

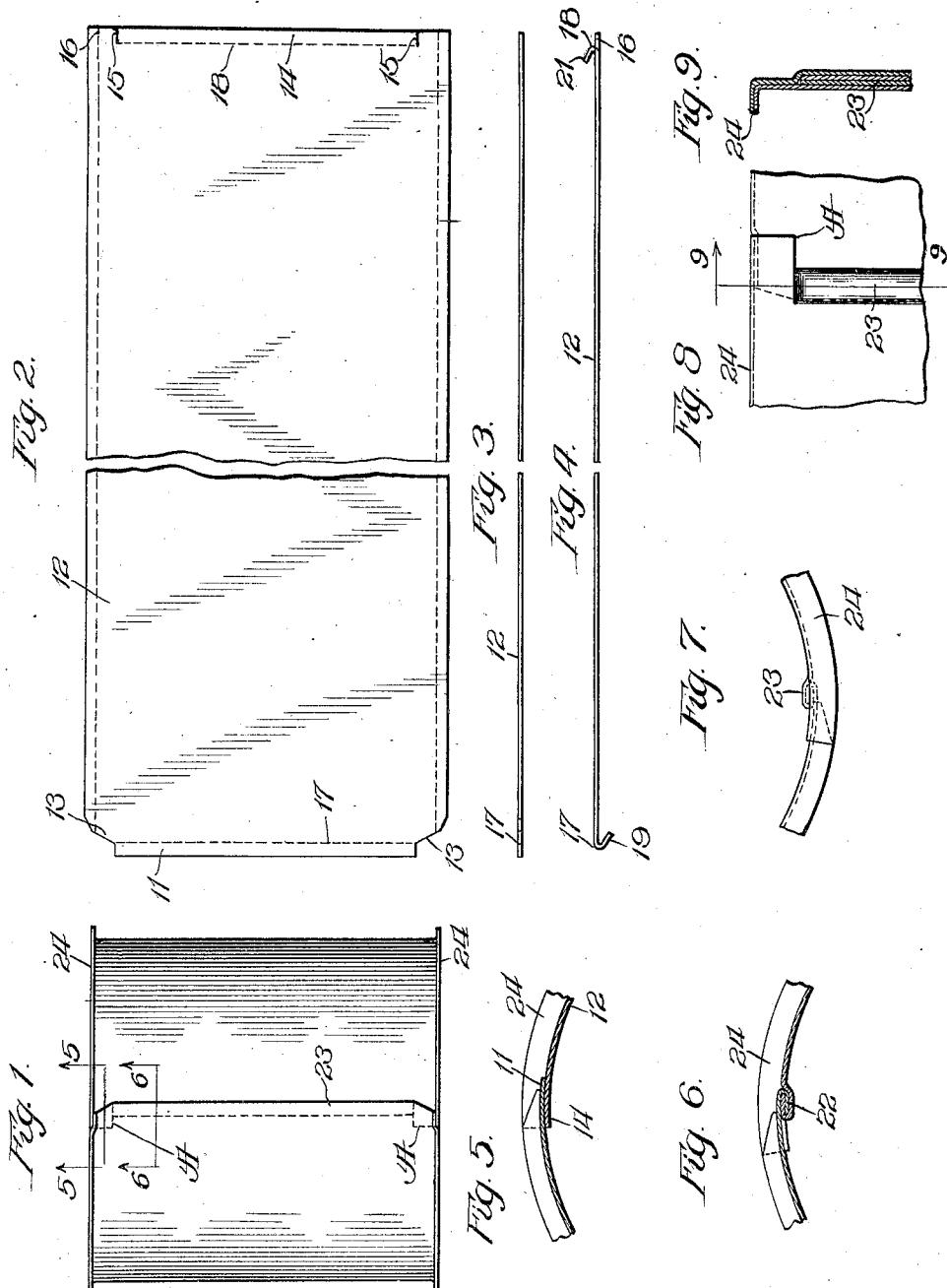
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SLIT NOTCH

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UNITED STATES PATENT OFFICE.

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SLIT NOTCH.

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To all whom it may concern:

Be it known that I, WILLIAM E. TAYLOR, a citizen of the United States, residing in East Orange, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Slit Notches, of which the following is a specification.

This invention relates in general to can seams and has more particular reference to lock and lap seams for cans, the ends of which are flanged and included within double seams with flanged can ends to form tight hermetically closed cans for vegetables and similar products.

