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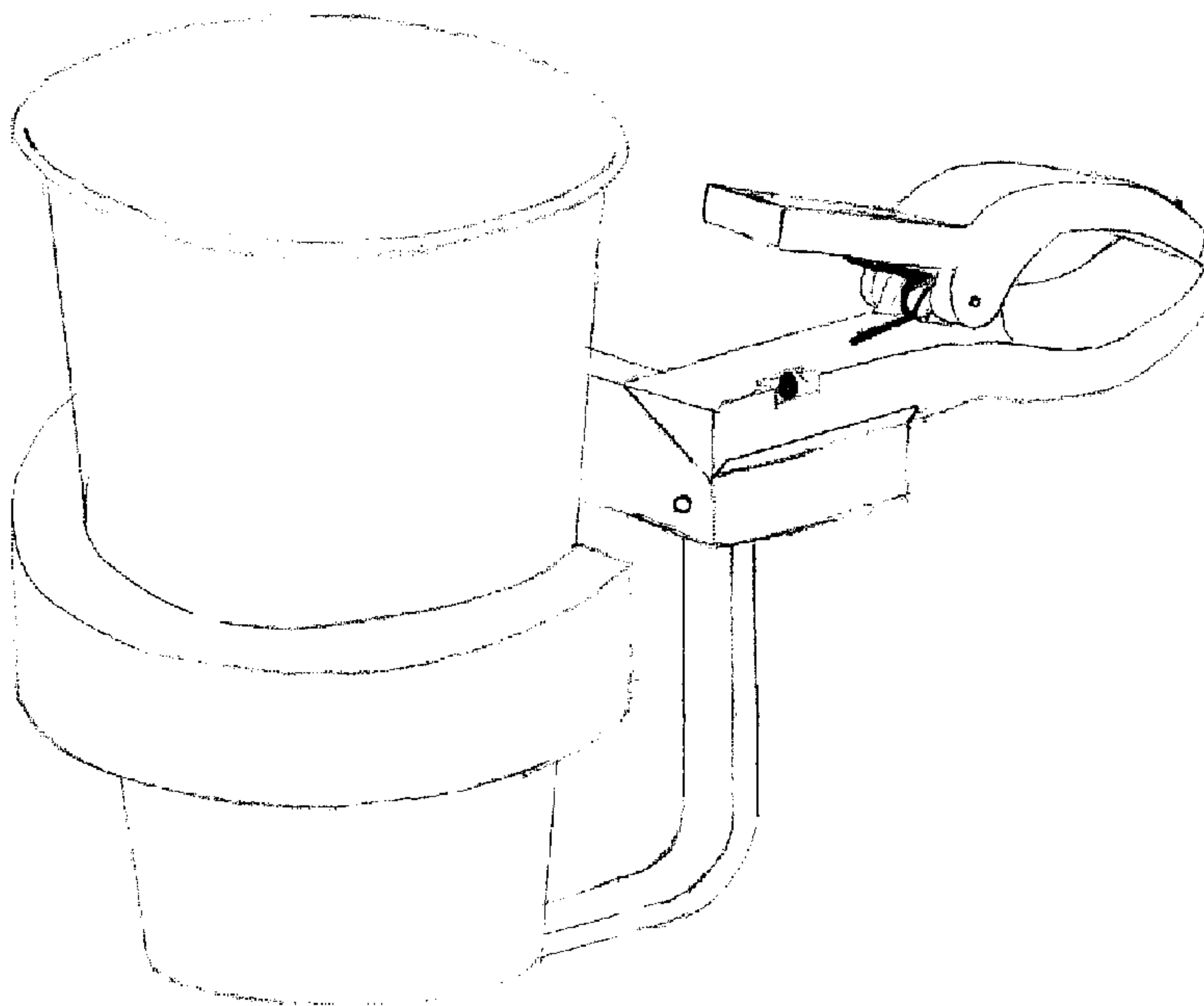
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(54) Title: PORTABLE SHOPPING CART BEVERAGE CARRIER



(57) **Abrégé/Abstract:**

Consumers today often go shopping with a coffee or drink in hand, but they struggle in the absence of a cup holder on their shopping cart.

The Portable Shopping Cart Beverage Carrier is a portable, compact and easy-to-install beverage carrier for shopping carts that also has space for marketing/branding/personalization.

It allows an individual the convenience of always having the use of a beverage receptacle while shopping with a beverage. It accommodates a large variety of beverage containers, and a large variety of shopping cart handle shapes and sizes. The unique folding design allows for portability and compact storage in a purse or large pocket, without the need for tools or expertise.

To use it you simply fold it open, clamp it onto a shopping cart handle (no tools required), and fold down the bottom support. Then place your drink in it and enjoy your shopping experience.



PORTABLE SHOPPING CART BEVERAGE CARRIER

ABSTRACT

Consumers today often go shopping with a coffee or drink in hand, but they struggle in the absence of a cup holder on their shopping cart.

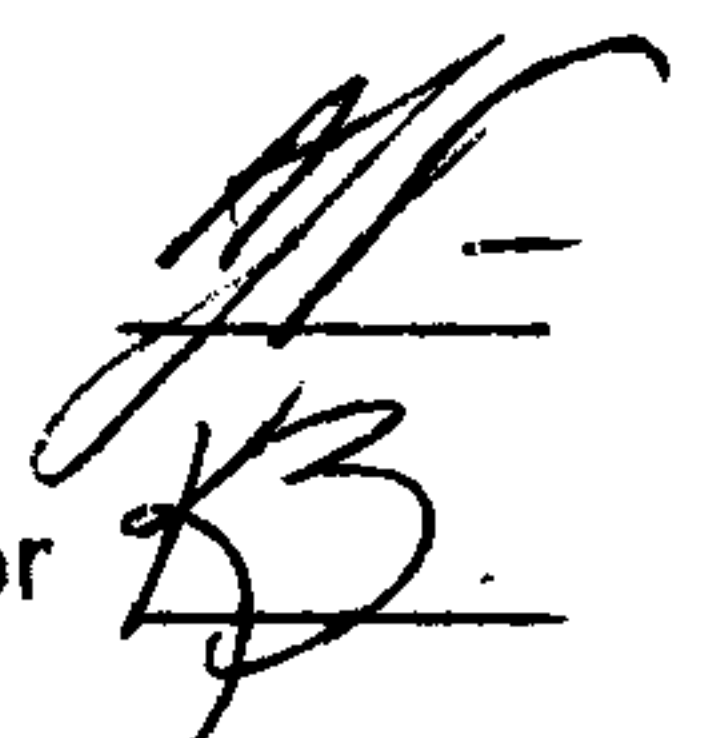
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Andrew J. Forbes – Inventor

Kelly S. Zammit – Co-Inventor

Handwritten signatures of Andrew J. Forbes and Kelly S. Zammit. The signature for Andrew J. Forbes is a stylized 'AF' with a horizontal line underneath. The signature for Kelly S. Zammit is a stylized 'KS' with a horizontal line underneath.

