

(No Model.)

G. A. WAEBER.
SHEET METAL CAN.

No. 474,427.

Patented May 10, 1892.

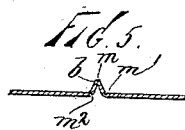
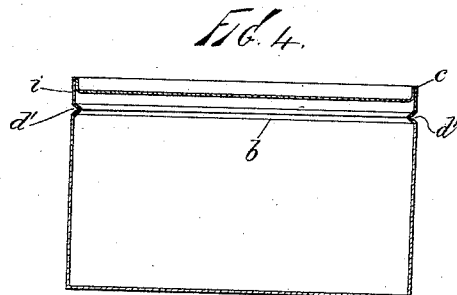
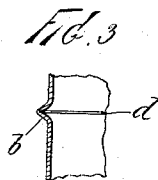
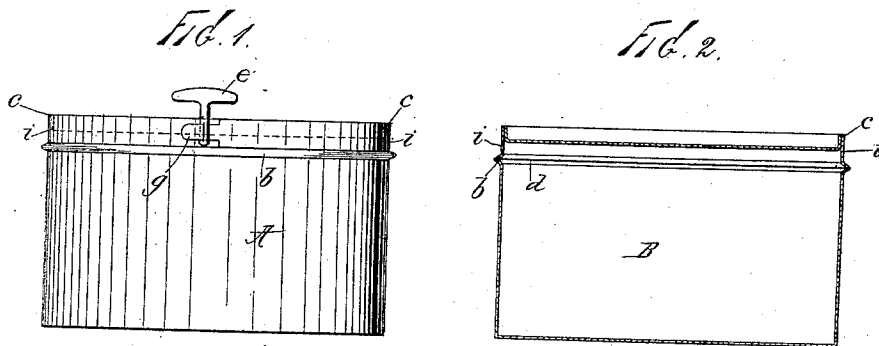
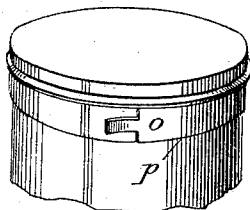


Fig. 6.



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UNITED STATES PATENT OFFICE.

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SHEET-METAL CAN.

SPECIFICATION forming part of Letters Patent No. 474,427, dated May 10, 1892.

Application filed March 19, 1891. Serial No. 385,697. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS A. WAEBER, a citizen of the United States, residing in the city, county, and State, of New York, have invented a new and useful Method of Making Metal Cans and other Metallic Vessels, designed especially or chiefly for the preservation of meats, fruits, vegetables, and other articles; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings which accompany and form a part of this specification.

In the drawings, Figure 1 is an outside elevation of a form of cylindrical sheet-metal can made in accordance with my improvement in which the covers or heads are placed inside of the ends of the body and are soldered thereto. Fig. 2 is an interior section of the body of the same can, showing how the portion of the vessel to which my improved method is applied appears from the inside. Fig. 3 is a detail view, somewhat enlarged, of a part of the side wall of the body of the same can at the point where the improvement is applied. Fig. 4 represents another example of a can made according to my invention. Fig. 5 is a detail view showing still other variations in the mode of employing my improvement, and Fig. 6 represents the improvement applied to the rim or side flange of the cover or head of a cylindrical can of the well-known form in which the heads encircle the ends of the body in the manner shown.

The mode of construction herein described pertains generally to the class of sheet-metal cans or other vessels which, after being hermetically sealed, are opened to obtain access to their contents by stripping off a section or portion of the metal composing the vessel around more or less of the periphery thereof; and it relates, specifically, to that variety of these vessels in which the strip-section is at one of its edges or sides torn at or against an incision made in the material of the vessel and at its other edge or side is torn from the solder which, if the strip-section is in the body, secures the latter to the cover, or if it is in the cover secures that to the body.

My invention is not applicable to any portion of the can or vessel, except to the side wall of its body or to the vertical or flange part

of such a cover as is represented in Fig. 6, and it is designed to constitute an improvement upon the method patented by De Villeroche and Chatelard on the 25th of May, 1886, by Letters Patent numbered 342,503. A prominent defect in that method has in practice been found to be the extreme nicety of construction and adjustment required in the machine employed to carry out the method, thereby necessitating expensive skilled labor to properly do the work. Even with good machines and skilled labor spoiled work to a considerable amount is frequently unavoidable. This results from the twofold operation which De Villeroche and Chatelard make essential. In the rapidity of movement of the machines, which must be kept up in order to render their use profitable by turning the work out in large quantities, it is very difficult to long retain the respective rolls and cutters in proper relation to the track, which needs to be traveled by them on the blanks, without very nice adjustment and great care and attention. This leads to the necessity of originally constructing the machines with great skill, and hence at increased cost, and to the frequent failure in operation of even the best. All these items of expense add seriously to the cost of articles respecting which the saving of a fraction of a cent per dozen is an important matter. In spite of this, however, the twofold method of the De Villeroche and Chatelard patent is still employed in France by the patentees and their licensees and by all others who work under the patent.

