

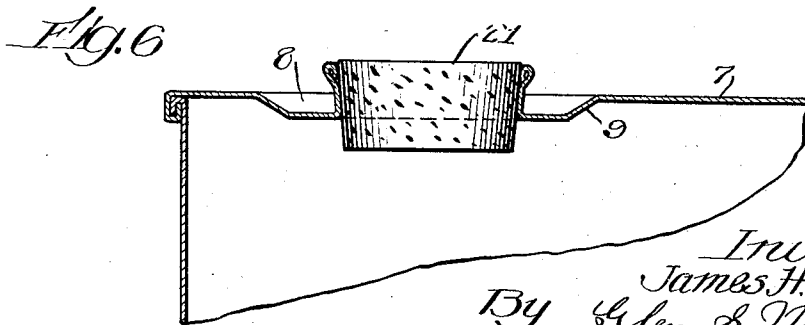
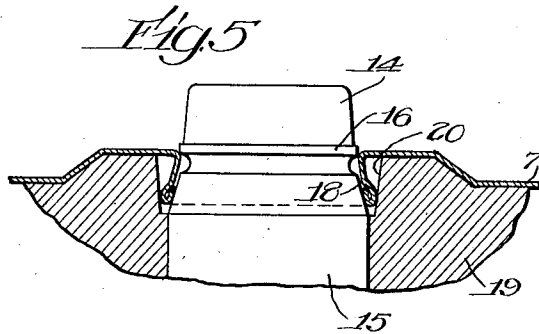
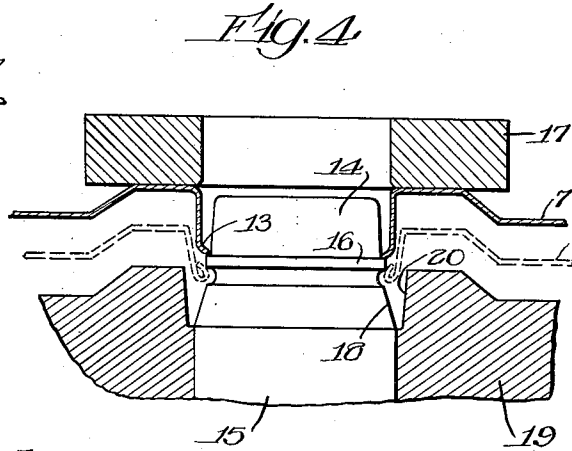
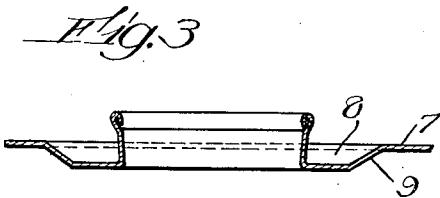
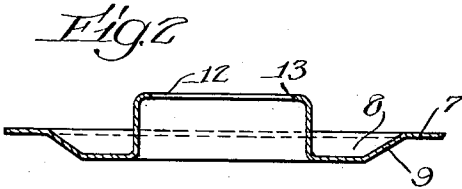
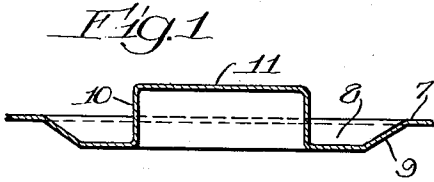
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J. H. WILSON

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METHOD OF MAKING CAN NOZZLES

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Inventor:
James H. Wilson.
By *Glenn S. Noble* *Atty.*

UNITED STATES PATENT OFFICE

JAMES H. WILSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILSON & BENNETT MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION

METHOD OF MAKING CAN NOZZLES

Application filed January 7, 1927. Serial No. 159,705.

This invention relates to the method of forming or manufacturing can nozzles and, while it may be adapted for various kinds of receptacles, it is particularly directed to nozzles for cans of approximately five to ten gallons which are used for shipping purposes. These cans are made from sheet steel of approximately 22 to 24 gauge. Heretofore the nozzles for cans of this character have been formed separately and then soldered or otherwise secured to the can. In accordance with the present invention, the nozzle is made integrally with the top of the can so that there is no possibility of leaking as is likely to occur with the previous forms of nozzles.

