



(11)

EP 2 666 416 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
20.08.2014 Bulletin 2014/34

(51) Int Cl.:
A61B 17/00 (2006.01) **A61B 17/02** (2006.01)
A61B 17/34 (2006.01)

(43) Date of publication A2:
27.11.2013 Bulletin 2013/48

(21) Application number: 13168805.3

(22) Date of filing: 22.05.2013

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

Designated Extension States:

BA ME

(30) Priority: 25.05.2012 US 201261651803 P
04.03.2013 US 201313783570

(71) Applicant: **Cook Medical Technologies LLC**
Bloomington, IN 47404 (US)

(72) Inventors:

- **Stevenson, Andrew R.L.**
Newport, Queensland 4021 (AU)
- **Burleigh, Tiffany**
Logan Central, Queensland 4114 (AU)

- **Ford, Michael William**
Palm Beach, Queensland 4221 (AU)
- **Gutierrez, Caroline**
Moorooka, Queensland 4105 (AU)
- **Junger, Michael Carl**
Brookfield, Queensland 4069 (AU)
- **Macnaughtan, James**
Fig Tree Pocket, Queensland 4069 (AU)
- **Vizcay-Wilson, Caitlin**
Bonogin, Queensland 4213 (AU)

(74) Representative: **Garratt, Peter Douglas et al**
Mathys & Squire LLP
The Shard
32 London Bridge Street
London SE1 9SG (GB)

(54) **Removable medical retractor tip**

(57) The exemplary embodiments illustrated provide the discovery of systems, methods, and apparatuses of removable tips for use with medical retractors in laparoscopic surgery that provide many benefits, including but not limited to, improving the efficiency and navigation to the target anatomy while maintaining adequate exposure to the target anatomy.

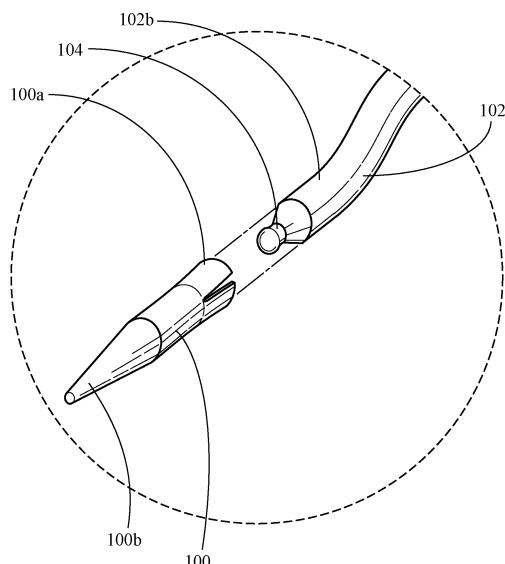


Fig. 1C



EUROPEAN SEARCH REPORT

Application Number
EP 13 16 8805

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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	US 7 485 092 B1 (STEWART MICHAEL C [US] ET AL) 3 February 2009 (2009-02-03) * column 7 - column 8; figure 1b *	1,14	INV. A61B17/00
X	US 2012/065589 A1 (WORREL DANIEL A [US] ET AL) 15 March 2012 (2012-03-15) * paragraph [0048]; figures 11-13 * * paragraph [0047] * * paragraph [0046] * * paragraph [0049] *	1,2,14	ADD. A61B17/02 A61B17/34
X	WO 2004/037070 A2 (HAMADA JAMES S [US]) 6 May 2004 (2004-05-06) * figures 12-14 *	1,14	
A	WO 2006/088578 A1 (INVENTIO LLC [US]; REYDEL BORIS [US]) 24 August 2006 (2006-08-24) * figures 8a-8d *	2	
X	US 5 817 061 A (GOODWIN MATTHEW S [US] ET AL) 6 October 1998 (1998-10-06) * figures 2,8,4,5,6 *	1,3,7-9, 13,15	TECHNICAL FIELDS SEARCHED (IPC)
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X	GB 2 481 056 A (SURGICAL INNOVATIONS LTD [GB]; FIENNES ALBERIC [GB]; BOSSCHE MICHAEL V) 14 December 2011 (2011-12-14) * figure 8c *	1,3,7-9, 13,15	
X	US 5 372 588 A (FARLEY KEVIN [US] ET AL) 13 December 1994 (1994-12-13) * column 4; figure 6 *	1,3,7-9, 13,15	
The present search report has been drawn up for all claims			
2	Place of search Munich	Date of completion of the search 15 July 2014	Examiner Hausmann, Alexander
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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Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

