

April 29, 1947.

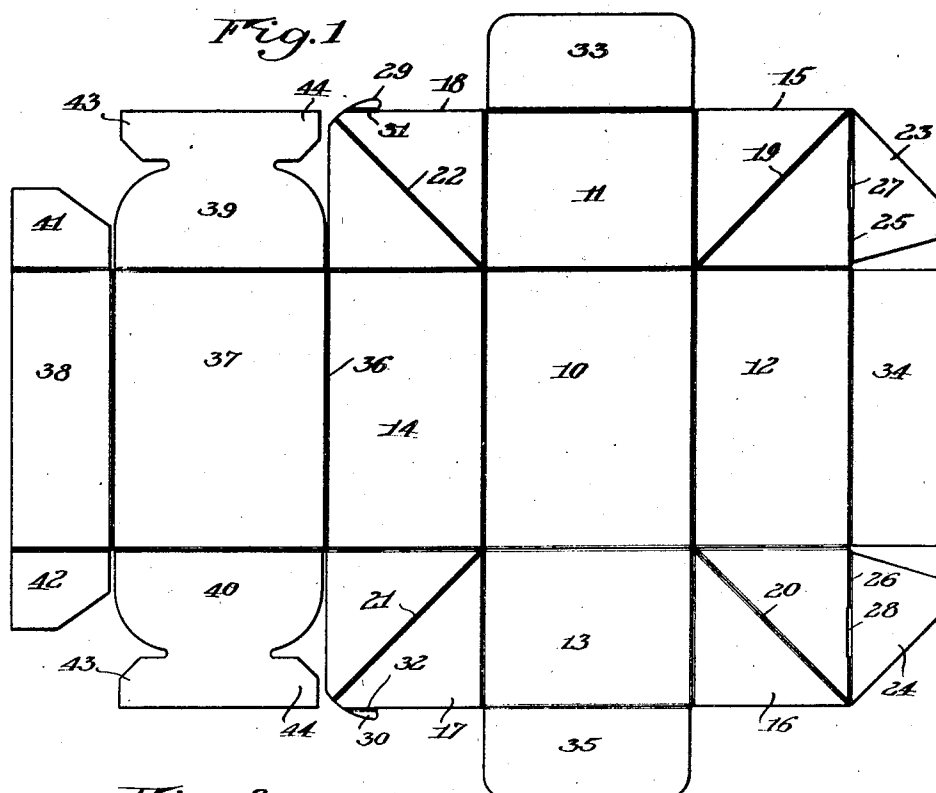
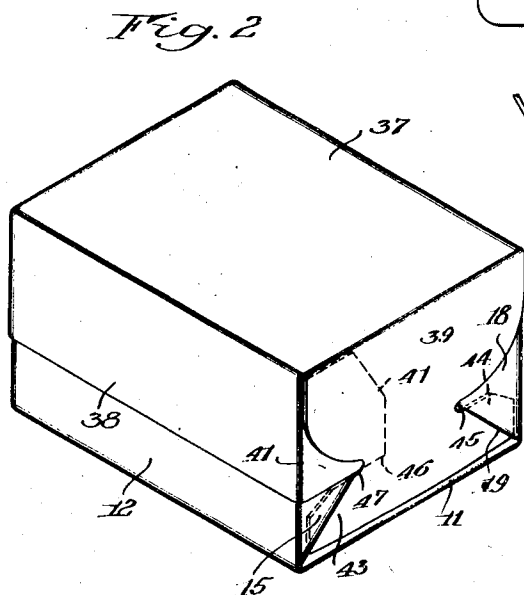
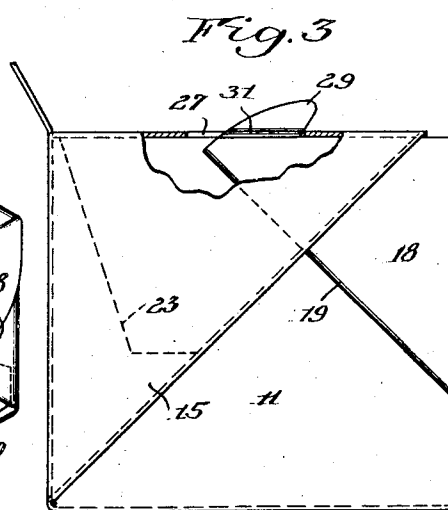
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2,419,646

