



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
02.01.2002 Bulletin 2002/01

(51) Int Cl.⁷: **A61M 3/02, A61M 1/00**

(43) Date of publication A2:
28.03.2001 Bulletin 2001/13

(21) Application number: **00120165.6**

(22) Date of filing: **22.09.2000**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
 Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
 • **Tims, Jerry L.**
Azle, TX 76020 (US)
 • **Ditterline, Andrew F.**
Arlington, TX 76013 (US)

(30) Priority: **24.09.1999 US 405684**

(74) Representative: **HOFFMANN - EITLE**
Patent- und Rechtsanwälte Arabellastrasse 4
81925 München (DE)

(71) Applicant: **TYCO HEALTHCARE GROUP LP**
Norwalk, Connecticut 06856 (US)

(54) **Irrigation system for endoscopic surgery**

(57) An irrigation system for use during endoscopic surgery or minimally invasive surgery is shown. Both vacuum and a pressurized irrigation fluid are continually provided to a trumpet valve for immediate use during surgery. A pump that provides the pressurized irrigation fluid has a reusable motor, but a disposable head that can be replaced between procedures. A control circuit automatically reduces the voltage being supplied to the pump if there had not been a request for irrigation fluid for a first time period. If a second time period, which is longer than the first time period, passes and (a) there is no demand for irrigation and (b) the voltage to the pump has not been reduced, either the voltage to the pump will be reduced or the pump shut OFF. The irrigation system is provided in kit form with parts having to be replaced between procedures contained therein.

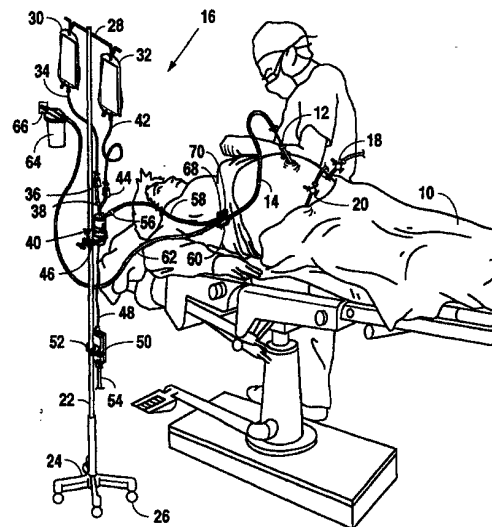


Fig. 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 12 0165

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 98 06446 A (DEKA PRODUCTS LP) 19 February 1998 (1998-02-19) * abstract; figure 1 *	1,4,5	A61M3/02 A61M1/00
Y	* page 8, line 13 - line 17 *	2	
Y	US 4 669 453 A (ATKINSON ROBERT W ET AL) 2 June 1987 (1987-06-02) * column 6, line 10 - line 46; figure 1 *	2	
X	US 5 484 402 A (JONES CHRISTOPHER S ET AL) 16 January 1996 (1996-01-16) * column 7, line 29 - line 42 * * figures 1,4 *	1	
X	US 5 807 313 A (DELK MICHAEL ET AL) 15 September 1998 (1998-09-15) * column 3, line 35 - line 56 * * column 5, line 20 - line 21 * * figures 1,3,4 *	1	
A	US 5 393 207 A (MAHER TIMOTHY R ET AL) 28 February 1995 (1995-02-28) * column 1, line 12 - line 18 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
P,A	US 6 095 772 A (FLYNN CECIL ET AL) 1 August 2000 (2000-08-01) * column 1, line 16 - line 52; figure 1 *	1	A61M F04D
E	US 6 162 194 A (SHIPP JOHN I) 19 December 2000 (2000-12-19) * abstract * * column 5, line 19 - line 21 *	1,2	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12 November 2001	Examiner Lakkis, A
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 82 (P04C01)

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

EP 00 12 0165

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.

12-11-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9806446 A	19-02-1998	EP 0918551 A2 WO 9806446 A2 US 6077246 A	02-06-1999 19-02-1998 20-06-2000
US 4669453 A	02-06-1987	JP 59151952 A	30-08-1984
US 5484402 A	16-01-1996	US 6213970 B1	10-04-2001
US 5807313 A	15-09-1998	AU 730696 B2 AU 2591597 A EP 0912207 A1 JP 2000514693 T WO 9803214 A1	15-03-2001 10-02-1998 06-05-1999 07-11-2000 29-01-1998
US 5393207 A	28-02-1995	CA 2154248 A1 EP 0832357 A1 JP 51129126 A JP 8508803 T WO 9417304 A1	04-08-1994 01-04-1998 10-11-1976 17-09-1996 04-08-1994
US 6095772 A	01-08-2000	NONE	
US 6162194 A	19-12-2000	NONE	

专利名称(译)	内窥镜手术的灌溉系统		
公开(公告)号	EP1086713A3	公开(公告)日	2002-01-02
申请号	EP2000120165	申请日	2000-09-22
[标]申请(专利权)人(译)	柯惠有限合伙公司		
申请(专利权)人(译)	泰科医疗集团LP		
当前申请(专利权)人(译)	泰科医疗集团LP		
[标]发明人	TIMS JERRY L DITTERLINE ANDREW F		
发明人	TIMS, JERRY L. DITTERLINE, ANDREW F.		
IPC分类号	A61B17/00 A61B17/22 A61H35/00 A61M1/00 A61M3/02 A61M39/24		
优先权	09/405684 1999-09-24 US		
其他公开文献	EP1086713B1 EP1086713A2		
外部链接	Espacenet		

摘要(译)

示出了在内窥镜或微创手术期间使用的灌溉系统。将真空和加压冲洗液连续提供给喇叭阀以在手术期间立即使用。提供加压冲洗液的泵具有可重复使用的马达，但是可以在程序之间更换的一次性头部。如果在第一时间段内没有请求冲洗液，则控制电路自动降低供应给泵的电压。如果超过第一时间段的第二时间段通过并且 (a) 没有灌溉需求并且 (b) 泵的电压没有降低，则泵的电压将降低或者泵关闭。灌溉系统以套件形式提供，其中部件必须在其中包含的程序之间进行更换。

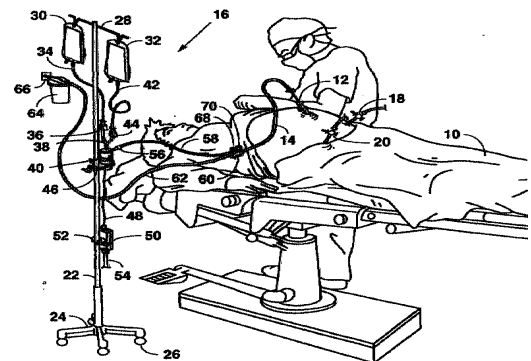


Fig. 1