

March 4, 1947.

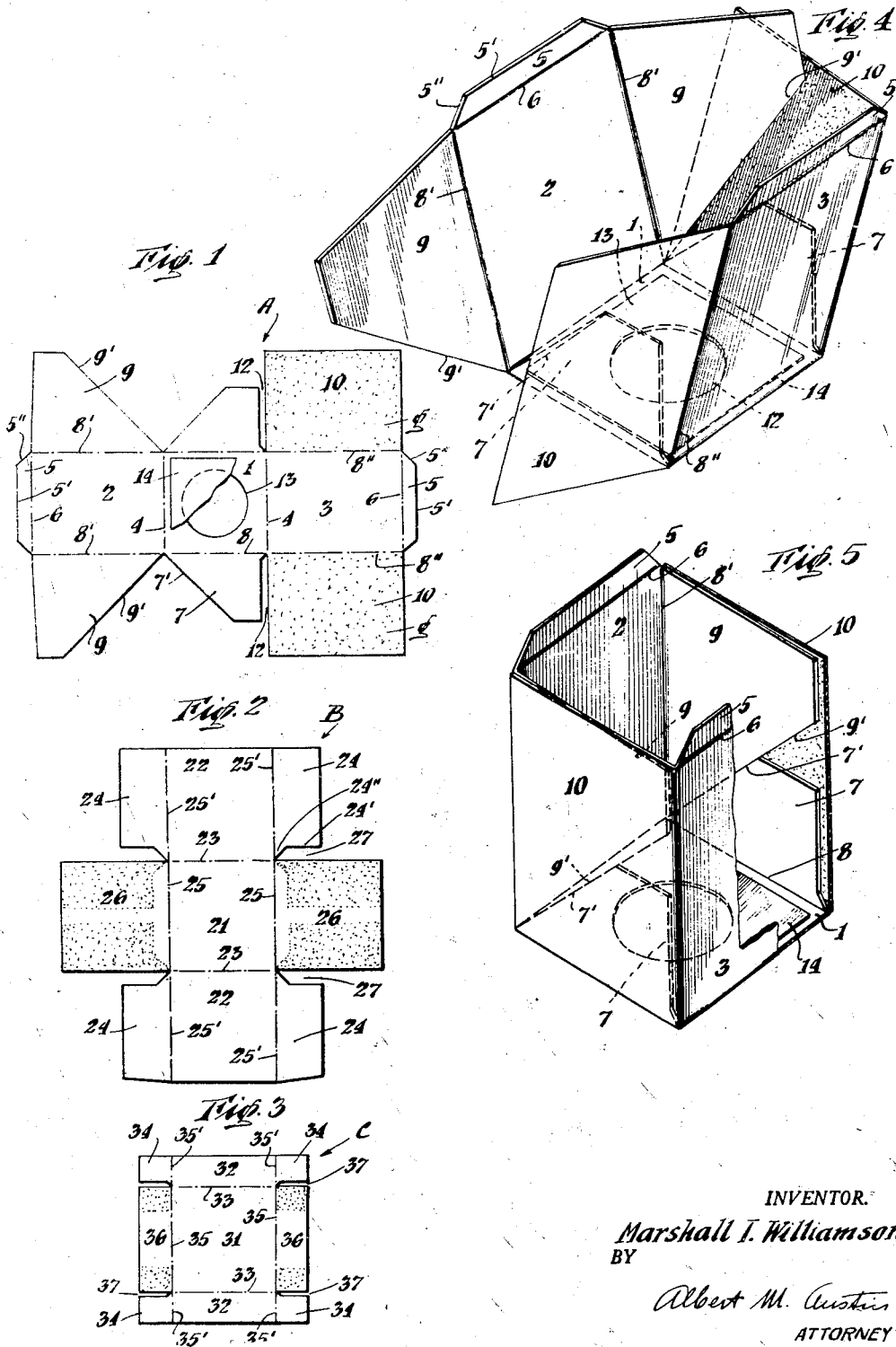
M. I. WILLIAMSON

2,416,725

MULTIPLE BLANK PAPERBOARD CONTAINER

Filed July 29, 1943

4 Sheets-Sheet 1



INVENTOR.

Marshall I. Williamson

BY

Albert M. Austin

ATTORNEY

March 4, 1947.

