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(54) Title: SCISSORS WITH ONE OR MORE ADJUSTABLE RINGS

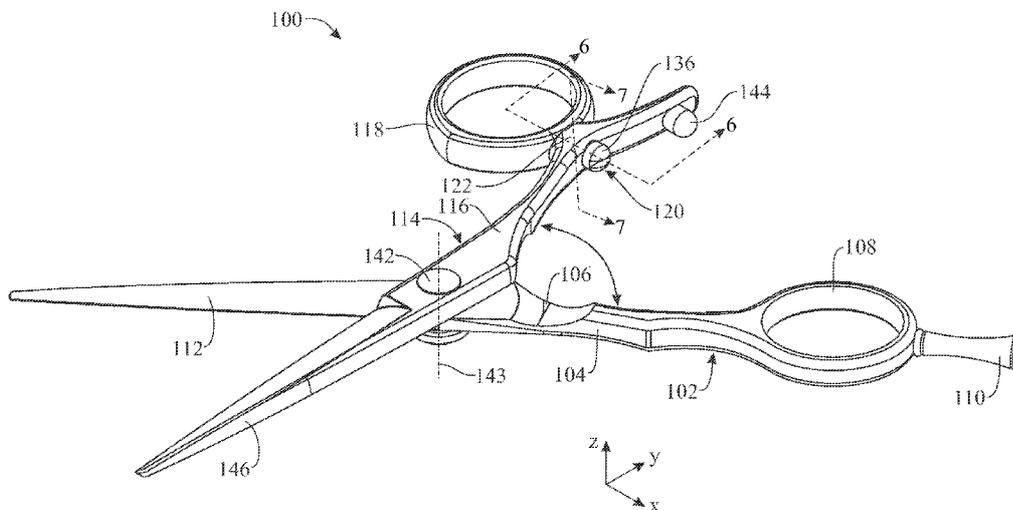


FIG. 1

(57) Abstract: A pair of scissors having one or more adjustable rings is disclosed. The scissors include a first scissor portion having a first cutting blade, a second scissor portion having a second cutting blade and a scissor pivot connecting the first scissor portion and the second scissor portion to pivot relative to one another. A first ring may be provided on the first scissor portion opposite the first cutting blade. A second ring may be provided on the second scissor portion opposite the second cutting blade. One or both rings may be connected to the corresponding scissor portion by an adjustable ring connector. The adjustable ring connector may facilitate selective positioning of the ring at discrete rotational positions with respect to the corresponding scissor portion, such as about a rotation axis which is parallel to a plane formed by the first scissor portion and the second scissor portion.



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## **SCISSORS WITH ONE OR MORE ADJUSTABLE RINGS**

### **Cross-Reference to Related Application**

[0001] This application claims the benefit of United States Provisional Patent Application Serial No. 62/518,425, filed on June 12, 2017, which is incorporated herein in its entirety.

### **Technical Field**

[0002] The present invention relates generally to scissors, and more particularly, to scissors having one or two adjustable rings adjustable to discrete rotational positions to which a scissors operator can easily memorize and readjust according to the comfort and preferences of the operator.

### **Background Art**

[0003] Scissors are a cutting device having a pair of blades connected to each other via a pivot, with the pivot acting as a common fulcrum. A finger loop typically terminates each blade. An operator of the scissors typically inserts a pair of fingers through the respective finger loops on the blades and applies manual pressure on the finger loops such that the blades slide past each other in a shearing action which cuts a material such as hair or cloth as it is inserted between the blades. The finger loops are typically disposed at a fixed position relative to the blades. Thus, a scissors operator often finds it necessary to select scissors which correspond best to the shape of the operator's hand.

[0004] Persons in various professions such as beauticians, barbers and pet groomers may spend long hours cutting or trimming hair. Depending on the position of the head or the location of the cutting, the adaptation of the plane of the cutting is sometimes difficult, demanding in particular a variable rotation of the wrist, in some cases at the limit of the faculties of movement of the latter. Thus, cutting of hair may require that the fingers on the hand which operates the scissors remain in a contorted or uncomfortable position for

extended periods of time. Consequently, repetitive stress injuries such as Carpal Tunnel Syndrome, tendonitis, fasciitis and the like may result. Overuse of the wrist may result in nerve damage or neuropathy which may cause paralysis, numbness, tingling and/or pain.

[0005] Conventional scissors for use in hair cutting, pet grooming, sewing and the like may include fixed rings or revolving rings. A fixed ring offers a single ring position whereas revolving rings may offer continuous adjustability along a 360-degree range, which may make it difficult for the user to remember the preferred rotational adjustment of the revolving ring.

[0006] Accordingly, there is an established need for a solution to at least one of the aforementioned problems, and particularly for a pair of scissors which allows a scissors operator to easily memorize and readjust according to the comfort and preferences of the operator.

### **Summary of the Invention**

[0007] The present invention is directed to scissors having one or two adjustable rings adjustable to discrete rotational positions to which a scissors operator can easily memorize and readjust according to the comfort and preferences of the operator. The scissors may include a first scissor portion and a second scissor portion which are pivotably connected at a common scissor pivot. A first cutting blade and a second cutting blade may extend from the first scissor portion and the second scissor portion, respectively. A first ring may be provided on the first scissor portion opposite the first cutting blade. A second ring may be provided on the second scissor portion opposite the second cutting blade. An adjustable ring connector may connect the first ring to the first scissor portion, and/or an adjustable ring connector may connect the second ring to the second scissor portion. The adjustable ring connector(s) facilitate selective positioning of the corresponding ring at discrete rotational positions with respect to the corresponding scissor portion. Accordingly, an operator of the scissors may extend a little finger and a ring finger through the first ring and a thumb through the second ring of the scissors. The scissors operator may selectively adjust the adjustable ring(s) to any of the various rotational positions relative to the corresponding scissor portion according to the comfort and preferences of the operator. In

some embodiments, one of the rings is fixed and the other is adjustable. In other embodiments, both the first ring and the second ring are adjustable.

[0008] In an illustrative embodiment of the invention, a pair of scissors comprises two scissor portions pivotably attached to one another by a scissor pivot. Each scissor portion includes a cutting blade and carries a ring opposite to the cutting blade. One or both of the scissor portions comprises an adjustable ring connector connecting the ring to the scissor portion. The adjustable ring connector is configured to allow selective positioning of the ring of the scissor portion at discrete rotational positions with respect to the scissor portion.

[0009] In a second aspect, the adjustable ring connector can be configured to allow selective positioning of the ring of the at least one scissor portion at discrete rotational positions about a rotation axis which is parallel to a plane formed by the two scissor portions.

[0010] In another aspect, the adjustable ring connector can be configured to allow selective positioning of the ring of the at least one scissor portion at multiple discrete rotational positions within a 360-degree range with respect to the at least one scissor portion.

[0011] In another aspect, the adjustable ring connector can include a nut on one of the at least one scissor portion and the ring of the at least one scissor portion, and a socket on the other of the at least one scissor portion and the ring of the at least one scissor portion. The socket may engage the nut at any of various angles to orient the ring at the discrete rotational positions.

[0012] In another aspect, the nut can be provided on the at least one scissor portion and the socket can be provided on the ring of the at least one scissor portion.

[0013] In another aspect, the connector can have multiple non-rotational formations which mesh with companion non-rotational formations on the socket in different relative rotational positions thereto to secure the second ring at the discrete rotational positions.

