

Sept. 2, 1947.

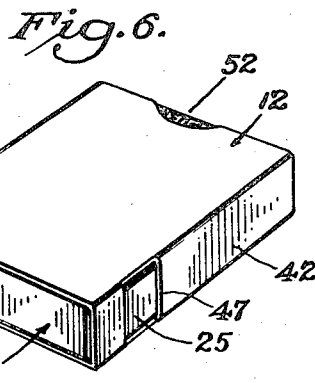
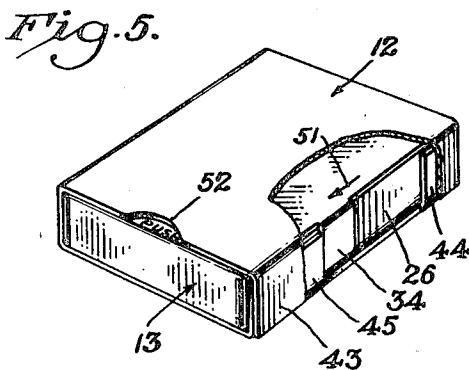
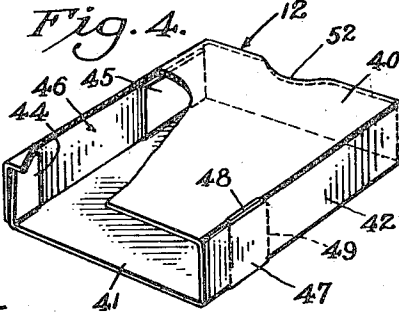
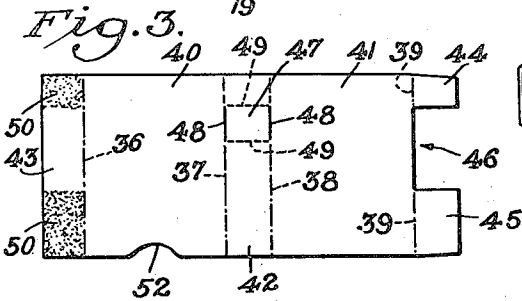
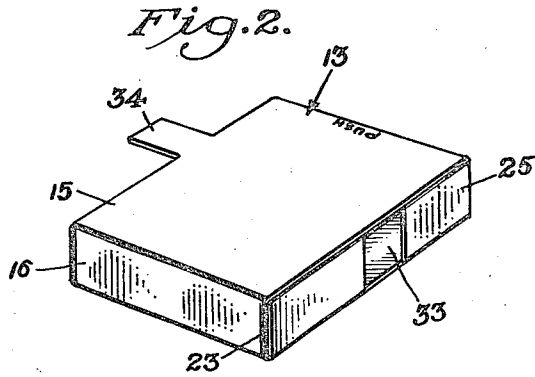
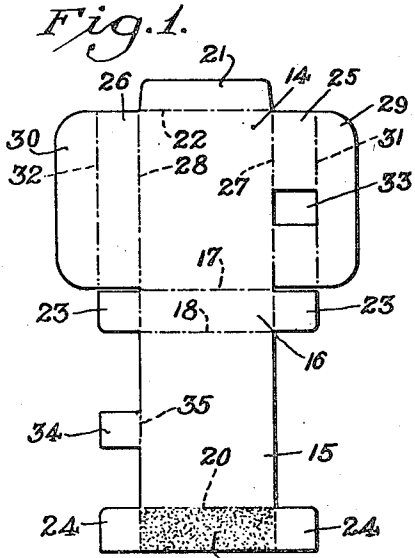
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2,426,856

DISPENSING CONTAINER

Filed Aug. 21, 1943

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 7.

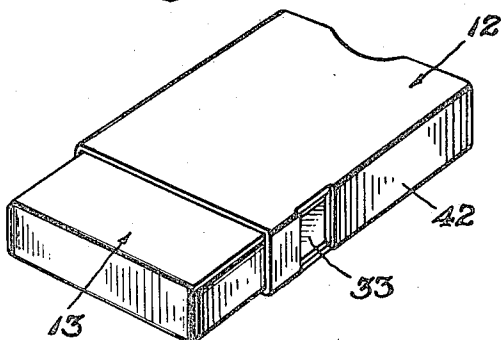


Fig. 8.

