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KY 41073 (US). **MORGAN, Karen, M.** [US/US]; 1704 East McMillan Street, Cincinnati, OH 45206 (US).

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[Continued on next page]

(54) Title: SURGICAL INSTRUMENT SYSTEM

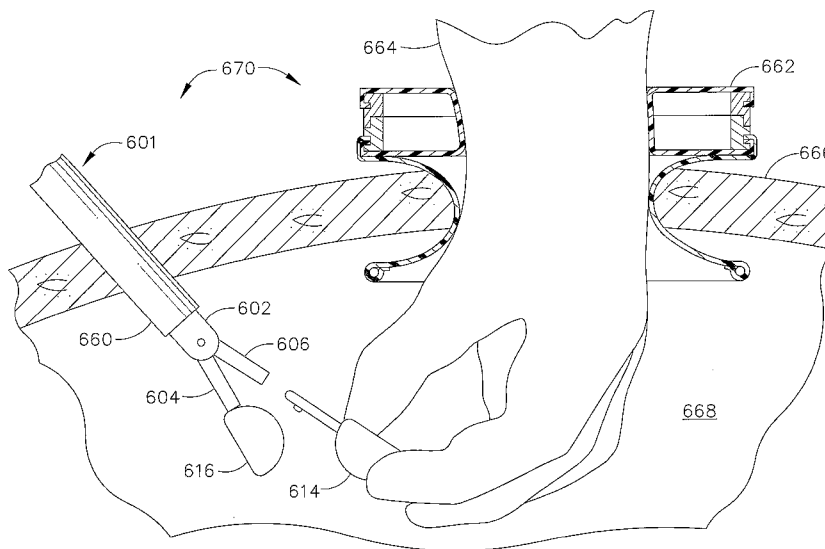


FIG. 6-12

(57) Abstract: A surgical instrument system is provided for a hand-assisted, laparoscopic procedure. The system has a laparoscopic disc that is adaptable to hold multiple surgical instrument. Other elements in the surgical instrument system include a storage pouch for placement within the body cavity, a device for supporting tissue, a device for relocating tissue away from a surgical site, and tissue markers for marking tissue to plan a surgical event.

WO 2006/110733 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
8 July 2010

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/13456

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61M 39/02 (2010.01)

USPC - 604/539

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 604/539

IPC(8): A61M 39/02 (2010.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 604/539; 604/533, 264, 93.01, 48; 600/201, 203, 208, 210, 227; 128/849, 850, 851, 852, 856; 606/116, 151, 191

IPC(8): A61M 39/02 (2010.01); A61M 39/00, 39/04, 39/06; A61B 17/00, 17/02, 19/00, 19/08, 19/10 (2010.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST (PGPB,USPT,USOC,EPAB,JPAB), Google Scholar

Search terms : see continuation sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	US 6,228,055 B1 (FOERSTER et al.) 8 May 2001 (08.05.2001) col 4, ln 8-23; col 7, ln 41-47; col 8, ln 17-25; col 12, ln 11-20; col 13, ln 2-37; Fig. 1-20	43-61, 64-77 and 79 ----- 62, 63 and 78
X ----- Y	US 4,048,987 A (HURSON) 20 September 1977 (20.09.1977) col 1, ln 53-67; col 2, ln 1-14; col 3, ln 31-41; col 4, ln 32-56; col 5, ln 6-63; col 6, ln 1-62; Fig. 3, 6-7 and 9-19	102-109, 111, 114-124, 126 and 132 ----- 110, 112-113, 125 and 127-131, 133-135
X ----- Y	US 6,149,642 A (GERHART et al.) 21 November 2000 (21.11.2000) col 2, ln 62-67; col 3, ln 1-45; col 4, ln 12-33; Fig. 1	136-145 ----- 80-101
X ----- Y	US 5,582,577 A (LUND et al.) 10 December 1996 (10.12.1996) col 2, ln 30-47; col 3, ln 42-57; col 5, ln 46-60; Fig. 2-6C	146-149, 152-159 and 161-165 ----- 150-151, 160, 166-167
Y	US 6,110,154 A (SHIMOMURA et al.) 29 August 2000 (29.08.2000) col 3, ln 9-45; col 4, ln 60-67; col 5, ln 1-5; col 6, ln 1-40; Fig. 7-8 and 10	1-42, 168-173
Y	US 2004/0267213 A1 (KNAPP) 30 December 2004 (30.12.2004) para [0067]-[0098], [0110]; Fig. 1-4; Claims 20 and 27	1-42, 110, 112-113, 128-131, 133-135, 166, 168-173

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

12 April 2010 (12.04.2010)

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Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/13456

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,290,705 B1 (CHAN et al.) 18 September 2001 (18.09.2001) col 3, ln 17-26; col 4, ln 53-65	62, 63 and 78
Y	US 5,082,111 A (CORBITT et al.) 21 January 1992 (21.01.1992) col 4, ln 15-23; col 5, ln 63-68; col 6, ln 14-24; Fig. 1	80-101
Y	US 2004/0049100 A1 (BUTLER et al.) 11 March 2004 (11.03.2004) para [0083]; Fig. 18 and 26	125 and 127
Y	US 2002/0007112 A1 (Rupp et al.) 17 January 2002 (17.01.2002) para [0007]	150-151 and 167
Y	US 4,831,070 A (MCINALLY et al.) 16 May 1989 (16.05.1989) col 8, ln 34-48	160
Y	US 5,636,645 A (OU) 10 June 1997 (10.06.1997) col 5, ln 60-65; Fig. 4	11-13 and 31-33
Y	US 5,643,283 A (YOUNKER) 1 July 1997 (01.07.1997) col 1, ln 52-54; col 4, ln 57-60	86
Y	US 2004/0154624 A1 (BONADIO et al.) 12 August 2004 (12.08.2004) para [0165] and [0168]	171
Y	US 6,578,577 B2 (BONADIO et al.) 17 June 2003 (17.06.2003) col 12, ln 22-30	172

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/13456

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Group I: claims 1-42, 168-173 directed to a surgical access device
Group II: claims 43-79 directed to a tissue marker
Group III: claims 80-101 directed to a storage device
Group IV: claims 102-135 directed to a visceral barrier
Group V: claims 136-145 directed to an instrument system
Group VI: claims 146-167 directed to a tissue suspension device

The groups of inventions above do not related to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/13456

Continuation of:

B. FIELDS SEARCHED

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Search terms: hand-assisted, laparoscopic, HALS, access, wall, cavity, channel, sleeve, tube, gel, ring, coaxial, twist ring, teeth, port, cap, electric\$4, light, source, multilumen, vacuum, flange, angle, degrees, millimeter, mm, aperture, iris, seal, duck, bill, tissue, mark\$4, flute\$4, hook, clip, t-fastener, staple, disc, flag, dye, stain, adhesive, blood vessel, leg, deform\$4, grasp\$4, syringe, pouch, stor\$4, abdom\$6, string, polyvinylchloride, pvc, rod, pierc\$4, button, pin, elastic, loop, suture, needle, viscera\$4 barrier, panel, hinge, spring, detent, lock\$4, wire, elastomer, mesh, gauze, fabric, film, curtain, nest\$4, telescop\$6, laparoscop\$4, finger, hand, rubber, gauze, hydrophilic, grasp\$4, suspen\$5, span\$4, bar, filament, cotton, rubber, hydrophilic, anti-bacterial, lubric\$5, tray, adhesive tape, pivot, malleable, tension\$4, guidewire, guide