It is generally the custom in cans of this character to construct the body of the can by providing interlocked hooked edges forming a central lock seam part which extends from near one end of the can to near the other, therebeyond the edges of the can body blank are overlapped and soldered together forming a cylindrical tube. The ends of these tubes are bent down to form horizontal outstanding flanges. The can ends are provided with shoulders fitting the inside of the bodies and with outwardly extending flanges curled over at their edges within which the flanges on the ends of the can bodies are inserted, suitable packing being usually provided between adjacent surfaces of the bodies and ends. Thereafter the flanges brought adjacent each other are bent down and in against the can bodies forcing the curled part of the cover flanges up in behind the body flange, the whole forming a tight hermetic seal that will hold a vacuum within the can and this without the use of solder in applying the end closures. It will thus be noted that overlapping can parts are included in the seam and have been subject to the initial body flanging and the further bending in the end seaming operation. It is important that the flanges be formed with certainty and without requiring delicate machinery and a difficult problem is presented to maintain hermetic sealing conditions between the overlapping can parts in the flanges and in the finished seam. Where these cans have leaked in the past the leakage has usually occurred where the lapped part of the side seam is included in the double end seam. If wide laps are used it has been found difficult, from a commercial

standpoint, both to accurately flange the ends of the bodies and to maintain the overlapping parts in proper soldering and soldered relation. That is to say, where wide laps are used it is difficult to solder them throughout their width. Where narrow laps are used difficulty has been experienced in obtaining sufficient area of contacting soldered surfaces to prevent tearing apart in the flanging and double seaming operations. In the past it has usually been the custom to provide a notch at the end of the lock seam part at one end of the body blank with the result that the seam provided lap portions of either substantially uniform width throughout their length, the material at the other end of the blank being correspondingly cut back, or to provide lap portions wider in the flanges and double seams than at the end of the central side seam lock portion. I have discovered that while the strain of double seaming comes primarily of course on the material actually included in the seam this part of each lap seam portion will be greatly strengthened against separation and leakage prevented by making the lap seam portion stronger beneath the parts included in the double seams and preferably at the end of the lock seam part. To this end my invention contemplates the mere slitting of the end of the blank in which the hook is set off as contradistinguished from the other end from which it protrudes instead as in accordance with past custom, notching or otherwise removing the material at the end to set off the material for forming the lock seam.

Thus some of the material of the outer part of the lap, which would otherwise enter into the end seam, is removed, but at the slit metal of the lap is not removed whereby the soldering of the lap may be carried close up to the end of the lock-part of the side seam and for the full width of the same.

My invention has for its principal object, therefore, the provision for materially reducing the percentage of leakage without in any way increasing the cost of can manufacture or in any material fashion altering or interfering with the processes and procedure now followed in such manufacture or requiring other or different machinery and

apparatus, beyond the mere substitution of slitting for notching dies.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which taken in connection with the accompanying drawings discloses a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is a side elevation of a can body embodying my present invention;

Fig. 2 is a plan view of the formed blank therefor;

Fig. 3 is a side elevation of said blank;

Fig. 4 is a similar view showing the blank ready for forming into the body;

Figs. 5 and 6 are sections taken respectively on the lines 5—5 and 6—6 of Fig. 1;

Fig. 7 is a partial top plan view of said body;

Fig. 8 is a partial internal view of the same; and

Fig. 9 is a section on the line 9—9 of Fig. 8.

For the purpose of illustrating my invention I have shown on the drawing a can body in finished condition and flanged to receive the ends. This body is constructed from a blank as indicated in Figs. 2 to 4.

At one end (the left viewing Fig. 2) a part 11 is caused to extend out from the blank body 12 by cutting back the corners as indicated at 13. At the other end a similar part 14 is set off from the remainder by slits 15

as contradistinguished from notches or wide slots heretofore generally used. The slits 15 could be made perhaps with the removal of a very small and unsubstantial amount of metal, but I prefer to make them by a shear-

ing action only with the removal of no metal whatever. The slits 15 provide lap portions 16 therebeyond. The portions 11 and 14 are oppositely bent on lines of bend 17 and 18 to form hooks 19 and 21. Thereafter the

body is bent to cylindrical form and the hooks interengaged and bent down as indicated at 22 in Fig. 6 to form the lock portion of the side seam 23 in the usual manner.

The part 16 at each end of the lock portion overlies the material at the opposite end of

the blank and beyond the ends of the hook part 11 as may be seen in dotted lines in Fig. 1 and in full lines in Fig. 8 wherein reference character A designates such widened lap portion. This gives a strong firm lap construction at the end of the lock portion and reinforces the narrower lap connection in the double seam as will be readily understood. This strengthening is accomplished without greatly widening the lap area in the flanges, which are indicated by reference character 24.

It is thought that the invention will be understood from the foregoing without further description and it will be manifest that various changes may be made in the form and construction, as for example it is believed that the cut-away ends 13 at the left-hand end of the blank could be made of rectangular form, without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A lock and lap soldered seam can, the locked portion being at the center and extending throughout the greater part of the height of the can and formed of a hook section extending out from an end of a blank and a hook section formed by slitting the other end of the blank without removing any metal and without loss of soldering surface, defining substantially rectangular end portions beyond the hook sections, said rectangular end portions being overlapped and soldered together, forming the lapped portions in a soldered seam of maximum strength.

2. A sheet metal can having a locked and lapped side seam, the locked portions being separated from the lapped portions by narrow slits without removal of any substantial amount of metal, whereby the maximum amount of metal is left in the lapped portions for the secure union of them one with the other by soldering, to produce an hermetic seam.

WILLIAM E. TAYLOR.