Dec. 6, 1932. W. F. PUNTE 1,890,235

NOZZLE CLOSURE FOR METAL CONTAINERS

Filed Feb. 19, 1932

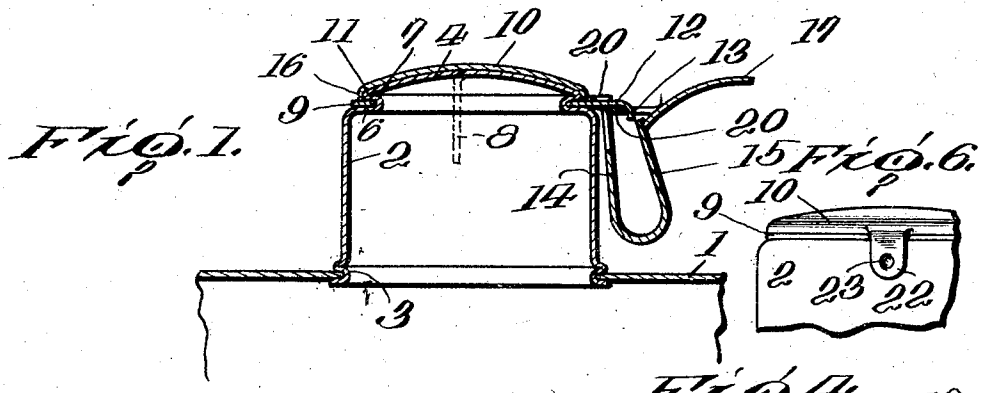


FIG. 1.

FIG. 6.

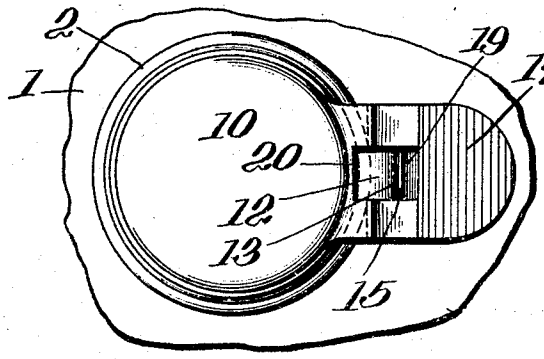


FIG. 2.

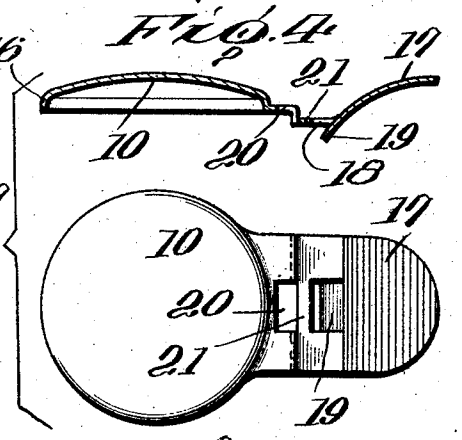


FIG. 4.

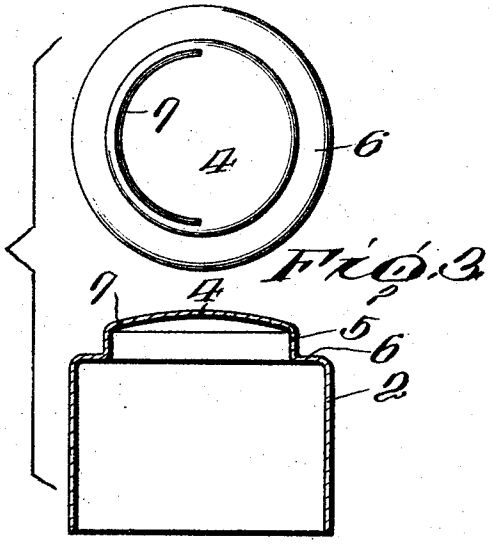


FIG. 3.

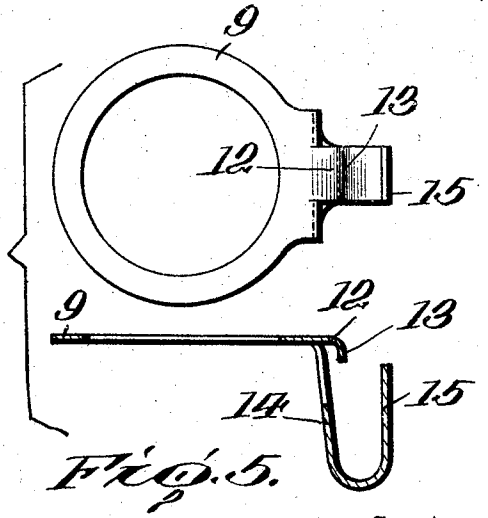


FIG. 5.

