Dec. 31, 1957 F. A. PAGELS 2,818,194

TEAR STRIP METAL RECEPTACLE WITH WELDED LAPPED SIDE SEAM

Filed Oct. 21, 1955

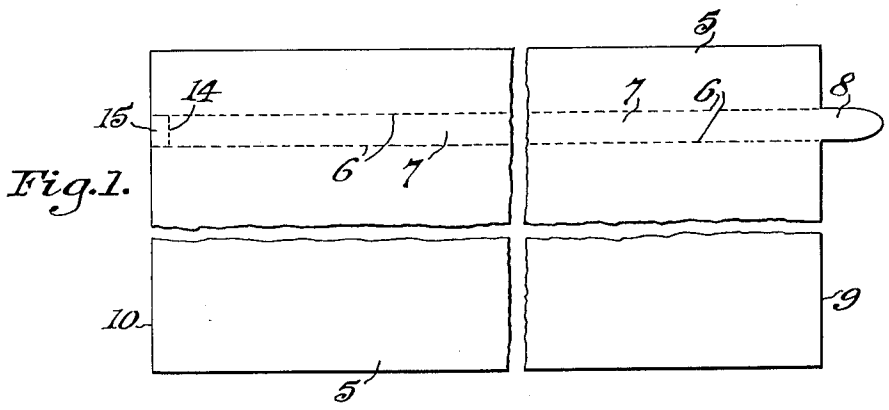


Fig.1.

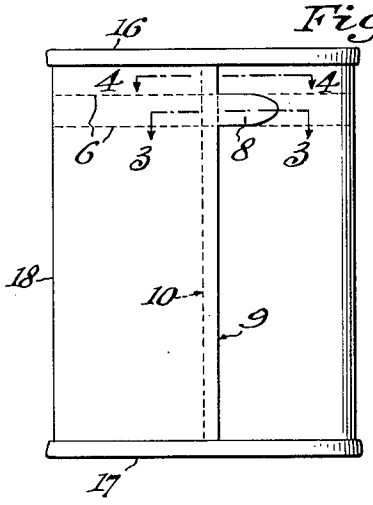


Fig.2.

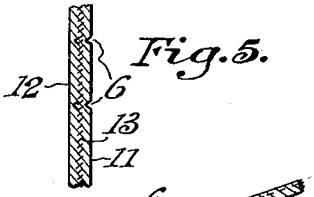


Fig.5.

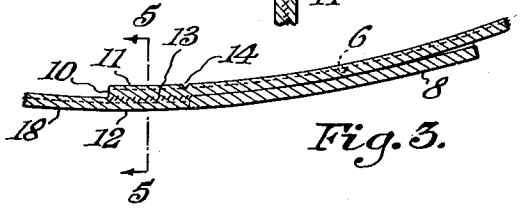


Fig.3.

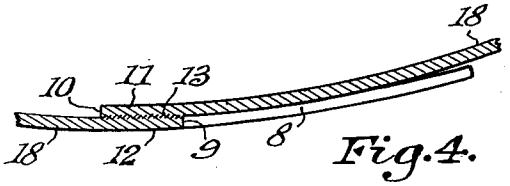


Fig.4.

Fig.6.

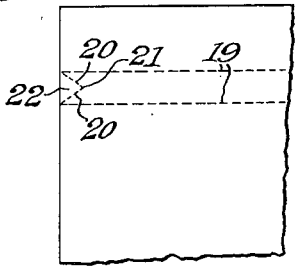
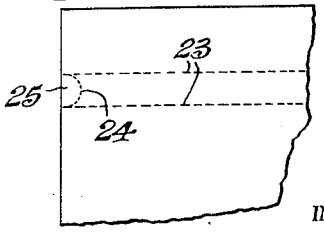


Fig.7.



INVENTOR

Fred A. Pagels

BY Mason, Porter, Miller & Stewart

ATTORNEYS

United States Patent Office 2,818,194 Patented Dec. 31, 1957

2,818,194

TEAR STRIP METAL RECEPTACLE WITH WELDED LAPPED SIDE SEAM

Fred A. Pagels, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N. Y., a corporation of New York

Application October 21, 1955, Serial No. 541,954

5 Claims. (Cl. 220—54)

The invention relates generally to metallic receptacles and seeks to provide a novel receptacle having a welded lapped side seam and a tear strip extending thereabout and through the seam.

Difficulties have been encountered in attempts heretofore made to incorporate tear strips in metallic receptacles having welded lapped side seams. In such receptacles the welding process tends to harden the metal, and it has been extremely difficult, if not impossible, to cleanly and effectively tear out the double thicknesses of metal through the lapped seam portions. The lapped seam portions in the tear strip area, being welded together, cannot be separated in the tearing out of the tear strip, and therefore, to be able to completely remove the tear strip it is necessary to tear the strip across the width thereof at the seam line, an almost impossible undertaking. Therefore, it is a purpose of the present invention to provide a tear strip arrangement in a welded lapped seam and including a score line weakened area in the inner lap wall portion which can readily be pulled away with the tear strip portion in the outer lap wall portion as the tear strip is wound about an opening key in the usual manner.

Another object of the invention is to provide a tear strip arrangement of the character stated wherein the weakened area constitutes the full area of the inner lapped seam wall portion between the tear strip defining score lines and is defined by said tear strip defining score lines, the inner lapped seam wall portion edge and a score line traversing the tear strip at the position of the outer edge of the outer lapped seam wall portion.

A further object of the invention is to provide a tear strip arrangement of the character stated wherein the weakened area in the inner lapped seam wall portion is triangular in shape.

