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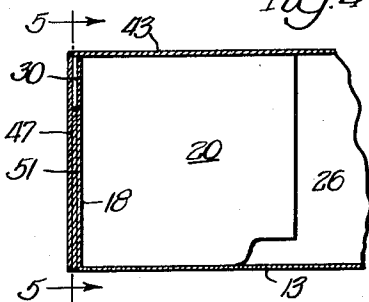
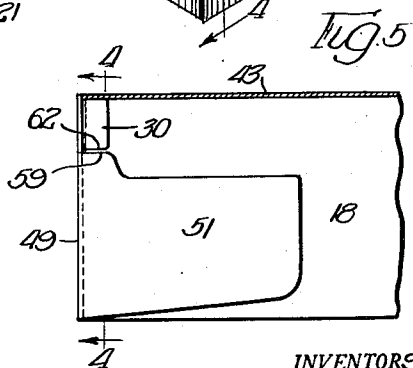
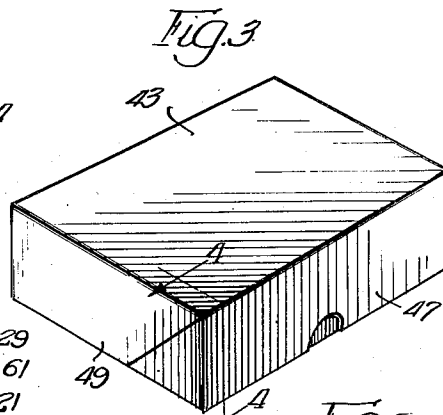
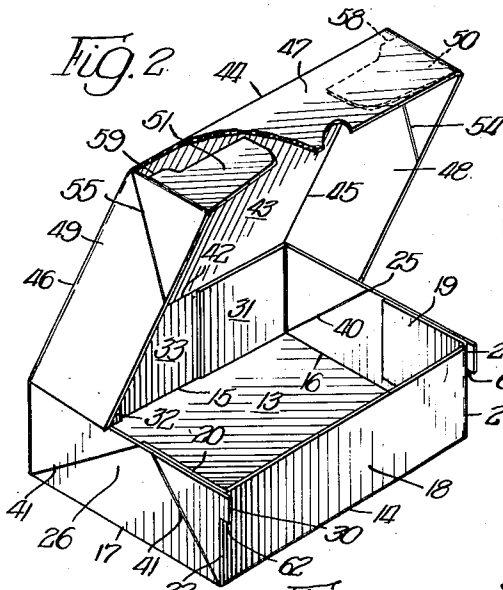
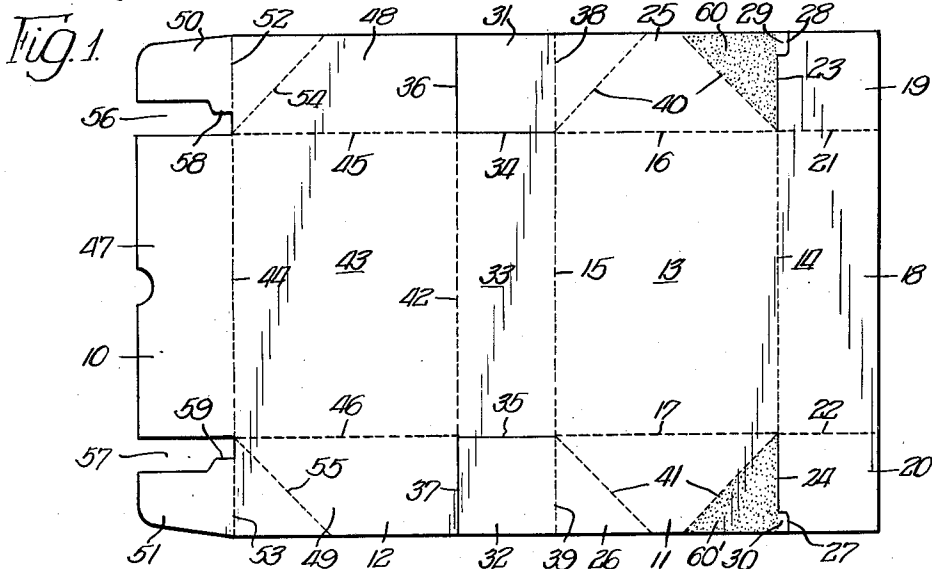
R. T. FRIEDERS ET AL

