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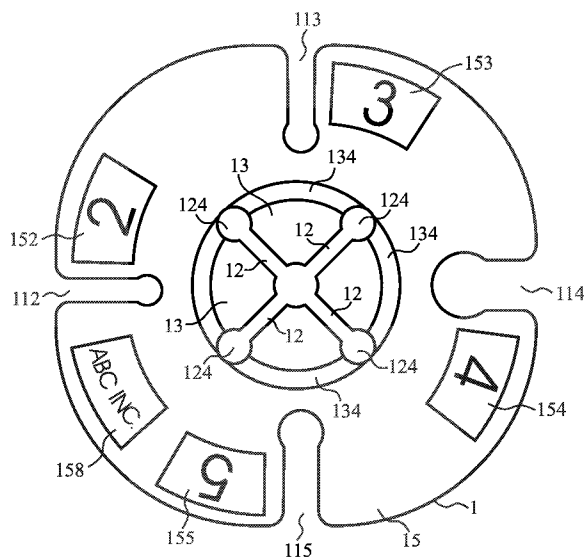


FIG. 1

(57) Abstract: A device for holding a pair of socks together, through their washing and drying process, comprises a generally circular disk with means for holding a pair of socks and means for hanging the device from a clothesline. The circular disk is about 2 mm thick and about 53 mm in diameter. The thickness of the circular disk and its diameter are adapted to the size of the socks in use. The shape of the device for holding a pair of socks together may be a rectangle, a triangle or an ellipse. The device may include Braille and/or protrusions indications of the size of each slit for hanging the device.

Holding Device

Technical Field

5

This invention relates to a device for holding a pair of socks together, through their washing and drying.

10 Background Art

At present, socks pairs are separated in the washing machine. It may be difficult and a waste of time to sort all the socks and rearrange them in pairs, for subsequent use.

15

Furthermore, after washing the socks are hung out to dry, this also possibly causing the socks to get mixed up.

20

Considering there may be many socks to wash and dry, it is important the device be easy to use.

Moreover, the device should be so devised as not to cause damage to the washing machine.

25

It is an objective of the present invention, among others, to address the abovedetailed problems and shortcomings.

Disclosure of Invention

30

The present invention discloses a device for holding a pair of socks together, through their washing and drying. This eliminates the need to sort all the socks and rearrange them in pairs, each time after washing and drying.

The device is easy to use - it is a simple operation to insert the pair of socks in the device. The socks of a pair are thus kept together in the washing machine.

5

Furthermore, the device includes means for hanging it on a clothesline.

There are clotheslines of various thickness. To accommodate these various types of clotheslines, the device in the present invention includes means for attaching easily to any of them.

10

Thus, the pair of socks is kept together during the washing and drying process. There is no need to sort the socks afterwards.

Moreover, the device further includes protective means to prevent or minimize a possible damage to the washing machine.

15

Brief Description of Drawings

20 Fig. 1 details a front view of a sock holding device

Fig. 2 illustrates the device holding a pair of socks

Fig. 3 illustrates the device holding a pair of socks on a clothesline

25

Fig. 4 details a front view of the sock holding device with protective means

Fig. 5 details another embodiment of the sock holding device

30 Fig. 6 details yet another embodiment of the sock holding device

Fig. 7 illustrates a perspective view of the sock holding device

Fig. 8 illustrates a perspective view of the device, with a pair of socks attached thereto

5 Fig. 9 illustrates another embodiment of the device

Fig. 10 illustrates yet another embodiment of the device

10 Modes for Carrying out the Invention

Fig. 1 details a front view of the sock holding device 1 comprising a preferably circular thin disk made of plastic including, in a preferred embodiment, four sock holding parts 13 at its center as illustrated.

15 Slits 12 between the parts 13 allow for the insertion of the socks 21, 22, between parts 13, by depressing the parts 13, see Fig. 2. Preferably, the thickness of each slit 12 is about 2 mm.

A larger hole 124, located at the outer end of each slit 12, holds a larger
20 part of each sock.

The material and/or structure of the parts 13 allow a measure of elasticity thereof, to allow their displacement to insert a pair of socks in the slits 12, whereupon the parts 13, returning to their initial state as the
25 socks there may permit, hold the socks attached to the device 1.

In a preferred embodiment, there is a groove 134 at the base of each part 13. The groove 134 may have a depth of about 0.75 mm on each side, this leaving a base thickness of about 0.5 mm. The groove enhances the elasticity
30 of parts 13, to facilitate socks' insertion in the device.

Upon removing the socks, the parts 13 return to their initial state, that is

laying in the plane of the disk 1.

Preferably there is a central circular hole in the device as illustrated, of a diameter of about 5 mm.

5

Other mechanical means for holding a pair of socks may be used.

In a preferred embodiment, the device 1 is about 2 mm (millimeters) thin and about 53 mm in diameter. In another embodiment, the device 1 is about 53.4 mm
10 in diameter. Other sizes of device 1 may be implemented, adapted to the size of the socks pair to hold. Thus, a device for children's socks may be smaller than a device for adults.

On its outer rim, the device may include means for hanging it from a
15 clothesline, comprising for example four hanging slits 112, 113, 114, 115. Each hanging slit may have a different thickness, to allow for the insertion of a clothesline of a corresponding diameter and using a measure of force, for example:

- 20
1. a slit 3 mm thick for a steel clothesline of 3 mm diameter
 2. a slit 3.2 mm thick for a clothesline of 4 mm diameter
 3. a slit 3.7 mm thick for a clothesline of 4.5 mm diameter
 4. a slit 4.2 mm thick for a clothesline of 5 mm diameter

25 There may be some deviations from the above dimensions, according to the line diameter and the mechanical properties of its coating, the measure of elasticity of device 1 so as to allow easy insertion together with reliable attachment to the clothesline, and according to the weight of the socks.

30 Each slit is made slightly thinner than the corresponding clothesline to allow the insertion of the clothesline using a measure of force, whereas the end of the slit is made wider and preferably circular as illustrated, to hold

the clothesline in that location. In a preferred embodiment, the diameter of the circular hole at the end of each slot may be:

1. a diameter of 3 mm for a steel clothesline of 3 mm diameter
- 5 2. a diameter of 3.5 mm for a clothesline of 4 mm diameter
3. a diameter of 4.0 mm for a clothesline of 4.5 mm diameter
4. a diameter of 4.5 mm for a clothesline of 5 mm diameter

There may be deviations from the above dimensions, as a person skilled in the art may devise upon applying mechanical engineering skills as known in the art, so as to reliably hold a pair of socks and attach to a clothesline, while allowing for easy attachment and removal of the device and for easy insertion and extraction of the socks.

15 A plurality of clothesline size indicators 152, 153, 154, 155, each adjacent to one of the slits 112, 113, 114, 115, respectively, may be advantageously used to indicate the size of that slit.

Each clothesline indicator may comprise a patch of a different color, a number and/or another indicative symbol. For a specific type/diameter of clothesline, all the devices 1 will be inserted with the same color/number towards the line.

The length of the slits 112 - 115 may be about 4 to 4.5 mm, according to the actual structure of the device.

25 At the outer part of slits 112 - 115, preferably there is a phase, to prevent a sharp corner and to aid in inserting the device. A rounded corner of a radius about 0.8 may be used.

This allows a plurality of devices 1 to be attached fast to a clothesline without having to check and search for the correct slit in each case - once the user found the right slit for one device 1, indicators 152 - 155 may be used in other devices to select the right slit therein, fast and easy.

