

[54] **PIVOTED CLOSURE CONDIMENT DISPENSER**

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[51] Int. Cl. **B67d 3/00**

[58] Field of Search 222/556, 565, 480, 485

[56] **References Cited**

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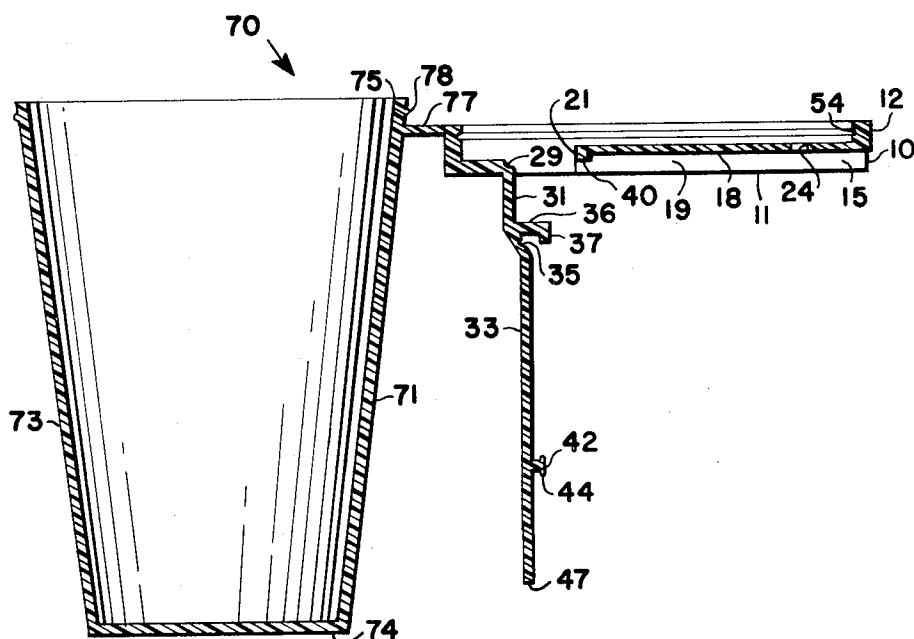
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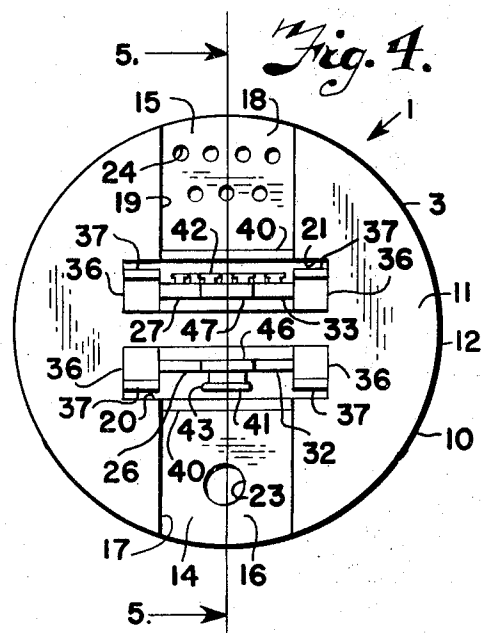
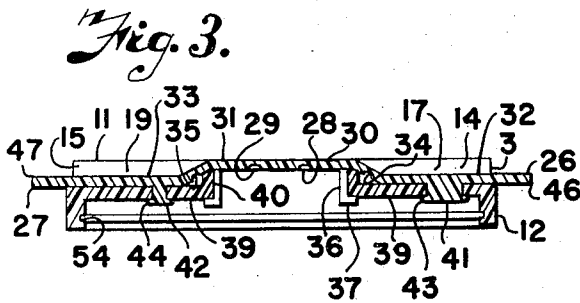
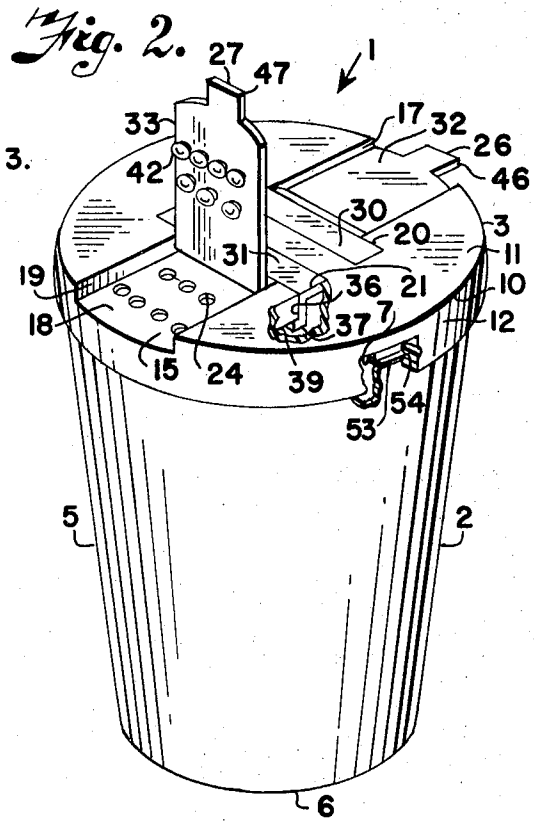
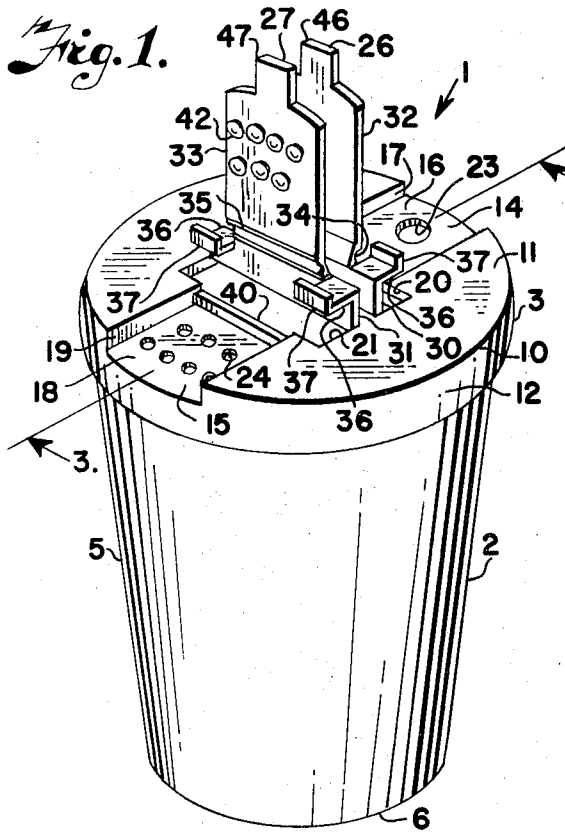
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[57] **ABSTRACT**

