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**Smith et al.**

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

(75) Inventors: **Maurice M. Smith**, Cordova, TN (US);  
**Kevin T. Foley**, Germantown, TN (US);  
**Thomas E. Roehm, III**, Braden, TN  
(US); **William Barry Null**, Olive  
Branch, MS (US)

(73) Assignee: **Warsaw Orthopedic, Inc.**, Warsaw, IN  
(US)

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U.S.C. 154(b) by 417 days.

This patent is subject to a terminal dis-  
claimer.

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continuation-in-part of application No. 08/620,933,  
filed on Mar. 22, 1996, now Pat. No. 5,792,044,  
which is a continuation-in-part of application No.  
10/359,996, filed on Feb. 6, 2003, which is a con-  
tinuation of application No. 09/449,647, filed on Nov.  
30, 1999, now Pat. No. 6,520,907, which is a division  
of application No. 08/920,991, filed on Aug. 29, 1997,  
now Pat. No. 6,007,487, which is a division of  
application No. 08/620,933, filed on Mar. 22, 1996.

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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,**  
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See application file for complete search history.

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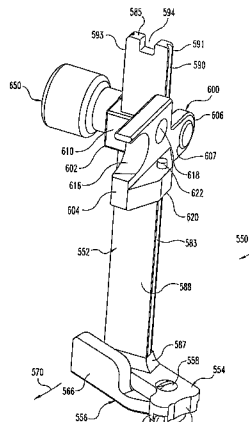
*Primary Examiner*—John P. Leubecker

(74) *Attorney, Agent, or Firm*—Krieg DeVault LLP

(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 por-  
tion having a length along which an endoscopic viewing  
element can be selectively positioned.