Other mechanical means for attaching the device 1 to a clothesline may be used, preferably with means for keeping the device in place there.

- 5 On the remaining area of the device, about 3.75 mm to 4.5 mm wide, may be used to print the product or manufacturer's logo, its Internet site and/or other information. Optionally, the area or part thereof may be used as advertising space 158. Both sides of the device may be thus used.
- 10 Fig. 2 illustrates the device 1 holding a pair of socks 21, 22.

Specifications:

1. The device 1 is preferably circular, made of a thin sheet of plastic.
- 15 Its shape is generally symmetrical, without sharp corners. It includes, at its center, socks holding means.
- The two parts of the sock, protruding from the two sides of the device, contain the device 1 therebetween.
- Thus the device will not take a particular space in the washing machine.
- 20 2. The two socks 21, 22 are held together, for effective washing and drying.
3. On the outer circumference of the device 1 there are four slits for hanging the device, with the socks therein, on a clothesline.
- 25 4. The thickness of the sock holding parts 12 is about 2 mm, whereas the base of the parts is thinner, about 0.5 mm. This achieves an elastic structure allowing for easy insertion of the socks therein. There is no need to apply an excessive force, which may cause pain to user's fingers.
- 30 5. The dimensions of the hanging slits and holes are such, as to keep the device attached to the clothesline and prevent its sliding along. Thus, the

device, and each pair of socks therein, is reliably held at one specific location on the clothesline. It will not move or slide to other locations.

6. Rounded corners at the entrance to the slits 112 - 115 allows easy
5 insertion of the clothesline and will prevent or minimize any damage to the clothesline.

7. There are different sizes of the sock holding means and the clothesline holding means, to adapt to different sizes of socks and clotheslines.

10

8. The device may be manufactured in various colors, to adapt to various users (private and/or institutional).

9. Advertising space on both sides of the device may be advantageously used
15 for specific customers and/or per request.

10. The device 1 may be made of various materials. Preferably it should be made of plastic, having a measure of elasticity, capable of reliable operation in a washing machine environment - it will withstand humidity and
20 detergents, as well as mechanical shock and a wide range of temperatures, while preserving its elastic properties.

Furthermore, the material will withstand sun rays' radiation and generally the exterior environmental demands.

25 Fig. 3 illustrates a first device 1 holding a pair of socks 21, 22 on a clothesline 3, and a second device 2 holding a second pair of socks 23, 24. A plurality of such devices 1 may hold a plurality of sock pairs, also in more than one clothesline 3.

30 Fig. 4 details a front view of the sock holding device 1 with protective means 41, 42, 43, 44 over the outer rim of device 1, generally mounted between the slits 112, 113, 114, 115.

The protective means 41 - 44 may be made of a soft plastic coating, or a sponge, or an integral part of the device 1 but having different mechanical properties - a softer, shock absorbing characteristic.

5

Fig. 5 details another embodiment of the sock holding device 1.

In this embodiment, the sock holding device 1 has basically two differences from the previously disclosed device: the slits 112, 113, 114, 115 have a different structure, and the inner parts 13 and 136 are different.

10 The different structure of the slits 112, 113, 114, 115 is detailed with reference to slit 113. The other slits include the same novel features.

Each slit, such as slit 113 has a different structure comprising:

1. a hole 1131 for holding the clothesline therein, while allowing it to
15 rotate so as to settle under the influence of gravity;
2. a tapered channel 1133 for inserting the clothesline therein and towards the hole 1131. The wide outer opening allows for easy insertion of the clothesline into the channel 1133. As the channel becomes narrower, a
20 measure of force need be applied to further push the clothesline therein.
3. shoulders 1132 for inserting the clothesline with a click (and by the application of a measure of force) thus providing means for holding the device 1, with socks mounted therein, on the clothesline.

25

Yet another feature of the device 1 is the new shape of the grooves 136 forming a folding line for the parts 13.

It was found by the present inventor that a straight line groove 136 is better suited to allow folding the sock holding parts 13 with respect to
30 the rest of part 1.

The folding line formed by groove 136 has a measure of elasticity, due to

its narrower thickness and the characteristic of the plastic material the part 1 is made of. Thus, after parts 13 are pressed and bend aside to allow the insertion of a pair of socks, the parts 13 tend to revert to their rest state (forming a planar device 1), thus holding onto the socks and preventing them for falling out.

Actually, the socks are held in the slits 12 for holding the socks therein, and between the parts 13.

Fig. 6 details yet another embodiment of the sock holding device

10 The sock holding device 1 has slits for attaching to the clothesline using the novel structure detailed in Fig. 5 .

Throughout the present disclosure, it is to be understood that the various embodiments of means for holding to the clothesline can be used in

15 combination with any of the various means for holding the socks.

Thus, for example, the device 1 in Fig. 6 could use the slits 112 - 115 of Fig. 1, the device 1 in Fig. 5 could use the above slits, etc.

20 The sock holding parts 13 here have a new structure to address a possible problem with the structures of Figs. 1 to 5: if the socks are held together and with the holding area closely folded, then that part of the sock may not dry up, or may only dry partially.

25 To address this problem, a new shape of the slits 12 for holding the socks has been devised - the slits are now semi-circular, with a larger length used to hold the sock. Moreover, each sock is held separately, separated from the other sock - each sock has its own separate slit.

30 Moreover, the sock is held between between the parts 13 and the outer frame. The parts 13 themselves have here a new shape as illustrated, a semi-circular shape or part of a semi-circle.

The device may also optionally include smaller slits 126 for smaller socks or other small items.

The device 1 may also include holes 18 for stacking the devices 1 in a pile.

5

The new shape of the grooves 136, forming a folding line for the parts 13, allows easier and more effective folding of the parts 13 relative to the device 1.

10 Fig. 7 illustrates a perspective view of the sock holding device 1.

The sock holding device 1 includes the semi-circular sock holding parts 13 with the two slits 12 for holding a sock each, the socks being kept apart from each other.

Also illustrated are the smaller slits 126 for smaller socks or other small
15 items.

On the outer part of device 1 there are the slits 112, 113, 114, 115, each of a different size, to accommodate a corresponding clothesline.

20 The device further includes grooves 136, forming a folding line for the parts 13.

The holes 18 may be used for stacking the devices 1 in a pile.

Fig. 8 illustrates a perspective view of the device 1, with a pair of
25 socks 21, 22 attached thereto - this is the device in use.

As illustrated, the socks 21 and 22 are held apart from each other, with the slits 12 each having a longer span, so a larger area of each sock is exposed for drying.

30

In a preferred embodiment, the diameter of the circular hole 1131 at the end of each slot may be:

1. a diameter of 2.5 mm for a steel clothesline of 3 mm diameter
- 5 2. a diameter of 2.7 mm for a clothesline of 4 mm diameter
3. a diameter of 3 mm for a clothesline of 4.8 mm diameter
4. a diameter of 3.4 mm for a clothesline of 5 mm diameter

The various features illustrated with Figs. 1 to 4 can also be used with the
10 embodiments of Figs. 5 to 8, for example:

1. The device 1 is preferably circular, made of a thin sheet of plastic. Its shape is generally symmetrical, without sharp corners. It includes, at its center, socks holding means.
15 The two parts of the sock, protruding from the two sides of the device, contain the device 1 therebetween.
Thus the device will not take a particular space in the washing machine.
 2. A pair of socks 21, 22 are held together, for effective washing
20 and drying.
 3. On the outer circumference of the device 1 there are four slits for hanging the device, with the socks therein, on a clothesline.
 - 25 4. The thickness of the sock holding parts 12 is about 2 mm, whereas the base of the parts is thinner, about 0.5 mm. This achieves an elastic structure allowing for easy insertion of the socks therein.
- There is no need to apply an excessive force, which may cause pain to user's
30 fingers.
5. The dimensions of the hanging slits and holes are such, as to keep the

device attached to the clothesline and prevent its sliding along. Thus, the device, and each pair of socks therein, is reliably held at one specific location on the clothesline. It will not move or slide to other locations.

