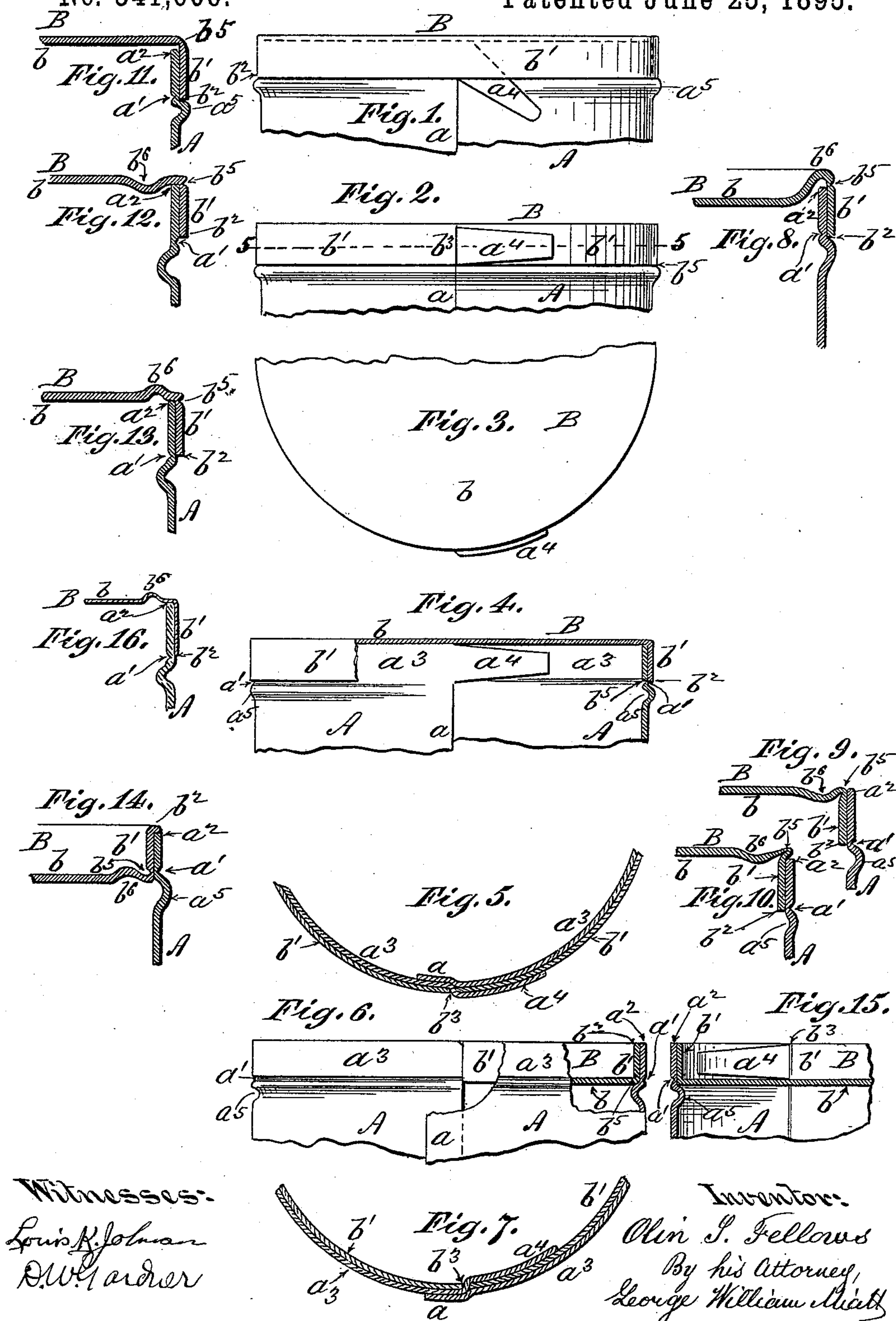


O. S. FELLOWS.  
SEALED PACKAGE.

Patented June 25, 1895.





# UNITED STATES PATENT OFFICE.

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## SEALED PACKAGE.

SPECIFICATION forming part of Letters Patent No. 541,606, dated June 25, 1895.

Application filed October 29, 1894. Serial No. 527,100. (No model.)