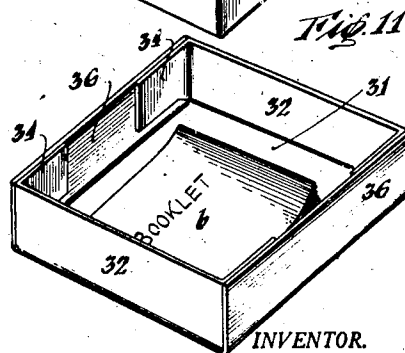
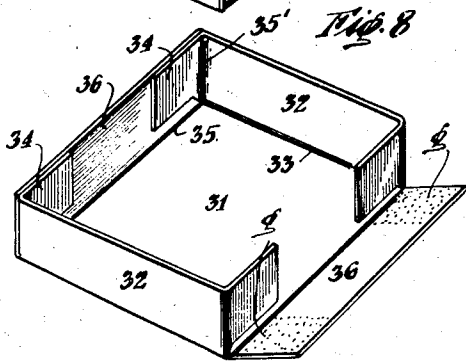
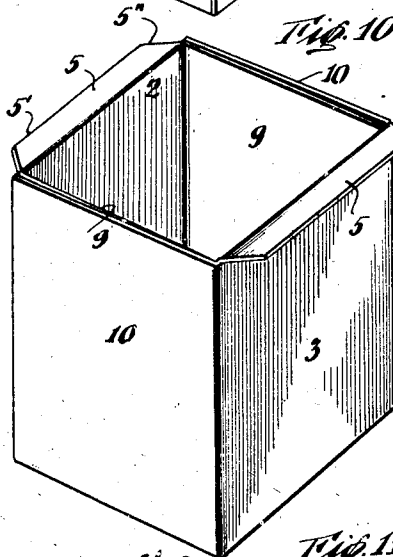
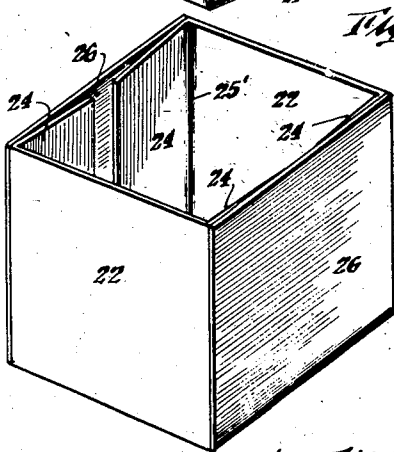
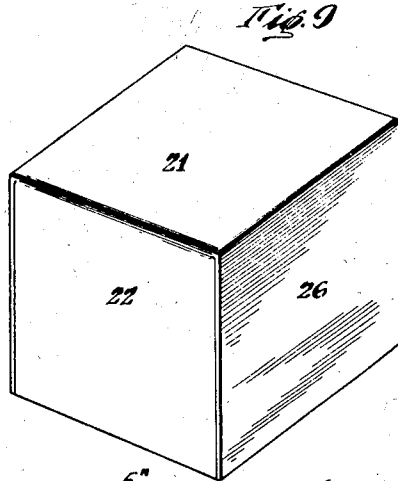
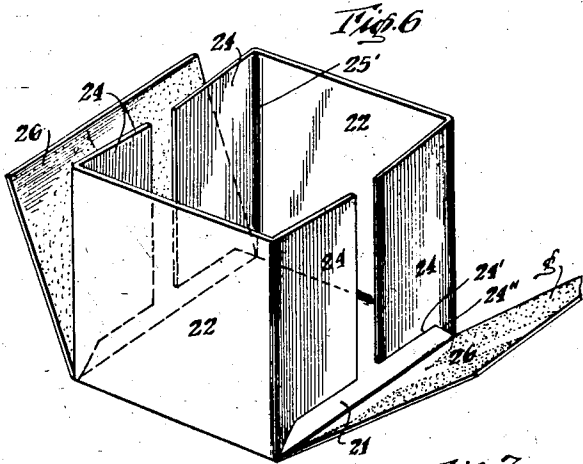
M. I. WILLIAMSON

2,416,725

MULTIPLE BLANK PAPERBOARD CONTAINER

Filed July 29, 1943

4 Sheets-Sheet 2



INVENTOR.  
Marshall I. Williamson  
BY

Albert M. Austin  
ATTORNEY

March 4, 1947.

