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(54) **POSITIONING DEVICE FOR MEDICAL DEVICES**

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FIG. 1

FIG. 3

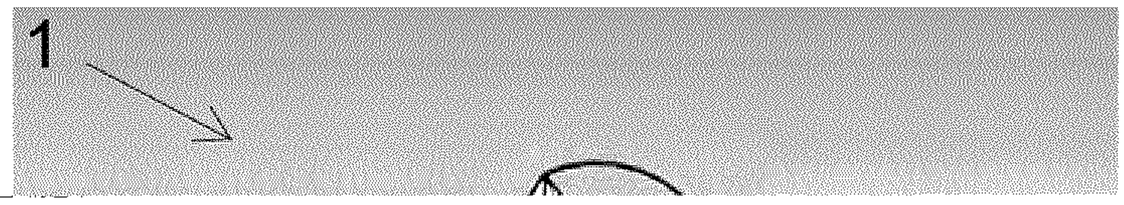
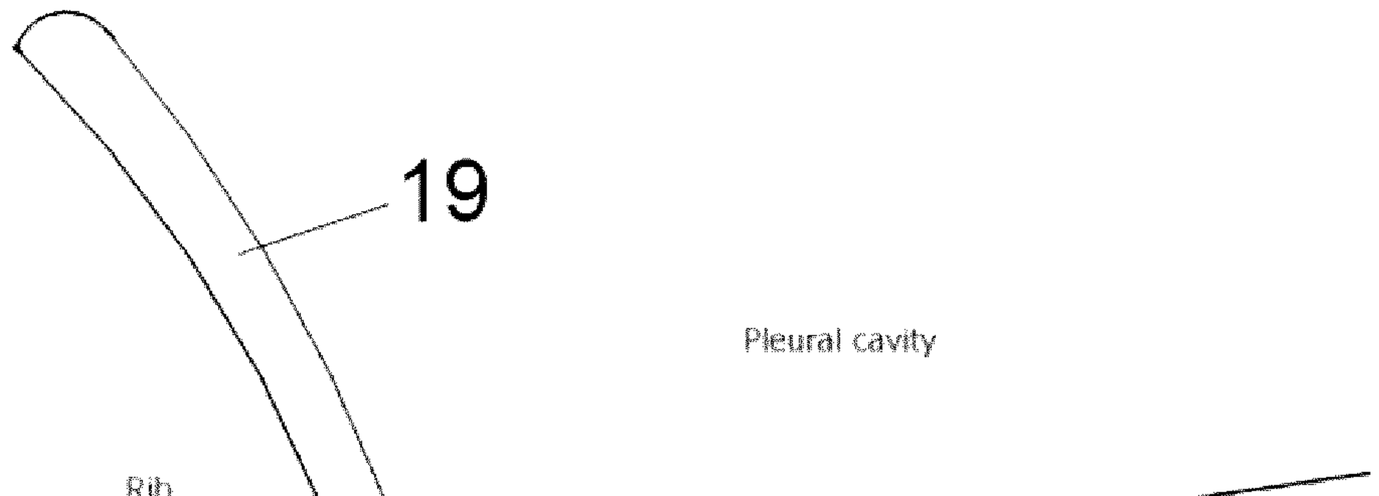


FIG. 5



POSITIONING DEVICE FOR MEDICAL DEVICES

CROSS REFERENCE TO RELATED APPLICATION

mining the appropriate positioning of the device. This may be accomplished, for example, by detecting specific tissue or fluid. U.S. Pat. No. 7,499,745 discloses one example of a device that uses complex impedance measurements of tissue

[0017] FIG. **2** shows the combined outer sheath and cannula of the two part insertion apparatus.

clockwise, will direct the sheath forward while anti-clockwise rotation will direct the sheath backward. The angle, and

rotated in the reverse direction, thereby moving the protrusion back to the longitudinal channel and moving the protrusion out of the longitudinal channel until the cannula is removed from the outer sheath.

[0031] For insertion of the positioning device into a patient, the inner cannula is inserted into the outer sheath, as shown in FIG. 2. The outer diameter of the inner cannula is

dependent on the diameter of the outer sheath. In some cases, the minimum diameter may be 3 mm and the maxi-

[0036] In one aspect, the steps for inserting the positioning device are described using a pneumothorax drainage device:

[0037] 1. Clinical decision about tube thoracotomy (chest tube insertion) is made by the operator, and insertion point is targeted rostral to the rib.

[0038] 2. Appropriate anesthetic considerations are made including potential injection of local anesthetic to chest tube site where feasible.

[0039] 3. Small incision is made in skin to penetrate

b. a removable inner cannula for insertion into the outer sheath, the cannula comprising a body for insertion in the body of the outer sheath, and a penetrating end on the body of the cannula at an insertion end; and

c. a locking device for locking the inner cannula to the outer sheath.

[redacted]

comprises a base adjacent one end of the body, the base [redacted]

a. inserting a removable inner cannula into an outer sheath, wherein the outer sheath comprises a body and an external thread on an outer surface of the body; and [redacted]

the removable inner cannula comprises a body for insertion in the body of the outer sheath, and a penetrating end on the body of the cannula at an insertion [redacted]

b. positioning the penetrating end at a desired location on [redacted]