May 10, 1927. 1,627,646

H. HERMANI

RIP STRIP CAN

Filed June 30, 1926

Fig. 1,

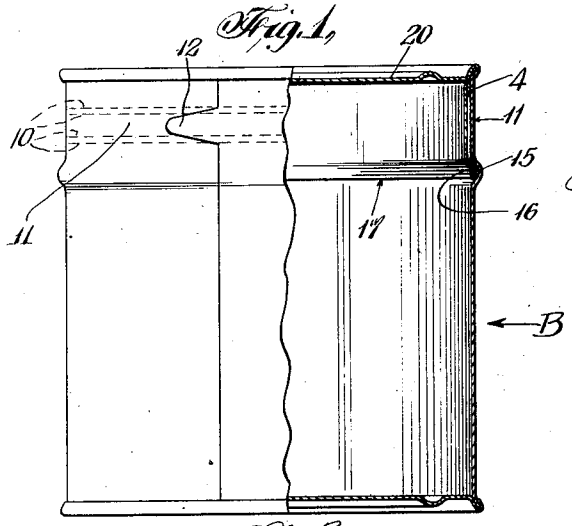


Fig. 2,

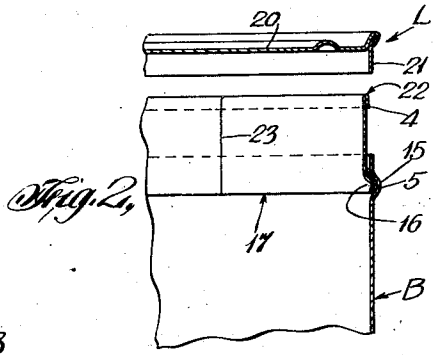


Fig. 5,

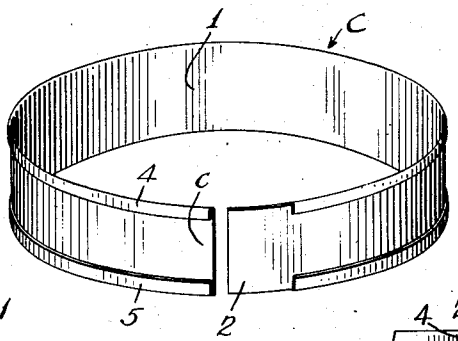


Fig. 3,

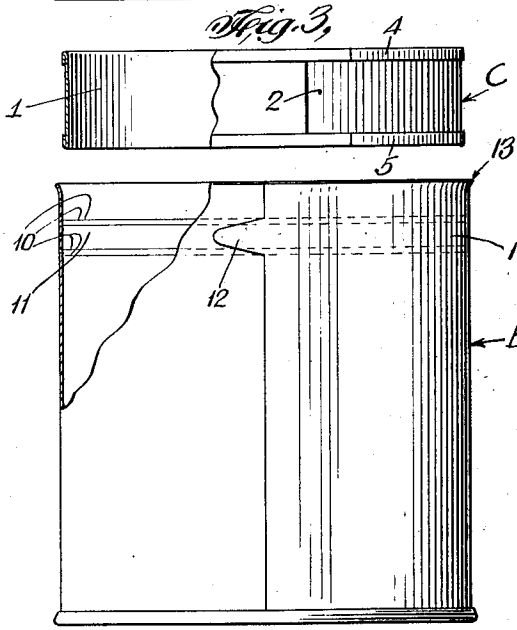


Fig. 8,

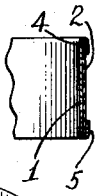


Fig. 6,

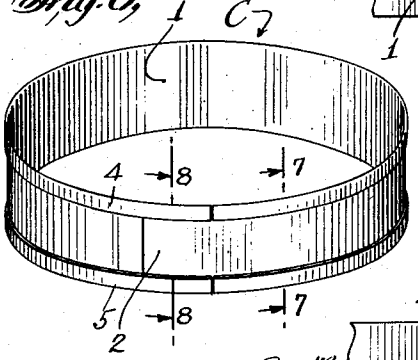


Fig. 4,

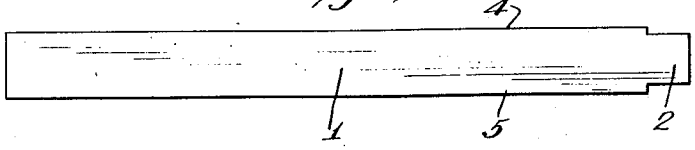
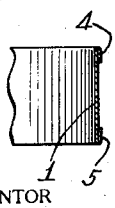


Fig. 7,



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UNITED STATES PATENT OFFICE.