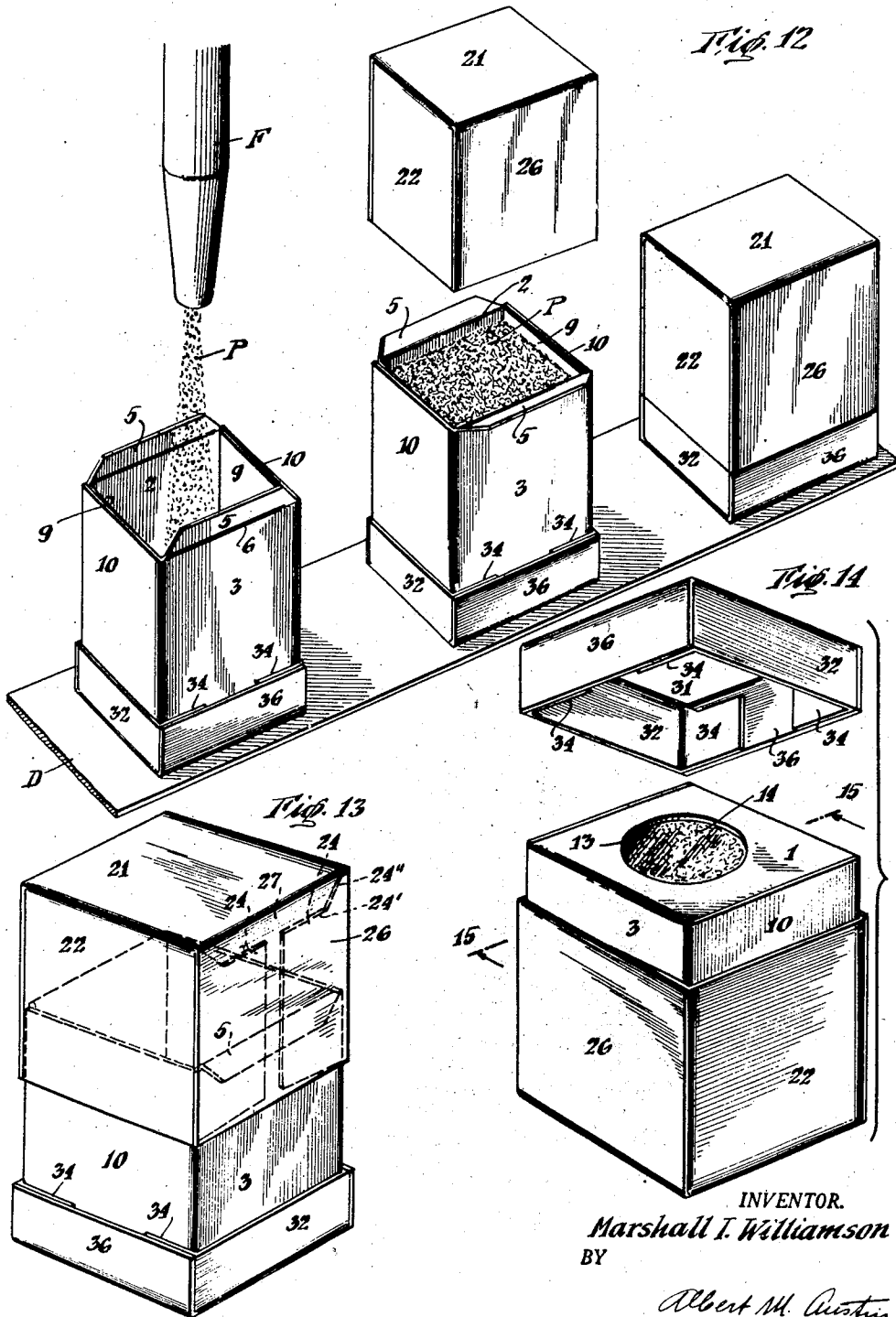
M. I. WILLIAMSON

2,416,725

MULTIPLE BLANK PAPERBOARD CONTAINER

Filed July 29, 1943

4 Sheets-Sheet 3



INVENTOR.  
Marshall I. Williamson  
BY

Albert M. Austin  
ATTORNEY

March 4, 1947.

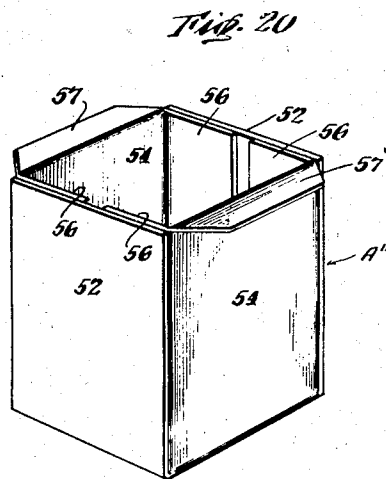
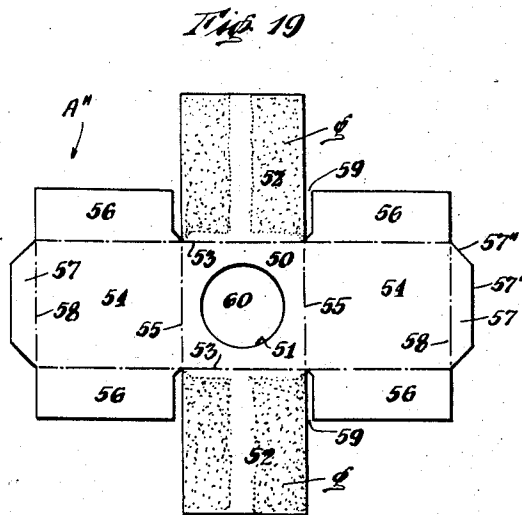
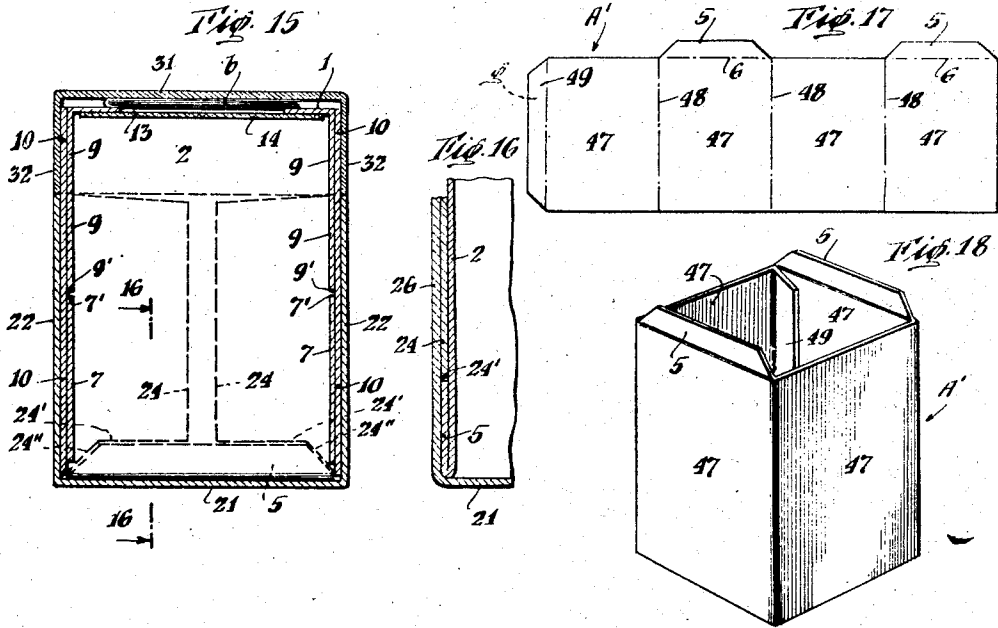
M. I. WILLIAMSON