A dispensing container having a dispensing closure on the container with the dispensing closure having an integral and hingedly articulated closure member selectively movable between positions opening and closing a dispensing opening which communicates with the interior of the container. At least one projection extends from the closure member and is receivable in the dispensing opening when the closure member is in the closed position for closing the dispensing opening. The dispensing closure is one piece and adapted for manufacture by a molding process using a mold having two sections which move in opposed directions.

12 Claims, 9 Drawing Figures





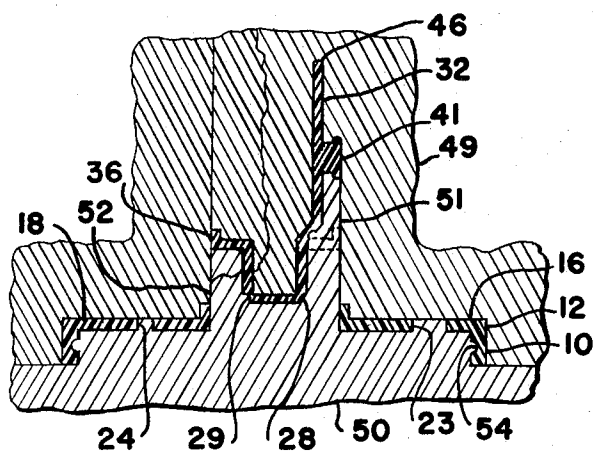


Fig. 5.