CONTAINER

Filed Dec. 9, 1944

2 Sheets-Sheet 1



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Fig. 4

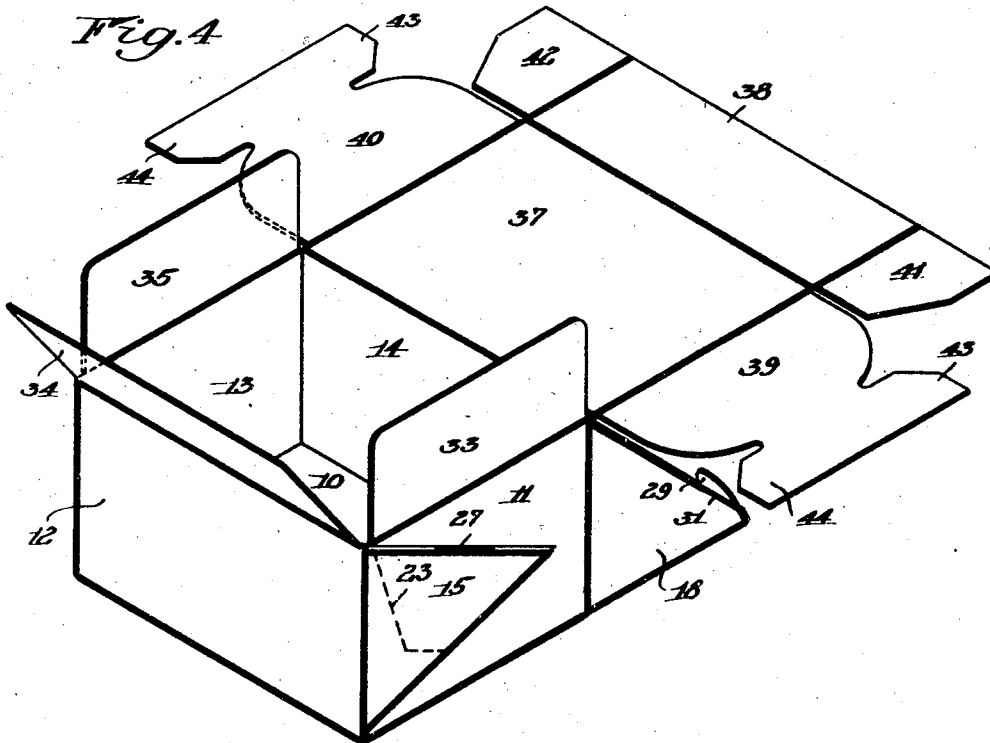
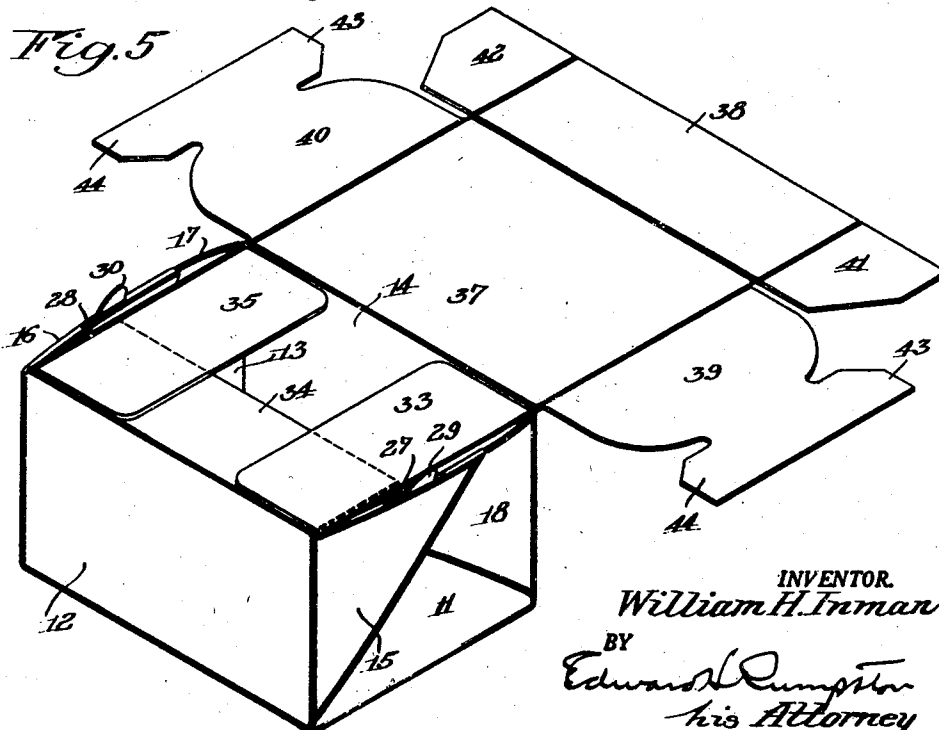