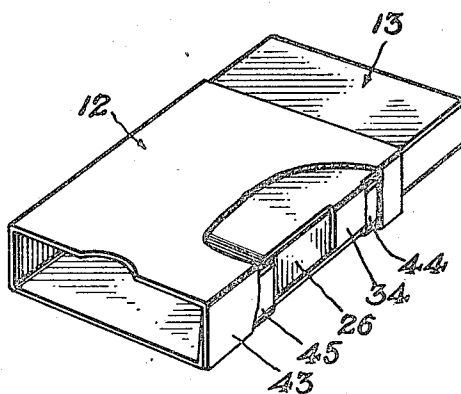


Fig. 9.

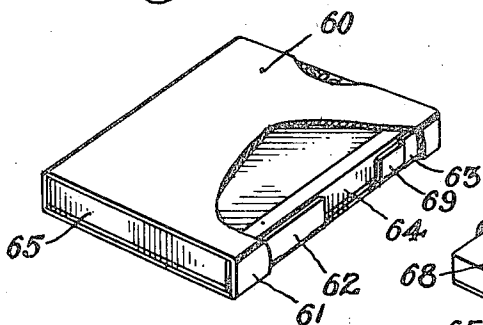


Fig. 10.

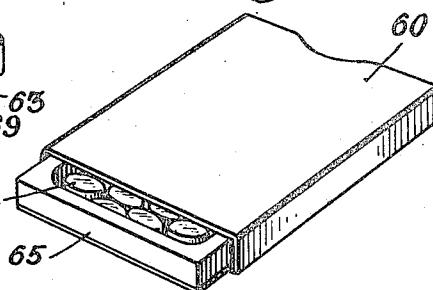


Fig. 12.

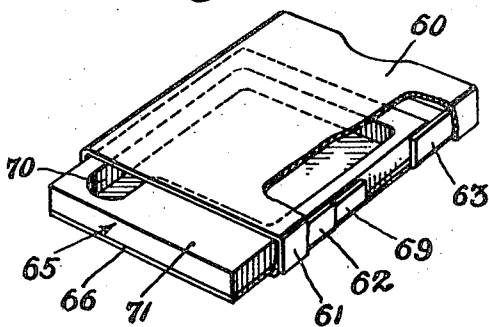
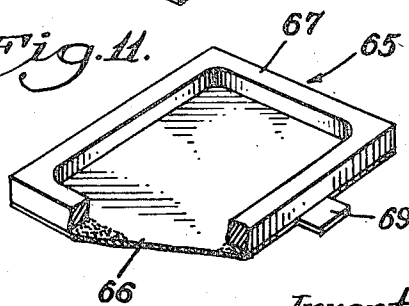


Fig. 11.



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UNITED STATES PATENT OFFICE

2,426,856

DISPENSING CONTAINER

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Application August 21, 1943, Serial No. 499,461

9 Claims. (Cl. 229—20)

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This invention relates to dispensing cartons for pills, capsules, tablets or similar small articles, more particularly to dispensing cartons having relatively movable parts adapted selectively to provide a dispensing opening or to close the opening together with means for limiting the relative movement of the parts, and the invention has for an object the provision of improved cartons of this character.

Containers or cartons comprising two or more relatively movable parts, adjustable between a closed position and a dispensing position wherein the parts provide a dispensing opening, have heretofore been provided but have not been entirely satisfactory from the standpoint of economical manufacture, handling and filling. For example, such prior containers have heretofore been formed of rigid materials not adaptable to folding or shipping in a flat, knocked-down condition, or if formed from foldable materials have been difficult to manufacture because not adaptable to manufacturing processes capable of being carried out in automatic high-speed folding, cutting and gluing machinery. It is accordingly a further object of the invention to provide a container or carton of the above character which may be produced by high-speed mass-production manufacturing processes, which can be shipped to the user in a flattened condition and readily assembled and filled by the user, and in which the parts, when the container or carton is assembled and filled, are positively limited to a sliding relative movement between predetermined desired positions.