5 6. Rounded corners at the entrance to the slits 112 - 115 allows easy insertion of the clothesline and will prevent or minimize any damage to the clothesline.

7. There are different sizes of the sock holding means and the clothesline
10 holding means, to adapt to different sizes of socks and clotheslines.

8. The device may be manufactured in various colors, to adapt to various users (private and/or institutional).

15 9. Advertising space on both sides of the device may be advantageously used for specific customers and/or per request.

10. The device 1 may be made of various materials. Preferably it should be made of plastic, having a measure of elasticity, capable of reliable
20 operation in a washing machine environment - it will withstand humidity and detergents, as well as mechanical shock and a wide range of temperatures, while preserving its elastic properties.

Furthermore, the material will withstand sun rays' radiation and generally the outdoors environmental demands.

25

Fig. 9 illustrates another embodiment of the invention. The device 1 includes a hook 53 as the means for attaching to a clothesline. The clothesline is inserted through the opening 51, then it is held generally in the location 52.

30

Preferably, an inverse slope path 53 (slope more than 90 degrees) may be included, to hold the clothesline with a click or to prevent accidental removal of the device.

Thus, the curved channel further has a part with a slope of more than 90 degrees for preventing accidental removal of the device from the clothesline.

The means for hanging the device from a clothesline comprise one or more hooks
5 located on the outer perimeter of the device, as illustrated.

Preferably, each hook has a curved channel with means for holding on the clothesline.
The channel starts at the opening 51 and ends at the clothesline holding location 52.
The end of the hook may create, in the curved channel, a narrowing part for preventing
10 accidental removal of the device from the clothesline.

An advantage of this structure is that it is the shape of the hook, rather than the
narrowing (difference in size) in the slit opening, which holds the device attached to the
clothesline, thus a more reliable attachment may be achieved.
15 The combined weight of the device 1 and the socks held therein, will keep the device 1
on the correct orientation (hook up) on the clothesline.

Another advantage of this structure is that the device 1 is not rigidly attached to the
clothesline, rather it can be moved along the clothesline if deemed necessary.

20

Moreover, the device may be used with various diameters of a clothesline. It is not
necessary to select one specific external slit for each clothesline diameter.

Thus, the device 1 is more versatile and easier to use.

25 The device 1 may be manufactured in various sizes, to adapt to various sizes of socks.

One or more such hooks may be included in the device 1. In the preferred embodiment
as illustrated, two such hooks are used.

In other embodiments, three or four hooks on the outer perimeter of device 1 may be
30 implemented.

Fig. 10 illustrates yet another embodiment of the device, having a square, rather than circular,

outer perimeter shape. This is one example of a non-circular shape; other shapes may be used, for example ellipse, triangle, etc.

5 Thus the device is planar and may have various shapes.

Furthermore, the device includes a combination or mixture of means for attaching to a clothesline: both a hook 53, and channels 112, 113, 115, etc., each for attaching to a clothesline of a specific diameter. This novel structure may be advantageously used to
10 attach to the clothesline using either of the two types of attaching means, as may be convenient to the user.

The device further includes an indication of the channel size, in this embodiment using Braille code indications 157, 158 and 159 as protrusions from the surface of the device.
15 The user can find the right channel by touching it, without looking at the device, even in the dark; thus the device is easier to use and the indications may save time.

The Braille and/or protrusions indications of the size of each slit may be used with any of the embodiments in the present disclosure or any variations thereof.

20

It will be recognized that the foregoing is but one example of an apparatus and method within the scope of the present invention, and that various modifications will occur to those skilled in the art upon reading the disclosure set forth hereinbefore.

25

Industrial Applicability

The novel device has a clearly technical function, it is usable holding a pair of socks together, through their washing and drying.

- 5 This eliminates the need to sort all the socks and rearrange them in pairs, each time after washing and drying.

Furthermore, the device includes means for hanging it on a clothesline.

- 10 There are clotheslines of various thickness. To accommodate these various types of clotheslines, the device in the present invention includes means for attaching easily to any of them.

Claims

1. A device for holding a pair of socks together, through their washing
5 and drying process, comprising a generally circular disk with means for holding a pair of socks and means for hanging the device from a clothesline.
2. The device according to claim 1, wherein the circular disk is about 2 mm thick and about 53 mm in diameter.
- 10 3. The device according to claim 1, wherein the thickness of the circular disk and its diameter are adapted to the size of the socks in use.
4. The device according to claim 1 or 2, wherein the circular disk is made
15 of a plastic material having a measure of elasticity and capable of withstanding a washing machine environment and sun rays radiation.
5. The device according to claim 1 or 2, wherein the sock holding means
20 comprise four sock holding parts at a center of the disk, with slits between the holding parts and wherein the holding parts have a measure of elasticity for allowing an insertion of the pair of socks therebetween and for holding the socks there.
6. The device according to claim 1 or 2, wherein the sock holding means
25 comprise two holding parts at a center of the disk, wherein the parts have a generally semi-circular shape with slits on their outer circumference for holding the socks, and wherein the holding parts have a measure of elasticity for allowing an insertion of the pair of socks between the holding parts and the outer part of the device and for holding the socks
30 there.
7. The device according to claim 5 or 6, wherein the measure of elasticity

of the holding parts is achieved with grooves made in the device, to form folding lines between the device and the holding parts.

8. The device according to claim 7, wherein the folding lines defined by the grooves are each in a straight line.

9. The device according to claim 1 or 2, wherein the means for hanging the device comprise four slits on its outer rim, each slit of a different thickness, adapted to a corresponding diameter of a clothesline.

10. The device according to claim 9, wherein the slits for hanging the device comprise each a channel being made slightly thinner than the corresponding clothesline to allow the insertion of the clothesline using a measure of force, whereas the end of the slit is made wider and preferably circular, to hold the clothesline in that location.

11. The device according to claim 9 or 10, wherein the slits for hanging the device comprise each a tapered channel which is wider at the outer circumference of the device and becomes narrower within, ending in a generally circular hole through narrower shoulders, so as to allow the insertion of a clothesline with a click therein.

12. The device according to claim 5 or 6, further including a circular hole at the end of each slit, wherein the diameter of the circular hole at the end of each slit is:

- a. a diameter of 2.5 mm for a steel clothesline of 3 mm diameter
- b. a diameter of 2.7 mm for a clothesline of 4 mm diameter
- c. a diameter of 3 mm for a clothesline of 4.8 mm diameter
- d. a diameter of 3.4 mm for a clothesline of 5 mm diameter.

13. The device according to claim 5 or 6, wherein using one of various combinations of the slits for hanging the device with any of the disclosed means for holding the socks.

14. The device according to claim 1 or 2, wherein the means for hanging the device from a clothesline comprise one or more hooks located on the outer perimeter of the device.

5 15. The device according to claim 14, wherein each hook has a curved channel with means for holding on the clothesline.