Inventor

William F. Punte

By

Sturtevant, Mason & Porter

Attorneys

Patented Dec. 6, 1932

1,890,235

UNITED STATES PATENT OFFICE

WILLIAM F. PUNTE, OF SYRACUSE, NEW YORK, ASSIGNOR TO CONTINENTAL CAN COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

NOZZLE CLOSURE FOR METAL CONTAINERS

Application filed February 19, 1932. Serial No. 594,118.

The invention relates to new and useful improvements in a nozzle for containers through which products in the container are to be dispensed.

An object of the invention is to provide a nozzle which is normally closed and which is provided with a score line adapted to be ruptured for the opening of the container, which nozzle is provided with a closure permanently attached thereto and forming a cover for the nozzle after the metal has been ruptured.

A further object of the invention is to provide a nozzle and closure of the above type wherein said closure is attached to the nozzle permanently by an interlocking of the metal parts of the nozzle and closure.

A still further object of the invention is to provide a nozzle and closure of the above type, wherein the closure includes a cover and a supporting member therefor, hingedly connected together by an inter-engagement of metal parts of the cover and supporting member.

A still further object of the invention is to provide a nozzle and closure of the above type, which closure includes a cover and supporting member therefor, wherein the cover is yieldingly held in contact with the nozzle by a spring formed from the metal of the support for the cover.

These and other objects will in part be obvious and will in part be hereinafter more fully disclosed.

In the drawing:

Fig. 1 is a sectional view showing the nozzle of a container with the improved closure attached thereto.

Fig. 2 is a plan view of the same.

Fig. 3 is a combined view showing a nozzle in section and in plan.

Fig. 4 is a combined view showing the supporting member of the closure in section and in plan.

Fig. 5 is a combined view showing the cover of the closure in section and in plan.

Fig. 6 is a detail in side elevation showing a slightly modified form of closure.

The invention relates broadly to a dispensing nozzle for a container, which nozzle may be secured to the container body in any suitable way and is so formed that it is normally closed. The nozzle includes a body portion and a top portion which are formed integral. The top of the nozzle is provided with a centrally disposed raised portion which is scored so that it may be ruptured inwardly to dispense the contents of the container. This raised portion is of smaller diameter than the body portion of the nozzle and forms a seat to receive the supporting member of the closure. The supporting member is in ring form and is placed over the raised portion of the nozzle, after which the metal is deformed to clamp the ring and thus permanently attach the supporting member to the nozzle so that it becomes a part thereof. Associated with the supporting member is a cover which is shaped so as to conform to the top of the nozzle and serves as a closure for the opening formed when the metal of the nozzle is ruptured. The supporting member and cover are pivotally connected by an inter-engagement of metal parts of the cover and supporting member. The cover is held yieldingly in closed position by a spring member which is formed as a part of the supporting member for the cover.

The portion of the metal which is bent inwardly into the container, as the metal in the region of the score line is ruptured, serves as a lump breaker should the material in the container become clogged at the dispensing opening.

Referring more in detail to the drawing, a container is shown in part at 1 and has a nozzle 2 attached thereto by a folding or bending of the metal parts as indicated at 3. The nozzle may be secured in any desired way and any suitable sealing means may be used for forming a tight seam between the nozzle and the container body. The nozzle is shown before it is attached to the container and before the closure is attached to the nozzle in Fig. 3 of the drawing. It will be noted that the upper end of the nozzle is closed by a top portion 4, which is formed integral with the body portion 2. This top portion has a raised section 5, of a reduced diameter form-

ing a seat 6. The top 4 is scored as indicated at 7. This score line extends only part way through the metal so that the seal is not broken until pressure is applied to rupture the metal at the score line. When the metal is ruptured along the score line, it will be bent downwardly into the nozzle as indicated at 8 in broken lines, Fig. 1. This is the part which aids in breaking up any clogging of the material at the discharge opening.

A closure is provided for the nozzle which includes a retaining ring or supporting member 9 and a cover member 10. The ring-shaped supporting member 9 is placed on the seat 6 and the opening therethrough is dimensioned so that said retaining member fits over the raised portion 5. After the retaining member has been placed on the nozzle, then the raised portion is deformed so as to provide a gripping, overlying shoulder 11—see Fig. 1, which bears against the upper face of the ring supporting member and permanently attaches the same to the nozzle.