PORTABLE SHOPPING CART BEVERAGE CARRIER

SPECIFICATION

Field of Invention: Cup Holders

Background of Invention:

Problem:

Consumers today often go shopping with a coffee or drink in hand, but they struggle in the absence of a cup holder on their shopping cart.

Even though patents exist for permanently fixed shopping cart cup holders, nearly all shopping carts typical of the styles found at shopping centres today are not equipped with them. This leaves the consumer with a problem: Where do I put my drink? They struggle by trying to balance it in the child seat area, or gripping the drink in their teeth, or holding it in one hand while struggling to steer the shopping cart with the other hand. If they have their children with them, the problems are compounded.

Prior Art:

The following existing cup holder patents are either permanently attached fixtures, or are portable but not compact. None mention the inclusion of a space for marketing, branding or personalization.

Canadian Patents #2459150, #2205141, #1257626, #2262028 and # 2720604 are neither portable, nor compact, nor do they mention the inclusion of a space for marketing, branding or personalization.

Canadian Patent # 2541399 is neither compact, nor does it mention the inclusion of a space for marketing, branding or personalization.

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Summary of Invention:

A cup holder that a person can bring anywhere with ease. It is a portable, compact and easy-to-install beverage carrier for shopping carts that also has space for marketing/branding/personalization.

Novelty:

- Compact
- Attaches easily without need for tools or expertise
- Includes space for marketing/branding/personalization

Utility:

- Sufficiently grips the wide variety of cart handle cross-sections and sizes
- Accommodates tapered cups, pop cans, water bottles and baby bottles
- Folds up as described below

Ingenuity:

- The clamp design with its elastomer lined halves provide sufficient grip, and is as easy to use as a clothespin.
- The clamp pivot design with its 45 degree plane folds the beverage carrier up to a very compact profile, to fit in a purse or large pocket.

Note: The Beverage Carrier has the versatility to be mounted forward or aft of the shopping cart handle, thus allowing the convenience of cup holders for an individual and their child who is positioned in the child seat (see Figure 2). The Beverage Carrier could also be useful in other applications with similar handles such as strollers, bicycles, etc.

Brief Description of Drawings:

Figure 1	General drawing of Beverage Carrier
Figure 2	Beverage Carriers attached to a shopping cart handle
Figure 3	Parts drawing
Figure 4	Parts Listing
Figure 5	Optional Clamp Tension Using a Stud and Wing-nut Design
Figure 6	Optional Clamp Tension Using a Sawtooth Shaped Lock
Figure 7	45 Degree Plane Clamp Pivot
Figure 8	Cup Holder Ring Inside Diameter Taper
Figure 9	Beverage Carrier shown folded up for storage

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Description of the Preferred Embodiment:

The cup holder is an embodiment of 3 main components the Clamp, the Cup Holder Ring, and a Bottom Support (Figures 3 & 4). Each of these would be made of a material that offers suitable strength while minimizing bulk and weight (ie: a plastic such as HDPE or nylon).

It is within the ambit of the present invention to cover any obvious modifications of the examples of the invention as herein described, provided such modifications fall within the scope of the appended claims.

The Clamp:

Consists of an upper clamp half(1) and a lower clamp half(2) whereby their size and shape have been designed to properly grip a variety of shopping cart handle profiles and shapes. The clamp halves are attached using a hinge pin(3) that they pivot on. A spring(4) is utilized to provide sufficient clamping pressure to support the weight of a drink and the cup holder itself. The spring options include but are not limited to a torsion spring, wave spring, or flat spring steel. The areas of the clamp which contact the shopping cart handle have a suitable elastomer(5) adhered to them using a suitable adhesive. This elastomer lining increases the co-efficient of friction between the clamp and the shopping cart handle, thus maintaining a solid grip regardless of vibration or duration of use. The clamp assembly can be squeezed open with one hand to clamp it to, or un-clamp it from, a shopping cart handle.

Optionally, the clamp may utilize a stud and wing-nut for clamp tension (Figure 5).

Optionally, the clamp may utilize a "sawtooth" shaped lock for clamp tension (Figure 6).

The Cup Holder Ring:

The cup holder ring(8) is designed to hold a wide variety of disposable drink cups with tapered sides. It can also hold pop cans, water bottles, and baby bottles when used with the bottom support(9) as described below. The inside diameter of the holder is tapered to offer a secure grip on a drink with tapered sides. The taper is widest at the top of the cup holder ring(8) and narrowest at the bottom of the cup holder ring(8)(see also Figure 8). The size, shape and material of the holder offer suitable support for the drinking vessel. The vertical outer surface of the outside diameter has space for personalization and/or marketing purposes(11).

The Bottom Support:

The bottom support(9) accommodates drinking vessels which are either very small, or have non-tapered sides (ie. pop cans, water bottles, baby bottles). The bottom support(9) attaches to the cup holder ring(8) beneath the 45 degree clamp pivot(12). The bottom support(9) pivots between the lowered position for use, and the raised position for storage. When raised for storage, the bottom support(9) is retained by utilizing a tab built into the cup holder ring(8).