2,416,725

MULTIPLE BLANK PAPERBOARD CONTAINER

Filed July 29, 1943

4 Sheets-Sheet 4



INVENTOR.  
Marshall I. Williamson  
BY

Albert M. Austin  
ATTORNEY

# UNITED STATES PATENT OFFICE

2,416,725

## MULTIPLE BLANK PAPERBOARD CONTAINER

Marshall I. Williamson, New Haven, Conn., assignor, by mesne assignments, to National Folding Box Company, Incorporated, a corporation of Connecticut

Application July 29, 1943, Serial No. 496,536

5 Claims. (Cl. 229—23)

1

This invention relates to containers formed from paperboard, fiberboard or like material, adapted for the packaging of products which have heretofore been packaged in canisters partially or wholly formed from metal.

In accordance with this invention, the containers comprise an inner shell designed to snugly telescope within an outer shell, and a cover section designed to snugly telescope over the top end of the inner shell. The inner shell, outer shell and cover section are each formed from a one-piece blank of paperboard material so shaped, cut and scored that each may be rapidly assembled into its constituent container part on available standard box assembling machines. The blanks for each part may be cut and scored in multiple from large sheets or rolls of the selected paperboard or fiberboard material on an automatic cutting and scoring machine at a high production rate. The blanks are adapted to be shipped in flat condition to the product manufacturer, effecting substantial economies in shipping and storage costs, which blanks can thereafter be assembled as needed on standard box assembling equipment by relatively unskilled labor.

In certain forms of the invention, the container may be made substantially siftproof and leakproof for products of powdered or granular form. The assembled container presents multiply enclosing side walls so as to present a sturdy and strong construction adapted to contain products of substantial bulk and weight. Locking means are associated with the inner shell and the outer shell so as to firmly lock these parts in assembled position. The container as constructed presents smooth and finished wall surfaces and a generally attractive appearance.

An object of this invention is to provide an improved container formed from paperboard, fiberboard, or like material which is sturdy and strong in construction and which answers practical packaging requirements of products which have heretofore been packaged in canisters formed in whole or in part from sheet metal.

Another object of this invention is to provide an improved paperboard container which can be economically assembled at high production speed on available box assembly machines.

Another object of this invention is to provide a sturdy container formed from paperboard material which can be economically produced, is attractive and neat in appearance, which can be shipped to the product manufacturer in flat form so as to effect economies in shipping and

2

storage space, and which can be readily assembled and filled with contents by the product manufacturer on standard equipment by relatively unskilled labor.

5 Other objects and advantages will become apparent as the disclosure proceeds.

Although the characteristic features of this invention which are believed to be novel will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part hereof, in which:

10 Fig. 1 is a plan view of the inside face of a prepared blank from which the inner shell of the container is formed;

15 Fig. 2 is a plan view of the inside face of a prepared blank from which the outer shell of the container is formed;

20 Fig. 3 is a plan view of the inside face of a prepared blank from which the cover section is formed;

25 Fig. 4 is a perspective view of the inner shell forming blank as it appears at one stage of assembly;

30 Fig. 5 is a perspective view of the fully assembled inner shell with certain parts broken away to illustrate certain structural details thereof;

Fig. 6 is a perspective view of the outer shell forming blank as it appears at one stage of the assembly;