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RIP-STRIP CAN.

Application filed June 30, 1926. Serial No. 119,611.

My invention relates to improvements in cans of the rip-strip type, in which the can body is provided with a projecting tongue forming an extension of a rip-strip defined by score lines. A slotted key is applied to the tongue to tear the rip-strip from the can body by winding it upon the key, leaving the can top connected to a shallow part of the body wall and telescoped over a collar inserted and secured within the body, so that the top with its side wall portion now serves as a readily removable and replaceable cover to protect the can contents during use.

The collars of such cans up to the present time have been made with a "raw" edge; that is, the upper edge consists merely of a single thickness of the metal, which, though it may be cut as smoothly as possible, is quite sharp and is likely to cut the hand of the user, even if this edge is somewhat incurved as is the case in certain cans. The covers are secured in position after they are inserted in the can bodies by forming coincidental creases in the lower margin of the collar and in the can body. As heretofore made, the collars at their lower edges and at all points except the side joint, consist of a single thickness of metal, and therefore a raw edge exists at the bottom of the collar, and although this is located within the can, the edge is usually in the beading operation bent inward substantially beyond the inner surface of the body, so that it presents a rough or sharp edge with which the hand of the user comes in disagreeable contact, or may even be cut in extracting the contents. The ends of the collar have also been connected, either by a side seam or by perforations having interlocking flattened burrs, and in either case the thickness of the collar is greatly increased at the side connection and the inner surface of the can is rendered irregular or rough.

The general object of the invention is to avoid these faults or objectionable features, and to provide a can of the stated type in which there are no exposed raw or sharp edges, either at the top or bottom of the collar, and in which the collar joint is formed in a new way so that it is very thin and flat, and in fact the entire inner surface of the can adjacent the collar as well as elsewhere, may be perfectly smooth and even, presenting no rough, sharp or irregular formations which could cut or scrape the hand or interfere with the easy and complete extraction of the can contents, of whatever nature.

These objects are accomplished in the particular embodiment of the invention here disclosed, by providing a hem, consisting of a turned over margin of the metal at both the upper and lower edge of the collar, by providing one end of the collar with a tongue projecting beyond the overturned or hem edges at that end, this tongue being slipped under the hem edges of the other end of the strip, forming a secure connection which is very thin, flat, and perfectly smooth on the inside, and also, in some cases, by so forming the interlocking beads in the lower portion of the collar and can body that the lower edge of the collar does not project inward beyond the inner surface of the can. Of course, some of these features may, in some cases, be omitted, while retaining the others.

The characteristics and advantages of the invention are further sufficiently explained in connection with the following detail description of the accompanying drawing, which shows one representative embodiment of the invention. After considering this example, skilled persons will understand that many variations may be made, and I contemplate the employment of any structures that are properly within the scope of the appended claims.

Fig. 1 is a view, half in elevation and half in section, of a can embodying the invention in one form.

Fig. 2 is a similar view showing the can opened by removal of the rip-strip and with the lid or cover removed.

Fig. 3 shows a can body ready for the insertion of the collar, also shown.

Fig. 4 is a plan view of a blank from which the collar is produced.

Fig. 5 shows the collar ready for end-connection.

Fig. 6 shows the completed collar with end connected.

Fig. 7 is a section at 7—7, Fig. 6.

Fig. 8 is a section at 8—8, Fig. 6.