2,551,324

CONTAINER

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2 Sheets-Sheet 1



INVENTORS.  
Robert T. Frieders,  
BY John Paul Strange, Jr.,  
Cromwell, Christ & Warden  
attys

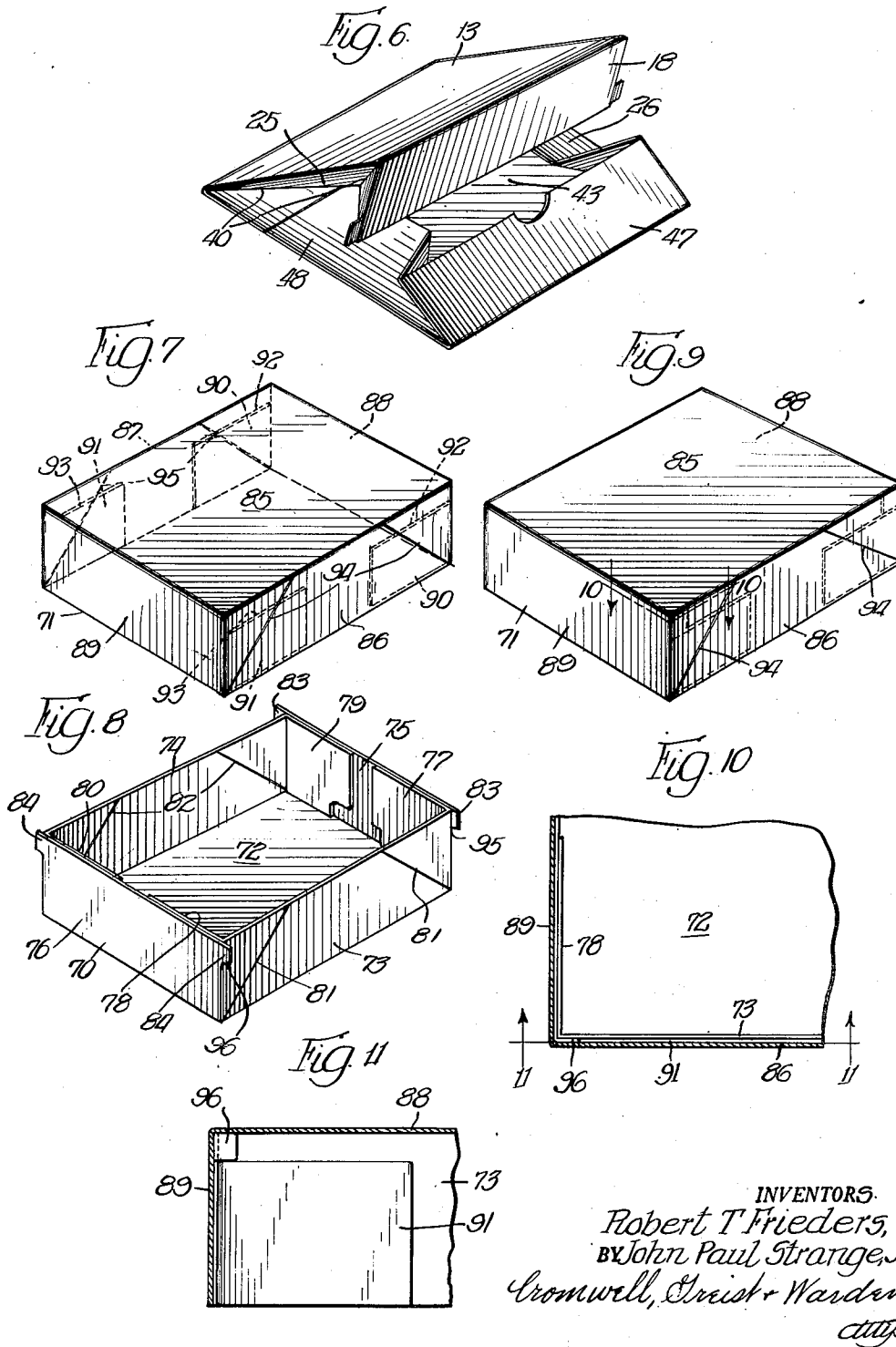
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2 Sheets-Sheet 2



