March 21, 1961 D. D. MICHEL 2,975,944

FOAM VALVE ASSEMBLY

Filed June 4, 1958

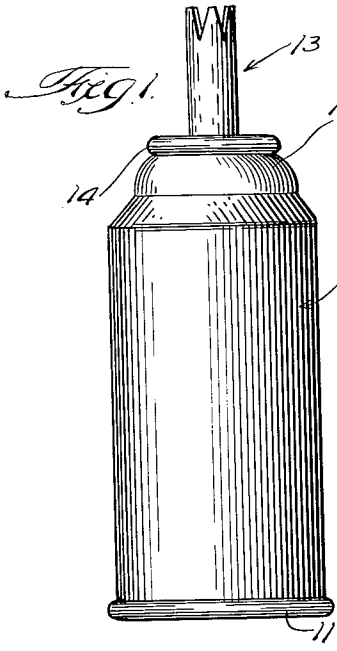


Fig. 1.

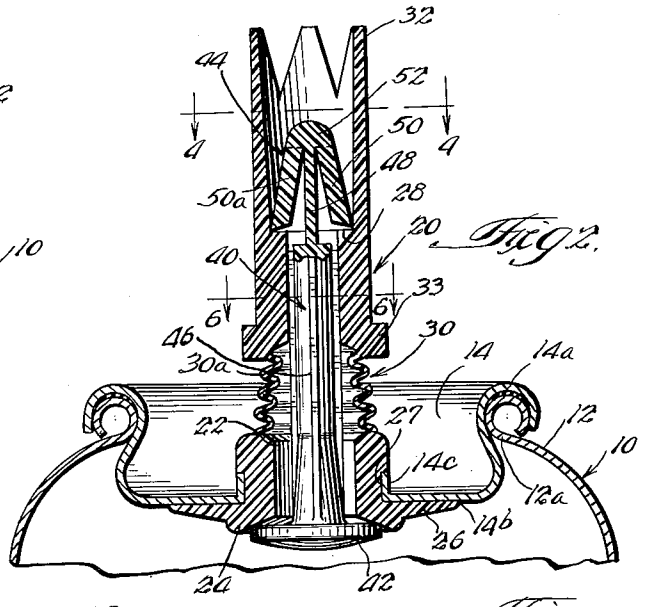


Fig. 2.

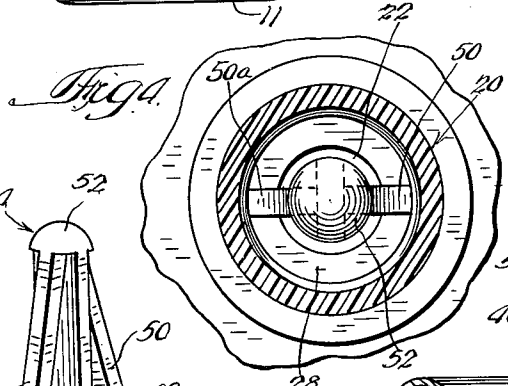


Fig. 4.

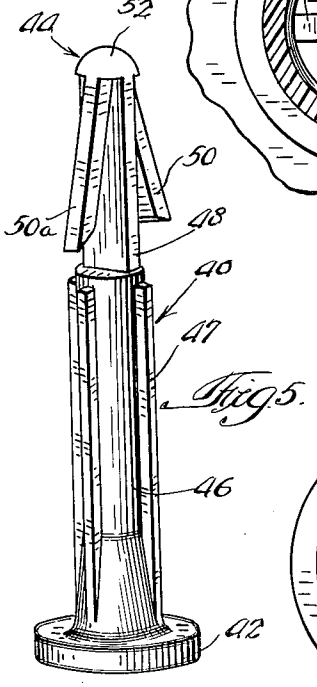


Fig. 5.