In carrying out the invention in one form, an open-ended outer shell formed from a flat sheet of material is provided by folding the sheet so that flaps on the opposite ends thereof are brought into overlapping relation and secured by gluing, the inner one of the flaps being cut away intermediate its ends to provide spaced apart tabs which define the edges of a gap in the inner thickness of the wall formed by the glued flaps. An inner tray or carton for containing the pills or other articles is formed of a size and shape for slidably mounting within the outer shell, and is provided with a tab hinged to one edge thereof which tab normally tends to extend outward from the adjacent side of the inner carton or tray. When the two parts are assembled by sliding the inner carton or tray into the outer shell from one end thereof, the tab on the inner tray will be held in flatwise relation to the side wall until it reaches a position in which it can spring outwardly into the gap in the inner thick-

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ness of the above described wall of the outer shell. The tab is thus positioned between the flaps which define the opposite edges of the gap, and engagement of the tab with one or the other of these flaps provides stops for limiting the relative sliding movement of the inner tray and the outer shell between predetermined positions.

For a more complete understanding of the invention, reference may now be had to the drawings in which:

Fig. 1 illustrates a properly cut and scored blank from which an inner tray or carton embodying the invention may be formed;

Fig. 2 is a perspective view of the inner tray or carton after it has been folded, filled and closed;

Fig. 3 illustrates a properly cut and scored blank from which the outer shell of a container embodying the present invention may be made;

Fig. 4 is a perspective view of the outer shell formed by folding and gluing the blank of Fig. 3, a portion of one wall being broken away more clearly to illustrate the construction;

Fig. 5 is a perspective view of the assembled carton in closed position, with a portion of the outer shell broken away to illustrate the interrelation between the parts;

Fig. 6 is a perspective view of the assembled carton in closed position, looking at the opposite side of the carton as compared to Fig. 5;

Fig. 7 is a perspective view similar to Fig. 6 but showing the carton in its open or dispensing position;

Fig. 8 is a perspective view similar to Fig. 5 but showing the carton in the open position illustrated in Fig. 7;

Fig. 9 is a perspective view of a further embodiment of the invention with a portion of the outer shell broken away to illustrate the construction;

Fig. 10 is a perspective view of the embodiment shown in Fig. 9 but with the inner tray or container in a dispensing position;

Fig. 11 is a perspective view partially in section of the inner container employed in the embodiment of Figs. 9 and 10; and

Fig. 12 is a perspective view partially in section of a still further embodiment of the invention.

Referring now to Figs. 1 to 8 of the drawings, the invention is shown as embodied in a dispensing carton comprising an open-ended outer shell or casing 12 (Fig. 4) and an inner container or tray 13 (Fig. 2). The inner container or tray 13 is preferably formed from a suitable sheet or

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blank of cardboard or similar material which, as shown in Fig. 1, is cut and scored to provide a bottom wall section 14, a top wall section 15, and an end wall section 16 separated from the sections 14 and 15 by suitable score or fold lines 17 and 18. An end wall 19, defined by the score or fold line 20, is provided on the opposite end of the section 15, and a cooperating glue flap 21, defined by a fold line 22, is provided on the opposite end of the bottom-forming section 14. The end wall sections 16 and 19, as shown, are provided with suitable laterally extending tuck flaps 23 and 24, respectively, and side wall sections 25 and 26 are provided on the opposite side of the bottom wall section 14 and separated therefrom by suitable fold lines 27 and 28. Extending outwardly from the side wall sections 25 and 26 are tuck flaps 29 and 30, respectively, which are joined to the side wall sections by fold lines 31 and 32.

The blank thus far described for forming the inner container 13 is of entirely conventional construction, and in accordance with the present invention, the side wall 25 is provided with an aperture or opening 33 for dispensing purposes, as will hereinafter be described. In addition, the top section 15 is provided with a flap 34 which extends outwardly from one side thereof and is provided with a suitable fold line 35. It will be apparent that the aperture 33 and the flap 34 do not interfere with the usual folding and gluing operations by means of which containers of this type may be automatically folded and glued for shipment in a flat condition. Thus by folding the glue flap 21 inwardly along the fold line 22 and by folding the section 15 upwardly along the fold line 18 to a position in which the end wall 19 overlies the glue flap 21, for gluing or similar adhesive securement thereto, a folded and glued container in flattened condition is obtained. The containers in this condition may then be stacked and bound in packages or bundles for shipment to the ultimate users.