## UNITED STATES PATENT OFFICE

2,551,324

## CONTAINER

Robert T. Frieders, Menasha, and John Paul Strange, Jr., Neenah, Wis., assignors to John Strange Pail Company, Menasha, Wis., a corporation of Wisconsin

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4 Claims. (Cl. 229—36)

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This invention is concerned with improvements in containers formed from paper board or other suitable flexible material comprising a box and a cover which is adapted to telescope over the open end of the box.

Containers made of paper board or similar flexible material and comprising a box part and a cover part adapted to close over the open end of the box part have not heretofore been used in certain packaging operations because of a lack of satisfactory means for retaining the cover part in fixed closed position after the container is filled and closed so that the cover part will not fly open during normal handling of the filled container. This disadvantage has restricted the use of this type of container particularly in the packaging of foods or the like where the container is filled with the product and after it is closed is subjected to freezing or other processing which involves further handling of the filled container.

It is an object of the invention to provide an improved container formed from paper board or similar flexible material comprising a box part and a telescoping cover part and having means associated with the box part and cover part thereof which is operative to retain the cover part in closed telescoped position over the box part and to resist opening movement of the cover part.

Another object of the invention is to provide a container formed from suitable flexible material having a box part and a cover part hinged thereto and adapted to telescope over the open end of the box part, which is provided with means associated with the box and cover parts adapted to retain the cover part in closed telescoped position so as to prevent any undesired opening thereof and which nevertheless may be easily and quickly opened and closed, which also is so constructed that the cover part may be swung completely away from the open end of the box part to facilitate the insertion or removal of the contents into and from the box part.

Another object of the invention is to provide a container formed from suitable flexible material having a box part and a cover part which is adapted to telescope over the open end of the box part and means associated with the box and cover parts for retaining the parts in closed relation after the box has been filled and the cover positioned thereover wherein the box and the cover are formed so that they may be initially collapsed into a relatively flat condition.

A further object of the invention is to provide a structure forming a re-closeable container

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made of flexible material which is attractive and neat in appearance, which is strong and sturdy in construction, which is serviceable in use, and which may be economically manufactured.

These and other objects will be apparent from the description of the preferred embodiments of the invention which are shown by way of illustration in the accompanying drawings, wherein:

Fig. 1 is a plan view of a blank which has been cut and scored preparatory to forming a container embodying the principles of the invention;

Fig. 2 is a perspective view, with portions broken away, of a hinge cover container formed from the blank shown in Fig. 1 in set up and partially closed condition;

Fig. 3 is a perspective view of the completely closed container;

Fig. 4 is a section taken on the line 4—4 of Fig. 3, to an enlarged scale;

Fig. 5 is a section taken on the line 5—5 of Fig. 4, to an enlarged scale;

Fig. 6 is a perspective view of the container in partially collapsed and inverted condition;

Figs. 7 and 8 are perspective views of the top and bottom, respectively, of a modified form of container embodying the principles of the invention;

Fig. 9 is a perspective view of the container shown in Figs. 7 and 8 in completely closed condition;

Fig. 10 is a section taken on the line 10—10 of Fig. 9, to an enlarged scale; and

Fig. 11 is a section taken on the line 11—11 of Fig. 10, to an enlarged scale.

Referring to Figs. 1 to 6 inclusive, of the drawing, there is illustrated a container of the hinged cover type having incorporated therein the principles of the invention.

The blank 10, illustrated in Fig. 1, from which the container is constructed, is preferably formed from paper board or similar material. It comprises a bottom box forming portion 11 and a top or cover forming portion 12. The bottom forming portion 11 is characterized by a bottom wall panel 13 outlined by score lines 14, 15, 16 and 17. The score line 14 separates the bottom wall panel from a relatively narrow front wall panel 18 which is provided with end flaps 19 and 20 defined by the fold or score lines 21 and 22 and separated by cutting lines 23 and 24 from end forming panel portions 25 and 26.