[0014] In another aspect, the socket can be spring-loaded with respect to the nut such that a spring bias biases the non-rotational formations on the socket to mesh with the non-rotational formations on the nut.

[0015] In another aspect, the adjustable ring connector can be configured to adopt an unlocked position in which the ring is pulled away from the at least one scissor portion against the spring bias and the non-rotational formations on the socket are disengaged from the non-rotational formations on the nut allowing rotation and positioning of the ring at the discrete rotational positions relative to the at least one scissor portion, and a locked position in which the spring bias maintains the non-rotational formations on the socket meshed with the non-rotational formations on the nut.

[0016] In another aspect, the adjustable ring connector can include a connector fastener which threadably engages the socket and a connector spring which engages the nut and the connector fastener and biases the non-rotational formations on the socket in meshing engagement with the non-rotational formations on the nut.

[0017] In another aspect, a head of the connector fastener can be provided with a fastener slot configured to receive a torque for rotating the connector fastener and adjusting a depth of threading of the connector fastener into the socket.

[0018] In another aspect, the connector spring can include a compression spring arranged within a cavity provided between the nut and an underside of a head of the connector fastener.

[0019] In another aspect, rotation of the connector fastener by applying a torque to the fastener slot allows for adjusting the size of the cavity housing the compression spring.

[0020] In another aspect, the at least one scissor portion may consist of only one of the two scissor portions.

[0021] In another aspect, the other of the two scissor portions can be provided with a non-movable ring opposite to the cutting blade.

[0022] In another aspect, the at least one scissor portion may consist of the two scissor portions.

[0023] These and other objects, features, and advantages of the present invention will become more readily apparent from the attached drawings and the detailed description of the preferred embodiments, which follow.

### **Brief Description of the Drawings**

[0024] The preferred embodiments of the invention will hereinafter be described in conjunction with the appended drawings provided to illustrate and not to limit the invention, where like designations denote like elements, and in which:

[0025] FIG. 1 presents a top front isometric view of a pair of scissors in accordance with a first illustrative embodiment of the present invention, the scissors including a fixed ring and an adjustable ring;

[0026] FIG. 2 presents an exploded top front isometric view of the scissors of FIG. 1, more particularly illustrating a typical adjustable ring connector connecting the ring to a scissor portion;

[0027] FIG. 3 presents an exploded, top rear isometric view of the scissors of FIG. 1, showing the adjustable ring connector from an opposite angle;

[0028] FIG. 4 presents an enlarged top front isometric view of the adjustable ring, more particularly illustrating multiple discrete positions of the adjustable ring with respect to the scissor portion; and

[0029] FIG. 5 presents a side view of a user operating the scissors of FIG. 1, with the adjustable ring deployed in a perpendicular orientation with respect to a plane of the first scissor portion and the second scissor portion;

[0030] FIG. 6 presents a cross-sectional front elevation view, taken along section plane 6-6 indicated in FIG. 1, showing the adjustable ring connector in a locked position in which the second ring cannot rotate;

[0031] FIG. 7 presents a cross-sectional side elevation view, taken along section plane 7-7 indicated in FIG. 1, depicting the non-rotational engagement between the second ring and the connector nut of the second scissor portion; and

[0032] FIG. 8 presents a top front isometric view of a pair of scissors in accordance with a second illustrative embodiment of the invention, the scissors including a pair of adjustable rings.

[0033] Like reference numerals refer to like parts throughout the several views of the drawings.

### **Description of Embodiments**

[0034] The following detailed description is merely exemplary in nature and is not intended to limit the described embodiments or the application and uses of the described embodiments. As used herein, the word "exemplary" or "illustrative" means "serving as an example, instance, or illustration." Any implementation described herein as "exemplary" or "illustrative" is not necessarily to be construed as preferred or advantageous over other implementations. All of the implementations described below are exemplary implementations provided to enable persons skilled in the art to make or use the embodiments of the disclosure and are not intended to limit the scope of the disclosure, which is defined by the claims. For purposes of description herein, the terms "upper", "lower", "left", "rear", "right", "front", "vertical", "horizontal", and derivatives thereof shall relate to the invention as oriented in FIG. 1. Furthermore, there is no intention to be bound by any expressed or implied theory presented in the preceding technical field, background, brief summary or the following detailed description. It is also to be understood that the specific devices and processes illustrated in the attached drawings, and described in the following specification, are simply exemplary embodiments of the inventive concepts defined in the appended claims. Hence, specific dimensions and other physical characteristics relating to the embodiments disclosed herein are not to be considered as limiting, unless the claims expressly state otherwise.

[0035] Shown throughout the figures, the present invention is directed toward scissors having one or two adjustable rings adjustable to discrete rotational positions to which a scissors operator can easily memorize and readjust according to the comfort and preferences of the operator.

[0036] Referring initially to FIGS. 1-7, a first illustrative embodiment of the scissors in accordance with the invention, hereinafter scissors 100, is shown in different views and configurations. As illustrated in FIG. 1, the scissors 100 may include a first scissor portion 102 having an elongated first scissor portion shaft 104. A notch 106 may be provided in the first scissor portion shaft 104. An elongated first cutting blade 112 may extend from the first scissor portion shaft 104. A first ring 108 may be provided on the first scissor portion shaft 104 of the first scissor portion 102 opposite the first cutting blade 112. In some embodiments, the first ring 108 may be fixed in position relative to the first scissor portion 102. A finger resting protrusion or flange 110 may extend from the first ring 108.

[0037] A second scissor portion 114 may include an elongated second scissor portion shaft 116 which is pivotally connected to the first scissor portion shaft 104 of the first scissor portion 102 about a rotation axis 143 defined by a common articulated connection or scissor pivot 142. As shown in FIG. 1, the rotation axis 143 is arranged along a lateral direction  $z$  of an orthogonal axis system comprised of a longitudinal direction  $x$ , a transverse direction  $y$  and a lateral direction  $z$ . An elongated second cutting blade 146 may extend from the second scissor portion shaft 116.

[0038] The scissors 100 may be selectively pivotal to a closed, shearing position (not illustrated) in which the second scissor portion shaft 116 of the second scissor portion 114 is brought relatively close to or substantially against the first scissor portion shaft 104 of the first scissor portion 102. The scissors 100 may be selectively opened, as illustrated in FIG. 1, by pivoting the first scissor portion 102 relative to the second scissor portion 114 at the scissor pivot 142, thereby separating the second scissor portion shaft 116 from the first scissor portion shaft 104, typically in the conventional manner. As further illustrated in FIG. 1, a stop 144 may protrude from the second scissor portion shaft 116 of the second scissor portion 114 to engage the first scissor portion shaft 104 of the first scissor portion 102 in the closed position of the scissors 100 and maintain the first and second scissor

portion shafts 104 and 116 at an adequate distance from one another when the scissors are in the closed, shearing position.

[0039] With continued reference to FIG. 1, an adjustable second ring 118 may be provided on the second scissor portion shaft 116 of the second scissor portion 114 opposite the second cutting blade 146. An adjustable ring connector 120 may connect the second ring 118 to the second scissor portion shaft 116. As illustrated in FIG. 4, the adjustable ring connector 120 may facilitate selective positioning of the second ring 118 at different rotational positions with respect to a plane of the first scissor portion 102 and the second scissor portion 114. In some embodiments, such as the embodiment depicted herein, the adjustable ring connector 120 may be adjusted to different discrete positions relative to the first scissor portion 102 and the second scissor portion 114.