**26 Claims, 29 Drawing Sheets**

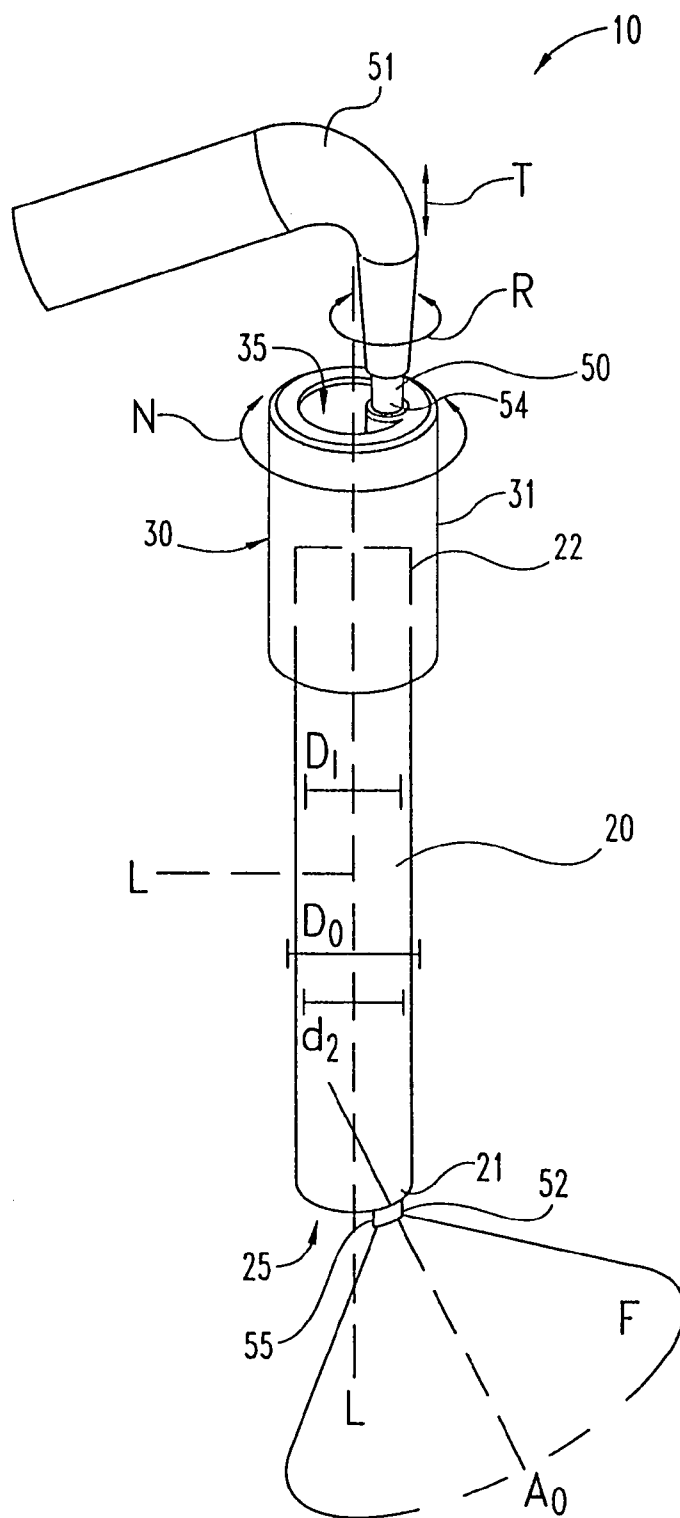


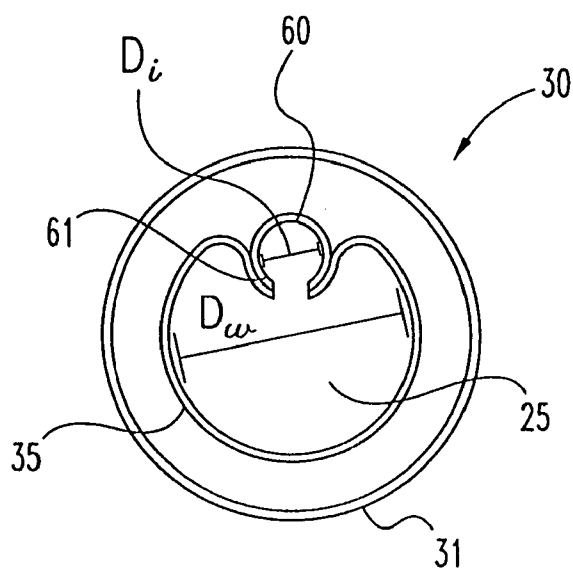
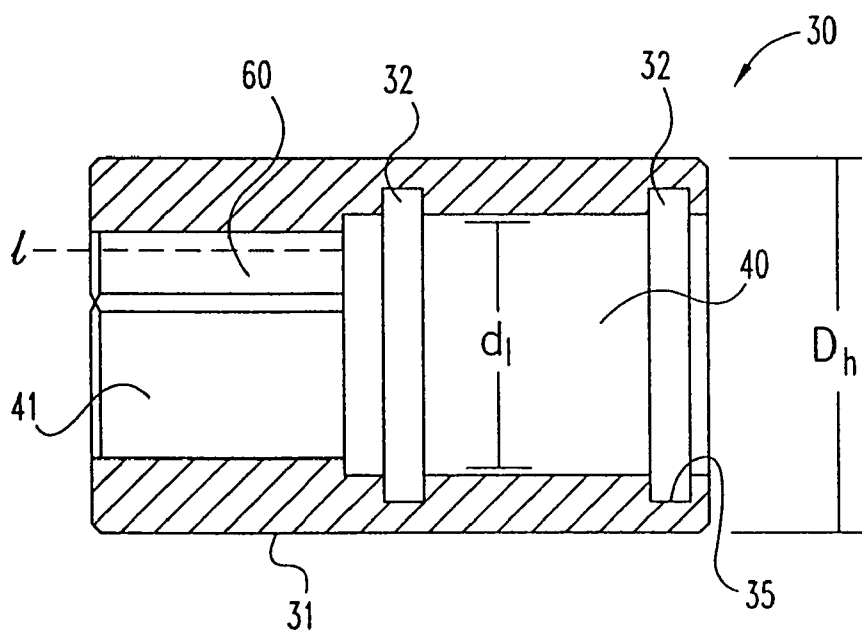
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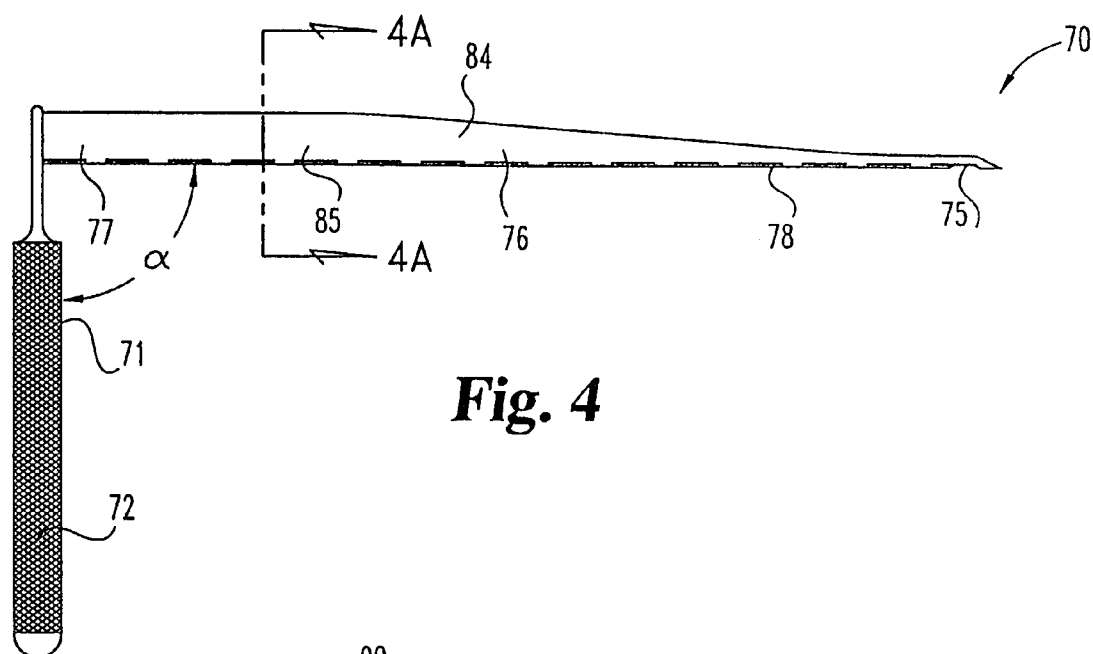