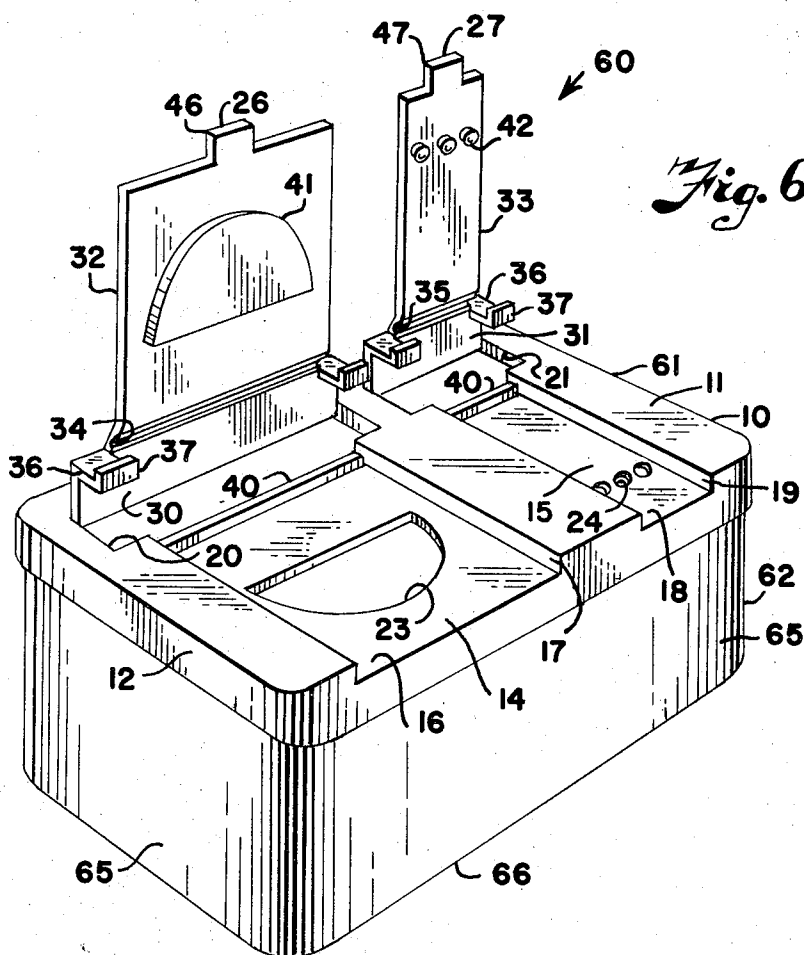
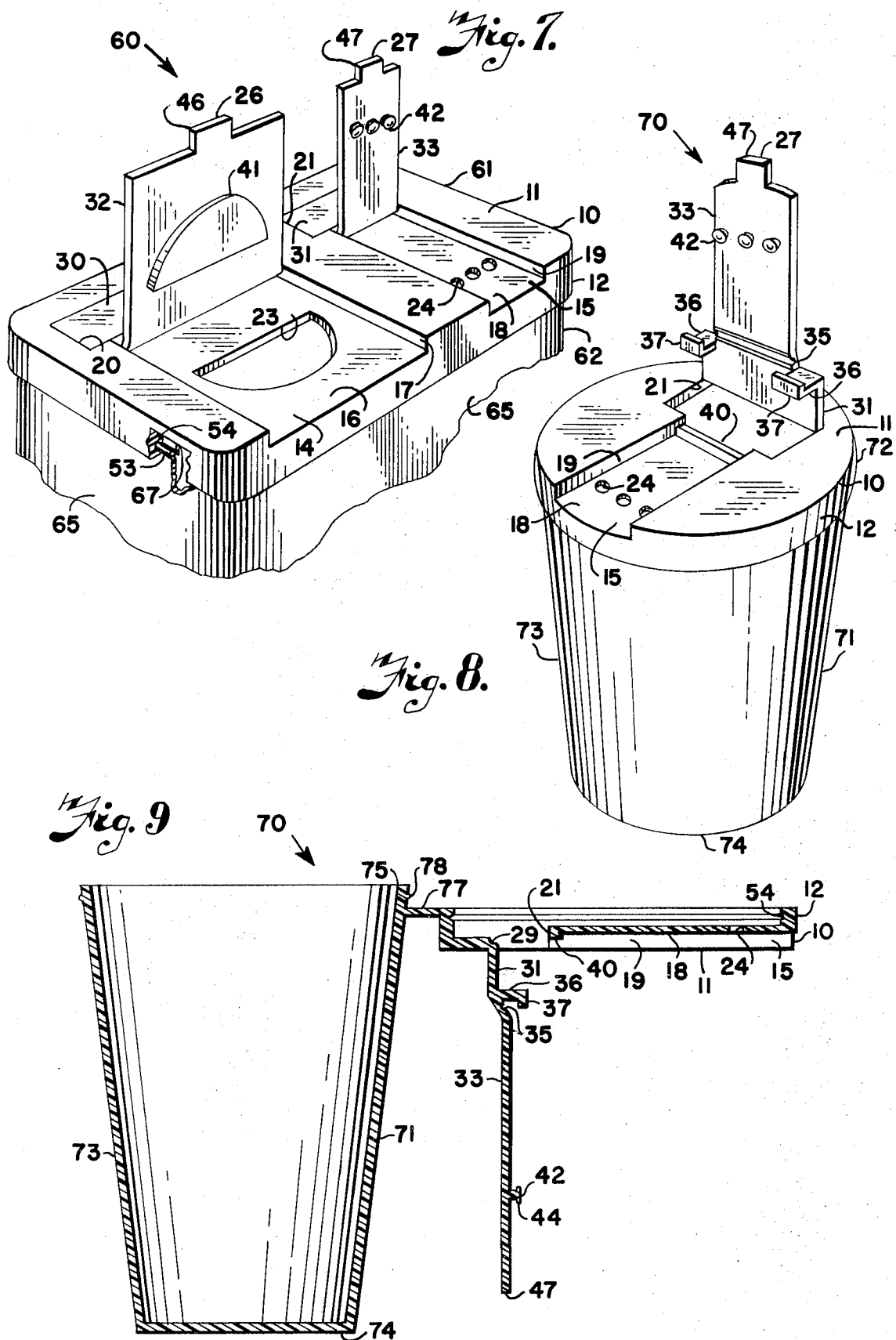


