or exterior casing.

Figure 8 is a diagrammatic view showing how different shapes of eggs can be held between the same pair of retaining or spacing members.

Figure 9 is a perspective view of a preferred form of retaining or spacing member.

Figure 10 is a view of a blank used to form the retaining or spacing member shown in Figure 9.

Figures 11 and 12 are diagrammatic views illustrating other forms of retaining or spacing members.

Figure 13 is a cross sectional view illustrating a detail hereinafter referred to.

Figure 14 illustrates a preferred form of the carton or exterior casing partly opened.

Figure 15 is a view of a blank which is used to form the carton or exterior casing shown in Figure 14.

A represents the carton or exterior casing which is made of cardboard or any other suitable material. B, B indicate generally the interior retaining or spacing members that are inserted in the carton or casing these members being made of fairly thin and flexible cardboard. C, C represent the eggs.

The carton A preferably comprises a box or body portion with a hinged lid A′ as shown in Figure 1. The retaining or spacing members are of similar formation and each comprise a strip B with large apertures B′ and a parallel strip B^2 with smaller apertures B^3, whose centres are in alignment with the centres of the larger apertures B′. The two strips B and B^2 are held in parallel relation by vertical portions B^4 which are normally at right angles to the strips and project beyond the strips B^2 as shown. One of these retaining or spacing members is placed in the lower part of the carton and it is of such size as to fit closely therein, the said member being supported by its projections B^4 resting on the bottom of the carton as shown in Figure 4, so that the strip B with the larger apertures B′ is uppermost and the strip B^2 with the smaller apertures is held away from the bottom of the carton as shown. The eggs C, C are then placed in the aforesaid apertures B′ so that they can rest on the seatings or edges around these apertures or around the seatings or edges of the smaller apertures B^3 with their ends held away from the bottom of the carton. Another retaining or spacing member is then placed in the carton in a position so that the strip B having the larger aperture B′ is lowermost, these apertures fitting around the upper parts of the eggs whilst the upper extremities of the eggs may project into the smaller apertures B^3 as shown in Figures 3 and 4. The vertical projections B^4 of the upper retaining or spacing member are so disposed that they can be engaged by the carton lid A′ when this is closed, so that the strip B^2 of the upper member is held away from the lid, and prevents the upper ends of

the eggs from touching the lid. Thus the retaining or spacing members are securely held in position in the carton with the eggs spaced apart and held at or between their ends which are prevented from coming into contact with the bottom and top of the carton, as shown. Owing to the flexibility of the material of which the spacing members are made, they are capable of being deformed or of yielding slightly, so that the eggs are resiliently held.

Various sizes or grades of eggs can be packed in cartons of a given or uniform size by providing retaining or spacing members which although having apertures B′ of uniform size and apertures B^3 of uniform size, differ from each other by varying distances between the strips B and the strips B^2, Figures 5, 6 and 7, illustrate three sizes or grades of eggs in retaining or spacing members designed to receive them, and in these examples the dot and pick lines A and A′ represent respectively the bottom and the lid of the carton, the height or distance between the bottom and the lid being the same in the different examples as shown. In the case of the smallest egg as shown in Figure 5, the distance between the two strips B and B^2 of each retaining or spacing member is the greatest and for the next size of egg the distance between the strips B and B^2 of each of the retaining or spacing members is decreased as shown in Figure 6 whilst for the largest size the distance between the strips B and B^2 of each of the retaining or spacing members is still further decreased as shown in Figure 7. As the eggs of any grade or size vary in shape they are not all held at the same positions. For instance, some eggs which may be rather short may be supported by engaging only with the seatings or edges around the larger apertures B′ as shown by the full lines in Figure 8, whilst longer eggs may be supported by engaging with the seatings or edges around the apertures B^3 in the strips B^2 as shown by the dotted lines in this figure.