[0040] As illustrated in FIGS. 2, 3, 6 and 7, in some embodiments, the adjustable ring connector 120 may include a connector nut 122. The connector nut 122 may be provided on or fabricated into the second scissor portion shaft 116 on the second scissor portion 114 according to the knowledge of those skilled in the art. As best shown in FIG. 3, the connector nut 122 includes a non-rotational section 123 for engaging with the second ring 118 as will be described hereinafter. The non-rotational section 123 has a plurality of non-rotational formations 125; for instance and without limitation, as shown, the non-rotational section 123 can be a hexagonal and male protrusion, and the plurality of non-rotational formations 125 can consist of six regularly spaced apart, radially-protruding vertexes of the protruding hexagon. As best shown in FIG. 6, the connector nut 122 may include a spring cavity 124, the purpose of which will be hereinafter described. The spring cavity 124 can be arranged on a side of the connector nut 122 which is opposite to the non-rotational section 123.

[0041] As best shown in FIGS. 2 and 7, a ring recess or socket 128 may be provided in the second ring 118. The ring socket 128 may have multiple non-rotational formations 134 configured to mesh with the non-rotational formations 125 on the connector nut 122. For instance, the non-rotational formations 125 of the ring socket 128 shown herein consist of twelve V-shaped or triangular notches. The non-rotational formations 134 on the ring socket 128 may mesh with the non-rotational formations 125 on the connector nut 122 at

any of various angles to orient the second ring 118 at the selected rotational position. More specifically, in the present embodiment, the connector nut 122 and ring socket 128 may mesh in twelve different rotational positions relative to one another, allowing the second ring 118 to adopt twelve different rotational positions at 30-degree increments relative to the second scissor portion shaft 116. However, alternative embodiments are contemplated in which there may be any number of non-rotational formations 134 on the ring socket 128 which are capable of accommodating the non-rotational formations 134 on the ring socket 128 to secure the second ring 118 at a corresponding rotational position relative to the plane of the first scissor portion 102 and the second scissor portion 114. In other words, the amount of non-rotational formations 134 on the ring socket 128 may be greater or less than twelve depending on the desired discrete rotational positions of the second ring 118 relative to the scissor portion shaft 116.

[0042] In some embodiments, the ring socket 128 may be spring-loaded with respect to the connector nut 122 such that the non-rotational formations 134 on the ring socket 128 normally mesh with the non-rotational formations 125 on the connector nut 122, as illustrated in FIG. 6. As shown, the ring socket 128 may include a socket cavity 130 having interior socket threads 132. A connector fastener 136 may include exterior fastener threads 140 which engage the socket threads 132 and secure the connector fastener 136 to the second ring 118. A fastener slot 138 may be provided in the connector fastener 136 to facilitate applying a torque on the connector fastener 136 for selective tightening or loosening of the connector fastener 136 in the socket cavity 130 in order to adjust the length of the spring cavity 124 and thus the spring bias or resistance to pulling of the second ring 118. A connector spring 126 may be seated in the spring cavity 124 in the connector nut 122. The connector spring 126 may be disposed between and in engagement with the connector nut 122 and the connector fastener 136 (for instance, with an underside 137 of a head of the connector fastener 136). The connector fastener 136 is axially and rotationally movable within the connector nut 122. The second ring 118 may be selectively pulled away from the connector nut 122 against the spring bias which is imparted by the connector spring 126 as the ring socket 128 pulls the connector fastener 136 and the connector fastener 136, in turn, compresses the connector spring 126 against the connector nut 122 in the spring cavity 124. This action may disengage the non-rotational formations 134 on the ring socket 128 from the non-rotational formations 125 on the connector nut

122 to facilitate rotation of the second ring 118 and connector fastener 136 relative to the ring connector 120 (as indicated by arrow A in FIG. 4) and positioning of the second ring 118 at the selected discrete position relative to the plane of the first scissor portion 102 and the second scissor portion 114, as illustrated in FIG. 4. The second ring 118 may then be released to re-engage the non-rotational formations 134 on the ring socket 128 with the non-rotational formations 125 on the connector nut 122 as the (compression) connector spring 126 pushes the underside 137 of the head of the connector fastener 136 to bias the non-rotational formations 134 on the ring socket 128 into engagement with the non-rotational formations 125 on the connector nut 122. Thus, the tensioned connector spring 126 normally maintains the non-rotational formations 134 in secure meshing engagement with the non-rotational formations 125, thereby securing the second ring 118 at the selected rotational position. In some embodiments, the second ring 118 may be capable of adjustment to a selected one of multiple discrete rotational positions within a 360-degree range relative to the plane of the first scissor portion 102 and the second scissor portion 114.

[0043] Rotation of the second ring 118 and the connector fastener 136 takes place jointly and about a rotation axis 119. As shown in FIG. 2, the rotation axis 119 can be perpendicular to the scissor opening and closing rotation axis 143. In other words, the rotation axis 119 can be coplanar to the plane of the first scissor portion 102 and the second scissor portion 114, i.e. parallel to an  $x$ - $y$  plane containing the longitudinal and transverse directions  $x$  and  $y$ .

[0044] As illustrated in FIG. 5, in typical application, a scissors operator may use the scissors 100 to cut or trim hair on a person's head or a pet, or to cut a material, for instance and without limitation. Accordingly, the scissors operator may extend a little finger 152 and a ring finger 154 of the operator's hand 150, for instance, through the first ring 108. The scissors operator may extend the thumb 156 of the hand 150 through the adjustable second ring 118 of the scissors 100. As illustrated in FIG. 4, the scissors operator may have selectively adjusted the second ring 118 to any of the various rotational positions relative to the plane of the first scissor portion 102 and the second scissor portion 114 according to the comfort and preferences of the operator. Thus, the scissors operator may avoid having to maintain the fingers on the hand 150 which operates the scissors 100 in a contorted or

uncomfortable position for extended periods of time. Repetitive stress injuries such as Carpal Tunnel Syndrome, tendonitis, fasciitis and the like, as well as overuse of the wrist and nerve damage or neuropathy, may be prevented.

[0045] Referring next to FIG. 8, an alternative illustrative embodiment of the scissors in accordance with the invention is generally indicated by reference numeral 200. In the scissors 200, elements which are analogous to the respective elements of the scissors 100 that was heretofore described with respect to FIGS. 1-7 are designated by the same respective numerals in the 200-299 series in FIG. 8. The scissors 200 may include an adjustable first ring 208 on the first scissor portion 202 and an adjustable second ring 218 on the second scissor portion 214. A respective adjustable ring connector 220 may adjustably connect the first ring 208 to the first scissor portion 202 and the second ring 218 to the second scissor portion 214. In some embodiments, each adjustable ring connector 220 may have the same design as the adjustable ring connector 120 which was heretofore described with respect to FIGS. 1-7.

[0046] Operation of the scissors 200 may be as was heretofore described with respect to the scissors 100 in FIGS. 1-7. Accordingly, the scissors operator may adjust the first ring 208 to the selected rotational position on the first scissor portion 202 and the second ring 218 to the selected rotational position on the second scissor portion 214, typically in the manner which was heretofore described with respect to the second ring 118 in FIG. 4. The adjustable first ring 208 and the adjustable second ring 218 enable the scissors operator to comfortably manipulate the scissors 200 for optimum comfort and prevention of repetitive stress injuries and wrist overuse.

