Aug. 31, 1965 C. E. WAGGNER III 3,203,582

CARRIER CLIP FOR CANS HAVING CHIMES ON ONLY ONE END

Filed July 18, 1962

FIG. 1

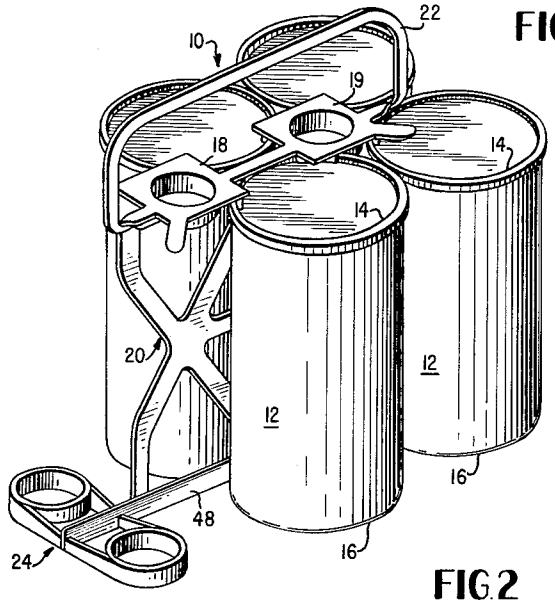


FIG. 2

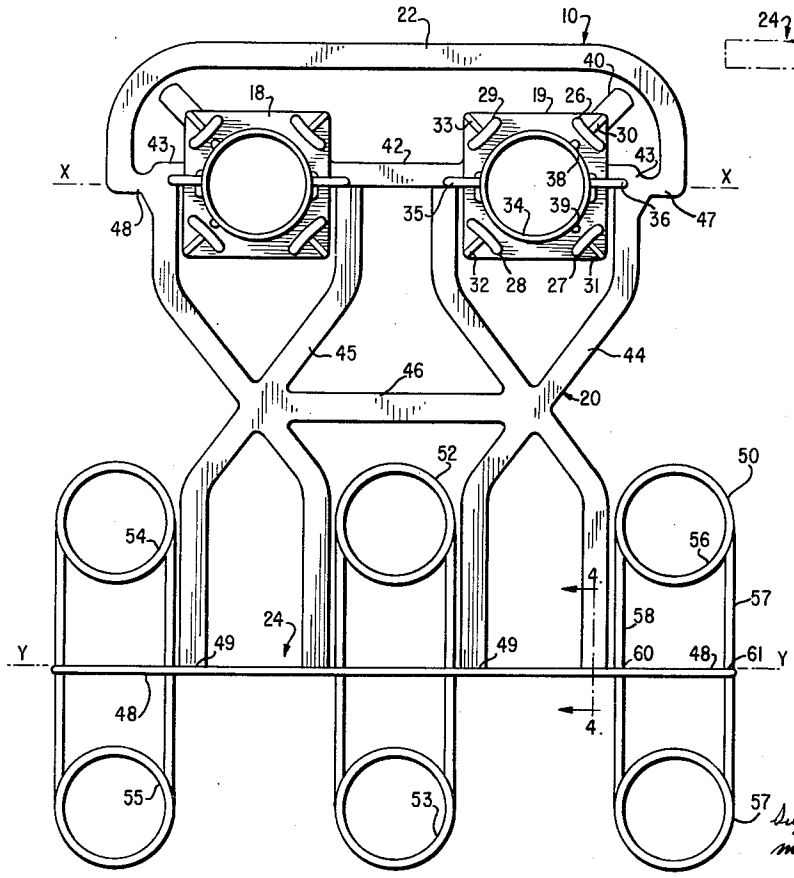
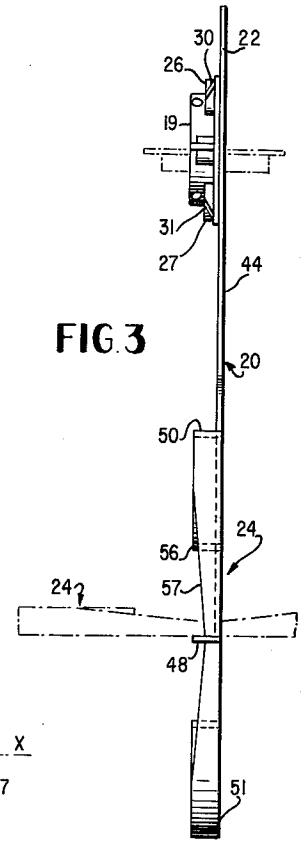


FIG. 3



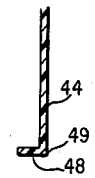


FIG. 4

INVENTOR.
CHARLES E. WAGGNER III

Hughes, Rothwell, Mion and Zinn
ATTORNEYS

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CARRIER CLIP FOR CANS HAVING CHIMES ON ONLY ONE END

Charles E. Waggner III, Chicago, Ill., assignor to Snap Pac Corporation, Houston, Tex., a corporation of Delaware

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3 Claims. (Cl. 220—102)

This invention relates to improvements in carrying devices for cans. More particularly, it relates to a carrying device for a particular type of can which has chimes at one end only.

