

A dryer for drying a wet itemField

The present invention relates to a dryer for drying a wet item. More particularly the present invention relates to such a dryer which incorporates a gripping means and a frame. ✓

Background

There is a need to dry items which have become wet, for example in the rain. Such items tend to include umbrellas and items of outerwear. Wet items also include items of clothing which have been through the laundry.

Conventional drying racks have a frame onto which items can hang. A conventional washing line may have a frame which is part rotatable. A difficulty with these arrangements is that only certain items for example certain umbrella shapes can fit onto the frame, excluding other types. Furthermore, the frames are often unsteady when loaded and can ✓ topple over. The problems are particularly troublesome when considering umbrellas since these can be comparatively heavy and may be loaded more often as a single item.

There is a desire for an improved dryer for drying wet items which overcomes the above-mentioned drawbacks.

Considering umbrellas particularly, bags have been proposed which enable water to run off the umbrella into a separate component of the bag. One such design has an inner bag within an outer bag wherein the inner bag has holes. A drawback with this design is the splash back of water to the umbrella through the holes. Another such design has a barrier which enables one way flow of water from a main portion into a water-collecting portion whilst also retaining the umbrella in the main portion. However, none of the aforementioned designs enable any drying of the umbrella as such, which is still wet when removed from the bag. ✓

There is a desire also, to address the afore-mentioned disadvantages.

Examiner's
use only

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Summary

In a first aspect of the invention there is provided a dryer for drying wet items according to Claim 1.

Such an arrangement enables air to flow around the item thereby enabling more efficient drying compared to when wet items are stored in a bag. ✓
 Furthermore, the presently claimed dryer enables the wet item to be gripped securely ✓ in an advantage over conventional domestic drying racks and washing lines. Moreover the dryer of the presently claimed invention in a further advantage over dryers of the prior art, prevents water dripping onto the floor and causing a slipping hazard, through the provision of the waterproof barrier arranged to collect water from the wet item held in the gripping means. ✓

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The wet item may be an umbrella. ✓ The gripping means is particularly advantageous for holding umbrellas because the gripping action enables a variety of different handle shapes to be held ✓, not just those with a hooked handle which are supported on traditional drying racks. Furthermore, umbrellas with hooked handles do not fall off the rack.

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The frame may comprise a rotating element, the gripping means being mounted on the rotating element. In such an arrangement, airflow to wet item secured in the gripping means is increased, ✓ thereby speeding up drying. ✓
 Furthermore, the spinning effect may cause water to be expelled from the ✓ wet item, for example an umbrella, more quickly than by gravity alone. ✓

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In an advantage over rotating washing lines of the prior art, such an arrangement provides rotation wherein the water run-off is caught by the waterproof barrier and moreover where the wet item is securely held. ✓

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The gripping means may be positioned centrally within the frame. ✓ Such a dryer is more stable and does not topple over in use when only a single item is mounted. ✓ Such an arrangement advantageously provides for effective drying of a single wet item, without requiring careful weight balancing across the dryer. ✓

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The gripping means may comprise a resiliently deformable part and a rigid part wherein in use, the wet item is secured between the resiliently deformable part and the rigid part. Such a feature enables a greater range of shapes and sizes of wet items such as umbrellas to be held securely since the

resiliently deformable part moulds to the shape of the item. ✓ Such a gripping means may be a clamp assembly comprising a clamp and a threaded bar, the threaded bar having a resiliently deformable portion at its end.

The gripping means may alternatively comprise a resiliently deformable part and a rigid part wherein, in use, the wet item is secured by the resiliently deformable part. For example, the rigid part may be V-shaped with an inner layer of resiliently deformable material such as rubber. ✓ In such an arrangement, the wet item is secured through a simple push fit, ✓ which works especially well when the wet item is an umbrella. This therefore saves time and effort in setting up the apparatus (ie the dryer) for use.

