April 14, 1959 J. DUNGEY 2,881,952

SEPARABLE DRINKING RIM AND OPENER FOR CAN CONTAINERS

Filed Sept. 3, 1957 2 Sheets-Sheet 1

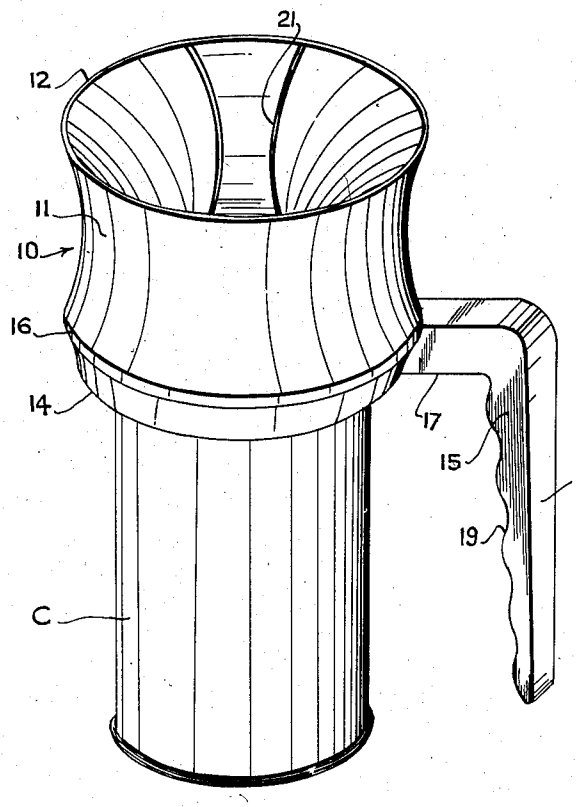


Fig. 1.

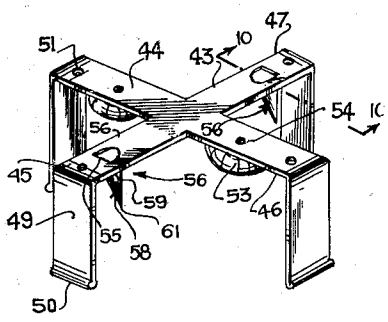


Fig. 4.

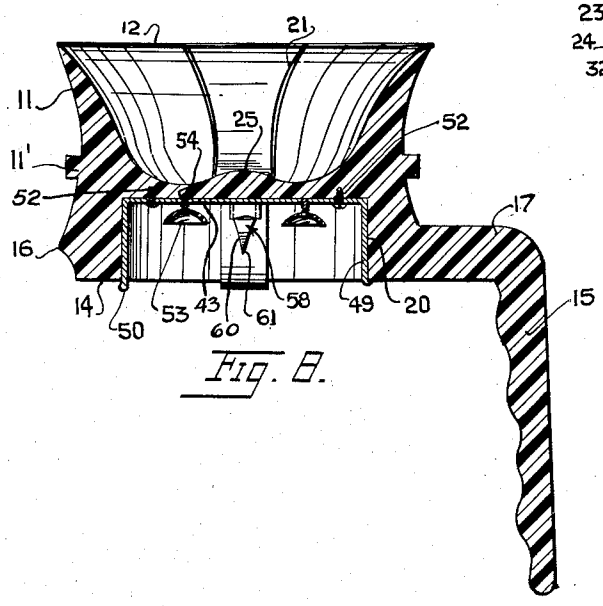


Fig. 8.

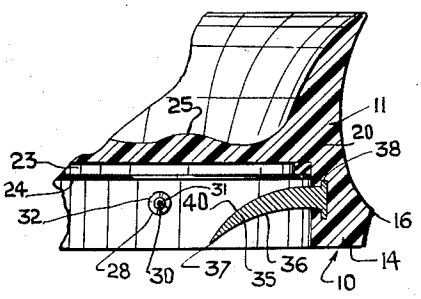


Fig. 5.

