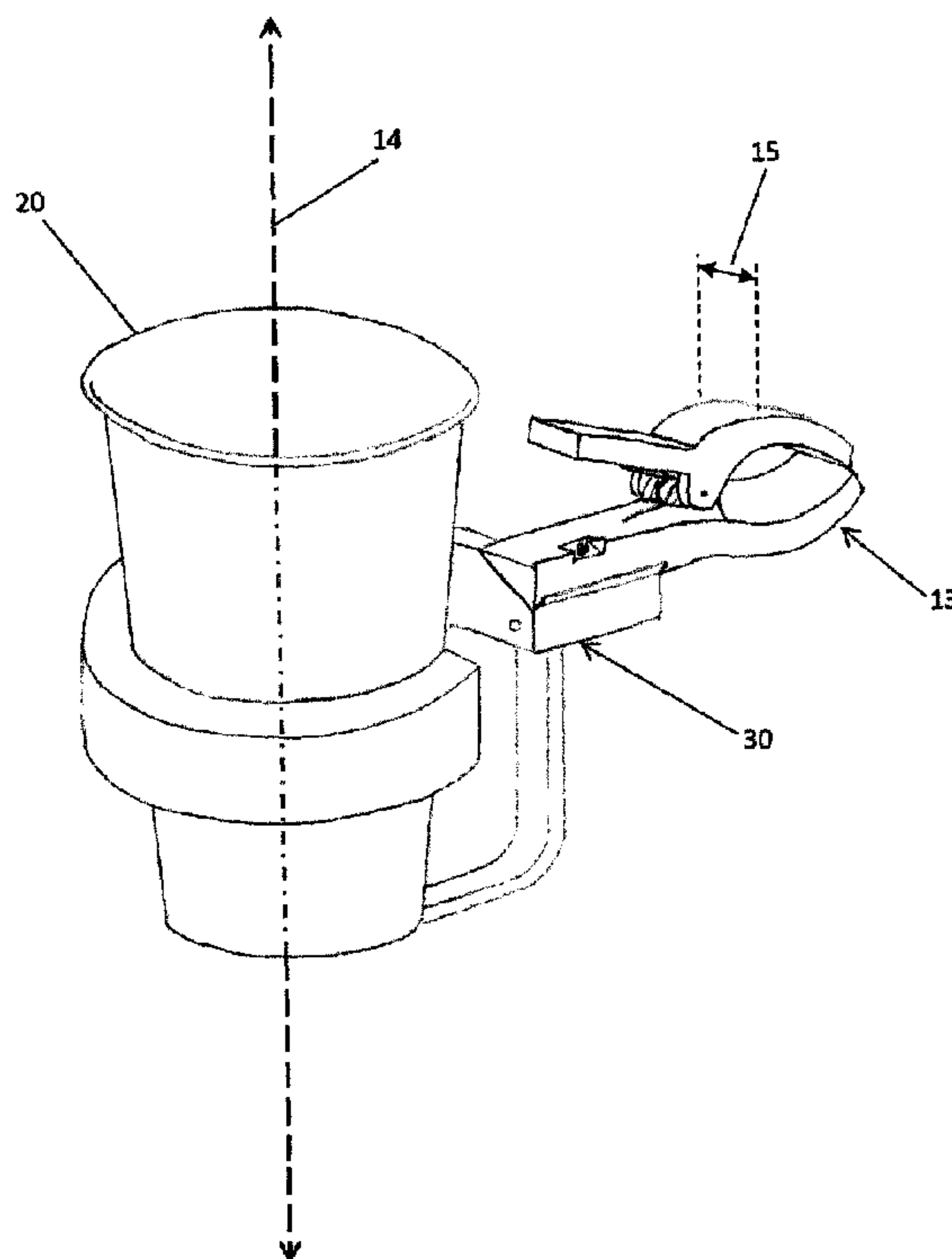




(22) Date de dépôt/Filing Date: 2013/03/21  
(41) Mise à la disp. pub./Open to Public Insp.: 2013/09/27  
(45) Date de délivrance/Issue Date: 2014/12/23

(51) Cl.Int./Int.Cl. *F16M 13/02* (2006.01),  
*A47G 23/02* (2006.01), *B62B 5/00* (2006.01),  
*B62B 9/00* (2006.01), *G09F 23/00* (2006.01)  
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(54) Titre : SUPPORT PORTATIF POUR CONTENANT A BOISSON DE FORMAT SPECIFIQUE  
(54) Title: PORTABLE CARRIER FOR A BEVERAGE CONTAINER



(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.

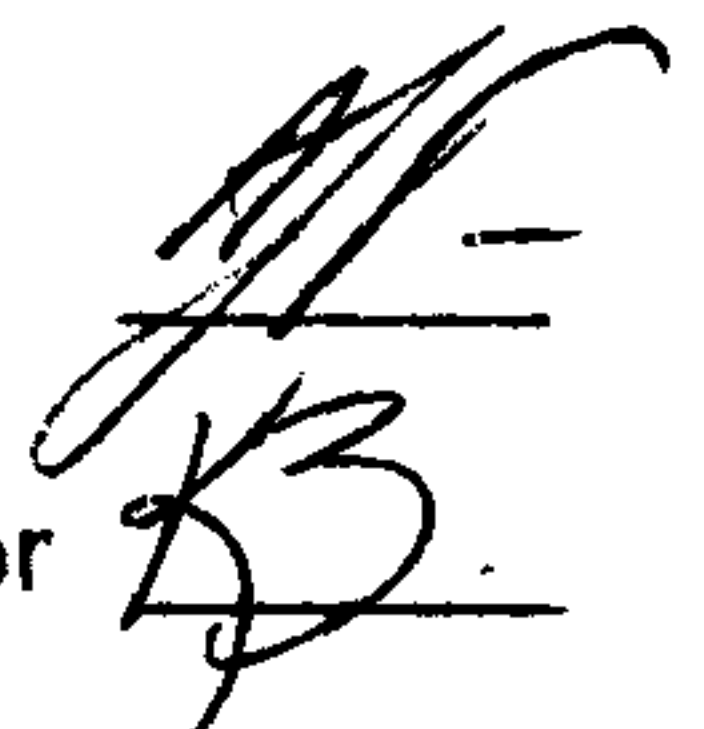
**The Portable Shopping Cart Beverage Carrier is a portable, compact and easy-to-install beverage carrier for shopping carts that also has space for marketing/branding/personalization.**

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.

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 CARRIER FOR A BEVERAGE CONTAINER**

### **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.

## **Summary of Invention:**

**A cup holder that a person can bring anywhere with ease. It is a portable carrier for a beverage container, that is compact and easy-to-install on shopping carts and which 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 portable carrier up to a very compact profile, to fit in a purse or large pocket.

**Note:** The portable 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 portable carrier could also be useful in other applications with similar handles such as strollers, bicycles, etc.