In Fig. 3 there is shown a properly scored and formed blank from which the outer shell or casing of dispensing cartons embodying the present invention may be made. The blank, as shown in Fig. 3, is of substantially rectilinear form and is provided with fold lines 36, 37, 38, and 39 which divide the blank into top- and bottom-forming sections 40 and 41, separated by a side wall section 42. Extending from the left-hand edge of the top section 40, defined by the fold line 36, is a second side wall 43, and a cooperating glue flap extends from the right-hand edge of the bottom-forming section 41, the glue flap being cut away as shown to provide tabs 44 and 45 separated by a gap or space 46.

It will be apparent that when the blank shown in Fig. 3 is folded and glued it will form the usual open-ended outer shell or casing for receiving an inner container. The outer shell or casing 12 formed from the blank shown in Fig. 3, however, differs from the usual shell in that the double thickness wall, provided by securing the side wall 43 to the glue flap formed by the tabs 44 and 45, has a gap in the inner thickness thereof. Thus the space 46 between the tabs 44 and 45 will form a gap in the inner thickness of the wall, which gap is bounded by the opposed edges of the tabs 44 and 45, as shown best in Fig. 4.

In addition, the blank shown in Fig. 3 is formed to provide a removable tab 47 in the side wall 42, which removable tab is defined by opposed slits 48 and opposed lines of perforation 49. The folding and gluing operations, which may be performed by automatic machinery, consist merely

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of folding the bottom section 41 inwardly about the fold line 38 and in folding the side wall 43 inwardly about the fold line 36 so that the side wall 43 overlies the glue flap formed by the tabs 44 and 45, whereupon the sections 50 of the side wall 43 may be adhesively secured to the tabs 44 and 45. The shell or casing is thus in a flat condition for shipment in stacks or packages.

When the inner and outer parts of the container are received by the user, preferably in the flattened condition above described, the containers may be readily filled and assembled by first opening up the flattened container 13 by folding it along the score lines 17 and 20 so as to provide a tubular shell. One side of the container 13 may thereupon be closed by folding inwardly the tuck flaps 23 and 24 on that side, and then folding the side wall-forming section 26 about the fold line 28 and inserting the tuck flap 30 into the carton beneath the top wall 15. The container 13 may then be filled and the other side similarly closed, or if desired the other side may first be closed and the container filled through the dispensing aperture 33. The final closed and filled condition of the container is illustrated in Fig. 2.

The outer shell or casing 12 may then be opened up to the form shown in Fig. 4, and the inner container 13 may be slidably inserted thereto merely by depressing the flap 34 to a position in which it will move inwardly past the flap 44 or the flap 45, depending upon the end of the shell 12 from which the insertion is made. As soon as the flap 34, which at all times tends to spring outwardly from the side wall 26 of the inner container, passes beyond the end of the tab 44 or 45, it will spring outwardly into the gap 46 between these tabs 44 and 45 and thereafter will prevent slidable movement of the parts 12 and 13 beyond predetermined positions.

As shown in Fig. 5, when the inner container 13 is entirely nested within the outer shell or casing 12, the flap 34 engages one edge of the tab 45 which thus serves as a stop and prevents further movement of the inner container in the direction indicated by the arrow 51 in Fig. 5. The inner container, however, may be moved in a direction opposite to that indicated by the arrow 51 until the flap 34 engages the edge of the tab 44 which defines the opposite end of the gap 46. The carton is shown in this position in Fig. 8, wherein a portion of the inner container 13 projects outwardly from one end of the outer shell or casing 12, and it will be observed that the tab 44 serves as a stop and by engagement with the flap 34 limits further extension of the inner container.

