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02802164.0 / 1 478 264

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(54) **Miniature endoscope with imaging fiber system**

(57) An endoscope (20) comprising a fiber optic waveguide that transmits an image from a distal end to a proximal end, the waveguide (26) having an outer diameter of less than 3 mm, a lens (142) positioned at the distal end of the fiber optic waveguide, an imaging device

optically coupled to the proximal end of the fiber optic waveguide, and a sheath (34) extending about the fiber optic waveguide, the sheath (34) including an illumination channel.

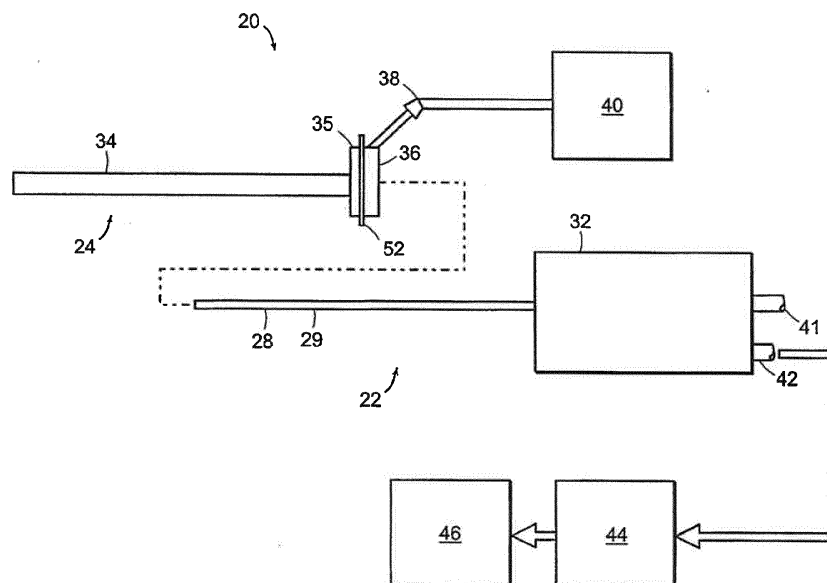


FIG. 1



EUROPEAN SEARCH REPORT

 Application Number
 EP 13 17 7124

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 498 114 A1 (CITATION MEDICAL CORP [US]) 12 August 1992 (1992-08-12) * column 5, line 10 - column 6, line 56 *	1-4	INV. A61B1/04 A61B1/00 G02B27/00
A	US 5 704 892 A (ADAIR EDWIN L [US]) 6 January 1998 (1998-01-06) * column 3, line 55 - column 4, line 63 *	1-5	A61B1/012 A61B1/06 A61B1/015 A61B1/018
A	US 5 156 142 A (ANAPLIOTIS EMMANUEL [DE] ET AL) 20 October 1992 (1992-10-20) * the whole document *	1-5	
A	GB 1 078 036 A (AMERICAN CYSTOSCOPE MAKERS INC) 2 August 1967 (1967-08-02) * page 5, line 10 - page 6, line 56 * * page 10, lines 33-85 *	1-5	
A	WO 99/35960 A (UNIV FLORIDA) 22 July 1999 (1999-07-22) * page 6, line 29 - page 9, line 1 * * page 13, line 9 - line 31 *	1-5	
A	US 4 772 093 A (ABELE JOHN E [US] ET AL) 20 September 1988 (1988-09-20) * column 7, line 8 - column 9, line 20; figures 4-9 *	5	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC) A61B
Place of search		Date of completion of the search	Examiner
Munich		1 July 2014	Manschot, Jan
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			

EPO FORM 1503 03.02 (P04C01)



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.

☐ 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):

☐ 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.

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:

1-5

☐ 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:

☐ 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).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 13 17 7124

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: 1-4

Fibre optic device with cannula and fluid luer

2. claim: 5

endoscope including illumination sheath and handle housing
with detachable lens housing

3. claims: 6-9

Fibre optic device with channel for treatment delivery

4. claims: 10, 11

Disposable sheath with sealed window

5. claims: 12-15

Endoscope with lens at distal end of fibre optic device and
proximal imaging device

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

EP 13 17 7124

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.

01-07-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0498114 A1	12-08-1992	AU 642371 B2	14-10-1993
		AU 8608991 A	06-08-1992
		CA 2054603 A1	05-08-1992
		EP 0498114 A1	12-08-1992
		JP H04276231 A	01-10-1992
		US 5188093 A	23-02-1993
		US 5301657 A	12-04-1994

US 5704892 A	06-01-1998	NONE	

US 5156142 A	20-10-1992	DE 8814573 U1	11-01-1990
		EP 0369936 A1	23-05-1990
		US 5156142 A	20-10-1992
		WO 9005480 A1	31-05-1990

GB 1078036 A	02-08-1967	NONE	

WO 9935960 A	22-07-1999	AU 2115299 A	02-08-1999
		CA 2313082 A1	22-07-1999
		EP 1047335 A1	02-11-2000
		JP 2002508982 A	26-03-2002
		US 6322498 B1	27-11-2001
		US 2002068851 A1	06-06-2002
		WO 9935960 A1	22-07-1999

US 4772093 A	20-09-1988	NONE	

EPO FORM P0459

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

专利名称(译)	带成像光纤系统的微型内窥镜		
公开(公告)号	EP2676598A3	公开(公告)日	2014-08-13
申请号	EP2013177124	申请日	2002-10-18
申请(专利权)人(译)	VISIONSCOPE技术有限责任公司		
当前申请(专利权)人(译)	VISIONSCOPE技术有限责任公司		
[标]发明人	REMIJAN PAUL MCDONALD JAMES E		
发明人	REMIJAN, PAUL MCDONALD, JAMES E		
IPC分类号	A61B1/04 A61B1/00 G02B27/00 A61B1/012 A61B1/06 A61B1/015 A61B1/018 G02B23/24 G02B23/26		
CPC分类号	A61B1/042 A61B1/00135 A61B1/00142 A61B1/00165 A61B1/00167 A61B1/012 A61B1/015 A61B1/018 A61B1/0607 G02B3/0087 G02B23/2469 G02B23/2476 G02B27/0025		
其他公开文献	EP2676598A2		
外部链接	Espacenet		

摘要(译)

一种内窥镜 (20) , 包括光纤波导, 其将图像从远端传输到近端, 波导 (26) 具有小于3mm的外径, 透镜 (142) 位于远端的远端。光纤波导, 光学耦合到光纤波导近端的成像装置, 以及围绕光纤波导延伸的护套 (34) , 护套 (34) 包括照明通道。

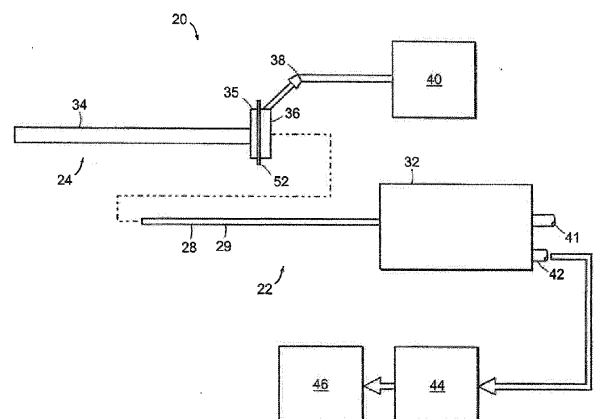


FIG. 1