Fig. 6.



PIVOTED CLOSURE CONDIMENT DISPENSER

Closure members are well known in the art, however, certain disadvantages have been found in present closures, such as difficulty of manufacture requiring multiple piece molds, multiple direction separation of mold parts, difficulty of installation on a container, lack of adequate sealing around a dispensing opening resulting in undesirable material loss from the container, inadequate means to hold the closure member in closing relation to the dispensing opening, etc. Another disadvantage of present dispensing closures is that certain component parts must be manufactured separately thereby requiring secondary assembly steps to complete a dispensing closure.

The principle objects of the present invention are: to provide a dispensing container with a dispensing closure which overcomes the above mentioned difficulties; to provide such a dispensing closure with a closure member having a plurality of projections extending from and receivable in respective dispensing openings for closing same; to provide such a dispensing closure that is of one piece construction and adapted for molding in a two-piece mold with the two pieces separable in a straight line in opposite directions; to provide such a dispensing closure which is adapted to be mounted on various containers and also adapted to be molded as part of a container; to provide such a dispensing closure that is a separate attachment adapted to be secured to a container wherein the dispensing closure will serve as a container closure and as a dispensing opening; to provide such a dispensing closure which is adapted for use on containers such as condiment containers with the dispensing closure being adapted for both pouring and sprinkling of the contents of the container; and to provide such a dispensing closure that is simple and economical to manufacture, easy to use, compact in construction and well adapted for its intended use.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example, certain embodiments of the present invention.

FIG. 1 is a perspective view of a dispensing container having a dispensing closure thereon with closure members thereon shown in the position in which they are molded.

FIG. 2 is a perspective view of the dispensing container with one of the closure members in a partially closed position closing mold access apertures through the dispensing closure.

FIG. 3 is a fragmentary sectional view of the dispensing container taken along the line 3—3, FIG. 1 with the closure members shown in the closed position for closing the mold access apertures and dispensing openings.

FIG. 4 is a plan view of the dispensing closure with the closure members in an open as molded position.

FIG. 5 is a sectional view of the dispensing closure taken along the line 5—5, FIG. 4 disposed in the forming mold with portions broken away to show one of the sealing portions.

FIG. 6 is a perspective view of a modified form of dispensing container with a dispensing closure thereon having closure members in an open as molded position.

FIG. 7 is a perspective view of the modified form of dispensing closure with the closure members partially closed and closing mold access apertures through the dispensing closure and having portions broken away to show structural details thereof.

FIG. 8 is a perspective view of a second modified form of a dispensing container having an integral dispensing closure thereon and having a closure member shown in an upright position.

FIG. 9 is a sectional view of the second modified form of dispensing closure with the dispensing closure having a closure member shown in an open as molded position.

Referring more in detail to the drawings:

As required, detailed embodiments of the present invention are disclosed herein. However, it is to be understood that the disclosed embodiments are merely exemplary of the invention which may be embodied in various forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriate detailed structure.