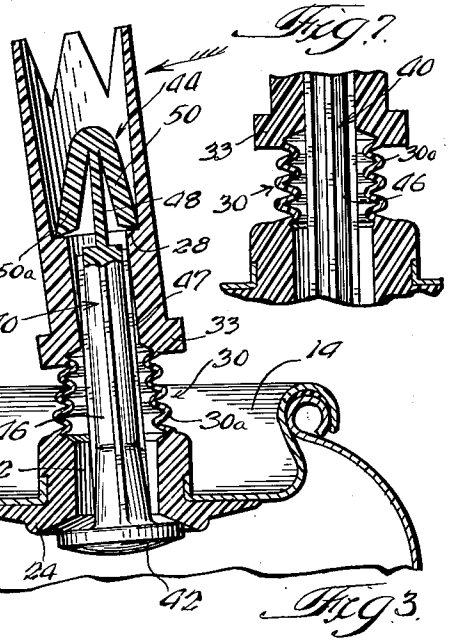


Fig. 3.

Fig. 7.

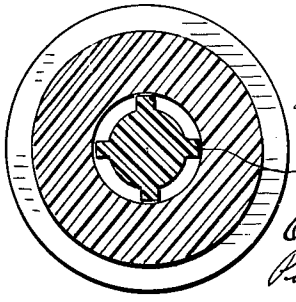


Fig. 6.

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United States Patent Office 2,975,944 Patented Mar. 21, 1961

2,975,944

FOAM VALVE ASSEMBLY

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Filed June 4, 1958, Ser. No. 739,738

9 Claims. (Cl. 222—394)

This invention relates to a valve assembly and more particularly to an improved valve for dispensing fluent materials from a pressurized container.

The valve assembly of this invention is particularly useful in connection with portable containers, common for dispensing such fluent materials as whipped cream, shaving cream, and lotions. The valve assembly is adapted to dispense such materials in a richly foamed condition. It will be understood, however, that this invention is not limited to any specific type of container or to any particular fluent material.

Heretofore many of the valves which have been used for dispensing fluent materials from portable pressurized containers have either employed a considerable number of parts or have required difficult and expensive assembly techniques. In most instances the valve and container are not re-used after the fluent materials have been exhausted. To enable the valve to be thus disposable with the container it is most desirable from the standpoint of economy that the manufacturing costs of the valve parts be minimized and the valve assembly techniques simplified without detracting from the dispensing and sealing qualities of the valve.

It is one object of this invention to provide a simplified and improved valve which will permit the dispensing of fluent materials from an associated container.

It is another object of this invention to provide an effective gas-sealing valve for use with a portable pressurized container, which valve may be conveniently actuated to dispense fluent materials from said container.

It is another object of this invention to provide a reliable yet simplified and inexpensive valve which may be easily and conveniently actuated by radial pressure to dispense fluent materials from an associated container in a foamed or aerated condition.

It is still another object of this invention to provide a simplified valve assembly having a minimum number of parts and which parts may be easily and inexpensively manufactured in large quantities.

It is still a further object of this invention to provide a simplified two-piece valve for use with a pressurized container, which valve may be quickly and easily assembled.

It is still a further object of this invention to provide a simplified inexpensive, easily assembled dispensing valve for use in conjunction with a portable pressurized container, which valve will facilitate the pressurizing of the container.

Other objects will be seen and a further understanding of the invention may be gained by referring to the following description and claims taken in conjunction with the accompanying drawing.

In accordance with one embodiment of this invention, a valve assembly is provided for use with a container having a base and an oppositely disposed open end. An apertured mounting cup is employed for mounting the valve assembly in the open end of the container, the peripheral portions of this cup sealingly engaging the container adjacent the open end.

The valve assembly includes an elongate, apertured adjutage or efflux tube which is sealingly disposed within the aperture of the mounting cup. The adjutage comprises a valve seat portion, a shoulder disposed within the aperture, a resilient tensioning portion intermediate the valve seat and shoulder portions, and a decorator's tip or nozzle portion. The tensioning portion of the adjutage is preferably longitudinally undulated and of substantially reduced uniform wall thickness as compared to the other portions of the adjutage.

Coacting and cooperating with the adjutage is a plug member. This plug member includes an obturator portion, a hook portion, and an intermediate elongate body portion. The hook and body portions of the plug member are disposed within the aperture of the adjutage and are of smaller transverse dimensions thereby defining a circumjacent passageway through the adjutage. The obturator portion of the plug member is disposed transversely with respect to the body portion thereof and is adapted to sealingly engage the valve seat thereby preventing fluid flow through the aperture in the adjutage.

The hook portion of the plug member includes a thin, outwardly extending post and at least one, and preferably two, elongate fingers integral with the post and extending inwardly and transversely from adjacent the outer end thereof to latchingly engage the shoulder within the aperture of the adjutage.

