

(No Model.)

A. F. FITZ GERALD.

SEAL FOR VESSELS AND MEANS FOR OPENING SAME.

No. 489,183.

Patented Jan. 3, 1893.

Fig: 1.

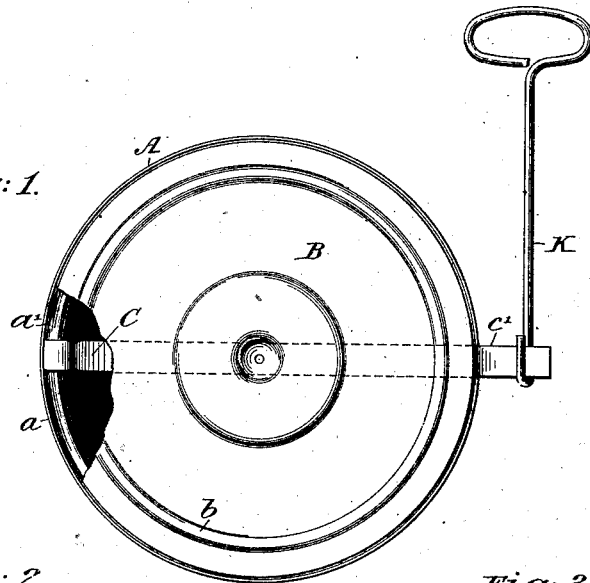


Fig: 2.

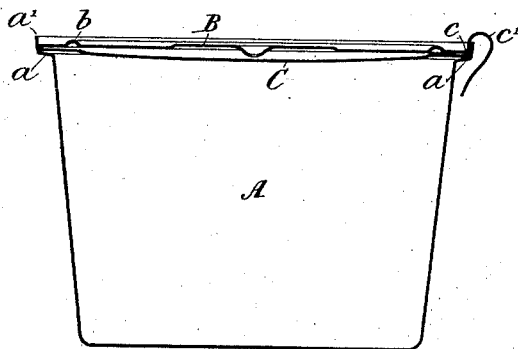


Fig: 3.

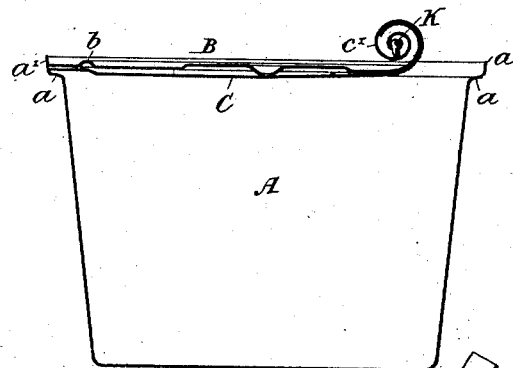
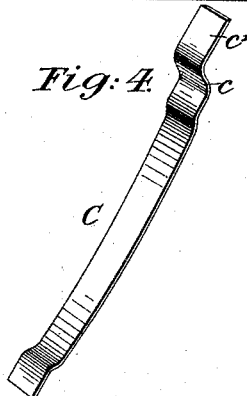


Fig: 4.



WITNESSES:

Robert N. Kenyon.
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Fig: 5.

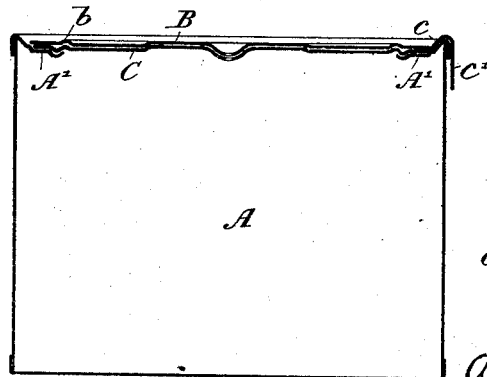
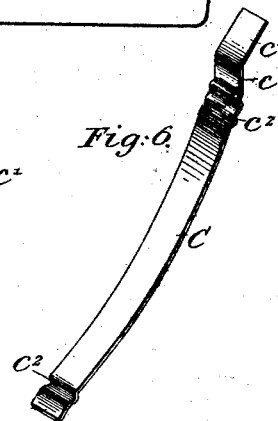


Fig: 6.



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UNITED STATES PATENT OFFICE.

AUGUSTINE F. FITZ GERALD, OF BROOKLYN, ASSIGNOR TO THE AUTOMATIC CAN OPENING ATTACHMENT COMPANY, OF NEW YORK, N. Y.

SEAL FOR VESSELS AND MEANS FOR OPENING SAME.

SPECIFICATION forming part of Letters Patent No. 489,183, dated January 3, 1893.

Application filed March 25, 1892. Serial No. 426,338. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTINE F. FITZ GERALD, a citizen of the United States, residing in the city of Brooklyn, Kings county, and State of New York, have invented a certain new and useful Improvement in Seals for Vessels and Means for Opening Same, of which the following is a specification.

This invention relates to the sealing of vessels and devices for opening same, having more especial reference to sheet metal cans and packages for preserved and prepared meats, vegetables, fruits, &c., where leakage and admission of air are to be prevented, and which can be readily opened or broken without the use of cutting devices, or similar tools.

