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**Smith et al.**

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(54) **DEVICES AND METHODS FOR PERCUTANEOUS SURGERY**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 417 days.

This patent is subject to a terminal disclaimer.

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**Related U.S. Application Data**

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*A61B 1/00* (2006.01)  
*A61B 1/313* (2006.01)

(52) **U.S. Cl.** ..... **600/114**; 600/102  
(58) **Field of Classification Search** ..... 600/102,  
600/114, 101, 125, 136; 604/164.01, 164.07,  
604/264

See application file for complete search history.

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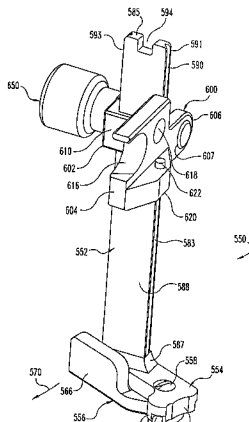
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(57) **ABSTRACT**

Methods and devices for performing surgery in a patient are provided. A cannula provides a working channel for access to a location in the patient. A clamp assembly is removably engaged to the cannula. The clamp assembly allows use of an endoscopic viewing system or can be removed to allow use of a microscopic viewing system in order to view the surgical site in the patient through the working channel. The clamp assembly includes a viewing element mounting portion having a length along which an endoscopic viewing element can be selectively positioned.