One of the features of this invention is the design of the adjutage particularly in the tensioning portion. This portion serves a dual function. It constantly urges the plug member outwardly toward the valve-closing position. Also because of its shape and relative thinness it substantially prevents any resilient deformation from occurring in other than this portion and it thus permits more accurate nozzle guidance of the discharging of foamed materials. The tensioning portion is also preferably tapered which facilitates the manufacture of the adjutage and the assembly of the valve.

For a more complete understanding of this invention, reference is now made to the drawings wherein:

Fig. 1 is an elevational view of a container in which the dispensing valve assembly of this invention is incorporated;

Fig. 2 is an enlarged sectional elevational view of the container and a valve assembly constructed in accordance with one embodiment of this invention;

Fig. 3 is a sectional elevational view of the valve assembly of Fig. 2 in position for discharge;

Fig. 4 is a sectional top plan view of the valve assembly taken substantially along line 4—4 of Fig. 2;

Fig. 5 is an enlarged perspective view of the plug member;

Fig. 6 is a sectional top view of the valve assembly taken substantially along line 6—6 of Fig. 2; and

Fig. 7 is a sectional view showing a modified tensioning portion of the adjutage.

With further reference to the drawing and more particularly to Figs. 1 and 2, a container **10** is shown which includes a base **11** and an oppositely disposed open end **12**. Disposed within the open end of container **10** is a mounting cup **14**. This mounting cup is centrally apertured and the peripheral portions **14***a* extend upwardly from the innermost portion **14***b* and are curved over and downwardly around the peripheral bead **12***a* circumjacent the open end of the container. The portion of the mounting cup intermediate the innermost portion **14***b* and the peripheral flange portion **14***a* is spun under the beaded open end of the container thereby locking the mounting cup in place. The inner aperture-defining portions of the mounting cup are upturned to provide an annular flange **14***c*.

The valve assembly used in conjunction with the open-end container and the apertured mounting cup is preferably of two-piece construction. The first piece is an adjutage or efflux tube **20**, and the second piece is pin or plug member **40**.

Adjutage **20** is preferably constructed of a resilient plastic material such as polyethylene. Centrally disposed and extending axially from one end of the adjutage to the other is aperture **22**. At one end of adjutage **20** circumjacent aperture **22** is integral valve seat portion **24**. Extending radially outward from and surrounding valve seat portion **24** is peripheral flange **26**. This flange is integral with the valve seat portion and sealingly abuts innermost portion **14***b* of the mounting cup. Outwardly (upwardly in the drawing) from the flange and valve seat on the exterior of the adjutage is an annular groove **27**. This groove is adapted to receive and sealingly engage the upturned aperture-defining flange **14***c* of the mounting cup. Thus the adjutage is held erect in the mounting cup.

Spaced from the valve seat portion **24** within aperture **22** is an annular shoulder or engaging formation **28**. This shoulder has a transversely extending wall or surface, the function of which will be hereinafter further described.

In the illustrated embodiment shoulder **28** is formed by the abrupt enlargement of aperture **22** at and above this point. It will be understood that this shoulder may be formed in a number of other ways such as by an aperture-narrowing annular flange.

Intermediate valve seat portion **24** and shoulder **28**, and above groove **27**, is a resilient tensioning portion **30**. This portion is of substantially reduced and preferably uniform wall thickness. It is also preferred that this portion be longitudinally undulated such that it resembles a bellows, that is, it has a plurality of regularly and longitudinally spaced annular peripheral pleats **30***a*. This design renders this portion of the adjutage resiliently yieldable and springy. By comparison, all other portions of the adjutage intermediate valve seat portion **24** and shoulder **28** are rigid, that is, very little if any, resilient deformation will occur in these other portions of the adjutage during the movement thereof to the discharge position as shown in Fig. 3.

Tensioning portion **30** does, however, have sufficient wall thickness and rigidity to maintain the adjutage **30** erect in its normal position, as illustrated in Fig. 2, unless and until it is moved to the discharge position of Fig. 3 as by radial finger-applied force. The resilient deformation during this actuation or discharge movement will be substantially restricted to the tensioning portion **30** of the adjutage.

