Aug. 30, 1927. 1,640,505

J. A. KRAUS

CAN PUNCTURING DEVICE

Filed March 25, 1926

Fig. 1.

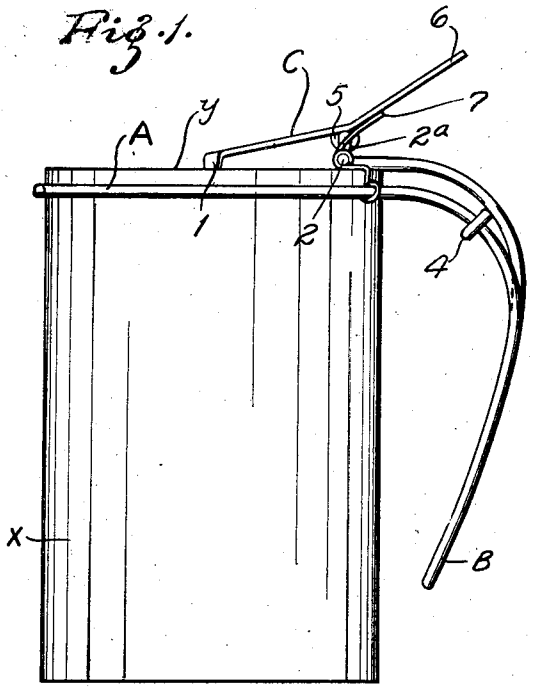


Fig. 2.

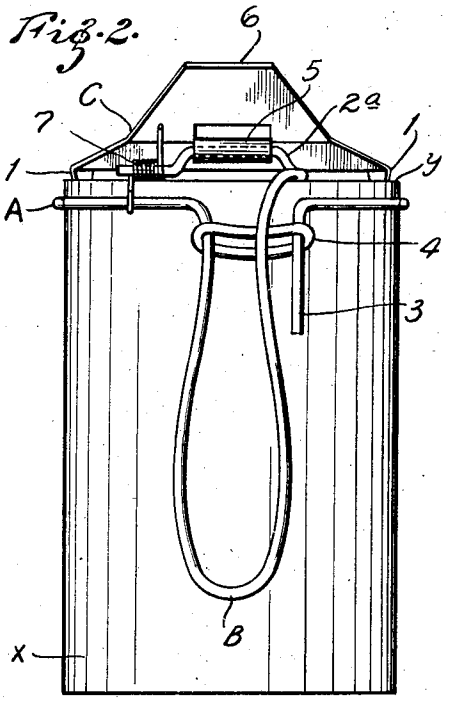


Fig. 3.

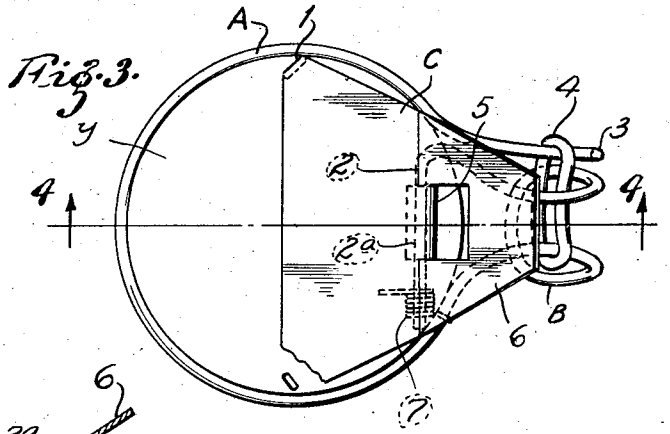
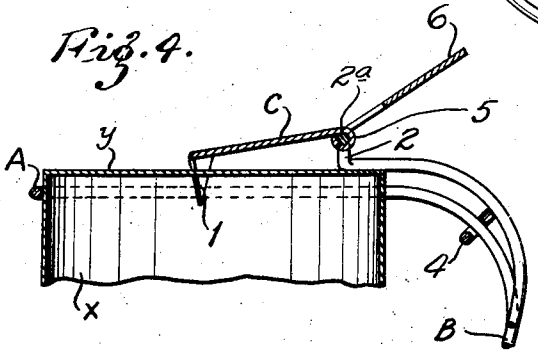


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CAN-PUNCTURING DEVICE.

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This invention relates to devices of the kind that are used to form a hole in the head of a condensed milk can or other sealed can through which the contents of the can will be discharged when the can is tilted.

The objects of my invention are to provide a device of the kind referred to, that can be manufactured at a very low cost; that can be quickly applied to or removed from cans of different diameters; that is provided with a handle which the user grasps during the operation of tilting the can to discharge the contents of same, and which is of such construction that the puncturing element or elements also normally act as closures for the holes in the head of the can.

Figure 1 of the drawings is a side elevational view, illustrating a device constructed in accordance with my invention, arranged in operative position on a can.

Figure 2 is an elevational view, taken at substantially right angles to Figure 1.

Figure 3 is a top plan view; and

Figure 4 is a vertical sectional view, taken on the line 4—4 of Figure 3.

Referring to the drawings which illustrate the preferred form of my invention, A designates a ring-shaped member that is constructed so that it can be slipped over a can x and clamped to same adjacent the head y or upper end of the can. B designates a handle combined with said ring-shaped member and adapted to be grasped by the operator during the operation of tilting the can to discharge the contents of the same, and C designates a puncturing member arranged above the head of the can and provided with one or more prongs or sharp pointed projections 1 that are adapted to be forced downwardly through the head of the can by striking the member C a blow or exerting downward pressure on said member. Usually, the member C will be provided with two puncturing devices 1, one of which is used to form an air hole in the head of the can and the other to form an opening in the can head through which the contents of the can can be discharged by tilting the can. At the completion of the operation of pouring the contents of the can through one of the holes in the head of same, the puncturing devices 1 on the member C are arranged in the air hole and pouring hole in the head of the can, so that they will serve as closures for said openings, thereby maintaining the can and its contents in a sanitary condition.