16. The device according to claim 15, wherein the curved channel further has a narrowing part for preventing accidental removal of the device from the clothesline.

10

17. The device according to claim 15, wherein the curved channel further has a part with a slope of more than 90 degrees for preventing accidental removal of the device from the clothesline.

15 18. The device according to claim 1 or 2, wherein the means for hanging the device from a clothesline comprise one or more hooks and one or more slits, all located on the outer perimeter of the device .

19. A device for holding a pair of socks together, through their washing and drying
20 process, comprising a planar device with means for holding a pair of socks and means for hanging the device from a clothesline.

20. The device for holding a pair of socks together according to claim 19, wherein the shape of the device is a rectangle, a triangle or an ellipse.

25

21. The device for holding a pair of socks together according to claim 1 or 19, further including Braille and/or protrusions indications of the size of each slit for hanging the device.

30 22. A device for holding a pair of socks together, through their washing and drying process, substantially as herein detailed with reference to the drawings.

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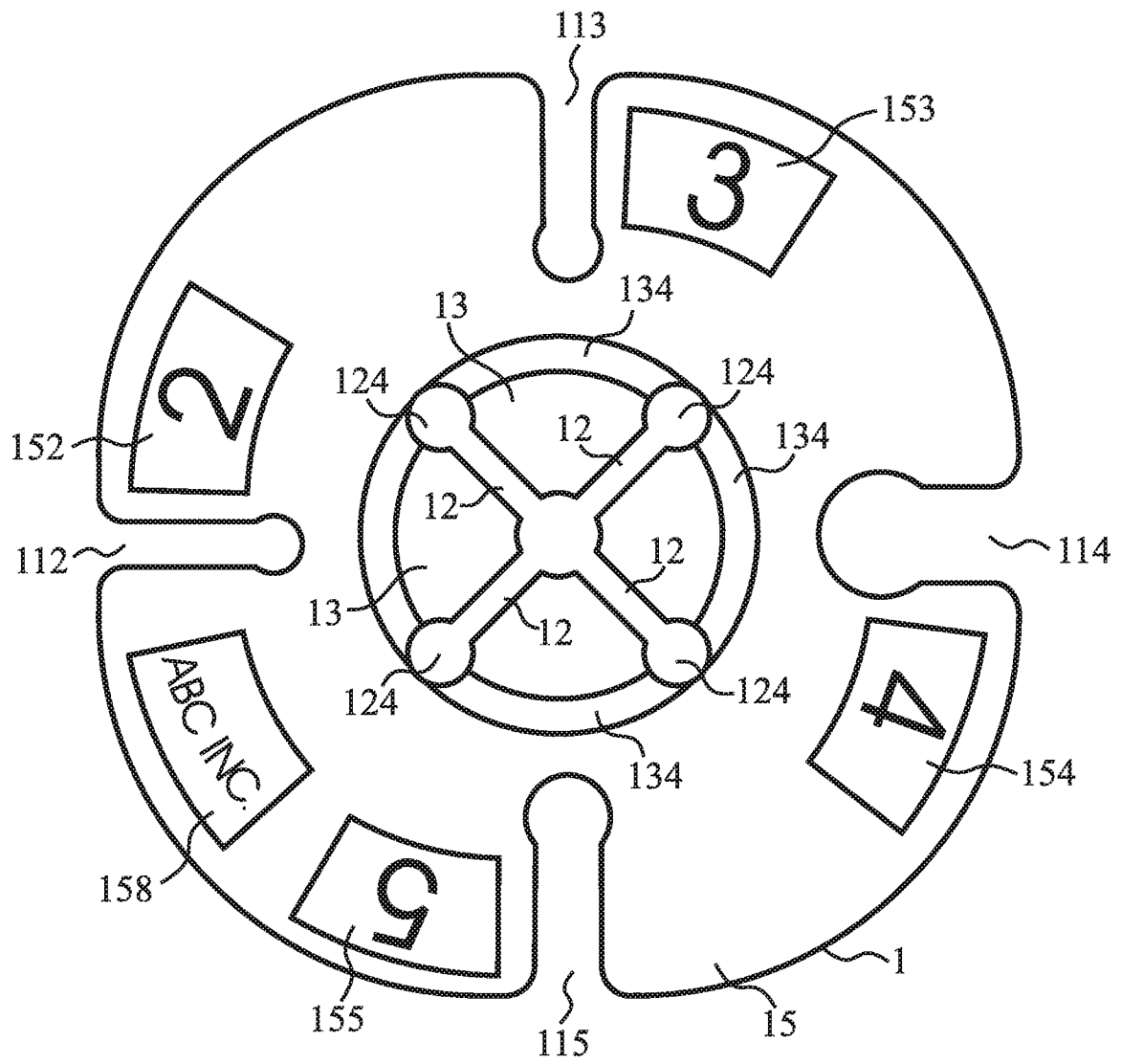


FIG. 1

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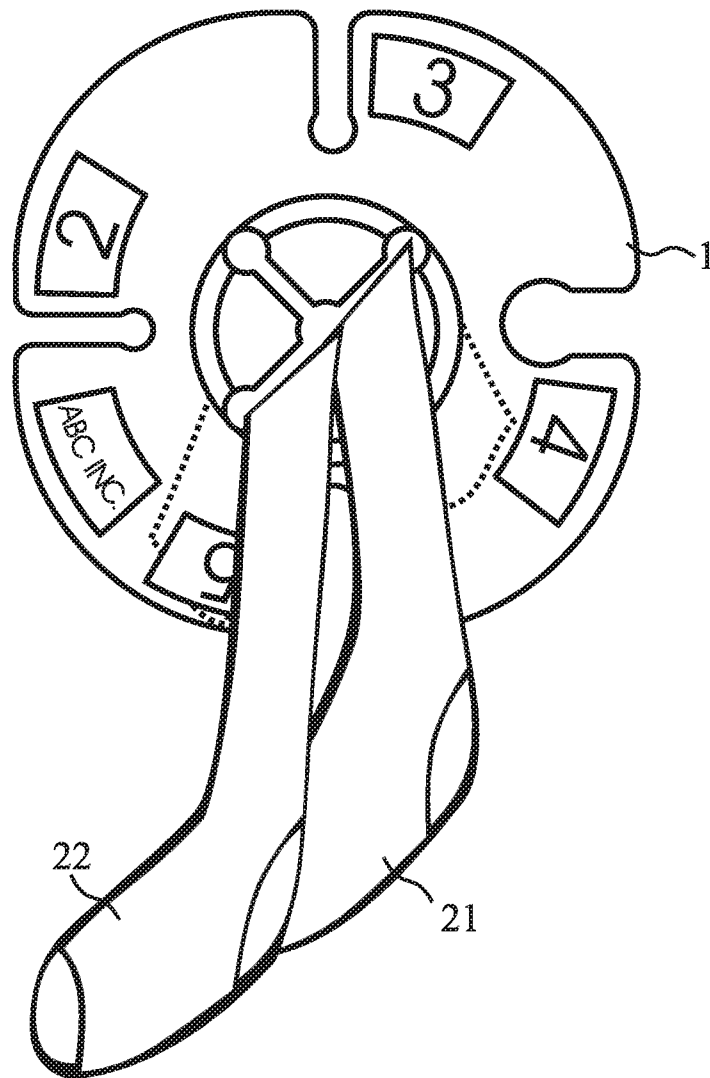