**26 Claims, 29 Drawing Sheets**

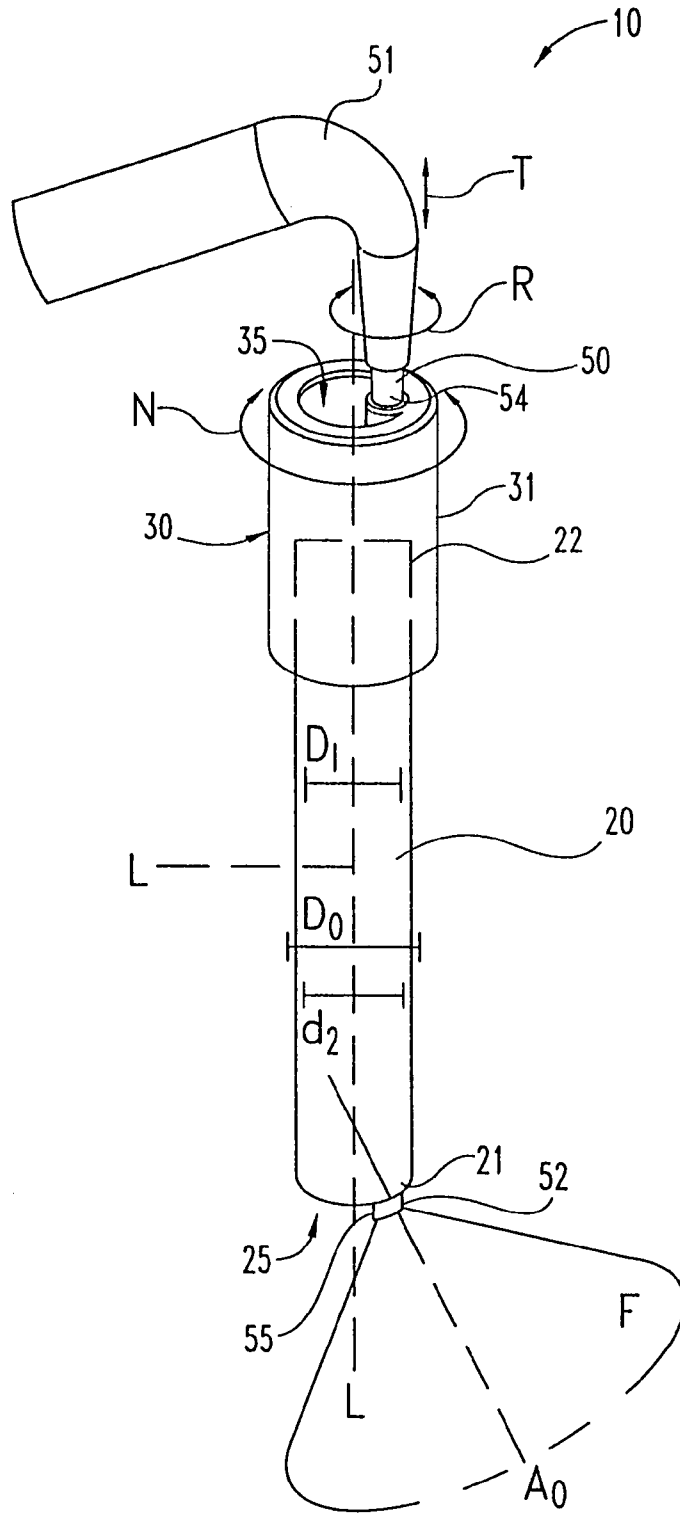


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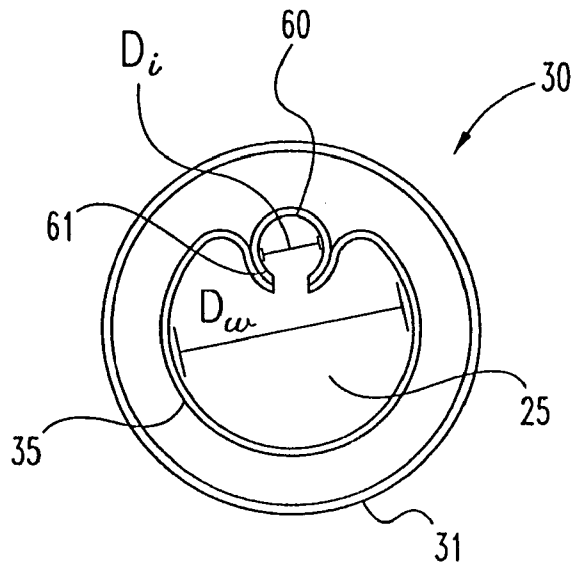
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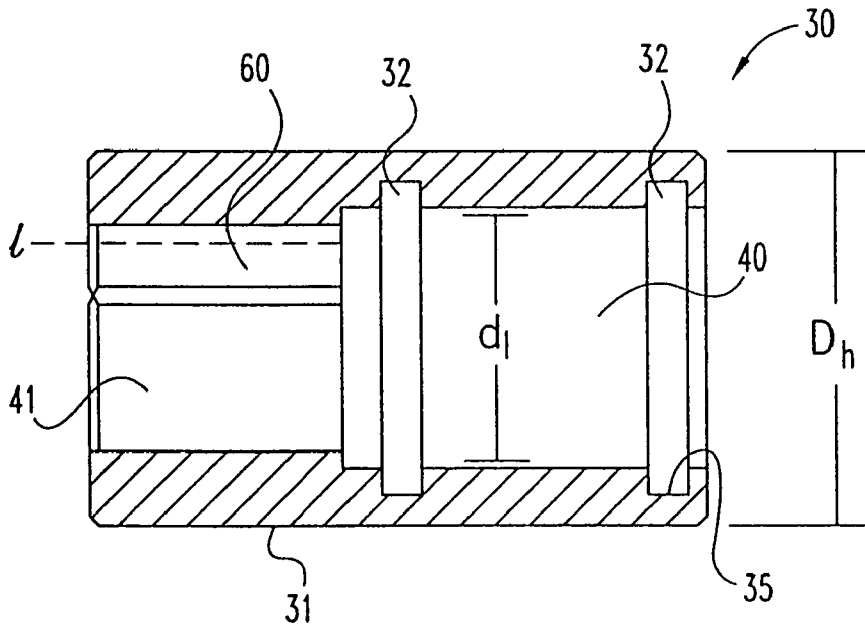
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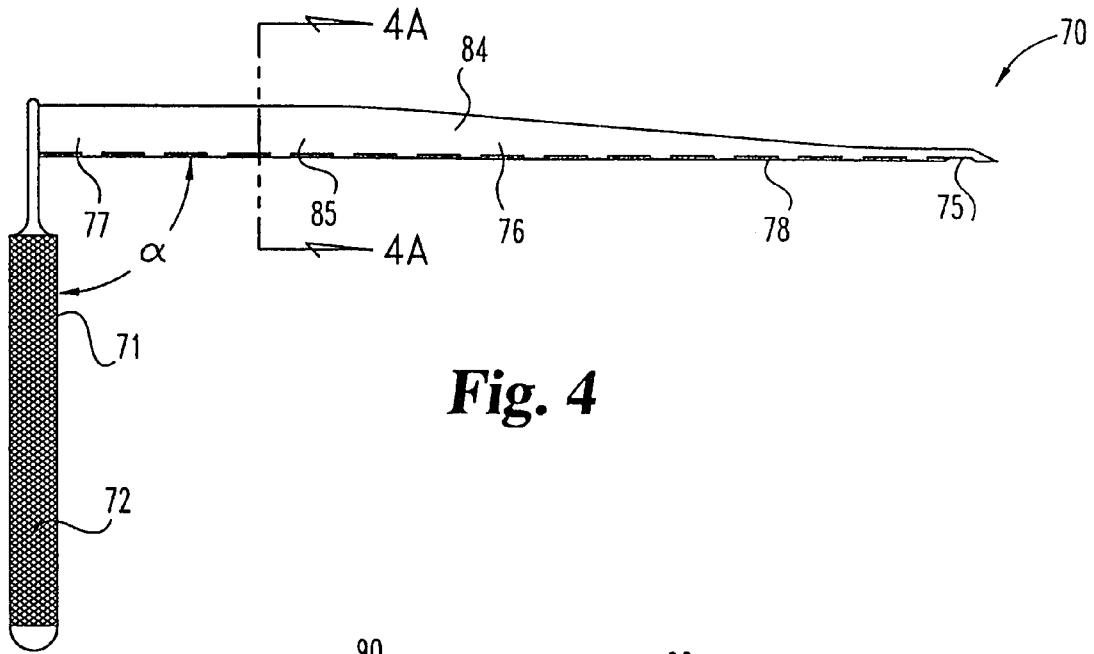
**Fig. 1**