The frame may further comprise a fixed element, the rotating element mounted for rotation on the fixed element, wherein there is a lubricating substance between the elements. Such an arrangement enables the frame to be fixed in position on the floor/ground whilst an upper part rotates which is desirable to avoid friction with the floor/ground. ✓ The lubricating substance enables easier rotation, such that the rotating element can be easily moved by hand. ✓

Alternatively, there may be a track and ball bearing arrangement between the fixed and rotating elements. Such an arrangement may provide an alternative means of facilitating smooth and easy rotation of the rotating element. ✓

The dryer may further include an actuation means for driving rotation of the rotating element. The actuation means may be a pedal arrangement. The actuation means may be an electric motor. In such an arrangement rotation can be faster and/or ✓ more sustainable than is possible by hand, thus speeding up drying. ✓ Use of an electric motor is particularly effective.

The dryer may further comprise a support part mounted on the frame such that in use, the wet item is at least partly resting on the support part. ✓ Such an arrangement may enable the wet item for example an umbrella, to be held extra securely which may be beneficial if the gripping means is not very tight. ✓

The support part may be vertically beneath the gripping means such that the wet item is held vertically in use. ✓ Such an arrangement may be beneficial for stability of the dryer. ✓

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The support part may be adjustable with respect to the frame. Such an arrangement enables a variety of different sizes and shapes of items, such as umbrellas to be supported. ✓

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The frame may comprise one or more attachment portions onto which the waterproof barrier can be releasably ✓ attached in use. Such an arrangement is beneficial since the waterproof barrier may degrade with use and need to be changed. ✓

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The attachment portions may be hooks (one hook, or several hooks) onto which the waterproof barrier is releasably attached with a hook eye arrangement or a hook and loop fastener/clip arrangement.

The waterproof barrier may be a bag for example a plastic bag.

In a second aspect of the invention there is provided a waterproof barrier for use in the dryer of the first aspect of the invention wherein the waterproof barrier comprises a drain. Such an arrangement is advantageous for preventing overflow of collected water onto the floor.

List of figures

Figure page + feature numbering

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Two embodiments of the invention will now be described by way of example only, with reference to the following schematic drawings, of which:

Figure 1 is a side view of an umbrella holder of prior art

Figure 2 is a side view of another umbrella holder of the prior art

Figure 3 is a perspective view of a rotatable washing line of the prior art.

Figure 4 is a side view of a gripping means according to the first example embodiment

Figure 5 is a perspective view of a dryer according to the first example embodiment and including the gripping means of Figure 4 ✓

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Figure 6A is a perspective view of a gripping means according to the second example embodiment

Figure 6B is a side view of the gripping means of Figure 6A. ✓

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Specific description

A bag 1 (Fig. 1) for carrying an umbrella of the prior art has an outer bag 5 and an inner bag 3. The inner bag 3 has holes 7 so that when an umbrella 9 is

placed in the bag 1, water runs through the holes 7 into the outer bag 3. Some water is therefore kept away from the umbrella. A significant amount however, travels back through the holes 7 to meet the umbrella 1.

Another known bag 11 (Fig. 2) for carrying an umbrella has a single bag 13 (umbrella not shown). There is a separator 15 which separates a main portion 17 from a water collecting portion 19. In use, water runs through the separator 15 towards the water collecting portion 19 but is prevented from travelling back again. There is a valve 21 for releasing water from the water collecting portion 19. The umbrella is held in the main portion 17. Compared to the bag of Figure 1, more water is directed away from the umbrella; however, the umbrella is not actively dried and as such, it remains wet when removed from the bag 11. ✓

A rotatable washing line 23 (Fig. 3) of the prior art has a central stand 25 supported on four feet 27. A frame 29 comprising four arms 31 in a cross shape is mounted for rotation on the stand 25. An umbrella with a hook arm 33 can be hung on one of the arms 31 in use. However, such an arrangement is unstable with the washing line 23 prone to toppling over. Furthermore only certain types of umbrella can be supported on the frame 29.

