March 7, 1939. J. F. PECKHAM 2,149,308

CAN TOP

Filed May 7, 1937

Fig. 1.

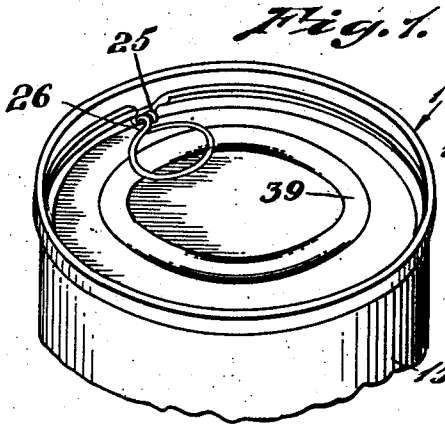


Fig. 2.

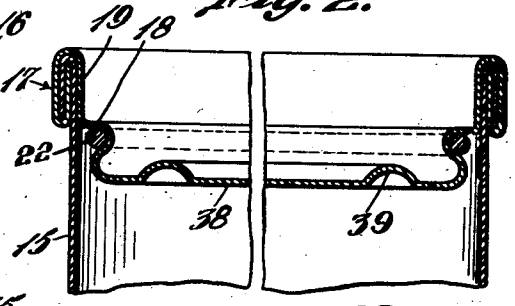


Fig. 3.

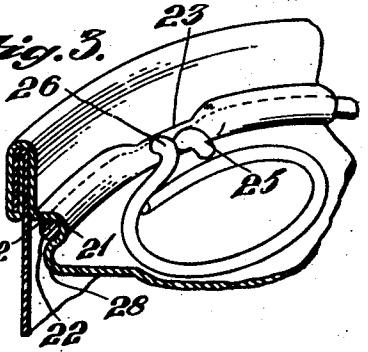


Fig. 4.

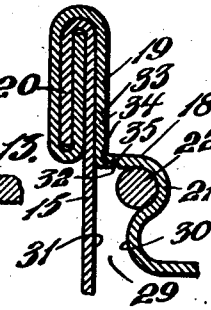


Fig. 5.

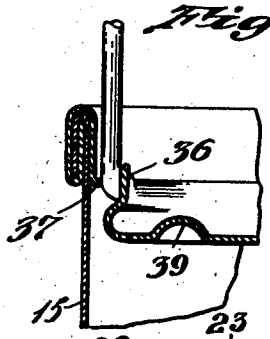


Fig. 13.

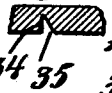


Fig. 6.

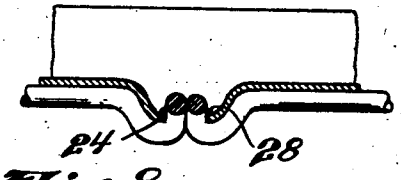


Fig. 7.

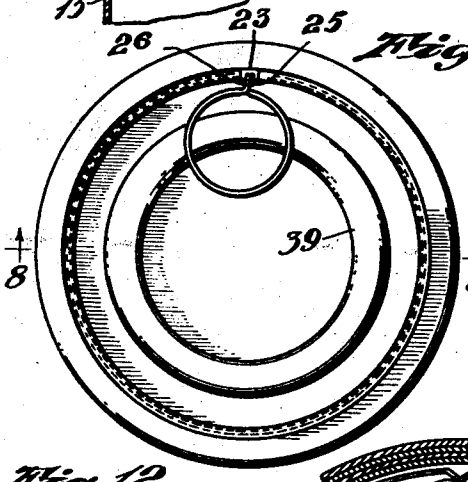


Fig. 8.



Fig. 9.

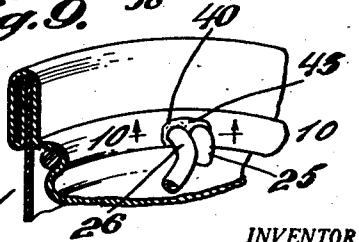


Fig. 10.



Fig. 12.

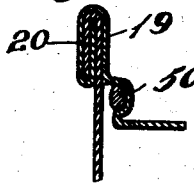
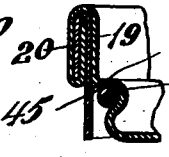


Fig. 11.



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Patented Mar. 7, 1939 2,149,308

UNITED STATES PATENT OFFICE

2,149,308

CAN TOP

Josiah F. Peckham, Providence, R. I., assignor of one-half to Hubert Latham, Providence, R. I.

Application May 7, 1937, Serial No. 141,219

4 Claims. (Cl. 220—49)

This invention relates to a can top and is a different adaptation of a wire opener than my previous Patent No. 2,007,584; and has for one of its objects the provision of an opener for the can top which may be operated in a very simple and convenient manner.

Another object of the invention is the provision of a can top having a wire opener with the can top so formed that the wire opener is locked on the can top against accidental displacement.

Another object of the invention is the formation of a can top which will be scored in such a location that when the severing wire is operated the can top will break ahead of the wire opener rather than being torn by the opener and thus provide an arrangement which will much more easily open the can top than where an actual cutting or severing of the stock is required.

