

EXHIBIT 1019



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
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CONFIRMATION NO. 7686

FILING RECEIPT

141269
Hill Ward Henderson, P.A.
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Date Mailed: 10/16/2019

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 62/910,913**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

SYSTEM FOR FUSING A SACROILIAC JOINT

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET – Page 1 of 2

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Priority Mail Express® Label No. **EFS-Web Filed**

INVENTOR(S)		
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
SEAN	LANEVE	TAMPA, FL
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Additional inventors are being named on the _____ separately numbered sheets attached hereto.

TITLE OF THE INVENTION (500 characters max):

SYSTEM FOR FUSING A SACROILIAC JOINT

Direct all correspondence to: **CORRESPONDENCE ADDRESS**

☒ The address corresponding to Customer Number:

141269

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ENCLOSED APPLICATION PARTS (check all that apply)

☐ Application Data Sheet. See 37 CFR 1.76.

☐ CD(s), Number of CDs _____

☒ Drawing(s) Number of Sheets 22

☐ Other (specify) _____

☒ Specification (e.g., description of the invention) Number of Pages 16

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METHOD OF PAYMENT OF THE FILING FEE AND APPLICATION SIZE FEE FOR THIS PROVISIONAL APPLICATION FOR PATENT

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☐ Applicant certifies micro entity status. See 37 CFR 1.29.
 Applicant must attach form PTO/SB/15A or Bor equivalent.
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☒ The Director is hereby authorized to charge the filing fee and application size fee (if applicable) or credit any overpayment to Deposit Account Number: 600193.

140.00

TOTAL FEE AMOUNT (\$)

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET – Page 2 of 2

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government. (NOTE: Providing this information on a provisional coversheet, such as this Provisional Application for Patent Cover Sheet (Form PTO/SB/16), does not satisfy the requirement of 35 U.S.C. 202(c)(6), which requires that the *specification* contain a statement specifying that the invention was made with Government support and that the Government has certain rights in the invention.)



No.



Yes, the invention was made by an agency of the U.S. Government. The U.S. Government agency name is:



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The contract number is: _____

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SIGNATURE /Steve Kelly/ DATE 10/04/2019
 TYPED OR PRINTED NAME Stephen E. Kelly REGISTRATION NO. 59,973
 (if appropriate)
 TELEPHONE 813-506-5180 DOCKET NUMBER 13438-005

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SYSTEM FOR FUSING A SACROILIAC JOINT

BACKGROUND

[0001] (1) Field of Endeavor.

[0002] The present invention relates generally to the field of bone fusion procedures, and more particularly, to a unique system and instrumentation for fusing a sacroiliac joint.

[0003] (2) Description of Related Art.

[0004] The sacroiliac joint (“SI Joint”) is located at the interface between the sacrum and ilium bones in a human’s pelvic area. The SI Joint includes strong ligaments that permit only slight movement between the sacrum and the ilium. The sacrum is connected to the base of the spine, and each ilium is connected to the top of the leg and hip area. Thus, the SI Joint is the interface between a human’s upper body and lower body.

[0005] Dysfunction in the SI Joint is a common problem of back pain. In fact, over 25% of back pain is caused by SI Joint dysfunction. Even a properly functioning SI Joint can become painful after certain types of spinal procedures. For example, over 75% of lumbar fusion surgeries lead to SI Joint pain. Often, SI Joint pain or dysfunction is addressed by fusing the SI Joint, and many past procedures exist for doing so. Past SI Joint fusion procedures involve installation of complex implant devices, such as bone anchors, fusion devices, and multi-component implants. These procedures involve complex devices, such as drills and drill bits, and multi-component dilators, braces, and anchor installation devices. As a result, fusion procedures using these devices are complex and time consuming, often leading to suboptimal results.

[0006] The present set of instruments seeks to overcome these problems by providing a streamlined system and procedure for installing an allograft implant in the SI Joint, without using a drill, drill bits, or other rotary cutting instruments.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0007] **FIG. 1** shows the posterior view of a typical pelvis.
- [0008] **FIG. 2** is a perspective view of an allograft implant for insertion into the SI Joint.
- [0009] **FIG. 3** is an alternate perspective view of an allograft implant for insertion into the SI Joint.
- [0010] **FIG. 4** shows the instruments in the joint fusion apparatus.
- [0011] **FIG. 5** shows the working channel and the joint locator.
- [0012] **FIG. 6** is an enlarged view of the insertion end of the joint locator fully inserted into the working channel.
- [0013] **FIG. 7** is an enlarged view showing the device of Fig. 6 with the orientation reversed.
- [0014] **FIG. 8** shows the joint locator partially inserted into the working channel.
- [0015] **FIG. 9** shows the joint locator fully inserted into the working channel.
- [0016] **FIG. 10** shows the working channel and the rasping device.
- [0017] **FIG. 11** is an enlarged view of the rasp head.
- [0018] **FIG. 12** is an enlarged view of the rasp head.
- [0019] **FIG. 13** shows the rasping member with the slide hammer disassembled.
- [0020] **FIG. 14** is an enlarged view of the connection interface of the slide hammer.
- [0021] **FIG. 15** shows the rasping device partially inserted into the working channel.
- [0022] **FIG. 16** shows the rasping device fully inserted into the working channel with the slide hammer in its closed position.
- [0023] **FIG. 17** shows the rasping device fully inserted into the working channel with the slide hammer in its extended position.

- [0024] **FIG. 18** shows the working channel and the insertion device.
- [0025] **FIG. 19** is an enlarged view of the insertion end of the insertion device.
- [0026] **FIG. 20** shows the insertion device with an allograft implant loaded into the tines of the insertion end.
- [0027] **FIG. 21** shows the insertion device and implant partially inserted into the working channel.
- [0028] **FIG. 22** shows the insertion device and implant fully inserted into the working channel.
- [0029] **FIG. 23** shows an alternate view of one embodiment of an allograft implant.
- [0030] **FIG. 24** shows an alternate view of one embodiment of a joint locator fully inserted into a working channel.
- [0031] **FIG. 25** shows and alternate view of a joint locator partially inserted into a working channel.
- [0032] **FIG. 26** shows a close up of the insertion end of the device shown in Fig. 24, where the iliac contours of the joint locator and the working channel, respectively, are viewable.
- [0033] **FIG. 27** shows a close up of the insertion end of the device shown in Fig. 24, where the sacral contours of the joint locator and the working channel, respectively, are viewable
- [0034] **FIG. 28** shows a close up of the working end of one embodiment of a working channel.
- [0035] **FIG. 29** shows a close up of the insertion end of one embodiment of a working channel.
- [0036] **FIG. 30** shows an alternate view of the embodiment shown in Fig. 29.
- [0037] **FIG. 31** shows a close up of one embodiment of a rasp head.

[0038] **FIG. 32** shows a close up of one embodiment of the diaphragm and threaded connector of a slide hammer assembly.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0039] With reference to the drawings, the system for fusing a sacroiliac joint (“SI Joint”) now will be described with regard for the best mode and the preferred embodiment. The embodiments disclosed herein are meant for illustration and not limitation of the invention. An ordinary practitioner will appreciate that it is possible to create many variations of the following embodiments without undue experimentation.

[0040] The system and instrumentation described herein is used for fusing an SI Joint in the pelvis of a human. Referring to Figs. 1-3, an allograft implant 5 is placed in the soft tissue of the SI Joint 3 between the sacrum 1 and the ilium 2 of the pelvis. The implant 5 provides a matrix for bone healing across the SI Joint, thereby fusing the sacrum 1 and ilium 2 together. The implant 5 generally comprises an nose 6 and lateral sides 7, at least one pair of opposing lateral sides comprising a groove 8 disposed at least partially along the length of each such lateral side 7.

[0041] Referring to Fig. 4, the system comprises a working channel 10, a joint locator 20, a rasping device 30, and an implant inserter 60. Referring to Fig. 5, the working channel 10 is a hollow, tube-like member providing a working passage for insertion of the other instruments of the system, and for delivery of the implant 5 to the SI Joint 3. The working channel 10 is a cannula, a lumen, a sleeve, or another device suitable for providing working access of the other instruments to the SI Joint 3, as described below. The working channel 10 has an insertion end 11 and a working end 12, and a channel 13 extending therebetween. The channel 13 is a bore having a cross section that is rectilinear or curvilinear. The insertion end 11 has a pair of arms 14 for providing engagement of the SI Joint and distraction of tissue surrounding the insertion

end 11.

[0042] The insertion end 11 of the working channel 10 is configured for seating in and against the SI Joint 3, and against the sacrum 1 and ilium 2. The insertion end 11 comprises an iliac contour 15 and a sacral contour 16, both of which are defined by the contour between the insertion arms 14 and the body of the working channel 10. For example, referring to Figs. 6 and 7, one side of the insertion end 11 comprises the arms 14 connected to the working channel 10 via the iliac contour 15, which is configured for abutment against the ilium 2 when the arms 14 are inserted into, and seated within, the SI Joint 3 as described below. The other side of the insertion end 11 comprises the arms 14 connected to the working channel 10 via the sacral contour 16, which is configured for abutment against the sacrum 1 when the arms 14 are inserted into, and seated within, the SI Joint 3.

[0043] Referring to Figs. 5 and 28, the inside surface of the working channel 10 has a means for aligning instruments, the alignment means 17 comprising a groove, recess, channel, indent, or the like for receiving and engaging a ridge, rib, detent, or other protrusion on the mating instrument that is keyed to the alignment means 17. In one embodiment, the working channel 10 further comprises a collar 18 for receiving mating components of the joint locator 20, rasping device 30, or implant inserter 60 in an abutting engagement, as described below. In an embodiment of the collar 18, the collar further comprises an alignment means 17.

[0044] Referring to Figs. 5-9, the joint locator 20 has an insertion end 21 and a handle 22, or working end. The insertion end 21 comprises a penetration tip 23 for penetrating the soft tissue in proximity to the SI Joint 3. This soft tissue is the soft tissue between the surface of the patient's skin the SI Joint 3, such as muscle tissue, and the soft tissue inside the SI Joint 3, such as cartilage and ligaments. The penetration tip 23 is configured for penetrating these types of

soft tissue. For example, one embodiment of the penetration tip 23 comprises a blade or chisel component for cutting the soft tissue. A leading edge of the penetration tip 23 may comprise, in whole or in part, such a blade or chisel component.

[0045] Referring again to Figs. 6 and 7, the joint locator insertion end 21 comprises an iliac contour 24 and a sacral contour 25. For example, one side of the joint locator insertion end 21 comprises the iliac contour 24, which is configured for abutment against the ilium 2 when the penetration tip 23 is inserted into the SI Joint 3, as described below. The other side of the joint locator insertion end 21 comprises the sacral contour 25, which is configured for abutment against the sacrum 1 when the penetration tip 23 is inserted into the SI Joint 3.

[0046] The outside surface of the joint locator 20 has a means for keying with the alignment means 17 of the working channel 10, the keying means 27 comprising a ridge, rib, detent, or other protrusion on the outside surface of the joint locator 20 capable of engaging the alignment means 17 to resist or prevent relative rotation between the joint locator 20 and the working channel 10. The joint locator 20 has a channel 26 for receiving the K-wire 4. This channel 26 is a cannula, lumen, or other bore-like feature capable of receiving the K-wire 4 in a pass-through manner, preferably along a longitudinal axis of the joint locator 20. In one embodiment of the joint locator 20, the handle 22 further comprises a stop 28 for abutting against the collar 18 of the working channel 10.

[0047] Referring to Figs. 10-12, the rasping device 30 comprises a handle 31 at a proximate end and a rasp head 32 at a distal end. The rasp head 32 is used to grate, abrade, or otherwise irritate the cortical bone inside the SI Joint 3, as further described below. In one embodiment, the rasp head 32 is a generally rectangular member comprising abrading surfaces 33 on opposing sides of the head 32, an open tip 34 for insertion into the SI Joint 3, and open lateral sides 35

between the abrading surfaces 33. Each abrading surface 33 comprises one or more teeth, barbs, blades, ridges, slots, broaches, or other members or features capable of abrading the cortical bone in the SI Joint 3, as described below. The open tip 34 comprises a cutting edge 36 around all or part of the open tip 34. The rasping device 30 further comprises a rasp keying means 37, which is similar to the keying means 27 of the joint locator 20 described above. The rasp keying means 37 mates with the alignment means 17 in the working channel 10 to resist or to prevent relative rotation between the rasping device 30 and the working channel 10. The rasping device 30 further comprises a rasp stop 38 for abutting against the collar 18 of the working channel 10.

[0048] Referring to Figs. 13, 14, and 17, the rasping device 30 further comprises a slap hammer assembly, or slide hammer assembly 40, which includes a collar 41 on the rasping device 30, a slide hammer shaft 44, and the handle 31. The collar 41 comprises internal threads 42 and external threads 43. The shaft 44 comprises a threaded end 45 and a stop end 46. The handle 31 has a hollow, cylindrical bore comprising an internal diaphragm 47 having a diaphragm opening 49 (see Fig. 32), and a threaded connector 48. The diaphragm opening 49 is sized to permit sliding passage of all parts of the shaft 44 except the stop end 46. The stop end 46 is sized too large to fit through the diaphragm opening 49.

[0049] To assemble the slide hammer assembly 40, the threaded end 45 of the shaft 44 is inserted into the bore of the handle 31, through the diaphragm 47 inside the handle 31, and the threaded end 45 is threaded into, and mated with, the internal threads 42 of the collar 41. The threaded connector 48 in the handle 31 is then mated to the external threads 43 on the collar 41 to promote a secure connection. The stop end 46 is disposed inside the bore of the handle 31 on a side of the diaphragm 47 opposite that of the location of the threaded connector 48. In this configuration, the slide hammer assembly 40 is in its closed position.

[0050] To operate the slide hammer assembly 40, the threaded connector 48 is disengaged from the external threads 43 of the collar 41, placing the slide hammer assembly 40 in its open position. This open position enables the handle 31 to slide freely along the shaft 44. The handle 31 is pulled until the diaphragm 47 inside the handle 31 engages the stop end 46 of the shaft 44, thereby causing an impact that actuates the slide hammer force.

[0051] Referring to Figs. 18-22, the implant inserter 60 comprises a handle 61 and an implant insertion end 62. The implant insertion end 62 has a pair of tines 63 for holding the implant 5 during the process of inserting the implant 5 into the SI Joint 3. Each tine 63 is supported by a tine shaft 66, which terminates at a shoulder 67. The tine shafts 66 provide flexibility such that the implant 5 is removably retained between the tines 63 with the shoulder 67 abutting against the implant 5 (see Fig. 20). For example, in one embodiment the width of the implant 5 between the opposing grooves 8 is slightly larger than the space between the respective tines 63 such that when the implant 5 is seated in the implant insertion end 62, the respective tines 63 are pushed slightly apart by the grooves 8. This causes a slight amount of friction between the tines 63 and the grooves 8, thereby releasably retaining the implant 5 in the implant insertion end 62.

