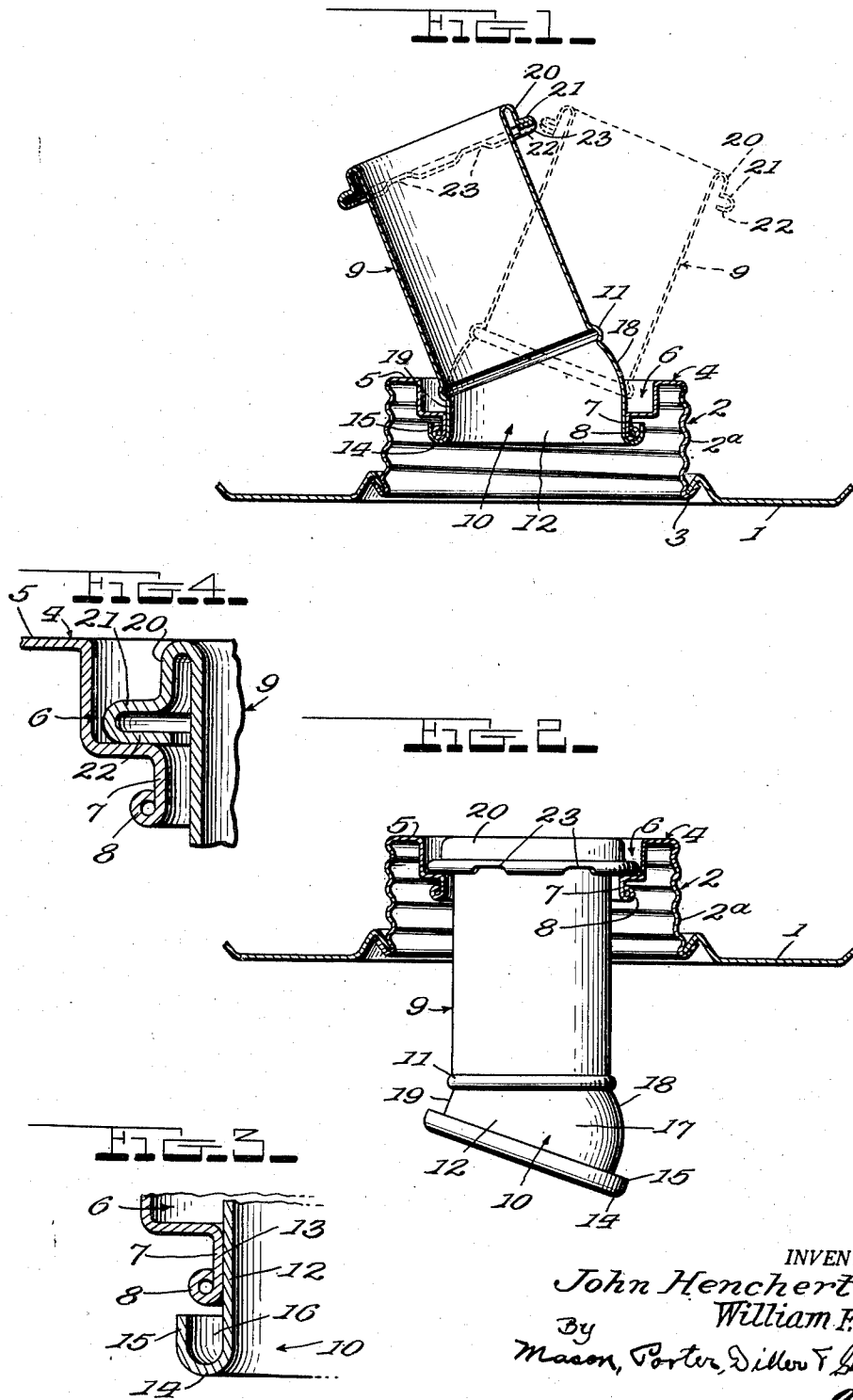


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SWIVEL DISAPPEARING SPOUT

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## UNITED STATES PATENT OFFICE

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## SWIVEL DISAPPEARING SPOUT

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The invention relates to new and useful improvements in a spout for cans and more particularly a spout that can be housed within the can when not in use.