Another object of the invention is the formation of a can top such that the central portion which is removed to provide an opening in the can may be removed by means of the final movement of a flexible severing member at the end of its top severing movement.

Another object of the invention is to so score the can top that it will sever close to the edge of the can along a smooth line free from wavy or rough edges.

Another object of the invention is to provide a can top which will have a surface enabling it to be pressed into closed position by the closing machine without danger of rupture of the sealing connection where the flexible severing member extends through the can top.

Another object of the invention is the facility in soldering and providing a seal for the severing member.

A further object of the invention is the provision of a can top which will be so shaped that a plurality of the tops may be stacked in a minimum amount of space.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view of a fragmental portion of the upper part of the can with the top in closed position thereon;

Fig. 2 is a sectional view of the structure shown in Fig. 1;

Fig. 3 is a perspective view on a larger scale of a fragmental portion of the can showing particularly the depression in the annular horizontal surface through which location the severing wire ends extend;

Fig. 4 is an enlarged fragmental view of a portion of the can top and can edge;

Fig. 5 is a similar view showing the severing wire as rupturing the can top and indicating the deflection of the stock as the severing takes place;

Fig. 6 is a fragmental sectional view through the opening through which the wire ends extend as shown in Fig. 3;

Fig. 7 is a top plan view of the can top alone;

Fig. 8 is a view on line 8—8 of Fig. 7;

Fig. 9 is a perspective view of a fragmental portion showing a modified form of opening through which the wire ends extend with the solder sealing the same;

Fig. 10 is a sectional view on line 10—10 of Fig. 9;

Fig. 11 is a fragmental sectional view showing a still different modification of scoring of the can top;

Fig. 12 is a still different modification showing a differently shaped flexing severing wire;

Fig. 13 is a sectional view of a fragmental portion showing on an enlarged scale the shape of score.

In the use of severing wires for can tops such as shown in the above referred to patent, it is found desirable to provide a means for preventing the wire from being dislodged from the track or vertical wall about which it extends, particularly when the top is in working position on the can. Also, it is found desirable to provide a means so that the seal of the wire as it passes through the can top will not be ruptured in the machine for closing the can and also desirable to provide an arrangement so that the can may be more easily opened than heretofore; and in order that these advantages may be had, I have arranged to lock the severing wire between the top and the can itself without in any way deflecting the stock of the can, and I have provided the severing member leading through the can top in such location that it will be below the area engaged by the sealing machine for closing the can; and further, I have so scored the can top that it breaks ahead of the wire as the wire is pulled so that the strength or pull required for opening the can top may be a minimum; and I have so arranged the severing that it occurs close to the wall of the can with a clean cut which enables the contents of the can, although a solid mass to be easily and quickly removed all in one piece without

breaking up the solid mass; and the following is a more detailed description of the present embodiment of this invention, illustrating the preferred means by which these advantageous results may be accomplished:

With reference to the drawing, 15 is a side wall of a can which has a can top designated generally 16 rolled thereon as at 17 in a known and accustomed manner. The can top consists of a horizontal annular portion or surface 18 with an upwardly extending outer peripheral edge 19 which is rolled with the upper edge 20 of the side wall 15 of the can into a sealing relation by the usual can closing machinery. This annular horizontal surface 18 at its inner edge extends downwardly generally vertically as at 21 to provide a track for the flexible severing member or wire 22 which extends annularly about this track 21. The web member 38 extends across to close the center of the top inwardly of the track and has the usual expansion portions 39 located therein.

A depression 23 is formed in the horizontal surface 18 with an opening 24 through which both ends of the wire or flexible member 22 extend. One end of this wire 25 is bent sharply over inwardly, as seen in Fig. 3, so as to lock the same in position on the can top, while the wire extends about the track with its other portion 26 also extending through this opening and terminating in a hand ring 27. Solder 28 is placed about the wire to seal this opening in the can top. The depression 23 is of such an extent that the wire ends are below the surface 18 so that when pressure of the closing machine is applied to this surface 18 the wires and their seal will not be engaged and thus not damaged.

The wire is stretched tightly about this track 21 and will normally be retained in position, but if after the severing of the can has commenced one should inadvertently push the wire inwardly, it cannot be dislodged from the track as the lower portion of this track is bulged outwardly as at 28 so that the distance 29 between the surface 30 of this bulging portion and the inner surface 31 of the can is less than the diameter of the flexible severing member 22 so that this flexible member 22 cannot escape through this space 29 to be dislodged from its track 21. Further, by making this bulge the depth of the track is lessened thereby enabling a saving of material and providing for more volume left in the can.