In order to be commercially successful, a device that is used for puncturing condensed milk cans and other sealed cans must be of such design that it can be manufactured and sold at a very low price. Accordingly, I propose to use a piece of heavy wire or a light weight rod to form the ring-shaped member A, the handle B and a trunnion or support 2 on which the puncturing member C is oscillatingly mounted. The handle B is constructed in the form of a loop, and one of the side pieces of said loop is integrally connected at its upper end to one end of the ring-shaped member A that surrounds the can, the other side piece of said handle loop having an integral, laterally-projecting extension that constitutes the trunnion for the puncturing member C. The portion of the wire that constitutes the ring-shaped member A is bent downwardly at its terminal end, so as to form a depending portion 3 that is arranged substantially parallel to, but at a slight angle to one of the side pieces of the handle B, and a link 4 is slidingly mounted on said handle side piece and on the depending portion 3 of the member A, so as to contract said member A when the link 4 is moved in one direction over the parts which it embraces or surrounds and to permit said member A to expand when said link is moved in the opposite direction. The side piece of the handle B that carries the trunnion 2 for the puncturing member C is preferably bent so that it extends over the link 4, and said trunnion 2 has a crank portion or offset portion 2^a intermediate the ends of same that is surrounded by an eye or tubular portion 5 on the puncturing member C. Said puncturing member herein illustrated as being formed from a substantially triangular-shaped piece of sheet metal, two corner portions of which are bent downwardly at substantially right angles so as to form the puncturing devices 1. The eye or tubular portion 5 on the member C which co-operates with the trunnion 2 to pivotally connect the puncturing member C to the upper end of the handle B is formed preferably by slitting the member C and then bending said slitted portion around the crank or offset portion 2^a of the trunnion 2.

To arrange the device in operative position on a can, the ring-shaped member A is

slipped over the upper end portion of the can and the link 4 is then moved over the depending portion 3 and the opposed side piece of the handle with which said portion co-operates in a direction to contract the member A and draw it snugly against the can. This causes the puncturing member C to be arranged above the head *y* of the can, and when it is desired to pour out some of the material in the can, the wide front end portion of the member is struck a blow or subjected to downward pressure, so as to force the prongs 1 thereon downwardly through the head of the can, as shown in Figure 4. The operator then grasps the handle B of the device and exerts downward pressure on the thumb piece 6 of the puncturing member C in a direction to withdraw the prongs 1 on said member from the holes formed by same in the head of the can, thus uncovering the pouring hole and the air hole in the can head and permitting the contents of the can to be discharged by tilting the can. After the pouring operation is terminated the operator removes his thumb from the thumb piece 6 of the puncturing member C, thereby permitting the member C to swing downwardly, or move in a direction to cause the prongs 1 thereon to be inserted in the pouring hole and air hole in the head of the can. Consequently, the prongs 1 of the member C normally act as closures for the pouring hole and the air hole in the head of the can. Due to the fact that the front end portion of the puncturing member C is of greater weight than the rear end portion of said member which constitutes the thumb piece 6, gravity causes said member C to normally remain in a downwardly tilted position with the prongs 1 thereon arranged in the holes in the can head. If desired, however, a spring 7 of any suitable type or kind can be combined with the trunnion 2 and the puncturing member C so as to normally exert pressure on said member C in a direction to hold the prongs 1 thereon in the openings or holes formed by said prongs in the head of the can.

A device of the construction above described can be manufactured and sold at a sufficiently low cost to bring it within the reach of everyone; it can be applied to or removed quickly and easily to sealed cans of various diameters and it keeps a condensed milk can in a clean and sanitary condition, because it comprises closures for the air hole and the pouring hole in the head of the can.

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

1. A puncturing device for sealed cans, comprising a ring-shaped member and a handle formed from a piece of wire, one terminal portion of which is bent so as to form a horizontally-disposed trunnion and the other terminal portion of which is bent so as to form a depending portion at one end of said ring-shaped member that is arranged in opposed relation to one side piece of said handle, a link that embraces said depending portion and handle side pieces and which is adapted to be adjusted to expand or contract said ring-shaped member, and a puncturing member rockably mounted on said trunnion portion and provided with prongs or sharp-pointed projections for forming an air hole and a pouring hole in the can head.

2. A puncturing device for sealed cans, comprising a puncturing member formed from a piece of sheet metal provided with integral prongs and a thumb piece, and a means for sustaining said puncturing member in operative position above the head of the can consisting of a piece of wire bent to form a substantially ring-shaped member integrally connected at one end to a handle, a trunnion at the upper end of said handle on which said puncturing member is rockably mounted, a depending portion at one end of said ring-shaped member arranged in opposed relation to one side piece of said handle, and a link surrounding said depending portion and the opposed side piece of the handle.

3. A puncturing device for sealed cans consisting of a piece of wire bent to form a ring-shaped member, an integral handle, a horizontally-disposed trunnion at the upper end of said handle, a link slidingly mounted on said handle for contracting said ring-shaped member, a puncturing member rockably mounted on said trunnion and provided with sharp-pointed projections for forming an air hole and pouring hole in the can head, and a spring combined with said trunnion and puncturing member for exerting pressure on said member in a direction tending to force it towards the can head.

JOSEPH A. KRAUS.