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[Continued on next page]

(54) Title: LAPAROSCOPIC ACCESS DEVICE

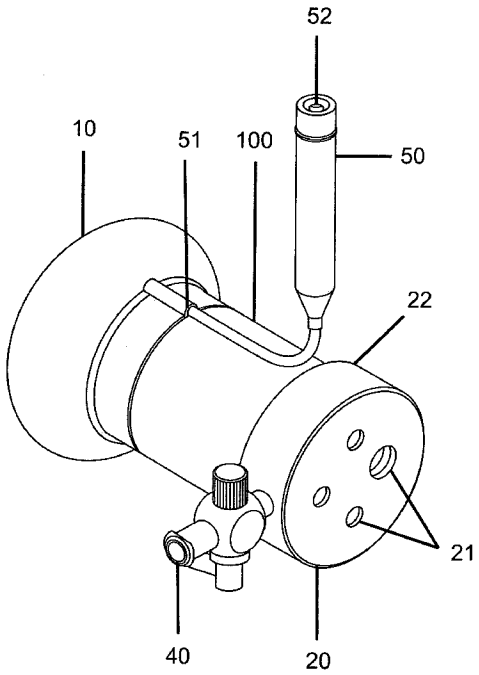

Fig. 1

(57) Abstract: A laparoscopic access device with cylindrical shaped body (100) featured in the internal region with a rigid structure (30), presenting an inflatable chamber (10) at the distal end, the central region being featured with passing orifices (11); passing orifices (21) in a base (20) at the proximal end are forming a conduit with passing orifices (11) at the distal end. Base (20) is presenting the projection of a skirt (22) of larger diameter than cylindrical body (100) and is further comprising a carbonic acid gas insufflations inlet (40), being connected to the internal region of the cylindrical body (100), and a stop valve (50) comprising a link (52), the stop valve being connected to the inflatable chamber (10) by means of a flexible tube (51).

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OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

Laparoscopic access device

INVENTION FIELD

This invention is related to a hydatidiform mole improvement. More specifically, it covers a video laparoscopy hydatidiform mole of one and only access, equipped with an inflatable chamber that permits the fixation of the hydatidiform mole on the abdominal wall, permitting the condition of a fixed portal for introduction of claws, and providing sealing of the pneumo-peritoneum in an efficient form.

INVENTION ANTECEDENTS

The video laparoscopy surgery is carried out with the help of adequate instruments and devices in order to obtain a visualization of the abdominal cavity without the need of large incisions and, consequently, with less surgical trauma. This type of intervention needs, then, that the abdominal cavity is transformed from virtual into actual by means of gas insufflation.

In the case of intra-abdominal procedures, the use of instruments is indispensable. It is therefore necessary that the claws gain access to the peritoneal cavity, without the gas escaping with the loss of the operating field.

Hydatidiform moles are the instruments that permit to carry out these procedures. Regularly, two or more hydatidiform moles are simultaneously used for carrying out the video laparoscopic procedures, with diameters varying between 3 and 13 mm. Several incisions are therefore necessary on the patient, what constitutes a new surgical intervention that includes cuts on tissues, vessels and muscles, with potential infection focus and hernias formation.

So, it is necessary to count on a hydatidiform mole that permits a condition of a fixed portal for claws introduction and the sealing of the

pneumo-peritoneum in an efficient form. That improvement in the hydatidiform mole is described and vindicated in this request.

SUMMARY

In general terms, this invention has to do with an improvement of the hydatidiform mole that includes a cylindrical format body featured in the internal region with a rigid structure presenting at the distal extremity an inflatable chamber, with a central region featured with passing orifices aligned with the passing orifices located on the base, at the proximal extremity a base featured with passing orifices aligned with the passing orifices at the distal extremity, and a surface featured with a carbonic gas insufflation valve connecting to the internal region of the cylindrical body, and a retention valve featured with a link connected to the inflatable chamber by means of a flexible tube.