According to the first example embodiment, there is a gripping means 101 (Fig.4) in the form of a clamp assembly 101a. The clamp assembly 101a includes rigid claws 103 formed of metal and a T-shaped threaded bar 105 also formed of metal. The T-shaped threaded bar 105 has a resiliently deformable end 107. In use, an umbrella handle is gripped between one of the claws 103 and the resiliently deformable end 107. This provides an enhanced grip on the umbrella handle. ✓

Also according to the first example embodiment, there is a dryer 109 (Fig.5) which incorporates the gripping means 101 of Figure 4. The dryer 109 has a lower frame 111 consisting of a fixed circular rim 113 mounted on four legs 115. ✓ There is a rotating means in the form of a movable circular rim 117 mounted rotatably on top of the fixed circular rim 113. ✓ The movable circular rim 117 is attached to an arm 119 which extends above and towards the centre of the movable circular rim 117. The free end of the arm 119 terminates in the gripping means 101 previously described with reference to Fig. 4. The arm 119 is interconnected with a support part 121, the support part being in slidable engagement with the arm 119. The support part 121 is

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fixed in place with respect to the arm 119 buy a nut and bolt assembly, 123, and is therefore releasable, to be moved to another position along the arm. ✓
As such, the dryer 109 is reconfigurable to enable umbrellas of different sizes to be supported. In use, an umbrella is gripped by its handle in the clamp assembly 101a whilst its tip rests on the support part 121. In the example embodiment, the support part 121 has a recess 125 at its free end to hold the tip of the umbrella in place. ✓ The fixed circular rim 111 has hook 127 depending from it, onto which a waterproof barrier such as a bin liner (not shown) may be attached. Suitable attachment means such as a hook-eye assembly are used (not shown) to attach the bin liner to the hooks 127. ✓

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In use, the support part 121 is moved to the correct position and an umbrella is inserted into the clamp assembly 101a and rests on the support part 121. The movable circular rim 111 is then spun round by hand to increase airflow to the umbrella, causing it to be dried. The bin liner is attached to collect the water run-off. ✓

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According to the second example embodiment the gripping means (Figs 6A & 6B) is in the form of a V-shaped assembly (101b). The V-shaped assembly 101b has a V-shaped rigid part 129 within which are fixed two resiliently deformable rubber blocks 131. In use, the umbrella handle 133 is gripped by friction in a push fit between the rubber blocks 131. ✓

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In alternative embodiments, there may be an actuating means for speeding up rotation of the movable circular rim. ✓ The bin liner may incorporate a drain for draining away collected water. ✓ There may be means for reducing friction between the moving parts ie a lubricating substance such as oil or a track and ball bearing arrangement. ✓

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MARKS AWARDED 36½/46

Claims

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|---|-----------|
| <p>1. A dryer for drying a wet item ✓✓, the dryer comprising:
 a frame;
 a gripping means mounted on the ✓ frame;
 the frame configured to support a waterproof barrier; ✓
 the frame and gripping means arranged together such that when ✓ the wet item is secured in the gripping means, water drips from the wet item onto the waterproof barrier. ✓</p> | <p>10</p> |
| <p>2. A dryer according to claim 1 wherein the wet item is an umbrella. ✓</p> | <p>½</p> |
| <p>3. A dryer according to any preceding claim wherein the frame comprises a rotating element, the gripping means mounted on the rotating element. ✓</p> | <p>1</p> |
| <p>4. A dryer according to any preceding claim wherein the gripping means is positioned centrally within the frame. ✓</p> | <p>½</p> |
| <p>5. A dryer according to any preceding claim wherein the gripping means comprises a resiliently deformable part and a rigid part, wherein in use, the wet item is secured between the resiliently deformable part and the rigid part. ✓</p> | <p>1</p> |
| <p>6. A dryer according to any of claims 1-4 wherein the gripping means comprises a resiliently deformable part and a rigid part, wherein in use, the wet item is secured by the resiliently deformable part.</p> | |
| <p>7. A dryer according to any preceding claim when dependent on claim 3 wherein the frame further comprises a fixed element, the rotating element mounted for rotation on the fixed element, wherein there is a lubricating substance between the elements. ✓</p> | <p>1</p> |
| <p>8. A dryer according to any of claims 4–6 when dependent on claim 3 wherein the frame further comprises a fixed element, the rotating element mounted for rotation on the fixed element, wherein one or both of the elements includes a track and ball bearings. ✓</p> | <p>½</p> |
| <p>9. A dryer according to claim 7 or 8 further including an actuation means for driving rotation of the rotating element. ✓</p> | <p>½</p> |

10. A dryer according to any preceding claim further compromising a support part mounted on the frame such that in use, the wet item is at least partly resting on the support part. ✓

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11. A dryer according to claim 10 wherein the support part is adjustable with respect to the frame.