My improvement consists in omitting the second step of the De Villeroche and Chatelard system, and thereby dispensing with the secondary turning outward or reversing of the "crease" of their plan, and in providing a means of readily opening hermetically-sealed metal cans and other vessels of the specific kind above referred to by making a shallow groove or bead in the material of which the side walls of the body or the rim or flange of the top or bottom head of the can or vessel is composed on one side of the path which the stripped-off section or zone of metal is desired to follow, and in cutting an incision partly through the metal either at the bottom of this groove or bead, on its inside, or on its outside at its top surface or apex, or at or near to its interior or exterior angle on that side of it

which is next to the path which the strip-section is to follow, the other side of the strip-section being, as before stated, soldered to the adjacent head of the can or vessel in the customary manner if the invention is applied to the side wall of the vessel-body, or soldered to the body if it is applied to the rim or flange of the head.

To enable others to practice my improved method, I will proceed to describe it as exemplified in the drawings.

A, Fig. 1, represents the exterior of the side walls of the body of a cylindrical sheet-metal can of ordinary construction, and *b* is a shallow groove or bead which may be impressed in the metal by rolls or dies in any of the modes commonly employed for such work. In the can shown in this figure, the method being applied to the body-walls, the groove runs entirely around the perimeter of the vessel, and, as will be seen, it is located about one-quarter of an inch from the nearest head of the can, so that the strip-section will be of that width, as the groove is its boundary on that side. The other side of the strip-section is soldered to the head of the can along the line *c c*, as usual.

B, Fig. 2, shows the interior surface of the side walls of the body of the same can represented in Fig. 1, and exhibits the reverse side of the groove *b*. In the center of the bottom of the groove I make an incision (indicated by *d*) partly through the metal and extending the entire length of the groove. This completes the operation, and I do not at any time, either before or after making the incision, reverse or throw outward the groove or bead or crease, as is done by De Villeroche and Chatelard, since it is this secondary operation which gives rise to all the objections in their system which it is the aim of my improvement to overcome. If now the work has been properly done, it will be found that by inserting the end of the tongue *g*, projecting from the side of the can, in the slot of a key of the usual form—such as is shown at *e*—the section or zone *i i* of the metal can be readily stripped off in the usual way and the contents of the can exposed. If desired, the groove or bead may be impressed from the outside of the can and the incision made in its bottom, as before, so that in this case the incision will be visible from the outside of the vessel, as seen at *d'*, Fig. 4; but in either instance the operation and effect of the stripping will be the same; or the incision may be formed in the top or apex of the groove, as seen at *m* in Fig. 5, or at its interior or exterior angle, as shown at *m'* and *m''* in the same figure, or it may be placed near to either of these angles. At whichever of these points

the incision may be located my improvement will be found to work readily and efficiently, and by the employment of it in the manufacture of cans of the classes herein referred to expensive and specially, carefully, and accurately constructed and adjusted machines may be dispensed with, while labor of only an average grade will be required, and there will be little or no spoiled work, and all the disadvantages of the De Villeroche and Chatelard method will be obviated.

In the form of can represented in Fig. 6 my improved method is employed in precisely the same manner as in the other figures, except that it is applied to the rim or flange of the can, as seen at *o* in the figure. Its operation here will be the same as in the case of the body-wall, and the lower edge of the strip-section will tear from the solder-line at *p*.

I wish it to be understood that wherever in this specification I have used the word "groove" I intend it to denote a depression in the metal which is so formed as to cause on the opposite surface of the material from that in which the groove is made a projection along the line of the groove substantially or nearly equal to the depth of the depression.

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

1. The herein-described improvement in the method of manufacturing sheet-metal cans and other metallic vessels and receptacles provided with a strip-section which has an incision along one of its sides and is secured on its other side by a soldered joint, as described, said improvement consisting in forming a groove or bead in the material of which the side wall of the body or the rim or flange of one of the heads of the can or vessel is composed, but without turning outward or reversing such groove or bead, and in putting in combination therewith an incision made partly through the metal and located as described, the whole operating substantially in the manner and for the purpose set forth.

2. In a sheet-metal can or other metallic vessel or receptacle provided with a strip-section which has an incision along one of its sides and is secured on its other side by a soldered joint, as described, the combination of a groove or bead located in the side wall of the body of the vessel or in the rim or flange of one of its ends or heads, with an incision made partly through the metal near to such groove or bead, substantially as and for the purpose set forth.

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