Jan. 3, 1961 G. W. BURNS 2,967,000

CONTAINER AND COMBINED OPENER

Filed Nov. 3, 1958

FIG. 1

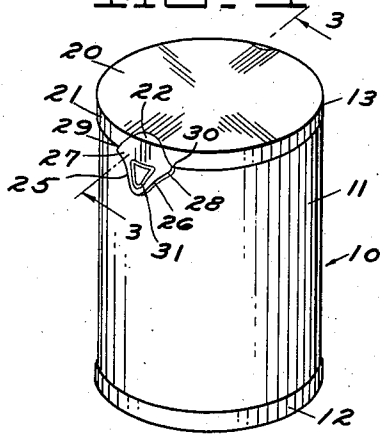
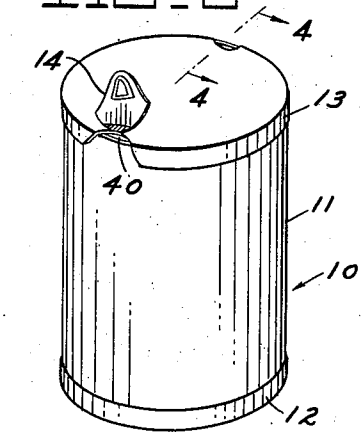


FIG. 2



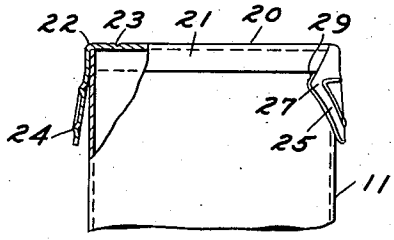


FIG. 3

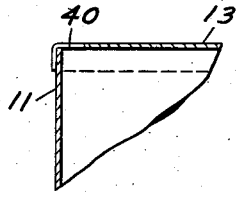


FIG. 4

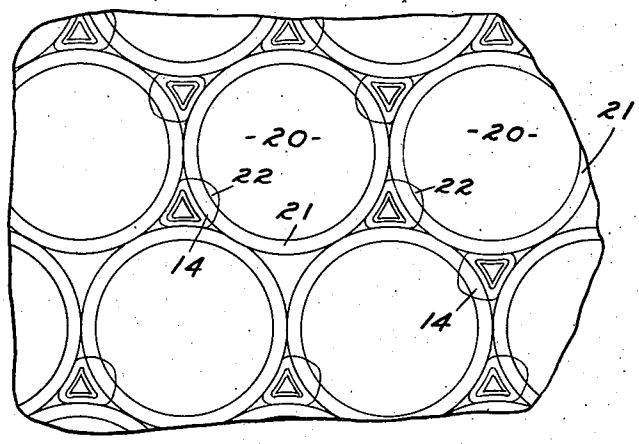


FIG. 5

INVENTOR
GEORGE W. BURNS
BY Hillis T. Arnold
ATTORNEY

United States Patent Office 2,967,000 Patented Jan. 3, 1961

2,967,000

CONTAINER AND COMBINED OPENER

George W. Burns, 27224 Ursuline Drive, St. Clair Shores, Mich.

Filed Nov. 3, 1958, Ser. No. 771,510

2 Claims. (Cl. 220—54)

This invention relates to a container and combined opener and more particularly pertains to a can and integral opener for providing pouring apertures without the use of a can opener tool.

Various container and can openers singly or in combination have been employed heretofore to facilitate the opening of cans and containers for pouring, however, the several devices of the prior art have not proven entirely satisfactory inasmuch as they are complicated in design and construction, expensive to manufacture, and difficult to use.

With the foregoing in view, the primary object of the invention is to provide a can and integral aperture forming opening device which is simple in design and construction, inexpensive to manufacture, easy to use, and easy to integrate in the manufacture of the can or container.

An object of the invention is to provide a can having a cap type top with a peripheral collar partially telescoping with the can side walls so as to provide an exposed edge for tearing the opening into the top portion.

An object of the invention is to provide a key portion having a key integral with the top and collar and an extending key tab providing a hand grip for the user.

An object of the invention is to provide a key portion for tearing out a portion fo the can top wherein the key tab portion is formed as an extension of can top and tearing portion is formed as a common portion with the can top delineated by a reduced thickness area referred to as a scored tear line.

An object of the invention is to provide strength points on the tab portion extending beyond the scored tear line of the common portion of the key, top, and collar for providing a lever-wise extension beyond the apex of the tear line described on the collar cylinder.

An object of the invention is to provide an embossed or corrugated portion in the tab portion of the key for leading strength characteristics to the key and extending points to prevent the key from bending during the tearing operation so as to effect tearing with a minimum of effort.

These and other objects of the invention will become apparent by reference to the following description of a can and integral opener key emboding the invention taken in connection with the accompanying drawing in which:

Fig. 1 is a perspective view of a can emboding the integral key opener shown in the sealed condition.

Fig. 2 is a view similar to Fig. 1 showing the key in the open position.

Fig. 3 is a partial cross sectional view of Fig. 1 taken on the line 3—3 thereof, showing the key on one side of the can in cross section and on the other side of the can in side elevation.

Fig. 4 is a partial cross sectional view of the can after the key portion has been removed taken on the line 4—4 thereof of Fig. 2; and

Fig. 5 is a view of can tops and integral keys shown

nested for the purpose of punching same from strip material without the loss of stock.

