

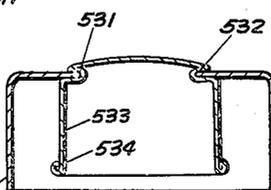
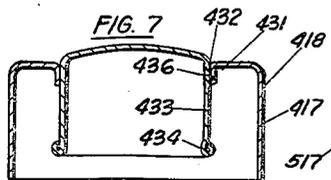
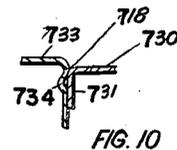
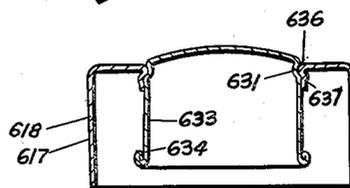
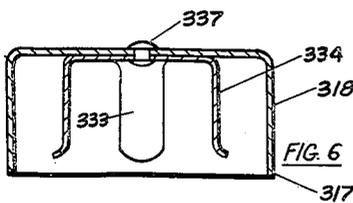
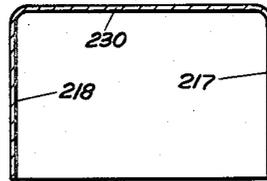
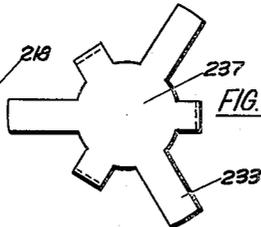
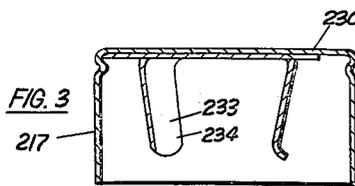
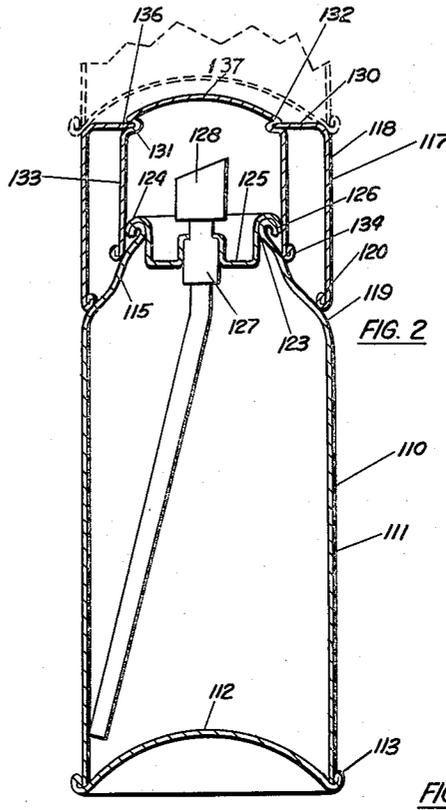
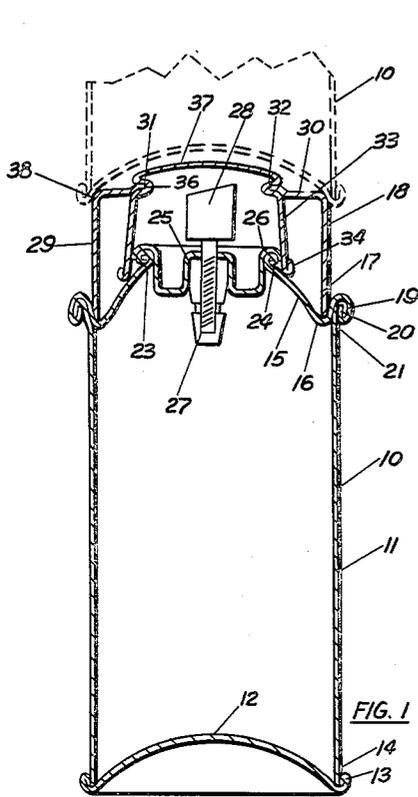
Feb. 28, 1961

F. S. PATTON  
CONTAINER COVER

2,973,114

Filed May 31, 1957

2 Sheets-Sheet 1



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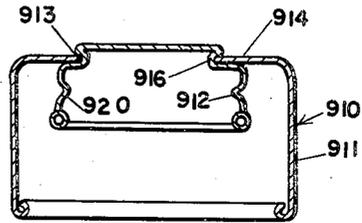
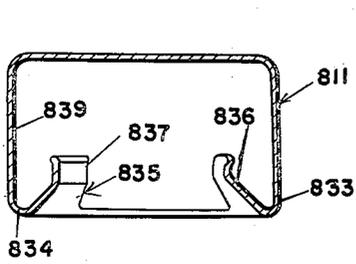
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2 Sheets-Sheet 2



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2,973,114

CONTAINER COVER

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1 Claim. (Cl. 220-42)

This invention relates to closures and, more particularly, to covers adapted to effectively cover and protect the top portions of cans and containers and, especially, the type of can or container known as an aerosol can.