*To all whom it may concern:*

Be it known that I, OLIN STEPHEN FELLOWS, a citizen of the United States, residing at Middletown, in the county of Orange and State of New York, have invented certain new and useful Improvements in Sealed Packages, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My improvements relate to sheet metal cans which are designed to be opened by the stripping off, peripherally, of the flange of an end plate from the can body, or of the edge of the can body from the flange of the end plate, to release the latter from the can body. In either case, in addition to the resistance to be overcome in severing the metal along the line of circumscribing reduction in thickness, the soldered joint has to be torn open, necessitating the application of considerable force as well as endangering the success of the operation, since the stripping band is liable to tear transversely, leaving the plate still attached to the can body with no safe or convenient means for completing the opening of the can. Where comparatively thin tin is used, as in condensed milk and other small cans, the rupture or tearing of the stripping band during removal is very apt to occur, especially if there are slight irregularities in the distribution of solder between the opposed surfaces forming the seam or adjoining thereto, necessitating the exertion of more force at one point than at another. It will thus be seen that in order to attain the most satisfactory results a uniform degree of resistance should be opposed all around the can to the operation of stripping. It is also desirable, especially where thin tin is used, that the stripping band be reinforced or strengthened to withstand the strain of removal without rupture. I attain these advantages by my present invention, which consists essentially in so forming the can that both the edge of the can body and the flange of the end plate to which it is attached are stripped off together, thus practically more than doubling the strength

of the strip, since the soldered joint is utilized in holding the two thicknesses of metal together so that they reinforce each other while being torn from the adjoining metal, whereas in the old form of can referred to the soldered joint itself was the main obstacle to the successful stripping of the flange or band.

In the accompanying drawings, Figure 1 is an elevation of one extremity of a can made according to my invention, showing the stripping-tongue projecting laterally from underneath the flange of the end plate. Fig. 2 is a similar view showing the stripping-tongue projecting through a transverse slit in an exterior end plate flange. Fig. 3 is a top view of a portion of the can shown in Fig. 2. Fig. 4 is a sectional elevation of the same. Fig. 5 is a section upon plane of line 5-5, Fig. 2, of a portion of the flange and can-body. Fig. 6 is a sectional elevation of a modified form of the can in which the end plate flange is internal, and in which the stripping-tongue projects inward through the flange; and Fig. 15 is a sectional detail illustrating this modification. Fig. 7 is a section similar to Fig. 5 of a portion of the joint illustrated in Figs. 6 and 15. Figs. 8 to 14, inclusive, are enlarged sectional views showing modifications in the form of joint between the can-body and end plate. Fig. 16 is a view illustrating the use of thin sheet metal for the end cap.

The can body A, of whatever shape in cross section, is formed with the usual seam  $a$ , and is formed with a circumscribing incision or other reduction in thickness  $a'$ , a suitable distance from the edge  $a^2$ , of the end to which the end plate  $b$ , is applied. The circumscribing incision or reduction in thickness  $a'$ , may be formed either internally or externally, and by any appropriate means. It should occupy a position in the can body A, adjoining that assumed by the edge  $b^2$ , of the flange  $b'$ , of the end plate  $b$ , when in position on the end of the can.

The band of metal between the circumscribing reduction in thickness  $a'$ , and the edge  $a^2$ , of the can body constitutes the strip  $a^3$ , for removal, and the stripping tongue  $a^4$ , prefer-



ably consists of a continuation of this strip  $a^3$ , being either struck or cut from the same sheet of metal, or being securely attached thereto.

5 The flange  $b'$ , of the end plate  $b$ , may be formed to fit the end of the can body either internally or externally, as shown in the drawings. In either case the flange  $b'$ , may be slit transversely as at  $b^3$ , so that the stripper  
10 tongue may be passed through the flange  $b'$ , so as to project externally as in Figs. 2, 3, 4 and 5, or internally as in Figs. 6, 7 and 15. In both arrangements it will be seen that the tongue  $a^4$ , passing through the flange  $b'$ , of  
15 the end plate  $b$ , provides for the stripping off of both the band  $a^3$ , and the flange  $b'$ , simultaneously, since the band  $a^3$ , cannot be stripped without taking the flange  $b'$ , with it,—the strain being in each case imparted to the band  
20  $a^3$ , in such manner as to press the latter against, and not to tear it away from, the flange  $b'$ .