It will be noted that in Figs. 2 and 3 the tensioning portion **30** is tapered such that it is substantially frusto-conical with the basal portion disposed inwardly (downwardly in the drawing). Thus progressing outwardly each succeeding annular pleat **30***a* is of smaller periphery than the preceding pleats. This design serves a number of very important purposes. One important purpose is that of facilitating the manufacture of the adjutage. In order to form pleats **30***a* an inner die and an outer die are used. After the molding operation the inner die must of course be removed and it is here that the taper feature of portion **30** is very advantageous. This taper permits the inner die to be removed without danger of damage to the thin wall of portion **30**. If a cylindrical design is employed for portion **30** such as illustrated in Fig. 7 then much greater care must be taken in removing the inner die after the molding operation.

The rigidity of the adjustage above tensioning portion **30** is desirable because the plug member **40** is manipulated thereby to open the valve as will be seen. Also rigidity in this portion of the adjutage permits the materials flowing therefrom to be predictably directed or aimed. A "decorator's" tip may be provided at the outermost end **32** of the adjutage. This tip, as is well known to those skilled in the art, is grooved and substantially crown-shaped giving a fluffy decorative appearance to the foamed materials flowing therefrom. A transversely extending formation such as annular flange **33** may be provided on the exterior of the adjutage intermediate tensioning portion **30** and end **32**. This flange facilitates both the assembly and actuation of the valve as well as the gassing of the container.

It may be seen that the aperture **22** of the adjutage varies in diameter throughout its length. For reasons which will become apparent this aperture is somewhat enlarged intermediate valve seat portion **24** and tensioning portion **30**. Between portion **30** and shoulder **28** the aperture is restricted and as previously pointed out shoulder **28** is actually formed by the enlargement of the diameter of the aperture at that point.

Coacting with adjutage **20** is pin or plug member **40**. This member is preferably although not necessarily formed of a plastic material having greater rigidity and stiffness than that of the adjutage and includes an obturator or head portion **42**, a hook portion **44**, and an intermediate body portion **46**. As may be seen from Figs. 2 and 3, hook and body portions **44** and **46** of the plug member are disposed within aperture **22** of the adjutage.

The obturator **42** is in the form of a flat transversely extending annular button and is adapted to engage and sealingly mate with the valve seat portion **24** of the adjutage. Body portion **46** is elongate, i.e., is of sufficient length to insure that a substantial portion thereof will extend outwardly from (above) tensioning portion **30** in all positions of actuation and closure. As may be seen from the drawings body portion **46** is cylindriform and it is preferred that the diameter thereof be increased adjacent obturator **42**. The frusto-conical shape and the increased diameter at this point tend to increase the rigidity of the body portion and strengthen the joint. For increased rigidity of the body portion **46** elongate protuberant ribs **47** may be molded integrally with body portion as shown in Figs. 2, 3, 5 and 6.

The hook portion **44** of the plug member which is disposed at the opposite end of body **46** from obturator **42** is adapted to engage the shoulder **28** within the adjutage. This hook portion preferably includes an elongate outwardly extending post **48** and two resilient elongate shoulder-engaging fingers **50** and **50***a*. Post **48** is comparatively thin with respect to body portion **46** and has a smoothly rounded crown **52** at its outermost end. Fingers **50** and **50***a* are integral with post **48** and extend inwardly (downwardly in the drawings) and transversely from crown **52**. The ends of fingers **50** and **50***a* extend transversely in opposite directions to engage the shoulder **28**. The distance between valve seat **24** and shoulder **28** is a few thousandths of an inch greater than the distance between obturator **42** and the ends of fingers **50** and **50***a*. Thus the adjutage must be compressed slightly to permit assembly of the valve.

The diameter of body portion **46** is such that an annular passageway remains in aperture **22** circumjacent this portion and when the valve is open the flow of materials upwardly through this part of the valve is thus somewhat restricted. The hook portion **44** is relatively thin as compared to this body portion. Also it is highly desirable that very little, if any, bending or deformation occur in body portion **46**. This rigidity may be obtained through the use of a stiffer material as previously indicated, or alternatively, although not preferably, it may be obtained by means of a strengthening axial insert of metal or other rigid material.