FIG. 2

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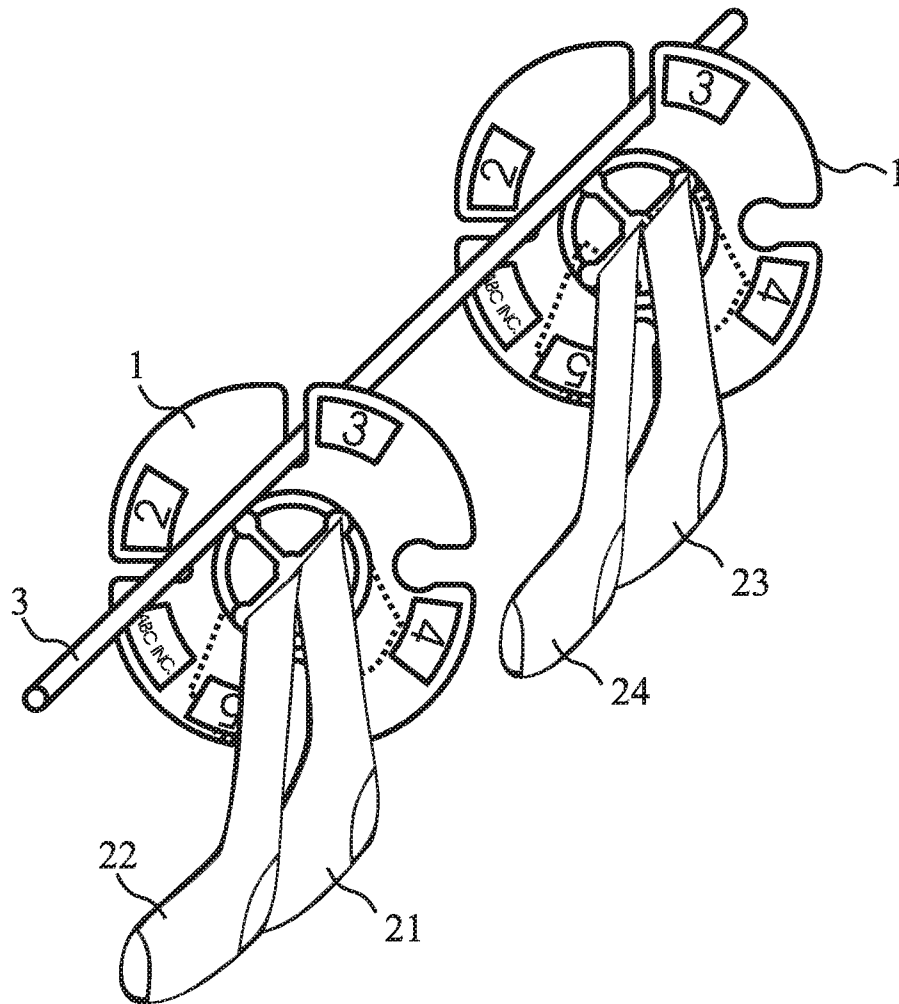


FIG. 3

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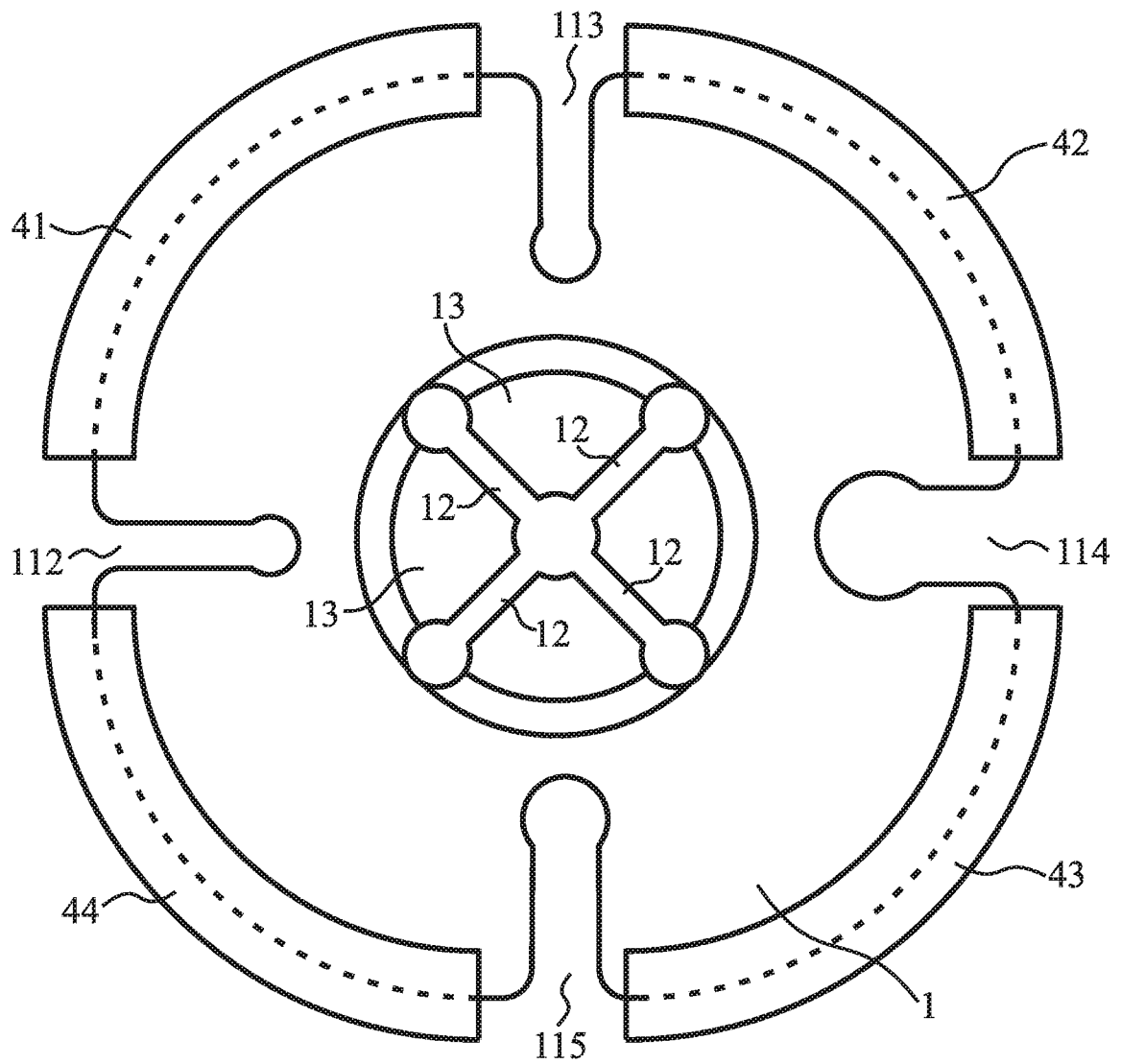