12 A dryer according to any preceding claim wherein the frame comprises one or more attachment portions onto which the waterproof barrier can be releasably attached in use. ✓

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13. A waterproof barrier for use in the dryer of any preceding claim, wherein the waterproof barrier comprises a drain. ✓

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Abstract

A dryer for drying a wet item ✓

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There is provided a dryer 109 ✓ for drying a wet item ✓. The dryer 109 comprises a frame 111 and a gripping means 101 mounted on the frame 111. The frame 111 is configured to support a waterproof barrier. The frame 111 and gripping means 101 are arranged together such that when the wet item is secured in the gripping means 101, water drips from the wet item onto the waterproof barrier. Therefore, the wet item is held securely in a dryer 109 which prevents water from reaching the floor. ✓

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Figure 5 to accompany abstract on publication ✓

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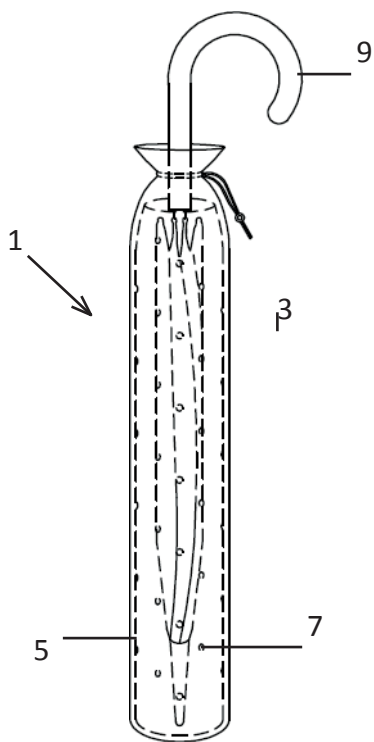