So long as the removable tab 47 in the outer shell or casing 12 is in place, the carton remains closed regardless of the position of the inner container 13. When it is desired to remove a pill, capsule or tablet from the container, it is necessary only to tear out the tab 47 and move the inner container to the extended position shown in Figs. 7 and 8. As indicated in Fig. 7, the dispensing aperture 33 in the inner container will thus be aligned with the opening provided by the removal of the tab 47, and one or more pills or capsules may thus be poured out into the hand of the user through the aligned opening. Closure of the dispensing opening is effected merely by returning the inner container to the closed or nested position shown in Figs. 5 and 6, in which position the dispensing opening 33 will be closed by the side wall 42 of the outer

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shell 12, and the opening 47 in the side wall 42 of the outer shell will be closed by the side wall 25 of the inner container 13. If desired, the top wall 40 of the shell or casing may be provided with a suitable notch 52 so as to expose a portion of the upper wall of the inner container 13 when the parts are in the closed position shown in Figs. 5 and 6, and this exposed portion of the top wall of the inner container may be provided with suitable indicia, as shown, to indicate the direction in which the inner container should be moved from the closed position to the dispensing position.

It will now be apparent that the invention provides a container which may be readily manufactured by high-speed automatic machinery, which may be shipped in a flattened condition and readily assembled and filled, and which, after assembly and filling, will retain the contents against spilling while at the same time permitting ready dispensing of the contents upon proper manipulation of the container parts.

In Figs. 9, 10 and 11, another embodiment of the invention is shown comprising an outer shell or casing 60 which is in all respects similar to the outer shell or casing 12 of the previously described embodiment, and which has one side wall formed in part of a double thickness comprising an outer thickness 61 and inner tabs 62 and 63 spaced apart to provide a gap 64, as shown best in Fig. 9. The inner container or slidable drawer in this embodiment of the invention comprises a tray 65 which is formed by securing to the bottom sheet 66 a suitable frame 67 which may be cut from a thick sheet of paper board, or otherwise suitably formed. When the frame 67 is adhesively secured to one surface of the bottom sheet 66, in the manner shown in Fig. 11, an open top tray is provided for receiving tablets, pills or other articles, such for example as the pills 68 shown in Fig. 10, and in accordance with the present invention the bottom 66 is provided with an extending flap 69 which serves the same purpose as the flap 34 in the previously described embodiment.

As shown in Fig. 9, when the inner tray 65 and the outer shell 60 are assembled, the flap 69 will be disposed in the gap 64 defined by the tabs 62 and 63, so that the slidable movement between the two parts will be limited, the edges of the tabs 62 and 63 forming stops adapted to be engaged by the flap 69. The closed position of the carton comprising this embodiment of the invention is illustrated in Fig. 9, and an open or dispensing position of the assembled carton is illustrated in Fig. 10.

The embodiment of the invention illustrated in Fig. 12 is in all respects similar to the embodiments shown in Figs. 9, 10 and 11, except that one end wall of the inner container or tray is formed so as to have a greater width and is provided with a dispensing notch 70 so that, when the parts of the container are moved to the dispensing position shown in Fig. 12, the pills or other contents of the carton may be dispensed only one at a time. Similar reference numerals in Fig. 12 are employed to indicate like parts in the embodiment of Figs. 9, 10, and 11, and it is thought that no further description of this last embodiment of this invention is necessary except to point out that the relative positions and proportions of the tabs 62 and 63 and the flap 69 are such as to insure that the inner carton cannot be moved beyond the dispensing position shown in Fig. 12, in which position the inner

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edge of the end wall 71 lies within the outer shell and only the notch 70 is available for dispensing purposes.

While I have shown particular embodiments of my invention, it will be understood, of course, that I do not wish to be limited thereto since many modifications may be made, and I, therefore, contemplate by the appended claims to cover any such modifications as fall within the true spirit and scope of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A dispensing carton comprising an outer shell having at least one wall of double thickness, said wall having a portion of its thickness cut away intermediate the ends thereof to provide a gap in the inner surface thereof the opposite edges of which provide stops, an inner container slidable in said shell between a closed position and a dispensing position, and a flap on one side of said inner container normally tending to spring outwardly therefrom and disposed between said stops when said shell and container are assembled for engaging said stops to limit the slidable movement of said container between said positions.