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The Compact Design:

When not in use the clamp assembly and bottom support(9) fold up. The clamp can be rotated to be stored within the cup holder ring(8). The clamp and cup holder ring(8) are attached at a pivot point(6). The pivot(6) incorporates a spring loaded detent in its design so that the clamp snaps securely into its fully extended position, or its fully retracted position. The pivot(6) also incorporates a deadstop(7) to prevent over-rotation of the clamp when under load (ie. When a drink is being supported).

The unique feature of the pivot(6) is that it makes the clamp "vertical" when extended for use, and "horizontal" when retracted inside the cup holder ring(8). It is desirable to have the retracted clamp in a horizontal position for compact storage. To accomplish this the pivot plane is set at 45 degrees from horizontal(12) (see also Figure 7).

Directions for Use:

1. Grasp the Cup Holder Ring and rotate the Clamp out to its extended position. Ensure it snaps into place.
2. Squeeze the Clamp open and clamp it onto the shopping cart handle, ensuring the Cup Holder is level. Adjust for level as need be.
3. Lower the Bottom Support.
4. Place your drinking vessel in the Cup Holder.

Directions for Storage:

1. Remove any drinking vessel.
2. Raise the Bottom Support upward until it snaps into place against the Cup Holder Ring.
3. Squeeze the Clamp open to remove the Cup Holder from the shopping cart.
4. Grasp the Cup Holder Ring and rotate the Clamp in to its retracted position within the Cup Holder Ring. Ensure it snaps into place.

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PORTABLE SHOPPING CART BEVERAGE CARRIER**CLAIMS****THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A Portable Shopping Cart Beverage Carrier that can be installed without need for tools or expertise
2. A Beverage Carrier as defined in claim 1, in which a Clamp is utilized to attach it to a shopping cart handle
3. A Beverage Carrier as defined in claim 1 or 2, in which the Clamp successfully grips the wide variety of cross-sections and sizes of handles found on common shopping carts typically found in shopping centres.
4. A Beverage Carrier as defined in claim 1, 2 or 3, in which the Clamp tension is provided by a spring (as described in the specification)
5. A Beverage Carrier as defined in claim 1, 2, 3 or 4, in which alternately the Clamp tension is provided by a stud and wingnut (as described in the specification)
6. A Beverage Carrier as defined in claim 1, 2, 3, 4 or 5, in which alternately the Clamp tension is provided by a sawtooth shaped lock (as described in the specification)
7. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5 or 6, in which an elastomer is attached to the Clamp's contact surfaces to increase the co-efficient of friction between the Clamp and a shopping cart handle
8. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5, 6 or 7, that folds via a Pivot for compact storage
9. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5, 6, 7 or 8, in which the Pivot claimed in claim 8 is on a plane of 45 degrees from horizontal which allows the Clamp to:
 - a) fold open to a vertical position for use
 - b) fold closed to a horizontal position inside the Cup Holder Ring, for compact storage (see Figure 9)
10. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5, 6, 7, 8 or 9, in which the Pivot design incorporates a spring-loaded detent to retain it in its open or closed positions
11. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, in which the Pivot design incorporates a Dead-stop Tab to prevent over-rotation of the Clamp when:
 - a) it is being folded open or closed
 - b) in use and supporting the weight of a beverage
12. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or 11, in which a Cup Holder Ring has a tapered inside diameter. The top inside diameter of the Cup Holder Ring is larger than the bottom inside diameter.
13. A Beverage Carrier as defined in claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 or 12, in which alternately a Cup Holder Ring has a non-tapered inside diameter.

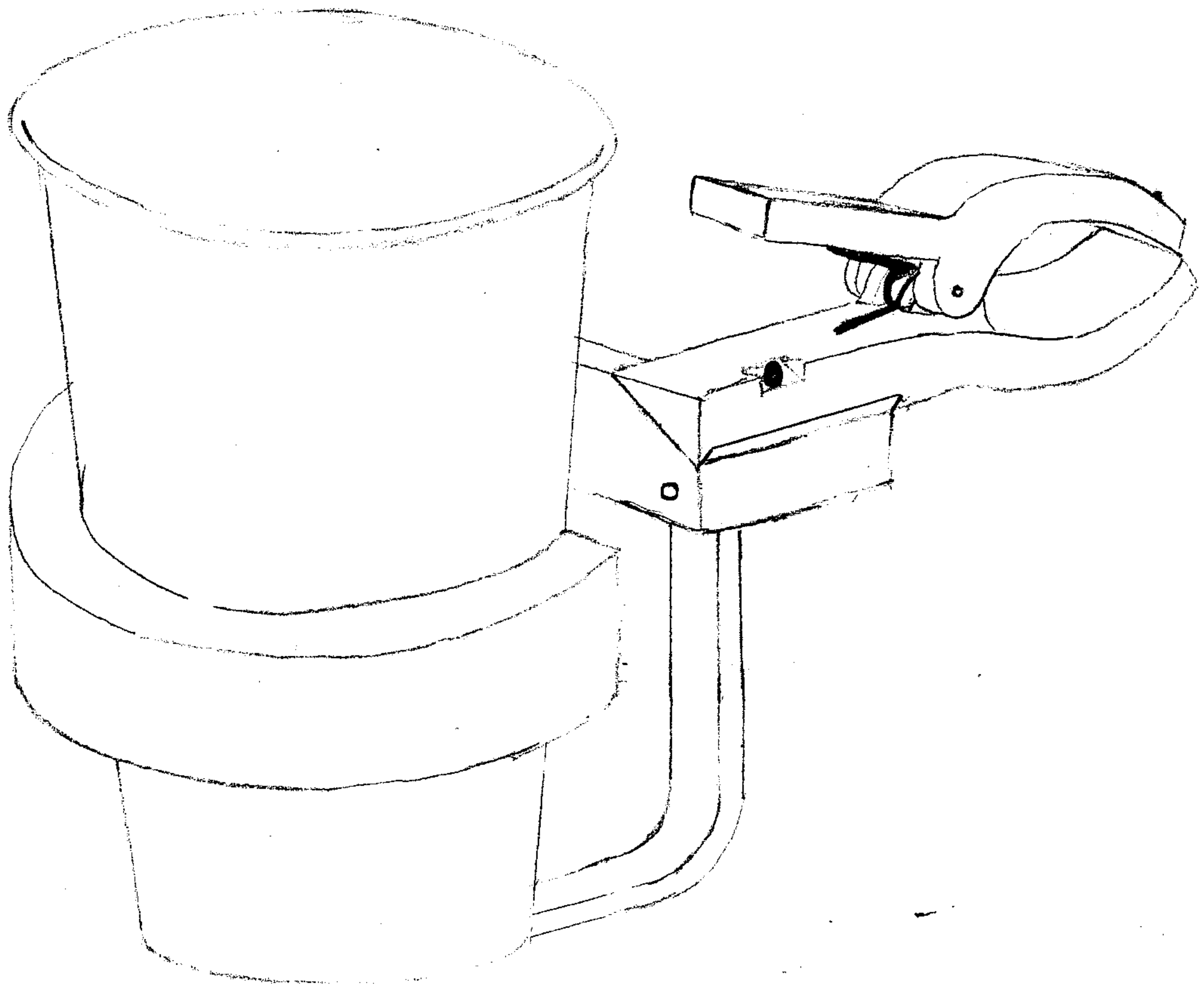
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14. A Beverage Carrier as defined in claims 1,2,3,4,5,6,7,8,9,10,11,12 or 13, in which the Cup Holder Ring's design is semi-circular (Figure 9, Item 8) in order to accommodate the Clamp folding into it for compact storage
15. A Beverage Carrier as defined in claims 1,2,3,4,5,6,7,8,9,10,11,12,13 or 14, in which a Bottom Support in conjunction with the Cup Holder Ring, will hold beverages with:
 - a) an outside diameter less than the bottom inside diameter of the Cup Holder Ring
 - b) non-tapered sides
16. A Beverage Carrier as defined in claims 1,2,3,4,5,6,7,8,9,10,11,12,13,14 or 15, in which the Bottom Support pivots which allows it to:
 - a) be lowered to the lowered position for use.
 - b) be raised to the raised position for storage, whereby the Bottom Support snaps into place by utilizing a divot built into the Cup Holder Ring.
17. A Beverage Carrier as defined in claims 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15 or 16 , in which a space is incorporated for personalization and/or branding and/or marketing purposes. Further, the space is not concealed when the Beverage Carrier is folded closed for storage.