The reference numeral 1 designates generally a dispensing container comprised of a hollow container body 2 and a dispensing closure 3 with the dispensing closure 3 adapted to be molded from a synthetic plastic resin in a single two section mold wherein the two sections move in opposed directions for release of the closure 3 after molding. The closure 3 may be a separate member mounted on a container to close same or a part of the container molded integrally therewith. The closure 3 is adapted for molding as a unitary structure with the component parts thereof being integral and is so constructed that access is provided therethrough for portions of a mold to extent to facilitate the molding and after molding the access is sealed or closed by portions of the closure 3 for use of the container 1 with minimum or no leakage. The dispensing container 1 is particularly adapted for use in storing and dispensing condiments and the like. The container body 2 can be of any suitable shape and is illustrated as cylindrical and having a cylindrical side wall 5 and a bottom wall 6 with the side wall 5 having a top opening defined by an upper disposed edge 7 thereof.

In the structure illustrated in FIG. 1 through FIG. 5 inclusive, the closure 3 is a separate part and is of one piece construction with the component parts thereof being integral. The closure 3 includes a base member 10 which preferably includes a wall member 11 that is substantially flat except for a downwardly extending peripheral skirt 12. The wall member 11 has at least one aperture and one dispensing opening therethrough and closure means hingedly and integrally connected to the wall 11 for selectively closing the aperture and dispensing opening.

In the illustrated structure, the wall 11 has recessed areas 14 and 15 with the recessed area 14 being defined by a bottom surface 16 and side edges 17 and the recessed area 15 is defined by a bottom surface 18 and a pair of opposed side edges 19. Preferably two apertures 20 and 21 extend through the wall 11 adjacent respective recessed areas 14 and 15 with the respective recessed areas opening thereinto. Each of the recessed areas 14 and 15 preferably has a width less than the width of the respective apertures 20 and 21 and is pro-

vided with at least one dispensing opening and as illustrated, the recessed area 14 has a dispensing opening 23 and the recessed area 15 has a plurality of spaced apart dispensing openings 24. It is to be understood that although the dispensing openings 23 and 24 are illustrated as round they can be of any suitable shape or size.

The closure 3 is provided with a pair of closure members 26 and 27 integral with and sealingly and hingedly connected to the wall member 11 and as best seen in FIG. 1 the closure members 26 and 27 are upstanding as in the position in which they are molded. The closure members 26 and 27 each have a hinge 28 and 29 respectively connecting them to the wall 11 as at an edge of the respective apertures 20 and 21. Preferably the hinges 28 and 29 are reduced thickness sections which are referred to as a living hinge. Preferably the closures 26 and 27 are each comprised of two portions and are similar in construction and operation. The closure members 26 and 27 each have a first portion 30 and 31 respectively wherein the hinges 28 and 29 hingedly and sealingly connect the first portions 30 and 31 to the wall 11. Second portions 32 and 33 are hingedly and preferably sealingly connected to the first portions 30 and 31 by hinges 34 and 35 respectively which are illustrated as reduced thickness sections.

The first portions 30 and 31 are preferably sized and shaped to be received in the respective apertures 20 and 21 for closing same and have respective edges defining each which are in engagement when the first portions are in closing relation to the apertures for forming a seal therebetween. The hinges 28 and 29 permit hinging movement of the first portions into the respective apertures 20 and 21 and means are provided for retaining the first portions in closing relation to the respective apertures. As illustrated, each of the first portions 30 and 31 are provided with a pair of locking members 36 integral with and extending from an inner-disposed surface of the respective first portions 30 and 31 with each of the lock members 36 having a flange 37 extending therefrom and spaced from the respective first portion wherein the flanges 37 engage an inner-disposed surface 39 of the wall member 11 when the first portions are in closing relation to the respective apertures 20 and 21 for retaining same in the closed position for non-release thereof. After manufacture of the closure 3 and installing same on the container body 2 the first portions 30 and 31 are closed and are not reopened. Preferably the flanges 37 are positioned to extend generally away from the respective hinges 28 and 29 toward the respective recesses 14 and 15. A seal member or rib 40 is positioned in each of the recesses 14 and 15 wherein each rib 40 extends between the respective pair of side edges 17 and the pair of side edges 19 adjacent to the respective apertures 20 and 21. When the first portions 30 and 31 are in the closed position, the seal members 40 engage inner disposed surfaces thereof and provide a seal therebetween preventing leakage of material from the dispensing container 1. It is to be noted that other types of sealing for the apertures 20 and 21 can also be provided. It is preferred that the outer disposed surfaces of the wall 11 and the first portions 30 and 31 be flush or below flush when same are in the closed position.