Fig. 5



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UNITED STATES PATENT OFFICE

2,419,646

CONTAINER

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5 Claims. (Cl. 229—31)

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This invention relates to containers, and, more particularly, to containers especially adapted for the reception of frozen foods, delicatessen articles, bakery goods, and the like, one object being to provide a container of the above character made by cutting, scoring and folding a blank of cardboard, or other suitable material, so treated as to be vapor, moisture, water and greaseproof, and in a type of construction capable of being erected and strongly secured in erected condition, without gluing or other added fastening means, with the result that the whole blank may be subjected to waxing or other treatment, on both sides, to render it impervious.

Another object is the provision of a container of the above character having integral bottom and side walls so constructed with relation to one another and to the cover, as to afford, in erected condition, a strong, substantially air and watertight carton, capable of effectively maintaining its shape and protecting the contents.

A further object is the provision of such a carton in which all of the side walls and the cover and its flaps are positively and securely locked together when erected and closed.

A further object is to produce such a carton so constructed that its parts may be readily unfastened, stripped from adhesion to frozen contents and flattened into a plane, so as to free the contents for removal as a whole.

Still a further object is to afford a carton having the above advantages and capable of being readily and economically erected by automatic machinery.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 shows a one-piece, cut and scored blank, ready for folding to form a container embodying the present invention;

Fig. 2 is a perspective view of the container in erected and closed condition;

Fig. 3 is a side elevation of the same, partly broken away and partly in section;

Fig. 4 is a perspective view showing the side walls partially erected and the cover open, and

Fig. 5 is a similar view showing the side walls fully erected and fastened, ready for closure of the cover.

The invention is embodied, in the present instance, in a container made from a cardboard blank, such as shown in Fig. 1, cut from stock the

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entire surface of both sides of which is coated, or otherwise treated, with paraffin, or other waxes, or cellulose lacquer, or other known substances, to render the same impervious to moisture, vapor, water and grease.

The blank is preferably scored, as indicated by multiple lining in the drawing, to form a bottom 10 and four side walls, 11 to 14, inclusive, which, in the present instance, are rectangular in shape, so as to produce, when folded vertically, a straight walled container. The adjacent pairs of side walls are integrally connected by bellows folds, or wings, 15 to 18, inclusive, each of generally rectangular shape with diagonal score lines, 19 to 22, inclusive, substantially bisecting the angles between adjacent walls, respectively, as shown. Wings, 15 and 16, have folding extensions, 23 and 24, respectively, preferably of the trapezoidal shape shown and forming parts of the securing means, as hereafter described. The score lines, 25 and 26, about which these extensions are folded, are provided with slits, 27 and 28, respectively, forming other parts of the securing means. The outer edges of wings 17 and 18 are provided with integrally extending lugs, 29 and 30, respectively, preferably marked off by score lines, 31 and 32, for cooperation with the slits 27 and 28, as hereafter described.

