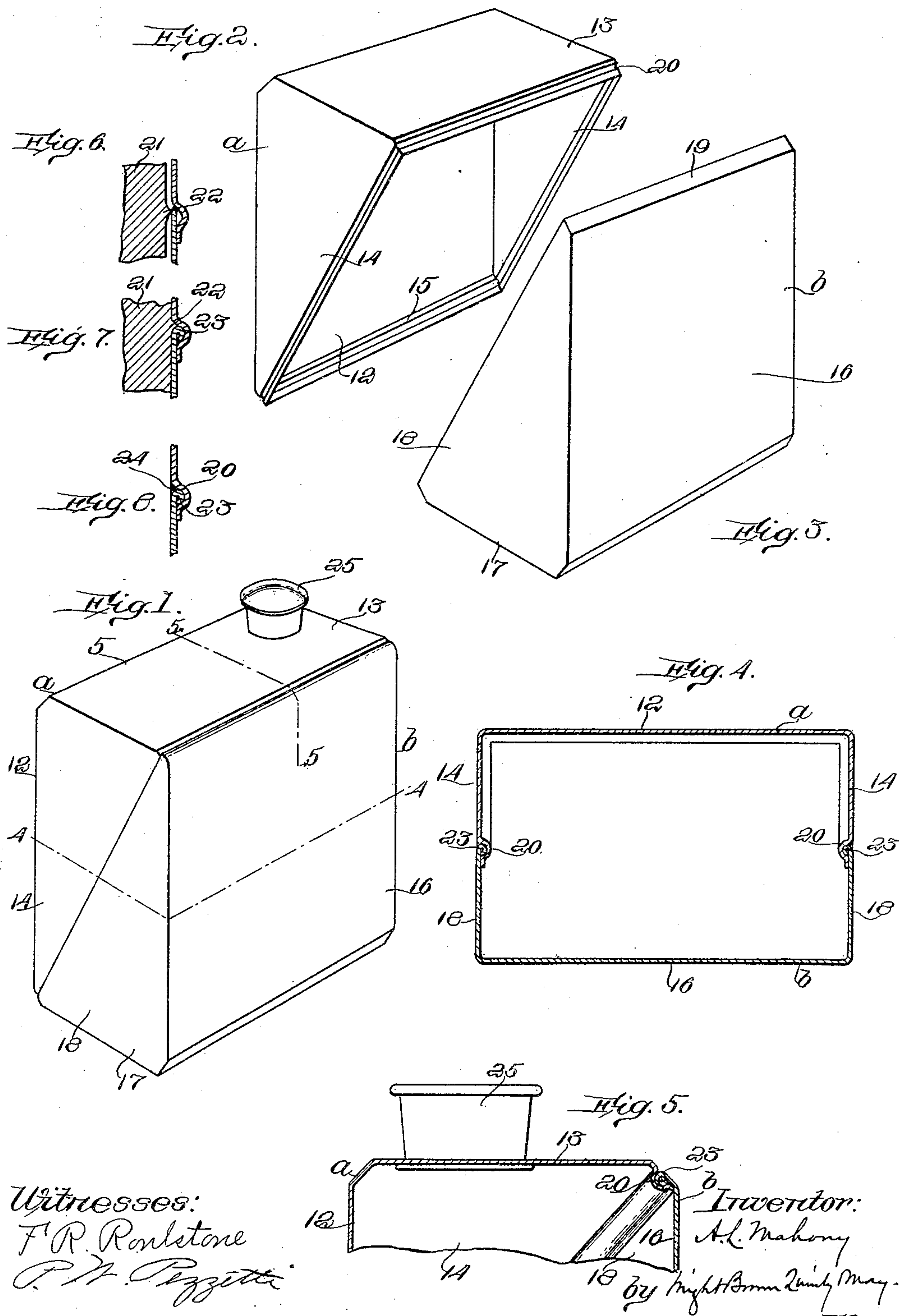


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SHEET METAL CAN.  
APPLICATION FILED APR. 17, 1909.

929,865.

Patented Aug. 3, 1909.



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# UNITED STATES PATENT OFFICE.

ALOYSIUS L. MAHONY, OF BOSTON, MASSACHUSETTS.

## SHEET-METAL CAN.

No. 929,865.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed April 17, 1909. Serial No. 490,472.