The present improvement may be considered as a further development of the invention for which Letters Patent of the United States No. 439,133 were granted to me on the 28th day of October, 1890,—and has for its object to lessen the number of parts or elements employed in making the seal,—reduce the time and labor involved in placing and soldering the parts in position, and consequently cheapen the article, besides enhancing its efficiency.

The essential features of my present construction are simply the vessel,—the cover,—an interposed independent or separate strip,—and solder applied at a single operation. For more complete comprehension, however, of the improvement, reference must be had to the accompanying drawings forming part of this specification, in which similar letters of reference indicate like parts.

In said drawings: Figure 1 is a plan view of a vessel with cover and opening device according to my invention;—Fig. 2 is a cross section of same with parts in their sealed position; Fig. 3 is a cross section showing the cover partly open, and Fig. 4 a perspective view of the plain strip employed in the above construction. Fig. 5 is a cross section of a modified form of can, and shows a strip shaped to correspond with both rim and cover,—and Fig. 6 is a perspective view of the strip shaped to correspond with the rim or seat alone.

Referring to Figs. 1, 2, 3 and 4, A is the

vessel of any preferred shape, having its top rim offset so as to form a shoulder or seat *a* for the cover B and interposed strip C, and to offer a standing flange *a'*, the solder being passed around the joint between it and the cover in the usual way. The strip C is separate and distinct from the cover B, and is conveniently struck from waste pieces of sheet metal. It is adapted to be placed transversely of the vessel with one end resting upon the seat *a* at one side, and its opposite end (near which it is also supported by the seat *a* at the other side of the vessel) is slightly bent, as at *c*, so as to allow it to project, as at *c'*, a short distance beyond the flange *a'* and side of the vessel;—being preferably turned down afterward, as in Fig. 2, for convenience of packing. This strip C is preferably also slightly bent or "bellied" toward the center previous to insertion, so as not to interfere with the usual depressed central part of the cover B,—although this slight curve may be imparted to the strip by the impact of the cover. This strip C being placed in position as just described, the cover B is put in place over it, and solder is then applied as usual around the edge, a little extra care being taken at the points where the cover overlies the strip in order to insure a tight seal.

In Fig. 5 I have shown a modified form of vessel, and a strip shaped to correspond. Here the opening or mouth of the can is less than the diameter of its body, caused by the addition of a beaded annular plate or ring *A'* to its upper edge, in the manner commonly known, said annular plate thus being the equivalent of the seat *a* formed on the can in the preceding figures. The strip C has the projecting end *c'*, and in this case is preferably beaded or corrugated, as shown at *c''*, near its ends, so that those parts which overlie the annular plate *A'* may match its contour and fit closely. The operation of soldering in this modification is precisely similar to that hereinbefore described.

Fig. 6 shows a strip with a plain curve in the center,—and the strip indicated in Fig. 5 follows the entire cross section of the cover B. I may adopt either of the above described

or analogous forms without departing from my invention.

The shaped strips may be struck out by a die of similar contour to that which forms the cover,—or may be sufficiently bent by hand.

It will be noticed that the cover B has in each case an annular bead *b* near its edge. This is desirable, and I prefer to use this, or some similar form, in order to strengthen and stiffen the cover, especially at the point where the first strain occurs in proceeding to open the can, viz: that part immediately overlying the strip near its free end *c'*.

To open the vessel, the strip C is grasped by its projecting end *c'* and bent and pulled backward transversely of the can, thus breaking the solder and bending the cover away from its seat. In some cases this may be done by hand or with a pair of pliers,—but the most convenient way is to employ the key K shown in Fig. 1, and, by using it as a handle, roll the strip C and cover B back together, as indicated in Fig. 3,—its leverage always affording sufficient power to break the solder and bend the cover.

If desired, a small drop of solder may be placed upon the cover seat at one or both of the points where the strip is to lie (or the ends of the strip may be previously dipped in solder), for greater security in making an air tight joint, and rely upon the final operation of soldering to re-heat (or sweat) and set the joints at these places, but ordinarily this will not be necessary.

It will be apparent from the above that by introducing the separate strip, extending from side to side of the can and supported on the rim or seat, I do away with the operation of soldering the strip to the cover, as in my pre-

vious patent,—and I have also found that it is possible to make a tight joint between cover, strip and vessel without the intervention of a sweater. In these two respects I lessen labor and consequently cheapen the device, while not impairing its efficiency. The use of the separate key, also is preferable above the handle shown upon the strip in said patent,—as, by folding the free end down close to the can body, I am enabled to pack a number of vessels together without loss of appreciable space.

What I claim and desire to secure by Letters Patent is as follows:

1. The combination with a vessel having an approximately horizontal annular seat formed at its rim,—of an independent flat strip placed transversely of the can in such a manner that one end of said strip rests upon said seat at one side and the other end is supported by said seat at the opposite side but projecting so as to provide a free end outside of the seat and can,—and a cover placed within the seat on top of said independent strip,—the whole arranged and adapted to be sealed with solder or the like,—and the seal to be broken and the cover removed by force exerted upon the free end of said strip,—substantially as set forth.

2. The combination with a vessel having a beaded or corrugated seat near its rim, and a cover sealed thereon,—of the independent strip C interposed between said seat and cover and shaped to correspond with such seat and cover so as to lie closely thereto, and having a free end projecting beyond the side of the vessel,—substantially as set forth.

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Witnesses:

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