

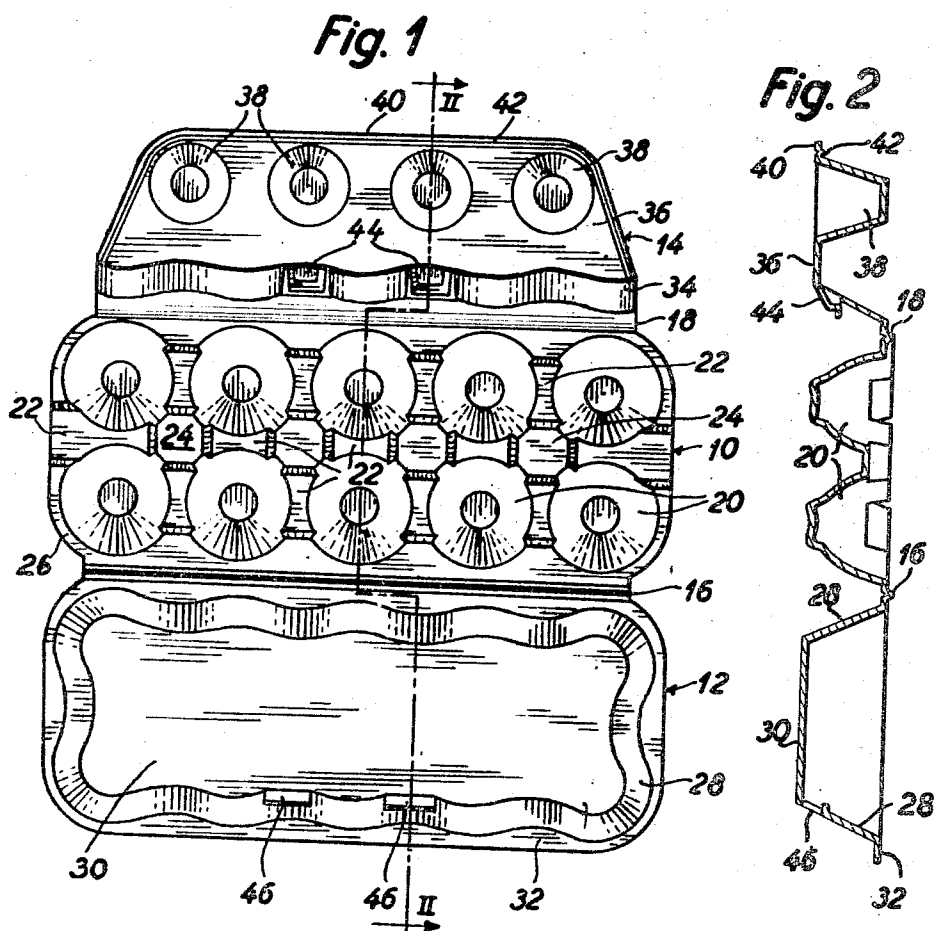
May 9, 1967

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PACKING FOR A NUMBER OF EGGS OR OTHER
FRAGILE OR DELICATE OBJECTS

3,318,504

Filed Jan. 8, 1964

2 Sheets-Sheet 1



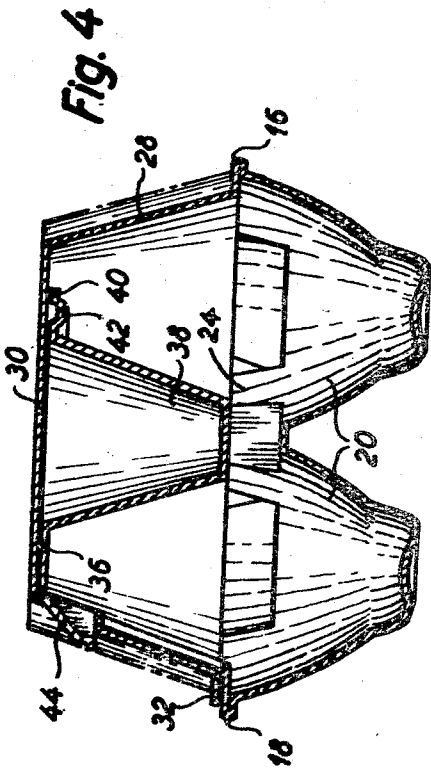
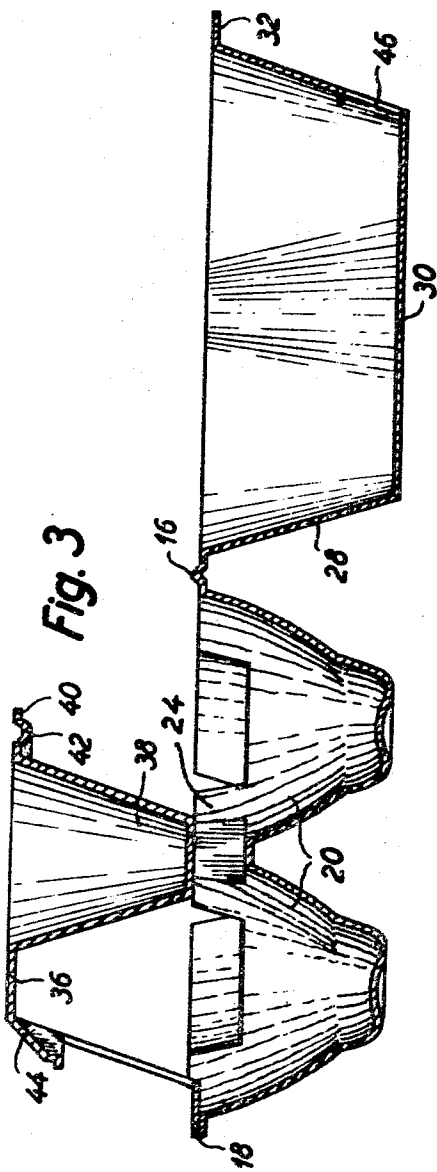
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4 Claims. (Cl. 229—2.5)

The invention relates to a packing for a number of eggs or other fragile or delicate objects, comprising a lower part with seats for the objects and a cup-shaped upper part, generally hinged together at one edge.

Packings of this kind are known, in which the lower part has individual seats for the lowermost portions of the objects, whereas the upper part is formed with a flat bottom and an oblique lateral wall. The said parts enclose and protect the objects, when they are folded together.

The packing in question is preferably designed for eggs and will be referred to in the following mainly as a packing for such. The design of the packing is determined by its usability for transporting as well as retailing the eggs. For the latter purpose it is of importance that the flat bottom of the upper part constitutes a plane surface, which is suitable for pasting on a label or for printing, as a means of indicating the nature and origin of the contents.

When the packing is used as a transport container, rough handling may cause the flat bottom of the upper part to be depressed so as to describe a curved face, and consequently the eggs may be crushed. This happens especially if the packing has been turned over, and the eggs in the depressions of the lower part have been placed in an inclined position, which may occur especially because the uppermost portions of the eggs are not supported against capsizing inwards by the said design of the packing.

The primary object of the present invention is to stiffen the flat bottom of the upper part and at the same time to improve the guiding of the uppermost portions of the objects.

Another object of the invention is to provide a packing of the kind described and having the properties just mentioned without materially increasing the weight of the packing.

A further object of the invention is to utilize certain parts already present for obtaining the main object as locking members serving to maintain the packing in closed condition.

According to the invention there is hinged to the lower part of the packing a flap, which at its free edge carries conically-shaped projections, serving as distance members between the lower part and the flat bottom of the upper part, when the flap has been folded inwards, and also serving as guiding members between the uppermost portions of the objects.

