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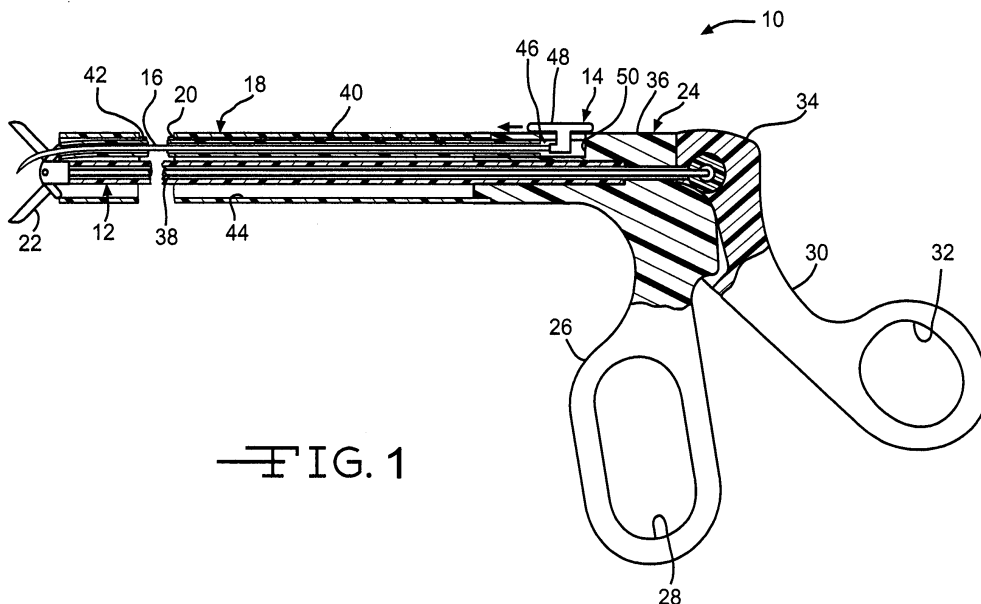
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(54) **Device for intraluminal anastomosis**

(57) An anastomosis device (16) formed from a Shape Memory Alloy (SME) wire that is annealed into a tight coil (e.g., flat coil, helical coil, cylindrical coil) is subsequently substantially straightened (e.g., straight, longitudinally stretched spring-like shape) for being constrained within an elongate member of an anastomosis introducer instrument (10). After positioning and holding two tissue walls of adjacent lumens into apposition with a distally presented grasper (12) of the instrument (10),

a piercing tip of the anastomosis device (16) is dispensed and inserted through the tissue walls before being allowed to relax to its tight coil shape, thereby forming the anastomosis attachment. The anastomosis device (16) is released from the anastomosis introducer instrument (10), such as by fully dispensing its proximal end. Thereby, efficient single lumen anastomosis of gastrointestinal, bilatory, or other vessels may be achieved with a minimum of laparoscopic punctures, or perhaps performed fully as an endoscopic procedure.



— FIG. 1



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 25 8081

DOCUMENTS CONSIDERED TO BE RELEVANT					
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)		
X	WO 02/17771 A (ADVANCED VASCULAR TECHNOLOGIES LLC) 7 March 2002 (2002-03-07) * page 5, line 21 - page 12, line 15 * * page 21, line 17 - page 39, line 15 * * figures * -----	1-6	A61B17/11		
X	US 6 416 522 B1 (STRECKER ERNST PETER) 9 July 2002 (2002-07-09) * column 3, line 22 - line 28 * * column 12, line 40 - line 61 * * figure 18 * -----	1-6			
X	US 5 997 556 A (TANNER ET AL) 7 December 1999 (1999-12-07) * column 18, line 52 - column 21, line 18 * * column 24, line 23 - column 27, line 27 * * figures 17,19-25,34-46,49-53,56-59 * -----	1-6			
A	US 6 425 900 B1 (KNODEL BRYAN D ET AL) 30 July 2002 (2002-07-30) * column 9, line 42 - column 14, line 27 * * figures 9-24 * -----	1-6	<table border="1"> <tr> <td>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</td> </tr> <tr> <td>A61B</td> </tr> </table>	TECHNICAL FIELDS SEARCHED (Int.Cl.7)	A61B
TECHNICAL FIELDS SEARCHED (Int.Cl.7)					
A61B					
----- The present search report has been drawn up for all claims					
Place of search		Date of completion of the search	Examiner		
Berlin		15 April 2005	Nistor, L		
<table border="0"> <tr> <td style="vertical-align: top;"> CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document </td> <td style="vertical-align: top;"> T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document </td> </tr> </table>				CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document				

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EPO FORM 1503 03.82 (P04C01)

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

see annex



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-6

anastomosis instrument with anastomosis device and
dispensing member.