FIG. 4

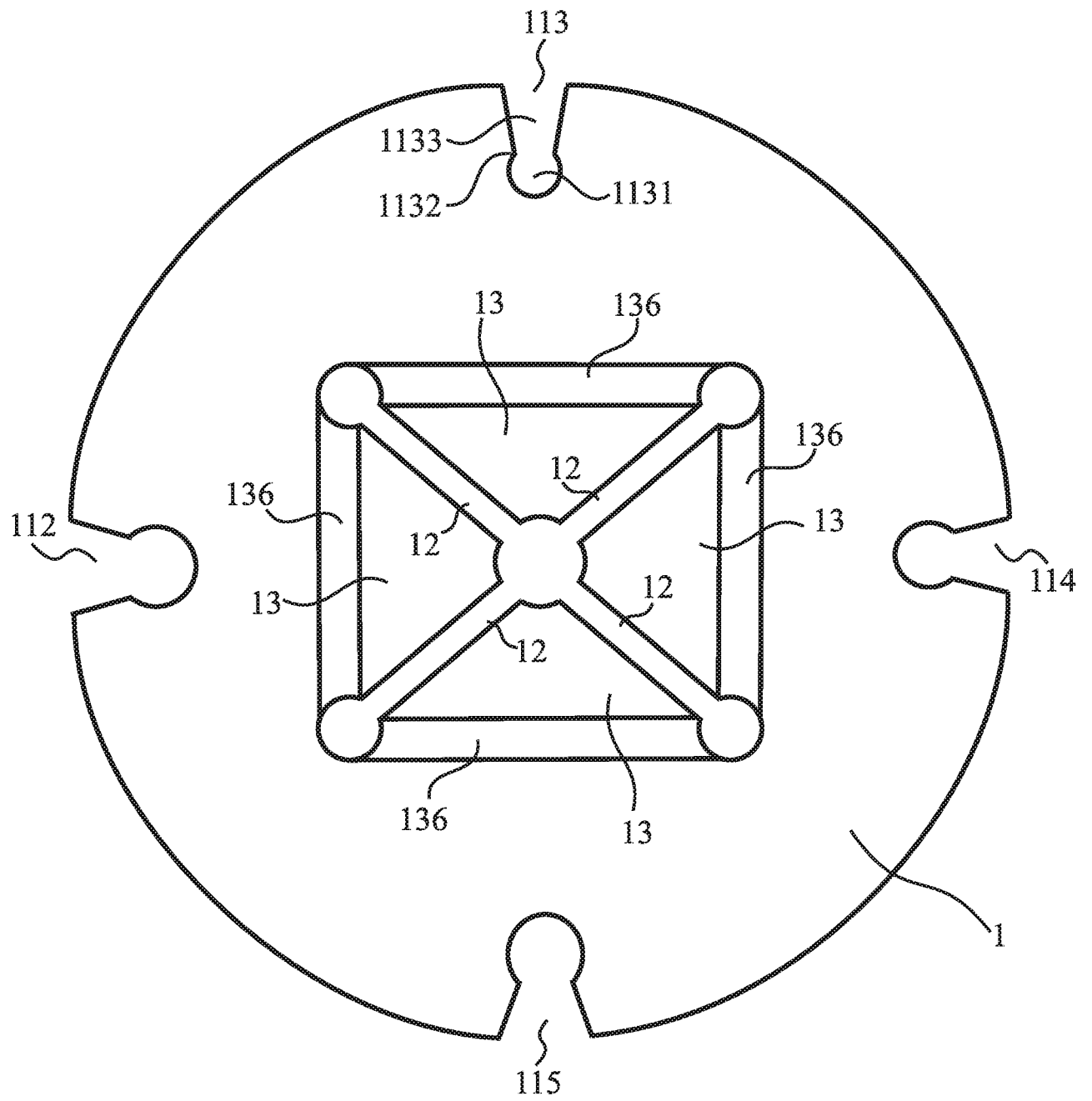


FIG. 5

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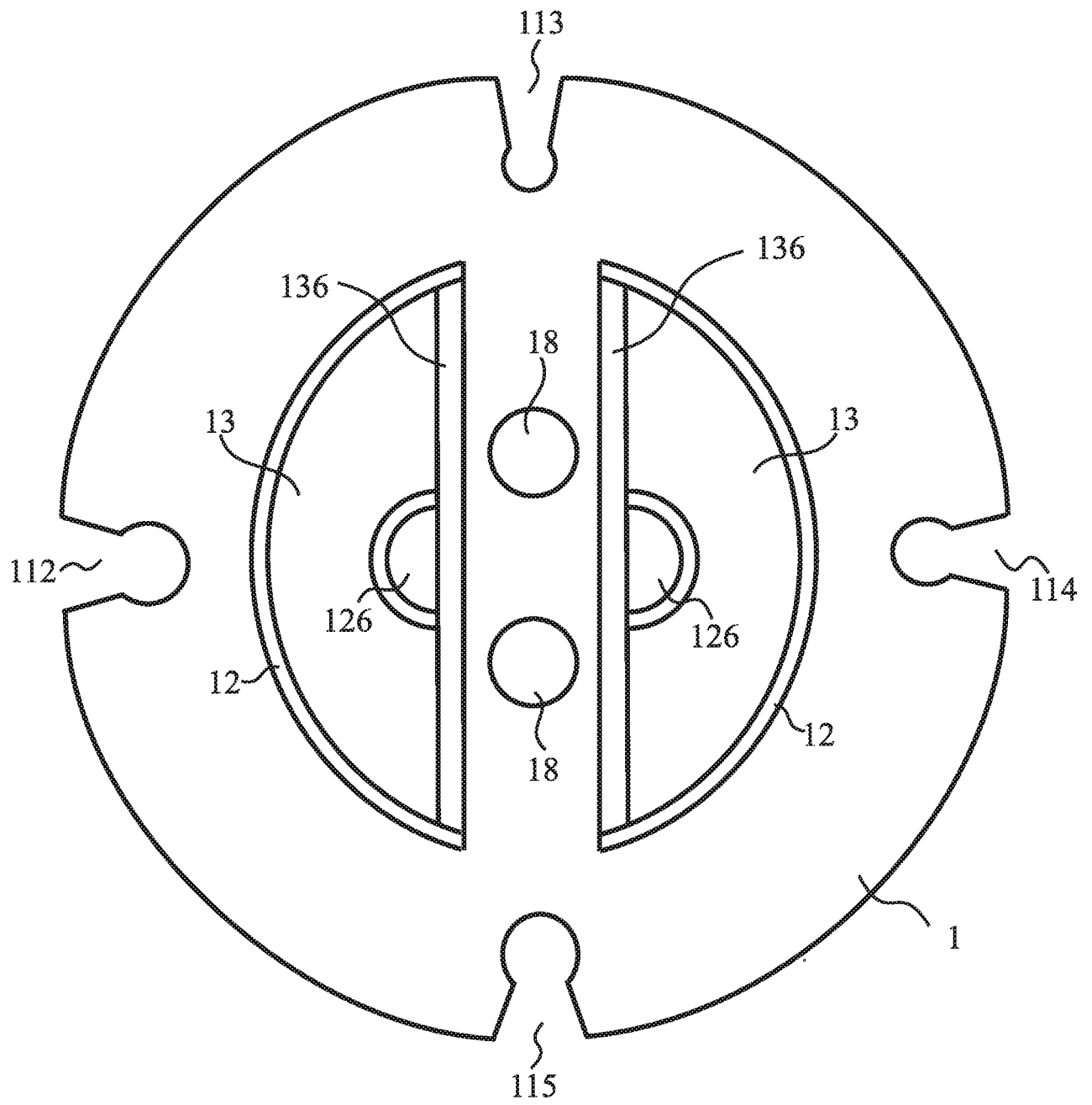