35 Fig. 7 is a perspective view of the fully assembled outer shell;

Fig. 8 is a perspective view of the cover section as it appears when substantially fully assembled;

40 Figs. 9, 10 and 11 are perspective views of the outer shell in inverted position, the inner shell in inverted position, and the cover section in inverted position, all arranged for telescoping assembly into a unitary container;

45 Fig. 12 is a perspective view of an arrangement illustrating the manner in which the containers may be successively filled and assembled;

Fig. 13 is a perspective view of the container showing the outer shell in the process of being telescoped over the inner shell, certain locking parts thereof being shown in dotted lines;

50 Fig. 14 is a perspective view of the filled container, right side up, showing the cover section removed therefrom to give access to the contents;

55 Fig. 15 is a vertical cross-sectional view through the assembled container as it would appear when

viewed along line 15—15 of Fig. 14 when the cover section is applied;

Fig. 16 is a fragmentary vertical cross-sectional view through a section of the side wall of the container, further illustrating the manner in which the inner shell is locked to the outer shell;

Fig. 17 is a plan view of the inside face of a prepared blank from which the inner shell of somewhat modified construction may be assembled;

Fig. 18 is a perspective view of the inner shell assembled from the blank shown in Fig. 17;

Fig. 19 is a plan view of the inside face of a prepared blank from which the inner shell of further modified construction may be assembled; and

Fig. 20 is a perspective view of the modified inner shell assembled from the blank shown in Fig. 19.

Similar reference characters refer to similar parts throughout the several views of the drawings and the specification.

Referring to the drawings, the improved container as shown in Figs. 13 and 14 comprises an outer shell as shown in Figs. 7 and 9 formed from a prepared paperboard blank B as illustrated in Fig. 2, an inner shell as shown in Figs. 5 and 10 formed from a paperboard blank A as illustrated in Fig. 1, and a cover section as shown in Figs. 8 and 11 formed from a blank C as illustrated in Fig. 3. The inner shell forming blank A, the outer shell forming blank B, and the cover section forming blank C, as illustrated in Figs. 1, 2 and 3, are each formed from a separate but integral blank of suitable paperboard, fiberboard, or like material, and each may be cut and scored in multiple from large sheets or rolls of the selected paperboard or fiberboard material on an automatic cutting and scoring machine at a high production rate.

The inner shell forming blank A, as more particularly illustrated in Figs. 1 and 4, comprises a substantially rectangular top wall panel 1 having diametrically opposed side wall forming panels 2 and 3 hinged thereto along parallel extending score lines 4. A locking flap 5 is hinged to each of the side wall panels 2 and 3 along a score line 6, which forms the bottom edge of each of these panels. The other two side edges of the top wall panel 1 are provided with diametrically opposed partial side wall forming flaps 7 hinged thereto along parallel extending score lines 8.

The side wall panel 2 is provided with a pair of opposite side wall forming flaps 9 hinged thereto along parallel extending edge forming score lines 8'. It will be noted that one edge of each of the flaps 9 is cut on a bias at 9' so as to match and abut a similar biased side edge 7' of the adjacent partial side wall forming flap 7 when the blank has been assembled into shell form.

The side wall panel 3 is also provided with diametrically opposed side wall panel forming flaps 10 hinged thereto along side edge forming score lines 8''. Each side wall panel forming flap 10 is arranged to overlie the outside face of the adjacent partial side wall forming flap 7 and the adjacent side wall flap 9 when the blank has been assembled into shell form. It will be noted that the score lines 8' and 8'' are slightly offset from the intermediate score lines 8 to permit folding assembly of the blank into shell form. Each partial side wall forming flap 7 is separated from the adjacent side edge of the adjacent side wall panel forming flap 10 by a notched cut-out 12 of sufficient width to permit free folding of

these flaps. The top panel 1 may be provided with a dispensing opening, covered by a sheet 14 of transparent material affording a window through which the contents may be viewed and ultimately dispensed. If visibility of contents is not desired, the transparent covering of the dispensing opening may be omitted and the opening may be formed by merely perforating the top panel for removal of a disc therefrom.

The inner shell as shown in Fig. 5 may be assembled from the blank A shown in Fig. 1 on a standard box assembling machine. Such a machine applies adhesive to the inside faces of the side wall panel forming flaps 10, raises the side wall panels 2 and 3 substantially at right angles to the top panel 1, raises the partial side wall forming flaps 7 substantially at right angles to top panel 1, swings the side flaps 9 into alignment with the partial side wall forming flaps 7, and, finally, swings the side wall panel forming flaps 10 into overlying adhesive engagement against the outside face of the adjacent flaps 7 and 9.