The objects of this invention are to provide an improved method of manufacturing can nozzles; to provide a can nozzle which is formed integrally with the top and which is provided with a novel bead or intumed upper edge; to provide a can or receptacle having an integrally formed nozzle or pouring spout which is adapted to receive a cork or plug and which is provided with an intumed bead at the top; and to provide such other novel features and improvements in construction as will be described more fully hereinafter.

In the accompanying drawings illustrating this invention;

Figure 1 is a sectional view of a portion of a can top showing the nozzle as drawn up or formed preparatory to the finishing operations;

Figure 2 is a similar view showing the nozzle with the central portion punched out;

Figure 3 is a similar view showing the completed nozzle;

Figure 4 is a sectional view showing the finishing dies and the nozzle in position for finishing;

Figure 5 is a similar view showing the nozzle in the dies completed; and

Figure 6 is a sectional view of a portion of a can or container showing the completed nozzle with a cork or stopper in position.

The can top 7 is formed with a depression 8 having bevelled or tapered periphery or side wall 9, this depression being made in

order that the nozzle will not project too far above the top of the can. A substantially cylindrical projection having side walls 10 and top or end 11 is then formed upwardly from the bottom of the depression, by means of suitable dies. The major portion of this head or end is then punched out, leaving a hole 12 and an inwardly projecting flange or rim 13, as shown in Figure 2.

This blank or partially formed nozzle is then placed over the end 14 of a die member or punch 15. This punch or die fits closely in the opening 12 and is provided with an annular shoulder 16 which is adapted to engage with the flange 13, as shown in Figure 4. When the nozzle blank is forced downwardly or over the punch 15, as by means of the coacting die member 17, the shoulder or projection 16 forces the flange inwardly in order to form a bead or finish, as shown in dotted lines in this figure. It will be noted that when this first forming operation is completed, the inwardly folded flange portion projects inwardly from the side walls 10 of the nozzle. In order to complete the formation of this bead, to offset the bead and to give a proper taper to the nozzle, the punch 15 is provided with a tapered portion 18 below the shoulder 16, and the surrounding die member 19 is provided with a recess having a slightly tapered wall 20 which coacts with the punch. When the blank or partially formed nozzle is pressed downwardly or over the tapered portion 18, the bead is expanded or pressed outwardly so that the inner surface thereof is in alignment with the inner surface of the nozzle, and the bead projects outwardly as will be readily seen from Figure 3. When the bead is thus pressed outwardly, it will come in contact with the wall 20 of the die 19 so that it will be tightly closed or compressed between the taper 18 and such wall, as will be seen from Figure 5. This completes the forming of the nozzle which will be slightly conical or tapered in order to engage closely with the sides of the cork or stopper 21, as shown in Figure 6 and the outwardly projecting portion of the bead will serve for the purpose of fastening

the cap or seal over the cork, as is frequently done.

From this description, it will be seen that I provide a method for making an integrally formed nozzle for a can top of comparatively heavy sheet steel or other suitable metal and obviously when the nozzle is formed in this manner, there is no possibility of leakage, as when the nozzle is soldered or otherwise fastened to the top. Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. The method of making a can nozzle which consists in forming a substantially cylindrical projection on the can top, then cutting the head of the projection out and leaving an annular flange, then subjecting the projection and flange to the action of suitable forming means whereby the flange is turned inwardly to form a bead, and the flange and cylindrical walls are then expanded to provide a smooth conical inner surface for the nozzle.

2. The method of forming a can nozzle which consists in forming a depression in a can top with an upwardly extending substantially cylindrical projection having a closed end, then cutting out the end while leaving an inwardly extending flange, then bending the flange against the inner wall of the projection to form a bead, and finally pressing the bead outwardly to provide a projection around the outer end of the nozzle.

3. The method of making a can nozzle which consists in forming a closed projection in the top of the can, then punching a hole through the end of the projection and leaving an inwardly extending flange, then bending the flange inwardly against the inner walls of the projection, then expanding the flange and adjacent portion of the wall and simultaneously giving a taper to the nozzle to adapt it for receiving a tapered cork.

JAMES H. WILSON.

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