

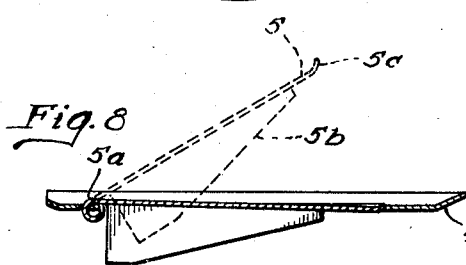
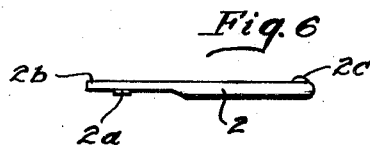
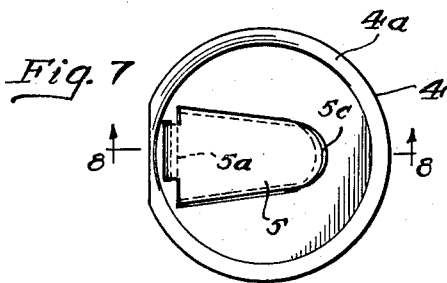
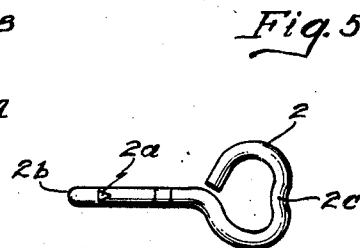
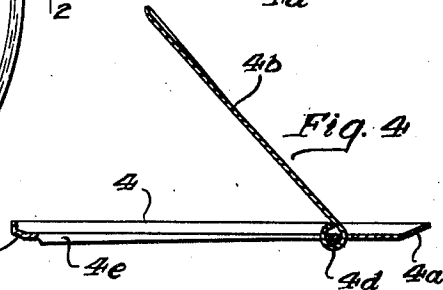
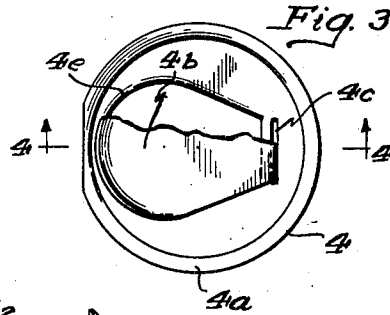
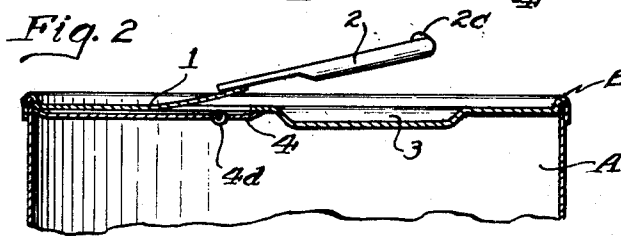
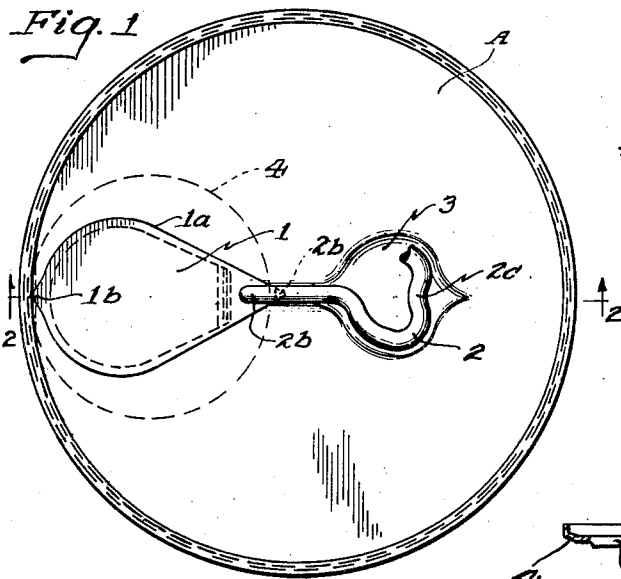
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CAN CONSTRUCTION

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CAN CONSTRUCTION

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13 Claims. (Cl. 221—11)

This invention is for a can construction, particularly adapted for use in merchandising commodities in cans, and particularly those commodities which are adapted to be poured from cans when and as ultimately consumed.