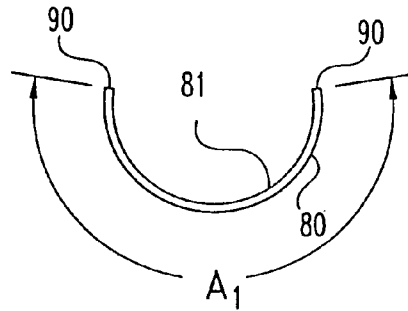
**Fig. 2**



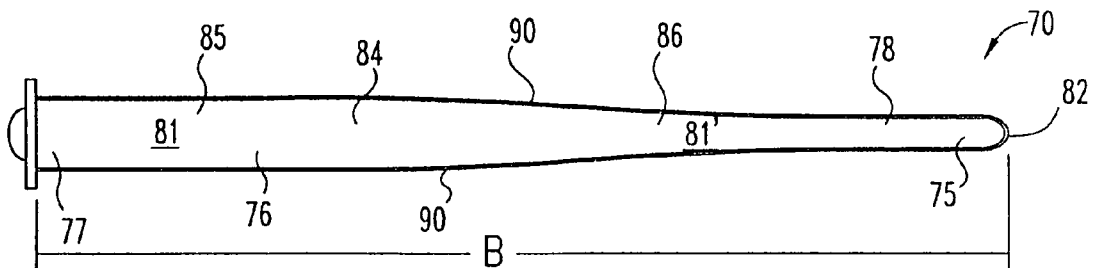
**Fig. 3**



**Fig. 4**



**Fig. 4A**



**Fig. 5**

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