The cartons and the retaining or spacing members may be designed to receive any desired number of eggs and they may be of various shapes. The cartons shown are rectangular and are designed to receive six eggs in two rows of three but they may be made to receive say three or more eggs in a single row. If desired, triangular, circular or other shapes of cartons with correspondingly shaped retaining or spacing members may be used.

One construction of retaining or spacing member for receiving six eggs in two rows of three may be formed from a blank as illustrated in Figure 10. The blank is provided with two sets of large apertures B^1 and two sets of small apertures B^3 and it is adapted to be folded along the dotted lines B^5. The blank is slit or cut at B^6 so that when the parts B^2 and B^4 are folded at right angles, tabs or projections B^7 extend beyond the strips or portions B^2. The ends of the blank are provided with tabs B^8 which are adapted to fit into slits B^9 between the two sets of apertures B^1 when the blank is folded along the several lines B^5 into the position shown in Figure 9. The outer set of tabs or projection B^7 on the blank form central supports when the blank is folded, and the inner set of projections B^7 on the blank form the outer or side supports for the folded blank, whilst the tabs B^8 that project through the slits B^9 retain the blank in the folded condition shown in Figure 9. The projecting tabs B^8 form gripping pieces by means of which the folded blank forming the retaining or spacing member can be conveniently handled. Various forms of retaining or spacing members having parts similar to the parts B^7 in Figure 9 may be provided and in some instances the said members may be made with single rows of apertures and may be gummed together to provide two or more rows of apertures. The retaining or spacing member having the general shape and characteristics hereinbefore described can be made in other ways, for example, an upper strip B having side portions B^4 may have secured within its lower part, a strip B^2 with shorter side portions b^4 as shown in Figure 11, the two side portions being stitched, gummed or otherwise secured together in any appropriate manner. A series of strips each containing a single row of apertures may be provided and assembled together in any appropriate way to form retaining or spacing members with two or more rows of apertures, but if desired a blank may be folded to provide a spacing member with two sets of apertures B′ and B^3 a shown in Figure 12. If it be desired to impart additional resiliency to the upper strip B of the spacing member in any of the examples referred to, the blank may be slit or cut adjacent to the large apertures B′ as indicated for example at B in Figure 13, so that when the blank is folded these cuts or slits permit of the part adjacent to the edge of the aperture B′ being deformed slightly under pressure as shown in this, so as to render the strip more resilient adjacent to the sides or edges of the spacing member. In some cases strips B^2 without apertures may be used, such strips merely providing resilient stops against which the ends of the eggs projecting through the apertures B′ may bear. The apertures B′ or B^3 may be of any desired shape. The discs or pieces which are provided as a result of forming the apertures B′ may be retained for advertising purposes. The blanks may be printed at the position of the apertures before the said apertures are formed so that the discs when cut out of the blanks are already printed with

the desired matter and can be inserted in the cartons when the eggs are packed therein.

The preferred construction of carton which is used in conjunction with the retaining means according to the invention is illustrated in Figures 14 and 15. The blank as shown in Figure 16 may be provided with flaps A^2, A^2, which by means of tongues A^3 and slits A^4 are adapted to be interlocked when the blank is folded along the dotted lines A^5. The bottom part of the carton is provided with end flaps A^6, A^6 which can be folded over the other flaps A^2 as indicated in Figure 14, and the free ends of these flaps A^6 may be retained closely against the interlocked flaps A^2 when the lower retaining or spacing member is inserted in the carton. The carton lid A′ may be provided with flaps having tongues A^7 adapted to fit into slits A^8 in the end flaps A^6 and a narrow flap having a tongue A^9 is provided on the front portion of the box so as to overlap the lid to enable the tongue A^9 to be inserted in the slit A^{10} in the lid. Openings A^8 are provided in the flaps A^2 to facilitate the insertion of the tongues A^7 into the slits A^8. The lid A′ may be retained closed by an adhesive strip that covers the overlapping flap having the tongue A^9. By this construction of carton or box the various edges or corners of the body portion are completely closed so that the carton is securely held in the rectangular form, and rigidity is imparted thereto by the spacing members inserted therein. If desired a tape D may be threaded through the slits A^8 of the blank as shown in Figure 15 and its ends tied so that after the blank has been shaped to form the carton that part of the tape which is outside the bottom of the carton can be displaced so as to form a carrying loop across the top of the lid as indicated by dotted lines in Figures 3 and 4. The front of the carton may be provided with a flap so formed that if it is desired to display the contents of the carton, this flap may be folded downwardly to provide a kind of "drop-down" front. The cartons and the various forms of interior retaining or spacing members herein referred to may be supplied to the egg packers in blank or flat form and they can be readily shaped and assembled when required for use.