The cutting lines 23 and 24 have relatively short offset portions 27 and 28 at the outer edges of the blank which form on the adjacent end wall panels 25 and 26 the tabs or ears 29 and 30.

The end wall panels 25 and 26 are provided with end flaps 31 and 32 which are cut from the rear wall forming panel 33 along cutting lines 34 and 35 and separated from the top forming portion 12 of the blank 10 along the cutting lines 36 and 37. Score lines 38 and 39 separate the end flaps 31 and 32 from the end wall panels 25 and 26. The end wall panels 25 and 26 are provided with diagonal score lines 40 and 41 which are utilized when the container is folded into collapsed condition.

The rear wall forming panel 33 is defined by the fold or score lines 15 and 42 and the cutting lines 34 and 35. The score line 15 separates the panel 33 from the panel 13 and the score line 42 separates it from the cover forming portion 12 of the blank.

The cover forming portion 12 of the blank 10 is characterized by a top wall forming panel 43 which is defined by the score lines 42, 44, 45 and 46. The score line 42 separates the top panel 43 from the rear wall forming panel 33 of the box forming portion 11 and constitutes the hinge line which connects the cover part and the box part of the container in hinged relation. The score line 44 separates the top wall panel 43 from the front wall forming panel 47. The score lines 45 and 46 separate the top wall panel 43 from the end wall-forming panels 48 and 49.

The end wall panels 48 and 49 are provided with end flaps 50 and 51 which are separated therefrom by the score lines 52 and 53, respectively. The end wall panels 48 and 49 are provided with diagonal fold or score lines 54 and 55 which are utilized when the container is folded into collapsed condition.

The end flaps 50 and 51 are separated from the front wall panel 47 by cut-out portions 56 and 57. The cutting lines on the inside of the end flaps 50 and 51 are provided with offset portions which form shoulders 58 and 59 on the flaps.

When the container is set up as illustrated in Fig. 2, the end wall panels 25, 26 and front and rear side wall panels 18 and 33 have been folded upwardly about the score lines 16, 17, 14 and 15 to provide a box part having upstanding front and rear walls and end walls. The front side wall 18 is connected to the end walls 25 and 26 by the end flaps 19 and 20 which have been folded inwardly about the score lines 21 and 22 and secured to the respective end walls 25 and 26 by means of adhesive as indicated at 60 and 60' (Fig. 1). The end walls 25 and 26 are secured to the rear wall 33 by the flaps 31 and 32 which have been folded inwardly about the score lines 38 and 39 and adhesively secured to the rear wall 33.

The top wall 43 of the cover part of the container is hingedly connected to the rear wall 33 of the box part along the fold line 42. End panels 48 and 49 have been folded downwardly about the score lines 45 and 46 to form the end walls of the cover and the end flaps 50 and 51 have been folded inwardly about the score lines 52 and 53 and adhesively secured to the inside of the front wall panel 47 which has been folded downwardly about the score line 44 to form the front wall of the cover.

In order to collapse the container for shipment the end walls 48 and 49 of the cover part are folded inwardly about the fold lines 45 and 46. This results in that portion of each of the end panels 48 and 49 which is forward of the oblique fold lines 54 and 55 being folded outwardly or backwardly about the fold lines 54 and

55 and into face-to-face relation with the adjacent outside portion of the end wall pulling the front wall 47 down about the fold line 44 into collapsed relation with the inside of the top wall 43.

The end walls 25 and 26 of the box part are folded inwardly about the score lines 16 and 17 to bring the portion thereof between the oblique fold lines 40 and 41 into face-to-face relation with the bottom wall 13. Movement of the end walls 25 and 26 in this manner causes the flap members 19 and 20 to be brought into face-to-face relation with the inside of the front wall 18, at the same time pulling the front wall 18 downwardly about the fold line 14 into collapsed relation on the bottom wall 13. The movement of the end walls 25 and 26 also pulls the rear wall 33 downwardly about the fold line 15 into collapsed relation on the bottom wall 13.