In accordance with a first embodiment, there is provided a portable carrier comprising a beverage container carrier portion configured to define a container-receiving space for receiving a beverage container in an upright position, the container-receiving space defining a container-receiving central axis extending through a center of the container-receiving space; a clamp portion having a clamp width dimension; and a connector for connecting the beverage container carrier portion and the clamp portion such that the clamp portion is movable between an extended position and a retracted position; wherein in the extended position the clamp portion extends outwardly from the beverage container carrier portion in a first direction outside the container-receiving space and the clamp width dimension is measurable in a second direction orthogonal to the container-receiving central axis; in the retracted position, the clamp portion is positioned substantially within the container-receiving space and is rotated relative to its orientation in the extended position so that the clamp width dimension is not orthogonal to the container-receiving central axis; and the clamp portion extends inwardly within the beverage container carrier portion in a third direction that is not parallel with the container-receiving central axis when the clamp portion is in the retracted position.

In some embodiments the first direction is substantially orthogonal to the container-receiving central axis when the clamp portion is in the retracted position.

In some embodiments the first direction and second direction are substantially orthogonal.

In some embodiments, in the retracted position, the clamp portion is rotated relative to its orientation in the extended position so that the clamp width dimension is substantially parallel to the container-receiving central axis.

In some embodiments the connector is a pivot and the beverage container carrier portion and the clamp portion are pivotably connected about a pivot axis such that the clamp portion is pivotable between an extended position and a retracted position.

In some embodiments in the extended position the clamp portion is positioned substantially along a plane normal to the container-receiving central axis; and the pivot axis is oriented at a 45 degree angle to the plane.

In some embodiments, the beverage container carrier portion has an inclined upper surface angled at 45 degrees from the plane; the clamp portion has an inclined lower surface angled at 45 degrees from the plane; and the beverage container carrier portion is pivotably attached to the clamp portion at the respective inclined surfaces such that they can pivot about the pivot axis.

In some embodiments the beverage container carrier portion further comprises an arcuate ring defining the container-receiving space.

*In some embodiments, the arcuate ring is a semi-circular ring.*

In some embodiments, the arcuate ring further comprises an upper ring portion having a first thickness and a lower ring portion having a second thickness; the distance between the upper ring portion and the lower ring portion defines a ring portion height dimension; and the ring portion height dimension is measurable in a direction parallel to the container-receiving central axis.

In some embodiments, the arcuate ring is frusto-conical and the first thickness is less than the second thickness.

In some alternate embodiments, the arcuate ring is substantially cylindrical and the first thickness is substantially the same as the second thickness.

In some embodiments, the clamp width dimension is less than the ring portion height dimension.

In some embodiments, the portable carrier further comprises a bottom support; the bottom support being connected to the beverage container carrier portion by a support connector such that the bottom support is movable from a support position to a storage position.

In some embodiments, in the support position the bottom support has a support width dimension measurable in a direction orthogonal to the container-receiving central axis; and in the storage position

the bottom support has a support width dimension measurable in a direction substantially parallel to the container-receiving central axis.

In some embodiments, the beverage container carrier portion further comprises a support tab; and the bottom support is retained in the storage position by the support tab.

In some embodiments, the clamp portion further comprises an upper clamp half, a lower clamp half and a clamp connector for connecting the upper clamp half and lower clamp half such that the upper clamp half and lower clamp half are movable between an open position and a closed position.

In some embodiments, the clamp connector is a hinge pin and the upper clamp half and lower clamp half are pivotably connected about the hinge pin.

In some embodiments, the clamp connector further comprises a spring to retain the lower clamp half and upper clamp half in the closed position.

In some embodiments, one of the lower clamp half and the upper clamp half comprises a sawtooth shaped lock adapted to receive the other one of the lower clamp half and upper clamp half to retain the lower clamp half and upper clamp half in the closed position.

In some embodiments, one of the lower clamp half and the upper clamp half comprises a stud and wing-nut and the other one of the lower clamp half and upper clamp half is adapted to receive the stud and wing-nut to retain the lower clamp half and upper clamp half in the closed position.

In some embodiments, the beverage container carrier portion further comprises a dead-stop tab to prevent the clamp portion from pivoting beyond either of the extended position and retracted position.

In some embodiments, the upper clamp half and lower clamp half comprise an elastomer adhered to a surface thereof.

### **Brief Description of Drawings:**

- |          |  |
|----------|--|
| Figure 1 | General drawing of a portable carrier for a beverage container |
| Figure 2 | Portable carriers attached to a shopping cart handle           |
| Figure 3 | Parts drawing  |
| Figure 4 | Optional Clamp Tension Using a Stud and Wing-nut Design        |
| Figure 5 | Optional Clamp Tension Using a Sawtooth Shaped Lock            |
| Figure 6 | 45 Degree Plane Clamp Pivot                                    |
| Figure 7 | Cup Holder Ring Inside Diameter Taper                          |
| Figure 8 | Portable carrier shown folded up for storage                   |

## **Detailed Description**

Figure 1 shows a general drawing of a portable carrier 30 for a shopping cart in accordance with an embodiment. The portable carrier 30 is shown holding a beverage container 20 in a container-receiving space. The container-receiving space has a central axis 14 that extends through the center of the container-receiving space. The portable carrier 30 comprises a clamp portion 13 having a clamp width dimension 15.

Figure 2 shows portable carriers 30a and 30b attached to a shopping cart handle 100 using a clamp.

Figure 3 shows a parts drawing of a portable carrier 30. Portable carrier 30 comprises a clamp portion 13, a cup holder ring portion 8 and a bottom support portion 9. The bottom support portion 9 may be pivotably connected to cup holder ring portion 8 by bottom support pivot pin 10. The clamp portion 13 comprises an upper clamp half 1 and a lower clamp half 2 pivotably connected by clamp hinge pin 3. Upper clamp half 1 and lower clamp half 2 may comprise an elastomer 5 attached to the contact surfaces to increase the co-efficient of friction between the clamp and a shopping cart handle.

In some embodiments, the clamp tension is provided by clamp spring 4. In some alternate embodiments, the clamp tension is provided by a stud and wingnut design (shown in Figure 4, described below). In other alternate embodiments, the clamp tension is provided by a sawtooth shaped lock (shown in Figure 5, described below).

The clamp portion 13 is pivotably connected to the cup holder ring portion 8 via clamp pivot 6. The clamp portion 13 is able to fold via the clamp pivot 6 for compact storage. The clamp pivot 6 may be on a plane of 45 degrees from horizontal (shown by 45 degree plane clamp pivot 12) which allows the clamp portion 13 to fold open to a vertical position for use and fold closed to a horizontal position inside the cup holder ring portion 8 for compact storage.

In some embodiments, the clamp pivot 6 may incorporate a spring-loaded detent to retain it in its open or closed positions.

In some embodiments, the pivot design may incorporate a clamp pivot dead-stop tab 7 to prevent over-rotation of the clamp portion 13 when the clamp portion 13 is being folded open or closed, and to prevent over-rotation when the portable carrier 30 is in use and supporting the weight of a beverage.

Figure 4 shows an embodiment of a clamp portion 13 where the clamp tension is provided by a stud and wingnut design. The clamp portion 13 comprises an upper clamp half 1 connected to lower clamp half 2. In this embodiment, the clamp tension is provided by a stud and wingnut 40 extending from the distal end of lower clamp half 2 that is adapted to be received in upper clamp half 1.

Figure 4A is a side view of the clamp portion 13 where the clamp tension is provided by a stud and wingnut 40 received by upper clamp half 1.