[0047] Since many modifications, variations, and changes in detail can be made to the described preferred embodiments of the invention, it is intended that all matters in the foregoing description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. Furthermore, it is understood that any of the features presented in the embodiments may be integrated into any of the other embodiments unless explicitly stated otherwise. The scope of the invention should be determined by the appended claims and their legal equivalents.

**What is claimed is:**

1. A pair of scissors, comprising:

two scissor portions pivotably attached to one another by a scissor pivot, wherein each scissor portion comprises a cutting blade and carries a ring opposite to the cutting blade; wherein

at least one scissor portion of the two scissor portions comprises an adjustable ring connector connecting the ring of said at least one scissor portion to said at least one scissor portion, the adjustable ring connector configured to allow selective positioning of the ring of said at least one scissor portion at discrete rotational positions with respect to said at least one scissor portion.

2. The pair of scissors of claim 1, wherein the adjustable ring connector is configured to allow selective positioning of the ring of said at least one scissor portion at discrete rotational positions about a rotation axis which is parallel to a plane formed by the two scissor portions.

3. The pair of scissors of claim 1, wherein the adjustable ring connector is configured to allow selective positioning of the ring of said at least one scissor portion at multiple discrete rotational positions within a 360-degree range with respect to the at least one scissor portion.

4. The pair of scissors of claim 1, wherein the adjustable ring connector comprises a nut on one of the at least one scissor portion and the ring of said at least one scissor portion, and a socket on the other of the at least one scissor portion and the ring of said at least one scissor portion, and the socket may engage the nut at any of various angles to orient the ring at the discrete rotational positions.

5. The pair of scissors of claim 4, wherein the nut is provided on the at least one scissor portion and the socket is provided on the ring of said at least one scissor portion.
6. The pair of scissors of claim 4, wherein the connector has multiple non-rotational formations which mesh with companion non-rotational formations on the socket in different relative rotational positions thereto to secure the second ring at the discrete rotational positions.
7. The pair of scissors of claim 6, wherein the socket is spring-loaded with respect to the nut such that a spring bias biases the non-rotational formations on the socket to mesh with the non-rotational formations on the nut.
8. The pair of scissors of claim 7, wherein the adjustable ring connector is configured to adopt an unlocked position in which the ring is pulled away from the at least one scissor portion against the spring bias and the non-rotational formations on the socket are disengaged from the non-rotational formations on the nut allowing rotation and positioning of the ring at the discrete rotational positions relative to the at least one scissor portion, and a locked position in which the spring bias maintains the non-rotational formations on the socket meshed with the non-rotational formations on the nut.
9. The pair of scissors of claim 1, wherein the adjustable ring connector comprises a connector fastener which threadably engages the socket and a connector spring which engages the nut and the connector fastener and biases the non-rotational formations on the socket in meshing engagement with the non-rotational formations on the nut.
10. The pair of scissors of claim 9, wherein a head of the connector fastener is provided with a fastener slot configured to receive a torque for rotating the connector fastener and adjusting a depth of threading of the connector fastener into the socket.

11. The pair of scissors of claim 9, wherein the connector spring comprises a compression spring arranged within a cavity provided between the nut and an underside of a head of the connector fastener.

12. The pair of scissors of claim 11, wherein a head of the connector fastener is provided with a fastener slot configured to receive a torque for rotating the connector fastener and adjusting a depth of threading of the connector fastener into the socket and the size of the cavity.

13. The pair of scissors of claim 1, wherein said at least one scissor portion consists of only one of the two scissor portions.

14. The pair of scissors of claim 13, wherein the other of the two scissor portions is provided with a non-movable ring opposite to the cutting blade.

15. The pair of scissors of claim 1, wherein said at least one scissor portion consists of the two scissor portions.

16. A pair of scissors, comprising:

two scissor portions pivotably attached to one another by a scissor pivot, wherein each scissor portion comprises a cutting blade and carries a ring opposite to the cutting blade; wherein

at least one scissor portion of the two scissor portions comprises an adjustable ring connector connecting the ring of said at least one scissor portion to said at least one scissor portion, the adjustable ring connector configured to allow selective positioning of the ring of said at least one scissor portion at discrete rotational positions with respect to said at least one scissor portion; wherein

the adjustable ring connector comprises a nut on one of the at least one scissor portion and the ring of said at least one scissor portion, and a socket on the other of the at least one scissor portion and the ring of said at least one scissor portion, and the socket may engage the nut at any of various angles to orient the ring at the discrete rotational positions.

17. The pair of scissors of claim 16, wherein the adjustable ring connector is configured to allow selective positioning of the ring of said at least one scissor portion at discrete rotational positions about a rotation axis which is parallel to a plane formed by the two scissor portions.

18. The pair of scissors of claim 16, wherein the adjustable ring connector is configured to allow selective positioning of the ring of said at least one scissor portion at multiple discrete rotational positions within a 360-degree range with respect to the at least one scissor portion.

19. A pair of scissors, comprising:

two scissor portions pivotably attached to one another by a scissor pivot, wherein each scissor portion comprises a cutting blade and carries a ring opposite to the cutting blade; wherein

at least one scissor portion of the two scissor portions comprises an adjustable ring connector connecting the ring of said at least one scissor portion to said at least one scissor portion, the adjustable ring connector configured to allow selective positioning of the ring of said at least one scissor portion at multiple discrete rotational positions within a 360-degree range with respect to the at least one scissor portion; wherein

the adjustable ring connector comprises a nut on one of the at least one scissor portion and the ring of said at least one scissor portion, and a socket on the other of the at least one scissor portion and the ring of said at least one scissor portion, and the socket

may engage the nut at any of various angles to orient the ring at the discrete rotational positions.

20. The pair of scissors of claim 19, wherein the connector has multiple non-rotational formations which mesh with companion non-rotational formations on the socket in different relative rotational positions thereto to secure the second ring at the discrete rotational positions, and further wherein the socket is spring-loaded with respect to the nut such that a spring bias biases the non-rotational formations on the socket to mesh with the non-rotational formations on the nut.