[0052] The implant inserter 60 further comprises an inserter keying means 65, which is similar to the keying means 27 of the joint locator 20. The inserter keying means 65 mates with the alignment means 17 in the working channel 10 to resist or to prevent relative rotation between the implant inserter 60 and the working channel 10. In one embodiment of the implant inserter 60, the implant inserter 60 further comprises a channel 64 for receiving the K-wire 4. This channel 64 is a cannula, lumen, or other bore-like feature capable of receiving the K-wire 4 in a pass-through manner. In one embodiment of the implant inserter 60, the handle 61 further comprises an inserter stop 68 for abutting against the collar 18 of the working channel 10.

[0053] In one embodiment for a method of installing the implant 5, the procedure for installing the implant 5 in the SI Joint 3 is started by inserting the K-wire 4 in the SI Joint 3 at the location where the implant 5 is to be installed. The K-wire 4 is preferably inserted from a posterior approach. It is preferable, but not required, that the implant 5 is installed proximate to the S2 location of the sacrum. One or more alternate location are also suitable for fusion of the SI Joint 3. A K-wire 4 is inserted into the SI Joint 3 at each location where an implant 5 is to be inserted.

[0054] The joint locator 20 is then fully inserted into the working channel 10 (see Fig. 9). In mating the joint locator 20 inside the working channel 10, the keying means 27 of the joint locator 20 is oriented to engage the alignment means 17 of the working channel 10. This engagement enables the iliac contour 15 of the working channel to align with the iliac contour 24 of the joint locator 20, and the sacral contour 16 of the working channel 10 to align with the sacral contour 25 of the joint locator 20 (see Figs. 6 and 7). The respective iliac contours 15, 24 are configured for placement against the ilium 2 when the insertion end 11 is disposed inside the SI Joint 3, and the respective sacral contours 16, 25 are configured for corresponding placement against the sacrum 1 when the insertion end 11 is disposed inside the SI Joint 3.

[0055] The free end of the K-wire is inserted into the K-wire channel 26 of the combined joint locator 20 / working channel 10, and this combined device is advanced toward the SI Joint 3, guided by the K-wire 4. As the joint locator 20 / working channel 10 is advanced, the penetration tip 23 cuts through the soft tissue above and inside the SI Joint 3. If necessary, the combined joint locator 20 / working channel 10 is advanced via blows from a mallet against the handle 22. The impact force from the mallet is transmitted through the handle 22 to the stop 28, where the force is imparted to the collar 18 and into the working channel 10. As such, the

impact force from a mallet is balanced between the working channel insertion end 11 and the joint locator insertion end 21.

[0056] The combined joint locator 20 / working channel 10 is advanced until the respective iliac contours 15, 24 abut the ilium 2 and the respective sacral contours 16, 25 abut the sacrum 1. In this position, the arms 14 of the working channel 10 are disposed inside the SI Joint 3 to retain the proper alignment of the working channel 10, and therefore the alignment means 17, thereby ensuring a proper alignment of the rasping device 30 and the implant inserter 60 later in the procedure.

[0057] In an alternate embodiment of the installation method, a K-wire 4 is omitted from the procedure. Instead, the combined joint locator 20 / working channel 10 is advanced through an incision in the patient, and this advancement continues as described above until the insertion ends 11, 21 are inserted into the SI Joint 3 as described above.

[0058] Once the combined joint locator 20 / working channel 10 device is properly seated in the SI Joint 3, the joint locator 20 is removed from the working channel 10. The surrounding soft tissue remains distracted or dilated by the working channel 10 and the respective arms 14, thereby enabling direct access to the SI Joint 3 area. The rasping device 30 is then inserted into the working channel 10, with the keying means 37 engaging the alignment means 17 to promote proper alignment of the rasp head 32 with respect to the SI Joint 3. The rasp head 32 is advanced through the working channel 10 until the rasp head 30 makes contact with the SI Joint 3. The rasp head 32 is forced into the SI Joint 3 (using a mallet if necessary), and the cutting edge 36 cuts the soft tissue, such as ligaments or cartilage. The rasp stop 38 abuts against the collar 18 of the working channel 10 to prevent over penetration of the rasp head 32 into the SI Joint 3.

[0059] The rasping device 30 is then worked in and out of the working channel 10 such that

the abrading surfaces 33 abrade the respective surfaces of the sacrum 1 and the ilium 2 inside the SI Joint 3. Again, the rasp stop 38 abuts against the collar 18 to prevent over penetration of the rasp head 32. During this process, the rasp head 32 may become lodged in the SI Joint 3, becoming difficult to remove. In these instances, the slide hammer assembly 40 is enabled so that the rasp head 32 may be removed by the impact force of the slide hammer assembly 40, as described above.

[0060] As the rasp head 32 is worked in and out of the SI Joint 3, the abrading surfaces 33 abrade the cortical bone of the sacrum 1 and the ilium 2 inside the SI Joint 3. The cortical bone is abraded until bleeding begins, thereby promoting the patient's healing process of the cortical bone. This degree of abrasion and corresponding healing promotes fusion of the SI Joint 3.

[0061] Once the SI Joint 3 is adequately abraded, the rasping device 30 is removed from the working channel 10. At this point in the procedure, the K-wire 4 should be removed from the working channel 10 to enable proper advancement of the implant 5 through the working channel 10 and proper installation of the implant 5 into the SI Joint 5. Alternately, the K-wire 4 can be removed from the working channel 10 at any time after the working channel 10 is properly seated in the SI Joint 3, as described above.

[0062] The allograft implant 5 is placed into the tines 63 of the implant inserter 60 such that each tine 63 is seated into a mating groove 8 on the side of the implant 5, and the shoulder 67 abuts the implant 5. The implant inserter 60 is then inserted into the working channel 10 such that the keying means 65 engages the alignment means 17 to ensure proper orientation of the implant inserter 60, and thus, the implant 5. The implant inserter 60 is used to deliver the implant 5 to the abraded area of the SI Joint 3 through the working channel 10. If necessary, the implant inserter 60 is struck by a mallet to force the implant 5 into the abraded area of the SI

Joint 3, the shoulder 67 transferring the impact force to the implant 5. In these instances, the inserter stop 68 abuts against the collar 18 of the working channel 10 to prevent over penetration of the implant 5 into the SI Joint 3.

[0063] Once the implant 5 is fully inserted into the SI Joint 3, the implant inserter 60 is removed from the working channel 10, leaving the implant 5 installed in the abraded area of the SI Joint 3. In most instances, the friction force between the implant 5 and the inside of the SI Joint 3 is greater than the friction force between the respective tines 63 and grooves 8. In these instances, removal of the implant inserter 60 is accomplished by applying a removal force to the implant inserter 60 greater than the friction force between the tines 63 and the grooves 8. In other instances, the friction force between the implant 5 and the inside of the SI Joint 3 is less than the friction force between the respective tines 63 and grooves 8. In these instances, removal of the implant inserter 60 is accomplished by inserting a K-wire 4 or similar device into the K-wire channel 64 and advancing the K-wire 4 until the distal end of the K-wire abuts against the implant 5 between the tines 63. The K-wire 4 is used to hold the implant 5 in place inside the SI Joint 3 as the removal force is applied to the implant inserter 60. The tines 63 are thereby removed from the grooves 8 as the K-wire 4 holds the implant 5 in its installed location. Once the tines 63 are pulled free from the grooves 8, the implant inserter 60 is disengaged from the implant 5, and the implant inserter 60 and the K-wire 4 are removed from the working channel 10.

[0064] As the abraded cortical bone heals, the bone fuses with the allograft implant 5, eventually causing the sacrum 1 and the ilium 2 to grow together at the location of the implant 5, thereby fusing the SI Joint 3.

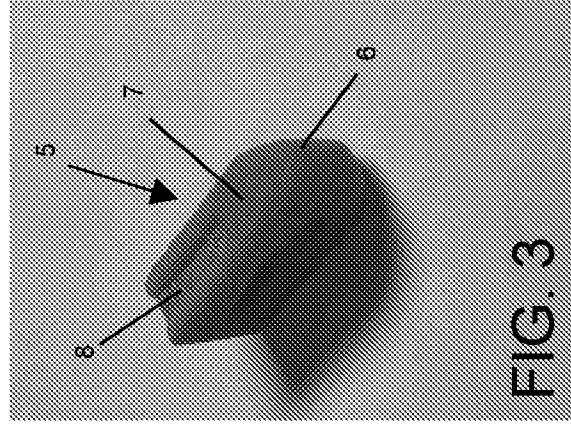
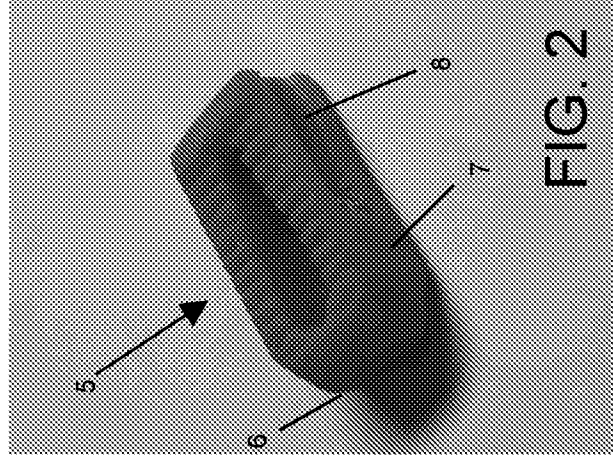
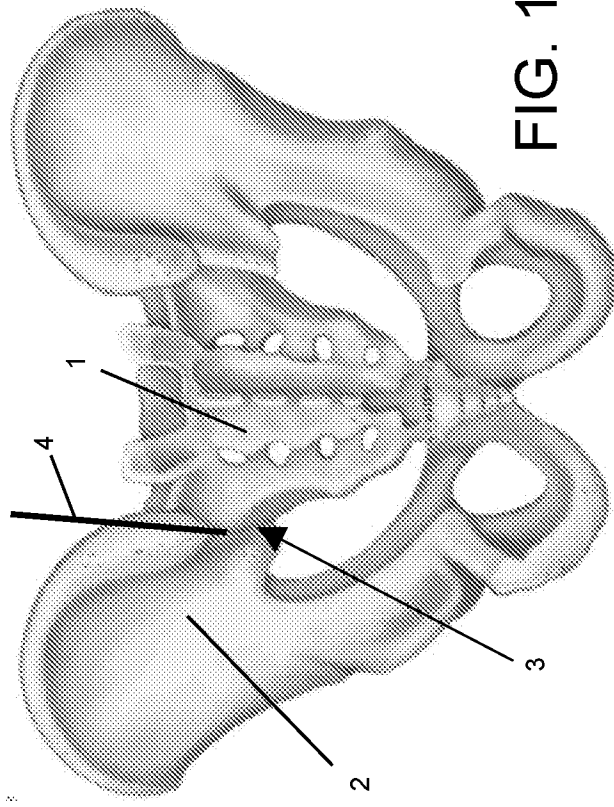
[0065] In any of the foregoing embodiment, one or more instruments may comprise

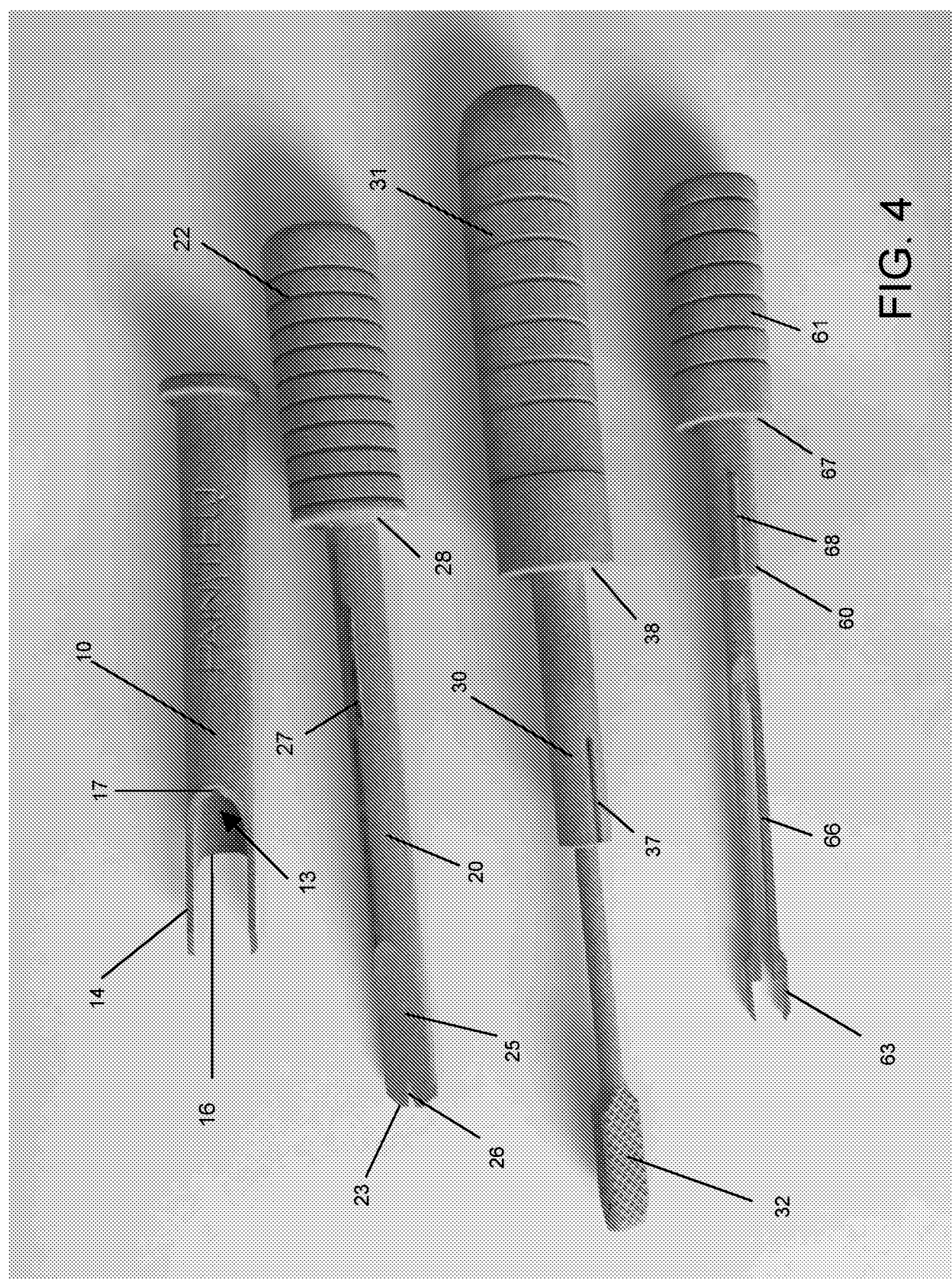
disposable material, such as medical grade plastics, certain metals, or other disposable material.