Side walls, 11, 12 and 13, have folding extensions 33, 34 and 35, respectively, forming top closure flaps for the erected container. Side wall 14 is integrally connected, at a scored fold line 36, with a cover section 37 having a folding securing panel or flap 38, and opposed locking flaps, 39 and 40. Securing flap 38 has its opposite ends extended to produce folding tabs, 41 and 42. The outer ends of the locking flaps, 39 and 40, are cut inwardly to produce on each a pair of oppositely extending locking shoulders, 43 and 44.

The blank is erected to form the container by folding the side walls, 11 to 14, inclusive, vertically upward, as usual, the wings, 15 to 18, inclusive, being folded about the diagonal score lines 19—22 and projected outwardly for folding inwardly against the outer faces of the side walls, 11 and 13. The wings are of sufficient length to overlap substantially in each pair thereof, and as they are brought together, the extensions 23 and 24 of wings 15 and 16 are folded inwardly and downwardly, as shown in Fig. 4, to form guide troughs for slidably receiving and guiding the projecting ends of the other wings, 17 and 18, which latter are relatively depressed slightly to allow their lugs, 29 and 30, to spring upwardly through the slits, 27 and 28, thereby securely

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interlocking and securely fastening together the wings of each pair. It will be noted that the lugs 29 and 30 are undercut so as to overhang and wedgingly engage the corresponding ends of the slits 27 and 28, thereby wedgingly interlocking the wings together against relative vertical and lengthwise separating movements.

By means of this relatively simple manipulation, the four side walls are secured in erected relation, so as to strongly support them during and after filling. After being filled, the top closure flap 34 is folded inwardly and the top closure flaps, 33 and 35, are folded over it, so as to effectively close three edges of the top opening, as shown in Fig. 5. The remaining edge of the top opening is then closed by folding down the cover 37 and folding its securing flap 38 down over the opposite side wall. The tabs, 41 and 42, at its opposite ends, are then folded horizontally around the corners of the container, over the adjacent wings, as shown in Fig. 2. The locking flaps, 39 and 40, are then folded downwardly, and their locking shoulders, 43 and 44, are slightly flexed or bent inwardly and inserted under the corresponding wings, the parts being so shaped and dimensioned, as shown, that the upper edge of each shoulder, when flattened, tightly engages and interlocks with the lower edge of the corresponding wing, as at 45 (Fig. 2), so as to pull the cover down and hold it tightly closed. It will be noted that the lower edges 46 of the tabs, 41 and 42, are likewise engaged by the upper edges of the corresponding shoulders 43, when inserted and flattened, as at 47 (Fig. 2), thereby pulling the tabs and the securing flap 38 inwardly, about the pivotal folding connection of the flap with the cover, so as to further lock the cover in tightly closed connection with the side walls. During such closure of the container, the lugs 29 and 30, particularly if provided with the scores 31 and 32, are engaged by the cover and flattened down over the top edges of the wings through which they project so as to further interlock and firmly secure the wings together.

The folding scores between the bottom and side walls and those of the wings, 15 to 18, inclusive, may be preliminarily bent or "broken," if desired, before shipping the flat blank, so as to facilitate erection of the container for use.

The side walls are integrally folded from the bottom and integrally connected with each other by the wings at the corners of the container, the wings and the adjacent side walls 11 and 13 being imperforate below their tops so as to form a fluid-tight construction between these parts. The inwardly folded closure flaps, 33, 34 and 35, and the over-folded cover with its downwardly folded flaps, 38, 39 and 40, together with the means described for tightly locking the cover and its flaps in closed condition, all serve to afford a substantially water and air tight enclosure within the impervious material of the blank and effectively seal in and protect the contents. The parts are so constructed and so interlocked as to insure a strong and rigid structure capable of reliably maintaining its shape and further protecting the contents. The parts are so shaped and arranged and moved to erected position, furthermore, as to be readily capable of rapid and economical erection by automatic machinery, as well understood in the art. As a further advantageous feature, when the container is used for frozen foods, the parts may be disconnected in a reverse order and laid flat, in the condition of the blank

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before erection, so as to free the contents for convenient removal as a whole.

