May 10, 1932. H. SEBELL 1,857,665

SEALED CAN AND METHOD OF MAKING THE SAME

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FIG. 1.

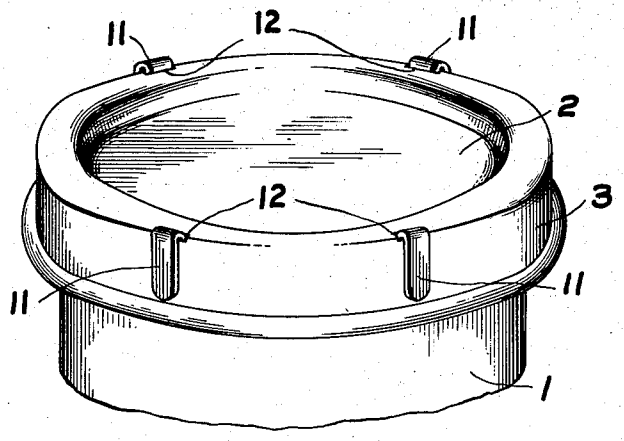


FIG. 2.

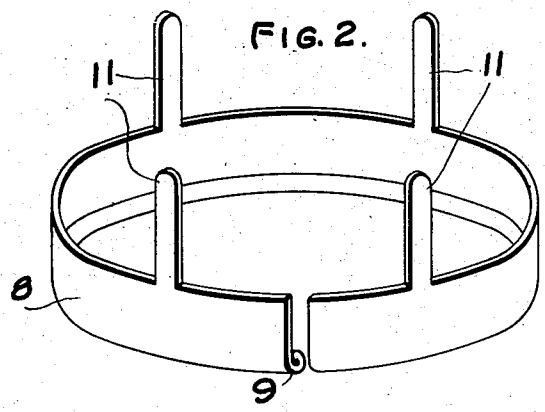
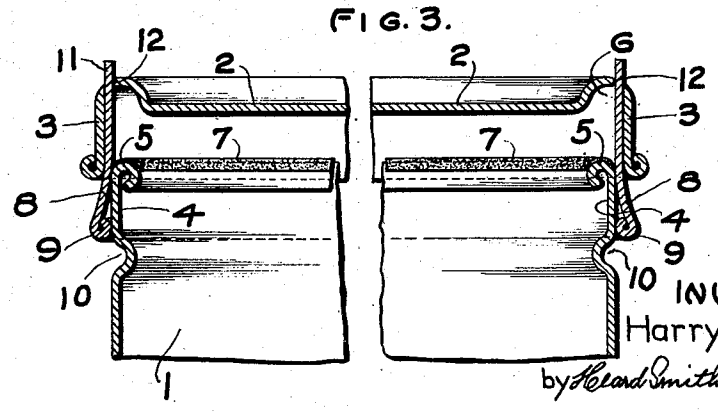


FIG. 3.



INVENTOR
Harry Sebell
by Heard Smith & Tennant
ATTY'S

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FIG. 4.

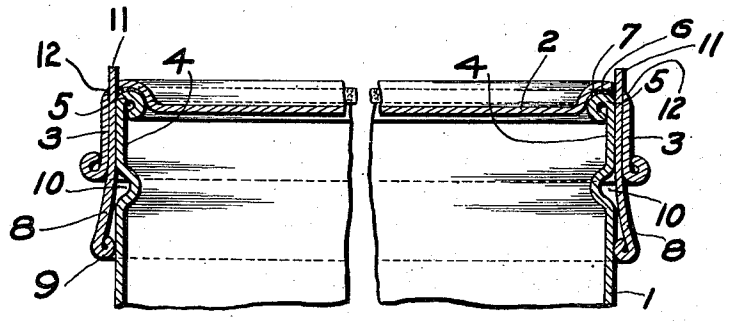


FIG. 5.