FIG. 6

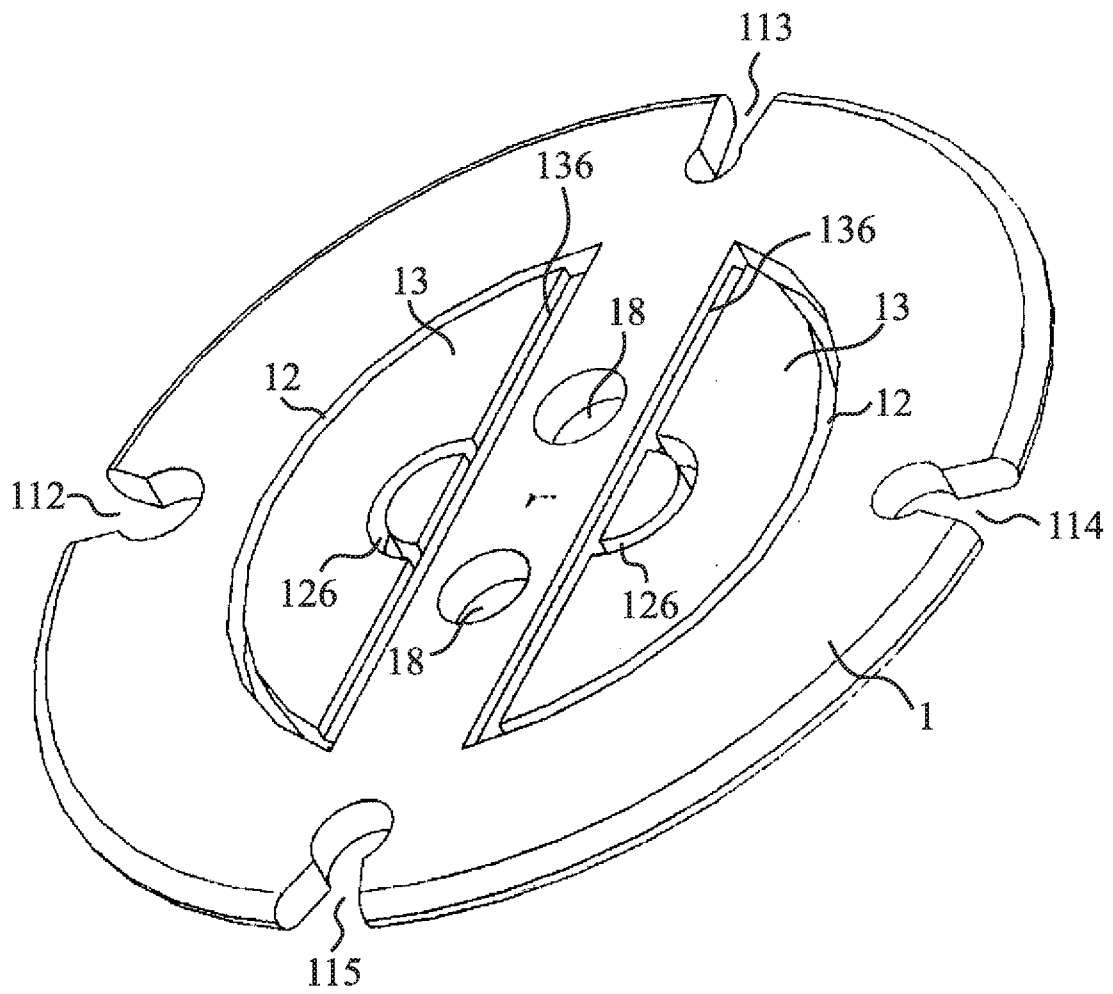


FIG. 7

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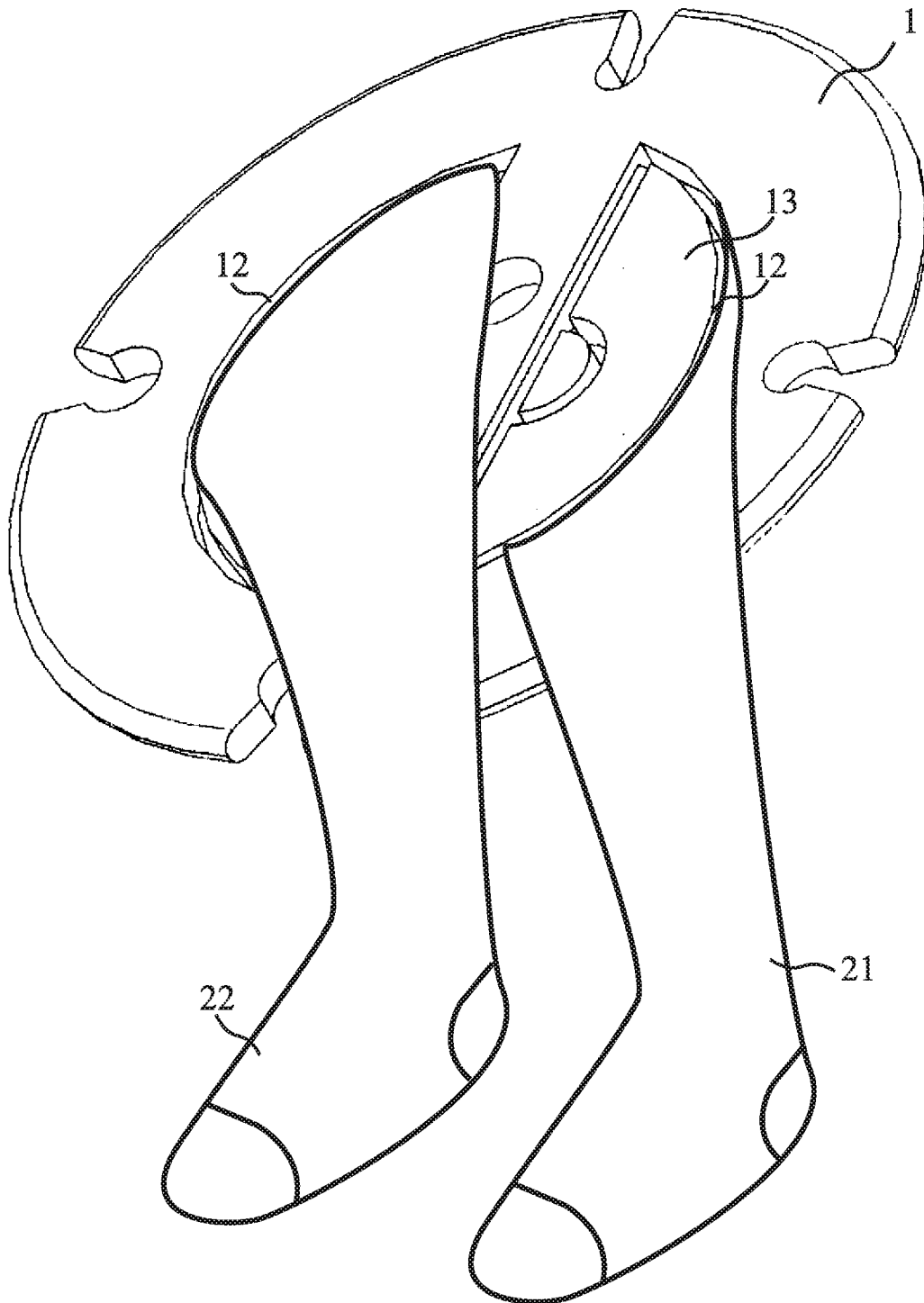