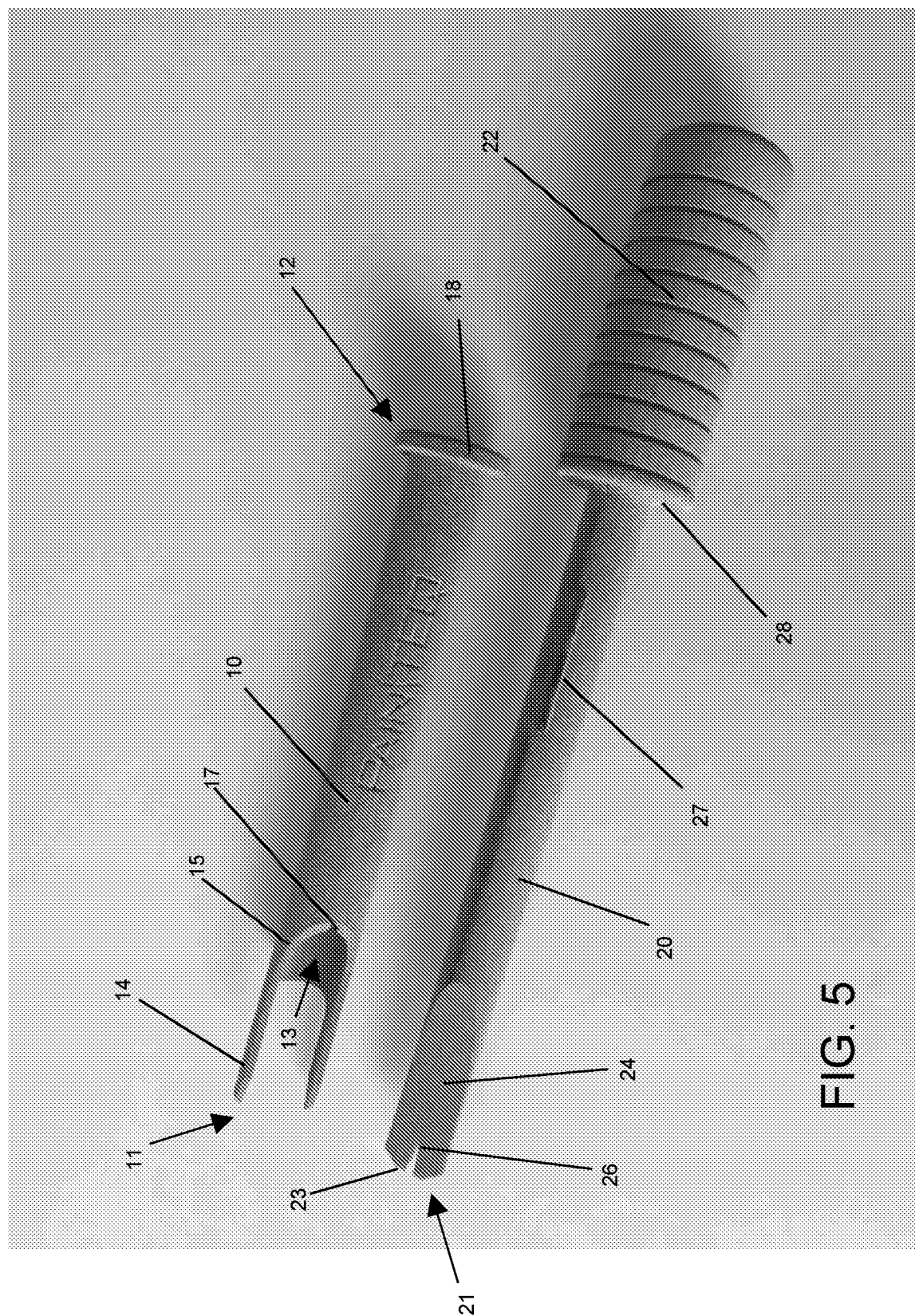
[0066] The foregoing embodiments are merely representative of the SI Joint fusion instruments and not meant for limitation of the invention. For example, persons skilled in the art would readily appreciate that there are several embodiments and configurations of rasping devices and other devices described herein that will not substantially alter the nature of the SI Joint fusion instruments. As another example, the alignment means 17 and the respective keying means 27, 37, 67 could be reversed such that the working channel 10 comprises a keying means, and the joint locator 20, rasp device 30, and implant inserter 60, respectively, comprise a mating alignment means. Consequently, it is understood that equivalents and substitutions for certain elements and components set forth above are part of the invention described herein.

ABSTRACT

An apparatus for installing a fusion implant into the sacroiliac joint (“SI Joint”). The apparatus comprises a working channel, a joint locator, a rasping device, and an insertion device. The joint locator is inserted into the working channel, and this combination, guided by a K-wire, is advanced into the SI Joint. The joint locator is removed, and the rasping device is used to abrade the sacrum and ilium inside the SI Joint. The insertion device then advances the implant into the abraded area of the SI Joint. The abraded area heals across the implant, thereby fusing the sacrum to the ilium and fusing the SI Joint.