Covers for aerosol cans which have been made previously have been made in such a manner that one aerosol can cannot be efficiently supported on the cover of another can and, therefore, the cans cannot be stacked effectively. Other covers have been made in such a way that it is necessary for the rim of the can to have an upwardly facing groove in order for the cover of the can to be supported thereon.

The present invention discloses an improved cover wherein the inner portion of the cover provides a holding means for holding the cover on a can and for centering the cover in place on the can. The outer portion of the cover provides a second supporting means for carrying a load of surcharged cans, each can resting on the cover of the particular can below it.

It is, accordingly, an object of this invention to provide a cover for a can which is simple in construction, economical in manufacture, and simple and efficient to use.

Another object of this invention is to provide an improved cover for an aerosol can wherein an inner portion of the cover secures the cover to the can and an outer portion of the can provides a structural supporting member.

Still another object of the invention is to provide an improved cover for an aerosol can having an inner member and an outer member, the inner member centering the cover on the can and the outer member providing a supporting member for supporting other cans on top of the said can.

A further object of this invention is to provide a cover for a container comprising two concentrically disposed cup shaped members, the inner cup shaped member being of substantially less diameter than the outer member and its walls spaced inwardly therefrom.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claim, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a view of a can having a cover thereon made in accordance with the invention;

Fig. 2 is a view of another embodiment of the invention;

Fig. 3 is a longitudinal cross sectional view of another embodiment of the invention;

Fig. 4 is a top view of the inner member of the cover shown in Fig. 3;

Fig. 5 is a cross sectional view of the outer member of the cover shown in Fig. 4;

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Fig. 6 is a cross sectional view of another embodiment of the cover;

Fig. 7 is a view of another embodiment of the invention;

Fig. 8 is a view of still another embodiment of the invention;

Figs. 9, 11, and 12 are cross sectional views of still other embodiments of the invention; and

Fig. 10 is an enlarged partial cross sectional view of the connection between the inner and outer members of another embodiment of the invention.

Now with more specific reference to the drawings, Fig. 1 shows an aerosol can 10 of a conventional type having cylindrical side walls 11 and an arched bottom 12 having the outside rim turned up at 13 to form a conventional sealed joint with a lower edge 14 of the sides 11. A top 15 is arched upwardly and inwardly at an intermediate portion and upwardly and outwardly to form a groove 16 which receives and supports a lower edge 17 of a closure 18. The outer edge of the top 15 is attached to the side walls 11 at 19 and is bent inwardly at 20, forming a conventional sealed joint with an upper end 21 of the top 15.

An opening 23 is formed in the top 15 and the edge around the opening 23 is rolled back on itself at 24 to receive a can closure 25 which is sealed to the top 15 at 26 and has a conventional valve 27 having a hand engaging portion 28 thereon by which an operator may press the valve 27 to selectively release a portion of the contents of the can 10 in a conventional manner.

The closure 18 may be made from a metallic sheet and has the form of two concentric cup shaped members, the outer member having cylindrical sides 29 and shoulders 30 with an opening 31 therein. The shoulders 30 constitute a top for the outer cup. An edge 32 around the opening 31 is received in an outer peripheral groove 36 in a cup shaped inner member 33 of the closure 18, the cup shaped inner member 33 terminating at its lower rim in an edge 34 thereof turned back on itself. The inner member 33 has a top 37.

When the closure 18 is in operative position on a can such as the can 10, the lower edges 17 of the outer cup shaped member rest in the groove 16 and the lower edge 34 of the inner cup shaped member 33 frictionally engage the outer edge of the top 15. Therefore, when the aerosol cans 10 are stacked, the concave bottom 12 of the upper can will rest on a shoulder 38 of the cover of the lower can. The inner cup shaped member 33 will hold the closure 18 in position while the outer cup shaped member will form a structural support for the can resting thereon.

In the embodiment of the invention shown in Fig. 2, an aerosol can 110 is shown having a conventional valve 127 with a top 125 supported thereon and a hand engaging member 128 operatively attached to the valve 127. The can 110 has cylindrical side walls 111 and a bottom 112 sealed to the side walls 111 at 113. The side walls 111 diverge inwardly at 119 and terminate in an upwardly facing opening 123 having the edges around the opening 123 turned back on themselves at 126. The outer edges of the top 125 are rolled downwardly at 124 to form a seal with the turned back portion of the edges 126.

A closure 118 is formed of two concentric cup shaped members, the outer cup shaped member having generally cylindrical side walls 117 with their lower ends turned back on themselves at 120 and having the upper end turned in to form shoulders 130 thereon. The shoulders 130 constitute a top for the cup. An opening 132 is formed in the outer member and edges 136 around the opening 132 are received in a groove 131 formed in the outer periphery adjacent a top 137 of an inner cup 133.