An object of the invention is to provide a spout of the above type that will have a rigid fluid tight metal to metal engagement with the can top when extended for use.

A further object of the invention is to provide a spout for cans of the above type which when extended may be inclined to the can top in any direction.

A still further object of the invention is to provide a spout of the above type which has a can top engaging portion at the inner end thereof dimensioned so as to make a tight frictional engagement with a depending flange on the can top while the outer portion is of less diameter than the flange and is free to be moved into the can for storage when not in use.

In the drawings, which show by way of illustration, one embodiment of the invention,

Figure 1 is a vertical sectional view through the improved spout attaching means showing the spout in extended position for use and in dotted lines the spout shifted to a different angular position;

Figure 2 is a sectional view of the can top and a side plan view of the spout showing the spout as moved into the can for housing when not in use;

Figure 3 is an enlarged sectional view through the flange on the can top and the inner portion of the spout with the spout on its way to full extended position; and

Figure 4 is a vertical sectional view through a portion of the spout supporting attachment and the outer end of the spout when said spout is housed within the can.

The invention resides in a pouring spout for a can. The can is of the usual construction and only a portion of the top of the can has been illustrated in the drawings. Said top is indicated at 1 in Figures 1 and 2. The can top has an opening to which is connected a spout supporting nozzle indicated at 2. This nozzle is connected to the can top by an interfolded seam 3 to which solder may be applied. This nozzle has an integral closure end 4. The side walls of the nozzle are shaped so as to provide a thread 2a which is adapted to receive the ordinary cap (not shown) for closing the can. This cap engages the annular lip 5. This closure end 4 is depressed forming a central recess 6. The depressed portion is provided with an opening

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which is surrounded by a flange 7. The flange depends from the nozzle top and is rolled into a closed bead 8, at the bottom end thereof.

The improved spout is supported by this nozzle when in extended position for pouring and when the spout is housed within the can for storage. The spout is shaped so as to provide an outer cylindrical portion 9 and an inner attaching portion 10. Between the outer portion 9 and the inner attaching portion 10, the spout is beaded as indicated at 11. The lower or inner end of the spout is shaped so as to provide a cylindrical portion 12 which is adapted to make frictional contact with the inner face 13 of the depending flange 7. The extreme inner portion of the spout is curved outwardly at 14 and thence upwardly as indicated at 15. This provides a U-shaped channel 16 which is adapted to engage the bead 8 and the bead and channel are so dimensioned that the outer face of the bead will engage the inner face of the channel member 15. This engagement of the bead with the channel member and the frictional engagement with the flange 7, makes a very rigid connection for supporting the spout in extended position and it also makes a fluid tight connection without the use of a sealing gasket.

The inner portion of the spout between the bead 11 and the cylindrical portion 12 is curved as indicated at 17. This curved portion gradually decreases from the side 18 to the side 19 and vanishes at the side 19. The purpose of this curved portion is to set the outer portion of the spout at an angle to the top of the can as clearly indicated in Figure 1. By turning the spout before it is fully extended, it may be inclined as shown in the full lines in Figure 1, or it may be inclined in the opposite direction as indicated in the broken lines in said figure. It is apparent that the direction of inclination may be changed to any desired direction.

The outer end of the spout is folded back upon itself as indicated at 20. This folded back portion is bent outwardly at 21 and then turned under as indicated at 22. This turned under portion provides a shoulder for supporting the spout when it is moved into the can for housing the same. The shoulder rests on the bottom of the recess 6 and as this is depressed the end of the spout can readily be housed in the closure cap for the can. This turned under portion as shown in Figure 4 does not contact the outwardly bent portion 21 throughout the greater portion of the circumference of the spout, but at intervals indicated at 23, the inturned portion is

collapsed against the outwardly extending portion and this provides finger holds which enable the spout to be readily lifted from its seat when housed within the can. The outer portion 9 of the spout is of less diameter than the flange 7 and, therefore, the spout may be easily lowered into the can after the frictional engaged portions are released. It can also be easily raised to extended position and the frictional metal to metal contacting parts be brought into engagement which will hold the spout rigidly in its extended position and also provides a fluid-tight connection through this metal to metal contact.