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FIGURE 1

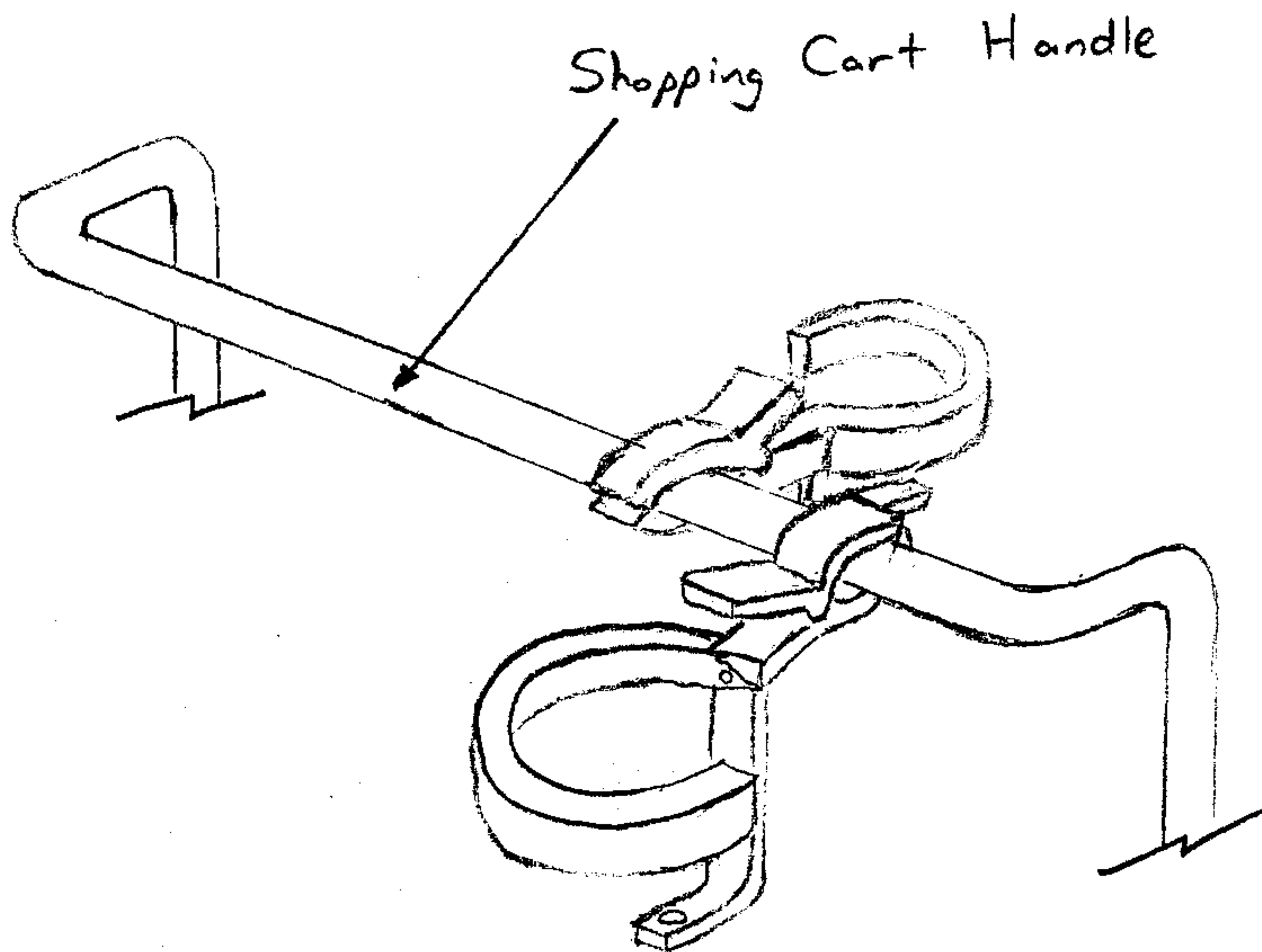
PORTABLE SHOPPING CART BEVERAGE CARRIER



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FIGURE 2

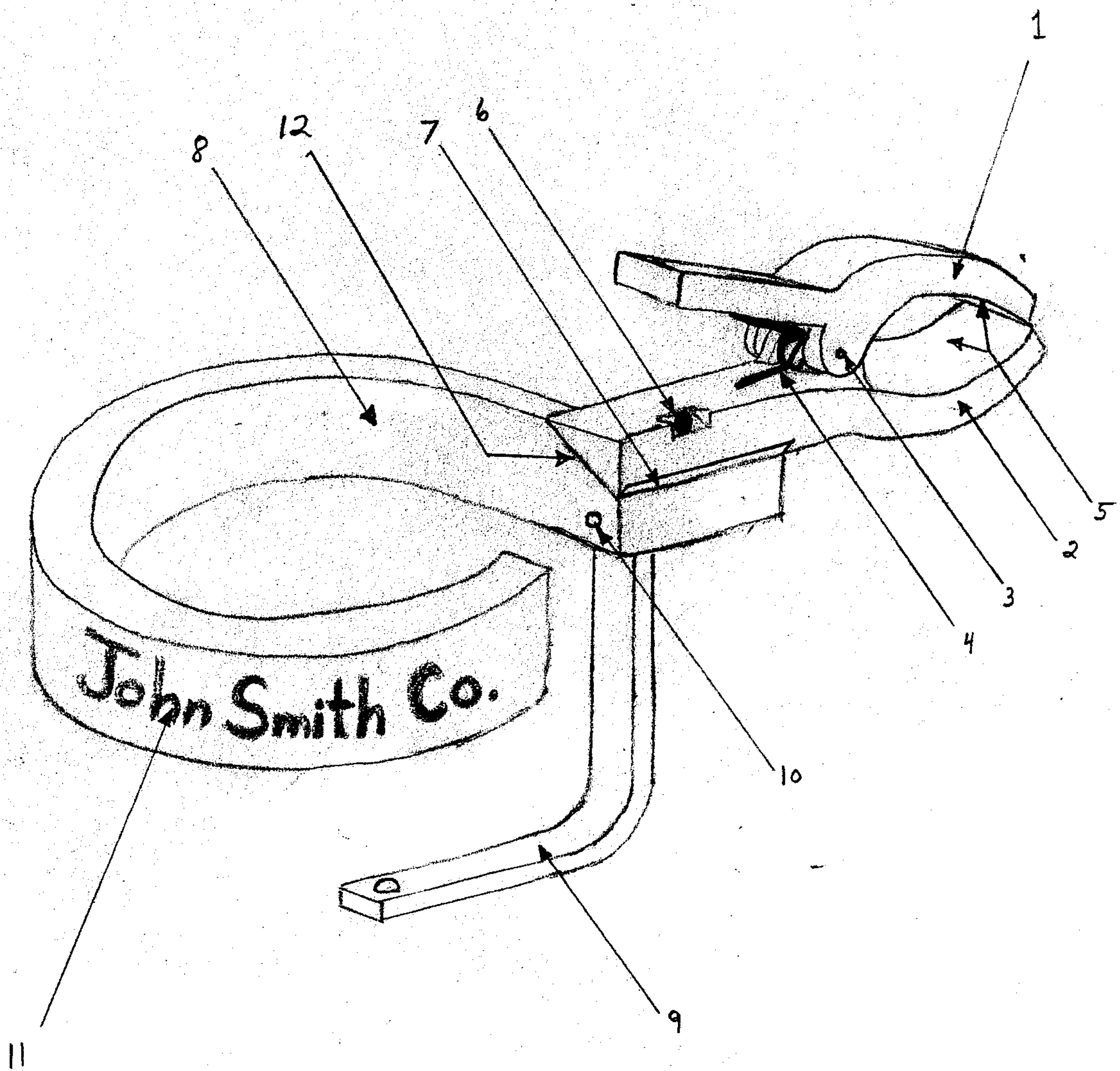