It is a characteristic of the invention an improvement of the hydatidiform mole featured with an inflatable chamber, which promotes the fixation of the hydatidiform mole on the abdominal wall of the patient, providing for a portal for claws arrangement and pneumo-peritoneum sealing.

It is a characteristic of the invention a hydatidiform mole improvement that provides for the introduction into the abdominal cavity of the patient through an incision at the umbilical region, with a chamber insufflation of the mentioned hydatidiform mole at a later time.

It is a characteristic of the invention a hydatidiform mole improvement that presents less complexity with the provision for a single body part that promotes the claws arrangement and the pneumo-peritoneum sealing during the procedure, permitting handling by the surgeon.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 presents a view under a perspective.

Figure 2 presents a front view.

Figure 2 presents a view of the AA section.

Figure 3 presents a representation of the claws arranged on the hydatidiform mole body.

DETAILED DESCRIPTION OF THE INVENTION

The hydatidiform mole improvement, object of this invention, consists in cylindrical shape body (100) that presents an inflatable chamber at the distal extremity (10) and a base at the proximal extremity (20), featured of passing orifices (21) which permit the claws introduction and sealing (200).

The inflatable chamber (10) presents a central region featured with passing orifices (11) aligned to the passing orifices (21) arranged on the base (20). Those orifices (11) promote the exit of the active part of the claws (200).

The base (20) is featured with passing orifices (21) aligned to the passing orifices (11) arranged at the distal extremity. That base (20) presents the projection of a skirt (22) with diameter widening relatively to the cylindrical body (100). That skirt (22) is adequate for support on the external wall of the patient's abdomen.

The cylindrical body (100) presents a malleable surface, preferably made of silicon. That cylindrical body (100) is featured in the internal region with a rigid structure (30) preferably made of plastic material, which promotes the structuring of that cylindrical body (100).

On the surface of the cylindrical body (100) a carbonic gas insufflation valve is arranged (40), which connects to the internal region of the cylindrical body (100) promoting the insufflation of the

abdominal cavity with the objective of maintaining the pneumo-peritoneum.

On the surface of the cylindrical body (100) a retention valve is arranged (50), connected to the inflatable chamber (10) by means of a flexible tube (51). That retention valve (50) has the objective of inflating the chamber (10) and, so, maintaining the hydatidiform mole fixed to the abdominal wall.

The retention valve (50) presents a connection (52) to provide for air input for insufflation of the inflatable chamber (10).

The cylindrical body (100), when it is deflated, is introduced into the abdominal cavity through an incision at the umbilical region. After it is introduced, the chamber (10) is inflated through the retention valve (50), promoting the cylindrical body fixation (10) on the patient's abdominal wall. So, the cylindrical body (10) permits the claws introduction (200) through the passing orifices (21) and the sealing of the pneumo-peritoneum.

For removing the cylindrical body (100) from the abdominal cavity, the chamber (20) is deflated by means of intervention on the retention valve (50).

CLAIMS:

1. HYDATIDIFORM MOLE IMPROVEMENT characterized by being comprised of a cylindrical shape body (100) featured in the internal region of a rigid structure (30), which presents:
   a) an inflatable chamber at the distal extremity (10) with the central region featured with passing orifices (11);
   b) a base on the proximal extremity (20) featured with passing orifices (21) aligned to the passing orifices (11) arranged on the distal extremity. That base (20) presents the projection of a skirt (22) featured with diameter widening relatively to the cylindrical body (100), and contours the surface of that cylindrical body (100);
   c) a surface featured with a carbonic gas insufflation valve (40), which connects to the internal region of the cylindrical body (100), and a retention valve (50) featured with a link (52) connecting to the inflatable chamber (10) by means of a flexible tube (51).
2. HYDATIDIFORM MOLE IMPROVEMENT, according to vindication 1, characterized by the fact of the cylindrical body (100) presenting a malleable surface, preferably made of silicon.
3. HYDATIDIFORM MOLE IMPROVEMENT, according to vindication 1, characterized by the fact of the cylindrical body (100), when deflated, being introduced into the abdominal cavity through an incision at the umbilical region, with the chamber (10) being inflated through the retention valve (50).

