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(54) **Ultrasonic endoscope, therapeutic system, endoscopic system, T-bar, and T-bar suturing device**

(57) An ultrasonic endoscope (10) includes an insertion section (12), an operation section (14), an optical observation system and an ultrasonic observation system. The insertion section has a distal end and a proximal end. The operation section is disposed on the proximal end of the insertion section. The optical observation system is disposed in the insertion section. The optical observation system has an objective lens (38) on a distal end surface of the insertion section. The ultrasonic ob-

servation system is disposed in the insertion section. The ultrasonic observation system has an ultrasonic transducer (52; 52a; 52c) on the distal end surface of the insertion section or further forward than the distal end thereof. A focal position of the optical observation system and a scanning surface of the ultrasonic transducer are approximately on the same plane.

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EUROPEAN SEARCH REPORT

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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	DE 199 62 209 A1 (ASAHI OPTICAL CO LTD [JP] PENTAX CORP [JP]) 29 June 2000 (2000-06-29) * column 3, line 7 - column 4, line 6 * * figures 1-3 *	1-3	INV. A61B1/005 A61B1/018 A61B8/12
X	US 5 025 778 A (SILVERSTEIN FRED E [US] ET AL) 25 June 1991 (1991-06-25) * the whole document *	1-3	
A	JP 2001 292996 A (OLYMPUS OPTICAL CO) 23 October 2001 (2001-10-23) * abstract; figures 1-4 *	1-3	
A	US 2006/009681 A1 (TANAKA TOSHIKUMI [JP] ET AL) 12 January 2006 (2006-01-12) * abstract; figures 1-4 *	1-3	
A	EP 0 269 791 A (MESSERSCHMITT BOELKOW BLOHM [DE]) 8 June 1988 (1988-06-08) * pages 1,3 *	1-3	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61B
The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 21 May 2012	Examiner Abraham, Volkhard
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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21-05-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19962209 A1	29-06-2000	DE 19962209 A1	29-06-2000
		US 6338717 B1	15-01-2002
US 5025778 A	25-06-1991	US 5025778 A	25-06-1991
		WO 9114391 A2	03-10-1991
JP 2001292996 A	23-10-2001	JP 3709325 B2	26-10-2005
		JP 2001292996 A	23-10-2001
US 2006009681 A1	12-01-2006	AT 372722 T	15-09-2007
		DE 602005002405 T2	12-06-2008
		EP 1614390 A1	11-01-2006
		US 2006009681 A1	12-01-2006
EP 0269791 A	08-06-1988	DE 3639981 A1	26-05-1988
		EP 0269791 A1	08-06-1988

专利名称(译)	超声内窥镜，治疗系统，内窥镜系统，T形杆和T形杆缝合装置		
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优先权	60/823669 2006-08-28 US		
其他公开文献	EP2263515A2		
外部链接	Espacenet		

摘要(译)

超声波内窥镜 (10) 包括插入部 (12) , 操作部 (14) , 光学观察系统和超声波观察系统。插入部分具有远端和近端。操作部分设置在插入部分的近端上。光学观察系统设置在插入部分中。光学观察系统在插入部分的远端表面上具有物镜 (38) 。超声波观察系统设置在插入部分中。超声波观察系统在插入部分的远端表面上或者比其远端更向前具有超声换能器 (52; 52a; 52c) 。光学观察系统的焦点位置和超声波换能器的扫描表面大致在同一平面上。



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Field of search		Date of completion of the search		
Berlin		21 May 2012		
Examiner		Abraham, Volkhard		
CATEGORY OF CITED DOCUMENTS				
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