No. 842,237. PATENTED JAN. 29, 1907.

S. OPSAL & L. A. MYDLAND.

OPENING DEVICE FOR PRESERVE BOXES.

APPLICATION FILED FEB. 14, 1905.

2 SHEETS—SHEET 1.

Fig. 4.

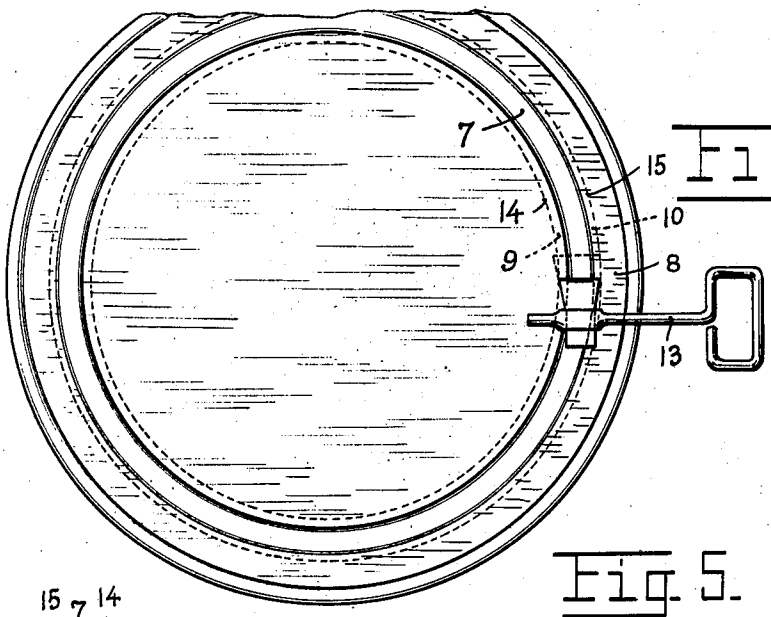



Fig. 5.

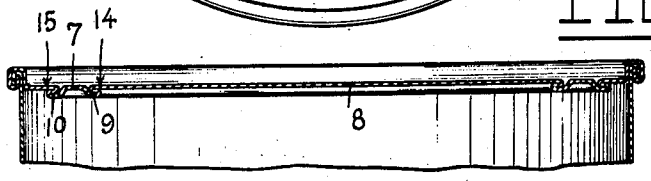



Fig. 1.

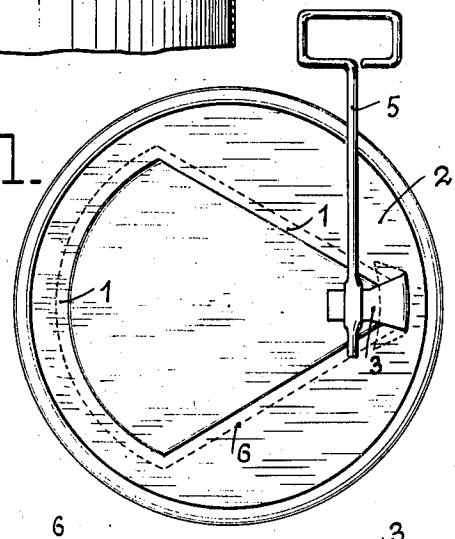



Fig. 3.

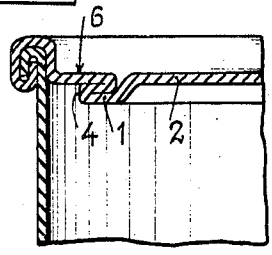
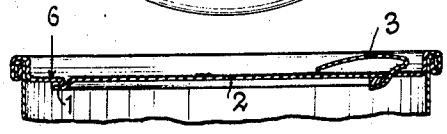



Fig. 2.




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2 SHEETS—SHEET 2.

Fig. 7.

