June 8, 1937. H. A. FINK 2,083,440

SIDE SEAM FOR SHEET METAL CAN BODIES

Filed Aug. 5, 1935

FIG. 1.

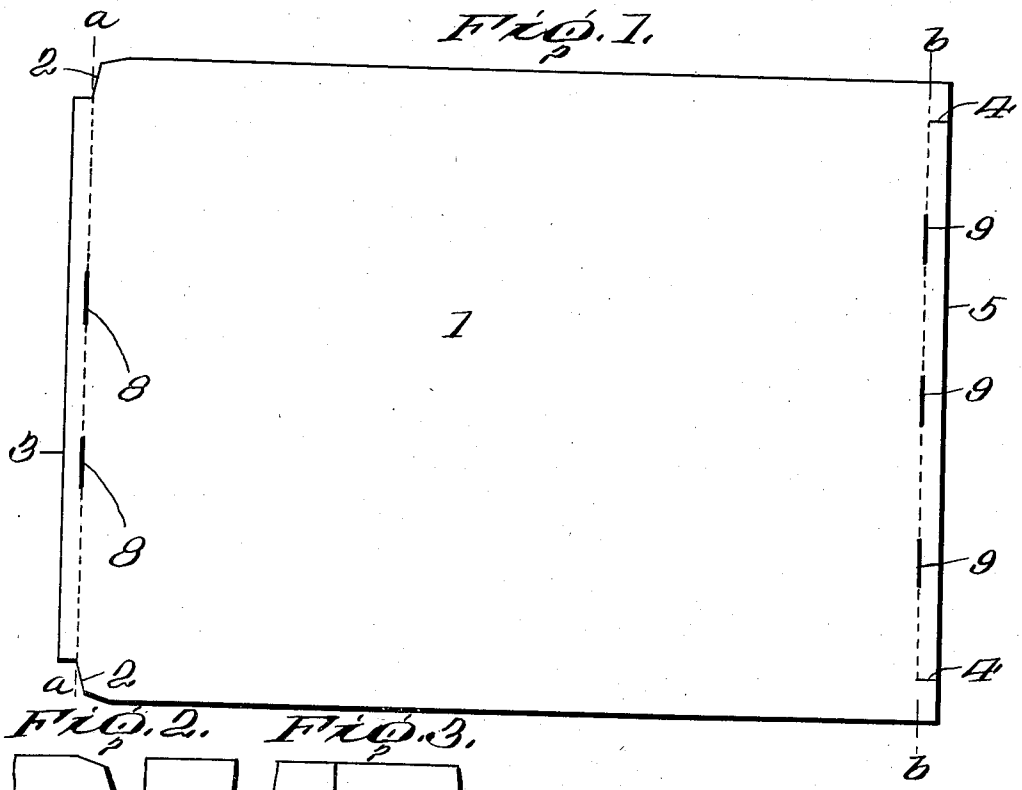


FIG. 2.

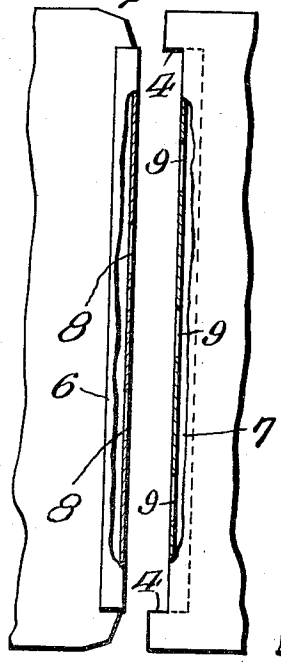
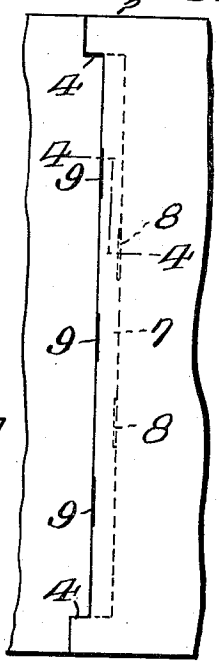


FIG. 3.



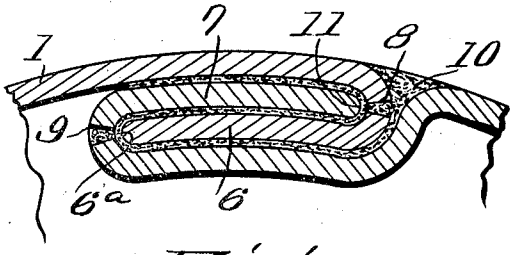


FIG. 4.

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SIDE SEAM FOR SHEET METAL CAN BODIES

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Application August 5, 1935, Serial No. 34,812

1 Claim. (Cl. 220—75)

The invention relates to new and useful improvements in a side seam for a sheet metal can body of the type wherein interlocking hooks are used for joining the edges of the body blank to form the can body.