It will be noted that the inner shell as thus assembled and illustrated in Fig. 5 in inverted position, presents two side wall panels 2 and 3 of single ply construction, while the opposite side wall panels are of double ply construction and formed by the abutting companion flaps 7 and 9 and the overlying side wall panel forming flaps 10. The locking flaps 5 project upwardly from the opposite side wall panels 2 and 3. Since the dispensing opening 13 in the top panel 1 is covered by the membrane 14 of transparent material or, in the absence of such material, the perforated disc has not yet been removed, the inner shell can be readily filled with contents through the open bottom end thereof when supported in inverted position as shown in Fig. 5.

The outer shell forming blank B as shown in Fig. 2 comprises a substantially rectangular bottom wall panel 21 having side wall panels 22 hinged to the bottom wall panel 21 along parallel extending score lines 23. Opposite side wall panels 26 are hinged to the other opposite side edges of bottom wall panel 21 along parallel extending score lines 25. Each of the side wall panels 22 has associated therewith a pair of side flaps 24 hinged to the side edges thereof along parallel extending score lines 25'. It will be noted that score lines 25' are slightly out of alignment with the intermediate score lines 25 to permit proper assembly of the blank into shell form. The lower edges of each side flap 24 adjacent to the edge of the side wall panel 26 are separated by a notched cut-out 27 of considerable magnitude, so that the lower edge of the side wall flaps 24 presents a straight edge portion 24' and a beveled edge portion 24'' radiating from the adjacent corner of the bottom wall panel 21.

Blank B as shown in Fig. 2 may be assembled into shell form as illustrated in Fig. 6, on a standard box assembling machine. Such machine applies adhesive to the inside faces of the side wall panels 26, raises the side wall panels 22 substantially at right angles to the bottom wall panel 21, and thereafter the side wall flaps 24 are turned inwardly into alignment, and the side wall panels 26 then raised into position substantially at right angles to the bottom wall panel 21 and pressed into adhesive engagement with the adjacent in-turned side wall flaps 24. The outer shell as thus assembled is illustrated in Figs. 7 and 9.

The cover forming blank C as shown in Fig. 3 comprises a top wall forming panel 31 having

opposed side flange sections 32 hinged to the top wall panel 31 along parallel extending score lines 33, and opposite side flange sections 36 hinged to the top wall panel 31 along parallel extending score lines 35. Securing tabs 34 are hinged to each end of the side flange sections 32 along the score lines 35' substantially in alignment with the score lines 35, the tabs 34 being separated from the adjacent sections 36 by notched cut-outs 37 of sufficient width to permit free folding of these tabs.

The blank C is adapted to be assembled into a cover section as shown in Figs. 8 and 11, on a standard box assembling machine, which applies adhesive to the inside faces of flanges 36, folds the flange sections 32 at right angles to the top wall panel 31, turns the securing tabs 34 inwardly, and thereafter raises the side wall flanges 36 at right angles to the top wall panel 31 and presses the same into adhesive engagement with the adjacent tabs 34.

When the container is to be filled with merchandise, such as granular or powdered product P, the cover section is first telescoped over the upper end of the inner shell. Since the top wall panel 1 of the inner shell is closed and sealed by the membrane 14 or perforated disc, a printed folder or pamphlet of instructions or advertising matter b as shown in Fig. 11 may be positioned inside the cover section.

In filling the inner shell with the product P, the inner shell may be placed in inverted position with the cover section thereto applied and supported upon a traveling conveyor belt or stationary packing platform D, as illustrated in Fig. 12. The product P is poured or blown into the inverted inner shell through a suitable hopper funnel F until the inner shell has been suitably filled. The outer shell may then be telescoped over the inner shell as illustrated in Figs. 12 and 13. In telescoping the outer shell over the inner shell, as illustrated more particularly in Figs. 13, 15 and 16, it will be noted that the side wall panels 26 to which are secured the side flaps 24 are positioned adjacent the locking flaps 5, which are first turned outwardly so as to be forced down against the outside surfaces of their associated side wall forming panels by the outer shell during its telescoping thereover.

When the outer shell has been telescoped into position so that its top edge substantially meets the lower edge of the cover section, as illustrated in the right hand view of Fig. 12, each downwardly bent locking flap 5 associated with the inner shell will snap into the adjacent recess 27 with the straight edge 5' of each locking flap 5 abutting the straight edges 24' of the adjacent side flaps 24, and the beveled edges 5'' of the locking flap 5 abutting against the beveled edges 24'' of the locking flaps 26. The outer shell is thus securely held and locked to the inner shell. Since the top panel 1 of the inner shell is sealed by the membrane 14 or removable disc, the contents will not sift therefrom even though the cover section, as shown in Fig. 14, is removed. The consumer, however, may readily obtain access to the contents of the container by breaking the membrane 14 or removing the perforated disc.

