April 9, 1940. F. G. FOSS 2,196,206

CONTAINER

Filed March 20, 1936

Fig. 1

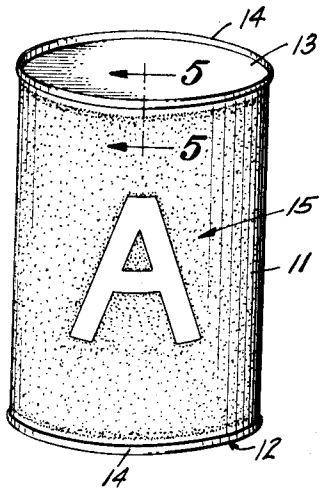


Fig. 2

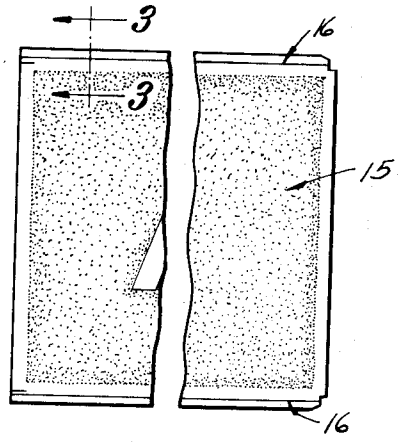


Fig. 3

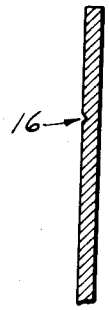


Fig. 4

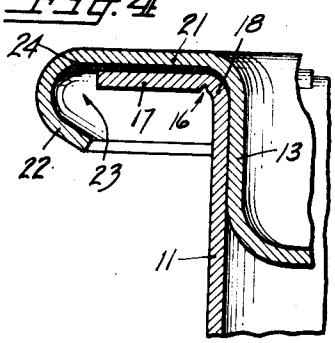


Fig. 5

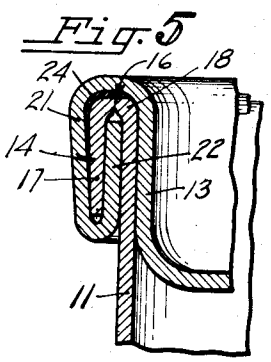


Fig. 6

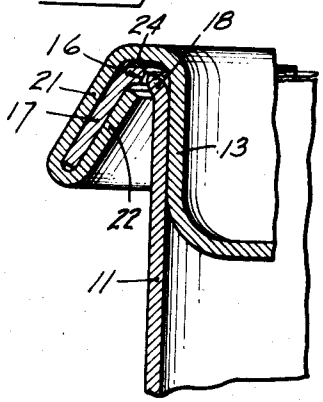
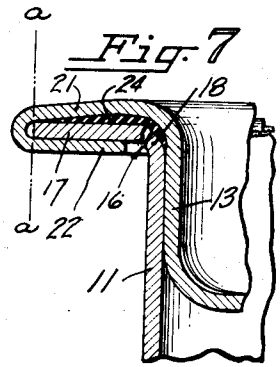


Fig. 7



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UNITED STATES PATENT OFFICE

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CONTAINER

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6 Claims. (Cl. 220—67)

The present invention relates to metallic containers or cans and has particular reference to a can body construction which allows for the usual can closing processes but which functions by disrupting the body wall and destroying its usefulness when tampered with, to the end that the container cannot be opened, refilled and resealed with the same can body height and with the same cubical capacity and having the same exterior body wall or label surface, thus preventing a substitution of contents without detection for such a can and providing a container which can only be used once.

Since the sealing of lubricants, such as automobile and other oil in metal cans has come into general use, oil companies have been bothered with certain nefarious practices of bootlegging and substitution of oil which have involved primarily cans having nationally known labels, usually lithographed cans, which have been opened, the oil removed, other oil replaced in the can which was then resealed without in any way changing the label. Such a practice deceives the buying public who obtain a poor grade of lubricating oil under a label designating a high grade oil. Such illicit merchandising has caused considerable harm to the reputable oil trade as a whole although such substitution practice is by no means confined to the oil business. Other contents sealed in metal cans has been handled in the same way and a poorer product has been improperly designated by a label which does not rightfully belong with the actual contents of the can.

