Aug. 19, 1930. H. KARL 1,773,362

SANITARY FOOD CONTAINER AND METHOD FOR OPENING IT

Filed Feb. 3, 1927

Fig. 1.

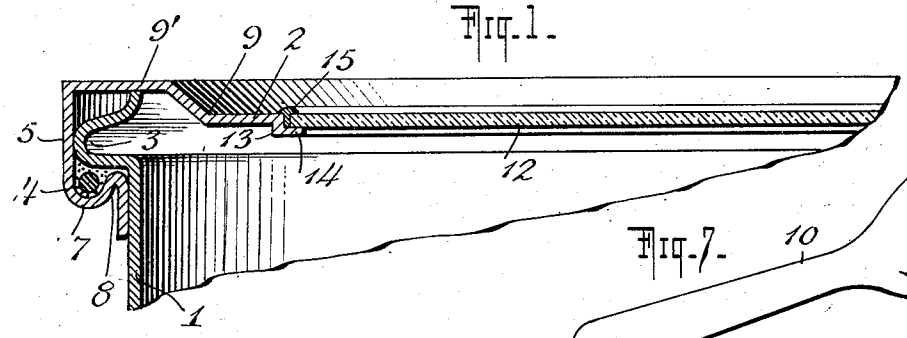


Fig. 7.

Fig. 2.

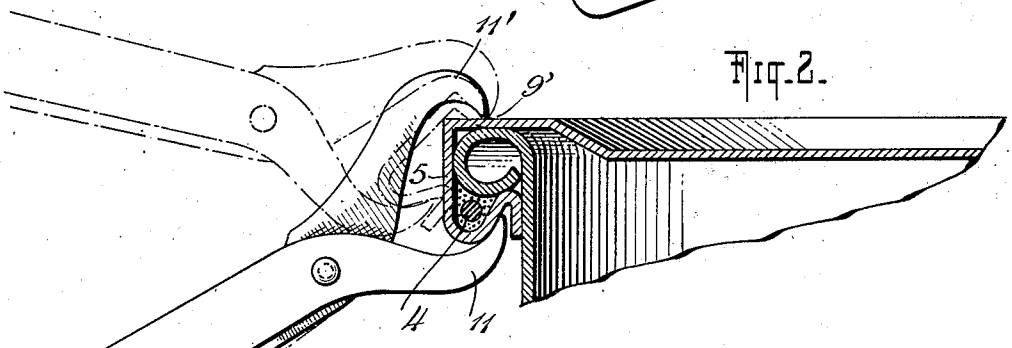
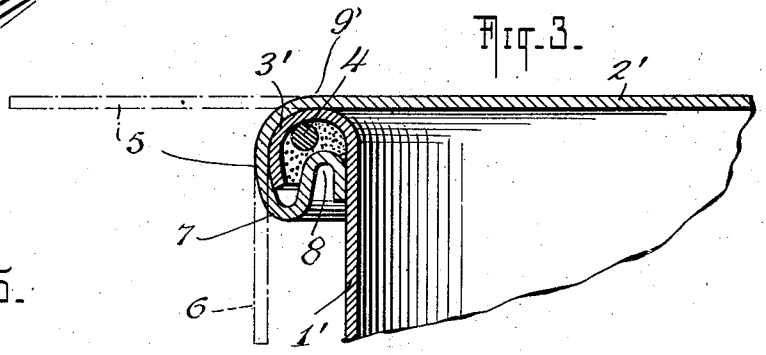


Fig. 3.



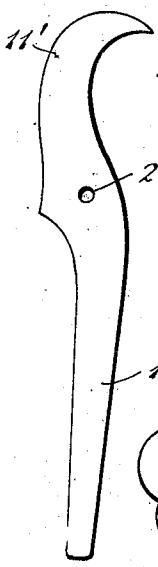


Fig. 5.

Fig. 6.



Fig. 4.

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UNITED STATES PATENT OFFICE

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SANITARY FOOD CONTAINER AND METHOD FOR OPENING IT

Application filed February 3, 1927. Serial No. 165,611.

The improvement of this container consist chiefly in the arrangements that permit the consumer to open the food container by simply dislodging the cover with a tool without, however, cutting or tearing off the metal of the cover, etc., whereby it is prevented that metal particles fall into the contents that may be eatables.