There is illustrated in Fig. 18, in inverted position, a somewhat modified form of inner shell which may be formed from the blank A' as shown in Fig. 17 and which is also adapted to be used with the outer shell B and the cover section C above described. The inner shell forming blank

A' comprises four side wall panels 47 hingedly connected along parallel extending score lines 48. One of the side wall panels 47 is provided with a glue flap 49 which may be easily secured to the free side edge of the side wall panel at the opposite end of the blank to assemble the inner shell into tubular form. An opposite pair of the side wall panels are each provided with a locking flap 5 extending thereto along a score line 6. The inner shell forming blank shown in Fig. 17 may be assembled into the tubular form shown in Fig. 18 on a strip gluing and folding machine of standard construction, which operates to attach the glue flap 49 to the opposite free edge of the side wall panel 47.

It will be noted that this modified form of inner shell has no top wall panel comparable to such panel 1 of the first described embodiment illustrated in Fig. 1.

The inner shell shown in Fig. 18 is telescoped into the outer shell shown in Fig. 7 as heretofore described. The locking flaps 5 on the inner shell snap into the recesses 27 with the straight edge 5' of the locking flaps abutting the straight edge 24' of the adjacent securing flaps 24. When thus assembled, the inner shell, having no top panel, may be filled right side up through the top end and the cover section shown in Figs. 8 and 9 may be telescoped over the upper end of the inner shell to enclose the contents.

There is shown in Fig. 19 a blank A'' from which a further modified form of inner shell shown in Fig. 20 may be assembled. The blank A'' comprises a top wall panel 50 having a pair of opposite laterally extending side wall panels 52 hinged to the top wall panel 50 along a pair of parallel extending score lines 53. Another pair of opposite side wall panels 54 are hinged to the other side edges of the top wall panel 50 along a pair of parallel extending score lines 55. A pair of securing flaps 56 extend from the side edges of each of the side wall panels 54 and are hinged thereto along parallel extending score lines 53'. The score lines 53' are slightly out of alignment with the score lines 53 to permit folding assembly of the blank into the form of the inner shell. The lower end of each of the securing flaps 56 is separated from the adjacent side edge of the adjacent side wall panels 52 by a cut-out 59 of such dimensions as merely to facilitate folding into assembled position. The outer or bottom end of each of the side wall panels 54 is provided with a locking flap 57 hinged thereto along the score line 58, which extends substantially parallel with the score line 55. Each locking flap 57 presents a straight edge portion 57' and mitered end portions 57''. The top wall panel 50 may be provided with a dispensing opening 51 which may be covered by a transparent but breakable membrane 60, or such membranous covering may be omitted if the material removed to form the opening is allowed to remain for subsequent removal by the consumer of the package contents.

The blank A'' may be assembled into shell form on a standard box assembling machine by applying adhesive to side wall panels 52, raising the side wall panels 54 into a position substantially at right angles to the top wall panel 50, turning the securing flaps 56 inwardly into substantial alignment, and raising the side wall panels 52 substantially at right angles to the top wall panel 50 and pressing same into adhesive engagement with the adjacent securing flaps 56.

7

The inner shell as thus assembled and shown inverted in Fig. 20 presents the locking flaps 57 in projecting position from the adjacent edge of the side wall panels 54.

The inverted inner shell, as shown in Fig. 20, is so proportioned as to permit the cover section 6 to snugly telescope over the top end thereof and to permit the outer shell B to snugly telescope over the bottom end thereof, with the locking flaps 57 bent out and down so as to seat within the adjacent recesses 27 of the outer shell when the latter is fully lodged in place with its upper edges abutting the lower edges of the cover section.

The improved container comprising in complete assembly an inner shell, an outer shell and a cover section, is adapted for the packaging of various types of products which have heretofore been packaged in containers or canisters partially or wholly formed of sheet metal. The container parts are adapted to be shipped in flat condition to the product manufacturer and assembled as needed, on standard box assembling equipment by relatively unskilled labor. The container as constructed is strong and sturdy and is adapted to contain products of substantial weight and bulk. The container is attractive in appearance, presenting relatively smooth and finished exterior and interior surfaces, and can be manufactured at substantially less cost than canisters formed in whole or in part from metal.

While certain novel features of the invention have been disclosed herein, and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. An improved paperboard container comprising, an inner shell having a top wall provided with a dispensing opening, a transparent membrane secured to said top wall and temporarily closing said top opening, two side wall panels hinged to opposite edges of said top wall, and side wall forming flaps hinged to the side edges of said first named side wall panels and to said top wall, said side wall forming flaps being secured together to form two further opposed side walls, the side walls defining an open end for filling of the inner shell with contents when in inverted position, and a pair of locking flaps extending from the lower edges of opposite side wall panels; and an outer shell having a bottom wall and enclosing side wall panels adapted snugly to receive the lower portions of said inner shell in telescoping position therein, two of said opposite side wall panels of the outer shell having complementary securing flaps extending inwardly from the side edges thereof and secured to the inside face of the adjacent side wall panels of the outer shell, said securing flaps each having a notched cut-out at the lower end thereof together forming complementary recesses to receive said locking flaps and presenting abutment edges adapted to abut the edges of said locking flaps to lock the inner shell in telescoped position within the outer shell.