Figure 4B is a top view of the clamp portion 13 where the clamp tension is provided by a stud and wingnut 40 received by upper clamp half 1.

Figure 5 shows an embodiment of clamp portion 13 where the clamp tension is provided by a sawtooth shaped lock. In this embodiment, lower clamp half 2 may have a sawtooth shaped distal end, and the distal end of upper clamp half 1 may be received by the sawtooth end of lower clamp half 2.

Figure 6 shows an embodiment of a 45 degree plane clamp pivot 12 for a portable carrier, where the clamp pivot 6 (not shown in Figure 6) is 45 degrees from horizontal, and also shows a clamp pivot dead-stop tab 7.

Figure 6A shows an embodiment where the clamp portion 13 has a 45 degree plane clamp pivot 12.

Figure 6B shows an embodiment of cup holder ring portion 8 adapted to receive a 45 degree plane clamp pivot 12 and comprising a clamp pivot dead-stop tab 7.

Figure 7 shows an embodiment of a portable carrier wherein the cup holder ring portion 8 has a tapered inside diameter. In this embodiment, the top inside diameter of the cup holder ring portion is larger than the bottom inside diameter of the cup holder ring portion 8. In alternate embodiments, the cup holder ring portion 8 may have a non-tapered inside diameter.

Figure 8 shows an embodiment of a portable carrier 30 in which a cup holder ring portion 8 has a semi-circular design to accommodate the clamp portion 13 folding into the cup holder ring portion 8 for compact storage. A bottom support portion 9 is shown in a raised position for storage. The container-receiving space central axis 14 (shown extending into and out of Figure 8) extends through the center of cup holder ring portion 8. Similarly, the clamp width dimension 15 (not shown) extends in a direction parallel to the central axis 14.

In some embodiments, the portable carrier 30 has a bottom support portion 9 used in conjunction with a cup holder ring portion 8 to hold beverages which have an outside diameter less than the inside diameter of the cup holder ring portion 8, or which have non-tapered sides.

In some embodiments, the bottom support portion 9 is operable to pivot to be lowered into position for use and is operable to be raised into a raised position for storage, whereby the bottom support portion 9 may snap into place using a divot built into the cup holder ring portion 8.

In some embodiments, the portable carrier 30 incorporates a space for personalization and/or marketing and/or branding purposes. In these embodiments, the space for personalization and/or marketing and/or branding is not concealed when the portable carrier 30 is folded closed for storage.

### **Description of the Preferred Embodiment:**

The portable carrier 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 (Figures 4A and 4B).

Optionally, the clamp may utilize a "sawtooth" shaped lock for clamp tension (Figure 5).

**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 7). 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).

**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 Figures 6A and 6B).

**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.

**CLAIMS:**

1. A portable carrier for a beverage container comprising:

5 a beverage container carrier portion configured to define a container-receiving space for receiving a beverage container in an upright position, the container-receiving space defining a container-receiving central axis extending through a center of the container-receiving space;

a clamp portion having a clamp width dimension; and

10 a connector for connecting the beverage container carrier portion and the clamp portion such that the clamp portion is movable between an extended position and a retracted position; wherein

15 in the extended position the clamp portion extends outwardly from the beverage container carrier portion in a first direction outside the container-receiving space and the clamp width dimension is measurable in a second direction orthogonal to the container-receiving central axis;

in the retracted position, the clamp portion is positioned substantially within the container-receiving space and is rotated relative to its orientation in the extended position so that the clamp width dimension is not orthogonal to the container-receiving central axis; and

20 the clamp portion extends inwardly within the beverage container carrier portion in a third direction that is not parallel with the container-receiving central axis when the clamp portion is in the retracted position.

25 2. The portable carrier of claim 1, wherein the first direction is substantially orthogonal to the container-receiving central axis when the clamp portion is in the retracted position.

3. The portable carrier of any of claims 1 and 2, wherein the first direction and second direction are substantially orthogonal.

30 4. The portable carrier of any of claims 1 to 3, wherein in the retracted position, the clamp portion is rotated relative to its orientation in the extended position so that the clamp width dimension is substantially parallel to the container-receiving central axis.

5. The portable carrier of any of claims 1 to 4, wherein the connector is a pivot and the beverage container carrier portion and the clamp portion are pivotably connected about a pivot axis such that the clamp portion is pivotable between an extended position and a retracted position.
- 5 6. The portable carrier of claim 5, wherein in the extended position the clamp portion is positioned substantially along a plane normal to the container-receiving central axis; and  
the pivot axis is oriented at a 45 degree angle to the plane.
- 10 7. The portable carrier of claim 6, wherein the beverage container carrier portion has an inclined upper surface angled at 45 degrees from the plane;  
the clamp portion has an inclined lower surface angled at 45 degrees from the plane; and  
the beverage container carrier portion is pivotably attached to the clamp portion at the respective inclined surfaces such that they can pivot about  
15 the pivot axis.
8. The portable carrier of any of claims 1 to 7, wherein the beverage container carrier portion comprises an arcuate ring defining the container-receiving space.
- 20 9. The portable carrier of claim 8 wherein the arcuate ring is a semi-circular ring.
- 25 10. The portable carrier of any of claims 8 or 9 wherein  
the arcuate ring comprises an upper ring portion having a first thickness and a lower ring portion having a second thickness;  
the distance between the upper ring portion and the lower ring portion defines a ring portion height dimension; and  
the ring portion height dimension is measureable in a direction parallel to the container-receiving central axis.
11. The portable carrier of claim 10, wherein the arcuate ring is frustro-conical and the first thickness is less than the second thickness.

12. The portable carrier of claim 10, wherein the arcuate ring is substantially cylindrical and the first thickness is substantially the same as the second thickness.

5 13. The portable carrier of any of claims 10 to 12 wherein the clamp width dimension is less than the ring portion height dimension.

14. The portable carrier of any of claims 1 to 13 wherein the portable carrier further comprises a bottom support;

10 the bottom support being connected to the beverage container carrier portion by a support connector such that the bottom support is movable from a support position to a storage position.

15. The portable carrier of claim 14 wherein in the support position the bottom support has a support width dimension measurable in a direction orthogonal to the container-receiving central axis; and

15 in the storage position the bottom support has a support width dimension measurable in a direction substantially parallel to the container-receiving central axis.

16. The portable carrier of any of claims 14-15 wherein the beverage container carrier portion further comprises a support tab; and

the bottom support is retained in the storage position by the support tab.

20 17. The portable carrier of any of claims 1-16 wherein the clamp portion further comprises an upper clamp half, a lower clamp half and a clamp connector for connecting the upper clamp half and lower clamp half such that the upper clamp half and lower clamp half are movable between an open position and a closed position.

25 18. The portable carrier of claim 17 wherein the clamp connector is a hinge pin and the upper clamp half and lower clamp half are pivotably connected about the hinge pin.

19. The portable carrier of claim 18 wherein the clamp connector further comprises a spring to retain the lower clamp half and upper clamp half in the closed position.

5 20. The portable carrier of any of claims 17 and 18 wherein one of the lower clamp half and the upper clamp half comprises a sawtooth shaped lock adapted to receive the other one of the lower clamp half and upper clamp half to retain the lower clamp half and upper clamp half in the closed position.

