J. C. PRIDHAM.

ONE-PIECE AUTOMATIC FOLDING CARTON.

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1,307,638.

Patented June 24, 1919.

Fig. 1

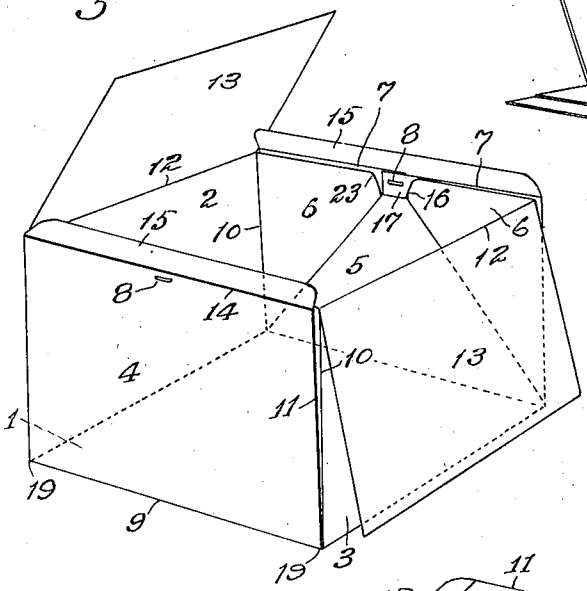


Fig. 2

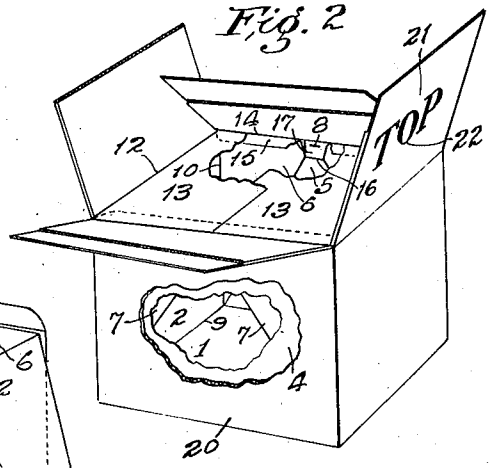


Fig. 3

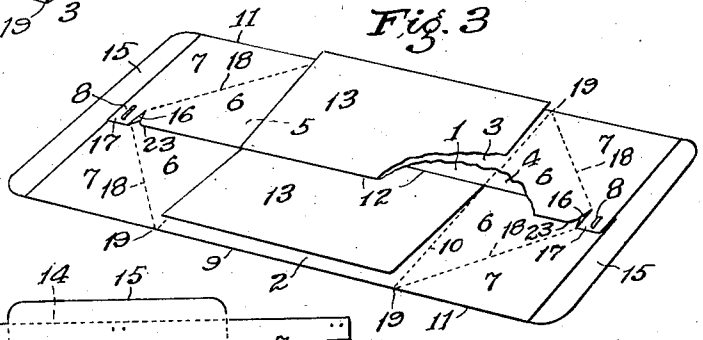
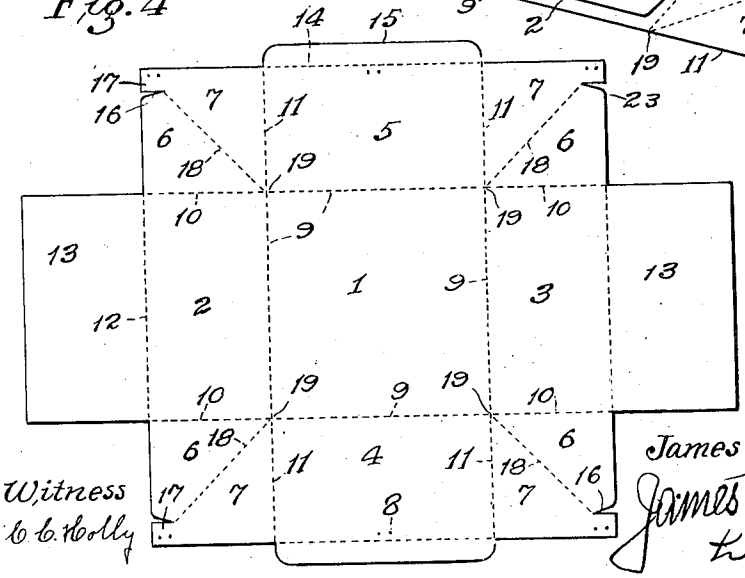


Fig. 4



Witness
C. C. Holly

Inventor
James C. Pridham
by James R. Townsend
his atty.

UNITED STATES PATENT OFFICE.