In assembling valve **13**, adjutage **20** is forced upwarly into the aperture in mounting cup **14** until annular upturned flange **14***c* of the mounting cup is seated within annular groove **27** of the adjutage and flange **26** of the adjutage sealingly engages the undersurface of portion **14***b* of the mounting cup. The hook and body

portions 44 and 46 respectively of the plug member are then forced upwardly into aperture 22 of the adjutage. Simultaneously, a downward force is applied to the adjutage above tensioning portion 30 such that this portion is axially compressed and shortened and the distance between valve seat portion 24 and shoulder portion 28 is thereby decreased. This compressive force is applied until the free ends of fingers 50 and 50*a* of the plug member have passed through the restricted portion of adjutage 20 and are permitted to resiliently and transversely spring open above shoulder 28. As previously stated the adjutage need only be compressed a few thousandths of an inch to permit the fingers 50 and 50*a* to pass beyond shoulder 28. The force axially compressing adjutage 20 is then removed and tensioning portion 30 is permitted to partially relax until obturator 42 engages valve seat portion 24 and fingers 50 and 50*a* engage shoulder 28. Further elongation and relaxation of the adjutage is thus prevented. Inasmuch as portion 30 is still under compression this portion is effective to constantly urge the plug member outwardly and thus urge the obturator 42 toward sealing engagement with the valve seat portion 24.

It may be seen that in passing through the restricted portion of aperture 22 during the assembly process the free ends of fingers 50 and 50*a* are compressed transversely against thin post 48. Upon passing above shoulder 28 they are permitted to spring open to their normal transversely spread position as previously related. The rounded crown 52 guides the plug member smoothly through aperture 22 during the assembly process.

Here another advantage of the taper of portion 30 becomes apparent. As the hook portion 44 of the plug member passes through portion 30, the fingers 50 and 50*a* are gradually compressed, and there is little opportunity for the fingers to spring outwardly against the next pleat as they pass the preceding pleat.

Thus with the taper the fingers tend to remain compressed, and there is less scraping and bumping or snapping against the thin pleated wall of portion 30. In short, the hook portion 44 passes smoothly through portion 30 without vibrating against and scraping the undulated thin wall thereof. It will be noted that when the adjutage is axially compressed, as during the assembly of the valve, the concentric pleats 30*a* of portion 30 in effect will nest. This eliminates any possibility of damage due to over-compression, creasing, scraping or shearing.

The transversely extending annular flange 33 on the exterior of the adjutage provides a convenient means for applying the adjutage compressing force during assembly. This flange permits the adjutage to be quickly and easily compressed either manually or mechanically during the assembly without damage to the decorator tip 32.

After the valve has thus been assembled, the fluent materials are placed in container 10, mounting cup 14 with the valve assembly 13 disposed therein is placed in the open end 12 of the container and locked in place as previously described. The container is then ready for gassing.

In order to gas the container a gassing nozzle is inserted over the adjutage. This nozzle may sealingly engage either the adjutage, the mounting cup, or the container. If the nozzle sealingly engages the adjutage above the tensioning portion 30, it will be necessary that the adjutage be compressed to mechanically relieve the preloading force exerted on the plug member 40 by tensioning portion 30. For this the annular flange 33 may again be conveniently used. The gassing nozzle would then be forced over the outer end of the adjutage until it sealingly engages flange 33 whereupon further inward (downward) movement of the gassing nozzle will compress the adjutage in the area of tensioning portion 30 to relieve the preload and disengage obturator 42 from the valve seat 24. Pleats 30*a* in tensioning portion 30 will concentrically nest as previously described. The gas from the nozzle is then free to flow through valve 13 into container 10.

If the gassing nozzle is connected to other than this portion of the adjutage, the preload may be overcome and the valve opened by pressure of the gas through the gassing nozzle. This would eliminate the necessity for mechanically relieving the preload. Gassing of the container through valve 13 is continued until the pressure in the container approaches that of the supply. At this point the valve will close due to the resilient force of tensioning portion 30, or if the preload has been mechanically relieved as by engagement of flange 33, the gassing nozzle may be lifted to permit the adjutage to expand in the area of portion 30 thus closing the valve. Thereafter the gassing nozzle is removed and the container and valve are ready for use.