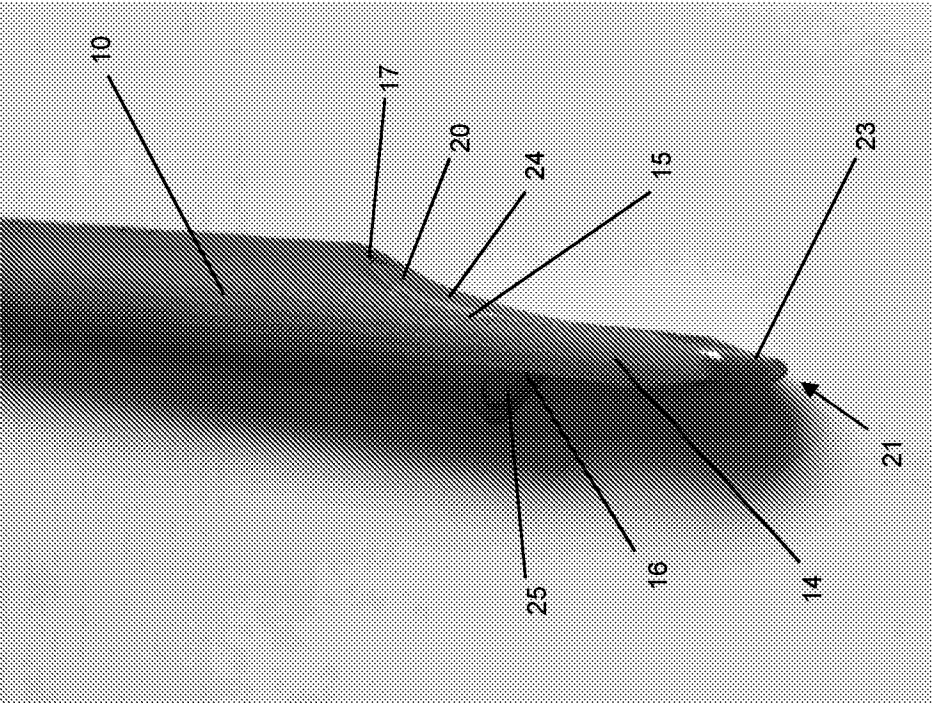


FIG. 6

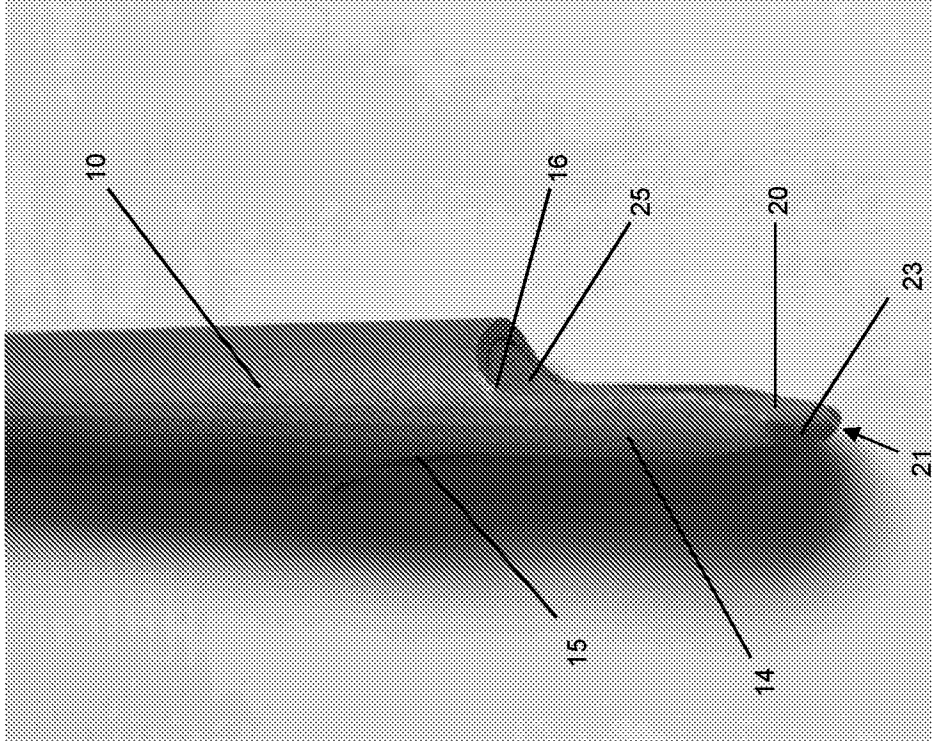


FIG. 7

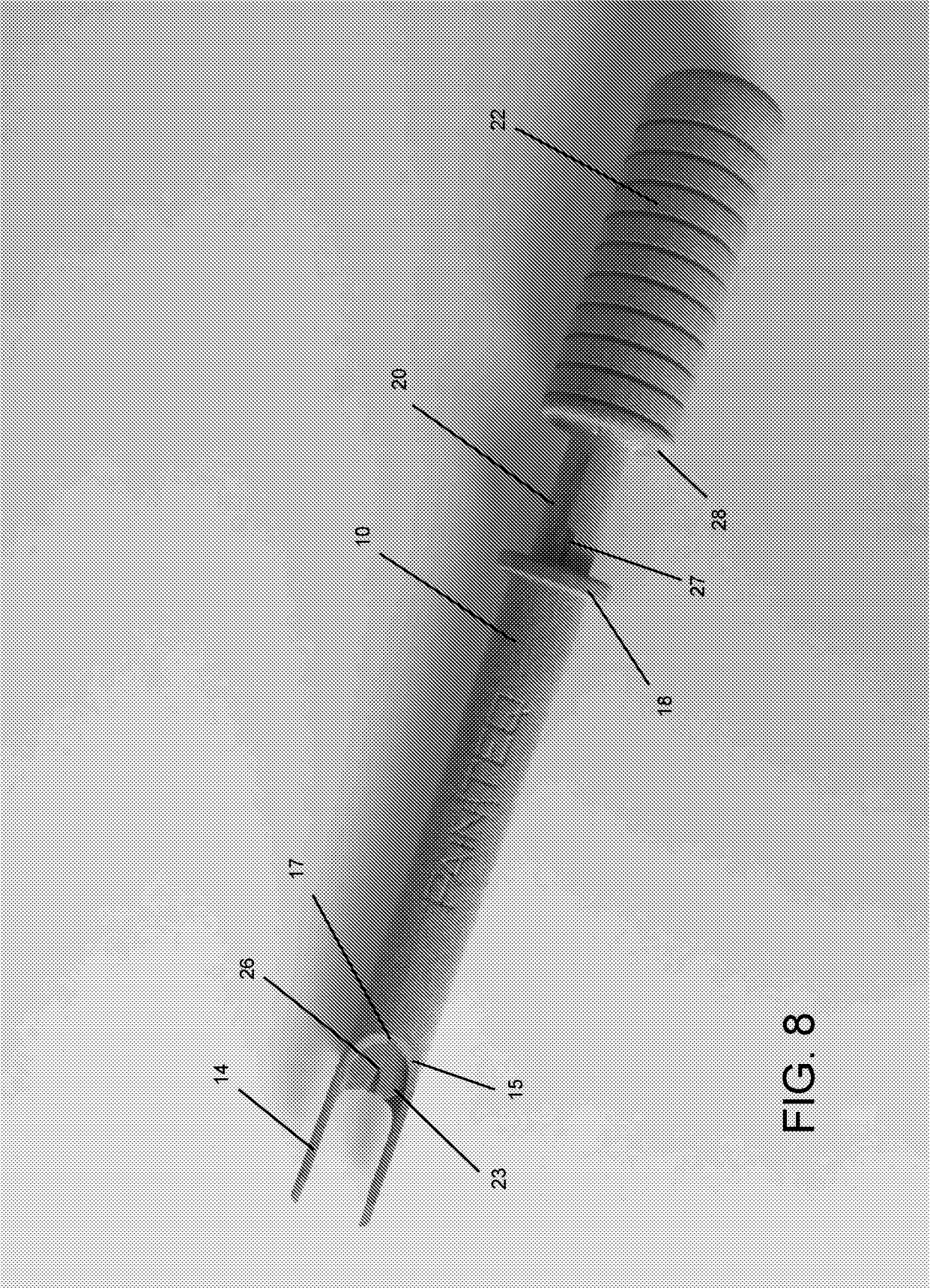


FIG. 8

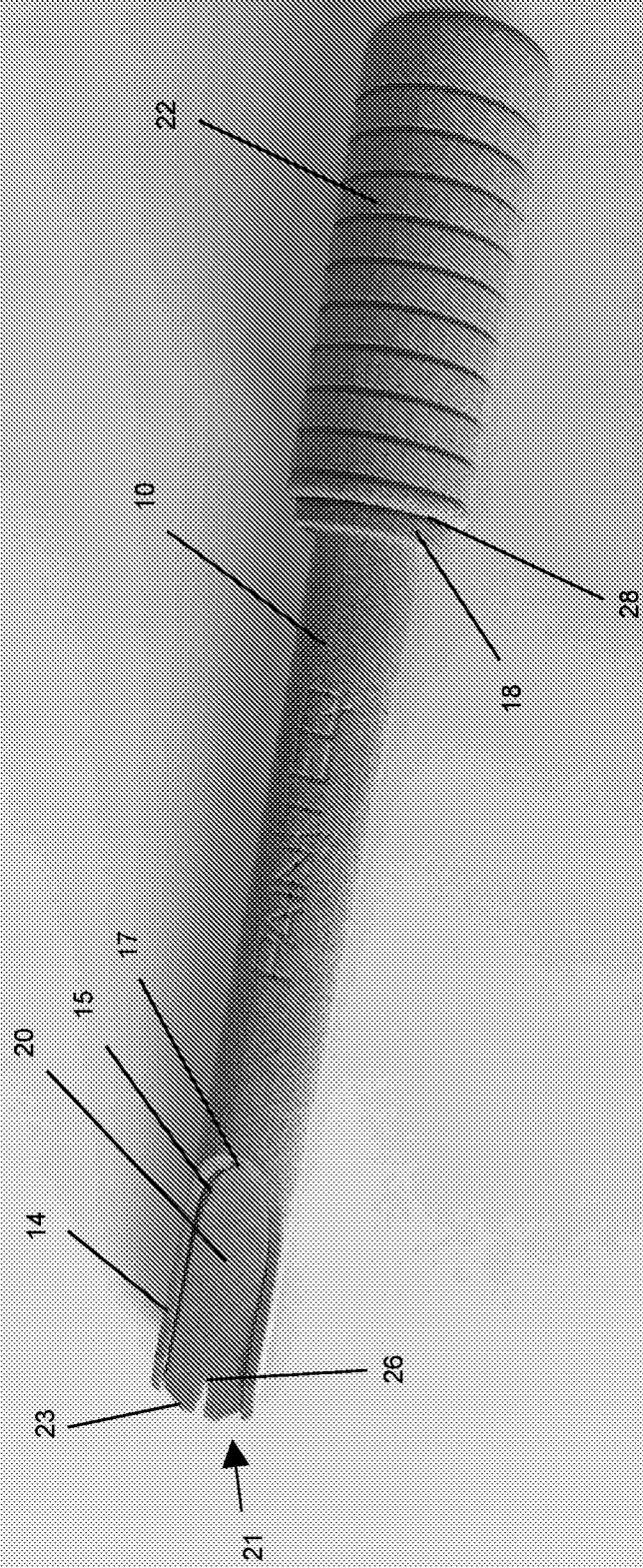


FIG. 9

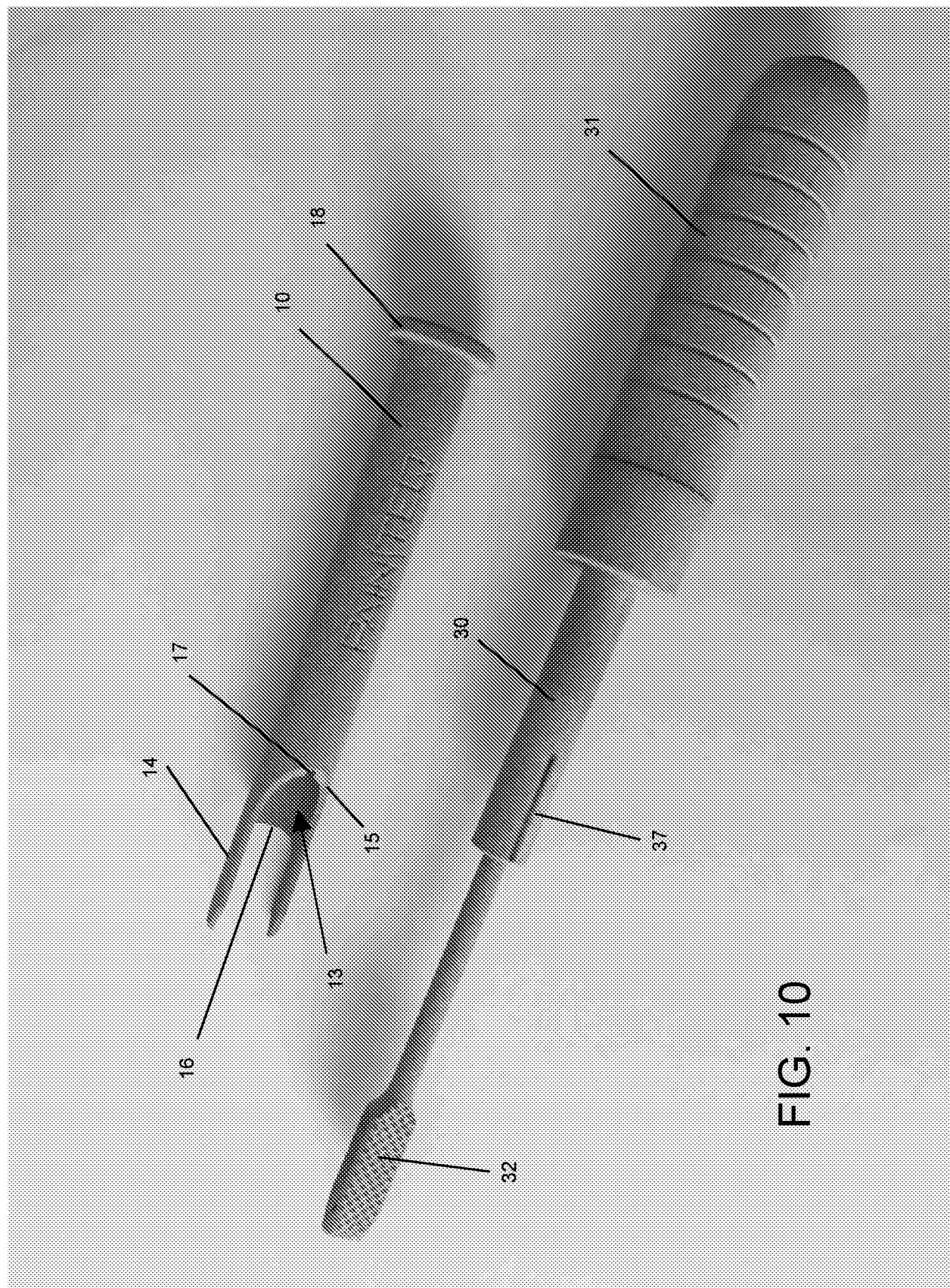


FIG. 10

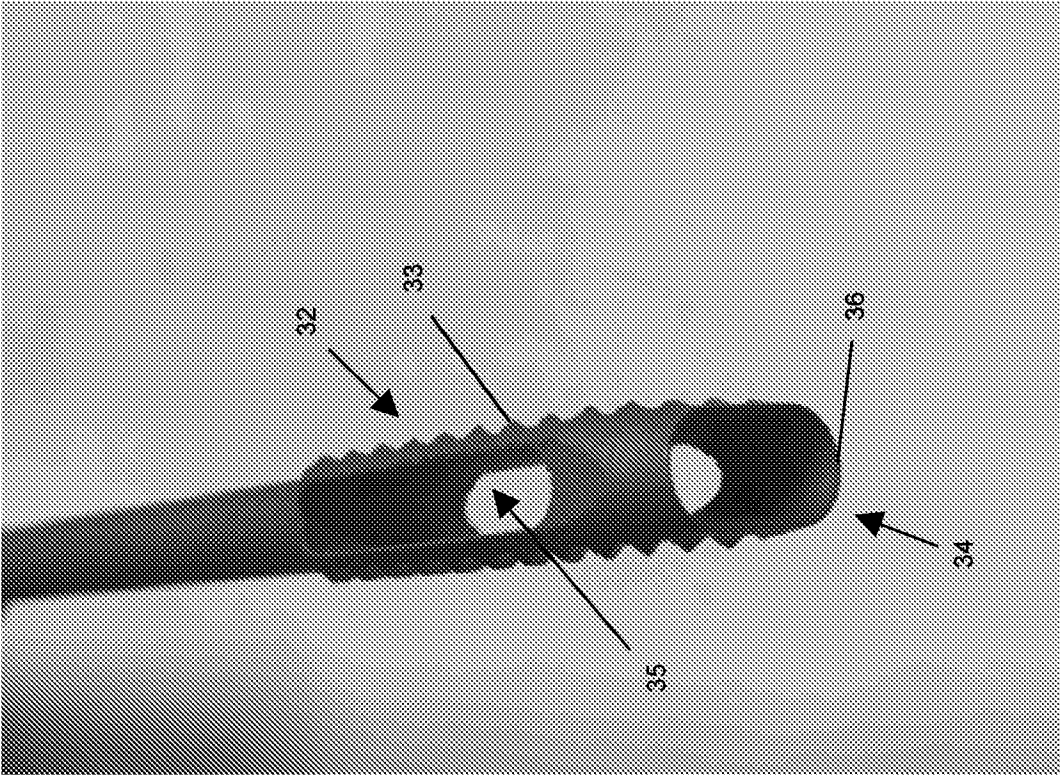


FIG. 11