10 21. The portable carrier of any of claims 17 and 18 wherein one of the lower clamp half and the upper clamp half comprises a stud and wing-nut and the other one of the lower clamp half and upper clamp half is adapted to receive the stud and wing-nut to retain the lower clamp half and upper clamp half in the closed position.

15 22. The portable carrier of any of claims 5 to 21 wherein the beverage container carrier portion further comprises a dead-stop tab to prevent the clamp portion from pivoting beyond either of the extended position and retracted position.

23. The portable carrier of any of claims 17 to 22 wherein the upper clamp half and lower clamp half comprise an elastomer adhered to a surface thereof.

24. A portable carrier for a beverage container comprising:

20 a beverage container carrier portion configured to define a container-receiving space for receiving a beverage container in an upright position, the container-receiving space defining a container-receiving central axis extending through a center of the container-receiving space;

25 a clamp portion having a clamp width dimension; and

a connector for connecting the beverage container carrier portion and the clamp portion such that the clamp portion is movable between an extended position and a retracted position; wherein

30 in the extended position the clamp portion extends outwardly from the beverage container carrier portion and the clamp width dimension is

measurable in a direction orthogonal to the container-receiving central axis;

- 5 in the retracted position, the clamp portion is positioned substantially within the container-receiving space and is rotated relative to its orientation in the extended position so that the clamp width dimension is not orthogonal to the container-receiving central axis.