JAMES C. PRIDHAM, OF SOUTH PASADENA, CALIFORNIA.

ONE-PIECE AUTOMATIC FOLDING CARTON.

1,307,638. Specification of Letters Patent. Patented June 24, 1919.

Application filed August 23, 1916. Serial No. 116,553.

To all whom it may concern:

Be it known that I, JAMES C. PRIDHAM, a citizen of the United States, residing at South Pasadena, in the county of Los Angeles and State of California, have invented a new and useful One-Piece Automatic Folding Carton, of which the following is a specification.

An object of this invention is to provide a carton of pasteboard, stiff paper or other suitable material, which can be collapsed into flat form and can be easily opened up into carton form with great expedition, ease and accuracy, so that said cartons are specially adapted to be supplied to persons or machines by which they are to be filled with bulk material, such as seeded raisins, dried prunes, dried apricots, dried peaches, and many other products.

The carton is also applicable for many uses such as containers for millinery, confectionery, dry goods, groceries and other articles of commerce.

Another object of the invention is to provide an externally smooth walled container made of a folded sheet that when set up is devoid of seams throughout the container below a definite level near the top thereof; and in this respect an object is to provide a container especially adapted to hold contents that are semi-fluid, as syrups, thick oils, etc., or that are partly liquid or likely to become so, such as oysters, ice cream, etc.

Another object is to prevent seepage from the container of such moisture or juices as may collect in bulk seeded raisins, hot prunes, and the like, so that the liquid constituents of contents of said bulk fruits when packed in the carton will be isolated from a second container in which this carton will be inclosed in the ordinary use of this carton for packing such fruits.

An object in this respect is to entirely inclose the contents, so that in case the outer boxes or containers just referred to expand the goods will not be exposed.

The invention is also applicable for household conveniences as a waste receptacle for garbage and other materials that the housewife may wish to dispose of without offensiveness or likelihood of soiling the hands and is also adapted to provide a sanitary garbage package that will eliminate or greatly reduce the offensiveness of garbage collection.

The package is adapted to be constructed of many forms and sizes and of paraffined, silicated or sized paper of many qualities and variously treated in order to make it moisture proof.

In this description the terms end and side are not used in a limiting sense but are used simply to distinguish that pair of walls connected to two opposite edges of the bottom section, from the walls connected to the other two opposite edges of such section.

A further object of this invention is to provide the carton with a cover particularly adapted for allowing the carton to be easily inserted into a container and to be both filled and closed after it has been so inserted.

Further features of novelty may appear from the accompanying drawings and the subjoined detail description and appended claims.

The accompanying drawings illustrate the invention.

Figure 1 is a broken perspective view of a carton constructed in accordance with this invention and open to receive a charge.

Fig. 2 is a broken perspective view of the carton closed and inclosed in a container partly closed.

Fig. 3 is a broken perspective view of the carton in flat form.

Fig. 4 is a plan of a creased blank from which the carton can be set up.

The carton is made of one piece of sheet material comprising the bottom section 1, side walls 2, 3, end walls 4, 5, and inner corner folds formed of end and side members 6, 7, connecting the adjacent edges of the side walls and end walls respectively at the four corners of the carton when set up; said fold members 7 being directly connected at their edges with the outer edges of the end walls 4 and 5 and being fastened at 8 at their top inner edges, to the top edges of the end walls near the middle thereof.

The fastening at 8 may be effected by paste or any other suitable means and is shown as being formed of wire stitching staples.

Said sheet is provided with the bottom creases 9 between the bottom and the side and end walls, the upright corner creases 10 between the side folds 6 and the side walls, the upright corner creases 11 between the end folds 7 and the end walls; and the flap creases 12 between the side walls and the

main cover flaps 13 that are adapted to close the mouth of the carton when said carton is set up. Said flaps 13 may or may not overlap when they are closed over the mouth of the set up carton. Said sheet is also provided with lip creases 14 between the lips 15 and the top edges of the end walls which are extended to form the flap rests or sealing lips 15.

The sheet is preferably provided with slits 16 to form fastening tags 17 on the end fold members 7, one tag being on each side of the respective end walls 4 and 5, and the opposite tags being alined with each other and fastened one upon the other to the end wall at 8. The sheet is also provided with diagonal fold creases 18 extending from the bottom corners 19 diagonally toward the top corners of the corner folds 6, 7 and terminating at the inner ends of the slits 16.

Said slits 16 allow the fold members 6 to overlap each other and allow the members to fold to flat form as shown in Fig. 3, and also to freely open up and fold flat against the inside of the end walls when the top edges of the side walls are pulled apart or opened out to set up the carton.