When it is desired to discharge the fluent materials from the container, the container is first inverted to place the fluent materials in contact with the valve. Radial pressure is exerted on the outwardly extending end of the adjutage above resilient portion 30, as illustrated by the arrow in Fig. 3. This force may be conveniently applied in the area of flange 33.

Because of the shape and relative thinness of the wall in portion 30 substantially all resilient deformation is confined to this portion. Thereafter, during the actuation movement the section of the adjutage above portion 30 is caused to tilt with respect to the section below portion 30. Since the aperture in the adjutage between portion 30 and shoulder 28 is narrow, the tilting of the upper section causes the body portion 46 of the plug member to engage the aperture-defining wall and be tilted as seen in Fig. 3. Inasmuch as the plug member 40 is of a relatively stiff and rigid plastic material as compared to the adjutage 20, the tilting of the plug member at this point results in the tilting of all portions of the plug member including obturator 42. Thus obturator 42 is tilted out of sealing engagement with valve seat portion 24 to which no resilient deformation or tilting is transmitted. The materials then are free to move outwardly through the valve at a metered rate.

The fluent materials flow outwardly through aperture 22 circumjacent body portion 46 of the plug member. Above shoulder 28 the diameter of the aperture 22 is increased. As the fluent materials flow into this section of increased diameter, foaming occurs due to expansion and release of the dissolved and entrapped gasses and the mixing of the fluent materials therewith as is well understood to those skilled in the art. The thus-foamed material flows outwardly past the decorating tip 32 which gives a fluffy decorative appearance to the product.

It may be seen that a valve has been provided which has a minimum number of parts and which is extremely reliable for sealing a pressurized container and for dispensing materials from the container in a foamed condition. The valve parts may be manufactured easily and inexpensively and the valve may be quickly and easily assembled. The actuation of the valve is very convenient and the rigidity of certain parts of the adjutage permits the materials to be easily and predictably directed.

Although the invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and that many modifications and changes in various details may be resorted to without departing from the spirit and scope of the invention, as hereinafter claimed.

What is claimed is:

1. A dispensing valve for use with a container for holding fluent materials, said valve including an elongate, axially apertured adjutage and a cooperating plug member, said adjutage having a valve seat, shoulder means disposed within the aperture of said adjutage and a resilient tensioning portion of reduced cross sectional

area intermediate said valve seat and said shoulder means, said plug member having an obturator, hook means, and an elongate body portion intermediate said obturator and said hook means, said body portion having a plurality of longitudinally extending radially protruding, peripherally disposed ribs, said hook means and body portion being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook means extending transversely within the aperture of said adjutage to latchingly engage said shoulder means, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of the obturator with the valve seat.

2. A dispensing valve for use with a container having an aperture, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of the container and having a valve seat, a shoulder means disposed within the aperture of said adjutage and a tapered resiliently yieldable longitudinally undulated tensioning portion of substantially reduced uniform wall thickness intermediate said valve seat and said shoulder means, said plug member having an obturator, hook means, and an elongate body portion intermediate said obturator and said hook means, said hook means and body portion being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook means extending transversely within the aperture of said adjutage to latchingly engage said shoulder, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of the obturator with said valve seat.

3. A dispensing valve for use with a container having an open end, and an apertured mounting cup peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of said mounting cup and having a valve seat, a shoulder disposed within the aperture of said adjutage and a tapered resiliently yieldable tensioning portion of reduced uniform wall thickness having a plurality of longitudinally spaced peripheral pleats and disposed intermediate said valve seat and said shoulder, said adjutage being rigid intermediate said valve seat and said tensioning portion, said plug member having an obturator, a hook portion, and an elongate body portion intermediate said obturator and said hook portion, said hook and body portions being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook portion extending transversely within the aperture of said adjutage to latchingly engage said shoulder, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of said obturator with said valve seat.

4. A dispensing valve for use with a container having an open end, and an apertured mounting cup peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of said mounting cup and having a valve seat, a shoulder disposed within the aperture of said adjutage a resiliently yieldable tensioning portion of reduced uniform wall thickness having a plurality of longitudinally and regularly spaced annular peripheral pleats and disposed intermediate said valve seat and said shoulder, and a transversely projecting flange intermediate said tensioning portion and the outer end of said adjutage, said adjutage being rigid intermediate valve seat portion and said tensioning portion whereby substantially all resilient deformation will be restricted to said tensioning portion, said plug member having an obturator, a hook portion, and an elongate body portion intermediate said obturator and hook portion, said hook and body portions being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat, thereby preventing fluid flow through the aperture in said adjutage, said hook portion extending transversely within the aperture of said adjutage to latchingly engage said shoulder, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of said obturator with said valve seat portion.

