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2,806,628

TEAR TABS FOR TIN CANS AND METHODS FOR FORMING THEM

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FIG. 1

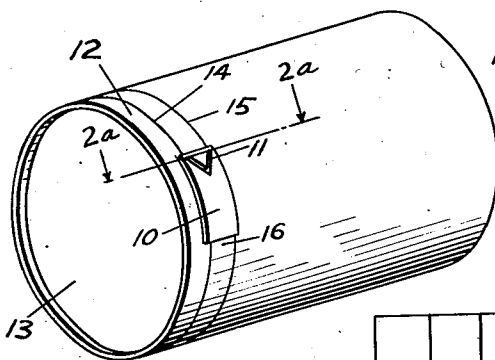
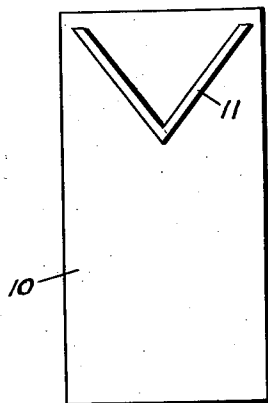


FIG. 2

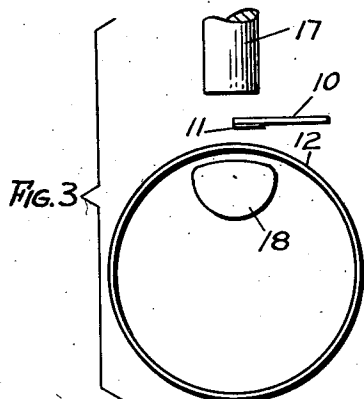


FIG. 3

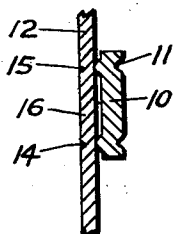


FIG. 2a

FIG. 4

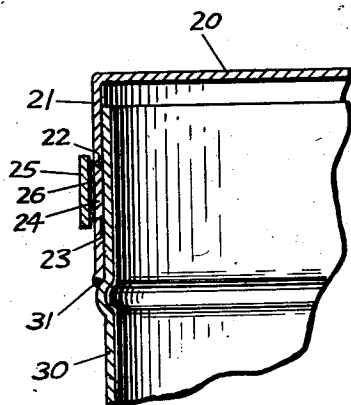
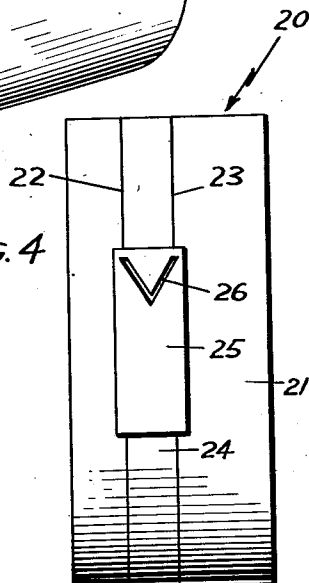
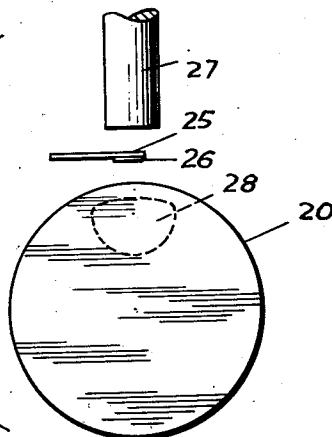


FIG. 6

FIG. 5



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TEAR TABS FOR TIN CANS AND METHODS FOR FORMING THEM

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7 Claims. (Cl. 220—54)

This invention relates to tear tabs for tin cans and more particularly to such tabs formed with a V-shaped projection for welding to a tear strip of a tin can and methods of forming and attaching such tabs.

In certain types of cans designed to be opened with a key, rather than with a can opener, a tear strip is formed by making two parallel score lines on the body of the can where it is desired to open the can. Some type of tab must be attached to this strip or formed integral with it so that the key can be fitted over the tab and turned to tear out the tear strip as the key is rotated about its own axis and moved along the can's surface. Such tabs are usually formed as an extension of the piece of tin forming the walls of the can. This method means that a portion of the tin plate, as wide as the length of the tab and as long as almost the full height of the can, must be wasted in order to form the tab. In the high production prevalent in the tin can business, it is evident that such a waste can be substantial.

By the method of this invention a V-shaped projection is pressed out of the tab close to one end with the open end of the V toward that end and the tab is aligned with the tear strip with the V-shaped projection towards the tear strip surface and the electrodes of a resistance welding machine are brought together at the projection to weld the projection to the tear strip. The result is a tightly fastened tab that will cleanly tear out the tear strip when the opening key is used. The V configuration of the projection assures that the tear will start at the score lines of the tear strip. This type of tear strip tab is particularly useful for vacuum packed coffee cans where a vacuum tight seal is desired until the can is opened for the first time and then a replaceable top is desired.