FIGURE 1

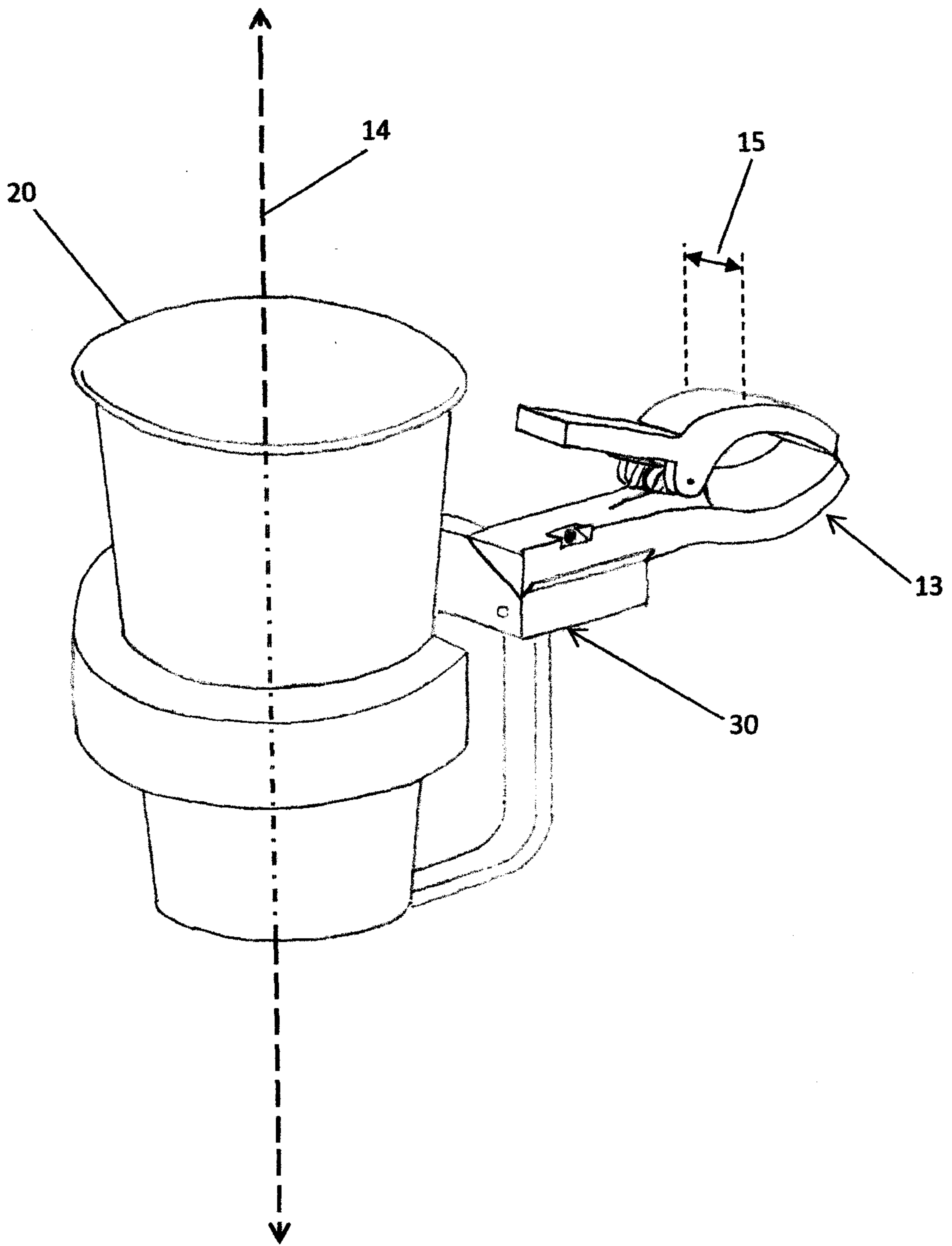


FIGURE 2

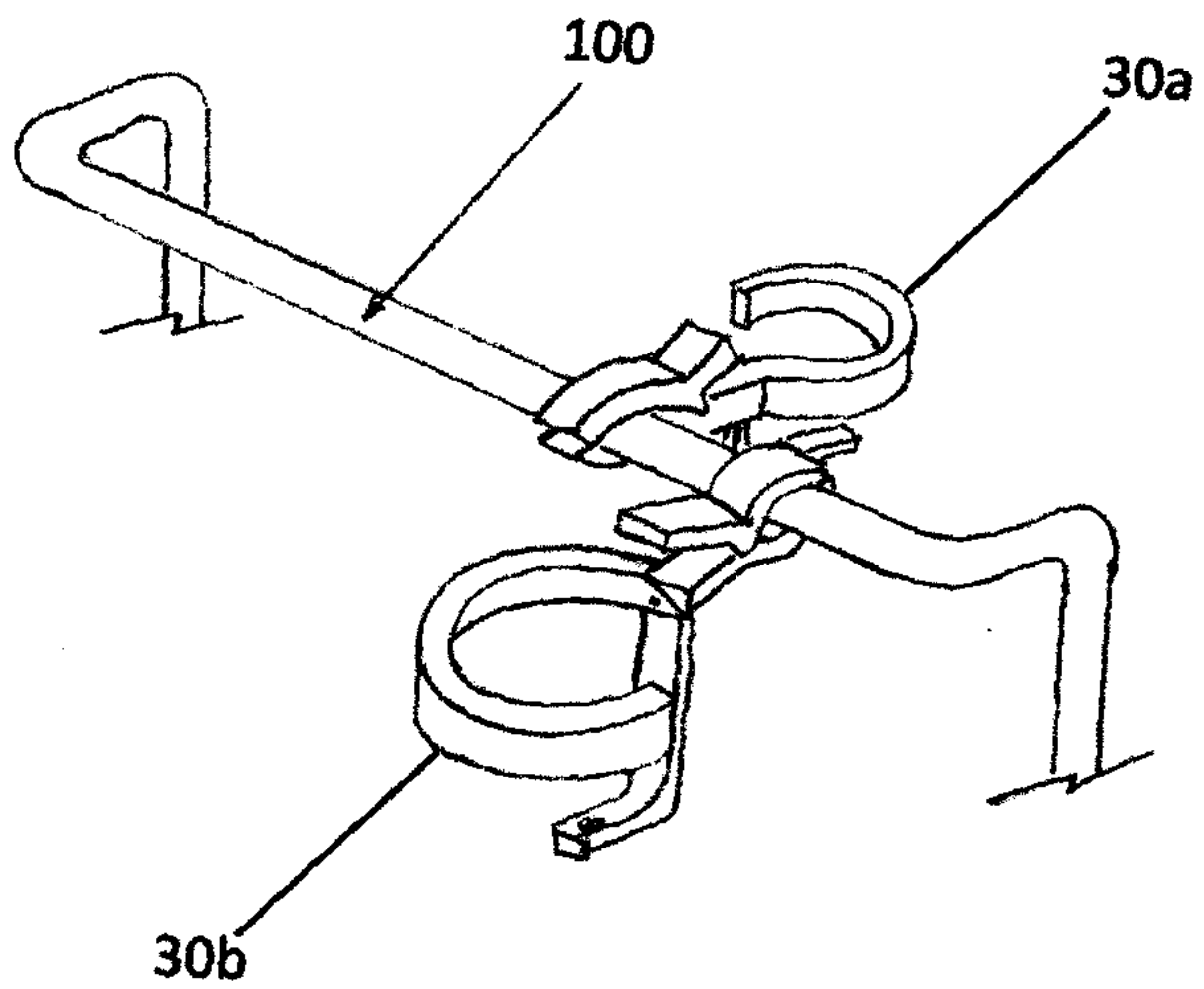


FIGURE 3