As illustrated in Fig. 6, when the folding operation is completed the front wall 18 of the bottom part is folded over in superimposed relation on the bottom wall 13. The front wall 47 of the cover part is folded over about the line 44 into superimposed relation on the top wall 43. The bottom wall 13 and the rear wall 33 are folded about the line 15 into superimposed relation. The walls 33 and 43 are then in extended relation and in substantially the same plane, while the walls 13 and 47 are folded over in substantially flat relation thereon with the wall 18 positioned between walls 13 and 43. In folded condition a large number of the containers may, of course, be packaged in a small space for shipment.

When the container is set up and ready for filling it is in the condition illustrated in Fig. 2 except that the top or cover part is folded back on the hinge line 42 out of the way to avoid interference with the filling of the box part of the container. Due to the collapsed condition in which the container is furnished, the box part tends to partially collapse until it is filled with the product being packaged. The end walls 25 and 26 tend to bow inwardly into partially collapsed condition. However, as the box part is filled the end walls 25 and 26 are forced outwardly into upstanding vertical position.

The abutment forming tabs 29 and 30 initially project outwardly in the plane of the end walls 25 and 26 and extend beyond the forward face of the front wall 18. When the box part is filled, the container is closed by moving the cover downwardly about the hinge line 42 into telescoped relation with the box part. The abutment tabs 29 and 30 are folded inwardly towards each other and the front wall 47 of the cover is forced downwardly over the folded tabs 29 and 30 until the tabs are positioned in the upper forward corners of the cover with their lower edges 61 and 62 engaged in abutting relation with the edges 58 and 59, respectively, of the wall connecting end flaps 50 and 51 which are secured on the inner face of the front wall 47 of the cover. The inherent resiliency of the material is sufficient to urge the tabs 29 and 30 outwardly about the vertical corner edges of the box part which results in a snap action when the cover is forced down over the folded tabs 29 and 30, the tabs tending to snap into place to bring their edges 61 and 62 in abutting engagement with the cooperating edges 58 and 59 on the flap members 50 and 51.

When closed in the manner described, the cover is locked on the box part and will not become loose with the ordinary handling which is incident to further processing of the filled container, due to the interengagement of the tabs

29 and 30 with the abutment edges 58 and 59. However, the cover may be pulled loose by applying sufficient force to overcoming the resistance of the tabs 29 and 30 and to snap the abutment edges 61 and 62 past the cooperating abutment edges 58 and 59 on the inside of the front wall 47 of the cover.

A modified form of container is illustrated in Figs. 7 to 11, inclusive. This form of container comprises a box part 70 and a separate cover part 71. The box part 70 is provided with a bottom wall 72, upstanding front and rear side walls 73 and 74 and end walls 75 and 76. The side walls 73 and 74 are formed with integral end connecting flaps 77, 78 and 79, 80, respectively. Flaps 77 and 79 are adhesively secured to the upstanding end wall 75 and flaps 78, 80 are adhesively secured to the end wall 76. The front and rear side walls 73 and 74 are provided with oblique score lines 81 and 82 to permit folding of the side walls inwardly to collapse the box apart into flattened condition for shipment. The end walls 75 and 76 are each provided with a pair of projecting abutment tabs 83, 84 along their top edges, the tabs 83 and 84 extending outwardly from the outer faces of the front and rear walls 73 and 74.

The cover member of the container 71 consists of a top wall 85 and downwardly extending front and rear side walls 86, 87 and end walls 88 and 89. The end walls 88 and 89 are secured to the side walls 86 and 87 by means of integral flap connecting members 90 and 91 which are folded over and secured to the inside face of the respective side walls 86, 87. The connecting members 90 and 91 have cut-out portions which provide abutment edges 92, 93 which are spaced from the top wall 85, when in erected condition, a sufficient distance to receive in abutting engagement the abutment tabs 83 and 84 on the end walls 75 and 76 of the box part 70. The side walls 86 and 87 of the cover 71 are provided with oblique fold lines 94 and 95 to permit these walls to be folded inwardly to collapse the cover of the container. The connecting members 90 and 91 are not secured to the side walls 86 and 87 over their entire surface but only over the area between the oblique lines 94 and 95 and the vertical corners of the container so that the connecting members fold flatwise against the end walls 75 and 76, when the cover is collapsed, in the same manner as connecting flaps 19 and 20 fold flatwise against the front wall in the hinged cover container.