PORTABLE SHOPPING CART BEVERAGE CARRIERS
ATTACHED TO SHOPPING CART HANDLE



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FIGURE 3

PARTS DRAWING



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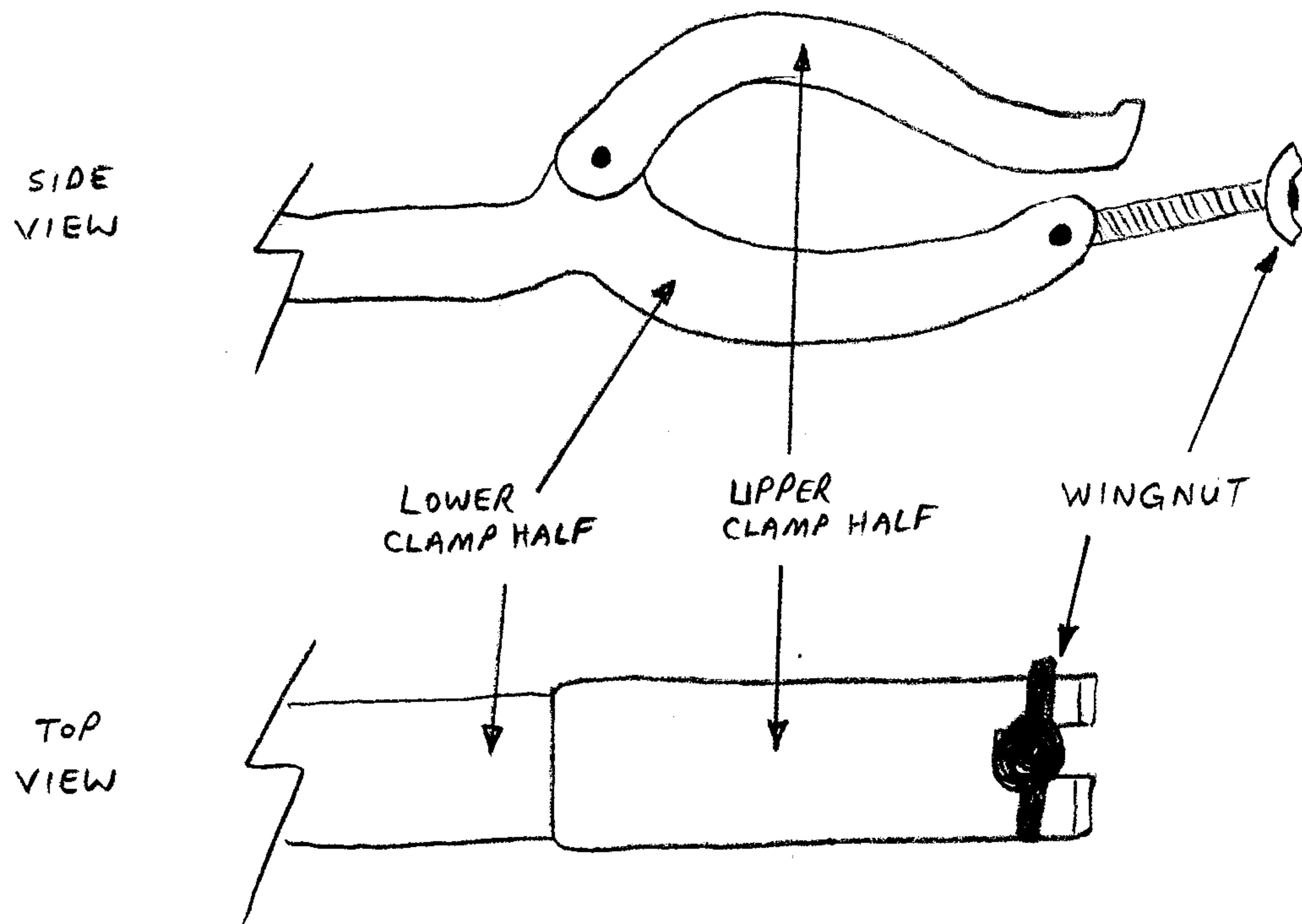
FIGURE 4
PARTS LISTING