FIG. 8

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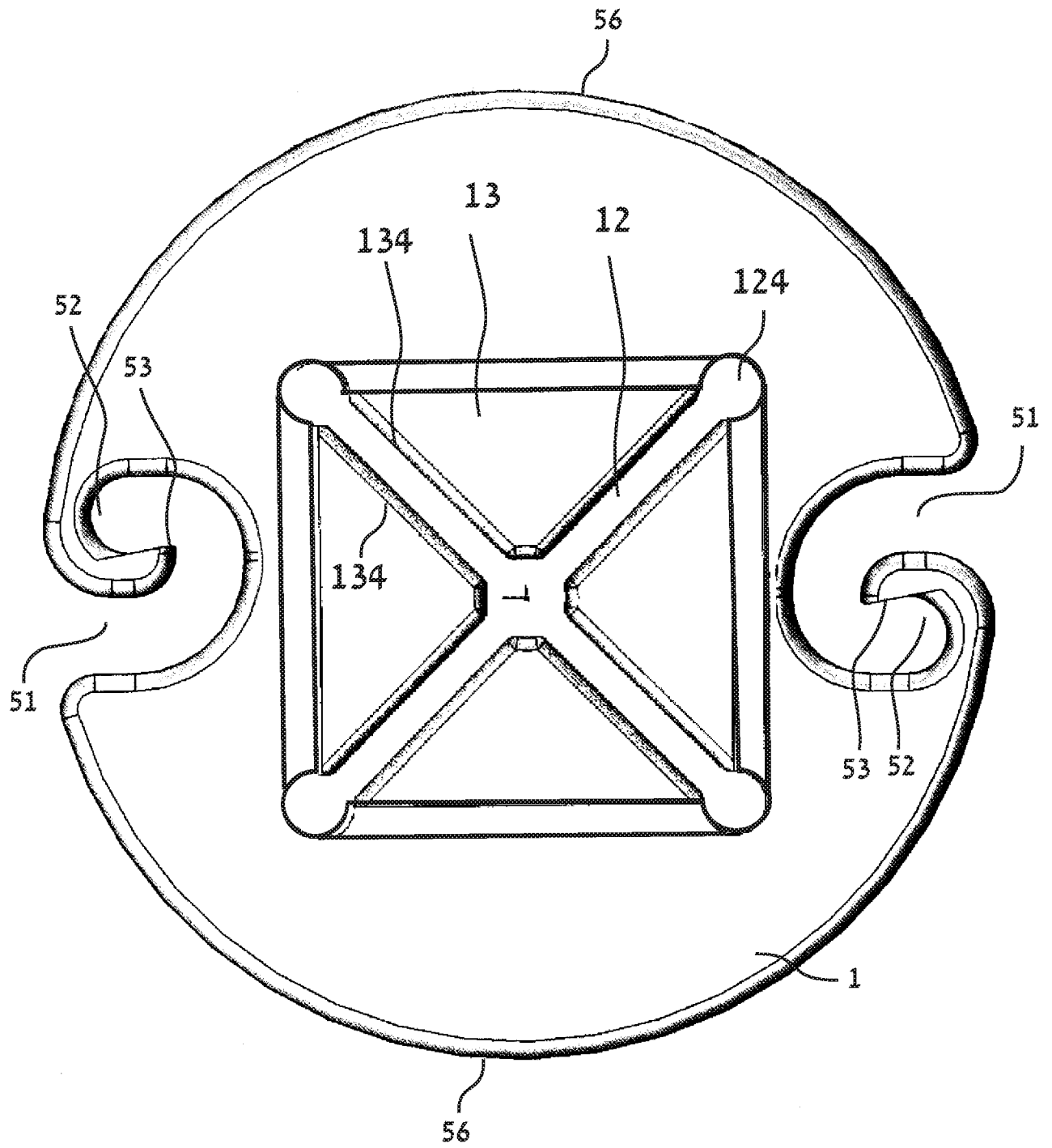


FIG. 9

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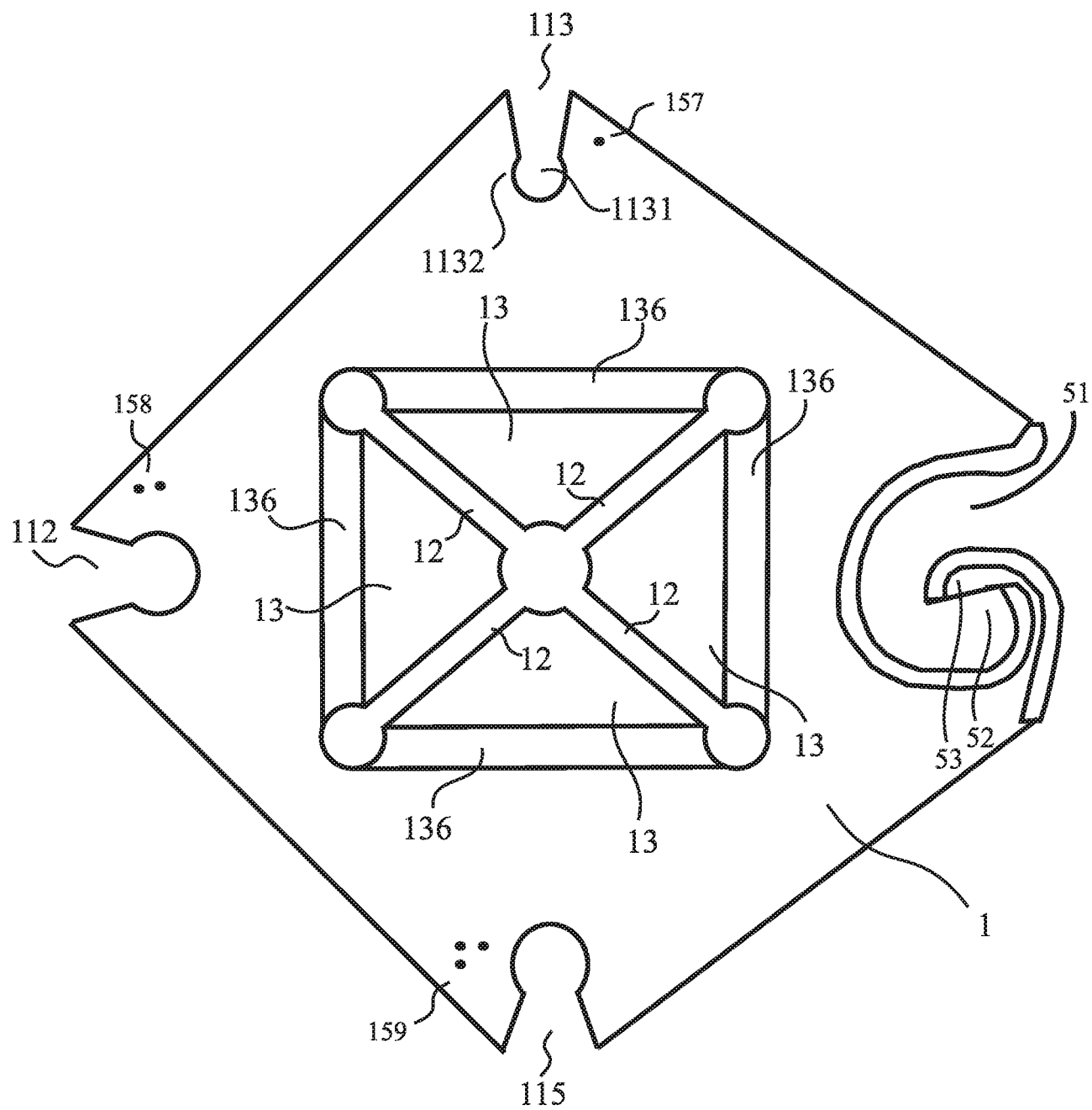


FIG. 10