A further improvement of this container consists also in the construction, form, and resulting co-action of a part of the cover and a part of the container, and the method of placing and confining the sealing material to these parts and in such manner as to prevent particles of this sealing material from falling into the contents of the container while it is being closed and while it remains closed and when it is being opened.

Injuries to the intestinal organs, as for instance the membranes thereof and the worse consequences, such as appendicitis or cancer that may result afterwards, are avoided thereby.

An object of the invention is also to provide the cover with a part made of glass to enable the consumer to see the contents of the container when the other parts thereof are made of an opaque material.

Another improvement consists also of a special tool for quickly dislodging the cover from the can so that it can be removed therefrom.

The invention is relatively simple compared with other inventions of a similar character and consists of the arrangement and parts which are more clearly set forth in the now following detail description and illustrated by the accompanying drawings, wherein like reference characters indicate like parts and of which drawings,

Figure 1 is a sectional view of a part of the can supposed to be made of sheet metal with cover put on, of which cover also only a part is shown;

Figure 2 shows the method of opening the can with a special tool;

Figure 3 shows a modification of the method in bending the upper edge of the can or container when it is made of sheet metal;

Figures 4, 5 and 6 show parts of the preferable tool for opening the can; and

Figure 7 shows a simpler tool with three shanks (or points) that serves also for quickly dislodging the cover from the container.

The container consists of the can body 1 which, in the drawings, is represented as being made of sheet metal, but it may as well be made of glass, porcelain, earthenware, etc., and may have any of the well known shapes; it may be cylindrical or of cubic form, or of a rectangular shape or it may be oval, etc., and the cover 2 that is to be made of sheet metal must be shaped accordingly to fit the container or can. The upper end part of the container body 1 is to be bent or shaped outwardly as at 3 or 3′ in a manner that the cover 2, 2′ etc. will have a hold when it is bent around this outwardly bent portion of the container body 1, as shown in Figures 1 and 3. At a suitable part, preferably underneath the outwardly bent portion 3, is placed a cord 4, or rubber string or band, or wire, or fibre, etc., which I will call a fitting material, and before this is done, this cord or wire or fibre, etc. is to be dipped into or pulled through a melted substance, or one that may be made liquid in a different way and which may be of a certain character according to the contents of the can. If certain eatables are contained in the can, then it is preferable to use the cord and to dip it into or pull it through melted wax, or it can be the wire that is to be treated in a similar manner. Instead of wax however, liquid rubber with certain ingredients, such as granulated cork, etc., may be used, or the wire may be heated and pulled through molten soft solder and applied to the can, which may be a sheet metal can, and when the cover is put on that portion must be heated again so that the solder adheres also to the cover. Other substances that may be employed are rosin, gum, cement, putty, sealing wax, stearin, varnish, shellac, paste made of flour, tar, pitch, etc. The main purpose of these binding materials is to make an air and watertight seal between the cover 2 or 2′ and the can 1, 1′, respectively, when the cover is put on. When the eatables, etc.

are filled in and the spring 4 etc., is put around the can and placed underneath the outwardly bent portion 3 or 3′ the cover 2 or 2′ is put on and the outer portion 5 of this cover that had first the shape as shown by the horizontally made dotted lines in Figure 3, may be bent before to an angel of 90 degrees by a suitable shaped part of a machine purposely constructed to perform the function. This outer portion 5 however, of the cover 2 or 2′ may be bent downwardly, as seen at 6 in Figure 3, when the cover is already put on. It is important that the downwardly (vertically) directed part 5 of the cover makes a very close contact with the outermost extended portion of the part 3, 3′ of the container body for preventing the sealing material (fitting material with coating properties etc.) that is to be placed underneath the part 3, 3′ to spread to the upper surface of this part at the closing of the can so that no sealing material will be near the opening of the container and, consequently, will not fall into the contents of the can when it is being closed or while it remains closed or when it is being opened. After placing the cover in the aforesaid manner the lower part of part 5 then will be bent against the can body 1 in a manner that at the same time a flange or edge 7 is obtained. It is then immaterial if the edge of the cover 2, the portion 5 thereof, respectively, is bent upwardly, or if it adheres to the can body 1 in a downwardly bent manner, as shown in the drawings. In any instance, it is important that there is a recess obtained by the inwardly bent portion 8 that serves a purpose that will appear hereafter.