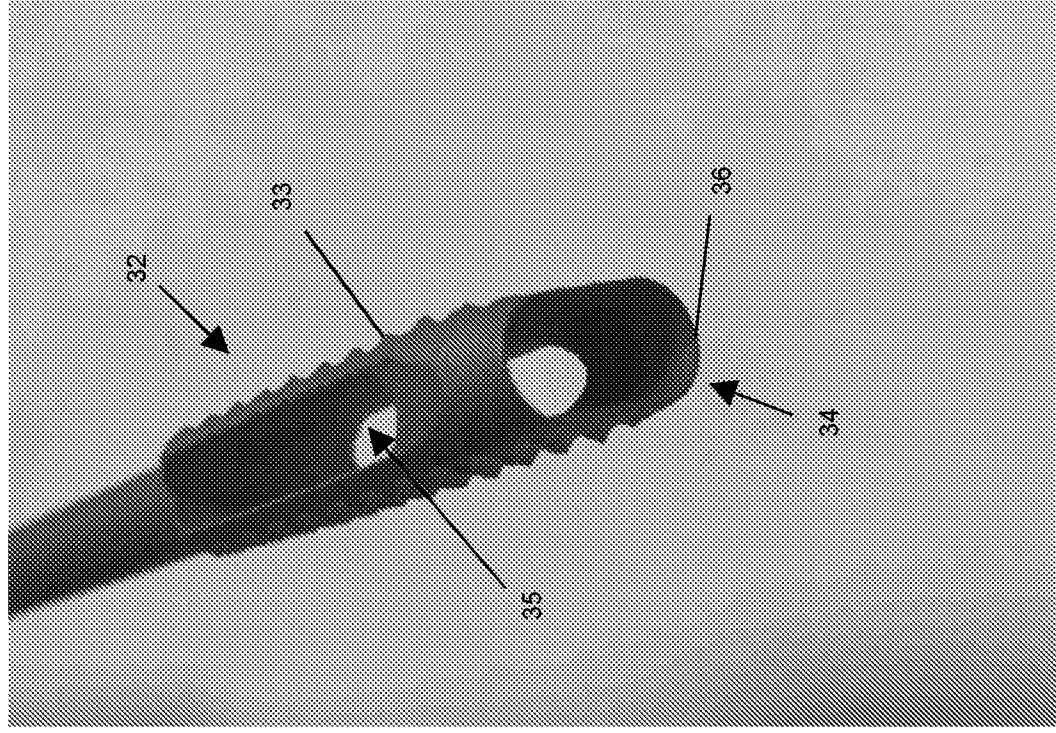


FIG. 12

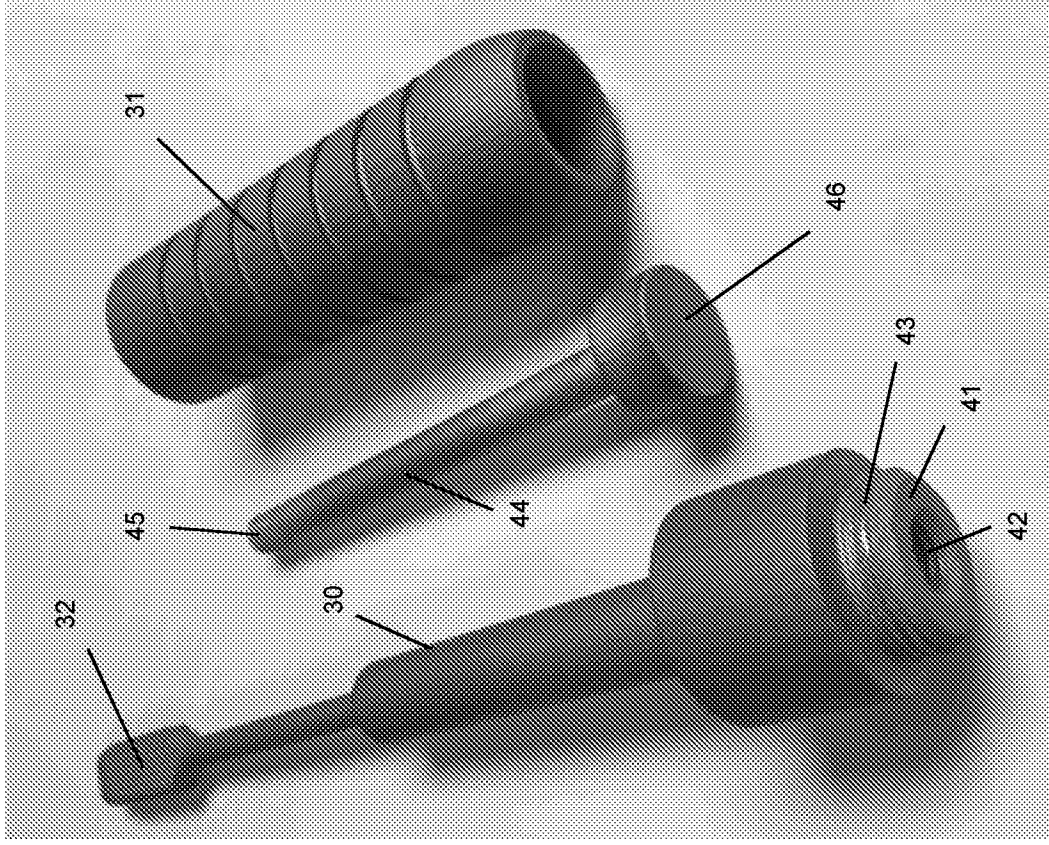


FIG. 13

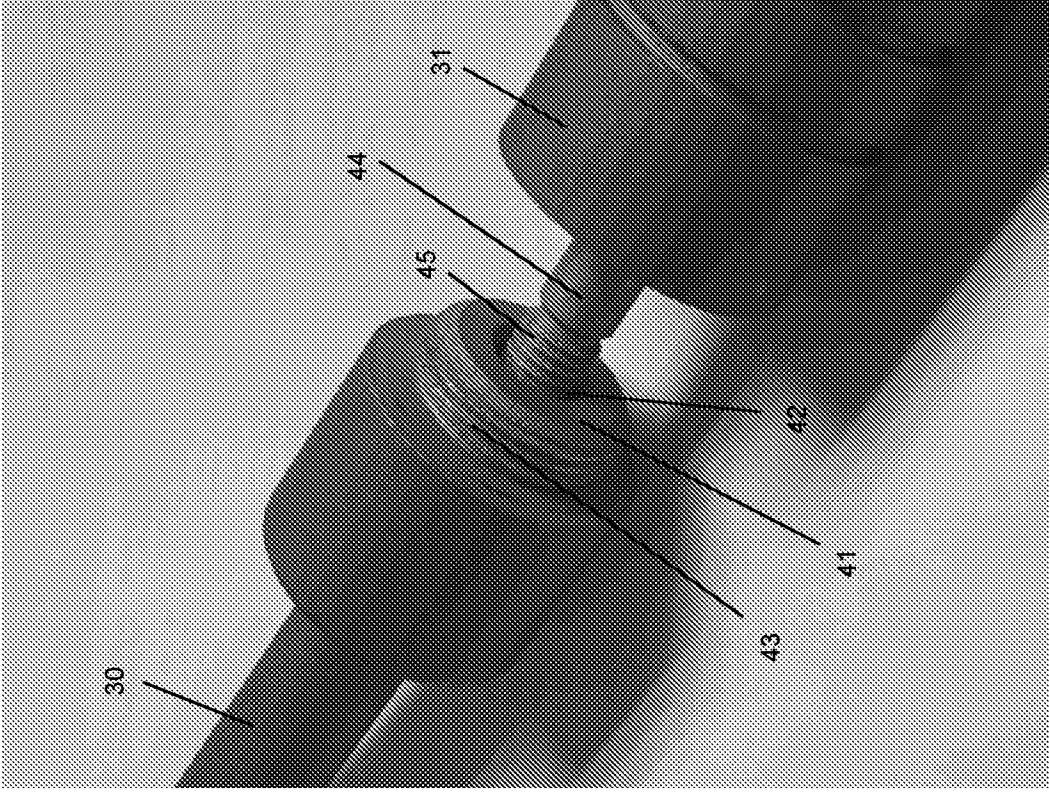


FIG. 14

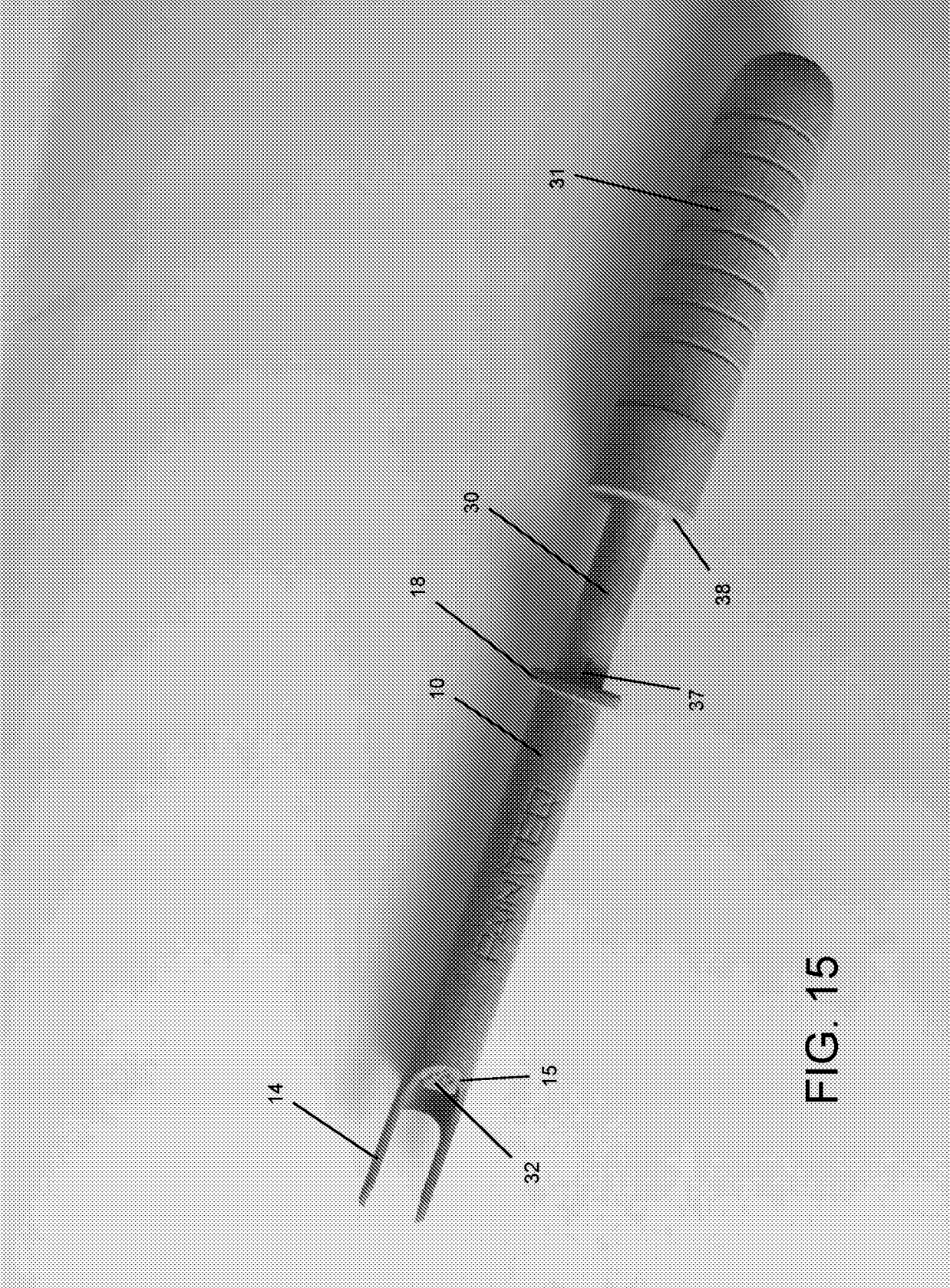


FIG. 15

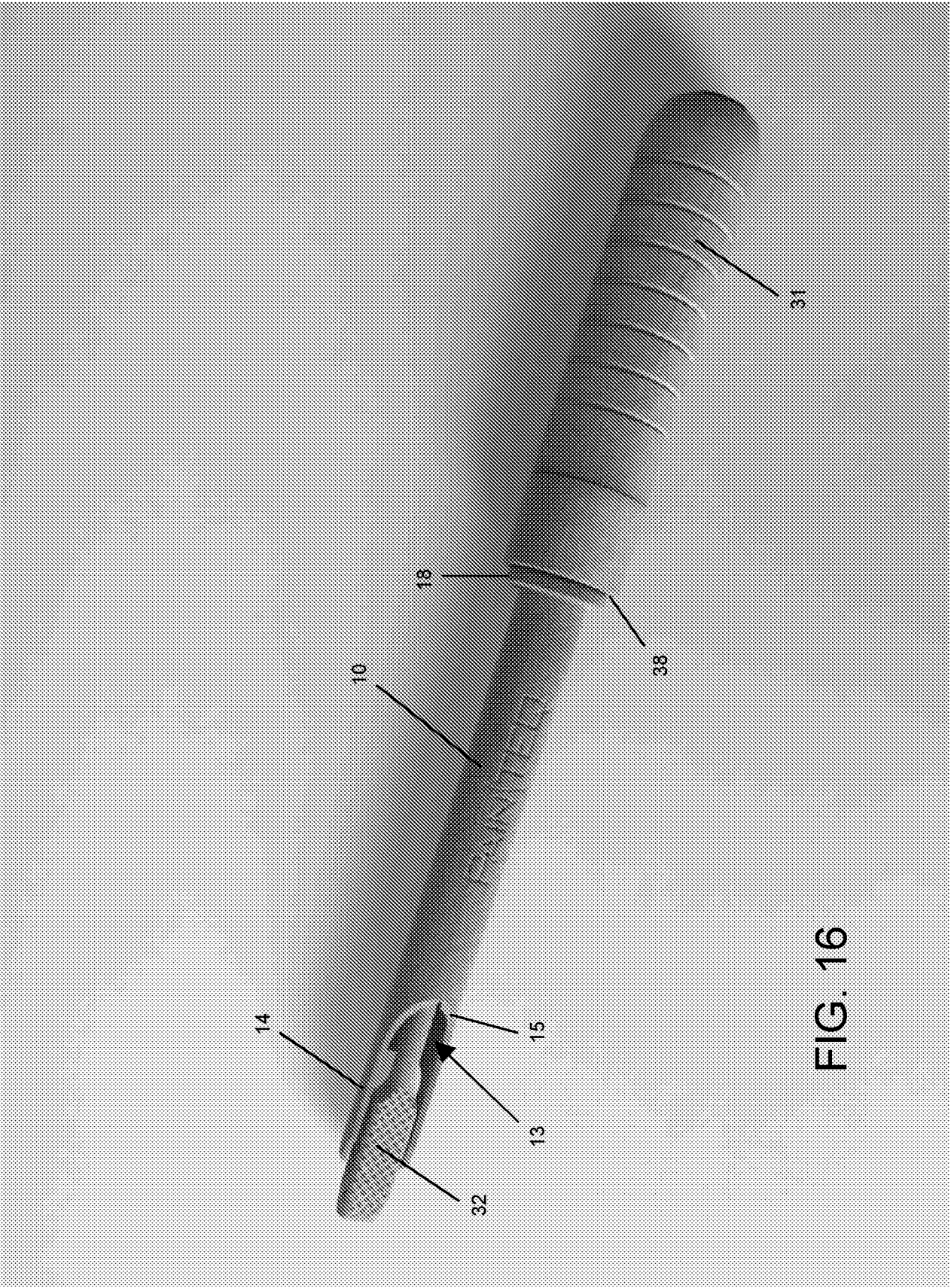
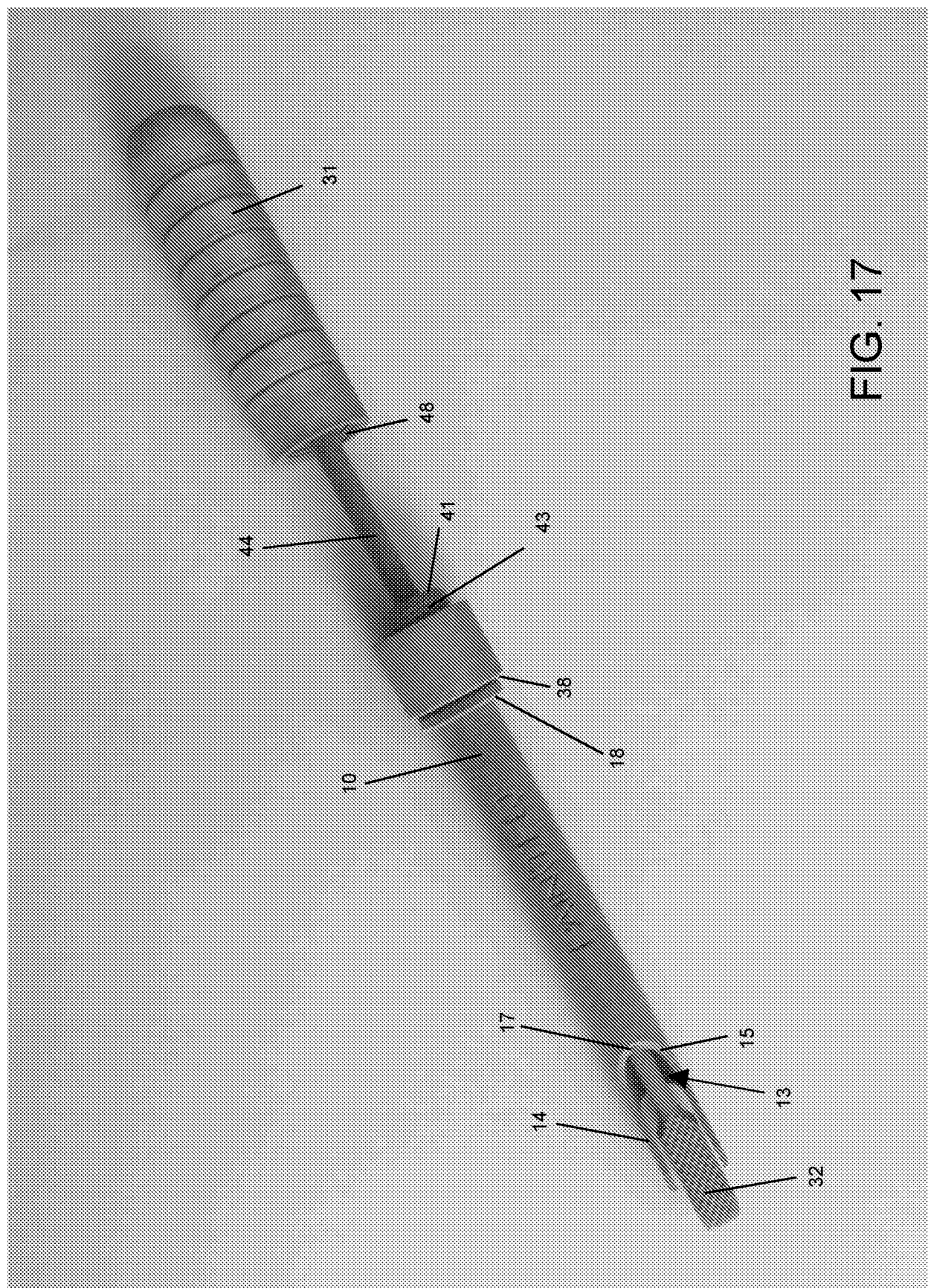
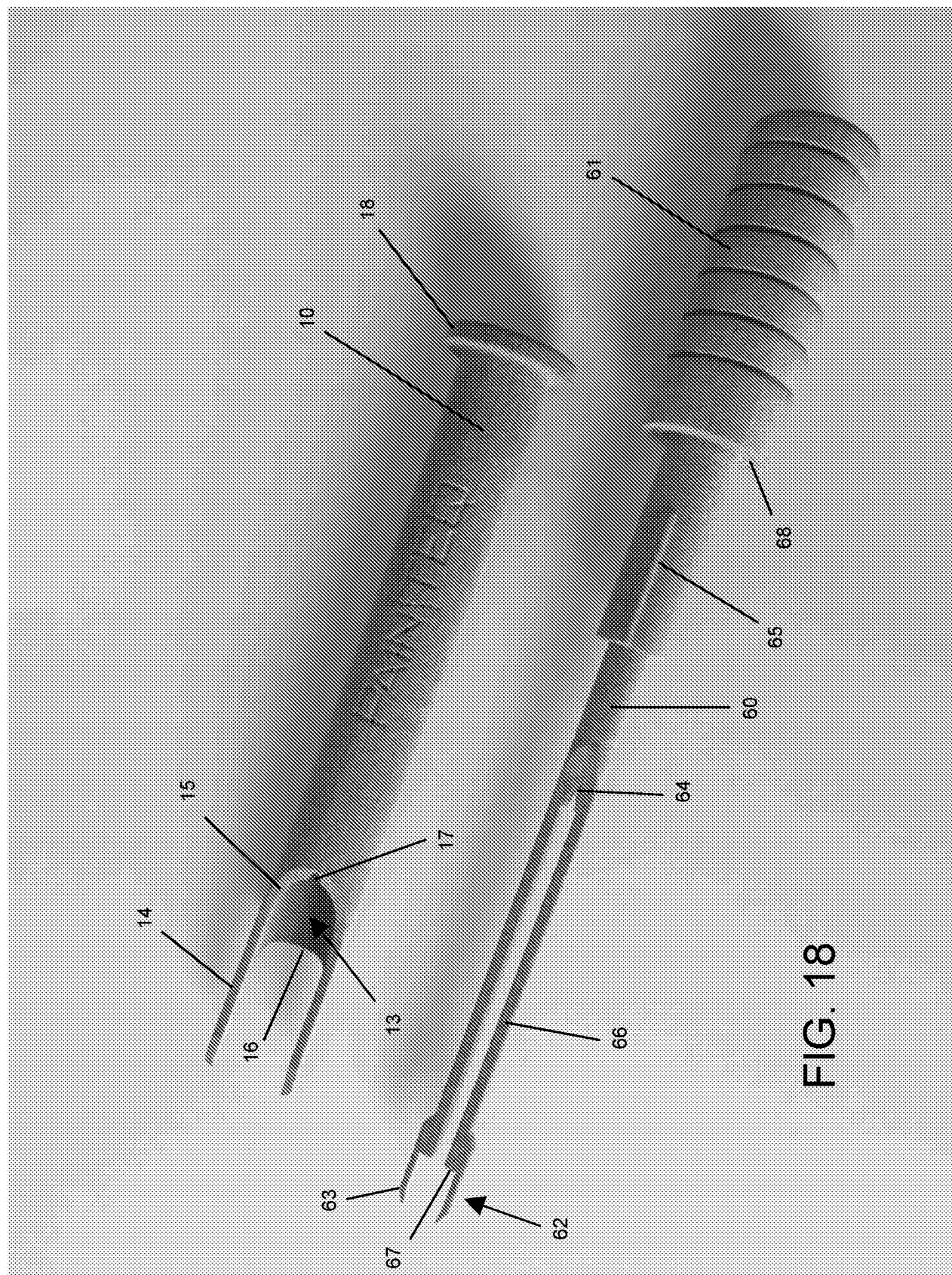