In practical use for the packing of bulk seeded raisins these cartons will come in flat form, as in Fig. 3, to the packers, where an attendant will open the carton into shape by pressing up on the two end walls 4, 5. The carton being constructed as shown in Fig. 3 with all its folds on one side of the bottom and side walls, readily opens up and shapes itself into a rectangular box when this pressure is exerted. The carton will then be somewhat in the form shown in Fig. 1 and will then be slipped into the outer container 20 (Fig. 2). The carton may then be filled with raisins and the lips 15 folded down on top of the contents and the flaps 13 folded on top of the lips and the carton contents and overlapped. When the carton is thus closed the outer container will be closed and sealed by any suitable means, and thereupon the package is ready for shipment.

For the many other uses above suggested, many forms and kinds of cartons may be supplied in flat form as may be appropriate to each particular case; and the user will open and set up the box in the manner just stated.

When a carton is being filled the contents in the carton obstruct the refolding of the side walls, so that the operation of filling a carton may be by gradual additions as in the case of filling a garbage receptacle.

In the case of use as a garbage receptacle the housewife will deposit the waste as it occurs until the carton is filled and may close the flaps as a cover for the container between times of deposit until the carton is full. She may then finally close the flaps and secure the same shut by a cord or other fastener; whereupon the carton may be disposed of without the offensiveness now common in the disposal of garbage. The contents of each carton may be readily inspected at any time thereafter, so that at the place of disposal it may be assigned to such use or such destruction as may fit the same.

When the garbage is to be burnt without inspection it is unnecessary to open the package after it leaves the kitchen.

When the double form of package shown in Fig. 2 is employed, the outer container 20 will have on its outer sealing flap 21 an indicator 22 marked on it to show which is the top of the closed package, so that the packages may be invariably stacked with the top up so that no leakage or seepage from the package will occur when the goods are inclosed in these tight cartons.

The cartons will preferably be sized or coated with silicate of soda or liquid glass so as to be impervious to moisture and unchangeable in this respect, by atmospheric conditions or the degrees of heat to which the packages will ordinarily be subjected.

The slits 16 are flared so that the side folds have slanting edges at said slits 16 and are therefore adapted to allow the carton to be collapsed and set up with greater ease than if the corners of the inner or side folds 7 were square.

The outer fold members 7 are provided with the overlapping tabs 17 that are fastened to the end walls 4, 5 thus leaving the upper rounded corners 23 free to swing past each other easily in the operation of setting up the carton.

By reference to Figs. 1 and 3 it will be seen that all the fold members are on the inner side of the bottom and outside end walls so that when the tabs 17 of the end fold members 7 are fixed to the end walls, said end fold members are held flat against said end walls throughout all the movements of the end walls from the flat form position shown in Fig. 3 to the upright position in the set up form shown in Fig. 1, and that the diagonal joints at 18 of these flat lying fold members 7 form purchases for the fold members 6 which, being hinged at 18 to the end fold members 7, and at 10 to the side walls 2, 3, operate as guiding stays to determine the relative movement of the parts from flat-form to set up position and vice versa.

By arranging the folds on the inner side or face of the end walls, the flaps or extensions 13 of said end walls form a cover over the folds and the exterior of the carton is free from externally exposed folds, thus affording an attractive package when set up, and allowing the carton to be easily collapsed and set up as above described without disturbing the fastening means.

In Fig. 4 the fastening at 8 is shown as

representing stitch holes, but it is understood that in practical construction the wire staples will be inserted by a stitching machine.

It is not necessary for the fold members 7 to move relative to the end walls and therefore they may be cemented thereto within the convenience or judgment of the constructor.

I claim:—

1. A carton composed of a creased sheet and comprising a bottom, two side walls, two end walls, and four corner folds; said folds connecting the adjacent edges of the side and end walls, and being creased diagonally, and said sheet being creased along the edges of the bottom section and the side and end walls; said corner folds being slitted from their edges to the respective diagonal creases to form fastening tags, one for each fold; and the tags on the opposite sides of an end wall being alined with each other and fastened one upon the other to the end wall near the top thereof.

2. The single creased sheet carton provided at the top with narrow lips 15 folding over the corner folds 6, and overlapping tags 17; said lips 15 being supported by the tops of said folds and the bends of said tags; and the main cover flaps 13 supported by the lips 15 and closing the top of the carton.

In testimony whereof I have hereunto set my hand at Los Angeles, California, this 18th day of August, 1916.

JAMES C. PRIDHAM.

Witness:
JAMES R. TOWNSEND.