5. A dispensing valve for use with a container having an open end, and an apertured mounting cup peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of said mounting cup and having a valve seat, a shoulder disposed within the aperture of said adjutage and a resiliently yieldable tensioning portion of substantially reduced uniform wall thickness having a plurality of longitudinally spaced annular peripheral pleats and disposed intermediate said valve seat and said shoulder, the portions of said adjutage intermediate said valve seat and said shoulder other than said tensioning portion being rigid, said plug member having an obturator, a hook portion, and a rigid elongate body portion intermediate said obturator and said hook portion, said hook and body portions being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook portion extending transversely within the aperture of said adjutage to latchingly engage said shoulder, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of said obturator with said valve seat.

6. A dispensing valve for use with a container having a base and an oppositely disposed open end, and an apertured mounting cup peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of said mounting cup and having a valve seat, a shoulder disposed within the aperture of said adjutage and a tapered resiliently yieldable longitudinally undulated tensioning portion of substantially reduced uniform wall thickness intermediate said valve seat and said shoulder, said plug member having an obturator, a hook portion, and an elongate body portion intermediate said obturator and said hook portion, said hook and body portions being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook portion including a thin outwardly extending post and at least one integral elongate inwardly and tranversely extending finger, said finger being in latching engagement with said shoulder, the tensioning portion of said adjutage being

under axial compression and constantly urging said plug member in a direction to effect sealing engagement of said obturator with said valve seat.

7. A dispensing valve for use with a container having a base and an oppositely disposed open end, and an apertured mounting cup peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of said mounting cup and having a valve seat, a shoulder disposed within the aperture of said adjutage and a resiliently yieldable substantially frustoconical tensioning portion of substantially reduced uniform wall thickness having a plurality of longitudinally spaced peripheral pleats and disposed intermediate said valve seat and said shoulder with the basal portion thereof disposed inwardly, said plug member having an obturator, a hook portion, and an elongate body portion intermediate said obturator and said hook portion, said hook and body portions being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook portion including a thin outwardly extending post and at least one elongate finger integral with said post and extending inwardly and transversely to latchingly engage the said shoulder, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of said obturator with said valve seat.

8. A dispensing valve for use with a container having a base and an oppositely disposed open end, and an apertured mounting cup peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage being sealingly disposed within the aperture of said mounting cup and having a valve seat, a shoulder disposed within the aperture of said adjutage and a resiliently yieldable tensioning portion of substantially reduced uniform wall thickness having a plurality of longitudinally and regularly spaced peripheral pleats and disposed intermediate said valve seat and said shoulder, said plug member having an obturator, a hook portion, and an elongate body portion intermediate said obturator and said hook portion, said body portion having a plurality of longitudinally extending, radially protruding, peripherally disposed ribs, said hook and body portions being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator portion being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook portion including a thin outwardly extending post and two oppositely disposed transversely resilient elongate fingers integral with said post and extending inwardly and transversely from adjacent the outer end thereof to latchingly engage said shoulder, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of said obturator with said valve seat.

9. A dispensing valve for use with a container having an open end and an apertured mounting cup, peripheral portions of which are adapted to sealingly engage the container adjacent the open end thereof, said valve including an elongate apertured adjutage and a cooperating plug member, said adjutage including a rigid valve seat portion sealingly disposed within the aperture of said mounting cup, a rigid fluent material directing portion, and a resiliently yieldable, longitudinally undulated tensioning portion integral with and disposed intermediate said valve seat portion and said directing portion, whereby substantially all resilient deformation in said adjutage will be restricted to said tensioning portion, said directing portion having shoulder means disposed within the aperture thereof, said plug member having an obturator portion, a hook portion and an elongate body portion intermediate said obturator portion and said hook portion, said hook portion and said body portion being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator portion being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook portion extending transversely within the aperture of said adjutage to latchingly engage said shoulder means, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of the obturator with the valve seat.

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