Re-use of the ordinary tin can even when it carries a lithographed label on the body wall is comparatively easy. A simple machine developed for use in a cannery to correct imperfections in sealing has been seized upon by these unscrupulous substitutionists and by means of such a machine the opened can end or cover is removed without destroying or changing the label or without shortening the can body wall. Such a can is reconditioned when necessary and may be then filled with the spurious contents and sealed by another can cover. One type of machine which will perform this work is disclosed and described in the E. N. Gauthier United States Patent Number 2,028,202, issued January 21, 1936.

It is to the prevention of reconditioning of emptied cans and to the prevention of re-use of such cans without detection, i. e., without change of can height or capacity, that the present invention is directed.

An object of the present invention, therefore, is the provision of a container or can which will break and prevent reconditioning and re-use as by removal of an end after the original contents has been taken out and as by substitution of another end upon the same can body.

A further object of the invention is the provision of a can of the sanitary or double seam type having a body wall in which is included a weakened area or line of score, which area or line is confined entirely within the double seam where it cannot be detected, the can body wall breaking through or fracturing when and if the seam is disturbed or is unfolded or is refolded as is necessary where the original can end is removed and the flanged can body is supplied with another can end or cover, then double seamed to the body.

Numerous other objects and advantages 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 perspective view of a lithographed sanitary, seamed can embodying the present invention;

Fig. 2 is a fragmentary view of a blank prior to its incorporation into such a can;

Fig. 3 is a fragmentary sectional view taken substantially along the line 3—3 of Fig. 2 and illustrating the body wall scored adjacent one end;

Fig. 4 is a sectional detail drawn to the same scale as Fig. 3 and illustrating a flanged can body on which a can end or cover has been applied prior to connecting the cover with the can;

Fig. 5 is a similar sectional view of the finished can joint after the parts of Fig. 4 have been interlocked in a double seam, this view being taken substantially along the line 5—5 in Fig. 1 and shown on the same scale as Fig. 4;

Fig. 6 is a similar sectional view illustrating the can seam after it has been partially unfolded, this view illustrating the can body as breaking at the time the seam is partially unfolded; and

Fig. 7 is a similar sectional view showing a further unfolding step.

A preferred embodiment of the present invention as illustrated in the drawing comprises a can body 11 which is of the usual construction and which when sealed is provided with a bottom end 12 and a top or cover end 13, the bottom and top ends being united with the can body in the usual double seam 14. The exterior surface of the can is preferably provided with a lithographed surface or designating label 15 which is here

shown as applied directly to the exterior wall of the can body.

The can of Fig. 1 may be formed from a body blank having the general construction illustrated in Fig. 2 this being a usual body blank shape. The blank is preferably scored or otherwise weakened adjacent its two ends as at 16 this being done in a suitable scoring machine. The blank is formed into the usual circular or other body shape to provide the can body 11. The can body is flanged at its two ends in the usual manner to condition it for the reception of its end members. Each flange extends substantially at right angles to the body wall as designated at 17 in Fig. 4.

The score line 16 is now disposed in the curve of the flange 17 where it comes on the inside of the curved corner, indicated by the numeral 18, joining the body wall and its extending flange. Each can end 12 or 13 is of usual construction this being what is referred to as the sanitary type of end and includes a seaming flange 21 (Fig. 4) which is peripherally curled at 22. Where the can is to be hermetically sealed the flange channel, designated by the numeral 23, may be filled with a compound 24 or other gasket medium.

After the double seamed joint, illustrated in detail in Fig. 5, has been made, the score line 16 is located on the inside of the curve forming the body hook of the seam. In this position it is fully confined within the seam. This scored construction permits full sealing of the can but provides a weakened area at the can body flange which is adapted to break if the seam forming the connection between the can body and its end is disturbed. The brittleness of the plate used in the can body and the depth of score determines just what weakening of the body wall is desirable.

A common way of treating an opened can after its contents has been removed so as to preserve its body height is to open up or unbend the double seam connection. Two different positions of the can parts are illustrated in Figs. 6 and 7. This is explained in some detail in the Gauthier patent already mentioned.