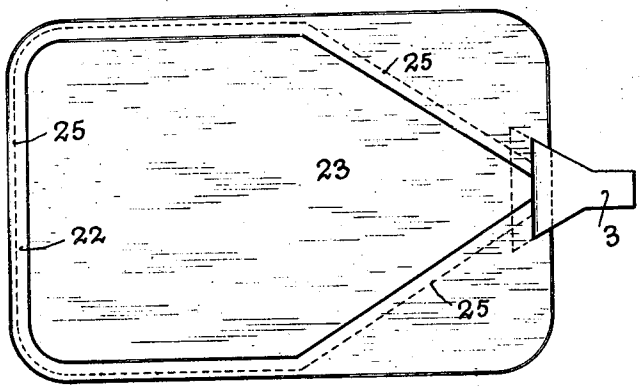



Fig. 8.

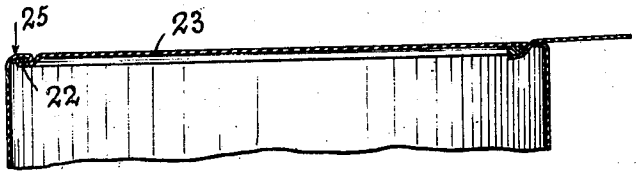



Fig. 6.

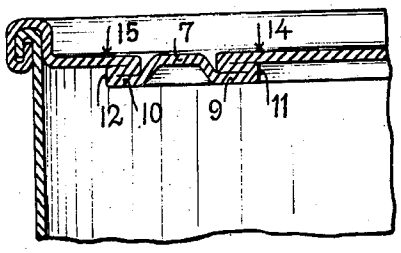



Fig. 9.

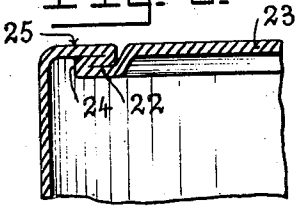



Fig. 10.

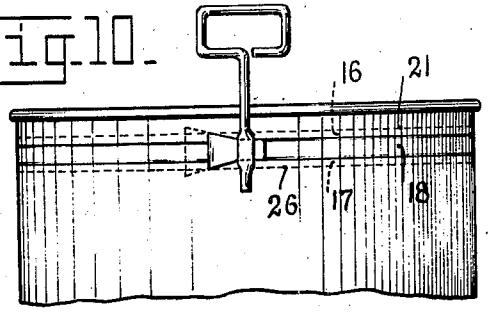
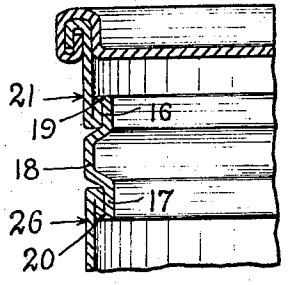



Fig. 11.




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# UNITED STATES PATENT OFFICE.

SÖREN OPSAL AND LEONOR ALEXANDER MYDLAND, OF STAVANGER, NORWAY.

## OPENING DEVICE FOR PRESERVE-BOXES.

No. 842,237. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed February 14, 1905. Serial No. 245,633.

*To all whom it may concern:*

Be it known that we, SÖREN OPSAL, mechanician, and LEONOR ALEXANDER MYDLAND, manufacturer, citizens of Norway, residing at the city of Stavanger, Norway, have invented new and useful Improvements in Opening Devices for Preserve-Boxes and the Like, of which the following is a specification.

Our present invention relates to preserve boxes or cans and the like, and has for its object to provide an opening device which is simple in construction and dispenses with all weakening of the box-metal sheet.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing the improved opening device applied to a comparatively small circular box. Fig. 2 is a sectional view taken through the box represented in Fig. 1, and Fig. 3 is a part of Fig. 2 drawn to an enlarged scale. Figs. 4, 5, and 6 are views similar to Figs. 1, 2, and 3, respectively, showing the device applied to a larger circular box. Figs. 7, 8, and 9 illustrate in the same manner the device arranged for a rectangular box. Figs. 10 and 11 are side view and enlarged sectional view of a box which is opened in the body by our improved device.