A particular object of this construction is to provide a type of can construction wherein a completely removable tear strip is formed in an appropriate part of the can, which may be removed with a single stroke or pull.

A further important object of this construction is the provision of a can construction in which a lever or key is formed integral or permanently mounted on one end of the removable section or tear strip whereby the means of opening the can is always available and wherein no other means than the key or lever need be employed.

A further highly important object of the invention is the provision of a lever or key permanently mounted on or formed integral with a removable section or tear strip, the said key having a substantially triangular protrusion terminating in registry with the sharp angular or curved end of the tear strip or the like, the said triangular protrusion being fastened to the sharp angular end of the tear strip and permanently fastened thereto insuring easy breakage of said tear strip.

Another object of the invention is the provision of a removable tear strip having a permanently attached or integral key or lever in which the tear strip is so formed as to be easily and completely removed from the body of the can.

A still further object of the invention is the provision of a key or lever permanently attached to or formed integral with a removable tear strip, the said key or lever being formed to permit easy access thereto, yet in which the key or lever is recessed in the can body permitting easy packing of the sealed cans.

Another highly important object of the invention is the provision of a device of the class described above having in combination therewith a spout or self-closing pouring means whereby the can, after the removable section or tear strip is removed, may be used as a pouring device and may be again temporarily closed.

Other and further objects will appear from the detailed description and disclosure which follows.

On the drawing:

Fig. 1 is a plan view of the construction as it appears when formed as a part of the top of a can.

Fig. 2 is a cross sectional view of the construction taken on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of one form of closing means, part of the lid of the same being broken away to show how the said lid over-extends the inner edges or lips of the main portion of the disc to which it is mounted.

Fig. 4 is a cross sectional view of that part of the construction shown in Fig. 3, taken on the line 4—4 of said Fig. 3.

Fig. 5 is a plan view of the bottom face of the key or lever shown in Figs. 1 and 2 detached from the tear strip.

Fig. 6 is a side elevational view of the key or lever shown in Fig. 5 when the said key or lever is detached from the tear strip.

Fig. 7 is a modified form of spout for similar purposes to that form shown in Fig. 3, except that it is hinged at an opposite end and is particularly adapted to form a pouring spout.

Fig. 8 is a cross sectional view of that portion of the device shown in Fig. 7 taken on the line 8—8 of Fig. 7.

As shown on the drawing:

The numeral 1 indicates a portion of a conventional can formed in the shape substantially as shown in Fig. 1, which may be formed in any appropriate part of the can, as for instance, in the top, bottom, or even the sides thereof to perform the functions herein indicated. The numeral 1a is used to indicate a scoring or scored portion extending entirely around the removable portion or tear strip 1 and is placed in a metal can or can cover by submitting that portion of the can to pressure with an appropriately formed die which reduces the thickness of the can at the scored portion to a thickness substantially less than the thickness of the can body proper, yet retaining sufficient thickness, strength and rigidity to effectively seal the contents of the can.

As shown in Fig. 1, the tear strip in its preferred form has a peculiar and specific oval or pear-like shape which permits this portion to be completely removed when the integral key or lever, shown in the drawing and illustrated by the numeral 2, is lifted up and away from the body of the can, as further herein more specifically set forth. As is particularly shown in the drawing, the preferred form of tear strip is irregularly curved in shape, the arcuate or irregularly curved outline forming the side scoring coming together at that end whereon the key is attached at an abrupt angle and terminating in a perfect point in registry with the triangular

portion 2a of key 2, further herein more specifically described.

Extending forwardly from the point of the tear strip in registry with portion 2a the scoring extends out at both sides angularly or in an irregular curve, as shown, until it achieves its widest portion at a distance substantially farther from the key than the remaining portion of the scoring or tear strip which forms the extreme or outward end portion opposite the key or lever, thence proceeding angularly, arcuately, or in an irregular curve, the arcs, angles or irregular curves of the scoring coming into constant closer relationship with one another and finally terminating substantially abruptly in the tip or point indicated by the numeral 1b.