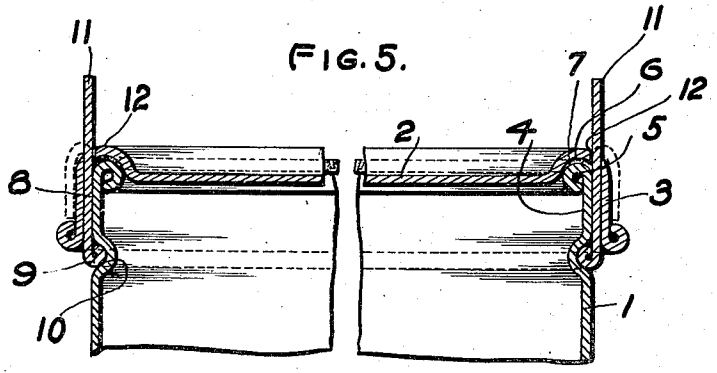
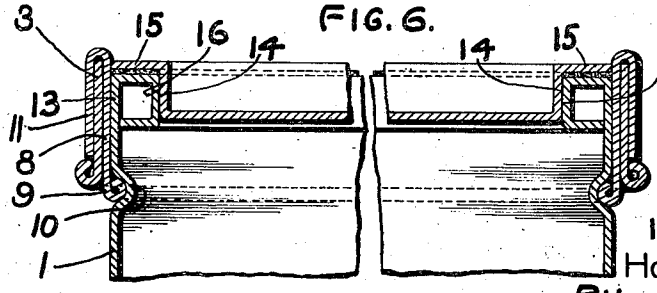


FIG. 6.



INVENTOR
Harry Sebell
BY
Heard Smith & Kennart
ATTY'S

Patented May 10, 1932 1,857,665

UNITED STATES PATENT OFFICE

HARRY SEBELL, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ARTHUR H. PARKER, OF LEXINGTON, MASSACHUSETTS

SEALED CAN AND METHOD OF MAKING THE SAME

Application filed March 15, 1930. Serial No. 436,022.

This invention relates to a sealed can and to a method of sealing the same and particularly to a can having a cover of the so-called "slip-on" variety, that is, a cover which is provided with a skirt or flange adapted to fit over the open end of the can body.

One of the objects of the invention is to provide a can of this type in which when the can is sealed the cover is locked to the can body by a locking ring which is interposed between the skirt of the cover and the end of the can body and which is interlocked both with the can body and the cover.

In order to give an understanding of the invention I have illustrated in the drawings some selected embodiments thereof which will now be described after which the novel features will be pointed out in the appended claims.

In the drawings:

Fig. 1 is a fragmentary perspective view of a sealed can embodying my invention;

Fig. 2 is a perspective view of the locking ring;

Fig. 3 is a sectional view showing the locking ring and can cover partially assembled and in the first stages of being applied to the can body;

Fig. 4 is a sectional view showing the second stage in the sealing operation;

Fig. 5 is a sectional view showing the final and last stage of the sealing operation;

Fig. 6 is a fragmentary sectional view illustrating a different embodiment of the invention.

In the drawings, 1 indicates the can body which is open at its upper end and 2 indicates the can cover. This cover is of the so-called "slip-on" variety, it having a depending skirt 3 which encircles the upper end 4 of the can body. The can body is shown as having a beaded upper edge 5 and the can cover is made with the annular groove portion 6 which fits over the bead 5. When the can is sealed a gasket or sealing compound 7 will be placed between the bead 5 and the bottom of the groove 6 thereby to make a hermetic seal.

The cover is locked in position on the can by means of a locking ring 8 which, when the can is sealed, is situated between the skirt 3 and the upper end 4 of the can body and is interlocked both to the can body and to the can cover. This locking ring is shown as a split ring or band and it is interlocked with the can body through the medium of a bead 9 which is formed on the bottom of the locking ring or band on the inner side thereof and a corresponding annular groove 10 formed in the can body into which the bead 9 is received.

The locking ring is interlocked with the can cover through the medium of prongs or fingers 11 with which the locking ring is provided and which extend through openings 12 in the cover and which are bent downwardly to overlie the outside of the cover as shown in Fig. 1.

The engagement of the skirt 3 of the cover with the locking ring holds the bead 9 of the locking ring in the groove 10 thus locking the ring to the can body and preventing the locking ring and cover from being pulled off from the open end of the body. The fingers or tabs 11 tie the cover to the locking ring whereby the cover is firmly held to the can.

The manner of sealing the can with this construction is as follows. The sealing compound 7 will be placed either in the groove 6 of the cover or on the bead 5 and the cover and locking ring may be partially assembled as shown in Fig. 3 by inserting the fingers or tabs 11 part way through the openings 12 of the cover. When thus partially assembled the locking ring will extend considerably below the skirt 3. When the cover and locking ring are in this relative position they are applied to the can, during which operation the locking ring will slide down on the can as shown in Fig. 4.

Since the locking ring is a split ring it is permitted to expand sufficiently to allow the bead 9 which is located on the inside of the locking ring to be forced over the end 4 of the can body and beyond the groove 10.

When the cover has been seated on the end of the can as shown in Fig. 4 then the locking ring is drawn upwardly into its locking position. This can be done by applying a pulling strain to the fingers or ears 11. It will be

understood, of course, that pressure will be applied to the cover 2 during this operation so as to hold the cover tightly sealed against the bead 5.