The can part flanges when positioned as illustrated in Fig. 7 are ready to be severed which is the next step in the reclaiming action. Severing is accomplished by cutting off the rounded corner of the extended body and cover flanges as along the dotted line *a—a* in Fig. 7. Such a cutting away of the cover periphery releases the severed cover parts from the can body and, in the ordinary can, this is done without destroying the body flange. The ordinary can is thus reusable and may be again closed and sealed by means of a new can cover which may be applied and seamed onto the body flange in the usual manner.

With the scored body of the present invention this reshaping of the seam parts cannot be accomplished for in such unbending of the body flange the body wall is fractured and therefore the can cannot be used in its original form. If the body is retrimmed and reflanged, the resulting can is smaller and the labelled surface is mutilated showing that the can has been tampered with. In some rare cases the flange of the can body of the instant can may not be broken during this removal of the can cover and at the time it is ready to be closed the body flange may still be unbroken. However, when a new cover is applied and seamed on the strain put upon the body wall in the double seaming action will break through the score line so that such a can cannot be properly sealed and therefore leakage of the contents, which will result in such an event, indicates that the can has been tampered with.

With full knowledge of the type of tin plate being used it is possible by cutting a certain depth of score in the score line 16 to weaken the body wall to the desired point. In one case the flange will fracture when the double seam is first bent open (Fig. 6), in another case, when the seam is further bent (Fig. 7), or when the can is cut away, or during the reseaming with a substituted can cover.

From a practical standpoint it makes very little difference as to when the fracture occurs providing it will occur after the sealed can is opened but not during the initial sealing of the original filled can with its original contents. This weakened condition of the can body wall eliminates and prevents the practice of substitution of can contents and the unlawful and misleading use of a can label.

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 parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A single service tamper-proof container which comprises a flanged can body having a weakened line located adjacent the line of bend of said flange, and a can cover double seamed to the flange of said can body and with the said weakened line confined within its double seam, said body being adapted to be fractured along said weakened line when reversely bending said double seam when attempting to substitute a second cover and to connect it to said can body in another double seam.

2. A single service tamper-proof container which comprises a flanged can body having a weakened line located adjacent the line of bend of the flange, and a can cover double seamed to the flange of said can body and with the said weakened line confined within its double seam, the area set off by said weakened line being of a predetermined strength so that said body will not fracture during the initial formation of said double seam but will fracture when said seam parts are unbent in an attempt to substitute a second cover.

3. A single service tamper-proof container which comprises a can body having an outwardly bent flange and a weakened score cut in the exterior wall of the body, and a can cover interengaged with an end of said body in a hermetic double seamed joint, said score being located adjacent the line of bend of said flange where it is fully confined within said seam, said score insuring fracture of the body wall when the said seam is disturbed in an attempt to substitute another cover, thus preventing hermetic resealing of the container.

4. A single service tamper-proof container which comprises a can body having a lithographed label on one side thereof and spaced inwardly from the ends of the body and also having an outwardly bent flange, a weakened score line cut in the lithographed side of the body adjacent the lithographed label and adjacent the line of

bend of said flange, and a can cover inter-engaged with an end of said body in a double seamed joint, said score being located within said seam and insuring fracture of the body wall when the said seam is opened in an attempt to substitute another cover, thus preventing resealing of the container with double seamed joint in the same position relative to said lithographed label and necessitating shortening the label and eliminating the space between it and a subsequently formed double seam joint.

5. A single service tamper-proof container which comprises a can body having a weakened score line cut in the exterior wall thereof and adjacent an end of the body, and a can cover inter-engaged with an end of said body in a hermetic double seamed joint by a bending of a peripheral part of the can cover and bending a flanged end of the can body, said score being located in said can body at the base of the bend of its flange where it is fully confined within said seam, said score insuring fracture of the body wall when the seam is disturbed by an unbending of the flanged can body end thus preventing hermetic resealing of the container by the substitution of a second can cover.

6. A single service tamper proof container comprising a tubular can body and a cover having a flange seamed thereover, a circumferential weakened line disposed an appreciable distance from the end of said can body which is adapted to be fractured if the seam is tampered with in opening the container, said weakened line being housed and enclosed by the said flange in the formation of the seam, the location of said weakened line within said flange necessitating fracture of the line by bending of said seam connection in attempting to substitute a second cover having a similarly seamed connection with said can body.

FRED G. FOSS.