It is noted that any liquid on the outside of the spout, when it is first extended, will drain down into the recess 6 and accumulate therein until the spout is returned to its position inside the can when the liquid in the recess will drain through the finger recesses back into the can. It is further noted that the extreme upper end of the spout is bent back upon itself as indicated at 20 in the drawings and this provides a narrow lip and a better cut-off after a pouring operation. Any liquid remaining on the lip will find its way back into the can through these same recesses.

It is obvious that many changes in the details of construction may be made without departing from the spirit of the invention as set forth in the appended claims.

We claim:

1. The combination of a can top having a spout supporting nozzle extending outwardly therefrom, said nozzle having an opening in its outer end surrounded by a depending flange the inner end of which is rolled outwardly into a bead and a spout movable from housed position in the can to extended position for use, said spout at the inner end thereof being turned outwardly and shaped to provide an upwardly facing annular channel adapted to engage said bead when the spout is in extended position so as to make frictional liquid tight supporting engagement with said flange, the outer portion of said spout being cylindrical and the inner end portion between said outer portion and the inner end of the spout being shaped so that the axis of the cylindrical portion will be inclined to the can top.

2. The combination of a can top having a spout supporting nozzle extending outwardly therefrom, said nozzle having an opening in its outer end surrounded by a depending flange, the inner end of which is rolled outwardly into a bead and a spout movable from housed position in the can to extended position for use, said spout at the inner end thereof being turned outwardly and shaped to provide an upwardly facing annular channel adapted to engage said bead when the spout is in extended position so as to make frictional liquid tight supporting engagement with said flange, the outer portion of said spout being cylindrical and the inner end portion between said outer portion and the inner end of the spout being shaped so that the axis of the cylindrical portion will be inclined to the can top, said frictional engagement between the spout and the flange being such that the spout may be inclined in any direction relative to the can top by the turning of the spout to different set positions on the flange.

3. The combination of a can top having a

spout supporting nozzle extending outwardly therefrom, said nozzle having an opening in its outer end surrounded by a depending flange, the inner end of which is rolled outwardly into a bead and a spout movable from housed position within the can to extended position for use, said spout at the inner end thereof being turned outwardly and shaped to provide an upwardly facing annular channel, said inner end portion and channel being dimensioned so as to frictionally engage the flange and the bead on the nozzle when extended for use, thus providing a metal to metal fluid tight connection for rigidly supporting said spout in extended position.

4. The combination of a can top having a spout supporting nozzle extending outwardly therefrom, said nozzle having an opening in its outer end surrounded by a depending flange, the inner end of which is rolled outwardly into a bead and a spout movable from housed position within the can to extended position for use, said spout at the inner end thereof being turned outwardly to provide a channel, said inner end portion and channel being dimensioned so as to frictionally engage the flange and the bead on the nozzle when extended for use, thus providing a metal to metal fluid tight connection for rigidly supporting said spout in extended position, the outer portion of said spout being cylindrical, the inner end portion between said outer portion and the inner end of the spout being shaped so that the axis of the cylindrical portion will be inclined to the can top, said frictional engagement between the spout and the flange being such that the spout may be inclined in any direction relative to the can top by the turning of the spout to different set positions on the flange.

5. The combination of a can top having a spout supporting nozzle extending outwardly therefrom, said nozzle having an opening in its outer end surrounded by a depending flange, the inner end of which is rolled outwardly into a bead, and a spout movable from housed position within the can to extended position for use, the spout at the inner end thereof being turned outwardly to provide a channel adapted to receive the bead on the nozzle, the outer end of said spout being bent back upon itself to provide a comparatively narrow pouring lip, said bent back portion being bent outwardly and turned back upon itself to provide a projecting ledge adapted to support the spout when housed within the can, said ledge having recesses on the underface thereof through which liquid on the outer face of the spout may drain through into the can when the spout is returned to housed position.

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