If preferred, as where very thin tin is used for the cap B, the flange  $b'$ , may be left intact, and the stripping tongue  $a^4$ , formed to  
25 project out laterally from underneath the flange  $b'$ . In this case the thinness of the metal constituting the flange  $b'$ , may be relied upon to yield before the strain and permit of the transverse severing of the flange at the  
30 beginning of the stripping operation, or the flange may be weakened or cut transversely as at  $b^4$ , Fig. 1, to facilitate the stripping.

Where the metal from which the cap is  
35 struck up is thin it will not be necessary to form the cap with a circumscribing reduction in thickness  $b^5$ , in which case the flange  $b'$ , may be readily stripped from its plate  $b$ , by the comparatively strong band  $a^3$ , to which it is soldered. This is apparent on reference to  
40 Fig. 16. Otherwise I prefer to form both cap B, and can body A, with a circumscribing reduction in thickness as indicated in the other figures of the drawings. This may be accomplished in various ways, as, by an incision in  
45 the interior or exterior surfaces of the cap; by pinching or doubling the metal; or by the use of a square cornered internal die in conjunction with a round cornered exterior die  
50 resulting in a weakening of the metal between the end plate  $b$ , and its flange  $b'$ , as shown in Fig. 11.

In order to stiffen the body of the can and reinforce it against the strain imparted during the stripping of the band  $a^3$ , and flange  $b'$ ,  
55 I form the can body with a bead or corrugation  $a^5$ , adjoining the circumscribing reduction in thickness  $a'$ , and extending parallel thereto. In like manner I form a corrugation  
60 or bead  $b^6$ , in the end plate  $b$ , adjoining the flange  $b'$ , to prevent the buckling of the end plate, and to more effectually resist the strain imparted in stripping. By this means the shearing or tearing action imparted to the

band  $a^3$ , is rendered even and effective, and  
65 a clean, even edge is formed without chipping or other objectionable features.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A sheet metal can formed with an end  
70 plate having an exterior flange fitting over the end of the can body to which it is soldered, a stripping tongue projecting laterally from the edge of said can body and from under  
75 said exterior flange of the end plate, and a circumscribing reduction in thickness in the can body adjoining the said flange on the end plate, whereby the stripping off of the  
80 end of the can body by means of the stripping tongue above the said circumscribing incision severs the flange from the end plate at the intersecting angle, substantially in the  
manner and for the purpose described.

2. A sheet metal can formed with an end  
85 cap having a flange by which it is soldered to the body of the can, a circumscribing reduction in thickness in said end cap, and a circumscribing reduction in thickness in the can body adjoining the said flange of the end cap,  
90 whereby the portions having their opposed surfaces soldered together may be stripped off simultaneously, substantially in the manner and for the purpose described.

3. A sheet metal can formed with an end  
95 cap having a flange by which it is soldered to the body of the can, a circumscribing reduction in thickness in said end cap a circumscribing reduction in thickness in the can body adjoining said flange of the end cap, and  
100 a reinforcing corrugation or bead adjoining said circumscribing reduction in thickness in the can body, for the purpose of facilitating the stripping off simultaneously of the portions having their opposed surfaces soldered  
105 together, substantially in the manner described.

4. A sheet metal can formed with an end  
cap having a flange by which it is secured to the body of the can, a circumscribing reduction in thickness in said end cap, a reinforcing  
110 corrugation or bead in the end cap adjoining the said circumscribing reduction in thickness in said end cap, and a circumscribing reduction in thickness in the can body adjoining the said flange on the end cap, for the  
115 purpose of facilitating the stripping off simultaneously of the portions having their opposed surfaces soldered together, substantially as described.

5. A sheet metal can formed with an end  
120 cap having a flange by which it is soldered to the body of the can, a circumscribing reduction in thickness in said end cap a reinforcing corrugation or bead in the end cap adjoining said circumscribing reduction in said  
125 end cap, a circumscribing reduction in thickness in the can body adjoining the said flange on the end cap, and a reinforcing corrugation



or bead adjoining said circumscribing reduction in thickness in the can body, for the purpose of facilitating the stripping off simultaneously of the portions having their opposed  
5 surfaces soldered, together, substantially as described.

6. A sheet metal can formed with an end plate having a flange adapted to be stripped therefrom which is slit transversely, a can  
10 body formed with a circumscribing reduction

in thickness adjoining the said flange on the end plate, and a stripping tongue attached to the portion of the can body adjoining the said flange and projecting through the slit in said flange substantially in the manner and for the  
15 purpose described.

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Witnesses:

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