Preferably the second portions 32 and 33 have a width less than the width of the first portions 30 and 31 with the second portions 32 and 33 being receivable in

respective recesses 14 and 15 to overlie and close the dispensing openings 23 and 24. Having the second portions 32 and 33 with a width less than the width of the respective first portions 30 and 31 permits the lock members 36 to engage the surface 39 on opposite sides of the respective recesses 14 and 15 and the reduced width also makes molding of the closure members 26 and 27 and lock members 36 as they are illustrated possible. As illustrated, the second portions 32 and 33 are movable hingedly about the respective hinges 34 and 35 without movement of the first portions 30 and 31 from their closed position, from a position closing the dispensing openings 23 and 24 to a position wherein the dispensing openings are open for dispensing. The independent movement of the second portions 32 and 33 relative to the first portions 30 and 31 permits opening of the dispensing openings for use while maintaining the apertures 20 and 21 closed. Preferably, the outer disposed surfaces of the second portions 32 and 33 are flush to below flush with the outer disposed surface of the wall 11 when same are in the closed position. As shown, the outer disposed surfaces of the first portions 30 and 31 and the outer disposed surfaces of the respective second portions 32 and 33 are in different planes with the respective hinges 34 and 35 being inclined relative thereto but it is to be understood that the outer disposed surfaces can be coplanar. The arrangement in different planes facilitates molding of the hinges 34 and 35 and release of the closure 3 from the mold after molding.

Each of the second portions 32 and 33 are provided with protuberances 41 and 42 respectively with each of the protuberances being sized to fit snugly within the respective dispensing openings 23 and 24 providing good sealing closure therefor with the protuberances preferably being generally normal to the inner disposed surface of the respective second portions. Preferably, cooperatively interengaging means are provided to releasably secure or retain the second portions 32 and 33 in closing relation to the respective dispensing openings 23 and 24. Any suitable means can be provided such as frictional engagement between the protuberances 41 and 42 and the edges defining the respective dispensing openings 23 and 24 but it is preferred that the protuberances 41 and 42 each have an enlarged portion 43 and 44 respectively adjacent the free end thereof spaced from the inner disposed surfaces of the second portions 32 and 33 with each having a size slightly larger than the size of the respective dispensing opening 23 and 24 and insertable therethrough providing resistance to opening movement of the closure member 32 and 33 until a predetermined opening force is applied thereto. Preferably, each of the closure members 26 and 27 are provided with hand engaging tabs or portions 46 and 47 respectively facilitating grasping by the user to move the second portions 32 and 33 to their open positions.

The present invention is particularly advantageous in that the openings 20 and 21 provide access for portions of the mold used in molding the closure 3 to extend therethrough to permit the molding of the protuberances 41 and 42 on the second portions 32 and 33 to provide the improved sealing of the dispensing openings 23 and 24. It is to be noted that multiple rows of protuberances are provided with the protuberances being staggered from row to row to facilitate molding. The capability of molding the dispensing closure 3 in a

simple two-section injection mold is a particularly advantageous aspect of the present invention. The closure members 26 and 27 are molded in an upstanding position substantially as illustrated in FIG. 1 and the entire dispensing closure 3 can be molded in an injection type mold having two sections 49 and 50 which move in opposite or opposed vertical directions as viewed in FIG. 1, to release the closure 3, without requiring the use of expensive and complicated tooling using sliding cores. The section 50 is the male half of the mold and has upstanding punches 51 and 52 which extend into the female half 49 of the mold and through the apertures 20 and 21 for molding the protuberances 41 and 42.

The closure member 3 can be secured to the container body 2 in any suitable manner and as illustrated, the end of the container body 2 adjacent to the top edge 7 is received within the skirt 12 and is suitably secured therein such as by the side wall 5 having a rib or protuberance 53 therearound with the rib 53 receivable within a groove 54 in the skirt 12 and cooperatively interengaging therewith to secure the closure member 3 to the container body 2. It is to be noted that the dispensing container can be easily refilled by removing the closure 3 from the body 2.

In operation, after molding the closure 3 is installed on the container body 2 with the container 1 being filled before or after installing the closure 3. The apertures 20 and 21 are closed by moving the first portions 30 and 31 to their closed positions for non release thereof. The second portions 32 and 33 are then moved to their closed positions to overlie and close the dispensing openings 23 and 24. When it is desired to dispense the contents of the container 1 one or the other of the second portions 32 or 33 is moved to the open position depending on the type of discharge desired, the dispensing openings 24 being adapted for sprinkling and the dispensing opening 23 being adapted for pouring. After dispensing, the open dispensing openings are reclosed by moving the respective second portion to its closed position.