What I claim and desire to secure by Letters Patent of the United States is:—

1. A container for eggs (or other articles) comprising retaining means for holding the eggs in spaced relation, of such a character as to provide a plurality of superposed or spaced supporting or retaining positions or seatings for the lower or smaller part of each egg, and a plurality of superposed or spaced supporting positions or seatings for the upper or larger part of each egg.

2. A container for eggs (or other articles), comprising a pair of retaining members, each of which is of duplex formation to provide two sets of superposed supporting or retaining positions or seatings in combination with means for holding the two members with the eggs between them so that the eggs can engage with at least one of the seatings on each retaining member.

3. A container for eggs (or other articles), comprising a pair of retaining members, each of which is constituted by a pair of spaced strips of thin flexible material such as cardboard, and means for holding the two members with the eggs between them so that one member can engage with the lower or smaller parts of the eggs, whilst the other can engage with the upper or larger parts thereof, the opposing or inner strips of the two retaining members having holes through which the eggs project to engage if necessary with the other or outer strips of the said members.

4. A container for eggs (or other articles) as in claim 3, in which the two strips of each retaining member are provided with registering holes of different diameters so that a possible seating is constituted by the edge of each hole.

5. A container for eggs (or other articles) comprising a carton or exterior casing and retaining members therein which provide a plurality of superposed or spaced supporting seatings for the lower or smaller part of each egg and a plurality of superposed or spaced supporting seatings for the upper or larger part of each egg.

6. A container for eggs (or other articles) as in claim 5, in which the retaining members are separate from the carton, in conjunction with means for spacing the said members from the bottom and lid of the carton.

7. A container for eggs (or other articles) as in claim 5, in which the retaining members are separate from the carton and are provided with distance pieces for spacing the members from the bottom and lid of the carton.

8. A container for eggs (or other articles) as in claim 3, in which the retaining members are slit adjacent to the holes therein to provide additional resiliency.

9. For use in combination with a carton or exterior casing, interior retaining or spacing means that provide a plurality of superposed or spaced seatings for the lower or smaller part of each egg, and a plurality of spaced or superposed seatings for the upper or larger part of each egg, the said interior retaining means being such that they are adapted to receive different sizes or grades of eggs within a carton of a given or uniform size.

10. For use in combination with a carton or exterior casing, interior retaining or spacing means as in claim 9, in which the

distance between the spaced seatings is varied according to the size or grade of egg.

11. For use in a carton or the like, retaining members as in claim 3, each of which is constructed from a blank provided with the aforesaid apertures, and which is slit to provide projections that form distance pieces for spacing the members from the top or bottom of the carton.

12. For use in a carton or the like, a retaining member as in claim 3, in which end projections are provided on the blank and are adapted to be inserted in slits disposed between the apertures at the middle part of the blank when the latter is folded to form the retaining member.

13. In combination with retaining members as in claim 3, a carton or exterior casing, having interlocking or overlapping end portions that are covered by flaps which are held in position by the retaining members when placed within the carton.

14. In combination with retaining members as in claim 3, a carton or exterior casing, having interlocking or overlapping end portions that are covered by flaps which are held in position by the retaining members when placed within the carton, the said carton being provided with a tape or the like which is threaded through slits in the end flaps to form a carrying loop.

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