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VACUUM-PACK CANNING TIN

Filed Sept. 16, 1941

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This invention relates to improvements in vacuum-pack canning tins of the character employing a unitary exterior shell hermetically sealed by top and bottom marginal seams to the end walls of the container, and wherein the said exterior shell is given circumferential scorings to define therebetween a tear-strip terminating at its initiating end in an exposed stripping tongue arranged to be introduced in the slot of a removal key, the key acting to rupture the shell on the lines of the scorings as the strip is wound upon the same. In this type of tin there is also provided a short liner extending about the inner circumference of the shell in apposition to the scorings and which is held in fixed relation to the shell by the instrumentality, at a point below the lowest scoring line, of pressing a circumferentially extending bead into the assembly whereby the material of the liner nestles in the material of the shell. The inner liner becomes important to the tin only upon a removal of the tear-strip, thereupon serving as a neck about which the lid-forming upper end of the ruptured outer shell may be snugly closed to seal the container against access of air.

Considering this type of vacuum-pack canning tin, one objectionable feature stands out, namely a tendency for the tear-strip to work off the end of the removal key in the form of open spiral whorls as the tin is being opened, following a worm pattern rather than the intended closed spiral unless extreme care is taken by the user to hold the key against a longitudinal shifting in relation to the tin. Aside from the danger which can be attributed to the sharp edges of the twisted whorls, considerable annoyance is caused in that a complete severing of the tear-strip from the shell is obtained only with difficulty and frequently requires application of pliers.

Stating the same generally, the object of the present invention is to provide a vacuum-pack receptacle of the nature described characterized in that a perfected form of tear-strip is engineered into the same functioning, in a removal operation, to lock the spiral windings against axial slippage in relation to the removal key.

It is a further object of the particular object of the invention to provide a receptacle having the foregoing advantages capable of being produced at a cost in no way increased over the production cost of previous inferior tins.

The invention consists in the novel construction and in the adaptation and combination of parts hereinafter described and claimed.

In the drawing:

Figure 1 is a perspective view of a vacuum-pack canning tin produced in accordance with the preferred embodiment of the present invention and shown in its sealed state.

Figure 2 is a fragmentary enlarged perspective view illustrating the tin in the process of winding the tear-strip upon the removal key.

Figure 3 is a fragmentary transverse vertical section of my tin with the tear-strip intact.

Figure 4 is a sectional view to an enlarged scale showing the tear-strip fully wound upon the removal key; and

Figure 5 is an underside plan view of a portion of the tear-strip.

The present invention, as above stated, is adapted to be applied to the common form of vacuum-pack tin employing a unitary shell, denoted in the drawing by the numeral 10, marginally connected by top and bottom seams 14—12 to the end walls 13 and 14 of the tin, and in which the said shell is capable of being ruptured through the instrumentality of providing spaced parallel scorings, as 15 and 16, describing therebetween a tear-strip 17 extending about the entire circumference. It is usual in producing the tins to impress lightly into the inner face of the tear-strip a series of offset herring-bone scorings (Fig. 5) directed inwardly from the side edges towards the originating end of the strip, these light scorings acting in the manner of graining to prevent a converging travel of the rupture lines inwardly from the scorings 15 and 16. The short liner to which I have referred and which is applied to the inner wall of the container in a position to have its upper end lap the tear-strip is indicated at 18, a beading such as indicated at 20 being employed below the lower scoring 16 to press the material of the liner outwardly into nesting relation to the shell for fixing the liner against longitudinal shifting in relation to the shell.

In producing the shell a rectangular blank is employed which is turned about a forming die to bring the two end edges into meeting engagement, whereupon such meeting edges are soldered as at 21. Characterizing one of the blank ends as a continuation of the tear-strip is a projecting tongue 22, and in the soldering step such
tongue is disposed in overlying relation to the other end of the blank.

My present invention makes no change whatever in the basic steps employed to produce the described tin, and consists in the simple expedient of impressing into the tear-strip on the substantial longitudinal median line thereof an inwardly projecting bead, as 23, and of correspondingly deforming the material of the liner by expressing the same inwardly as a nesting accommodation therefor, this bead being desirably of a width appreciably less than that of the strip.

The said tongue 22 I form to approximately the same width as the bead, and desirably locate the same to dispose its longitudinal median line in correspondence with that of the head.

From the foregoing it will be understood that the location of the tongue is such as to dispose the same within the range of the bead 23, which is to say in a position such that when the tongue is lifted outwardly from the plane of the tin and inserted into the slot 24' of the key 24 and the latter turned to break the seal and initiate a winding action of the strip upon the key, that the tongue thereupon lodges in the channel produced by the inwardly directed bead. Successive wraps or winds of the tear-strip effect a registration with the head of the preceding wrap and produce the nesting result indicated in Fig. 4. It is believed to be apparent that the beading, as applied, consequently serves to lock the tear-strip against either a bodily shifting of all of the wraps or of an individual shifting of one as respects a next adjacent winding. In addition to the locking function, it will likewise be apparent that the bead serves the further end of augmenting the lower and reversely applied bead 49 as a means for holding the liner and of reinforcing the container while the latter is in its sealed state, and of strengthening the liner neck upon a removal of the tear-strip.

What I claim, is:

1. A tearing strip can construction comprising a tubular body shell deformed to describe an inwardly directed and circumferentially extending rib in spaced relation below the filling limits of the can, having scorings above and below said rib and paralleling the latter to define a tear-strip, providing a tongue element joined to the tear-strip and produced as a rectilinear prolongation of the rib with its width corresponding, or approximately corresponding to the width of the rib and adapted to be engaged by a key for removing the tear-strip, and being deformed below the lower of said scorings to describe a second circumferentially extending rib; and a sleeve member introduced as an internal liner to the body shell, extending at the upper and lower limits above and below said upper scoring and the lower rib, respectively, and deformed in correspondence with the body shell to snugly fit the latter.

2. A tearing strip can construction comprising a body shell deformed to describe an inwardly directed and circumferentially extending rib lying in spaced relation below the filling limits of the can, having scorings above and below said rib and paralleling the latter to define a tear-strip, and providing a tongue element joined to the tear-strip and produced as a rectilinear prolongation of the rib with its width corresponding, or approximately corresponding, to the width of the rib and adapted to be engaged by a key for removing the tear-strip; and an internal liner for the shell snugly fitting the latter with its upper limit extending above the upper scoring and its lower limit extending below the lower scoring, and having means disposed at a point below said lower scoring interconnecting the liner and shell to secure the former against shifting movements lengthwise of the shell.

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