

(12) **United States Patent**  
**Milsom et al.**

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(54) **METHOD AND APPARATUS FOR STABILIZING, STRAIGHTENING, EXPANDING AND/OR FLATTENING THE SIDE WALL OF A BODY LUMEN AND/OR BODY CAVITY SO AS TO PROVIDE INCREASED VISUALIZATION OF THE SAME AND/OR INCREASED ACCESS TO THE SAME, AND/OR FOR STABILIZING INSTRUMENTS RELATIVE TO THE SAME**

USPC ..... 606/191; 606/192; 600/114; 600/115; 600/116; 600/117; 600/118

(58) **Field of Classification Search**  
USPC ..... 606/191-199; 600/114-118, 104, 106, 600/129, 137, 12; 604/96.01, 604/101.01-101.05  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,066,071 A *	1/1978	Nagel .....	600/102
4,198,981 A	4/1980	Sinnreich	
4,445,892 A	5/1984	Hussein et al.	
4,862,874 A	9/1989	Kellner	
5,025,778 A	6/1991	Silverstein et al.	
5,662,587 A	9/1997	Grundfest et al.	
5,718,680 A	2/1998	Kraus et al.	
5,762,604 A	6/1998	Kieturakis	

(Continued)

FOREIGN PATENT DOCUMENTS

EP	0 402 467	12/1990
EP	1 654 977	5/2006

(Continued)

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(57) **ABSTRACT**

The present invention comprises the provision and use of a novel endoscopic device which is capable of stabilizing, straightening, expanding and/or flattening the side wall of a body lumen and/or body cavity so as to better present the side wall tissue for examination and/or treatment during an endoscopic procedure. The present invention also comprises the provision and use of a novel endoscopic device capable of steadying and/or stabilizing the distal tips and/or working ends of instruments inserted into a body lumen and/or body cavity, whereby to facilitate the use of those instruments.

**18 Claims, 37 Drawing Sheets**

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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 133 days.

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(51) **Int. Cl.**

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CPC ..... **A61B 1/31** (2013.01); **A61B 1/00082** (2013.01)