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SEPARABLE DRINKING RIM AND OPENER FOR CAN CONTAINERS

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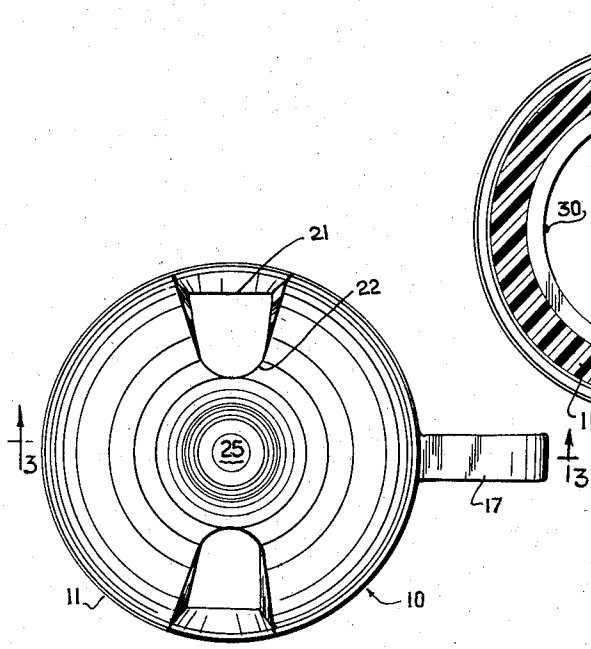


Fig. 2.

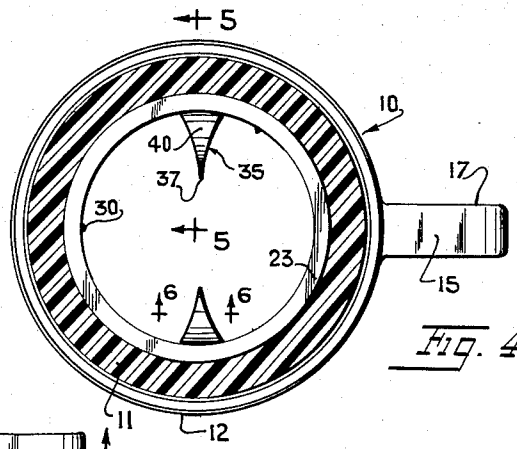


Fig. 4.

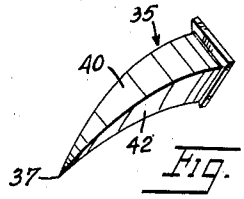


Fig. 6.

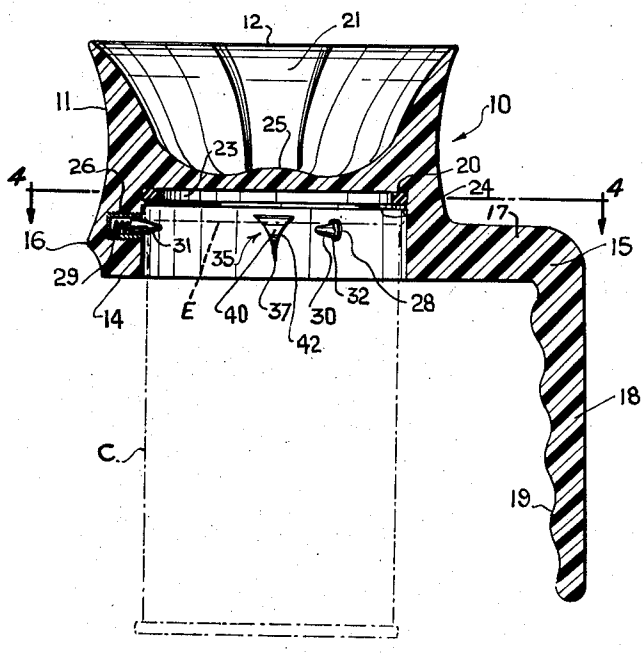


Fig. 3.

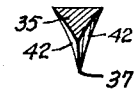


Fig. 7.

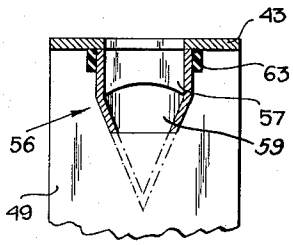


Fig. 10.