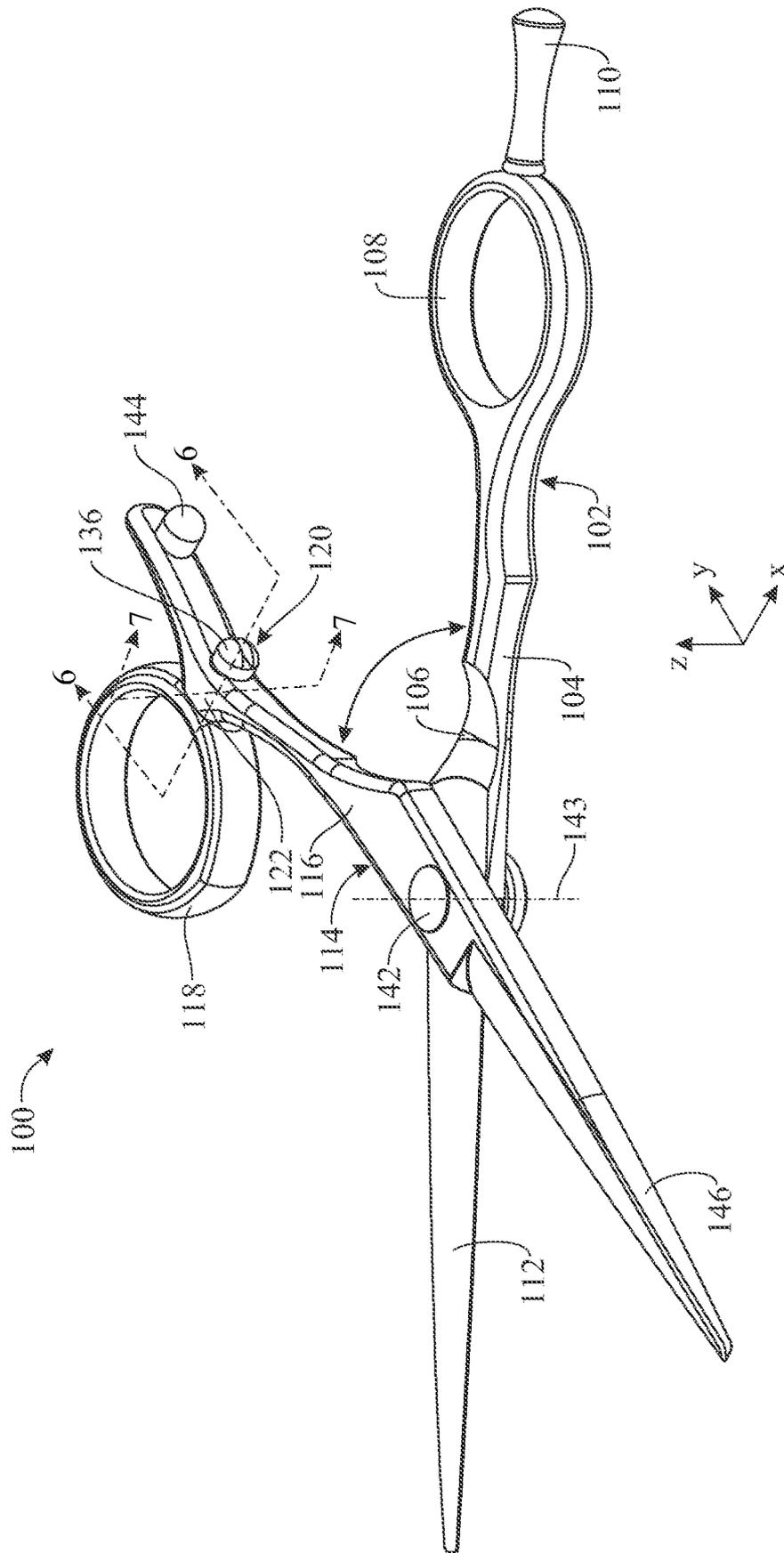


FIG. 1

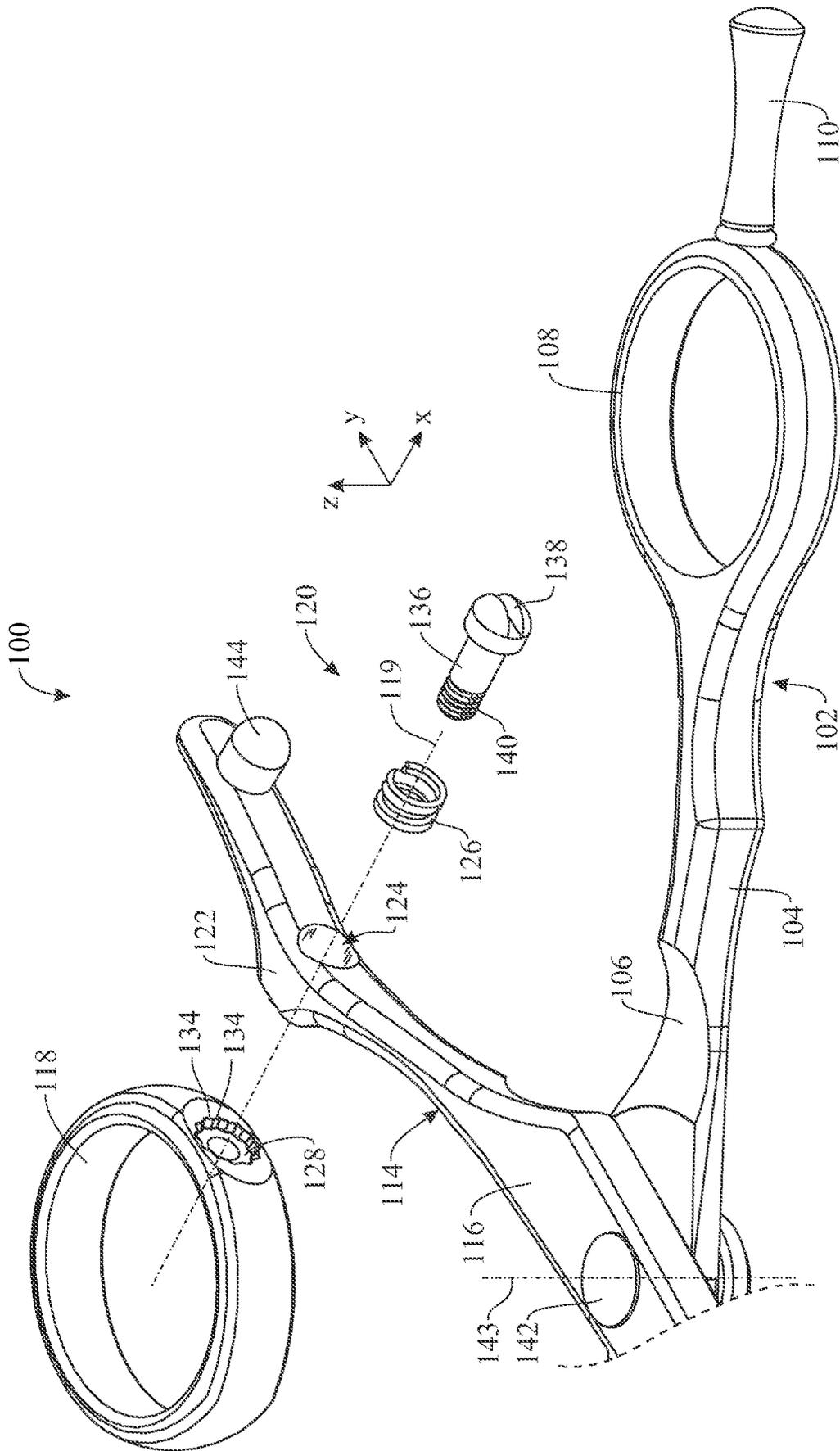


FIG. 2

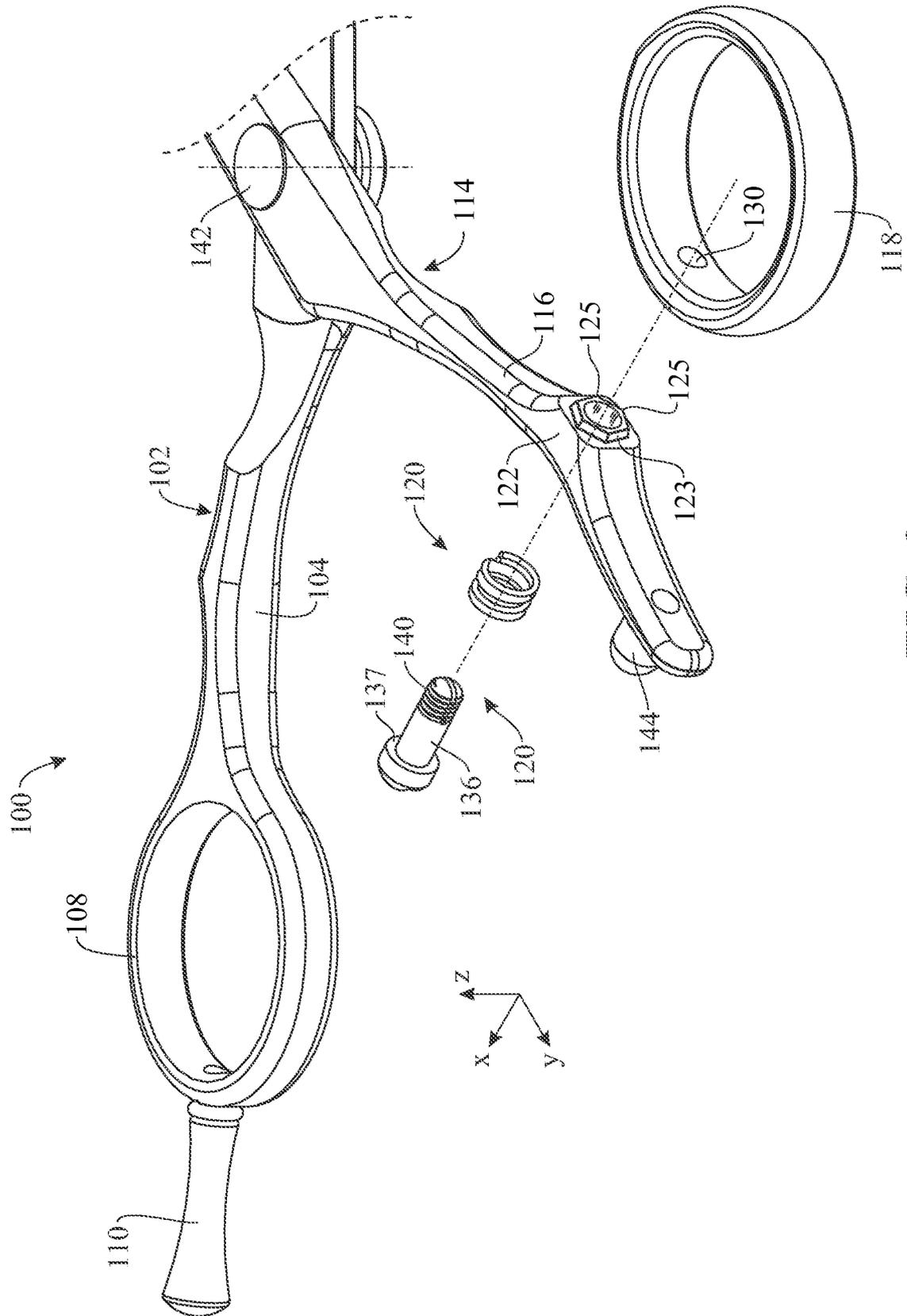


FIG. 3

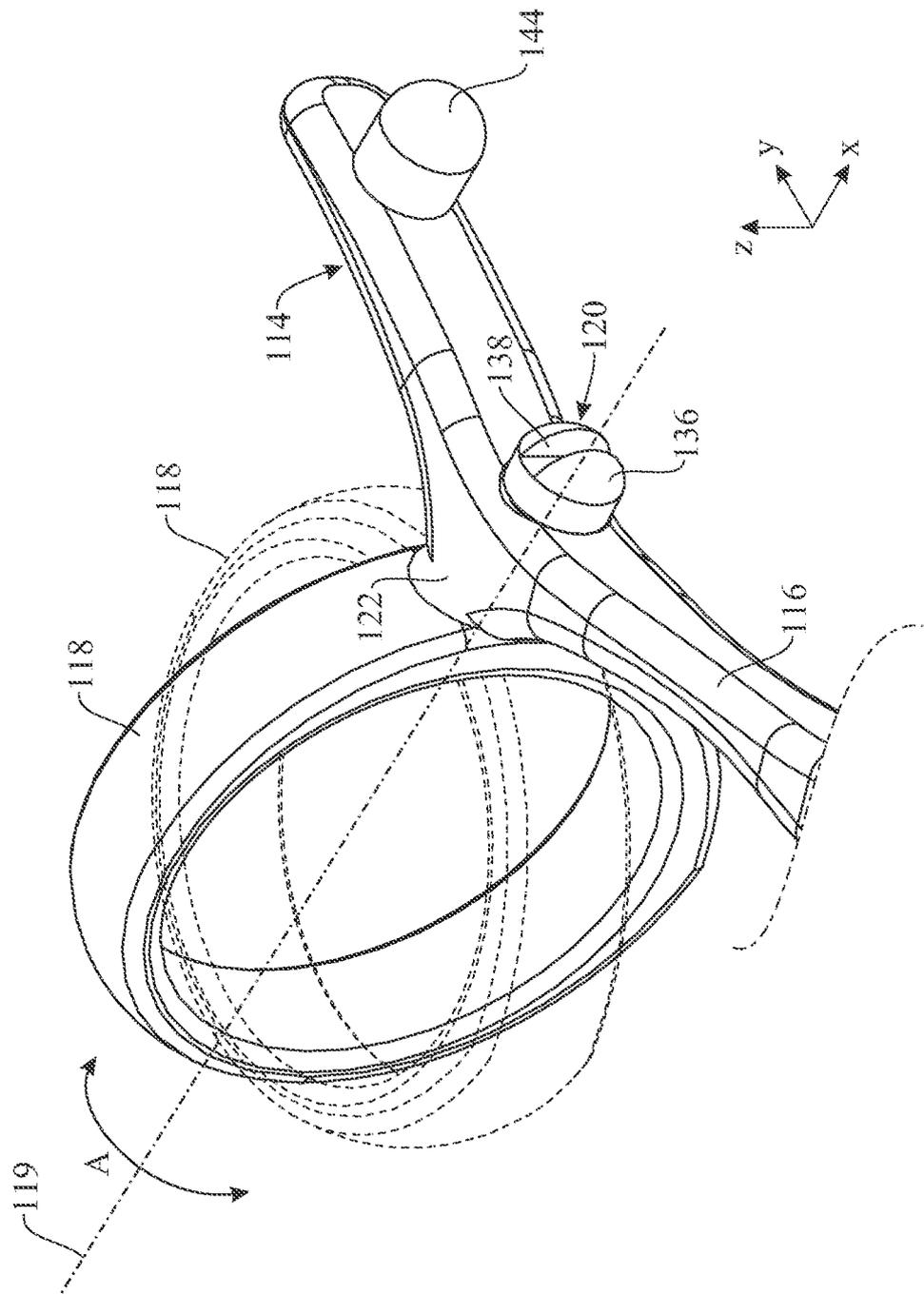


FIG. 4

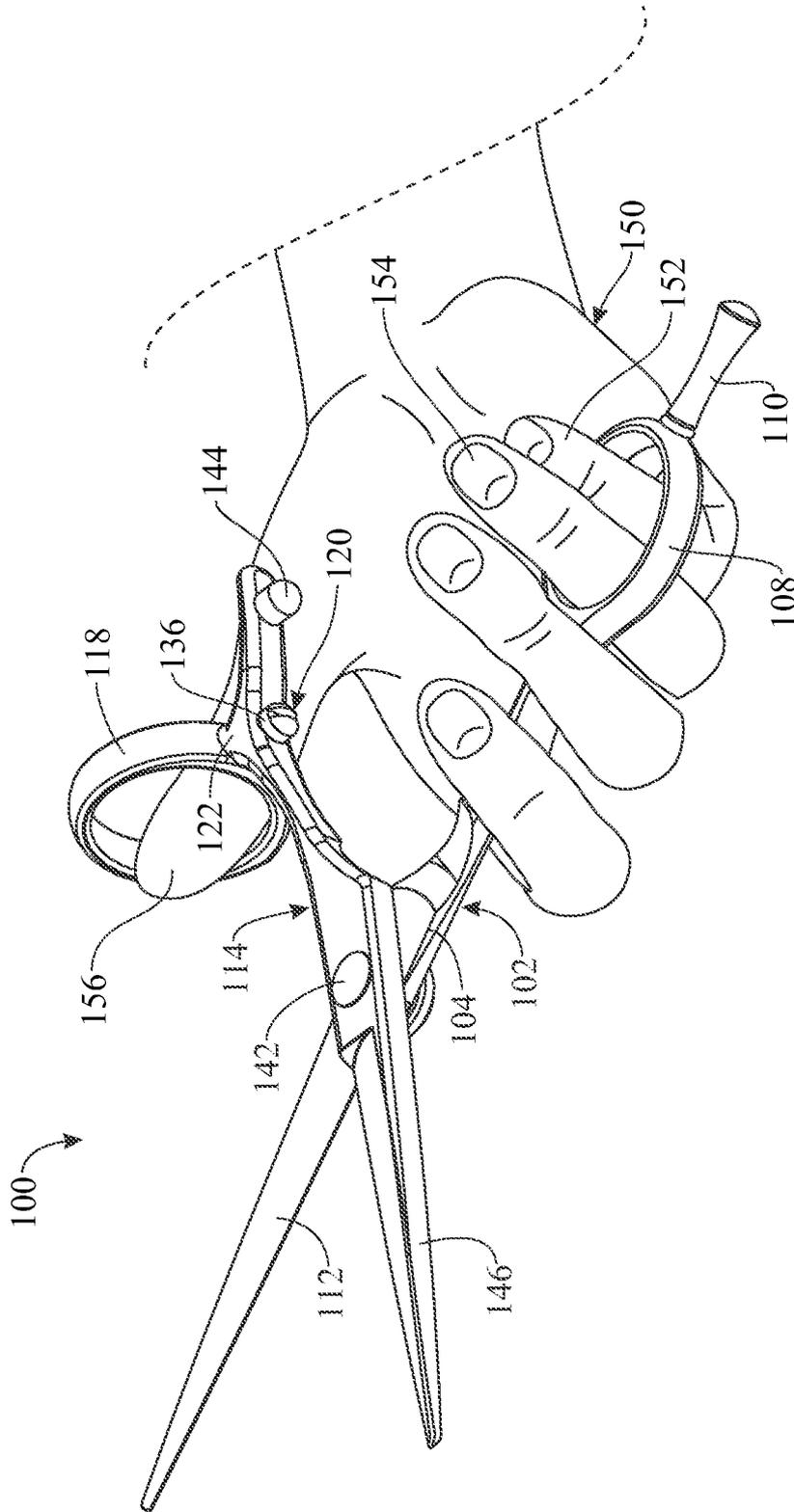


FIG. 5

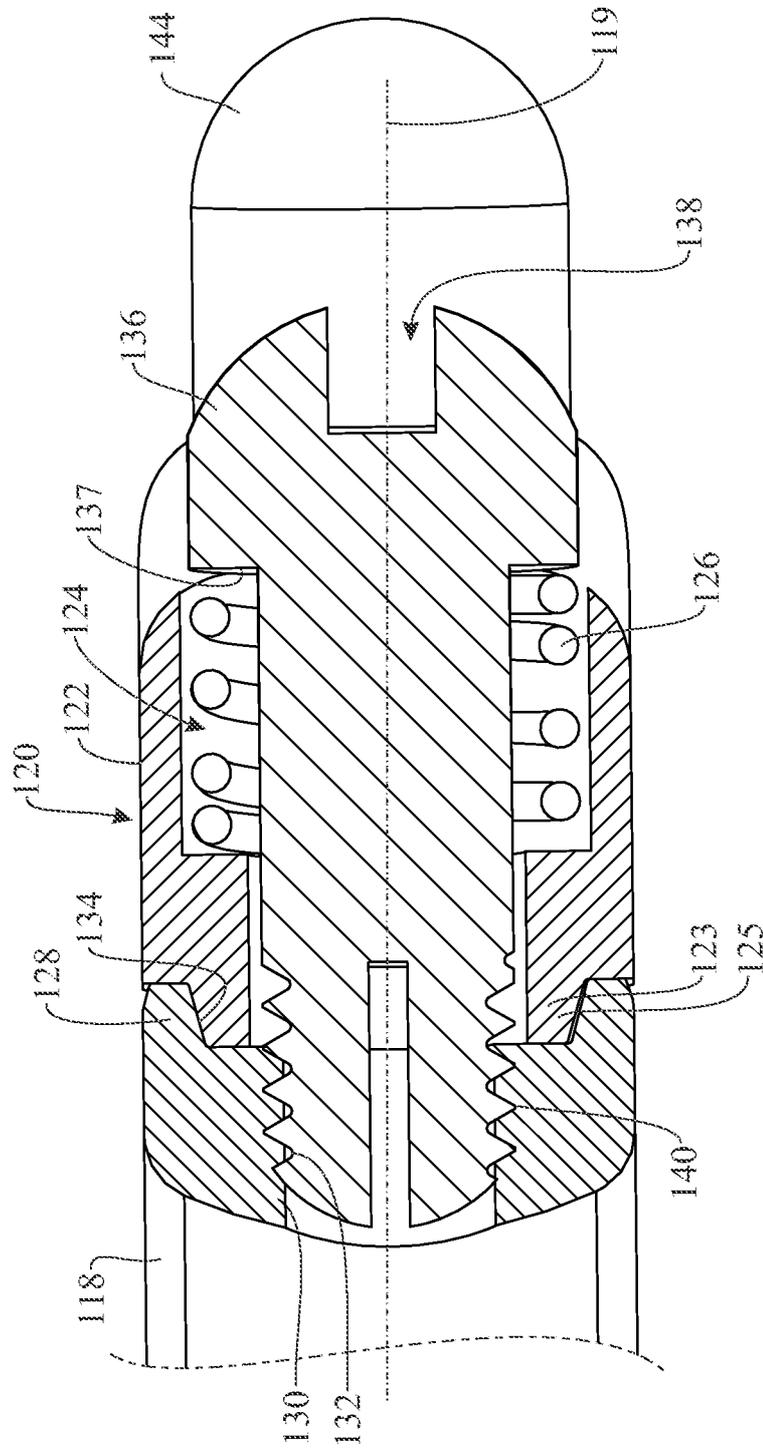


FIG. 6

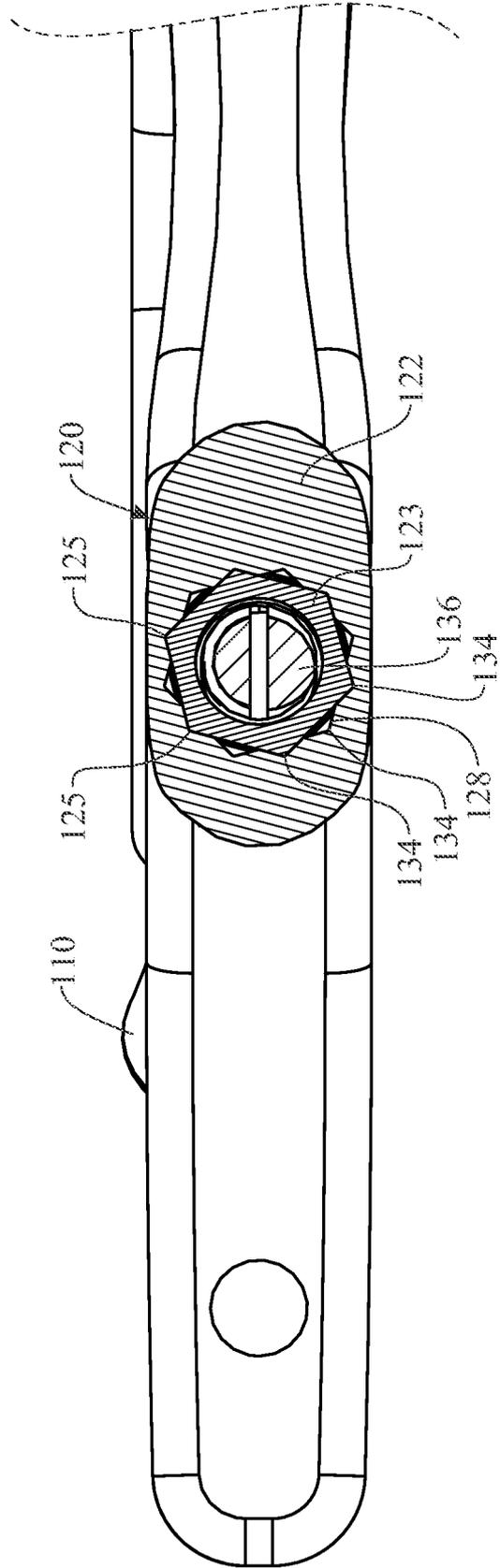


FIG. 7

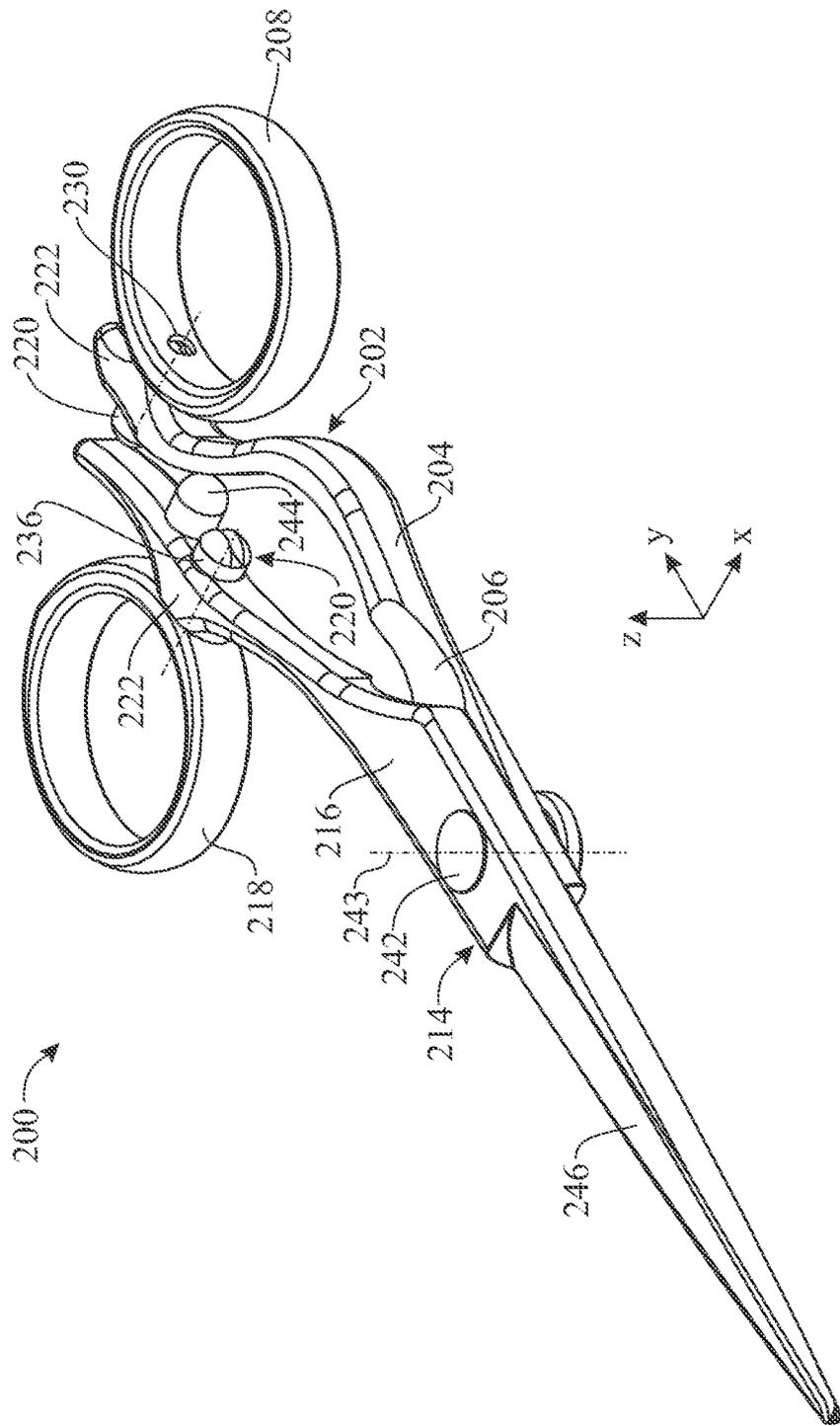


FIG. 8