The advantages offered by the invention have previously been obtained wholly or partially by other constructions, which, however, have been more elaborate and particularly more expensive, which is a weighty factor in the case of packings as the present one, which is mass-produced and usually discarded after use, so that the production price is of decisive importance.

Thus, it is known to produce a packing with a lower part as the one heretofore described and an upper part congruent therewith, the upper part being hinged to one side of the lower part, whereas a lid is hinged to the other side of the lower part, which said lid when closed takes hold of the upper part and has a plane bottom.

Such a packing requires approximately 50 percent more material than a simple packing consisting merely of an upper part and a lower part.

Another known packing consists of a lower part with individual depressions and with two lid portions, both of which are trough-shaped with flat bottoms and oblique lateral walls, and which are hinged to opposite sides of the upper part. The width of the lid portion, which is first folded against the lower part, is half the width of the lower part, and one oblique lateral wall of the said portion will therefore constitute a partition, which rests upon the lower part and divides the space above same into two halves, so that to some extent it prevents the eggs from capsizing and stiffens the superjacent complete lid against being depressed. However, the stiffening of the uppermost lid is not fully effective, as the lowermost lid may yield to pressure.

Still another constructional form is known, wherein projections are provided on the flat bottom of the upper part, said projections extending downwardly into the closed packing to prevent the eggs placed therein from overturning. However, with a view to the manufacturing process for the packing the said projections must be hollow, whereby the flat bottom is interrupted by apertures, so that a large continuous surface for consumer information cannot be obtained.

In order that the flap indicated by the invention shall not occupy part of the hollow space of the packing, the flap suitably comprises an oblique wall, which extends from the hinge line of the flap to a plane wall carrying the projections.

The constructional form of the packing indicated by the invention affords the possibility of securing or locking the upper part in closed condition, in that the oblique wall of the flap and the oblique lateral wall of the upper part adjacent thereto in the closed condition of the packing are provided with mutually cooperating locking members.

The invention will be explained in more detail in the following, reference being had to the drawings, wherein:

FIG. 1 shows one embodiment of a packing according to the invention, as seen from above in unfolded condition,

FIG. 2 is a cross section through same on the line II—II in FIG. 1,

FIG. 3 shows on an enlarged scale a similar cross section, after the flap has been folded upwards over the lower part, and

FIG. 4 shows a similar cross section, after also the upper part has been folded upwards over the lower part as well as the flap.

The shown packing may have been produced by precipitation of fibre pulp by suction through a mould with reticulated or perforated surface, whereby substantially the same thickness of wall all over is imparted to the packing. In the design of the packing regard has been had to this manufacturing process, which requires the blank to be releasable from the mould during the production. However, the packing can also be made of other materials, e.g. plastic material, with the use of moulds, when similar requirements must be fulfilled.

The packing consists of two halves, viz. a lower part 10 and an upper part 12, and of a flap 14. The upper part 12 and the flap 14 are contiguous with the lower part 10 by means of fold lines 16 and 18, respectively, which act as a sort of hinge. A number of depressions 20 or seats for objects such as eggs are provided in the lower part 10 and e.g., as shown, arranged in two rows with five depressions in each row. Each depression 20 is designed to receive one end of an egg. Between two successive depressions the material has been drawn

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slightly back, so that as seen from the uppermost side of the lower part there are produced a notch 22 and between a group of four adjacent notches 22 or egg seats 20 a vertical projection 24. For ventilation purposes the outermost or end depressions 22 extend to the ends of the lower part and thus interrupt an edge flange 26, which otherwise extends along the circumference of the upper portion of the lower part.

The upper part 12 of the packing is designed with an oblique lateral wall 28, which as shown in FIG. 1 has an undulating outline and a flat bottom 30. An edge flange 32 extends along the circumference of the upper part.

The flap 14 is composed of an oblique wall 34, which like the lateral wall 28 of the upper part has an undulating outline, and of a plane wall 36, which carries hollow frusto-conically shaped projections 38, the number of and positions of which correspond to the projections or supports 24 on the lower part. A flange 40 with a bead 42, see FIGS. 3 and 4, serving as a reinforcement, extends along the free edge of the wall 36.