FIG. 16





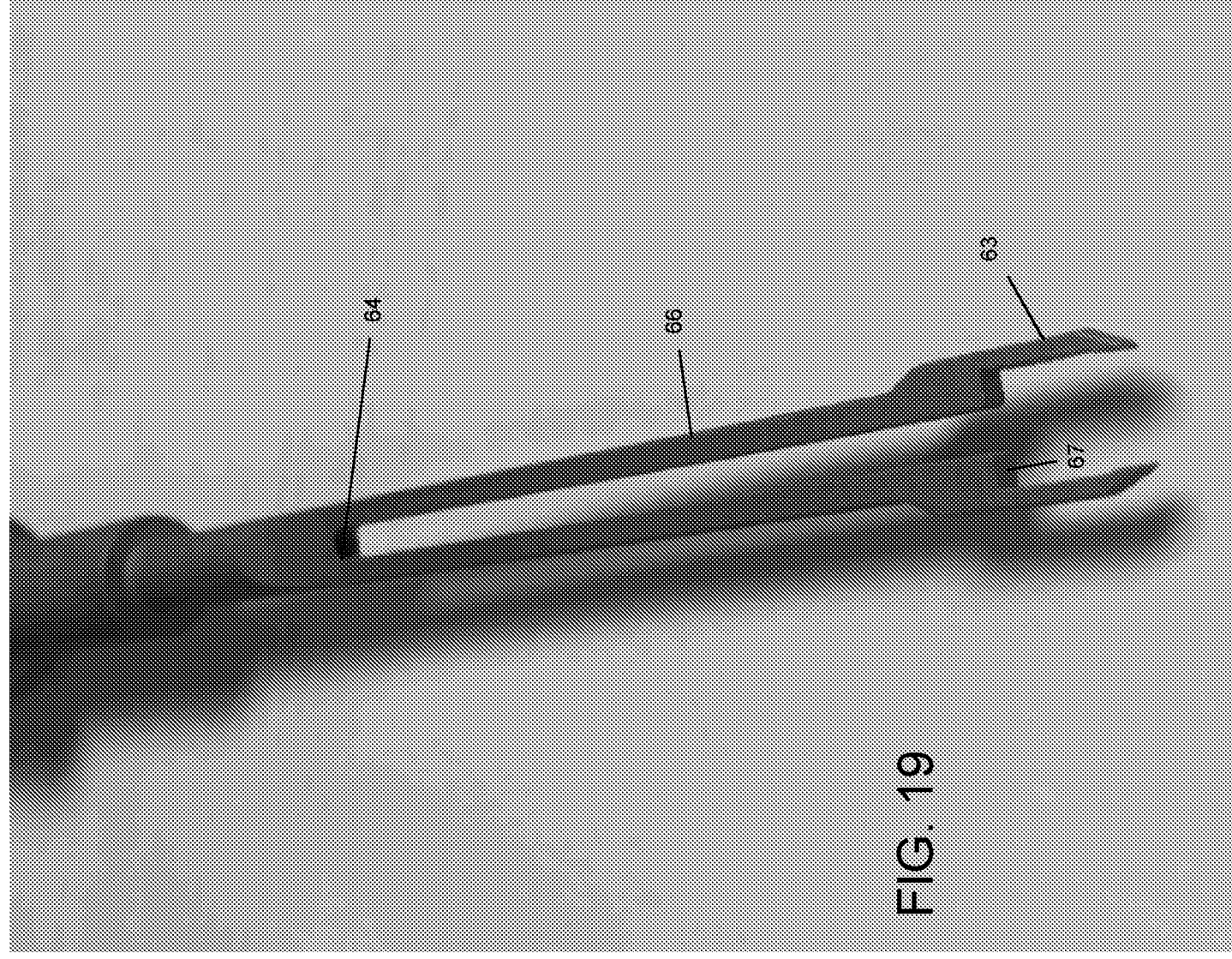


FIG. 19

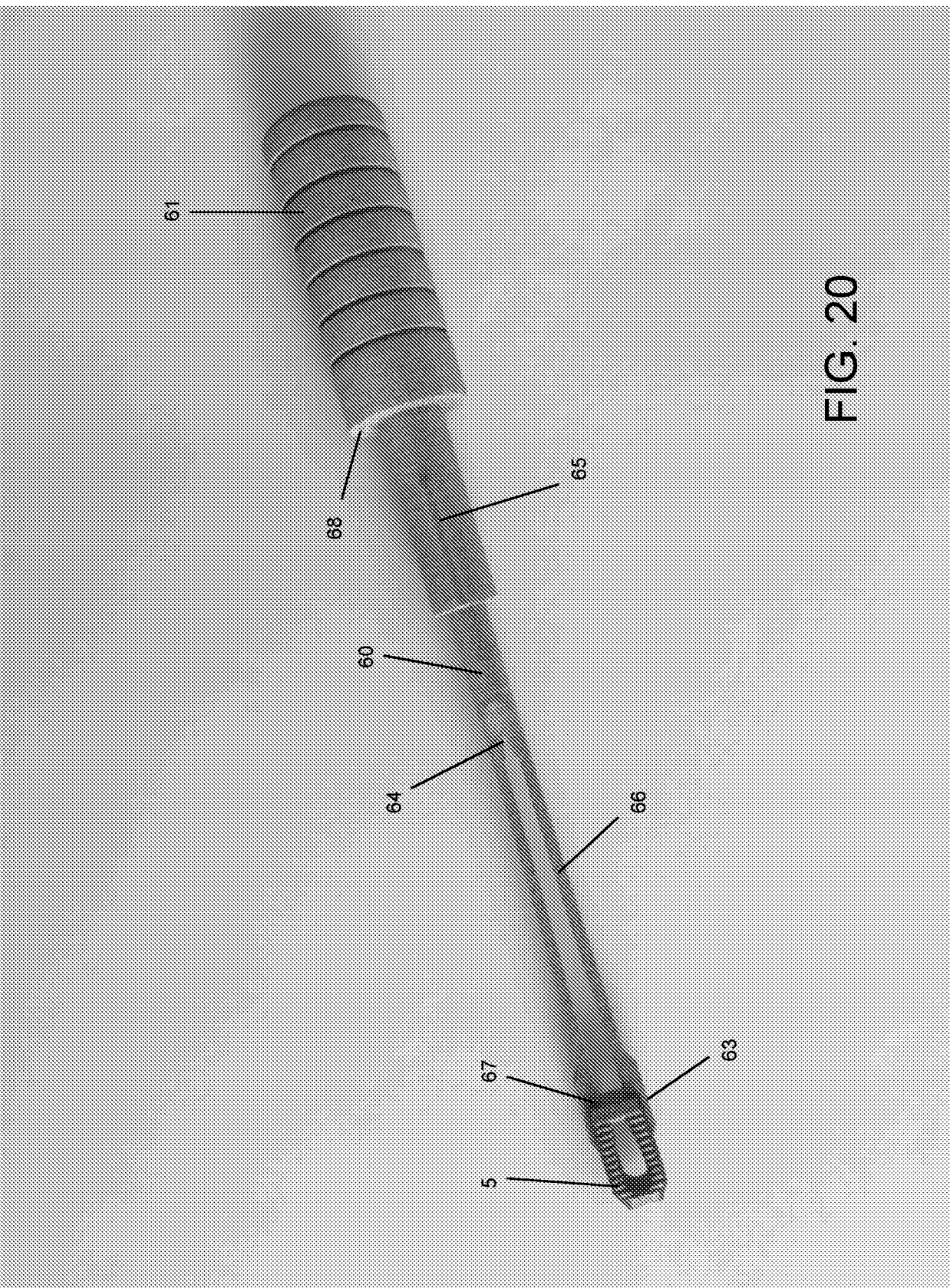
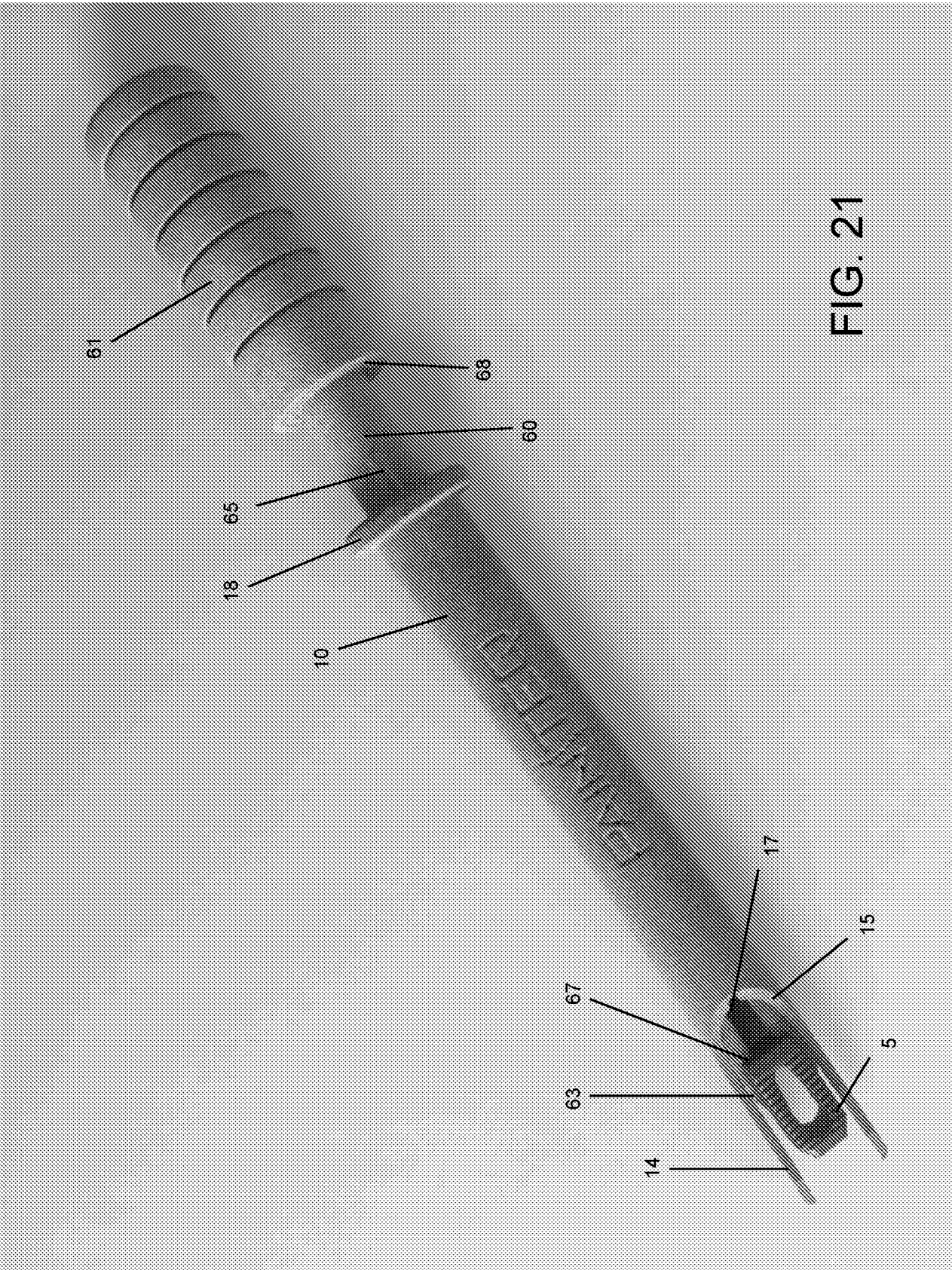