Part #	Description
1	Upper Clamp Half
2	Lower Clamp Half
3	Clamp Hinge Pin
4	Clamp Spring
5	Elastomer
6	Clamp Pivot Bolt, Nut and Spring
7	Clamp Pivot Dead-stop Tab
8	Cup Holder Ring
9	Bottom Support
10	Bottom Support Pivot Pin
11	Space for Personalization, Branding and Marketing
12	45 Degree Plane of Clamp Pivot

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FIGURE 5

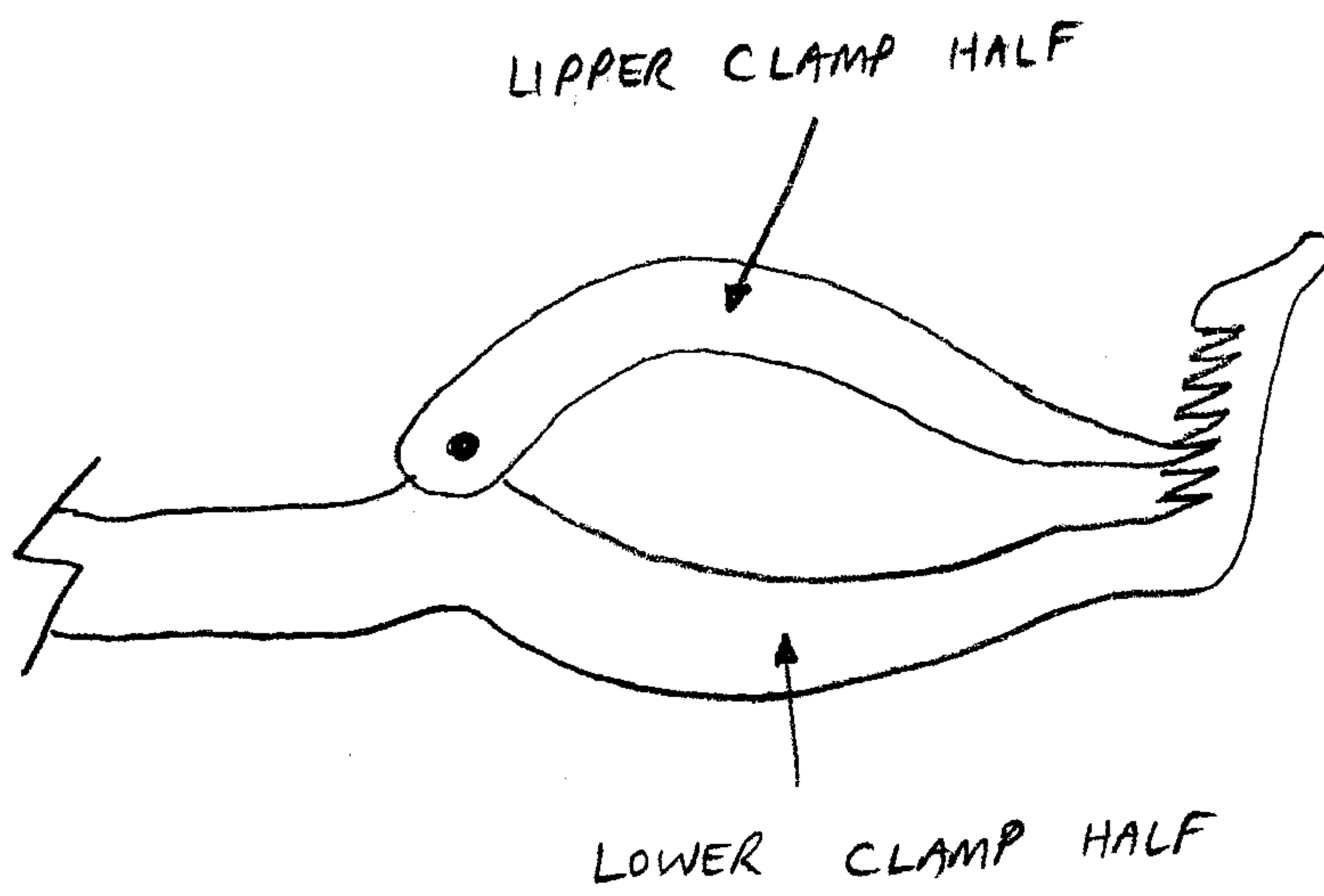
OPTIONAL CLAMP TENSION USING
A STUD AND WINGNUT DESIGN