There are certain types of cans which have chimes at one end only. Deep-drawn aluminum cans are this type; these cans appear to be gaining favor rapidly and their usage is becoming more widespread. Although these cans have conventional chimes or ridges around the top thereof, so that they may be opened by the usual can openers, punches, and the like, the bottoms and the sides are a continuous single piece of metal eliminating the necessity of the use of chimes around the can bottom. Therefore, cans of this type present somewhat of a problem in holding them together in a package carrier clip, especially a carrier clip of the type which engages chimes at the top and bottom of the cans such as shown in the commonly owned Canadian patent to Erickson 680,895. It is the principal object of this invention to provide a unique can carrying clip for cans of the type discussed above utilizing a cantilever support for supporting the bottoms of the cans and utilizing chime-engaging means for engaging the top of the cans.

A further object of this invention is to provide a can carrier clip which may be easily and inexpensively fabricated from plastic to be thrown away after a single use.

Although the invention is described for holding a plurality of cans with chimes at one end together in a unitary package, it will be apparent that it could also be used for holding similar shaped articles such as tumblers having a top ridge and a smooth bottom, and the like.

Other objects of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawings, which disclose by way of example, the principle of the invention and the best mode which has been contemplated of applying that principle.

In the drawings:

FIG. 1 is a perspective view of the preferred embodiment of the can carrying device of this invention showing it in use holding a plurality of cans with chimes at one end only;

FIG. 2 is a plan view of one side of the blank used in forming the can carrier clip of this invention;

FIG. 3 is a side elevation view of the blank showing in dotted lines how the blank is formed to provide the erected carrier clip;

FIG. 4 is a detailed sectional view taken along line 4—4 of FIG. 2.

Referring to FIG. 1, the can carrier clip **10** of this invention is particularly adapted for holding a number of cans **12** which may be of the deep-drawn aluminum type having a top chime **14** and a bottom **16** which is formed as an extension of the side walls without any chimes or ridges.

The carrier clip **10** includes a pair of upper platens **18** and **19** for engaging chimes **14** of cans **12**. The platens **18** and **19** are integrally connected to an inner portion **20** and a carrying handle **22**. The inner portion **20** is in turn integrally connected at the bottom thereof to a cantilever bottom support **24** which functions to rigidly support the bottoms of the cans **12**.

The upper portion of the carrier clip **10** is quite similar to that shown in the commonly owned application of

Wherry, Serial No. 200,126 filed June 5, 1962, and, in fact, can be molded from polypropylene plastic in the dies that would be used to mold the upper portion of the Wherry can carrier clip.

The platens **18** and **19** are identical and therefore only one will be described in detail. Platen **19** includes four curved lugs **26**, **27**, **28** and **29** having a curvature conforming to the curvature of the cans to be held and extending outwardly and downwardly from the platen as shown in FIGS. 1 and 3 for the purposes of engaging the chimes of the cans. Leading up to the lugs are loading ramps **30**, **31**, **32** and **33** for loading the can chimes into the space behind the lugs. The platen **19** further includes a cylindrical stiffener **34** with extending stiffening ribs **35** and **36**. From the walls of stiffener **34**, projections **38** and **39** extend to engage the edge of cans below the top chime. A lift tab **40** may be placed on each platen to facilitate removal of the cans by lifting the platen to allow the top chime to be disengaged.

The platens **18** and **19** are connected together by a connecting link **42** and the inner portion **20** is integral with the link **42** and extensions on opposite sides of the platen **43** so as to form a living hinge when the platen is constructed of polypropylene plastic. This hinge being along line X—X shown in FIGS. 2 and 3. This hinge enables the platens to be bent at right angles as shown in phantom lines in FIG. 3 to the can holding position.

The inner portion **20** includes a pair of X-shaped connecting pieces **44** and **45** integrally attached to the platen connecting link **42** and extensions **43** and also includes a middle connecting piece **46**.

Carrying handle **22** is provided with generous curves to clear lift tabs **40** and is integrally attached to extensions **43** at areas **47** and **48** to form a pair of living hinges for the handle.