While I have illustrated in Fig. 1 the preferred form of the tear strip or removable section 1, the said tear strip may also be formed substantially quadrangular, oval or in other irregular shapes. The essential requirement for successfully removing the entire tear strip at one pull or stroke being that the key or lever be firmly and preferably integrally attached to the tear strip at one pointed end thereof and substantially in registry with the scoring at that point to permit initial rupture of the tear strip from the body of the can by raising the key or lever and that the scoring which defines the tear strip be so formed and shaped on opposite sides of the tear strip angularly, arcuately or in irregular curves away from the key or lever 2 and forming a relatively wide portion at substantially the central part of the tear strip, thence proceeding on opposite sides of the tear strip in an angular, arcuate or irregularly curved direction toward a central and forwardly extending point at that end of the tear strip opposite from the key or lever.

The key or lever indicated by the numeral 2 consists in preferred form of a handle portion, the handle portion being humped substantially as shown in the drawing, the humped portion of the key or lever being indicated by the numeral 2c. The purpose of the humped portion 2c is to provide a portion which may be easily grasped by the finger or by an appropriate tool and whereby the initial leverage may be applied to the key or lever to initially break the point of the tear strip where it falls into registry with triangular portion 2a of the key or lever.

The numeral 2a indicates a substantially triangular protrusion which in preferred form is formed integral with the lower part of key 2 and protruding slightly from the lowermost surface of the key or lever substantially as shown in Fig. 6. To give additional leverage and to further insure that the key or lever 2 will shear the tear strip from the can, the end of the key or lever substantially over-extends the end of the tear strip and this over-extending portion is indicated by the numeral 2b.

In constructing my invention as a part of a can body, the key or lever 2 is preferably spot-welded or otherwise fixedly attached to the tear strip. Particularly, the substantially triangular portion 2a is welded or otherwise attached to the extreme tip of the tearing strip 1, and it is immaterial whether or not the spot welding, or, if desired, soldering, also securely and integrally fastens portion 2b to the tear strip 1.

In preferred form, the can body is recessed substantially as shown in Fig. 2, forming a recess or niche 3 in which the key or lever 2 may repose in such a manner that the hump or up-

wardly bent portion 2c may be reached by the fingers and yet which will permit that portion to lie in a plane substantially lower than the rim or edge B of can body A. The recessed portion 3 is to be given a form substantially the same as the outer periphery of key or lever 2 but extending at or near that end of recess 3 near portion 2c far enough from said key or lever 2 to permit the finger or an appropriate opener or leverage device to be inserted under the hump 2c and the initial outward pressure exerted upon said key or lever.

In the preferred form of my invention I have provided a portion formed substantially as a disc, and to which the numeral 4 is applied, which may be welded or otherwise appropriately fastened to the interior surface of the can body and which has the purpose of providing a base or mounting means for the pouring spout or self-closing lid or other closing or pouring means, preferred forms of which are shown in Figs. 7 and 3. The disc 4 has a substantially annular rim 4a which may be soldered, spot-welded or otherwise appropriately fastened beneath the tear strip 1 and particularly made in such a form and size and attached in such a manner as to permit the self-closing lid or spout to be operated when the tear strip 1 is completely removed from the can body A.

In that form of disc particularly illustrated in Fig. 3, I have provided a self-closing lid. It will be noted that the lid 4b is formed substantially in a shape which conforms in a general way to the outline of the tear strip 1 and such that when the tear strip is removed, the lid 4b is somewhat smaller than the tear strip and can, therefore, be easily operated once the tear strip 1 is removed. An elongated aperture 4c is provided in the disc 4 so that the rearwardmost end of lid 4b may pass therethrough and be curved around a strip in portion 4, substantially as shown in Figs. 2 and 4, forming a curved portion 4d and permitting portion 4b to move in a substantially hinged manner perpendicular to the can body.

To insure that the closure of portion or lid 4b shown in Fig. 3 effects a closure of the can, it is provided that the lid 4b be substantially larger than the aperture in disc portion 4 which it covers and a shoulder 4e is provided around the aperture in disc 4 forming a shoulder 4e against which the outer periphery of lid 4b may fit rather closely forming a substantially tight closure and thus protecting the contents of the can.