A still further object of the invention is to provide a tear strip arrangement of the character stated wherein the weakened area in the inner lapped seam wall portion is half circular in shape.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawing.

In the drawing:

Figure 1 is a plan view of a can body blank embodying the invention, parts being broken away.

Figure 2 is a side elevation of a can embodying the invention.

Figure 3 is an enlarged fragmentary horizontal section taken on the line 3—3 on Figure 2.

Figure 4 is an enlarged fragmentary horizontal section taken on the line 4—4 on Figure 2.

Figure 5 is an enlarged fragmentary vertical cross section taken on the line 5—5 on Figure 3.

Figure 6 is a fragmentary plan view illustrating a blank portion wherein the tear strip traversing score line is disposed to provide a weakened area which is triangular in shape.

Figure 7 is a fragmentary plan view illustrating a blank portion wherein the tear strip traversing score line is disposed to provide a weakened area which is half circular in shape.

In the example of embodiment of the invention disclosed herein, the receptacle is shown as constructed from a blank 5 such as is illustrated in Figure 1, and having parallel score lines 6 defining a tear strip 7 extending into a tongue 8 projected from the edge 9 of the blank which is to provide the outer edge of the lapped seam area. The other edge 10 of the blank provides the inner edge of the lapped seam area as will be apparent by reference to Figures 2, 3 and 4 of the drawing.

By reference to Figures 2, 3 and 4 of the drawings it will be apparent that the inner and outer edges 9 and 10 are overlapped and spaced to provide an inner lapped wall portion 11 and an outer lapped wall portion 12, said overlapping wall portions being weld-bonded at 13 in the completion of the seam structure.

The blank is provided with a traversing score line 14 spaced from the end edge 10 of the blank a distance equivalent to the width of the lapped side seam thereby to place the score line 14 in line with the outer edge 9 of the seam and define a rectangular weakened area 15 equal in shape and area to the overlying outer lapped seam wall portion 12.

End closures 16 and 17 are applied to the can body in its completed form as indicated at 18 in Figure 2, thereby to complete the can structure.

By reason of the provision of the traversing score line 14, it will be apparent that when a winding key is applied to the tongue 8 to wind the same and bring about a tearing out of the tear strip, the weakened area 15 will be readily pulled away with the overlying outer wall area 12 during the winding of the tear strip.

In the modification illustrated in Figure 6 the score lines 19 are traversed by score lines 20 converging inward and meeting at the point 21 which will be disposed opposite the outer edge of the lapped seam in the completed seam structure. The traversing score line 20 serves to provide a triangular weakened area 22 having its base at the inner lap seam edge and its apex opposite the outer lapped seam edge.

In the modification illustrated in Figure 7, the score lines 23 are traversed by a half circular score line 24 having its center in position for lying opposite the outer edge of the completed lapped seam and serving to define a half circular weakened area 25, the ends of the traversing score line merging into the score lines 23 where they meet the edge extremity of the blank.

In the structure disclosed hereinabove, there is provided a very simple arrangement of tear strip including a weakened area which can readily be pulled away with the tear strip portion in the outer lap wall as the tear strip is wound about an opening key in the usual manner. Practical example disclosures of the tear strip arrangement are disclosed herein and it is to be understood that additional variations in the tear strip formation and arrangement will be provided without departing from the spirit and scope of the invention as outlined in the appended claims.

I claim:

1. In a metallic receptacle, a tubular body having a lapped and welded side seam, and end closure means on said body, said seam presenting inner and outer edges and lapped wall portions between said edges, a tongue extending from the outer edge and adapted to receive a winding key, said body also having a tear strip defined by parallel score lines merging into the tongue and extending about the whole circumference of the body and through both inner and outer lapped seam wall portions, and a score line traversing the full width of the tear strip at least in part opposite said outer edge and defining with the before-

mentioned parallel score lines a weakened area in the inner lapped seam wall portion which will be readily torn out with the tear strip portion in the outer lapped seam wall portion as the tongue and tear strip are wound about a key.

2. In a metallic receptacle, a tubular body having a lapped and welded side seam, and end closure means on said body, said seam presenting inner and outer edges and lapped wall portions between said edges, a tongue extending from the outer edge and adapted to receive a winding key, said body also having a tear strip defined by parallel score lines merging into the tongue and extending about the whole circumference of the body and through both inner and outer lapped seam wall portions, and a score line traversing the full width of the tear strip in line with said outer edge and defining with the beforementioned parallel score lines a weakened area in the inner lapped seam wall portion equal in shape and area to the overlying outer lapped seam wall portion between the parallel score lines therein and which will be readily torn out with the tear strip portion in the outer lapped seam wall portion as the tongue and tear strip are wound about a key.

3. Receptacle structure as defined in claim 1 wherein

the weakened area defining stear strip traversing score line starts at a position opposite the outer edge and diverges upwardly and downwardly from said starting position toward the junctures of the respective parallel score lines with the inner edge of the seam.

4. Receptacle structure as defined in claim 1 wherein the weakened area is triangular in shape with its base defined by the inner seam edge and its apex at the center of the tear strip opposite the outer edge of the seam.

5. Receptacle structure as defined in claim 1 wherein the weakened area is half circular in shape and defined by an arcuate score line traversing the tear strip with the center of the arc at the outer edge of the seam and the ends of the arc merging into the respective parallel score lines at the inner edge of the seam.

References Cited in the file of this patent

UNITED STATES PATENTS

1,754,449 Widell ---------- Apr. 15, 1930

FOREIGN PATENTS

329,100 Italy ---------- Aug. 31, 1935