In order to locate the point of severance and also to assist in the severing of the can and make it easier, a score 32 is provided in the under surface of the horizontal annular portion 18. This score is located closely adjacent the upwardly extending sealing portion 33 and has one side of the score 34 substantially perpendicular to the under surface of the portion 18, while the other edge of the score 35 is at an angle thereto. The score extends inwardly substantially half the thickness of the stock of the can top at the annular portion 18 and so weakens this annular portion that breaking occurs of the can top ahead of the flexible member 22 as it is lifted upwardly, as shown in Fig. 5, where the bent-up portion 36 shows a clean severance as at 37 at the point of the score 32, which not only locates the severing at a point close to the edge of the can but also makes the opening of the can very easy so that but a slight pull is needed.

By locating the point of severance by this score I provide an opening from the edge 37 diametrically across the can which is greater than the bulge 30 in the track for securing the flexible severing member 22 in position. Thus, the can top may very readily pass through this opening; and I have so arranged the locking end 25 of the wire that upon pulling on the loop 27 the can will break or sever along the portion 18, and when the severing is completed along the score 32 back to the end 25, the end being secured to the can top, causes the can top to lift completely out of the top on the end of the wire and it is not necessary to reach in and pick the central severed portion of the can top out of the can or use the the other hand which may be utilized for steadying the can for this purpose.

In some instances it is desirable to leave the annular surface 18 uninterrupted and pass the ends of the wire through an opening 40 in the wall of the track, in which case the end 25 will be folded inwardly as before and the portion 26 will extend through the opening as before. The under surface of the annular portion 18, however, will be scored as at 41 and 42 so that upon lifting the loop 27 and the wire 26 it will break open this annular portion for the commencement of the movement of the wire for the opening of the can. Solder 43 is placed about the wires for sealing this opening, the same as heretofore set forth.

In some cases, instead of having a single score 32, two scores 45 and 46 are provided, as shown in Fig. 11, in which case the intermediate portion 47 of the annular portion 18 will break outwardly as the wire is pulled up.

As shown in Fig. 12, the flexible member 50 may be of oblong shape or any desired shape for the severance of the annular portion 18 upon pulling the wire upwardly.

The materials used will be tinned. That is, the can top will be tinned as usual and the steel wire will be provided with a coating of tin so that no harm will come to foods having acids or other active chemical elements which might act upon iron or steel without this tin covering. A further advantage of the tinning of the wire on the can top is that no fluxing is needed for the placing of the solder seal as 28 or 43 in position and when the solder is placed in position but one soldering operation is needed in that one hole alone is provided.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understod that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. A can top comprising a substantially encircling horizontal portion, a peripheral sealing edge extending from the outer edge thereof and a track extending from the inner edge thereof, a web portion closing the center of said track, a flexible severing member having one end anchored and extending about said track and through the top from its inner surface to its outer surface and provided with a handle for engaging and pulling the same, said track extending outwardly below said severing member to an extent to prevent passage of the severing member between it and the side of a can when the cover is in working position to thereby lock the severing member from disengagement with the track, and a weakened portion in said horizontal portion extending circularly and of a diameter greater than the outwardly extending portion of the track below the severing member whereby to

direct the line of severance and provide that the severed portion may be freely lifted through the portion of the can top remaining on the can.

2. A can top comprising a substantially encircling horizontal portion, a peripheral sealing edge extending fromt he outer edge thereof and a track extending from the inner edge thereof, a web portion closing the center of said track, a wire having one end anchored and extending about said track and in contact with the outer edge of the track and through the top from its inner surface to its outer surface and provided with a handle for engaging and pulling the same, said track extending outwardly below said wire to an extent to prevent passage of the wire between it and the side of a can but yet spaced from the side of the can when the cover is in working position to thereby lock the wire from disengagement with the track, said wire being of a diameter to form when pulled vertically upward an opening greater than the largest diameter of the track at its outward extension whereby the severed central web portion of the can top may pass through the opening formed by the wire for the removal of the central web portion from position.

3. A can top comprising a substantially encircling horizontal portion, a peripheral sealing edge extending from the outer edge thereof and a track extending from the inner edge thereof, a web portion closing the center of said track, a flexible severing member having one end anchored and extending about said track and through the top from its inner surface to its outer surface and provided with a handle for engaging and pulling the same, said track extending outwardly below said severing member to an extent to prevent passage of the severing member between it and the side of a can when the cover is in working position to thereby lock the severing member from disengagement with the track, and a score in said encircling horizontal portion to weaken the same, said score being so shaped as to enable a smooth edge being formed on the portion of the can top remaining on the can and of a diameter greater than the outwardly extending portion of the track below the severing member.

4. A can top comprising a substantially encircling horizontal portion, a peripheral sealing edge extending from the outer edge thereof and a track extending from the inner edge thereof, a web portion closing the center of said track, a flexible severing member having one end anchored and extending about said track and through the top from its inner surface to its outer surface and provided with a handle for engaging and pulling the same, said track extending outwardly below said severing member to an extent to prevent passage of the severing member between it and the side of a can when the cover is in working position to thereby lock the severing member from disengagement with the track, and a score in said encircling horizontal portion to weaken the same, said score having its outer side at right angles to the surface of the top and the other side at an angle thereto and of a diameter greater than the outwardly extending portion of the track below the severing member.

JOSIAH F. PECKHAM.