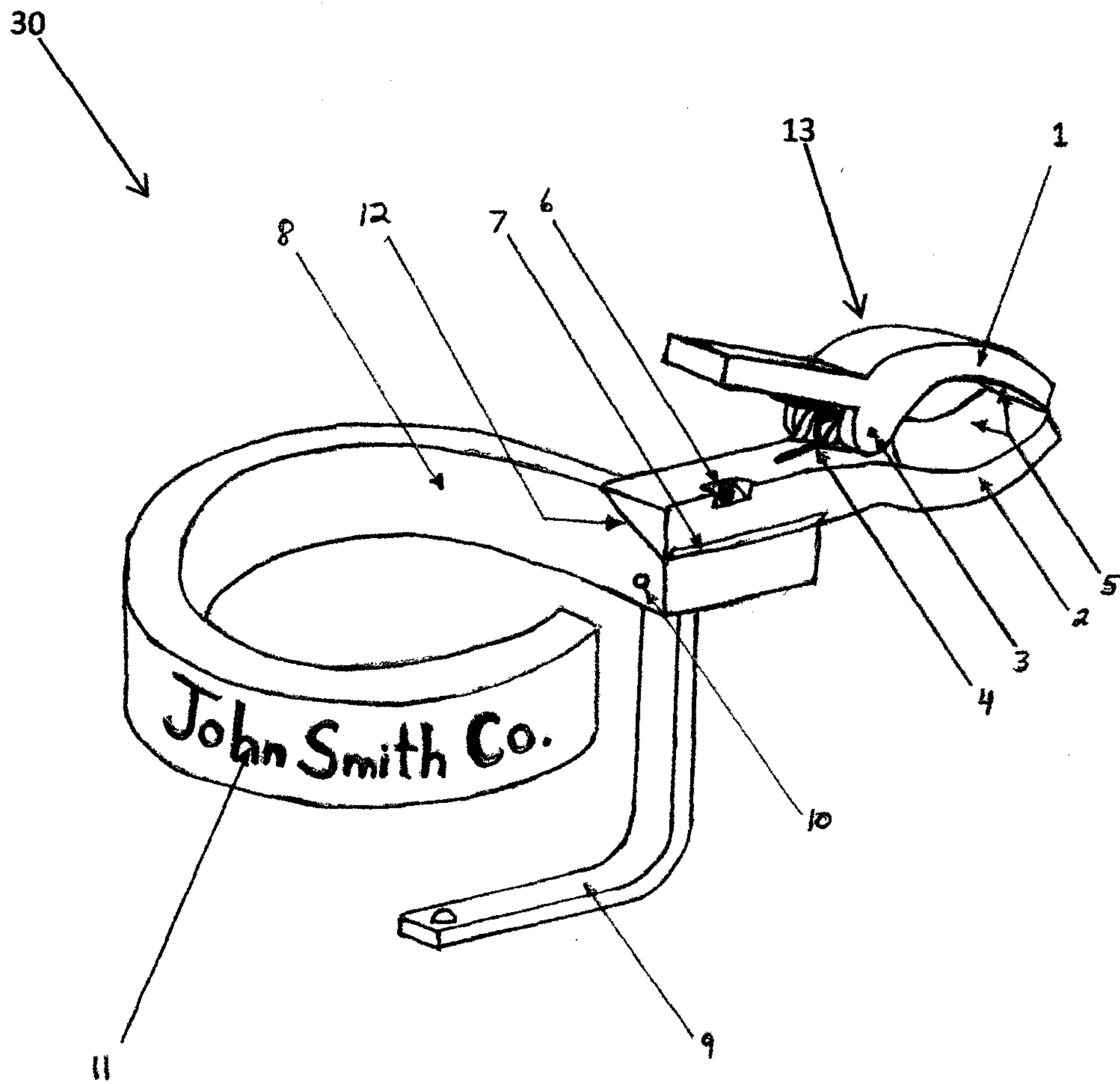


Figure 4A

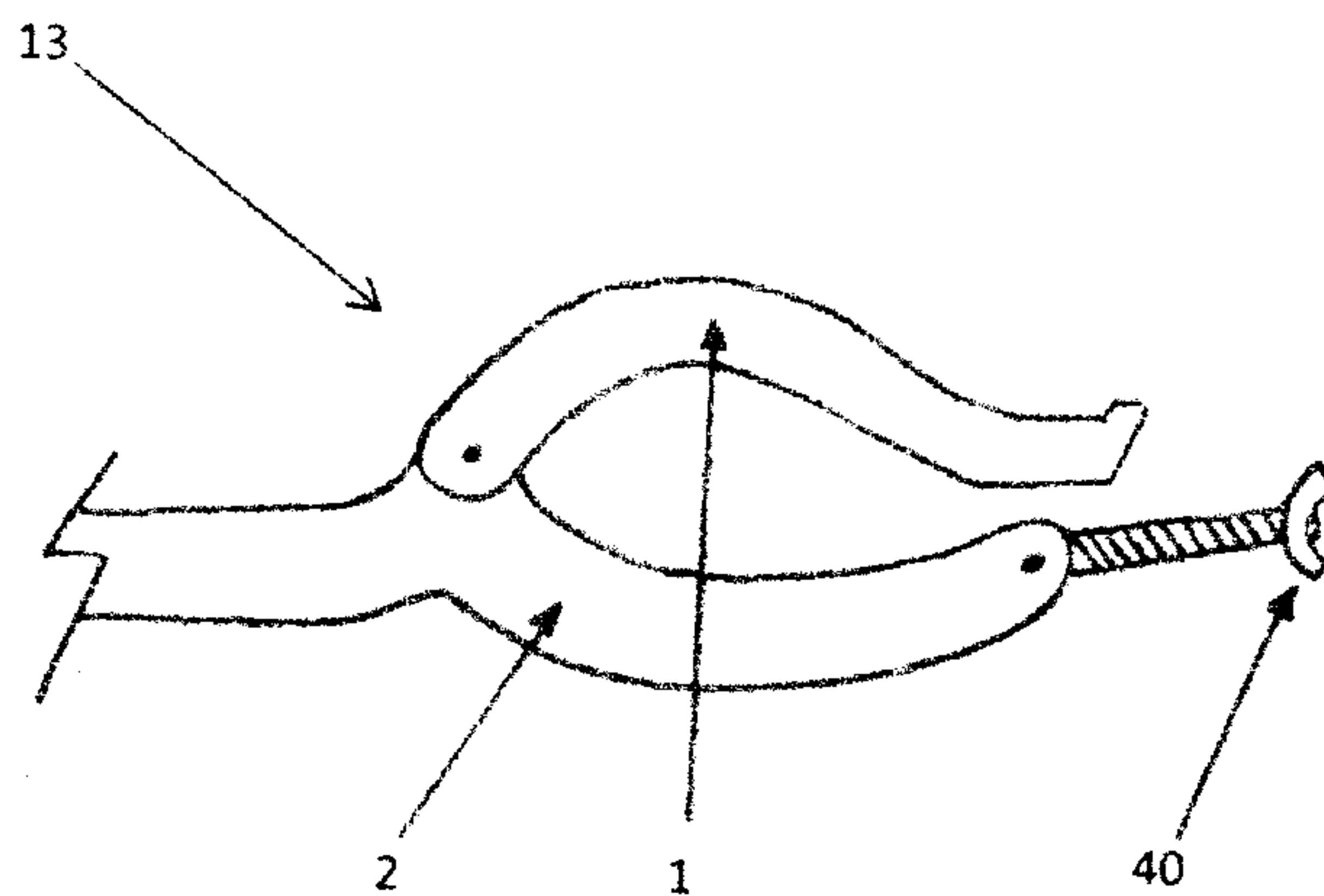


Figure 4B

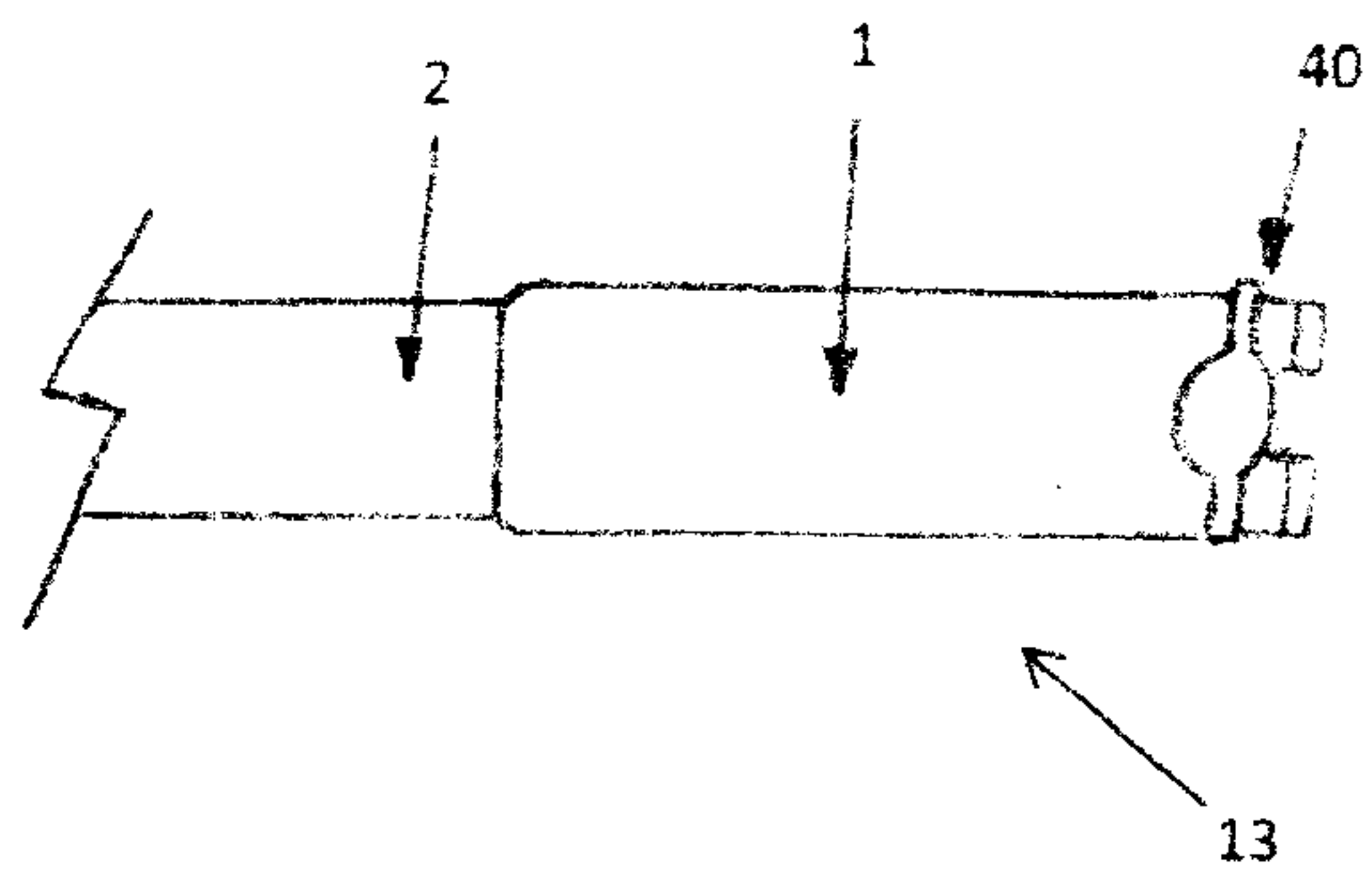