Referring now to the drawing wherein like numerals refer to like and corresponding parts throughout the several views, the integral can opener and can disclosed therein to illustrate the invention comprises a can **10** having cylindrical side walls **11**, a bottom **12**, a top **13**, and a tear-out key **14** on either side of the top **13**.

More particularly the top member **13** comprises a disc **20** and an annular collar **21** formed integral therewith and telescoping the side walls **11** of the can **10** and, as is well understood in the art, welding or soldering material is disposed between the collar **21** and the side walls **11** to effect a seal.

The key **14** has a tear-out portion **22** common with the collar **21** and disc **20** and delineated therefrom by the cross-sectional reduced thickness area or scored tear line **23** which defines the remainder of the disc **20** and the collar **21** from the common area **22** of the key **14** and the top **13**. The key **14** has an extending tab **24** formed integral with the can top disc **20** and collar **21** and leads from the common tear-out portion **22**.

In the preferred embodiment of the tab as shown, the tab **24** side edges **25** and **26** diverge upwardly to the points **27** and **28** and then the side edges **29** and **30** converge from the points **27** and **28** and join the collar **21** at the point of juncture of the scored tear line **23** and it is to be noted that the tab **24** is embossed or otherwise corrugated as at **31** to lend strength characteristics to the tab to prevent the tab from rolling or bending under the twisting stresses exerted by the user in tearing out the common portion **22** from the top **13**, disc **20**, and collar **21**. It is to be noted that the tab **24** is cylindrical in conformation to fit around the can **10** so that the points **27** and **28** wrap around the can and extend circumferentially, outwardly of the scored tear line **23** so that upon the user grasping the tab and twisting same the points **27** and **28** lying outwardly of the beginning of the tear line **23** furnishes an extended lever-like portion to exert a force from an outward position inwardly towards the tear line to effect easy tearing of the common portion **22** out of the top member **13** collar **21**, and disc **20** and it is to be noted that when the key **14** is torn from the can **10** that the aperture **40** communicates with the interior of the can. It is to be noted from Fig. 5 that the top members **13**, discs **20**, collar **21** and tab **14** can be easily stamped out in one operation without loss of stock or required additional operations.

The inventive can and opener key with these features constitutes a compact, durable, and neat appearing mechanism easily operated to open the can rapidly without the necessity of an opener tool and the can opener combination presents an attractive appearance and constitutes a highly useful article.

Although but a single embodiment of the invention has been shown and described in detail, it is obvious that many changes may be made in the size, shape, detail, and arrangement of the various elements of the invention within the scope of the appended claims.

I claim:

1. A can opener device formed integral with the can particularly suitable for cans having cap like ends such as used for evaporated milk comprising a can having side walls having opposite ends, a bottom member sealably attached to said side walls over one said end, a top member having a disc abutting said can other end and a peripheral collar, telescoping over said can side walls on the outside thereof, means sealably connecting said top disc and collar to said side walls, a tear-out key formed integral with said top member composed of a projecting gripping-levering tab portion extending beyond said collar and a tear out portion constituting a common part of said

collar and disc dilineated by a scored tear line; said key projecting tab portion being embossed for strength characteristics to prevent bending so as to assist lever wise in tearing the common part out of the top and collar to form an opening in the can top communicating with the can interior; said key tab being manually gripable and twistable to tear out the common part along the scored line to form an opening in the can top without a can opening tool; said key tab having side edges angularly diverging toward said collar and then converging toward said collar and joining with said collar on an acute angle with said collar; said scored tear line leading from said converging tab sides and collar juncture as a continuation of said convergence; said diverging-converging tab sides forming a strong point in the key tab projecting outwardly of said tear line on either side so that twisting of said key draws said points inwardly directing tearing forces to said tear line and therealong to provide outwardly-originated, inwardly directed tearing forces on the tear line exerted by twisting said key tab.

2. A can having opener means formed integral therewith for making a communicating opening to the can interior comprising a can having side walls, a bottom wall on said side walls, a top on said can having a disc terminating in a peripheral collar telescoping over said side walls, means such as solder or welding material sealably connecting said top disc and collar to said side walls, a key tab formed integral with said top disc and collar extending from said collar, and an area of reduced material thickness in said disc and collar delineating a scored tear-line leading from said key tab at one side thereof through said collar, over a portion of said disc, and again

through said collar to the other side of said key tab with the area of said disc and collar enclosed by said scored-tear line constituting the key tear-out portion integral with said tab; said key tear-out portion delineated by said tear line being common area with said disc and collar; said key tab constituting a lever for twisting said tear out common portion at said score line to tear said disc and collar material in the reduced area thereof to separate said common area from the remainder of said disc and collar to provide an opening in said top for emptying the contents of said can therethrough; said key tab having side edges angularly diverging toward said collar and then converging toward said collar and joining with said collar on an acute angle with said collar; said scored tear line leading from said converging tab sides and collar juncture as a continuation of said convergence; said deverging-converging tab sides forming a strong point in the key tab projecting outwardly of said tear line on either side so that twisting of said key draws said points inwardly directing tearing forces to said tear line and therealong to provide outwardly-originated, inwardly-directed tearing forces on the tear line exerted by twisting said key tab.

References Cited in the file of this patent

UNITED STATES PATENTS

457,456	Waeber	Aug. 11, 1891
1,026,282	Schmitt	May 14, 1912
2,652,165	Wever	Sept. 15, 1953

FOREIGN PATENTS

515,093	Italy	Feb. 12, 1955