*To all whom it may concern:*

Be it known that I, ALOYSIUS L. MAHONY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sheet-Metal Cans, of which the following is a specification.

This invention relates to substantially rectangular sheet metal cans of oblong form, of the type commonly known as varnish cans and used to contain liquid such as varnish, oil, paint etc., for shipment and sale.

The invention has for its object to provide a strong, durable and relatively inexpensive can, the construction of which is free from the usual double seaming or squeezing grooves around the top of the can, all of the seams being properly constructed and held together so that rough usage to which the can is liable to be subjected will not break the sealing solder.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification, Figure 1 represents a perspective view of a can embodying my invention. Figs. 2 and 3 represent the sections which form the can shown in Fig. 1, said sections being separated. Fig. 4 represents a section on line 4—4 of Fig. 1. Fig. 5 represents a section on line 5—5 of Fig. 1. Figs. 6 and 7 represent fragmentary views illustrating the operation of interlocking the sections. Fig. 8 represents a fragmentary view showing portions of the two interlocked and soldered sections.

The same reference characters indicate the same parts in all the figures.

My improved can is composed of two seamless hollow sections *a* and *b* adapted to be assembled to form a substantially rectangular can of oblong shape, each section including one of the complete sides of the can and a continuous four sided flange integral with the side portion and projecting therefrom. The outer end of each flange forms an open mouth, the mouth of one flange being smaller than that of the other, and the smaller flange being adapted to be inserted in the larger flange. The smaller internal flange is provided with a continuous inwardly projecting groove extending around the body of the can, and the extremity of the larger external flange is rolled inwardly to form a rounded bead bearing on both sides of the

groove, so that the flanges are interlocked to prevent a relative edgewise movement of either flange in either direction, or in other words, to prevent one flange from being forced into or withdrawn from the other after the flanges have been interlocked. The meeting portions of the flanges form a solder-receiving groove extending continuously around the exterior of the body.

In the preferred embodiment of my invention here shown, each four-sided flange has one side which is relatively wide and constitutes the major part of one of the side portions of the body, while the opposite side of the flange is relatively narrow and constitutes the minor part of the opposite side portion of the body, the intermediate sides of the flange having diagonal outer edges extending between the wide and narrow sides and diagonally across the remaining two side portions of the body so that the solder-receiving groove in the can formed by assembling the sections, is located in close proximity to the edges of two side portions of the body and extends diagonally across two other side portions, the completed can therefore presenting four practically seamless side portions and two side portions which have seams extending diagonally across them.

12 represents the continuous side portion of one of the sections, and 13, 14, 14, and 15 represent the sides of the continuous integral flange formed thereon.

16 represents the continuous side portion of the section *b*, and 17, 18, 18, and 19 represent the sides of the flange formed thereon. The outer end of the flange of the section *a* is contracted so that it is adapted to enter the mouth of the flange of the section *b*. The section *a* is provided with an inwardly projecting groove 20 which extends continuously around the flange of the section *a*, and is formed by pressing the sides of the flange inwardly to form an inwardly projecting bead, the outer side of which constitutes the groove 20, said bead being interposed between the contracted mouth and the body portions of the flange, as clearly shown in Figs. 2, 4, 5, 6, 7 and 8. When the sections are assembled, the mouth of the flange of the section *b* receives the mouth of the flange of the section *a* as indicated in Fig. 6, the edge of the flange of the section *b* extending substantially across the groove 20 in the flange of the section *a*. The extremity of the



edge of the flange of the section *b* is then rolled inwardly into the groove 20 by means of suitable dies 21, a portion of one of which is shown in section in Figs. 6 and 7, each die having a rib 22 adapted to force the extremity of the flange of the section *b* into the groove 20 and roll said flange into a rounded bead 23 which bears on both sides of the groove and so interlocks the two flanges that neither can move edgewise to permit the movement of one section either toward or from the other. It will be seen that the adjacent sides of the bead 23 and of the groove 20 form a solder-receiving groove extending continuously around the can and adapted to receive a filling 24 of solder which seals the joint against the passage of air and liquid, said filling extending continuously around the body of the can. The inner side of the groove 20 is deeper than the outer side so that, when the sections are assembled, the outer sides of their flanges are substantially flush with each other, the solder filling 24 being therefore substantially flush and in alinement with the outer surfaces of the flanges. The described construction permits the sections to be assembled, interlocked and sealed wholly from the exterior of the can, no internal support or pressure being necessary in any part of the operation. Hence no opening in the can is required except a relatively small opening to receive the usual nozzle or neck 25. The narrower sides 15 and 19 of the flanges are in this embodiment of my invention beveled or inclined relatively to the continuous side portions 12 and 16, and the outer portions of the wider flange sides 13 and 17 are correspondingly beveled or inclined to fit the inclination of the sides 15 and 19.