2. claims: 7-9

Anastomosis device with dispensing member, grasping jaws and
grasper control mechanism.

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 04 25 8081

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

15-04-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0217771	A	07-03-2002	AU 9256301 A	13-03-2002
			CA 2441883 A1	07-03-2002
			EP 1317213 A2	11-06-2003
			WO 0217771 A2	07-03-2002
			US 2003105473 A1	05-06-2003

US 6416522	B1	09-07-2002	DE 19731834 A1	17-06-1999
			WO 9904724 A1	04-02-1999
			DE 59803755 D1	16-05-2002
			EP 0999806 A1	17-05-2000

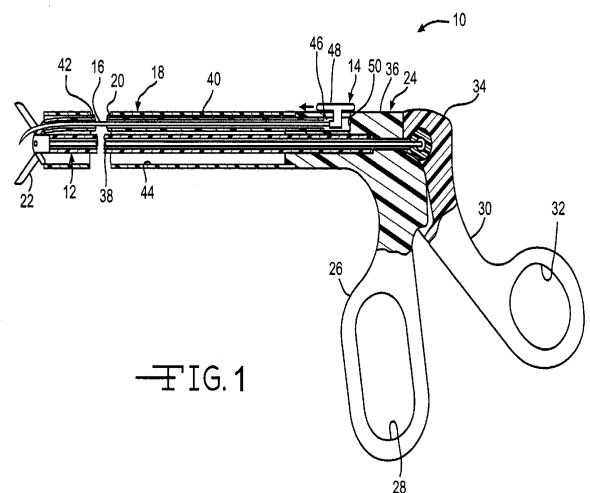
US 5997556	A	07-12-1999	US 5957940 A	28-09-1999
			US 5944750 A	31-08-1999
			EP 1139879 A1	10-10-2001
			JP 2002532128 T	02-10-2002
			WO 0035350 A1	22-06-2000
			US 6248118 B1	19-06-2001
			US 2002026214 A1	28-02-2002
			AU 8262998 A	19-01-1999
			EP 0991357 A2	12-04-2000
			JP 2001509398 T	24-07-2001
			WO 9900055 A2	07-01-1999
			US 6270516 B1	07-08-2001
			US 6371919 B1	16-04-2002
			US 2001016748 A1	23-08-2001
US 2005043785 A1	24-02-2005			

US 6425900	B1	30-07-2002	US 2002068947 A1	06-06-2002
			US 2002087170 A1	04-07-2002

专利名称(译)	用于腔内吻合的装置		
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[标]申请(专利权)人(译)	伊西康内外科公司		
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优先权	10/747488 2003-12-29 US 10/947567 2004-09-22 US		
其他公开文献	EP1550415A2		
外部链接	Espacenet		

摘要(译)

由形状记忆合金 (SME) 线形成的吻合装置 (16) 退火成紧密线圈 (例如, 扁平线圈, 螺旋线圈, 圆柱形线圈), 随后基本上伸直 (例如, 直的, 纵向拉伸的弹簧状形状) 用于约束在吻合导引器械 (10) 的细长构件内。在将相邻管腔的两个组织壁定位并保持与器械 (10) 的远端呈现的抓紧器 (12) 并置之后, 吻合装置 (16) 的刺穿尖端被分配并插入穿过组织壁, 然后被允许放松其紧密的线圈形状, 从而形成吻合附件。吻合装置 (16) 从吻合导引器械 (10) 释放, 例如通过完全分配其近端。因此, 可以通过最少的腹腔镜穿刺来实现胃肠, 双叶或其他血管的有效单腔吻合, 或者可以完全作为内窥镜手术来完成。



—FIG. 1