The cantilever bottom support **24** includes a central support beam member **48** extending parallel to the hinge axis X—X as shown in FIG. 2. The X-shaped connecting pieces **44** and **45** are integrally hinged to the central support **48** at **49**, FIG. 4, forming a living hinge along line Y—Y. In use, the central support **48** and the corresponding cantilever bottom **24** are turned 90° about line Y—Y from the blank position in FIG. 2 to the erected position shown in phantom lines in FIG. 3.

The cantilever bottom support **24** further includes a plurality of individual can cantilever arms **50**, **51**, **52**, **53**, **54** and **55**. Since these arms are all identical, only cantilever arm **50** will be described in detail. Cantilever arm **50** includes a cylindrical can bottom support **56** and a pair of tapered arms **57** and **58** integral with the cylindrical can bottom support **56** and rigidly and integrally connected with the central support beam **48** by rigid molded connections at areas **60** and **61**.

In use, a plurality of cans **12** having chimes **14** may be positioned in the carrier with the bottom **16** of each can being supported on bottom support such as **56** of the individual cantilever arms **50–55**. The tops of the can will be held by chimes **14** thereon within lugs on the bottoms of platens **18** and **19**. The inner portion **20** will occupy the space between adjacent cans in a row of cans. Handle **22** will normally lie flat against the top of the cans but may be bent upwards as shown in FIG. 1 for carrying the deep-drawn cans as a unitary package.

Although the device has been shown and illustrated as a carrier clip for a six-can package, it is obvious that by suitable modifications such as eliminating one platen **18**, X-shaped connecting portion **45** and cantilever supports **54** and **55**, the carrier could be adapted to holding four cans. Similarly, it could be expanded to any even number of cans.

Also, it will be obvious that the shape of the cantilever supports **50** may be altered somewhat within the spirit

and scope of this invention. For example, if the can bottoms **16** are concaved upward, the cantilever supports may extend into the concavity for supporting the cans from the bottom.

The preferred material used for making the clip would be injection-molded polypropylene plastic due to the nature of the hinging property of this plastic and the fact that it may be formed cold without the need for heating from the full line position shown in FIG. 3 to the dotted line position shown in FIG. 3.

While there have been shown and described and pointed out fundamental novel features of the invention as applied to the preferred embodiment, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the following claims.

I claim:

1. A carrier clip for holding a plurality of receptacles together in a unitary package, the receptacles having chimes or similar circumferential projections around one end thereof only, the carrier clip being a unitary blank of moldable plastic material and comprising; at least one platen with depending lugs for engaging and holding the ends of the receptacles having the chimes thereon, an inner portion hingedly integrally connected at one end with the platen and having a length substantially the length of receptacles to extend between adjacent rows thereof, a cantilever support means integrally hingedly connected to the other end of the inner portion, a support beam included in the cantilever support means being hingedly integrally connected with the inside portion and extending parallel to the line of hinging of the inside portion to the platen, a plurality of cantilever support arms rigidly integral with the support beam, there being at least one arm for each can desired to be supported and the arms extending from each side of the support beam and being offset from the platens so as to extend under and support the chimeless end of receptacles held by the clip.

2. A carrier clip for holding a plurality of receptacles together in a unitary package, the receptacles having chimes or similar circumferential projections around only one end thereof, the carrier clip being of moldable plastic

and comprising; a pair of platens each with depending lugs for engaging the chimes of receptacles, an integral link interconnecting the platens, a flat inner portion hingedly connected at one end with the platens and link and having a length substantially the length of receptacles to extend between adjacent rows thereof, a handle integral with the clip and hingedly integrally connected to the platens and opposite sides thereof, a cantilever support means including a support beam integrally hingedly connected to the inside portion and extending parallel to the line of hinging of the inside portion to the platens and link, a plurality of cantilever support arms rigidly integral with the support beam and terminating at the outer end in a can bottom support, there being at least one arm for each can desired to be supported, the arms extending in pairs from each side of the support beam and the pairs of arms being offset from the platens so as to extend under and support the chimeless end of receptacles held by the clip.

3. A carrier clip for holding a plurality of receptacles together in a unitary package, the receptacles having chimes or similar circumferential projections around only one end thereof, the carrier clip being of unitary construction formed from a single blank of plastic, metal and the like and comprising; at least one rigid platen with rigid depending lugs fixedly integral therewith for engaging the chimes of receptacles, an inner portion of the blank hingedly integrally connected at one end thereof with the platen medially thereof and having a length substantially the length of the receptacles to extend between adjacent rows of receptacles, a support bottom for the chimeless ends of cans integrally hingedly connected to the other end of the inner portion, rigid cantilever support arms included in the support bottom and extending in cantilever fashion from either side of the line of hinging of the support bottom, each rigid arm extending under and forming the sole support for chimeless ends of receptacles.

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GEORGE O. RALSTON, *Primary Examiner.*