In the modified form of disc 4, shown in Fig. 7, I have provided a device which is substantially a reversal of that preferred form shown in Fig. 3 and which it will be seen that by oppositely mounting the portion 4b and providing sides substantially as shown and by changing somewhat the form of the aperture in the disc 4, a pouring spout may be provided which serves the dual purpose of spout and closing means.

In this modified form the numeral 5 indicates a lid which may have the integral edges thereof turned backward forming the sides 5b substantially angular toward one another. The numeral 5a indicates a portion of the lid or spout turned backward to form a hinge in the same manner as described with respect to the preferred form shown in Fig. 3. It will be noted that in the form shown in Figs. 7 and 8 the end of the lid or spout is turned slightly upward as shown in the drawing and indicated by numeral 75

5c and the disc portion 4 is slightly indented, as shown, to permit the lid or spout 5 to be raised with the fingers.

It is also to be noted that the disc 4 is adapted to be used in conjunction with other forms of pouring spout or lid than those shown, these two forms being shown only for the purpose of clarity.

When a can is constructed substantially as set forth above, it may be packed or racked upon shelves as can any conventional can. When it is desired to open a can of my construction, all that one need to do is to lift up on key or lever 2 placing the finger or any convenient tool or the like in humped portion 2c, which as herein set forth, is recessed but accessible in that portion given numeral 3, and to exert a tug or pull upward upon the said key 2. The force thus exerted upon key 2 will be transmitted to the tear strip, the key or lever and tear strip being formed integral or securely soldered or welded together at triangular portion 2a and in registry with the tip of the tear strip 1 will transmit this pressure or pull directly to the tear strip and the scoring will be sheared at that point. A continued pull upon the key 2 will further shear the portion 1 from the body of the can and the portion 1 may be taken and lifted entirely from the body of the can, exposing the lid 4b and the spout 5. The can is then ready for use and it will be noted from the construction shown that it effectively permits ready closure of the can and easy pouring of the contents from the same.

In this specification and in the claims, wherever the term "can" or "can body" is used, it is intended that the terms shall be broadly enough construed to define, for instance, a cap or closure for a bottle or the like.

While I have described my invention in considerable detail, I do not wish to be limited to the exact structure shown except as limited by the appended claims. Various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claims.

I claim:

1. In a construction permitting the opening of sealed container by a single forcible pull upon a protruding element attached to a portion of said container, the combination of a portion of a container having irregularly curved scoring formed therein defining a substantially pear-shaped tear strip having a pair of spaced apart sharply pointed ends in register with the longitudinal axis of said tear strip, a lever, integral shearing means on said lever, said shearing means being fixedly mounted in register with the pointed end of the narrowmost portion of said tear strip, substantially as set forth.

2. In a can construction the combination of a substantially pear shaped removable tear strip defined by irregularly curved scoring in a can body terminating in a pair of sharply pointed ends, a disc forming a base and having an aperture therein mounted under said tear strip and exposable thereunder when said tear strip is removed, a lid hinged at one end to said disc adapted to form a cover for the aperture in said disc and closing the aperture in said disc when said tear strip is removed.

3. In a device of the described class the combination of a can body, a substantially pear-shaped tear strip terminating in a pair of sharply pointed ends defined by scoring in said can body, a lever formed integral with one pointed end of said tear strip adapted to shear the same from said can body by a single pull thereon and a lid formed on a mounting having an aperture therein beneath said tear strip and exposable when said tear strip is removed, said lid adapted to close the aperture in said mounting.

4. In a device of the described class the combination of a portion of a can body, a removable tear strip defined by substantially irregularly curved scored lines terminating in a pair of spaced apart sharply pointed ends in said can body, a lever, shearing means integral with said lever and fixedly mounted on one pointed end of said tear strip and adapted to shear said tear strip from said can body, a mounting having an aperture therein beneath said tear strip and exposable when said tear strip is removed, and a spout hingedly mounted on said tear strip adapted to optionally close said aperture in said mounting or to permit pouring of contents from said can body, substantially as shown.

5. In a can construction the combination of a can body, irregularly curved scoring in said body meeting and terminating forwardly and rearwardly in sharply pointed ends and defining a substantially pear-shaped tear strip having sharply pointed ends and adapted to be entirely removed from said can body, and a lever having integral means formed thereon for initially shearing one pointed end of said tear strip from said can body fixedly mounted on one pointed end of said tear strip and providing a means to remove said tear strip from said can body by a single pull on said lever.