**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US20 18/036843

**A. CLASSIFICATION OF SUBJECT MATTER**  
**IPC(8) - B26B 13/20; A61 B 17/3201 ; B25G 1/00; B26B 13/00; B26B 13/12 (201 8.01 )**  
**CPC - B26B 13/20; B25G 1/00; B26B 13/00; B26B 13/12 (201 8.08)**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC - 30/194; 30/226; 30/232; 30/252; 30/298; 30/341 ; 606/174 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
See Search History document

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006/0143930 A1 (ADACHI) 06 July 2006 (06.07.2006) entire document	1-6, 15-19
X	KR 10-1497645 B1 (CHO SEOG WOO) 03 March 2015 (03.03.201 5) see machine translation	1-3, 13, 14
---		15
Y	US 2015/0375406 A1 (DE STEFANO) 31 December 2015 (31.12.2015) entire document	15
Y	US 2015/0375406 A1 (DE STEFANO) 31 December 2015 (31.12.2015) entire document	15
A	US 2008/0172886 A1 (JUN) 24 July 2008 (24.07.2008) entire document	1-20
A	US 927,058 A (KROUSE) 06 July 1909 (06.07.1909) entire document	1-20
A	US 2006/0010695 A1 (WU) 19 January 2006 (19.01.2006) entire document	1-20

Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 01 August 2018	Date of mailing of the international search report <b>24 SEP 2018</b>
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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