Other and further advantages of this invention will be apparent as the description progresses, reference being had to the accompanying drawing wherein:

Fig. 1 is a bottom view of a tab of the invention;

Fig. 2 is an isometric view of a can with the tab of the invention attached;

Fig. 2a is a section taken along the lines 2a—2a of Fig. 2 enlarged;

Fig. 3 is a diagram of the manner in which the tab of the invention is welded to a can;

Fig. 4 is a side view of a can top with a tab of the invention affixed thereto;

Fig. 5 is a diagram of the manner in which the tab of the invention is welded to a can top; and

Fig. 6 is an enlarged sectional view of a can with the tab of Fig. 4 attached to the top.

In Figs. 1, 2, and 2a the reference numeral 10 designates a metallic strip forming the body of the tab of the invention. This strip may be of any convenient shape. A projection 11 is formed on the side of the tear strip in the shape of a V with its axis more or less along the center line of the tab and its open end close to one end of the finished tab. This projection is placed against the wall 12 of a can 13 that has a pair of parallel score lines

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14 and 15 impressed in the wall of the can to form a tear strip 16 as seen in Fig. 2. The score lines 14 and 15 may be formed by pressing, and are best seen in Fig. 2a. The tab is aligned with the score lines 14 and 15 on the can wall 12. The open end of the V projection must be at least as wide as the distance between the score lines, preferably directly on them, however, in practice this is difficult to do, so the V projection is made wider than the space between the score lines. The tab 10 is placed between the upper 17 and lower 18 electrodes of a welding head preferably with at least the lower electrode formed to conform to the curved surface of the can wall, as shown in Fig. 3. When the welding electrodes are brought together and the welding current turned on, the projection 11 is welded to the tear strip. The weld does not extend beyond the area of the projection. The V projections for several tabs may be formed in a long strip and the tabs cut off as needed. The can is completed by the addition of the ends in the usual manner. The can can be opened by the insertion of the tab 10 into the slot of the usual key supplied for this purpose and the key turned to tear out the tear strip and open the can. The open end of the V-shaped projection is preferably dimensioned so as to extend slightly beyond the score lines 14 and 15. This results in the tear strip being torn along the score lines as the tab is wrapped about the key.

The method by which the tab of this invention is applied to the replaceable top of a can is illustrated in Figs. 4, 5 and 6. The replaceable cover is sealed to the can after packing and is removed by the key and tear strip described above. In Figs. 4, 5 and 6 a can top of this type is designated by the reference numeral 20. It is formed with a lip 21 in which two parallel score lines 22 and 23 are made to form a tear strip 24. A tab 25 is formed from a strip of metal with a V-shaped projection 26 formed like the projection 11 of Figs. 1, 2, 2a and 3. The tab 24 is welded to the lip 21 of the can top 20 by means of the electrodes 27 and 28. The projection 26 is dimensioned so that the open end is as wide as or somewhat wider than the distance between the score lines 22 and 23 and the axis of the V is approximately aligned with the center line of the tear strip. When the can 30 is filled, the cover is placed on it and soldered to the can by solder 31. The can is opened by the use of the key as before. As seen in Fig. 6 enough of the lip 21 remains so that the can 30 can be covered between uses.

This invention is not limited to the particular details of construction, materials and processes described, as many equivalents will suggest themselves to those skilled in the art. It is accordingly desired that the appended claims be given a broad interpretation commensurate with the scope of the invention within the art.

What is claimed is:

1. A metallic container formed with a tear strip, and a tab formed with a V-shaped projection with the open end of the V near one end of the tab of a width at least equal to that of the tear strip and welded to the tear strip along the projection in alignment with the tear strip.

2. A metallic container formed with a tear strip, and a tab formed with a V-shaped projection with the open end of the V near one end of the tab of a width slightly in excess of that of the tear strip and welded to the tear strip along the projection in alignment with the tear strip.

3. A metallic container formed with a tear strip, and a tab formed with a V-shaped projection with the open end of the V near one end of the tab of a width at least equal to that of the tear strip having its axis of symmetry lying along the center line of the tab and welded

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to the tear strip along the projection in alignment with the tear strip.

4. A metallic container formed with a tear strip, and a tab formed with a V-shaped projection with the open end of the V near one end of the tab of a width slightly in excess of that of the tear strip having its axis of symmetry lying along the center line of the tab and welded to the tear strip along the projection in alignment with the tear strip.

5. The cover for a metallic container formed with a lip, a tear strip formed in said lip, a tab formed with a V-shaped projection with the open end of the V near one end of the tab of a width at least that of the tear strip having its axis of symmetry lying along the center line of the tab and welded to the tear strip along the projection in alignment with the tear strip.

6. A method for attaching a tab to a tear strip on a metal container comprising the steps of forming V-shaped projections on the tab with the axis of symmetry of the V aligned with the center line of the tab and the open

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end of the V near one end of the tab and of a width at least equal to that of the tear strip, and welding said projection to said strip so that its axis of symmetry lies along the center line of the tear strip.

7. A method for attaching a tab to a tear strip on a metal container comprising the steps of forming V-shaped projections on the tab with the axis of symmetry of the V aligned with the center line of the tab and the open end of the V near one end of the tab and of a width slightly in excess of that of the tear strip, and welding said projection to said tear strip so that its axis of symmetry lies along the center line of the tear strip.

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