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SEPARABLE DRINKING RIM AND OPENER FOR CAN CONTAINERS

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Application September 3, 1957, Serial No. 681,577

5 Claims. (Cl. 222—86)

This invention relates to a separable rim or collar for a can, and particularly relates to a rim or collar provided with can puncturing means and means for holding the cam while drinking therefrom.

A principal object of the invention is the provision of a separable rim for a can, the rim being provided with can holding means and a plurality of can puncturing blades.

A further object is to provide a separable rim for a can with means adapted to retain the can in the rim, said rim having a flared body adapted for serving as a drinking cup. A further object is to provide a plastic rim with a flared body, an integrally formed handle, a plurality of can supporting elements, and a pair of can top puncturing blades.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a can holder embodying the invention with a can supported therein.

Fig. 2 is a top plan view of the can holder.

Fig. 3 is a sectional view taken on lines 3—3 of Fig. 2, a can being shown in dot-dash lines.

Fig. 4 is a sectional view taken on lines 4—4 of Fig. 3.

Fig. 5 is a sectional view of a portion of the can holder taken on lines 5—5 of Fig. 4.

Fig. 6 is a perspective view of a can puncturing blade.

Fig. 7 is a sectional view of the blade taken on lines 6—6 of Fig. 4.

Fig. 8 is a sectional view similar to Fig. 3 of another form of the invention.

Fig. 9 is a perspective view of a brace member used in the form of Fig. 8.

Fig. 10 is an enlarged sectional view taken on line 10—10 of Fig. 9.

Referring to Fig. 1 there is shown a cylindrical can C. This can may contain a liquid such as beer, fruit juice, soft drink or other fluid contents which it may be desired to be drunk directly from the can. The can is removably secured in the can holder **10** embodying the invention. The holder, as best shown in Figs. 1–5, includes a collar in the form of a generally cylindrical body **11** having open opposite ends **12** and **14**, the end **12** being the top end and the end **14** the bottom as viewed in Fig. 1. The top end **12** flares outwardly to a relatively thin, smoothly rounded circular edge. The bottom end of the collar has a thickened annular portion **16** which extends radially outward at one section to form the arm of handle **15**. The handle constitutes a dependent portion **18** shaped with flutes **19** to serve as a convenient hand or finger grip.

The body of collar **11** is formed with a circular internal recess **20**. In this recess is supported a resilient rubber gasket ring **23**. A circular ridge **24** is formed in

the body just below the top of the recess to support the ring. The interior of the body **11** is contoured to form a base or bridge plate portion **25** having two diametrically opposed holes or openings **22** therein opening into recess **20**. The flared side of the body is formed with channels or grooves **21** terminating in openings **22** to guide the flow of liquid from can C.

A plurality of radial coplanar threaded bores **26** are spaced apart in the thickened portion **16** and open interiorly into the body **11** below bridge **25** and ledge **24**. In each bore is threaded a cylindrical externally threaded cup **28** containing a coil spring **29** and a conical bearing pin or button **30** constituting a catch. The cup has a constricted forward end **31** so that the button cannot be thrust completely out of the cup. The generally pointed tip of the button projects normally out of the cup and can be pushed back into the cup against tension in spring **29**. In the forward end **31** is formed a pair of diametrially aligned slots **32** so that the cup can be screwed into bore **26** by compressing the button **30** into the cup with a screwdriver inserted into the slots.

A plurality of metal blades **35** are secured in the body **11** and project inwardly and downwardly toward bottom edge **14**. The blades, as best shown in Figs. 3–7, are generally triangular in cross section and have a lower fine cutting edge **36** terminating in a sharp point **37**. The upper side **40** of the blade is generally triangular and curved from point **37** back to the triangular flange **38**. This flange is set into the body **11** during the molding process when the plastic body is being fabricated. The upper side **40** is convex in shape. The lateral sides **42** of the blade are generally triangular in shape and are curved in a concave fashion from flange **38** to tip **37**.