The lower edges of the inner cup 133 are turned back on themselves at 134 to form smooth edges which may rest on a diverging shoulder 115 of the can 110.

The closure 118 is very much like that of the closure 18 in Fig. 1 in its application to the can; however, the closure 118 is shown supported on a different type of aerosol can and the joint between the outer and the inner cups is of a different structure.

A closure 218 shown in Figs. 3, 4, and 5 is somewhat similar to the closures 18 and 118 shown in Figs. 1 and 2; however, an inner member 233 is made in the form of a clip having legs 234 attached to an intermediate top portion 237. An outer cup 217 is cup shaped and has the inner member 233 attached to the intermediate top portion 237 by means of spot welding or other similar attaching means.

A closure 318 shown in Fig. 6 is similar to that shown in Fig. 3; however, an inner member 334 has its top attached to the top of the outer cup member by means of a rivet 337. The inner cup 334 has spaced legs 333 therein similar to the embodiment shown in Fig. 3. When the closure 318 is disposed on a can, the inner legs 333 grip the member corresponding to the member 126 on the aerosol can 110 shown in Fig. 2 while a lower peripheral edge 317 of the outer cup rests on the shoulder corresponding to the shoulder 115 on the aerosol can 110 in Fig. 2.

In the embodiment of the invention shown in Fig. 7, a closure 418 has an outer cup member 417 and an inner cup member 433. The outer member 417 has an opening 432 therein and the material adjacent the peripheral edge of the opening 432 is turned down at 431 and frictionally engages the outer surface of the inner cup 433 at 436. The top of the inner cup is attached to the top of the outer cup.

A closure 518 of the embodiment of the invention shown in Fig. 8 is similar to the embodiment shown in Fig. 7 having the lower ends of an inner cup 533 rolled back at 534 and an opening 532 formed in an outer cup 517. The peripheral edges of the opening 532 are received in a groove 531. The top of the inner cup is attached to the top of the outer cup.

In the embodiment of the invention shown in Fig. 9, a closure 618 has an outer cup 617 and an inner cup 633. The lower edge of the inner cup 633 has its lower rim turned back on itself at 634 and an outer peripheral groove 631 is formed in the upper end of the inner cup 633. The groove 631 receives a shoulder 636 of turned down ends 637 of the material at the edge of holes of the outer member 617 whereby the top of the inner cup is attached to the top of the outer cup.

In Fig. 10, an enlarged view of a joint is shown similar to that shown in Fig. 9; however, material 731 adjacent the opening is bent down generally at right angles at 718 to a shoulder 730 and frictionally engages an inner cup 733 overlying an outer peripheral groove 734 whereby the top of the inner cup is attached to the top of the outer cup.

Fig. 11 shows another embodiment of the invention wherein a closure 811 is made of a cup shaped member having a rim 833 turned inwardly at 834. Legs 835 extend inwardly and upwardly at 836 to terminate in upwardly directed ends 837. The ends 837 are adapted

to be disposed in frictional engagement with downwardly extending edges of the rim of a can similar to the downwardly extending edges 126 of the rim of the can 110 shown in Fig. 2 when in use. The ends 837 are spaced inwardly from sides 839.

In the embodiment of the invention shown in Fig. 12, a closure 910 has an outer cup 911 and an inner cup 912. The outer cup 911 has an opening 913 formed in a bottom 914. The inner cup 912 has a groove 916 formed in the outer periphery thereof and the groove 916 receives the edges of the opening 913 whereby the inner cup is attached to the outer cup. The inner cup 912 has threads 920 formed thereon which may engage the threaded neck of a container while the outer cup 911 engages an outwardly extending shoulder or the like similar to the shoulder 115 in Fig. 2.

The foregoing specification sets forth the invention in its preferred practical forms but the structure shown is capable of modification within a range of equivalents without departing from the invention which is to be understood is broadly novel as is commensurate with the appended claim.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

In combination, a container and a cap therefor comprising a container having a generally cylindrical wall terminating at the upper end in an edge, a top, said top having a peripheral edge overlying the upper edge of said cylindrical wall, then bent inwardly, then downwardly, then inwardly and upwardly to form a groove, then bent outwardly and upwardly and rolled back on itself, a cap, said cap comprising an outer cup and an inner cup, said inner cup being nested in said outer cup, said outer cup having a straight cylindrical side wall terminating at one end in an inwardly extending shoulder disposed substantially at a right angle to said side wall and defining a central opening therethrough, said inner cup having an open end and a top, the open end of said outer cup terminating in a rim resting in said groove with the outer periphery of said rim engaging said downwardly extending portion of said top, said inner cup having an outer peripheral groove disposed adjacent the closed end thereof, the material of said outer cup shoulder being received in said outer groove, the side wall of said inner cup terminating in a rim, said inner cup rim frictionally engaging said rolled back portion of said top and resting on said inwardly and upwardly extending portion of said top.

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