Figure 1

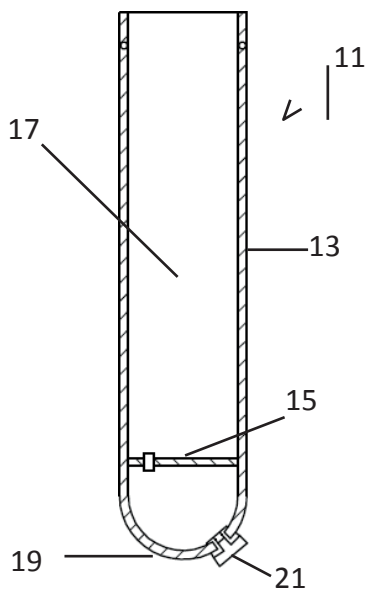


Figure 2

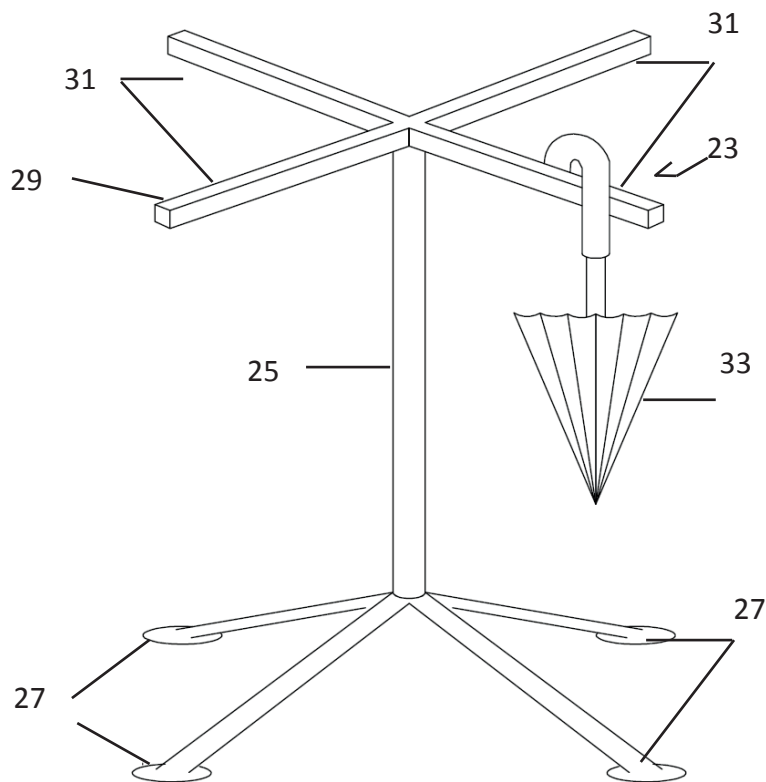


Figure 3

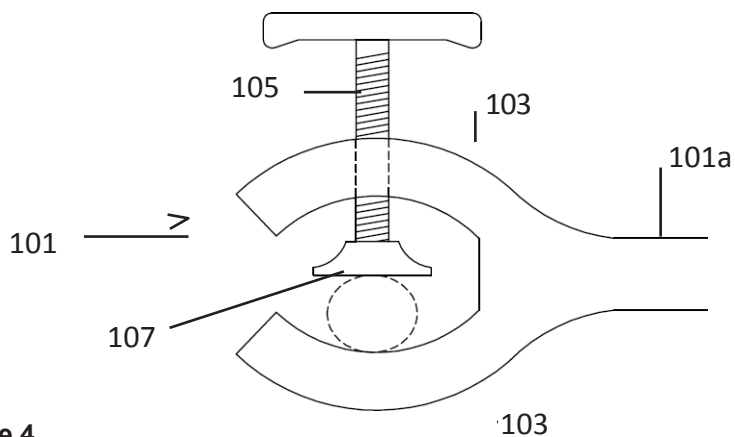