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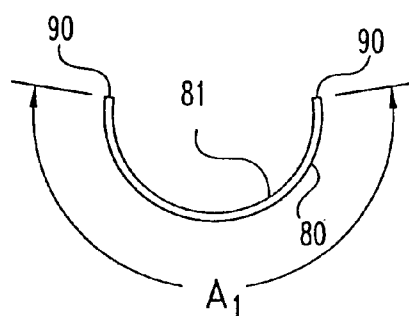
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**Fig. 1**

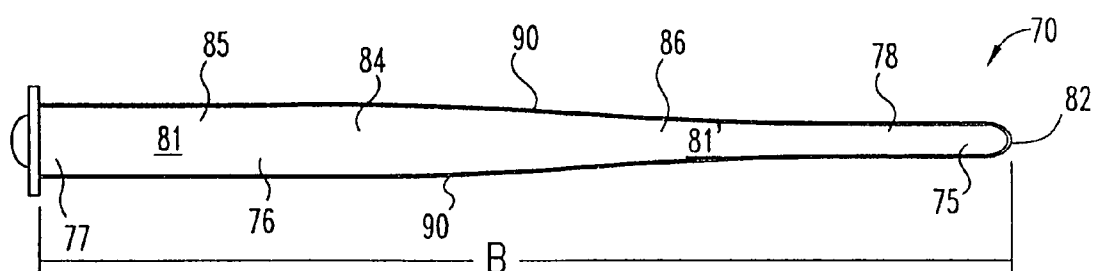
**Fig. 2****Fig. 3**



**Fig. 4**



**Fig. 4A**



**Fig. 5**

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