The pulling strain applied to the fingers or ears 11 will pull the locking ring up into the space between the skirt 3 and the upper end 4 of the body. As soon as the locking ring has been carried into a position where the bead 9 is in alignment with the groove 10 then said bead will snap into the groove thus interlocking the locking ring with the can body. When the locking ring is in this position then the projecting ends of the fingers 11 are bent downwardy against the outer wall of the skirt 3 of the can cover as shown in dotted lines Fig. 5, by which operation the cover is interlocked with the locking ring. When the can is sealed, therefore, the locking ring which is exposed between the skirt 3 and the upper end 4 of the can body is interlocked with both the can body and the can cover.

To open the can the fingers 11 will be bent back into their straight position as shown in full lines Fig. 5, after which the can cover may be pried or forced off from the can body. After a can has once been opened it can be seated again as above described or if a hermetic seal is not desired then the locking ring may be discarded and the can may be closed by simply placing the cover on the can as any slip-on cover is placed on its can.

The locking ring is of relatively thin material so that even when it has been discarded and the cover has been replaced on the can the skirt 3 fits the can reasonably tightly.

In Fig. 6 I have illustrated a slightly different embodiment of the invention wherein the upper edge of the can and the can cover are so shaped relative to each other that when the can cover is in place it will frictionally engage the inner side of the bead at the upper edge of the can body. With this construction the cover will have a tight sealing engagement with the can body when said cover is replaced after the can has once been opened.

In Fig. 6 the can body 1 is bent at its upper edge to form a bead 13 which has a cylindrical inner face 14 and the groove portion 15 of the cover is made with the flat faces at right angles to each other to fit the rectangular bead 13, the wall or face 16 of the cover fitting tightly against the cylindrical face 14 of the bead. With this construction the cover will be frictionally retained in place by the engagement of the wall 16 of the cover with the wall 14 of the bead.

This cover is sealed to the can by the locking ring 8 all as above described but when the cover is replaced on the can body after the can has once been opened and the locking ring has been discarded there will be a tight friction fit between the wall 16 of the cover and the walls 14 of the can body which will practically seal the can hermetically.

The slots 12 through which the fingers 11 extend can also be used to assist in prying the cover shown in Fig. 6 off from the can after it has once been opened. These slots 12 provide for engaging the cover with a screw driver or other implement which can be used in prying it off from the can.

I claim.

1. A sealed can comprising a can body, a cover for the can having a skirt portion which fits over the upper end of the can body and a locking ring interposed between the skirt portion and said upper end of the can body, said locking ring having fingers which extend through and are interlocked with the cover.

2. A sealed can comprising a can body, a can cover having a skirt portion to fit over the open end of the can body, and a thin, flat locking ring encircling the can body and located between the skirt of the can cover and the upper end of the can body, said locking ring being interlocked with the can body below the skirt of the cover and with the can cover above said skirt.

3. A sealed can comprising a can body having an external groove adjacent its open end, a can cover having a skirt portion to fit over the open end of the can body, a locking ring interposed between said skirt portion of the cover and the upper end of the can body and having a bead received in the groove of the can body, said locking ring being interlocked with the can cover.

4. A sealed can comprising a can body having an external groove adjacent its open end, a can cover having a skirt portion to fit over the open end of the can body, a locking ring interposed between said skirt portion of the cover and the upper end of the can body, said locking ring having a bead fitting into the groove of the can body and having locking fingers extending through the cover and bent over against the outside of the cover.

5. The method of sealing a can in which the can cover has a skirt portion which fits over the upper end of the can, said method consisting in partially assembling a can cover and a locking ring by placing the locking ring partially within the skirt of the cover, applying the partially assembled cover and sealing ring to the can body by seating the cover on the can body and forcing the locking ring over the can body and then drawing the locking ring into the space between the skirt of the cover and the upper end of the can body and interlocking said ring with both the can body and the can cover.

6. A sealed can comprising a can body, a can cover having a skirt portion to fit over the open end of the can body, and a thin flat locking ring encircling the can body and located between the skirt of the can cover and the

upper end of the can body, said locking ring being interlocked with the can body below said skirt, and also being interlocked with the can cover.

7. A sealed can comprising a can body, a can cover having a skirt portion to fit over the open end of the can body, and a thin flat locking ring encircling the can body and located between the skirt of the cam cover and the upper end of the can body, said locking ring being interlocked with the can cover above said skirt and also being interlocked with the can body.

In testimony whereof, I have signed my name to this specification.

HARRY SEBELL.