FIGS. 6 and 7 illustrate a modified form of the present invention which is similar in construction and operation to the form shown in FIGS. 1 thru 5 inclusive with like numbers representing like or similar parts or structure. The reference numeral 60 designates generally a dispensing container comprised of a closure member 61 on a container body 62 with the closure member 61 preferably being adapted to be molded from a synthetic plastic resin in a two section mold wherein the two sections move in opposed directions for release of the closure 61. The major difference between the closure 61 and the closure 3 is the shape of container on which it will fit and the relative position of the dispensing openings and their shape.

In the structure illustrated the container body 62 is generally rectangular having side walls 65 and a bottom wall 66 with the side walls 65 having a top opening defined by an upper disposed edge 67 thereof. Both the container body 62 and the closure member 61 are shown as being generally rectangularly shaped. The container body 62 can be of any suitable material such as metal or plastic and is of generally standard construction. The closure 61 differs from the closure 3 by having the closure members 26 and 27 apertures 20 and 21 and dispensing openings 23 and 24 in side by side relation instead of back to back relation. It is to be noted that the dispensing opening 23 in the modified

form is semicircular shaped and is adapted for receiving a spoon therethrough for spooning out the contents of the container 60. The protuberance 41 is sized and shaped correspondingly to the dispensing opening 23 for closing same. Preferably the closure 61 and the container body 62 are separate and the closure 61 is of one piece construction with the component parts thereof being integral.

As described above for the form of the invention illustrated in FIG. 1 thru 5 inclusive the closure 61 is adapted to be molded in one piece with the component parts thereof integral wherein the apertures 20 and 21 provide access for portions of the mold to extend through the wall 11 to mold the protuberances 41 and 42 and other portions of the closure members 26 and 27. The ability to mold the protuberances is advantageous in that the protuberances provide good sealing for the dispensing openings 23 and 24.

FIGS. 8 and 9 illustrate a second modified form of the present invention wherein the reference numeral 70 designates generally a dispensing container comprised of a container body 71 having a dispensing closure member 72 with the dispensing closure 72 and the container body 71 being adapted to be molded from a synthetic plastic resin in a single two section mold wherein the two sections move in opposed directions for the release of the closure 72 and the container body 71. In the form shown in FIGS. 8 and 9 the container body 71 and closure member 72 are adapted to be molded as an integral one piece structure. The closure 72 is similar in operation and construction to the closure 3 wherein like numbers designate like or similar parts or structure. The major difference between the closure 72 and the closure 3 is that the closure 72 and the container body 71 are integral and the closure 72 has one closure member which is illustrated as closure 27 with its respective aperture 21 and dispensing openings 24.

The container body 71 may be of any suitable shape and as illustrated is cylindrical having a cylindrical side wall 73 and a bottom wall 74 with the side wall 73 having a top opening defined by an upper disposed edge 75 thereof. The closure 72 is suitably connected to the container body 71 by suitable means such as a hinge member 77 which is integral with and extends between the container body 71 and the closure 72.

The dispensing container 70 is adapted to be molded in one piece preferably in a position as is best seen in FIG. 9. To make the dispensing container 70 operable for use after molding, the closure 72 is hingedly moved about the hinge 77 and the upper edge 75 of the container body is snugly received within the skirt 12 with the container body having a rib 78 thereon receivable within the groove 54 cooperatively interengaging therewith to secure the closure 72 in closing relation to the top opening of the container body 71.

It is to be understood that while I have illustrated and described certain forms of my invention it is not to be limited to the specific form or arrangement of parts herein described and shown.

What I claim and desire to secure by Letters Patent is:

1. A dispensing container comprising:
 - a. a plurality of wall members forming a hollow container body, one of said wall members having a dispensing opening and an aperture therethrough,

said dispensing opening being spaced from said aperture;