This invention consists in providing the can, either the top, bottom, or the body thereof, with folded parts, preferably turned inwardly, which define the part or parts to which the tearing of the strip will be confined, the removable parts being provided with a projecting tongue to be engaged by a key. We preferably provide the metal of the can with zigzag folds which entirely surround or confine a portion of the top, bottom, or body of the can, thereby producing a border which when the key engages the tongue, which is soldered to the removable part, and the key is turned will act as a cutting edge, which during the coiling up severs the sheet along the opening-lines. This arrangement may be used for all sorts of boxes in many different manners, as shown by way of examples in the annexed drawings.

Referring to Figs. 1–3, the zigzag fold 1 follows a circle near the outer edge of the cover 2 and two converging lines between the ends of which the tongue 3 is inserted and is soldered fast to the inner part of the fold 1. When now the tongue 3 is coiled up around the key 5, the fold 1 itself is forced out, and hereby the portion 4, Fig. 3, will act as a cutting edge to separate the sheet successively along the line 6.

In larger circular boxes the opening is preferably effected by tearing out a strip 7, Figs. 4, 5, and 6, of the cover 8. In this case the cover is provided with two circular and oppositely-directed zigzag folds 9 and 10, suitably spaced apart. To assure the proper tearing of the strip and to start the tearing in a way to assure the best results, the inner part of tongue 3 is made wider than the distance between the opposite folds or plies at the point where the tongue is inserted or attached, as shown by dotted lines in Figs. 1, 4, 7, and 10. This construction of the tongue will preferably be used in boxes where the opening-lines converge against the beginning-points of the opening, between which points the tongue is soldered fast. When in this case the width of the tongue is larger than the distance between said beginning-points, as shown in Figs. 1 and 7, the sheet first will be separated outside the folds along two parallel lines, and as soon as these latter meet with the opening-lines the continued opening will take place along the same. In this manner the sheet is prevented from being separated between the folds.

In the arrangement shown in Figs. 4–6 the portions 11 and 12 will, as before, during the coiling up on the key 13 act as edges to cut through the sheet along the lines 14 and 15, so that the strip 7 is torn out and coiled up together with the folded portions 9 and 10 themselves. The strip, as well as the part inside the same, then will be separated from the box.

The box is either circular or rectangular or otherwise shaped, and it may be provided in its body portion with two oppositely-directed zigzag folds 16 and 17. (Figs. 10 and 11.) The inner part of the tongue is, as before, made wider than the distance between the opening-lines 21 and 26. The strip 18 is torn out together with the folds themselves, whereby the portions 19 and 20 will cut through the sheet along the lines 21 and 26, so that the whole cover and the part of the body situated over the strip 18 are separated from the remaining box.

In rectangular boxes a zigzag fold 22, Figs.

7, 8, and 9, may be arranged, for instance, along the three borders and along two converging lines on the bottom or cover. During the opening the cover or bottom 23 will be coiled up on the key, whereby the edge 24 will cut through the sheet along the line 25.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A metallic box provided with an integral part having along its edge an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, which define an integral part to be torn away, and a short projecting tongue connected with said part.

2. A metal box provided with an integral removable part having opposite side edges and along each of its said edges an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, the whole defining the integral part to be torn away, and a short projecting tongue connected with said part and broader at the point of connection than the distance between the opposite edges referred to.

3. A metal box provided with an integral removable strip having along its edge an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, which define an integral part to be torn away, and a short projecting tongue passing through the metal of said can and connected with said strip at the interior of the can and broader at the point of connection than the contacting portions of the plies.

4. A metal box provided with an integral removable part having its side edges parallel and along each of said edges an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, the whole defining a continuous integral strip to be torn away, and a short projecting tongue connected with said part and broader at the point of connection than the strip to be removed.

5. A metal box provided with an integral removable part having along its edge an inwardly-extending or an outwardly-extending fold comprising three adjacent and directly-contacting zigzag plies, which define an integral part to be torn away, and a tongue considerably shorter than and connected with the part to be removed and broader at the point of connection than the contacting portions of the plies.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

SÖREN OPSAL.
LEONOR ALEXANDER MYDLAND.

Witnesses:
T. TORGESSEN,
J. CHR. M. LARSSEN.