When the packing is to be used the eggs are inserted in the depressions 20 in the lower part 10, whereupon the flap 14 is swung about the fold line 18 upwardly and inwardly over the lower part 10, until the bottoms of the projections 38 on the flap come to rest on the projections 24 on the lower part, FIG. 3. Thus, each projection enters the space between four adjacent eggs and supports same against movement toward each other. Thereafter the upper part 12 is swung about the fold line 16 upwardly and inwardly over the flap 14 as well as the lower part 10 into the position shown in FIG. 4, in which the packing is closed. In this condition the flat bottom 30 of the upper part rests upon the bases of the projections 38 and is effectively supported against being depressed, as the bottoms of the said projections rest respectively upon the projections 24 on the lower part.

Two projections 44 are provided on the oblique wall 34 of the flap 14, which said projections when the packing is being closed engage aperture 46 in the oblique lateral wall 28 of the upper part, which is thereby locked, but an inwardly directed pressure applied to the projections 44 will easily permit it to open again.

The invention is independent of the number of depressions 20 in the lower part and also of their being disposed in two or more rows. However, it is required that there must be at least four depressions in two rows, two in each row, so as to allow space for a single supporting projection 38 on the swingable flap 14. The cross section of the supporting projections 38 does not have to be a circular one, as shown, but may e.g. be angular and comprise concave curves corresponding to the rounding of the eggs. The depressions 20 in the lower part may be divided into groups, and correspondingly the upper part may be provided with one or more depressions, dividing its hollow space into two or more parts. This may be expedient when it is desired to divide the closed packing with its contents in two or more parts by cutting it through.

Instead of a single flap 14 as the one shown, which is hinged to the edges of the lower part 10 opposite to the upper part 12, a single flap can be used at one end of the lower part or two flaps can be used, one at either end. The latter embodiment, for example, can be used in connection with a lower part with six depressions. Furthermore, it should be noted that the invention is

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not restricted to the undulating outline of the oblique lateral wall of the upper part, shown in the drawings.

Having now fully described my invention I claim as new and desire to secure by Letters Patent:

1. In a packing for a number of eggs and other fragile or delicate objects, including a lower part having two parallel rows of side-by-side individual depressions for the lower portions of the objects, a cup-shaped upper part with a flat bottom and a surrounding oblique lateral wall of undulating outline, and an angularly-shaped flap, said lower part and said upper part being hinged together at one edge of said lower part and said flap being swingably connected by a hinge to said lower part at another edge of said lower part, wherein the improvement comprises a lower part having vertically-extending projections located between the rows of depressions with each projection located centrally of each group of four depressions, said projections having supporting surfaces approximately in the plane of the upper surface of the lower part and a flap structure, which, when the flap is folded inwardly over the lower part, includes an oblique wall extending upwardly from a position adjacent said hinge and a flat wall extending inwardly from the upper part of said oblique wall, said flat wall of the flap having a free projecting edge located in the plane of the flat wall, spaced inverted conically shaped hollow projections carried by and extending downwardly from the flat wall of the flap adjacent the free edge, said flap projections having closed lower ends resting respectively on the supporting surfaces of said vertically-extending projections of the lower part and constituting guiding members for the upper portions of the objects carried in the depressions of the lower part and also constituting distance members between said lower part and the flat bottom of said upper part when the latter is closed over the flap and the lower part of the packing.

2. A packing according to claim 1, in which the oblique wall has an undulating outline conforming to that of the lateral wall of said cup-shaped upper part.

3. A packing according to claim 1, in which the planar area of the wall has an area smaller than the area of the bottom of said cup-shaped upper part of the packing.

4. A packing according to claim 1, in which the oblique wall is tapered inwardly in the direction towards its free edge.

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