It will be seen by reference to Fig. 1, that the flange sides 13 and 17 form practically continuous top and bottom members of the can, while the continuous portions 12 and 16 form the opposite side members of the can, the sides 14 and 18 of the flange collectively forming the ends of the can. The soldered joint therefore is located at the extreme edges of the top and bottom members and extends across the central portions of only the end members. The described construction is much less expensive than that of a can with a so called "bumped-on" top which leaves the top surface flush but involves an undesirable expense owing to the increased number of parts required and the difficulty of so uniting them as to form a tight can having a desirably neat appearance, it being necessary to solder the joints from the inside.

My improvement secures all the advantages of a can with a "bumped-on" top with much less expense for time and labor, and insures the absence of solder at the inside of the can.

By making the sections of the form shown in Figs. 1, 2 and 3, I reduce to the minimum the distortion of the metal in the drawing operation. This is a decided advantage, it being a fact that, when the shape of a metal blank is greatly changed by the drawing operation, the life is taken out of the metal and the thickness of the tin coating is so reduced as to render the can liable to rust unless retinning is resorted to which is an expensive operation and is not necessary with a can constructed as here described.

I claim:

1. A can body composed of a seamless section which includes a continuous side portion and an integral continuous flange projecting therefrom and having a body portion, a contracted mouth portion, and a continuous inwardly projecting bead, the outer side of which forms a groove between the body portion and the contracted mouth portion of the flange, and a complementary seamless section which also includes a continuous side portion and an integral flange projecting therefrom and having a mouth which is larger than said contracted mouth, and receives the latter, and has its edge rolled inwardly to form a rounded bead projecting inwardly into said groove, whereby the flanges are interlocked against relative inward and outward movement, the inner side of the groove and the adjacent surface of the bead forming a solder-receiving groove extending continuously around the exterior of the can.

2. A can body composed of a seamless section which includes a continuous side portion and an integral continuous flange projecting therefrom and having a body portion, a contracted mouth portion, and a continuous inwardly projecting bead, the outer side of which forms a groove between the body portion and the contracted mouth portion of the flange, and a complementary seamless section which also includes a continuous side portion and an integral flange projecting therefrom and having a mouth which is larger than said contracted mouth, and receives the latter, and has its edge rolled inwardly to form a rounded bead projecting inwardly into said groove, whereby the flanges are interlocked against relative inward and outward movement, the inner side of the groove and the adjacent surface of the bead forming a solder-receiving groove extending continuously around the exterior of the can, the inner side of the groove being deeper than the outer side, and the outer surfaces of the flanges substantially flush with each other.

3. A can body composed of a seamless section which includes a continuous side portion and an integral continuous flange projecting therefrom and having a contracted mouth, and a continuous inwardly project-



ing groove adjacent thereto, one of the sides  
of the flange being relatively wide and the  
opposite side relatively narrow, while the  
intermediate sides have diagonal outer edges  
5 extending from the wide to the narrow sides,  
and a complementary seamless section which  
also includes a continuous side portion and  
an integral flange projecting therefrom and  
having wide and narrow opposite sides and  
10 diagonally edged intermediate sides, one  
flange having a body portion, a contracted  
mouth portion and an inwardly projecting  
bead, the outer side of which forms a groove

between the body portion and the contracted  
mouth portion of the flange, while the other 15  
flange has a mouth which is adapted to re-  
ceive the said contracted mouth and has its  
edge rolled inwardly to form a rounded  
bead projecting into the groove.

In testimony whereof I have affixed my 20  
signature, in presence of two witnesses.

ALOYSIUS L. MAHONY.

Witnesses:

C. F. BROWN,  
P. W. PEZZETTI.