FIG. 20



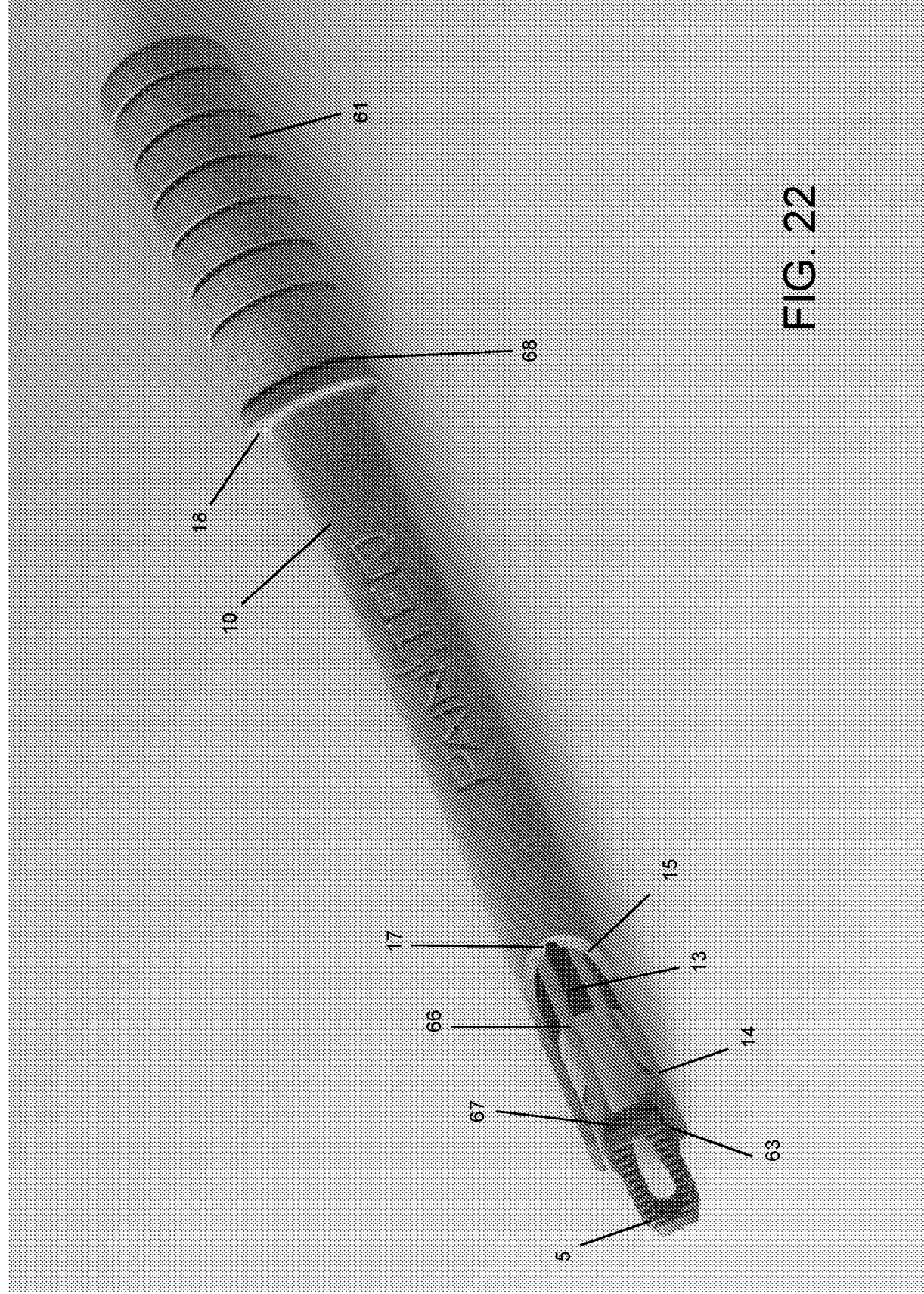


FIG. 22

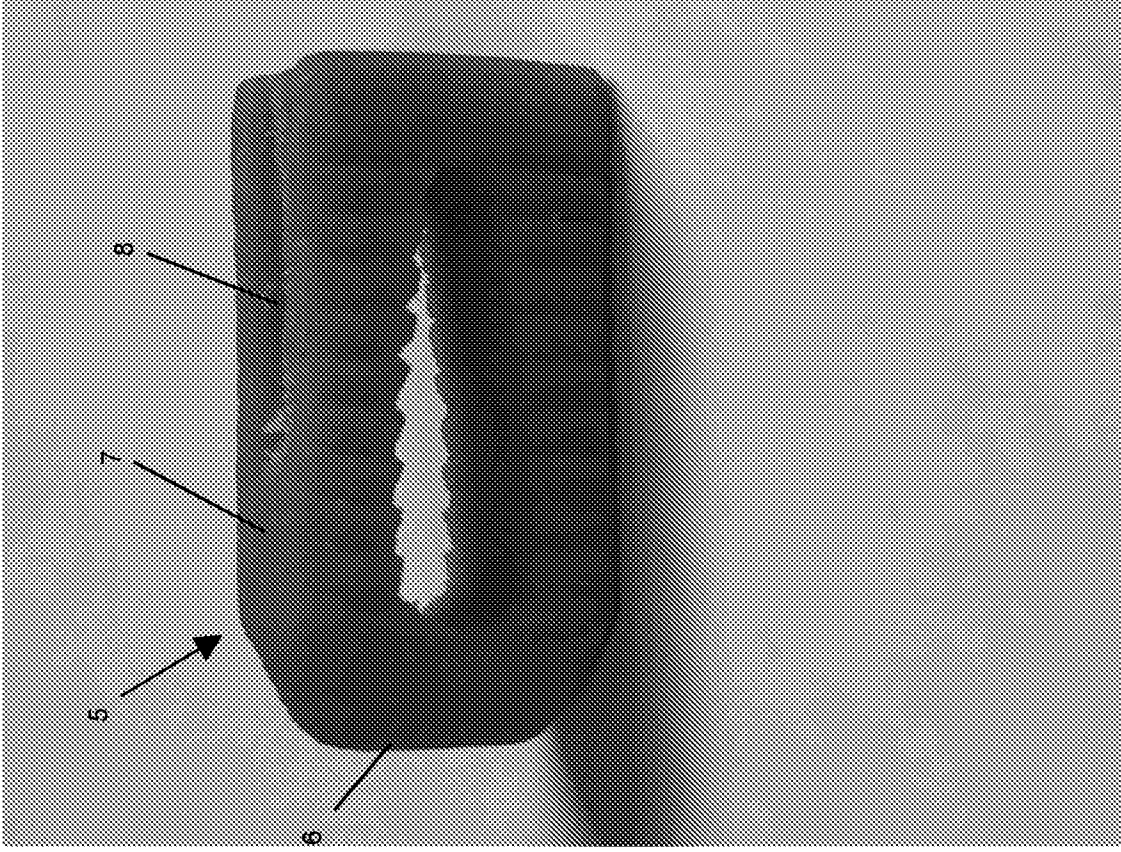


FIG. 23

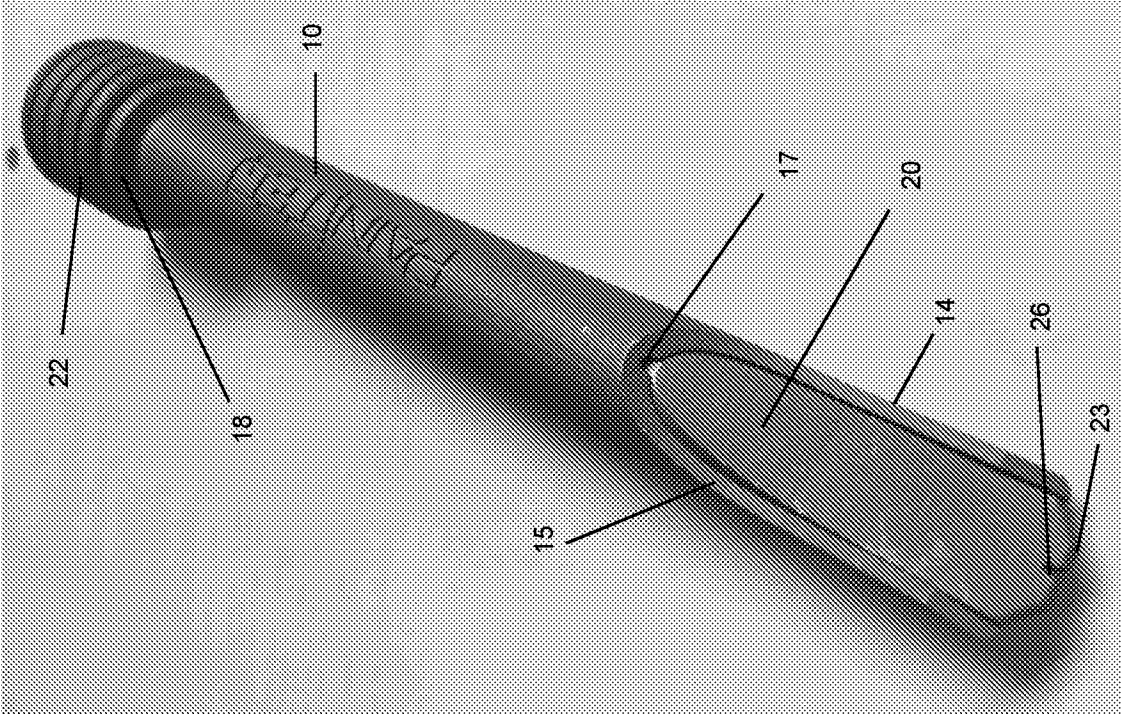


FIG. 24

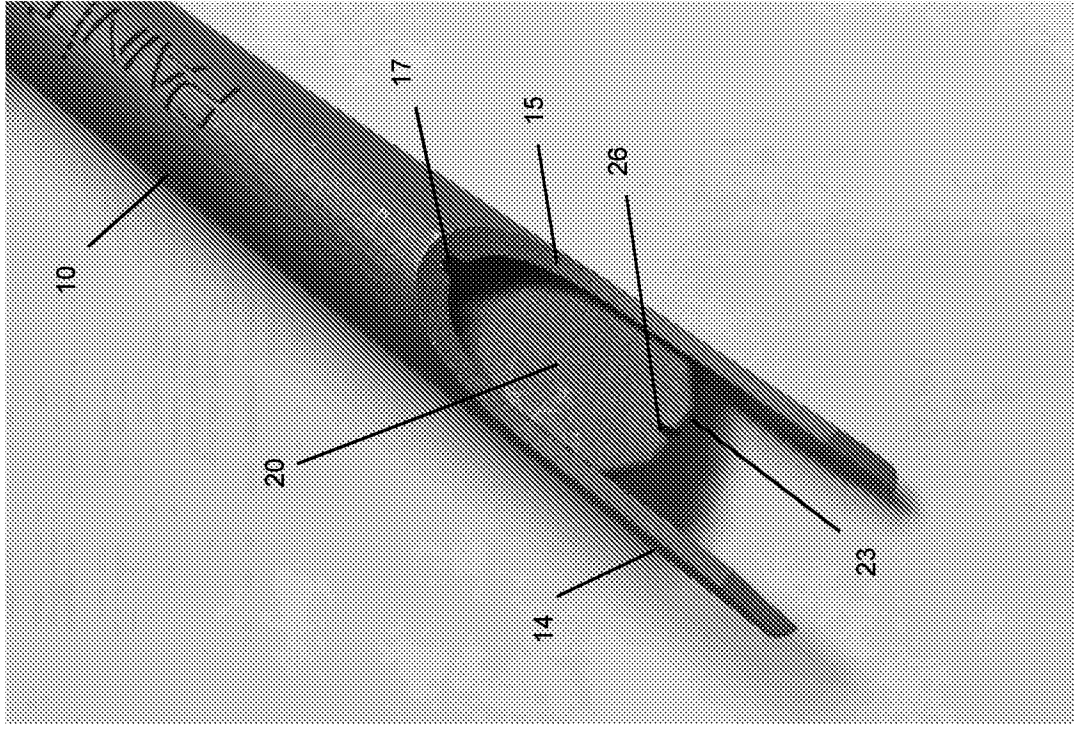


FIG. 25

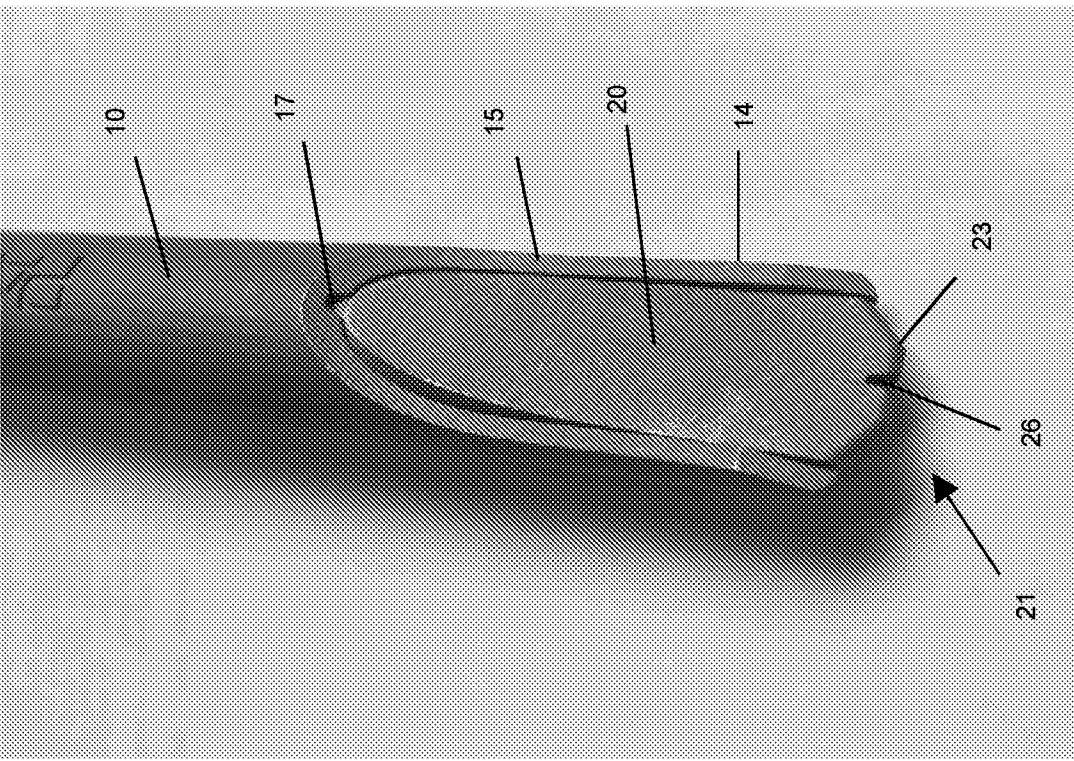


FIG. 26

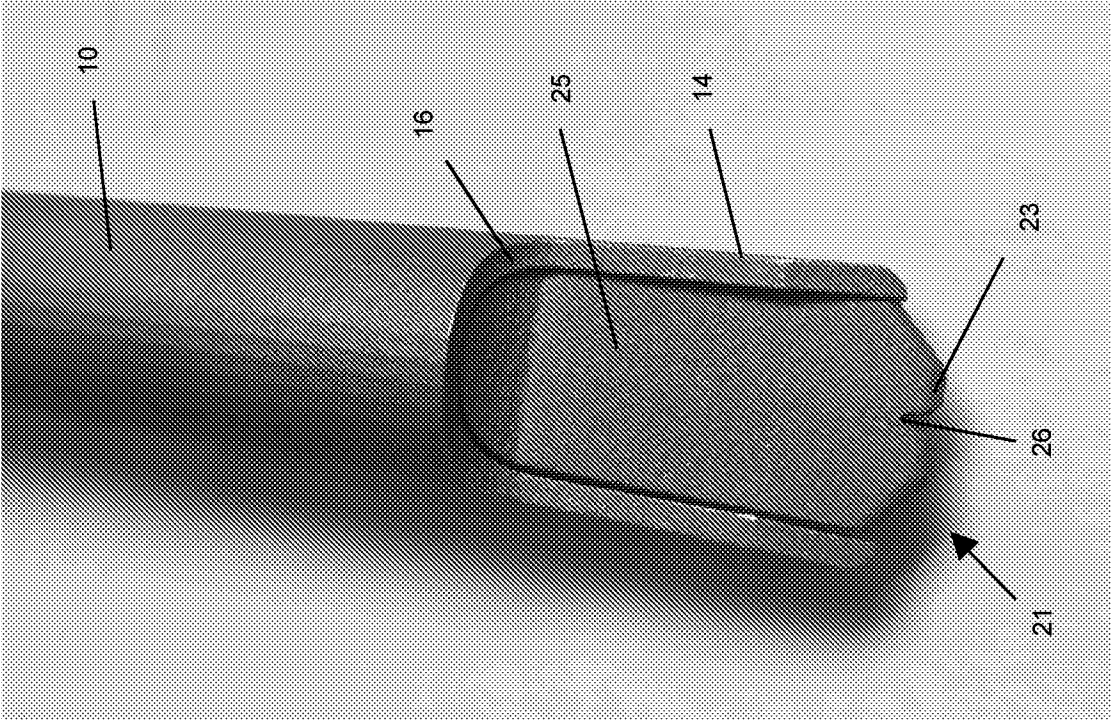


FIG. 27

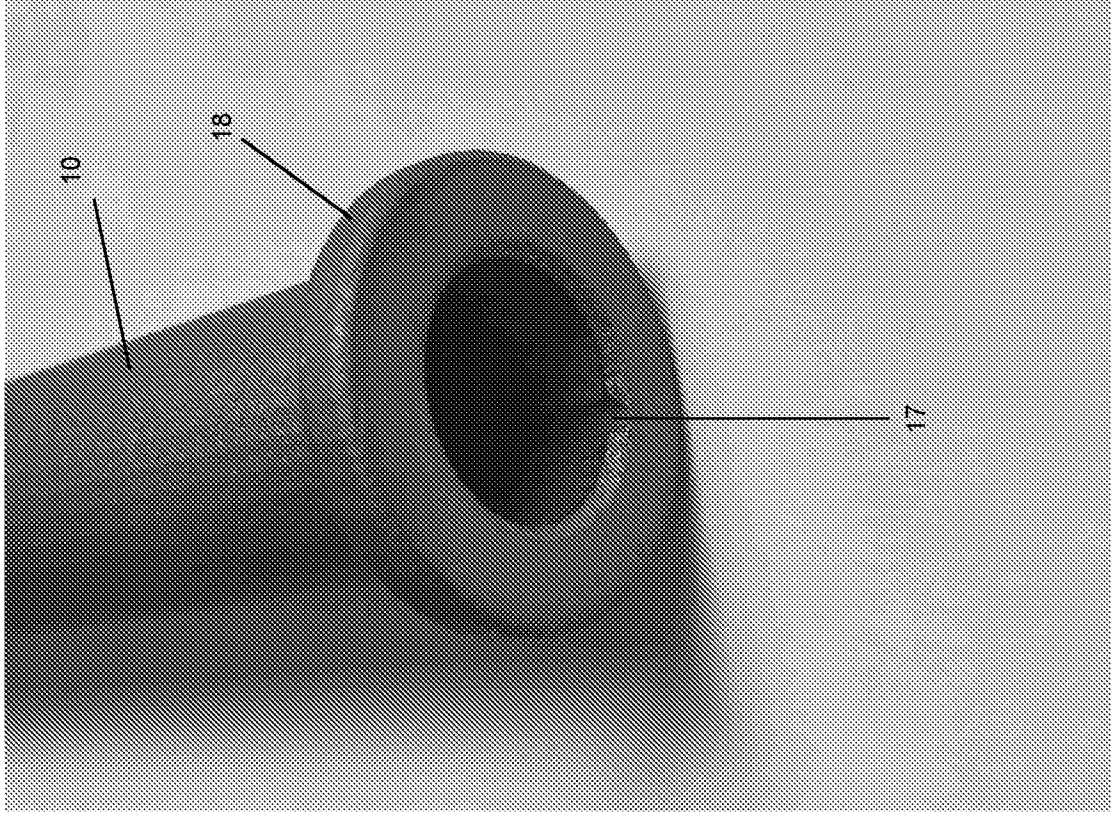


FIG. 28

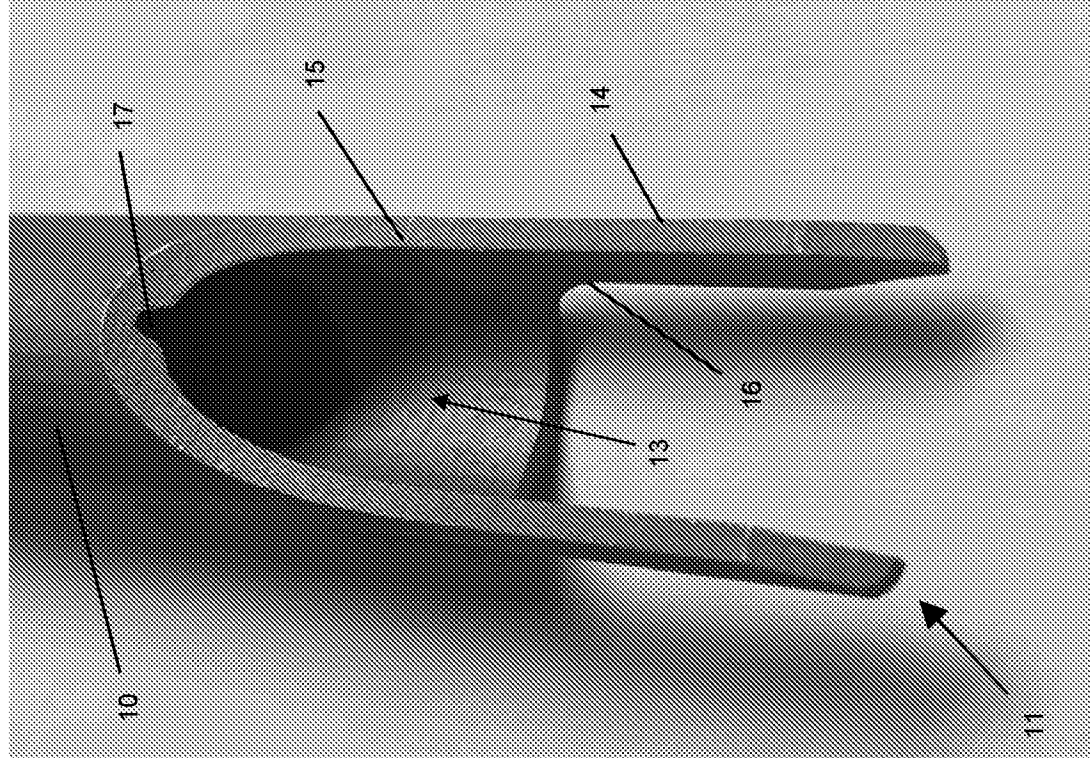


FIG. 29

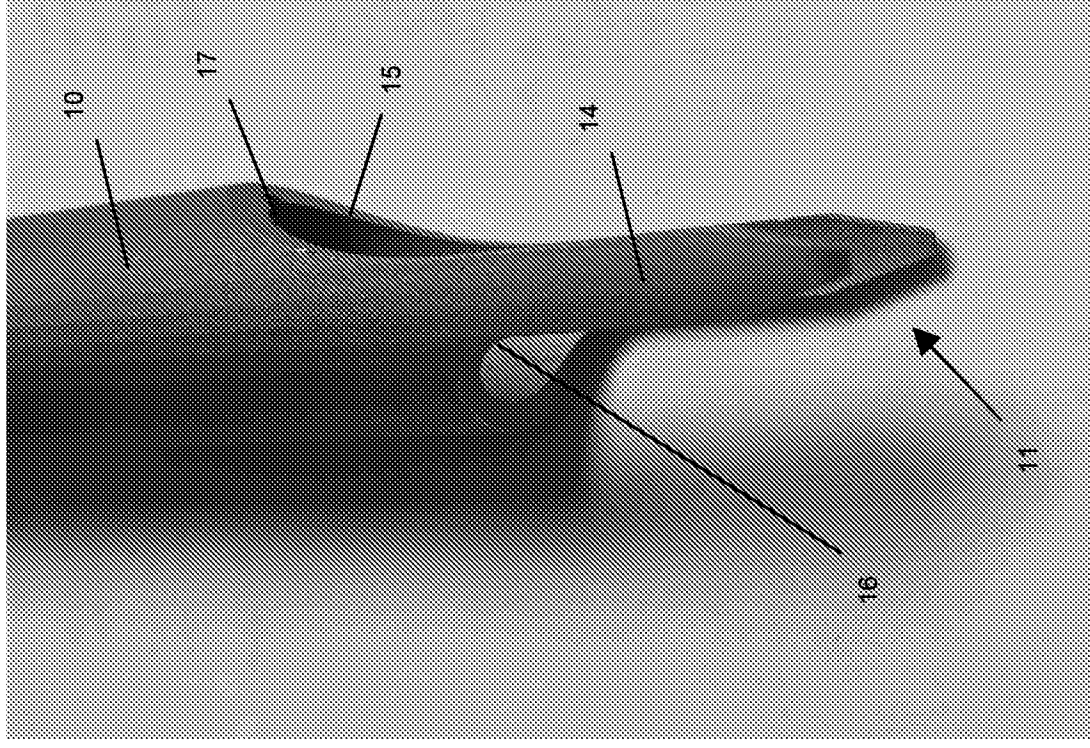


FIG. 30

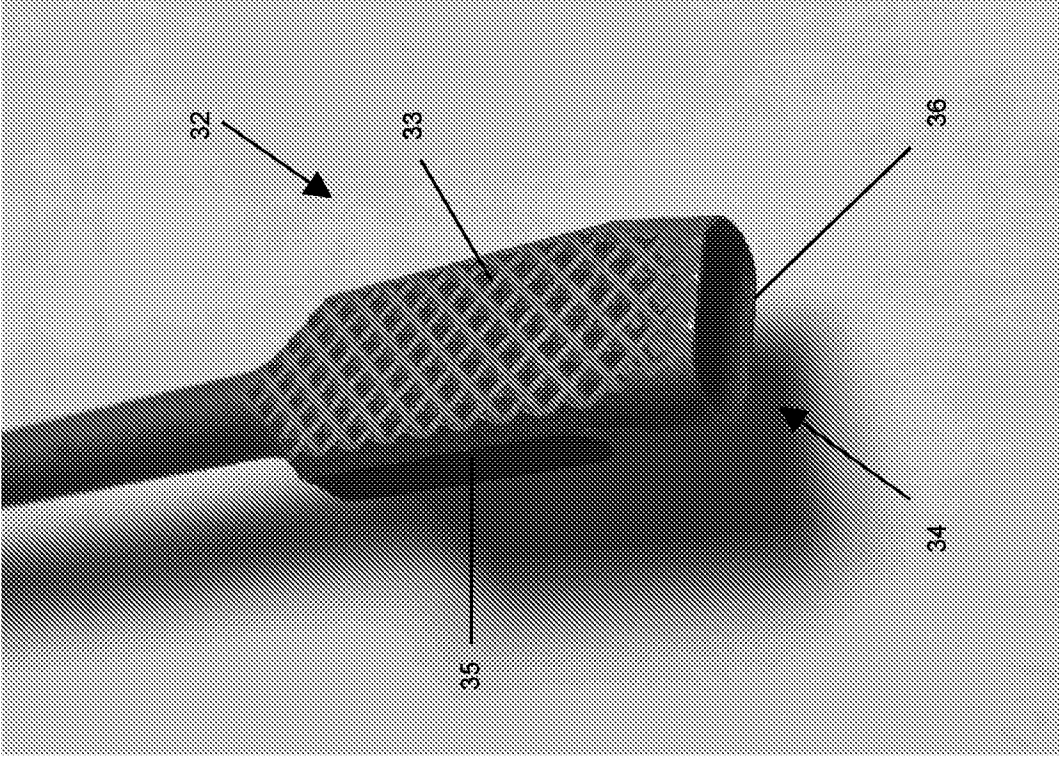


FIG. 31

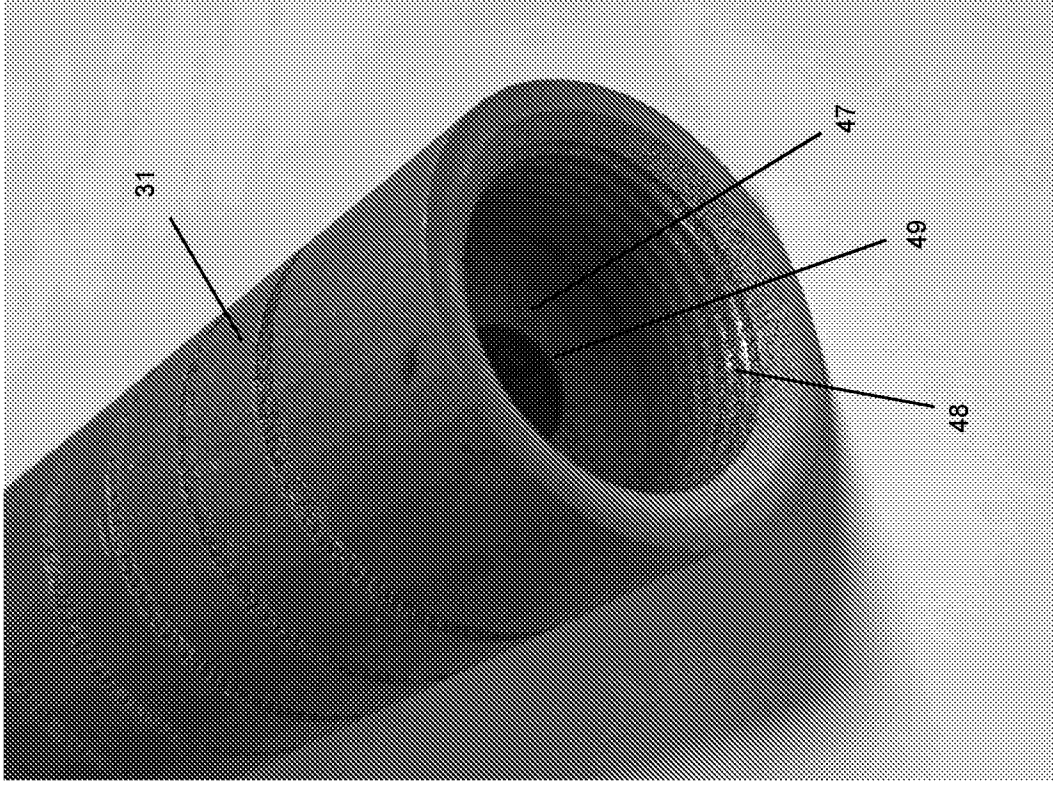


FIG. 32

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	SYSTEM FOR FUSING A SACROILIAC JOINT			
First Named Inventor/Applicant Name:	Sean Laneve			
Filer:	Stephen E. Kelly/Lauren Forsythe			
Attorney Docket Number:	13438-005			
Filed as Small Entity				
Filing Fees for Provisional				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
PROVISIONAL APPLICATION FILING FEE	2005	1	140	140
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				140

Electronic Acknowledgement Receipt

EFS ID:	37372615
Application Number:	62910913
International Application Number:	
Confirmation Number:	7686
Title of Invention:	SYSTEM FOR FUSING A SACROILIAC JOINT
First Named Inventor/Applicant Name:	Sean Laneve
Customer Number:	141269
Filer:	Stephen E. Kelly/Lauren Forsythe
Filer Authorized By:	Stephen E. Kelly
Attorney Docket Number:	13438-005
Receipt Date:	04-OCT-2019
Filing Date:	
Time Stamp:	16:41:46
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 140
RAM confirmation Number	E201904G42408728
Deposit Account	600193
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1	Provisional Cover Sheet (SB16)	1348_005_Provisional_Cover_Sheet.pdf	140753	no	3
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Warnings:					
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Information:					
2		13438_005_Specification.pdf	172628	yes	16
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	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	15	
	Abstract		16	16	
Warnings:					
Information:					
3	Drawings-other than black and white line drawings	13438_005_Drawings.pdf	2675465	no	22
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4	Fee Worksheet (SB06)	fee-info.pdf	29637	no	2
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