The blades are so shaped that when the can holder **10** is pressed down on the top of can C the sharp points **37** puncture the can first, then the cutting edge **36** enters the top of the can while the sides **42** separate the sides of the lengthing cut. When the blades have entered the thin metal top of the can to a maximum extent two triangular cuts diametrically opposed to each other with apices spaced most closely to each other have been formed. These cuts permit the liquid to flow out freely and permit air to enter the can to replace the liquid.

In operation, during the puncturing of the can, the buttons **30** first are retracted into the cups as the rolled edge E of the can engages the buttons. As the rolled edge E passes beyond the buttons, the are spring pressed outwardly and securely engage the can in the can holder. At the same time the rolled edge presses up against ring **23** to form an effective liquid seal between the can and shoulder **20**. Thus, the user can hold the can by means of handle **15** while drinking the liquid from the flared portion of the body. The use of spring-biased catches as described makes it possible to retain cans having irregularly shaped contours, dents, and the like, in the holder. Also, cans of different sizes can be accommodated.

To remove the can from the holder, the can is pulled downwardly past the spring-biased buttons which retract to let the rolled edge pass and then extend outwardly again.

If desired, the body **11** can be formed of metal with blades **35** riveted or welded to the body. The conical tipped buttons may be replaced by ball bearings or by spring catches of other shapes. Handle **15** can be formed as a separate member joined by riveting or welding to the body **11**.

In the form of the invention shown in Figs. 8 and 9, the body **11** has substantially the same inner and outer forms as the body shown in Figs. 1–5 except for the omission of ledge **24**. A rib **11'** may be provided to reinforce the body **11**. Inserted in the lower cylindrical

recess **20** is a cross brace member **43**. This member has laterally extending arms **44**, **45**, **46** and **47**. Each arm terminates in a depending wall portion **49** having an outer rolled free edge **50**. The wall portions are juxtaposed against the side wall of recess **20**. Screw holes **51** are provided in the arms for securing member **43** in the top of the recess by means of screws **52**. On arms **44** and **46** are secured two rubber suction cups **53** by means of screws **54**. These cups serve to hold the can holder on the can by means of suction exerted against the flat top of the can. In arms **45** and **47**, semi-circular openings **55** are formed, and fitted in said openings are combined outlet tubes and cutting blades **56**, each having a semi-circular tubular body **57** with a cutaway portion **58** on one side forming a concave-convex curved cutting blade portion **59**. The blade portion **59** has side cutting edges **60** terminating in a sharp point **61**. The tops of the tubular bodies **57** are flush with the tops surfaces of the arms **45** and **47** and are fastened to said arms by welding or in any other suitable manner. The blade portions **59** extend downwardly and forwardly with their pointed ends **61** lowermost. Thus as the can is pressed into the space between the arms **44**, **45**, **46** and **47** of the brace, the blade portions **59** pierce the can top. Openings **22** in the bridge plate portion **25** of the can holder overlay and communicate with the openings in the tubular bodies **57** of the combined outlet tubes and cutting blades **56**. Thus, the liquid flows directly from the can through one hole in the top thereof to channel **21**. The other opening in the can formed by the other blade serves to admit air to replace the liquid withdrawn from the can and to press the liquid out of the can.

The contoured bridge plate **25** and the tapered flared end **12** of the body define a recess which performs the function of a cup or drinking glass. When a foaming liquid such as beer or a soft carbonated drink is dispensed by means of the can holder, the upper flared recess serves to collect and hold the rapidly expanding foam after the can is punctured by the blades.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A can holder, comprising a generally cylindrical collar having a contoured apertured base plate formed therein, said plate defining a pair of recesses in the collar, the wall of one of the recesses flaring outwardly at one end to define a narrow drinking edge, said wall having channels formed therein and leading to diametrically opposed apertures in said base plate, a cruciform can supporting brace member secured in the other of said recesses, said brace member being formed with diametrically opposed depending blades located beneath said apertures, a pair of diametrically opposed suction cups carried by said brace member and extending from said brace member for engaging the flat top of a can, and an integral handle extending laterally from the collar for supporting the can while liquid is being withdrawn therefrom.