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

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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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:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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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:

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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:

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The present supplementary 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 (Rule 164 (1) EPC).

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**LACK OF UNITY OF INVENTION
SHEET B**Application Number
EP 13 16 8805

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:

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1. claims: 1, 2, 4-6, 14-16

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A removable tip according to claim 1 comprising a conical-shaped body with proximal and distal body portions, the proximal body portion comprising a substantially hollow portion and the distal portion being atraumatic; additionally comprising the feature that the distal body portion is movable relative to the proximal body portion solving the problem of how to create a passage way to advance the medical retractor through the removable tip.

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2. claims: 3, 7-13

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A removable tip according to claim 7 comprising a conical-shaped body with proximal and distal body portions, the proximal body portion comprising a substantially hollow portion and the distal portion being atraumatic; additionally comprising disengagement means and a medical retractor being connected to the removable tip, solving the problem of how to disengage the removable tip from the retractor.

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

EP 13 16 8805

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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.

15-07-2014

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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专利名称(译)	可拆卸医用牵开器尖端		
公开(公告)号	EP2666416A3	公开(公告)日	2014-08-20
申请号	EP2013168805	申请日	2013-05-22
[标]申请(专利权)人(译)	库克医学技术有限责任公司		
申请(专利权)人(译)	库克医疗技术有限责任公司		
当前申请(专利权)人(译)	库克医疗技术有限责任公司		
[标]发明人	STEVENSON ANDREW R L BURLEIGH TIFFANY FORD MICHAEL WILLIAM GUTIERREZ CAROLINE JUNGER MICHAEL CARL MACNAUGHTAN JAMES VIZCAY WILSON CAITLIN		
发明人	STEVENSON, ANDREW R.L. BURLEIGH, TIFFANY FORD, MICHAEL WILLIAM GUTIERREZ, CAROLINE JUNGER, MICHAEL CARL MACNAUGHTAN, JAMES VIZCAY-WILSON, CAITLIN		
IPC分类号	A61B17/00 A61B17/02 A61B17/34		
CPC分类号	A61B17/0218 A61B17/3415 A61B2017/00296 A61B2017/00336 A61B2017/00473 A61B2017/00557 A61B2017/3454 A61B2090/037		
审查员(译)	HAUSMANN , ALEXANDER		
优先权	13/783570 2013-03-04 US 61/651803 2012-05-25 US		
其他公开文献	EP2666416A2 EP2666416B1		
外部链接	Espacenet		

摘要(译)

所示的示例性实施例提供了在腹腔镜手术中与医疗牵开器一起使用的可移除尖端的系统，方法和装置的发现，其提供许多益处，包括但不限于，提高效率和导航到目标解剖结构，同时保持足够的暴露于目标解剖学。

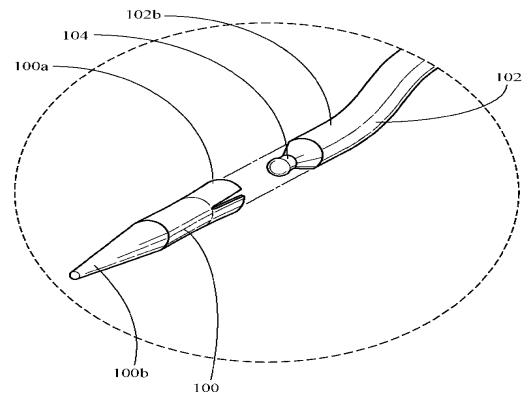


Fig. 1C