When the cover 2, its portion 5 respectively, is put on in the aforesaid manner, the coated string 4 (etc.) will then be strongly pressed against the outer downward surface of the portion 3 of the can body and the coating of the cord (etc.) 4 adheres then to said portion 3 and the corresponding surface of part 5 of the cover, thereby hermetically closing the can, whereafter the cooking process can take place. It is a purpose that no binder be placed between the upper surface of the part 3 or 3′ and the corresponding part of part 5 because particles of the binder may fall into the contents of the can at the lifting of the cover after its forcible dislodging that will be explained hereafter. If binders, such as tar, rosin, sealing wax, beeswax, etc., or a soft solder are used, the part 5 of the cover must be heated afterward so that these binders melt and through that adhere firmly to the metal sheet, etc. that embraces the coated string or wire 4. The heating of part 5 after the cover is put on will not be necessary if said binders are still hot when the part 5 of the cover is pressed against them. For opening the can it is necessary to employ pincers or one of the tools that are illustrated in Figures 2 or 7, which will be described hereafter. One shank 11 or 11^a or two of them of that tool then has to grip around the flange 7 so that its edge reaches as far as possible into the recess underneath the portion 8 and the other shank 11′ or 11^c is to bear against the top portion 9 that is depressed; preferably it is to bear against the top as at 9′ and by pulling them forcibly at the handle 10 or 10′ 10″ the flange 7 will also be pulled outwardly whereby the portion 5 of the cover will be dislodged from the can 1. The string 4 (etc.) will be pulled out simultaneously when the portion 3 is formed, as shown in Figures 1 or 2, and the cover can then be removed and no metal particles nor such of the coating or fitting material that seals the can will fall into the eatables.

In Figure 1 the upper end portion of the can body that is supposed to be made of sheet metal is formed so that the edge is turned upward, while in Figure 3 it is turned downward, but it could as well be rolled up as shown in Figure 2. There are still more possibilities of shaping this portion of the can and if sheet metal is employed, the edge itself can be bent so that the raw cut of the metal is concealed. The metal sheet can be of the strong kind usually employed for preserving cans.

In cases where the can body is made of sheet metal or other material through which the contents cannot be seen and as the consumers, in most cases, would like to see the contents of part thereof, I provide a glass portion 12 (see Figure 1) suitably shaped and laid in a cut-out portion of the cover 2 (or 2′ etc.) that has the same shape to thereby enable the purchaser of the can to see at least the top portion of the goods. The edge of this cut-out of the cover 2 (or 2′ etc.) is preferably made so as to support the glass 12, and more particularly is shaped so that the edge of the glass bears against the metal. I therefore bend the edge portion 13 downward, then part of that downward-bent portion is to be bent so as to take the horizontal direction such as indicated by 14 in Figure 1, whereafter the glass 12 is put on in a manner as to lay upon the portion 14. With little putty, etc. applied between the part 13 of the metallic portion of the cover and the edge portion of the glass then the cover itself with glass will be also made air and watertight.

The tool shown in Figures 2, 4, 5 and 6 preferably consists of two hinged parts of which the handle part 10′ with the shanks 11 form one part and the handle part 10″ and shank 11′ forms the other part. The shank 11′ may be a little longer than the shanks 11. This tool can be made cheaply since the metal needs to be only $\frac{1}{16}$ of an inch thick or even less than that, and each

of the two parts can be cut with a die. The part shown in Figure 4 then is to be bent at the dotted line 25, then the part shown in Figure 5 put into this folded part and the pin shown in Figure 6 is pushed through the holes 26, 27, 28 and then the end indicated by 28′ is to be broadened in a well known manner through hammering. There are tools known already that serve for opening bottles; such tools may be employed also in the present invention (see Figure 7) whereby the shanks 11ª, 11ᶜ must be of a certain length in respect to one another and in order to permit a quick opening of the can two shanks 11ª could be provided for which will grip the flange 7 simultaneously at two points that are distanced by about ¼ of an inch when the tool is placed in position for opening the can. For obtaining the two lower shanks 11ª it is simply necessary to cleave the lower shank 11ª, as shown in Figure 7, and bend the outer portion to the side so that its point is about ¼ of an inch distant from the inner shank portion 11ª. Instead of using said cord etc., the coating material alone may be used if it is of that kind that adheres sufficiently to the can body before the cover is put on that is to compress it.

