April 17, 1934. J. M. YOUNG 1,954,840

PROVIDING NONSOLDERABLE SURFACES ON CONTAINERS

Filed April 9, 1931

Fig. 1

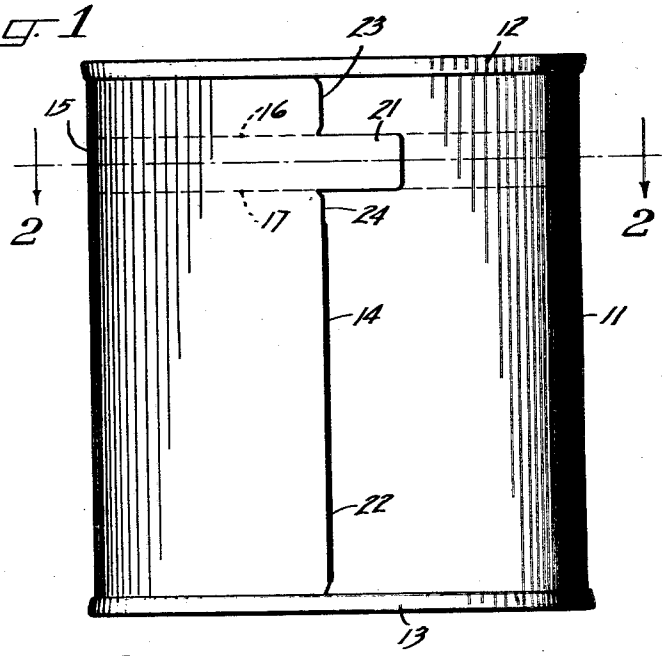


Fig. 2

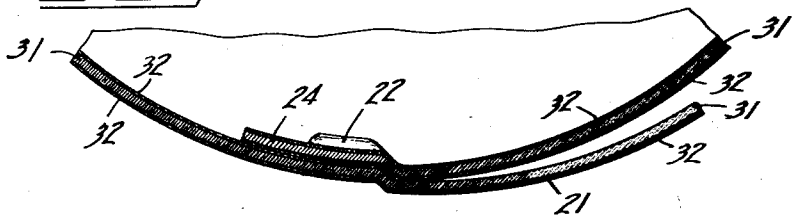


Fig. 4

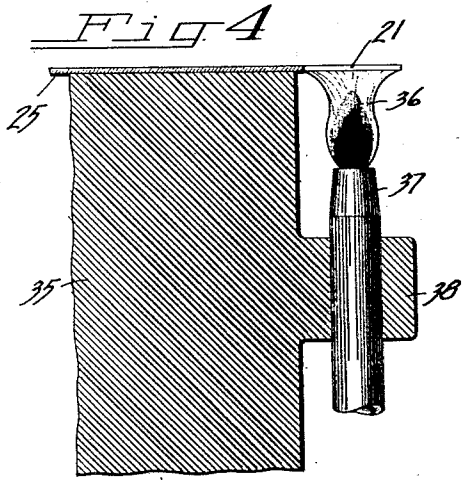
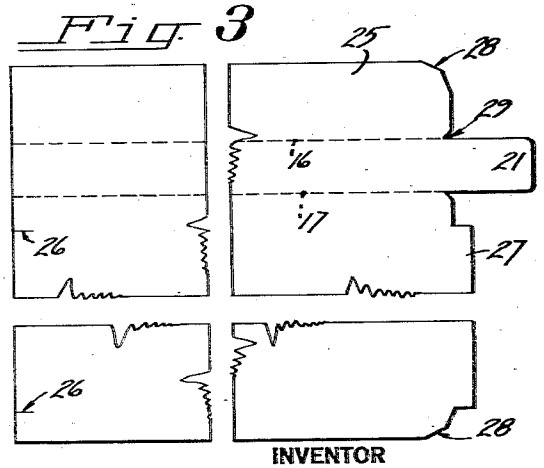


Fig. 3



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PROVIDING NONSOLDERABLE SURFACES ON CONTAINERS

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2 Claims. (Cl. 113—120)

The present invention relates in general to certain steps in the manufacture of containers and specifically relates to the manufacture of containers of the tearing strip type. A container of this type is provided with a key opening or tearing strip set off by score lines and having a tongue extending from the body at a side seam which is subjected to soldering in sealing the seam. Such a container is formed from a blank which ordinarily is of tinplate, being a steel or black iron base coated with tin on its two flat surfaces. This protective tin coating produces the well known tin can of commerce which has gained such favor in the packing of an infinite variety of products.

The principal object of the present invention is the provision of a method of treating a container tearing strip tongue to prevent it from being soldered to the body in the soldering operation upon the side seam, thus keeping it free for ready engagement in opening.

A further important object of the invention is the provision of means for treating a tearing strip tongue so that its treated surface will prevent solder from adhering thereto, the tongue being kept free from the adjacent wall of the container.