FIGURE 5

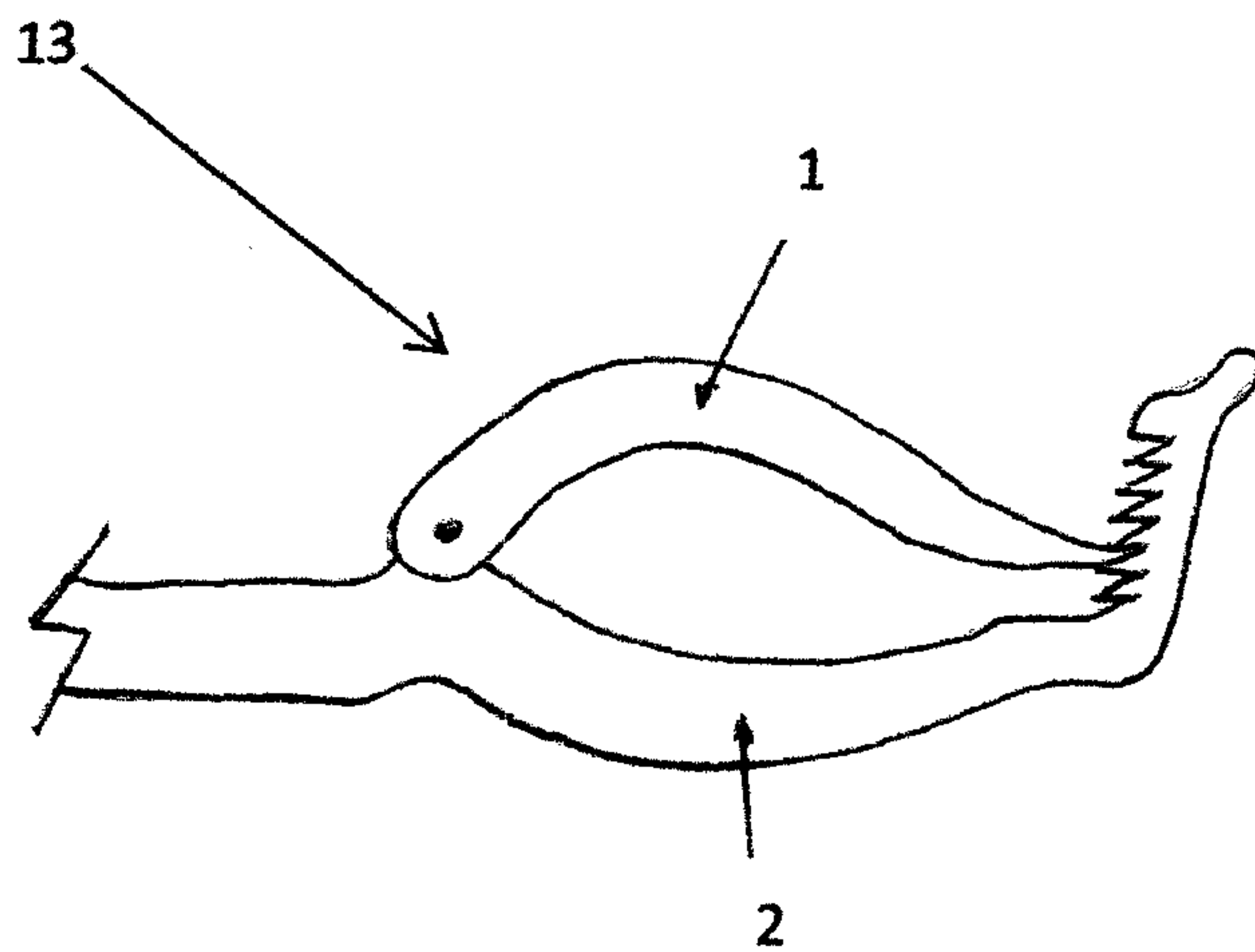


Figure 6A

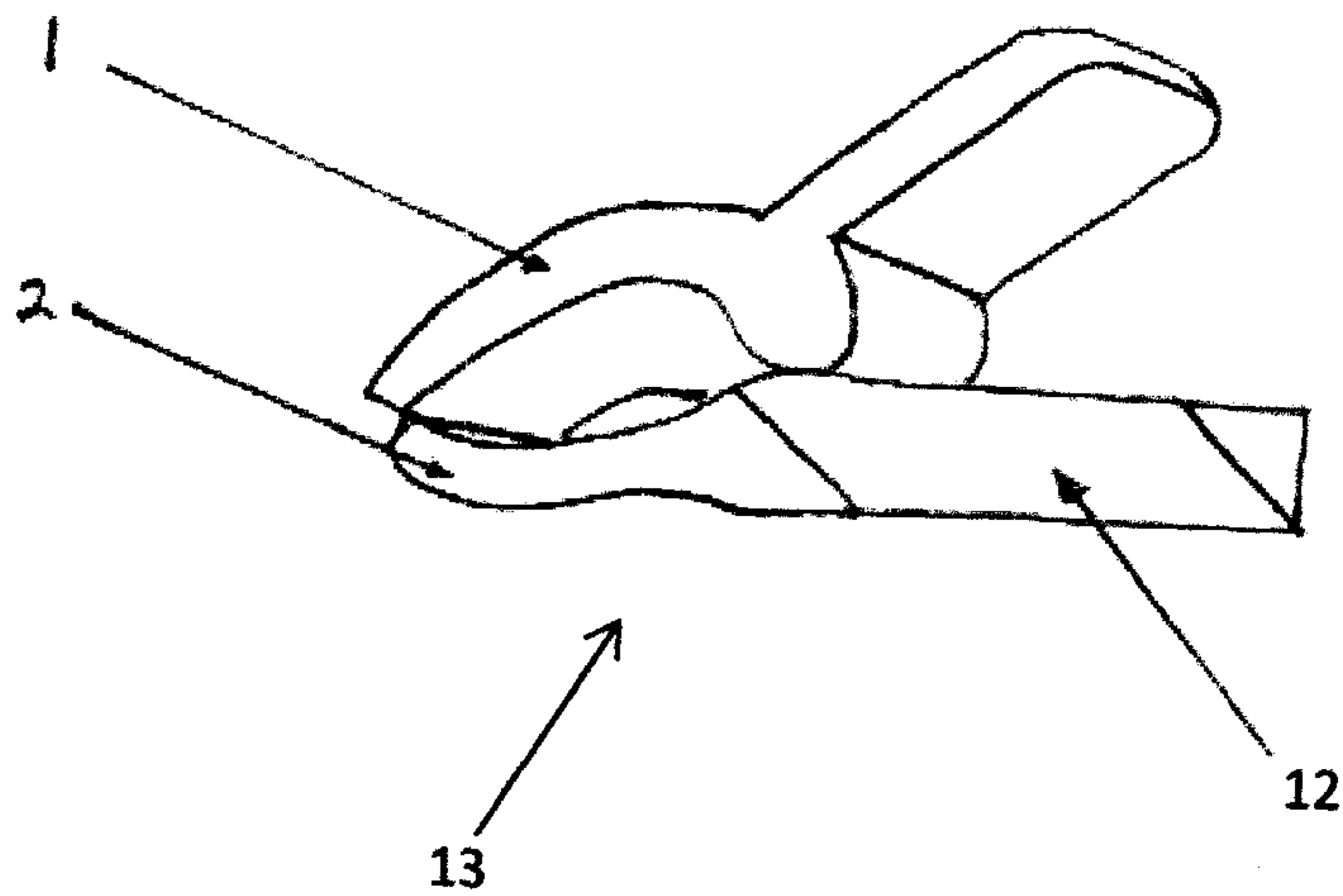