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FIGURE 6

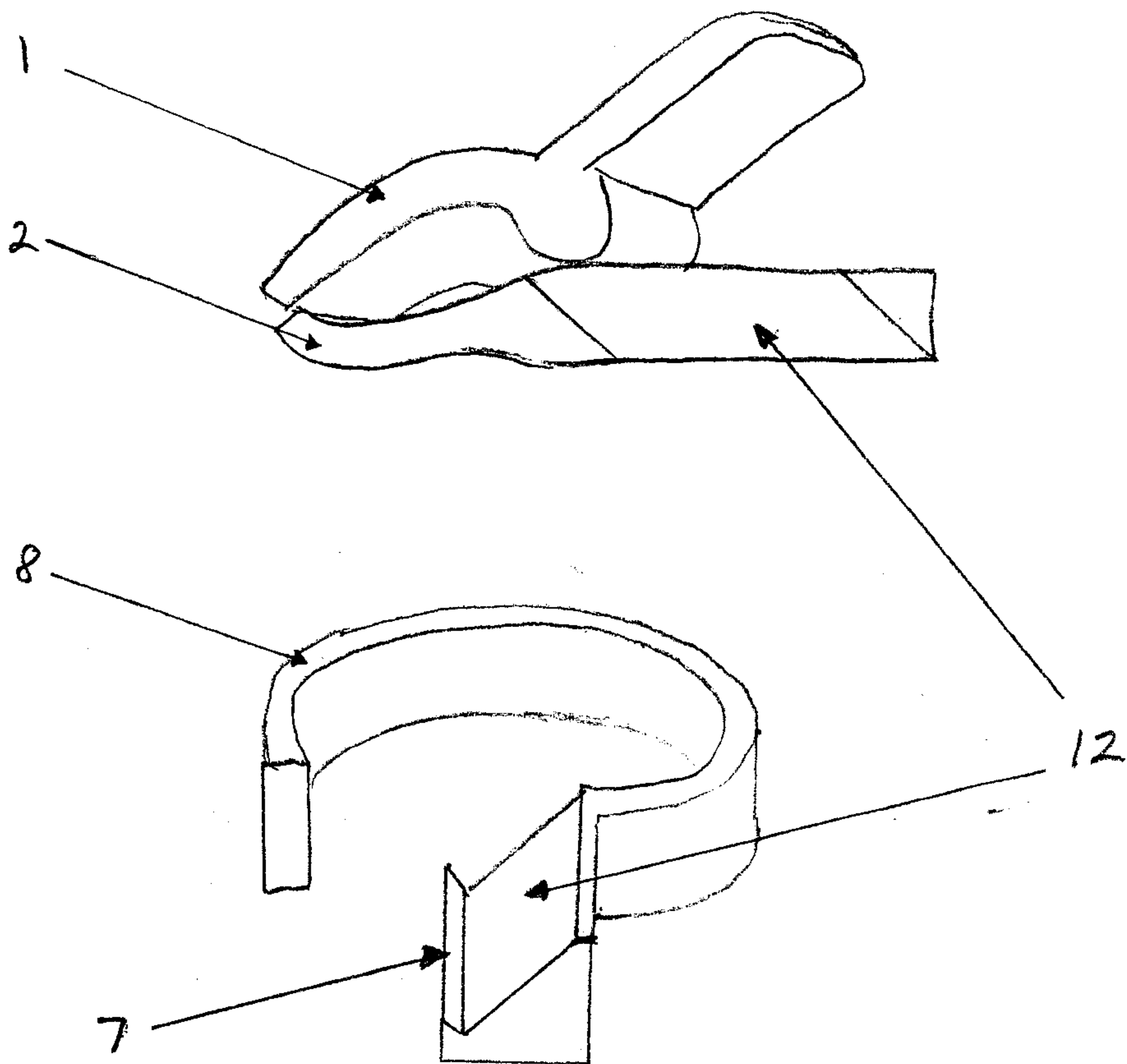
OPTIONAL CLAMP TENSION USING
A SAWTOOTH SHAPED LOCK.