2. A dispensing carton comprising an outer shell having at least one wall made up in part of a double layer of the material of which the carton is made, the inner layer being cut away intermediate the ends thereof to provide a gap bounded at each end by said inner layer so as to provide stops, an inner container slidable in said shell between a closed position and a partially open dispensing position and means on one side of said inner container extending into said gap when said shell and container are assembled to limit the sliding movement of said container between said positions.

3. A dispensing carton comprising an outer shell having at least one wall made up in part of a double layer of the material of which the carton is made, the inner layer being cut away intermediate the ends thereof to provide a gap bounded at each end by the portions of said inner layer so as to provide stops, an inner container slidable in said shell between a closed position and a partially open dispensing position, and a flap on one side of said inner container normally tending to spring outwardly therefrom and disposed between said stops when said shell and container are assembled for engaging said stops to limit the slidable movement of said container between said positions.

4. A dispensing carton comprising an outer cardboard shell folded and adhered so as to provide one side thereof with a double layer of cardboard except for a central portion wherein the inner layer is cut away to provide a gap, an inner cardboard container slidable in said shell and provided on one side with a flap normally tending to spring outwardly therefrom and disposed within said gap when the shell and container are assembled.

5. A dispensing carton comprising a cardboard shell and a cardboard container slidable therein, said shell having at least one wall composed in part of a double layer of cardboard, the inner layer being arranged in the form of two tabs adhesively secured to the interior surface of the outer layer, said tabs defining a space bounded by the edges of said tabs, said container being provided with a flap normally tending to spring outwardly therefrom and disposed within said space when the container and shell are assembled so as to engage the ends of said tabs which act

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as stops to limit the extent of movement of the container relative to the shell.

6. A dispensing carton comprising a cardboard shell and a container slidably disposed therein, said shell having at least one wall composed in part of a double layer of cardboard, the inner layer being arranged in the form of two tabs adhesively secured to the interior surface of the outer layer leaving a space bounded by but a single thickness of cardboard, said container being provided with a flap normally tending to spring outwardly therefrom and disposed within said space when the container and shell are assembled so as to engage the edges of said tabs which act as stops to limit the extent of movement of the container relative to the shell, both container and shell being provided with registrable openings to permit discharge of the contents of the container when the openings are in alignment.

7. A dispensing carton comprising a cardboard shell and a container slidable therein, said shell having at least one wall composed in part of a double layer of cardboard, the inner layer arranged in the form of two tabs adhesively secured to the interior surface of the outer layer leaving a space bounded at opposite ends by the edges of said tabs, said container being provided with a flap normally tending to spring outwardly therefrom and disposed within said space when the container and shell are assembled so as to engage the edges of said tabs to limit the extent of movement of the container relative to the shell, both container and shell being provided with registrable openings to permit discharge of the contents of the container when the openings are in alignment, and a tearable closure on said shell to close the opening therein until torn away for use.

8. A dispensing carton comprising a cardboard shell and a container slidable therein, said shell having at least one wall composed in part of a double layer of cardboard, the inner layer being arranged in the form of two tabs adhesively se-

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cured to the interior surface of the outer layer leaving a space bounded by said single thickness tabs, said container being provided with a flap normally tending to spring outwardly therefrom and disposed within said space when the container and shell are assembled, said flap being of less width than the length of said space so as to engage the edges of said tabs upon relative movement of said shell and container to provide stops to limit the extent of said movement, said inner container being in the form of a tray bounded by a heavy rim.

9. A dispensing carton comprising a cardboard shell and a therein slidable cardboard container, said shell having at least one wall composed in part of a double layer of cardboard, the inner layer being arranged in the form of two spaced apart tabs adhesively secured to the interior surface of the outer layer leaving a space bounded by said tabs, said container being provided with a flap normally tending to spring outwardly therefrom and disposed within said space when the container and shell are assembled so as to engage the ends of said tabs which act as stops to limit the extent of movement of the container relative to the shell, said container being in the form of a tray bounded by a rim having a thick wall at one end, said thick wall being cut away to provide a discharge opening when the container is moved to discharge position wherein said thick wall projects from said shell.

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