It will thus be seen that the invention accomplishes its objects, and while it has been herein disclosed by specific reference to the details of a preferred embodiment, it is to be understood that such disclosure is intended in an illustrative, rather than a limiting sense, as it is contemplated that various modifications of the construction and arrangement of the parts will readily occur to those skilled in the art, within the spirit of the invention and the scope of the appended claims.

I claim:

1. A carton made from a one piece blank, cut, scored and folded to form a bottom, upwardly folded side walls, wings foldably connected with adjacent side walls and folded and overlapped in pairs against the outer sides of one pair of opposite side walls, an extension at the top of one wing of each pair folded inwardly and downwardly over the top of the other wing thereof and having an opening at the line of fold thereof, and an upwardly projected lug at the top of the other of said wings engaged in and extending upwardly through said opening for locking said wings together, said wings and the adjacent side walls of said pair being imperforate and fluid tight below the tops thereof.

2. A carton made from a one piece blank, cut, scored and folded to form a bottom, upwardly folded side walls, wings foldably connected with adjacent side walls and folded and overlapped in pairs against the outer sides of one pair of opposite side walls, an extension at the top of one wing of each pair folded inwardly and downwardly over the top of the other wing thereof and having an opening at the line of fold thereof, an upwardly projected lug at the top of the other of said wings having an undercut end and being wedgingly engaged in and extending upwardly through said opening for wedgingly interlocking said wings together against relative vertical and lengthwise separating movements, said wings and the adjacent side walls of said pair being imperforate and fluid tight below the tops thereof, and a cover foldably connected with one of the other pair of side walls and provided with means for securing the same in closed position.

3. A carton made from a one piece blank, cut, scored and folded to form a bottom, upwardly folded side walls, wings foldably connected with adjacent side walls and folded and overlapped in pairs against the outer sides of one pair of opposite side walls, an extension at the top of one wing of each pair folded inwardly and downwardly over the top of the other wing thereof and having an opening at the line of fold thereof, a lug at the top of the other of said wings engaged in and extending upwardly above said opening for locking said wings together, said wings and the adjacent side walls of said pair being imperforate and fluid tight below the tops thereof, and a cover foldably connected with one of the other pair of side walls and provided with means for securing the same in closed position in which said upwardly extending lugs are held by said cover in laterally folded relation to additionally interlock said wings together.

4. A carton made from a one piece blank, cut, scored and folded to form a bottom, upwardly folded side walls, wings foldably connected with adjacent side walls and folded and overlapped in pairs against the outer sides of one pair of opposite side walls, an extension at the top of one wing of each pair folded inwardly and down-

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wardly over the top of the other wing thereof and having an opening at the line of fold thereof, a lug at the top of the other of said wings having an undercut end engaged in and extending upwardly above said opening for wedgingly interlocking said wings together against relative vertical and lengthwise separating movements, said wings and the adjacent walls of said pair being imperforate and fluid tight below the tops thereof, and a cover foldably connected with one of the other pair of side walls and provided with means for securing the same in closed position in which said upwardly extending lugs are held by said cover in laterally folded relation to additionally lock said wings together.

5. A carton made from a one piece blank, cut, scored and folded to form a bottom, upwardly folded side walls, wings foldably connected with adjacent side walls and folded and overlapped in pairs against the outer sides of one pair of opposite side walls, an extension at the top of one wing of each pair folded inwardly and downwardly over the top of the other wing thereof and having an opening at the line of fold thereof, a lug at the top of the other of said wings having an undercut end engaged in and extending upwardly above said opening for wedgingly interlocking said wings

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together against relative vertical and lengthwise separating movements, said wings and the adjacent walls of said pair being imperforate and fluid tight below the tops thereof, and a cover foldably connected with one of the other pair of side walls and having locking flaps at opposite sides thereof each formed with oppositely extending shoulders, said locking flaps being folded over said wings with said shoulders wedgingly engaged under said wings for locking said cover in closed position in which said upwardly extending lugs are held by said cover in laterally folded relation for additionally securing said wings and said carton in erected shape.

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