Having described a preferable form of my invention, I wish to make it known that minor changes may be possible without, however, departing from the spirit and scope of the invention.

What I claim is:

1. In a container consisting of the container body and a cover therefor which latter is to be separated from the container body by means of a suitable tool designed for pulling outwardly the edge portion of the cover without tearing in the metal, the upper end portion of the container body being extended outwardly, the cover including a part made of sheet metal and this part adapted to be bent so as to grip underneath the whole outwardly extended portion of the container, a coating material with properties of a binder applied only underneath said outwardly extended portion of the container body before said part of the cover is bent to grip underneath thereof and said part of the cover bent so as to form a lengthwise endless recess and to compress all said coating material in a manner that it adheres to the nearest part, namely, the outer downward facing surface only of said outwardly extended portion, of the container body as well as to that part of the cover that compresses it, thereby forming a hermetic sealing means for the container, said outwardly extended portion of the container and corresponding part of the cover formed in such manner as to coact that none of said fitting and coating material will reach the upper surface of said outwardly extended portion of the container body and consequently also the contents of the container when the container is being closed and while it remains closed and when it is being opened.

2. In a container consisting of the container body and cover therefor which latter is to be separated from the container body by means of a suitable tool designed for pulling outwardly the edge portion of the cover without tearing in the metal, the upper end portion of the container body extended outwardly in such proportion as to permit the placing of fitting and binding material underneath thereof without letting it come into contact with the edge of the opening of the can, the cover including a part made of sheet metal and this part adapted to be bent so as to grip underneath the whole outwardly extended portion of the container, said fitting material being coated with a binder laid only underneath said outwardly extended portion of the container body before said part of the cover is bent to grip underneath thereof, and said part of the cover bent so as to form also a lengthwise endless recess and to compress all said coated fitting material in a manner that the coating thereof adheres to the nearest part, namely, the outer downward facing surface only of said outwardly extended portion, of the container body as well as to that part of the cover that compresses said fitting material, said outwardly extended portion of the container and corresponding part of the cover formed in such manner as to coact that none of said fitting material and binder will reach the edge of the opening of the container nor the upper surface of said outwardly extended portion of the container body and consequently the contents of the container when the container is being closed and while it remains closed and when it is being opened.

3. In a container consisting of the container body and cover therefor which latter is to be separated from the container body by means of a suitable tool designed for pulling outwardly the edge part of the cover without tearing in the metal, the upper end portion of the container body being extended outwardly, the cover including a part made of sheet metal and a part made of glass, part of the cover that is made of sheet metal adapted to be bent so as to grip underneath the whole outwardly extended portion of the container, a fitting material with coating properties put only underneath said outwardly extended portion of the container body before said part of the cover that is made of sheet metal is bent to grip underneath thereof, and said part of the cover bent so that it forms also a lengthwise endless recess and to compress all said fitting material in a manner that it adheres to the nearest parts, namely, the outer downward facing surface only of said outwardly extended portion of the container body and of that part of the cover that compresses it, said outwardly extended portion of the container and corresponding part of

the cover formed in such manner as to coact that none of said fitting material will reach the upper surface of said outwardly extended portion of the container body and consequently the contents of the container when the container is being closed and while it remains closed and when it is being opened.

4. In a container consisting of the container body having an outwardly extending portion on its upper edge and a cover of which a part must be made of sheet metal, said part of sheet metal adapted to be bent underneath the whole outwardly extending upper edge of the container body, and a binding material that must be melted by heat applied only underneath said outwardly extending portion of the container before said part of sheet metal of the cover is bent and that part of sheet metal of the cover covering all of said binding material and compressing it so that it adheres to the outer downward facing surface of said outwardly extending portion of the container and heated afterwards to melt said binding material to make it adhere well to that part of sheet metal of the cover as well as to that outwardly extending portion of the container without adhering to the upper surface hereof.

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