6. In an article of the class described the combination of a can body, a tear strip in said body defined by irregularly curved scoring, a lever, a substantially triangular protrusion on said lever, said triangular protrusion being in registry with and rigidly fastened to a pointed end of said tear strip adapted to provide a means to initially tear and completely remove said tear strip from said body, a plate having an aperture therein mounted in said can body beneath said tear strip forming a base for a hinged lid and a hinged lid on said plate adapted to form a closure for said aperture in said plate when said tear strip is removed.

7. In an article of the class described the combination of a can body having a disc formed integral therewith, said disc having an aperture therein adapted to form a base for a hinged lid forming a cover for said aperture, a lid, said lid being formed under and within the confines of a removable tear strip formed as a part of the can body, a tear strip defined by irregularly curved scoring terminating forwardly and rearwardly in sharply pointed ends, a key, shearing means integral with said key and fixedly mounted in registry with one pointed end of said tear strip and adapted initially to shear one pointed end of said tear strip from said can body and to permit said tear strip to be removed from said can body, exposing the hinged lid mounted thereunder.

8. In a device of the class described the combination of a can body having a recessed portion therein, a substantially pear-shaped removable tear strip defined by irregularly curved scoring terminating in a pair of spaced sharply pointed ends in said body, a lever fixedly mounted on one pointed end of said tear strip and reposing in

the said recess in said can body, a fixedly attached mounting having an aperture therein under said mounting exposable when said tear strip is removed, and a hinged cover adapted to be optionally opened or closed to open or close the aperture in said mounting.

9. A device of the class described comprising a portion of a can body, a tear strip defined by irregularly curved scoring in said body portion, said scoring terminating forwardly and rearwardly in sharply pointed ends and having a relatively wide space therebetween at the central portion of said tear strip and a lever having a triangular protrusion in registry with and rigidly attached to one pointed end of said tear strip, said lever adapted to be pulled to shear said tear strip from said can body portion by a single pull thereon.

10. In a can construction the combination of a portion of a container, an ovalar tear strip in said portion of said container defined by irregularly curved scoring forming a pair of spaced apart sharply pointed ends, said pair of sharply pointed ends on said tear strip being in substantial registry with the longitudinal axis thereof, and protruding lever means having integral shearing means thereon connected to one sharply pointed end of said tear strip providing a means for entirely removing said tear strip from said can body by a single forcible pull thereon.

11. In a can construction the combination of a wall of a can body, irregularly curved scoring in said can body the lines of which meet and terminate forwardly and rearwardly in sharply pointed ends defining a removable tear strip, a relatively wide and substantially pear-shaped tear strip having spaced sharply pointed ends defined by said scoring, and a lever having integral shearing means thereon fixedly mounted on one

of said pointed ends of said tear strip and extending longitudinally thereof in a plane normally slightly above said tear strip and providing a means for entirely removing said tear strip from said can body by a single forcible pull on said lever.

12. In a device of the described class the combination of a can body, a disc having an aperture therein mounted on said body, a lid covering the aperture in said disc in substantial registry with a relatively wide removable tear strip formed in a wall of said can body above said disc, said tear strip being defined by irregularly curved scoring terminating forwardly and rearwardly in sharply pointed ends, a lever, an integral substantially triangular protrusion on said lever, said triangular protrusion being rigidly attached to one pointed end of said tear strip and in registry with the scoring and adapted to provide a means to initially shear said pointed end of said tear strip from said can body.

13. In a device of the described class the combination of a can body having a recess formed therein, a removable substantially pear-shaped tear strip defined by irregularly curved scoring in said can body terminating forwardly and rearwardly in sharply pointed ends, a key, said key fitting into the recess in said can body, a substantially pointed protrusion on said key, said pointed protrusion rigidly fastened to and in substantial registry with one pointed end of said tear strip and forming a means to initially rupture one end of said tear strip from said body and a disc having an aperture therein and a lid for closing said aperture mounted under said removable tear strip and exposable when said tear strip is removed.

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