Figure 6B

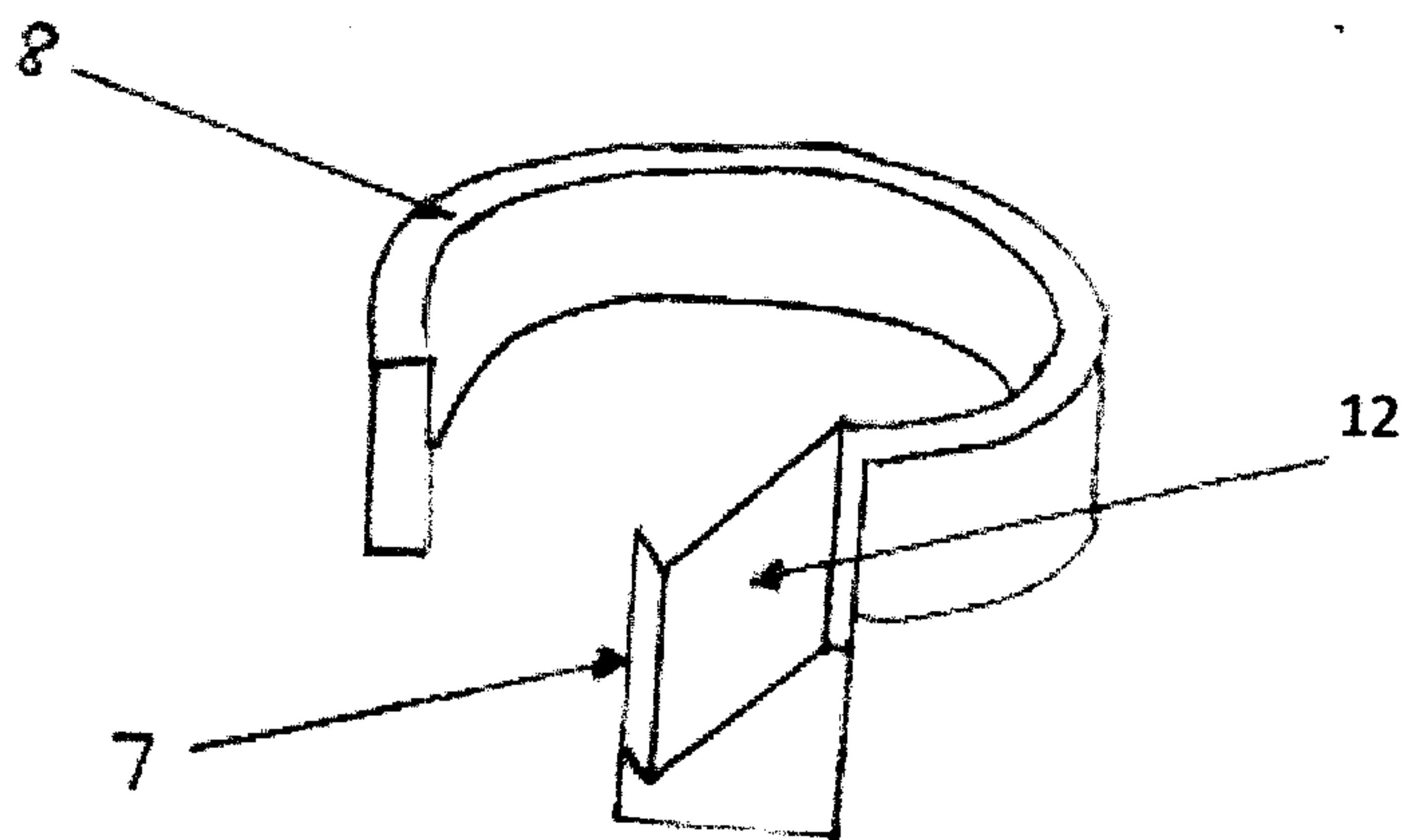


FIGURE 7

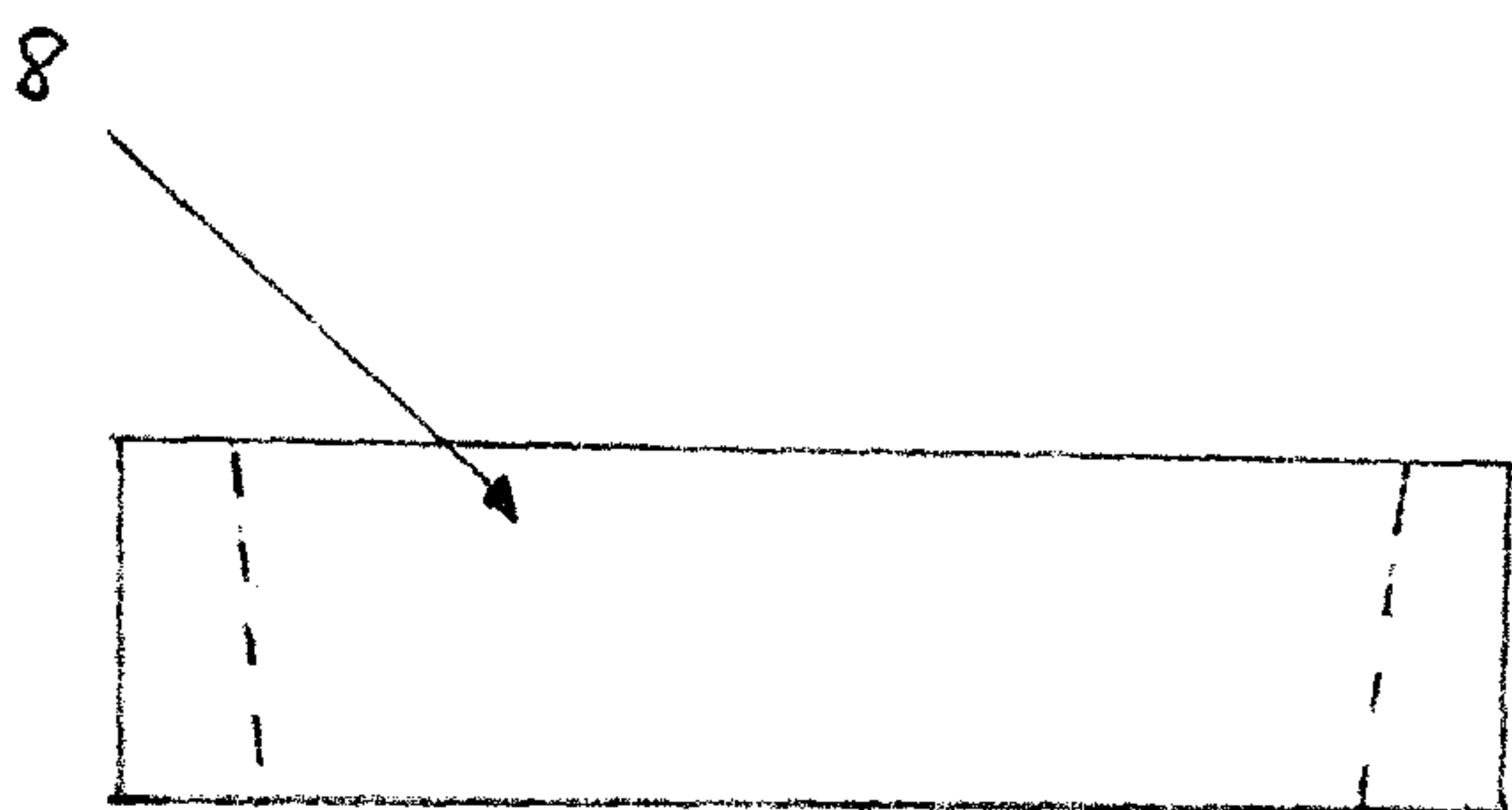


FIGURE 8