Figure 4

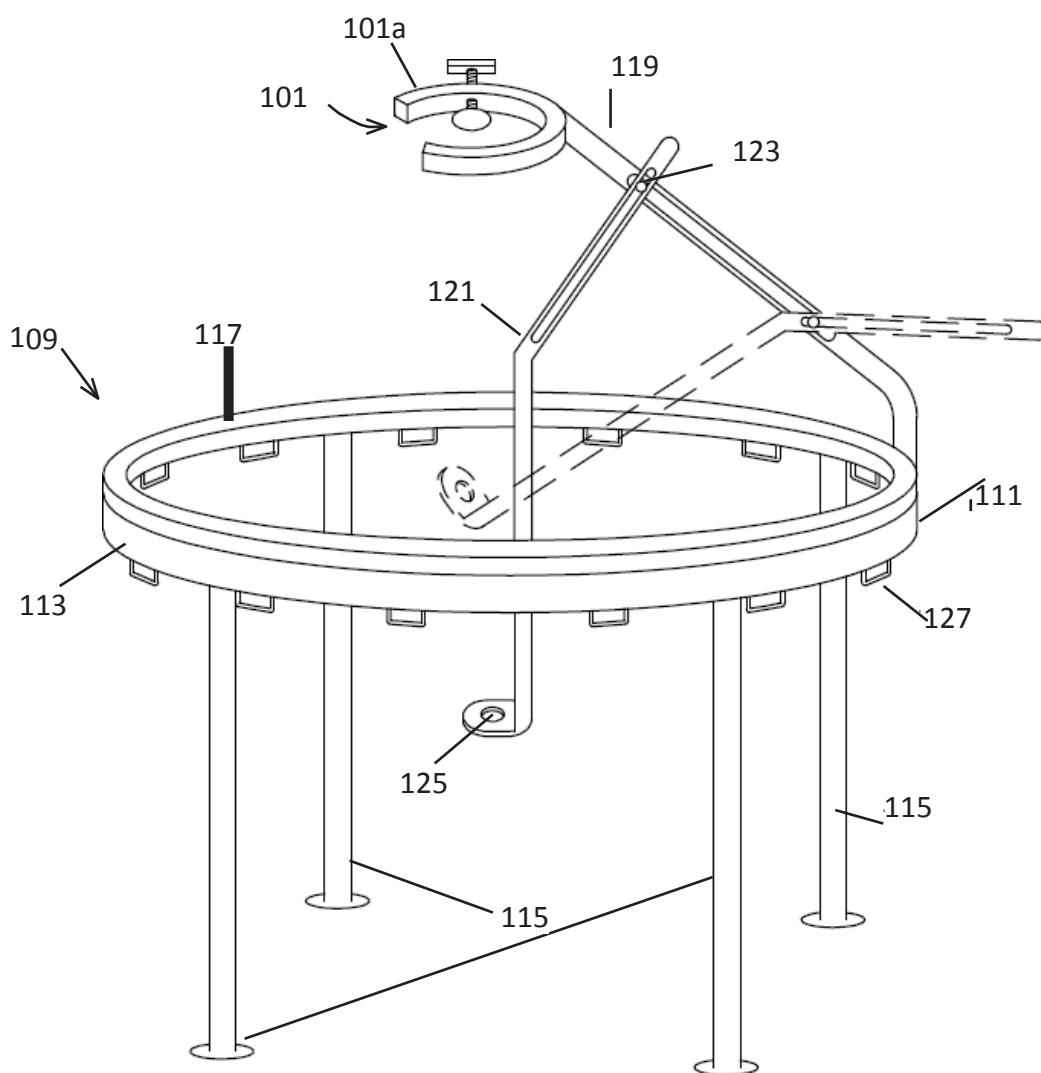


Figure 5

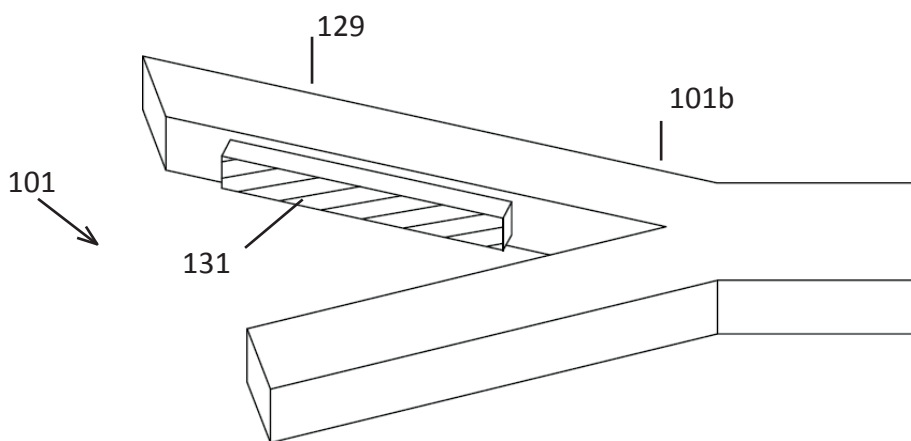


Figure 6A

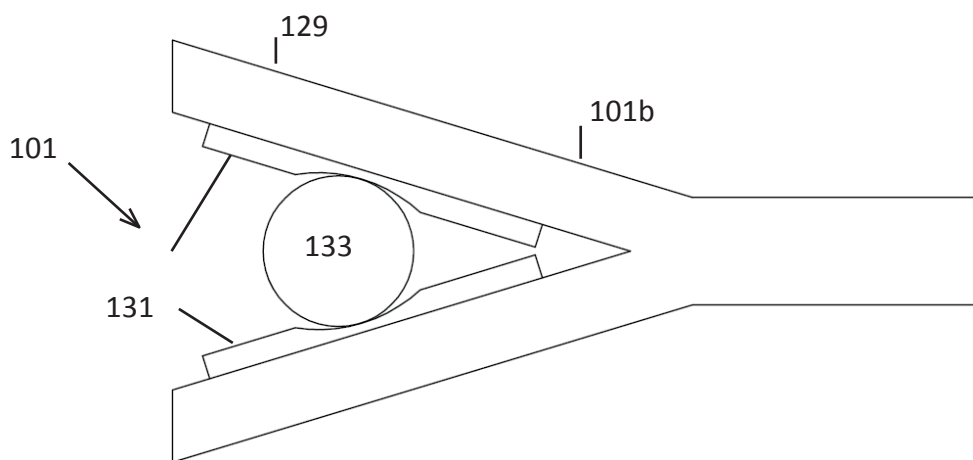


Figure 6B