2. An improved paperboard container comprising, an inner shell having a top wall provided with a dispensing opening, a transparent membrane secured to said top wall and temporarily closing said top opening, two side wall panels hinged to opposite edges of said top wall, and side wall forming flaps hinged to the side edges of said first named side wall panels and to said

8

top wall, said side wall forming flaps being secured together to form two further opposed side walls, the side walls defining an opening end for filling of the inner shell with contents when in inverted position, and a pair of locking flaps extending from the lower edges of opposite side wall panels; an outer shell having a bottom wall and enclosing side wall panels adapted snugly to receive the lower portion of said inner shell in telescoping position therein, two of said opposite side wall panels of the outer shell having complementary securing flaps extending inwardly from the side edges thereof and secured to the inside face of the adjacent side wall panels of the outer shell, said securing flaps each having a notched cut-out at the lower end thereof together forming complementary recesses to receive said locking flaps and presenting abutment edges adapted to abut the edges of said locking flaps to lock the inner shell in telescoped position within the outer shell; and a cover adapted to telescope over the upper portion of the inner shell.

3. An improved paperboard container comprising, an inner shell formed from a single blank of paperboard material having a four sided top wall panel, a pair of first side wall panels hingedly connected to two opposite sides of said top wall panel, a pair of top flaps hingedly connected to the remaining two sides of said top wall panel, side flaps extending from opposite side edges of one of said side wall panels, second side wall panels extending from the opposite side edges of the other side wall panel, said second side wall panels being folded over and adhesively secured to the adjacent top and side flaps, and a pair of locking flaps extending from the ends of said first side wall panels; and an outer shell having a bottom wall panel and enclosing side wall panels adapted snugly to receive said inner shell in telescoping position therein, and abutment means associated with said outer shell extending along the inside face of opposite side panels and adjacent the lower ends thereof adapted to interlock with said locking flaps associated with the inner shell to lock the inner shell in telescoped position within the outer shell.

4. An improved paperboard container comprising, an inner shell formed from a single blank of paperboard material having a four sided top wall panel, a pair of first side wall panels hingedly connected to two opposite sides of said top wall panel, a pair of top flaps hingedly connected to the remaining two sides of said top wall panel, said flaps extending from opposite side edges of one of said side wall panels, second side wall panels extending from the opposite side edges of the other side wall panel, said second side wall panels being folded over and adhesively secured to the adjacent top and side flaps, and a pair of locking flaps extending from the ends of said first side wall panels; an outer shell having a bottom wall and enclosing side wall panels adapted snugly to receive the lower portion of said inner shell in telescoping position therein, complementary securing flaps on two of said opposite side wall panels, said securing flaps extending inwardly from the side edges thereof and secured to the inside face of the adjacent side wall panels of the outer shell, said securing flaps each having a notched cut-out at the lower end thereof together forming complementary recesses to receive said locking flaps and presenting abutment edges adapted to abut the edges of said locking flaps to lock the inner shell in telescoped position within the outer shell; and a cover adapt-



ed to telescope over the upper portion of the inner shell.

5 An improved paperboard container comprising, an outer assembly and an inner shell, the outer assembly consisting of a body member and a cover member, both members being telescopically slidable over said inner shell into edge to edge abutment with each other so as to enclose said inner shell completely, said inner shell being formed from a single blank of paperboard material having a four sided top panel, a pair of first side wall panels hingedly connected to opposite sides of said top panel, second side walls connected to said first side wall panels and said top panel, each of said second side walls comprising, a top flap hingedly connected to said top panel, a side flap extending from a side edge of one of said side wall panels, and a side panel extending from the side edge of the opposite side wall panel, said side panel being folded over and adhesively secured to said top flap and side flap; a body member having a bottom wall and enclosing side wall panels adapted snugly to receive the lower portion of said inner shell in telescoping position therein, two of said opposite side wall panels of said body member having complementary securing flaps extending inwardly from the side edges thereof and secured to the inside face of

the adjacent side wall panels of the body member, said securing flaps each having a notched cut-out at the lower end thereof together forming complementary recesses to receive said locking flaps and presenting abutment edges adapted to abut the edges of said locking flaps to lock the inner shell in telescoped position within the outer shell; and a cover adapted to telescope over the upper portion of the inner shell.

MARSHALL I. WILLIAMSON.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

| Number    | Name       | Date          |
|-----------|------------|---------------|
| 1,896,361 | Hildebrand | Feb. 7, 1933  |
| 2,177,999 | Schwantes  | Oct. 31, 1939 |
| 1,598,396 | Scandore   | Aug. 31, 1926 |
| 2,193,924 | Huye       | Mar. 19, 1940 |
| 1,146,516 | Potter     | July 13, 1915 |
| 2,192,006 | Cook       | Feb. 27, 1940 |
| 2,178,967 | Markert    | Nov. 7, 1931  |
| 2,003,326 | Wellman    | June 4, 1935  |
| 2,073,272 | Wellman    | Mar. 9, 1937  |