An object of the invention is to provide a construction of side seam which will facilitate the flow of solder throughout the interlocked portions of the side seam.

In the drawing—

Figure 1 is a view of a body blank embodying the improvements;

Fig. 2 is a view showing the hooks formed on the body blank preparatory to the interlocking of the same;

Fig. 3 is a view of a portion of the can body with the hooks interlocked and bumped preparatory to soldering, and

Fig. 4 is a sectional view transversely through the side seam on the line 4—4 of Fig. 3 so as to show the construction of the slits which permit the entrapped gases to escape and also permit the solder to flow freely into the interlocked portions of the side seam.

In the application filed by Alfred L. Kronquest, May 3, 1935, Serial Number 19,717, there is shown and described a side seam for can bodies wherein slits are disposed in the metal forming the hooks so as to permit gases to escape from the interfolded portions of the side seam and thus provide a free capillary flow for the solder to the extreme limits of the side seam. The present invention has to do with an improvement in the manner of releasing the entrapped gases and also in the manner of providing the free passage for the solder to the innermost parts of the side seam. It is thought the invention will be better understood by a detail description of the illustrated embodiment thereof.

In Fig. 1 of the drawing, the body blank is indicated at 1. The body blank is provided with notches 2, 2 so as to form an offset portion 3 which is folded back along the line *a—a* to form the outer hook of the side seam. The body blank at the opposite side thereof is provided with slits 4, 4 which form a section 5 that is folded back along the line *b—b* to form the inner locking hook of the side seam. The portion 3 when turned back forms a hook which is indicated at 6 (Figures 2, 3 and 4). The portion 5 when folded back forms a hook which is indicated in broken lines at 7 in Figures 2 and 3, and in full lines in Fig. 4. These hooks 6 and 7 are interlocked as shown in Figures 3 and 4, and then are bumped preparatory to soldering. This provides a lock and lap seam which, so far as described, is of the usual construction.

In carrying out the present invention, the body blank 1 is provided with a series of slits 8 disposed along the fold line *a—a*. These slits are spaced from each other and are comparatively short so as not to weaken the hooks of the interlocked parts. They may be increased in number and in length to secure the desired result which will be specifically described later. The body blank is also provided with a series of slits 9, 9 formed in the metal on the fold line *b—b*. The slits are so disposed that when the hooks are formed, and the hooks interlocked and the seam bumped, the slits will be at the base of the outer hook, that is, in the curved portion joining the hook to the body of the container. When so positioned, these slits will be directly opposite the free end 7*a* of the inner hook 7. The slits 9 will be disposed at the base of the hook 7, that is, in the curved portion which joins the hook to the body wall of the container. These slits 9 are directly opposite the free end 6*a* of the hook 6. Solder is applied on the region 10, as indicated in Fig. 4. The slit 8, when the metal is curved, will open to a certain extent so as to form a funnel-shaped opening leading to the space 11 directly at the end 7*a* of the hook 7. The solder will flow by capillary attraction in through the slits 8 into this space 11 and along between the outer face of the hook 7, and the metal wall adjacent the same, and also through the space between the inner face of the hook 7 and the outer face of the hook 6. The solder will, of course, flow into the space between the inner face of the hook 6 and the wall of the container body adjacent thereto. As the solder flows along through these spaces between the walls just mentioned, any entrapped gases in advance of the solder will pass out through the slits 9 and also out through the space 12. This provides a very free flow for the solder to the innermost parts of the interlocked hooks, and it also provides for the ready escape of any entrapped gases within the seam. As a result, a solder bond can be obtained which is of uniform extent throughout the entire limits of the side seam.

While the slits 8 and 9 are shown as staggered, they may be otherwise disposed relative to each other. From some aspects of the invention, the slits 8 may be omitted, and the slits 9 will serve to permit the entrapped gases to escape and thus increase the efficiency of the solder bond. On the other hand, from certain aspects of the in-

vention, the slits 9 may be omitted, and the slits 8 will aid in the flow of the solder to the innermost parts of the side seam. It will also be understood from certain aspects of the invention that the slits 9 which permit the escape of the entrapped gases may be otherwise disposed relative to the edge of the blank instead of parallel therewith. It will be understood that changes in the size and disposition of the slits may be made without departing from the spirit of the invention as set forth in the appended claim.

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

A metal can body having its edge portions joined by a side seam extending from one end of the body to the other, said side seam having inner and outer interlocking hooks, the curved portion of the metal supporting the outer hook and opposed to the end of the inner hook having slits formed therein at spaced intervals, which slits extend longitudinally of the side seam, and the curved portion of the metal supporting the inner hook and opposed to the end of the outer hook having slits formed therein at spaced intervals extending longitudinally of the side seam.

HENRY A. FINK.