In filling and closing this form of container the box part 70 is erected and filled. The cover 71 is unfolded from its collapsed condition and telescoped over the box part 70, the abutment tab members 83, 84 being folded or bent about the vertical corners of the box part 70 so that when the cover 71 is completely telescoped over the box part 70 the tabs 83, 84 snap past the abutment edges 92 and 93 of the flaps 90 and 91 on the inside faces of the cover walls 86 and 87 and engage their lower edges 95 and 96 with the edges 92 and 93, respectively, thereby locking the cover to the box part.

In the illustrated forms of the invention, paper board has been referred to as the preferred material for manufacturing the container with an adhesive means for securing the wall connecting flaps to the side or end walls. It is contemplated that other materials may be used and that the connecting flaps may be secured to the respective container walls by any other securing means such as staples or the like. The details of construc-

tion which have been shown and described are to be taken as illustrative only since other details of construction may be resorted to within the spirit of the invention.

We claim:

1. A container formed from paper board material comprising a box part having front, rear and end wall panels and a cover part for said box part having top, front and end wall panels, said cover part being adapted to telescope over said box part to bring the front wall panels of the box part and the cover part into juxtaposed relation, abutment elements extending from the end wall panels of the box part adjacent the top edge of the front wall panel and adapted to be bent over to extend along the outside face of said front wall panel, and cooperating abutment forming elements positioned on the inside face of the front wall panel of the cover extending along said front wall panel in spaced relation to the top thereof, said abutment elements being wholly contained within the cover part when the cover part is in closed position and being operative to automatically interengage to retain the cover part in closed position and prevent opening movement thereof.

2. A hinged cover container formed from paper board material comprising a box part having front, rear and end panels and a cover part for said box part having top, front and end panels, said top panel being hingedly connected to the rear panel of the box part and being adapted to telescope over said box part to bring the front panels of the box part and the cover part into juxtaposed relation, an abutment element extending from an end panel of the box part adjacent the top edge of the front panel and adapted to be bent over to extend along the outside face of said front panel, and an abutment element positioned on the inside face of the front panel of the cover extending along said front panel in spaced relation to the top thereof, said abutment elements being wholly contained within the cover part when the cover part is in closed position and being operative to automatically engage with each other to retain the cover part in closed position and prevent opening movement thereof.

3. A hinged cover container formed from paper board material comprising a box part having front, rear and end wall panels and a cover part for said box part having top, front and end wall panels, said top panel being hingedly connected to the rear panel of the box part and being adapted to telescope over said box part to bring the front panels of the box part and the cover part into juxtaposed relation, an integral extension flap constituting an abutment element extending from an end wall panel of the box part adjacent the top edge of the front wall panel and adapted to be bent over to extend a relatively short distance along the outside face of said front wall panel, and an integral end wall panel connecting flap element secured on the inside face of the front wall panel of the cover and extending along said front wall panel adjacent the top thereof, said connecting flap having a portion forming an abutment element spaced from the top of said front wall panel, said abutment elements being wholly contained within the cover part when the cover part is in closed position and being operative to automatically engage with each other to retain the cover part in closed position and to prevent opening movement thereof.

4. A hinged cover container formed from paper board material comprising a box part having bottom, front, rear and side walls and a cover part for said box part having top, front and side walls, said top being hingedly connected to the rear wall of the box part and being adapted to telescope over said box part to bring the front walls of the box part and the cover part into juxtaposed relation, an integral extension flap extending from a side wall of the box part adjacent the top edge of the front wall and adapted to be bent over and extend a relatively short distance along the outside face of said front wall, and an abutment element positioned on the inside face of the front wall of the cover extending along said front wall adjacent the top thereof, said extension flap engaging said abutment element in locking relation when the container is filled and the cover part is in closed position and being operative to automatically retain the cover part in closed position and to prevent opening move-

ment thereof under normal handling of the filled container.

ROBERT T. FRIEDERS.  
JOHN PAUL STRANGE, Jr.

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