The collar C is formed from a blank 1, Fig. 4, which has at one end a tongue 2 of reduced width. The side margins 4 and 5 of the blank are turned over parallel with the blank body, producing formations which are conveniently termed "hems," designated by the same numerals in Fig. 5, which shows the blank bent to circular form ready for completion by inserting the tongue 2 between the hem flaps and the main body of the other end of the ring, as shown in Fig. 6. For this purpose the hem flaps or margins, or at least those portions adjacent the end *c* of the collar are not pressed down flat until after the tongue is inserted, whereupon these hem portions or the entire hem formations may be pressed down tight and flat against the main collar body. The collars may be produced by other methods, the one described using only one example. The hem margins are turned and pressed upon the outer face of the collar, for reasons which will appear hereafter.

Fig. 3 shows a can body B ready to receive a collar. The invention is well adapted for round cans, and is so illustrated, but evidently some or all of its features are adaptable to cans of other formations. The body wall has score lines 10 formed on its inner surface, there being preferably two pairs of score lines, as the drawing sufficiently explains, to define a rip-strip 11, and a tongue 12 is provided constituting a continuation of one end of the rip-strip. The collar is inserted in the body to a point slightly below the upper edge 13 and is then secured by producing co-operating deformations or beads in the lower margin of the collar and in the body wall. Usually a complete, outwardly convex bead 15 is formed in the body, but the collar deformation 16 need not be of complete channel form and instead may be what is conveniently called a segmental bead, so that the edge 17 does not project inward beyond the inner surface of the body.

After the can is filled (and after vacuum treatment, if that is desired), the top 20 is applied and seamed in position as usual, and the complete can is then, as shown in Fig. 1, ready for shipment and sale.

The consumer opens the can by applying a slotted key to the tongue 12 to tear away the rip-strip, whereupon a lid L is produced, as shown in Fig. 2, this consisting of the top 20 and attached marginal portion 21 of the can body which was originally integral with the body. The act of tearing away the rip-strip leaves the lid in closed position with the upper portion of the collar telescoped within the lid flange 21, so that the contents is securely held and protected, but is accessible for extraction by removing the lid, as in the case of an ordinary can having a flanged lid.

The upper hem 4 produces a smooth and rounded top body edge 22, exposed when the lid is removed, and this edge is of double thickness so that there is no possibility of cutting the fingers if the hand is inserted in the can, and moreover, this smooth edge surface produces no disagreeable touch-sensation. The inner surface of the collar, including the joint, is smooth and flat, being practically flush with the inner surface of the can body, the only joint formation exposed or observable at the inside of the can being the edge 23, which lies flat and smooth upon the other portion of the body strip 1, and there is no possibility of cutting or scratching the hand upon this or any other part of the collar, since its lower edge 17 is also smooth and rounded by the provision of the lower hem formation 5, and moreover, in some cases, including the preferred form shown, this edge does not project inward beyond the inner surface of the body.

In brief, therefore, the invention provides a can structure of this type in which there is no raw, rough, thin or sharp edge or substantially increased thickness or irregularity in the collar structure, and the can therefore may be manipulated without risk of incurring cuts or scratches, and the contents may be more quickly, easily and completely extracted.

I claim:—

1. A rip-strip can comprising a body having a rip formation, a collar secured therein and arranged to have its upper portion exposed after the ripping operation and after the lid thus produced is removed, the upper margin of the collar being turned outwardly and flattened against the collar wall, producing a smooth, rounded upper collar edge.

2. A can structure including a collar having its upper and lower margins doubled and having its ends connected by co-operation of one end portion with said doubled formations, the inner face of the collar at the joint being smooth and flat.

3. A can structure including a collar having its upper and lower margins doubled and having its ends connected by co-operation of one end portion with said doubled formations, the inner face of the collar at the joint being smooth and flat, the upper doubled margin of the collar being exposed when the can is opened for use, and providing a smooth, rounded outer collar edge.

4. A can comprising a body, a collar having upper and lower hem formations and located in the body near one end thereof and secured by interlocking deformations of the collar and body, said deformations of the collar including its lower hem formation.

5. A rip-strip can including a collar having upper and lower hem formations and having an end joint consisting of a portion of one end of the collar inserted between the main tubular part and hem formations of the other end of the collar, providing a smooth, flat inner collar surface, the collar being secured in the can body by interlocking bead formations in the body and the lower hem formation of the collar.

Signed at Baltimore, in the county of Baltimore, and State of Maryland, this 28 day of June A. D. 1926.

HENRY HERMANI.