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FIGURE 7

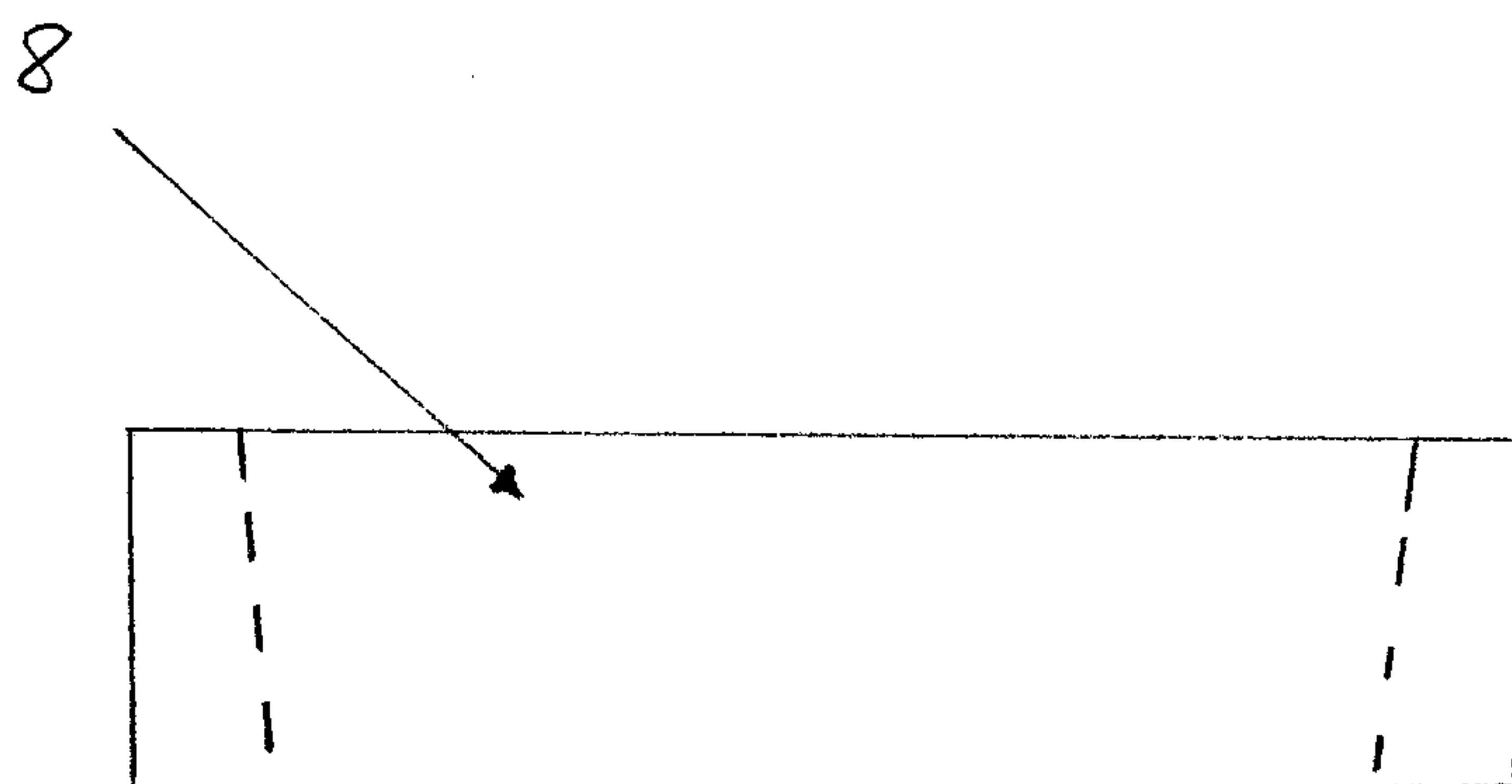
45 DEGREE PLANE OF
CLAMP PIVOT



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FIGURE 8

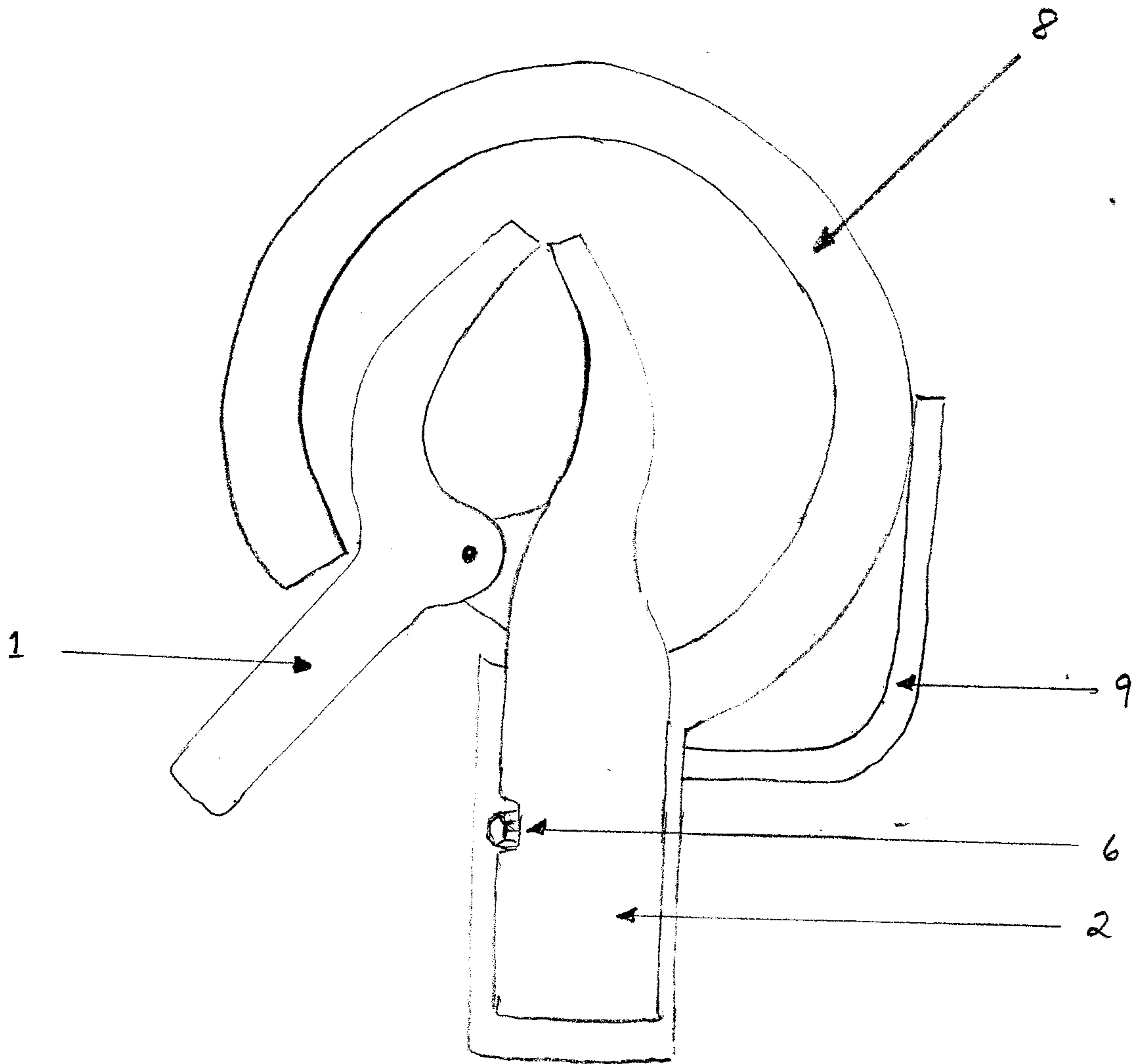
END VIEW OF CUP HOLDER RING
SHOWING A TAPERED INSIDE DIAMETER.



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FIGURE 9

TOP VIEW OF BEVERAGE CARRIER
FOLDED UP FOR STORAGE



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