- b. a closure member integral with said one wall member and being molded in an upstanding position relative to said one wall member with said aperture providing access space for mold portions to extend through said one wall member during manufacture, said closure member having first and second portions with said first portion being hingedly and sealingly connected to an edge defining said aperture by a first hinge integral with said one wall member and said first portion, said second portion being hingedly connected to said first portion by a second hinge integral with said first and second portions, said first portion being movable about said first hinge from the upstanding position to a position closing said aperture, said second portion being movable independently of said first portion about said second hinge between positions opening and closing said dispensing opening;
 - c. first means cooperating with said first portion and said one wall member normally retaining said first portion in closing relation to said aperture; and
 - d. a protuberance on said second portion and projecting from a surface thereof, said surface overlying said dispensing opening when said second portion is in closing relation thereto and said protuberance being sized and shaped to fit snugly in said dispensing opening for selectively closing same.
2. A dispensing container in claim 1 including:
 - a. second means cooperating with said one wall member and said second portion for releasably retaining said second portion in closing relation to said dispensing opening.
 3. A dispensing container in claim 2 wherein:
 - a. said one wall member having a recessed area adjacent said aperture and having said dispensing opening therethrough, said recessed area receiving said second portion therein wherein an outer disposed surface of said second portion is substantially flush to below flush with an outer disposed surface of said one wall member when said second portion is in the closed position; and
 - b. said first portion being sized and shaped to fit in said aperture and having certain edge portions sealingly engaging certain edges defining said aperture for sealingly closing same when said first portion is in closing relation to said aperture, said first portion having an outer disposed surface substantially flush to below flush with the outer disposed surface of said one wall member when said first portion is in closing relation to said aperture.
 4. A dispensing container in claim 3 including:
 - a. seal means positioned in said recessed area adjacent said aperture and extending substantially the width thereof said seal means sealingly engaging a portion of said first portion adjacent the hinged connection between said first and second portions when said first portion is in closing relation to said aperture.
 5. A dispensing container in claim 4 wherein:
 - a. said first means includes at least one member integral with and extending from an inner disposed surface of said first portion with said member having a flange extending therefrom and engaging an inner disposed surface of said one wall member retaining

said first portion in closing relation to said aperture.

6. A dispensing container in claim 2 wherein:
 - a. at least one of the remaining said wall members having an edge defining a top opening for said container body; and
 - b. said one wall member being separate from the remaining wall members and having means thereon cooperating with said one of said remaining wall members for securing said one wall member in overlying and closing relation to said top opening.
7. A dispensing container in claim 2 wherein:
 - a. said protuberance having a free end spaced from said second portion surface and said protuberance being generally normal thereto; and
 - b. said second means including an enlarged end portion on said free end and spaced from said second portion surface, said enlarged end portion having a size slightly larger than said dispensing opening and receivable therethrough providing resistance to opening movement of said second portion until a predetermined opening force is applied.
8. A dispensing container in claim 2 wherein:
 - a. said one wall member, said closure member, said first means, said protuberance and said second means being integral and molded from a synthetic plastic resin; and
 - b. said first and second hinges being reduced thickness areas of material.
9. A dispensing container in claim 2 including:
 - a. a hinge integral with said one wall member and said container body connecting same wherein said container body and said one wall member are molded as a unitary structure with said container body having a top opening, said container body and said one wall member have cooperatively interengaging means for securing said one wall member in closing relation to said top opening.
10. A dispensing container in claim 2 wherein:
 - a. said one wall member having a pair of said apertures with each said aperture having a respective said closure member with each closure member having a said first portion hingedly and sealingly connected to an edge defining a respective said aperture; and
 - b. said dispensing opening being a plurality with one of said dispensing openings having one of said closure member second portion in opening and closing relation thereto, the remaining dispensing openings being a plurality and having the other of said closure members second portion in closing and opening relation thereto.
11. A dispensing container in claim 3 wherein:
 - a. said second portion being in a different plane than said first portion with the outer disposed surface of said first portion being substantially flush with the outer disposed surface of said one wall member when said first portion is in closing relation to said aperture and the outer disposed surface of the second portion being below flush with the outer disposed surface of said one wall member when said second portion is in the closed position; and
 - b. said second portion having a width less than the width of said first portion and said recessed area having a width less than the width of said aperture.

12. A dispensing closure for use with a container having a wall provided with an opening, said dispensing closure comprising:

- a. a base member having a wall with a dispensing opening and an aperture therethrough, said dispensing opening being spaced from said aperture;
- b. a closure member integral with said wall and being molded in an upstanding position relative to said wall with said aperture providing access space for mold portions to extend through said wall during manufacture, said closure member having first and second portions with said first portion being hingedly and sealingly connected to an edge defining said aperture by a first hinge integral with said wall and said first portion, said second portion being hingedly connected to said first portion by a second hinge integral with said first and second portions, said first portion being movable about

- said first hinge from the upstanding position to a position closing said aperture, said second portion being movable independently of said first portion about said second hinge between positions opening and closing said dispensing opening;
- c. first means of said base member for securing said base member to a container body;
- d. second means cooperating with said first portion and said one wall member normally retaining said first portion in closing relation to said aperture; and
- e. a protuberance on said second portion and projecting from a surface thereof, said surface overlying said dispensing opening when said second portion is in closing relation thereto, said protuberance being sized and shaped to fit in said dispensing opening for selectively closing same.

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