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

Referring to the drawing:

Figure 1 is a side elevation of a tearing strip container having a tongue which has been treated according to the steps of the present invention;

Fig. 2 is an enlarged fragmentary plan sectional view taken substantially along the line 2—2 in Fig. 1;

Fig. 3 is a broken plan view of the blank used in making the can illustrated in Fig. 1, this view showing the projecting tongue terminating the tearing strip which is set off by score lines; and

Fig. 4 is a schematic sectional view of a portion of the can body blank and its extending tongue as it is subjected to a heat treatment.

For the purpose of more clearly exemplifying the present invention, there is disclosed in the drawing a container comprising a body 11 having top and bottom ends 12, 13, secured permanently thereto by double seaming or in other preferred manner. A side seam 14 is employed to unite the ends of the body blank in the usual cylindrical form and a key opening or tearing strip 15 is located in the upper part of the body, being set off by parallel score lines 16, 17.

A tongue 21 extends from this tearing strip 15 beyond the side seam 14 of the container. The side seam 14 is preferably composed of a lock portion 22, and lap portions 23, 24 (Fig. 2) extending adjacent the tongue 21, the base of the tongue connecting the portions 23, 24 in one continuous lap region.

In closing such a seam, it is customary to apply solder thereto by means of an external roll and this insures the spreading of the solder over a considerable area about the seam. This normally would tend to bind the tongue 21 to the container body 11, since its base and the other connecting lap seam portions 23, 24 are soldered as a part of the side seam. Such a binding of the tongue prevents proper engagement and lifting thereof by the usual opening key.

In order to prevent this soldering of the tongue surface to the body 11, the tin coating on the tongue is removed to expose the base metal of the tongue adjacent the can wall. Solder will not adhere to a steel or black iron base and the tongue, therefore, will not be soldered even though the soldering of the side seam takes place in the tongue region.

A convenient method of removing the tin from the tongue is by subjecting it, preferably while in blank form, to a heat treatment. The blank from which the container is made may be of the shape disclosed in Fig. 3 and designated generally by the numeral 25. This blank, in order to produce the proper lock and lap side seam parts, 22, 23, 24 may be slit at 26 along one edge of the blank and the opposite edge of the blank may be extended at 27 to provide an element of the usual lock part of the seam. This latter edge of the blank may be further notched at its corners 28 and notched at 29 adjacent the extending tongue 21.

This blank 25 is preferably formed from a base metal 31 which may be sheet steel or black iron which is preferably coated on both sides with a tin coating 32 thus forming the ordinary tinplate. Such a blank is then subjected to the heat treatment and reference should be had to Fig. 4 which graphically illustrates the step of removing the tin from one or more of the surfaces of the extending tongue 21.

The flat blank 25 is placed upon a frame 35 which may be part of any suitable apparatus, the extending tongue 21 of the blank projecting beyond the upper surface of the frame. While in this position the tongue is subjected to a flame

36 which may be provided by a gas burner 37 supported in a bracket 38 formed in the frame 35. The heat from the flame 36, which is generated in the tongue 21 of the blank, causes the tin coating 32 to melt and run off of one or more surfaces of the tongue exposing the base metal 31 in this tongue area. A blank so treated is then in proper condition for the usual container forming operations which provide the tubular body 11 joined at its side seam 14.

After the blank has been formed into a container body its side seam 14 is subjected to the usual side seam soldering operation and solder is interposed, as usual, between the interhooked and overlapping surfaces of the container body walls forming a rigid and hermetically sealed joint throughout the side seam area. During this soldering operation, the tongue 21 extends adjacent the tin coated outer wall of the container body but the exposed base metal on the underside of the tongue prevents soldering of the tongue 21 which is left free and unattached. It is thus in proper condition for engagement by an opening key when the container is opened by removal of the tearing strip.

By the simple step of removing the usual coating from the base metal in the tongue to expose such base metal adjacent the container body wall, this tongue is prevented from adhering to the container body wall during the soldering operation and a container so treated is thus provided with a non-solderable surface.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction, and arrangement of the devices mentioned herein and in the steps and their order of accomplishment of the process described herein, without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the forms and processes hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In the art of manufacturing tearing strip containers of tinned sheet metal, the method of preventing the soldering to the container body of the tongue at the end of the tearing strip, which is to be left free for the application of the key, which method consists in providing a container blank having an exterior tinned surface, and having set off thereon a tearing strip terminating in a tongue extending from one end of said blank, and, prior to the soldering of the side seam which unites the ends of said blank, treating the underside of the tongue, whereby any solder that is caused to work under the tongue in the soldering operation will not adhere to the tongue so as to prevent the application of the key to the tongue.

2. In the art of manufacturing tearing strip containers of tinned sheet metal, the method of preventing the soldering to the container body of the tongue at the end of the tearing strip, which is to be left free for the application of the key, which method consists in providing a container blank having an exterior tinned surface, and having set off thereon a tearing strip terminating in a tongue extending from one end of said blank, and prior to the soldering of the side seam which unites the ends of said blank, removing the tin coating from the underside of the tongue by the application of heat, whereby any solder that is caused to work under the tongue in the soldering operation will not adhere to the tongue so as to prevent the application of the key to the tongue.

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