2. A can holder, comprising a generally cylindrical collar having an interior passage therethrough flaring outwardly toward one end of the collar to define a narrow drinking edge, the other end of the collar having a thickened annular portion, a handle formed integrally with a section of said thickened portion, said handle including an arm extending radially from said section and a depending hand grip integrally formed with said arm, a plurality of spring catch means mounted in said thickened portion and extending into the passage, said means each including a bore in the body of the collar, a cup threaded in said bore, a bearing member retractably disposed in the cup and a spring located in the cup and biasing the bearing member outwardly from the open constricted end of the cup, said collar having a contoured plate defining a recess in the passage between said spring catch means and said outwardly flared end of the passage, a resilient ring gasket seated against said shoulder, a circular ridge on interior of the collar spaced from the plate and retaining said gasket in the passage, and a plurality of metal blades anchored in said body and extending into said passage, each of said blades being curved and having a point located below the plane of said catch means near said other end thereof for puncturing the top of the can when the collar is pressed thereupon, said blades having a curved lower cutting edge and outwardly flared concave sides extending upwardly from said cutting edge to form triangular cuts in the top of the can as the collar is pressed further thereupon.

3. A can holder, comprising a generally cylindrical collar having an interior passage therethrough flaring outwardly toward one end of the collar to define a narrow drinking edge, a handle formed integrally with a section of said collar, a plurality of spring catch means mounted in said thickened portion and extending into the passage, said means each including a bore in the body of the collar, a cup threaded in said bore, a bearing member retractably disposed in the cup and a spring located in the cup and biasing the bearing member outwardly from the open constricted end of the cup, said collar having a contoured plate formed between said spring catch means and said outwardly flared end of the passage, a circular ridge on the interior of the collar spaced from the plate for retaining a gasket in the passage under the plate, and a plurality of metal blades anchored in said body and extending into said passage, each of said blades being curved and having a point located below the plane of said catch means near said other end thereof for puncturing the top of the can when the collar is pressed thereupon, said blades forming triangular cuts in the top of the can as the collar is pressed further thereupon, said catch means engaging under a rolled edge of said top as the top of the can becomes removably secured in the collar, with the rim of said top forming a liquid-tight seal with said gasket.

4. A can holder, comprising a generally cylindrical collar having an interior passage therethrough flaring outwardly toward one end of the collar to define a narrow drinking edge, the other end of the collar having a thickened annular portion, a handle formed integrally with a section of said thickened portion, said handle including an arm extending radially from said section and a depending hand grip integrally formed with said arm, a plurality of spring catch means mounted in said thickened portion and extending into the passage, said means each including a radial bore in the body of the collar, a cup having a constricted end threaded in said bore, a conical bearing member retractably disposed in the cup and a spring located in the cup and biasing the bearing member outwardly from the open constricted end of the cup, said collar having a contoured apertured plate formed between said spring catch means and said outwardly flared end of the passage, a resilient ring gasket seated against said plate, a circular ridge on the interior of the collar spaced from the plate retaining said gasket in the passage, and a plurality of metal blades anchored in said body and extending into said passage, each of said blades being curved and having a point located below the plane of said catch means near said other end thereof for puncturing the top of the can when the collar is pressed thereupon, said blades having a curved lower cutting edge and outwardly flared concave sides extending upwardly from said cutting edge to form triangular cuts in the top of the can as the collar is pressed further thereupon, said catch means engaging under a rolled edge of said top as the top

of the can becomes removably secured in the collar, with the rim of said top forming a liquid-tight seal with said gasket.

5. A can holder comprising a generally cylindrical collar having a contoured apertured base plate formed therein, said plate defining a pair of recesses in the collar, the wall of one of the recesses flaring outwardly at one end to define a narrow drinking edge, said wall having channels formed therein and leading to diametrically opposed apertures in said base plate, a can supporting brace member secured in the other of said recesses, said brace member including crossed arms, a pair of suction cups depending from one pair of opposed crossed arms, the other pair of cross arms being formed with openings, a combined outlet tube and cutting blade mounted in each of said openings, and depending from the respective arm, said cups being adapted to engage a top of the can for removably holding the holder on the can, said blades being adapted to pierce the top of the can providing an outlet and an air vent, and a handle extending laterally from the collar for supporting the can while liquid is being withdrawn therefrom.

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