This ring supporting member is provided with a projecting flat arm 12, the outer end of which is turned downwardly to form a hook 13. It is also provided with a depending arm 14 bent upwardly to form a spring member 15. Both the arms 12 and 14 are cut from the sheet metal blank which forms the ring. The cover 10 is shaped to conform to the top of the nozzle. In the present embodiment of the invention, the nozzle is dome-shaped and the cover is, therefore, similarly shaped and has a depending rim portion 16 which engages closely around the edge of the nozzle portion which overlies the supporting ring. This cover has a projecting handle portion 17. The metal is cut away at 18 to form an opening therethrough and also to form a lip 19 against which the spring 15 bears. The cover is also provided with an opening 20. Between the openings 18 and 20 is a pivot bar 21 which serves as a pivot pin for the cover. The cover is attached to the support by threading the arm 12 and the hook end 13 thereof, through the opening 20 and into the opening 18. When the parts are assembled as shown in Fig. 1, the spring member 15 bearing on the lip 19, forces the bar 21 against the underside of the arm 12 and also forces the dome portion of the cover downwardly, swinging the same about its pivot bar 21. This yieldingly holds the cover closed.

When it is desired to lift the cover, the pressure is applied to the handle 17 which will cause the same to move downward, forcing the spring member 15 inward and this will in turn cause the cover to swing around this pivot bar 21.

In Fig. 6 of the drawing, the closure 10 is shown as having depending ears 22 with inwardly extending projections 23 which are adapted to engage depressions in the body portion of the nozzle. There is an ear on each side of the cover 10, and when the cover is in closed position, these projections spring into the depressions and aid in holding the cover in closed position. When pressure is applied to the handle 17, the ears will yield and the projections will be withdrawn from the depressions.

From the above, it will be noted that a closure has been provided which is secured to the nozzle by an interengagement of the metal parts of the nozzle and closure. It will also be noted that a closure is provided wherein the cover and the supporting ring member therefor are hingedly connected by an inter-engagement of the metal parts of the cover and supporting ring.

This all provides a structure which is of few parts and which can be made by stamping and die forming of sheet metal blanks. It will be understood that from certain aspects of the invention, other means may be provided for securing the cover to the supporting ring.

It will also be understood that changes in the details of construction of the cover and supporting member may be made without departing from the spirit of the invention as set forth in the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A dispensing nozzle comprising a body portion and a top formed integral therewith, said body having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for said nozzle including a cover conforming to and engaging the outer face of said raised portion and a supporting member surrounding said raised portion to which said cover is hinged.

2. A dispensing nozzle comprising a body portion and a top formed integral therewith, said top having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for the nozzle including a cover conforming to and engaging the outer face of said raised portion and a supporting member therefor surrounding said raised portion, said cover and supporting member having interengaging parts hingedly connecting the same.

3. A dispensing nozzle comprising a body portion and a top formed integral therewith, said top having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for the nozzle including a cover conforming to and engaging the outer face of said raised portion and a supporting member therefor surrounding said raised portion, said cover and supporting member having interengaging parts hingedly connecting the same, said

interengaging parts being yielding and normally holding the cover closed.

4. A dispensing nozzle comprising a body portion and a top formed integral therewith, said body having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for said nozzle including a cover conforming to and engaging the outer face of said raised portion and a supporting member surrounding said raised portion to which said cover is hinged, said raised portion overlying said supporting member and securing the same to said top.

5. A dispensing nozzle comprising a body portion and a top formed integral therewith, said body having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for said nozzle including a cover conforming to and engaging the outer face of said raised portion, and a supporting member surrounding said raised portion and secured to the nozzle, said cover having a projecting handle portion provided with openings forming a pivot bar and said supporting member having a projecting arm engaging over and around said pivot bar for hingedly connecting the bar and supporting member.

6. A dispensing nozzle comprising a body portion and a top formed integral therewith, said body having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for said nozzle including a cover conforming to and engaging the outer face of said raised portion, and a supporting member surrounding said raised portion and secured to the nozzle, said cover having a projecting handle portion provided with openings forming a pivot bar and said supporting member having a projecting arm engaging over and around said pivot bar for hingedly connecting the bar and supporting member, said supporting member having a depending upturned spring member and said cover having a lip engaging said spring member whereby the cover is yieldingly held in contact with the nozzle.

7. A dispensing nozzle comprising a body portion and a top formed integral therewith, said body having a raised central portion provided with a score line which may be ruptured for opening the nozzle, and a closure for said nozzle including a cover conforming to and engaging the outer face of said raised portion and a supporting member surrounding said raised portion to which said cover is hinged, said cover having depending ears provided with projections adapted to engage depressions in the body of the nozzle for holding the cover in closed position.

In testimony whereof, I affix my signature.

WM. F. PUNTE.