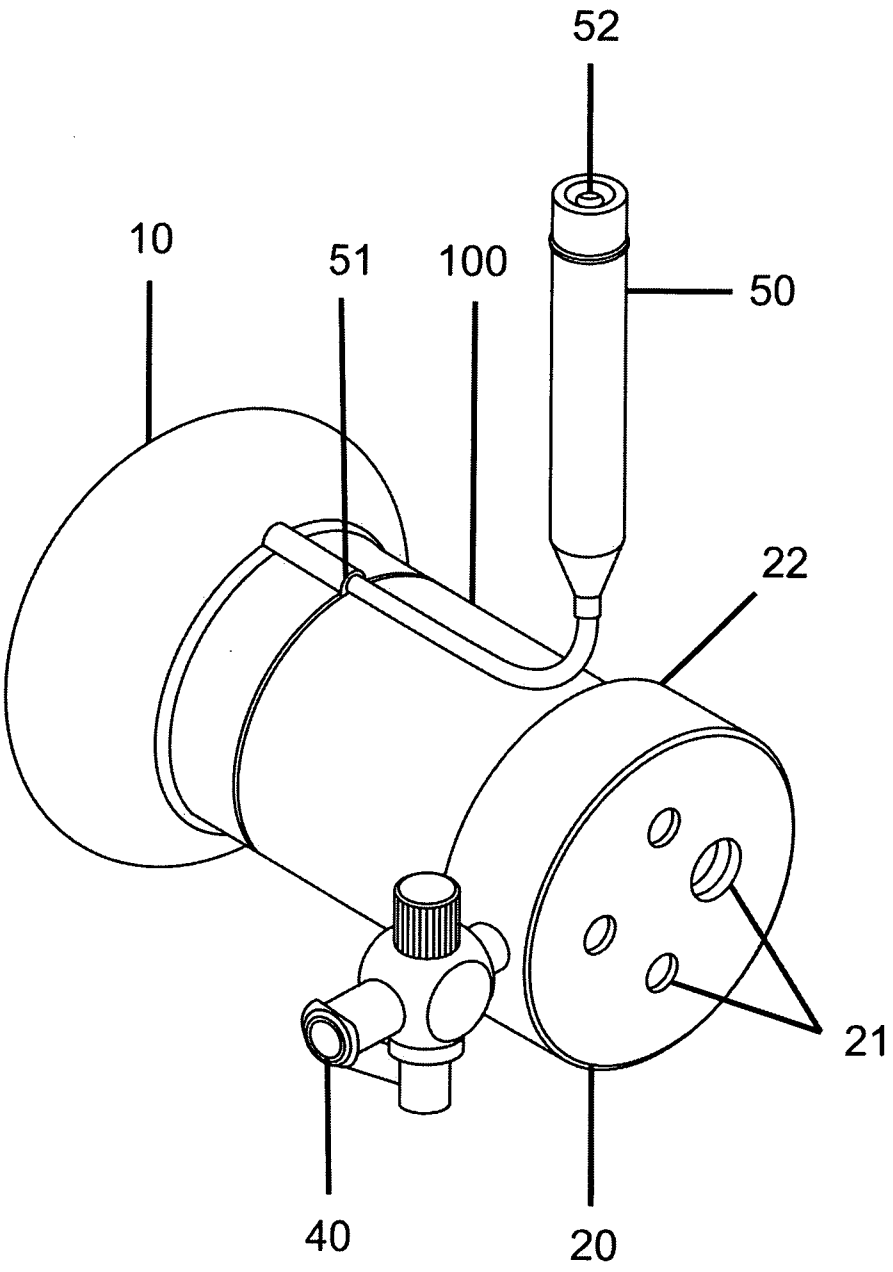

Fig. 1

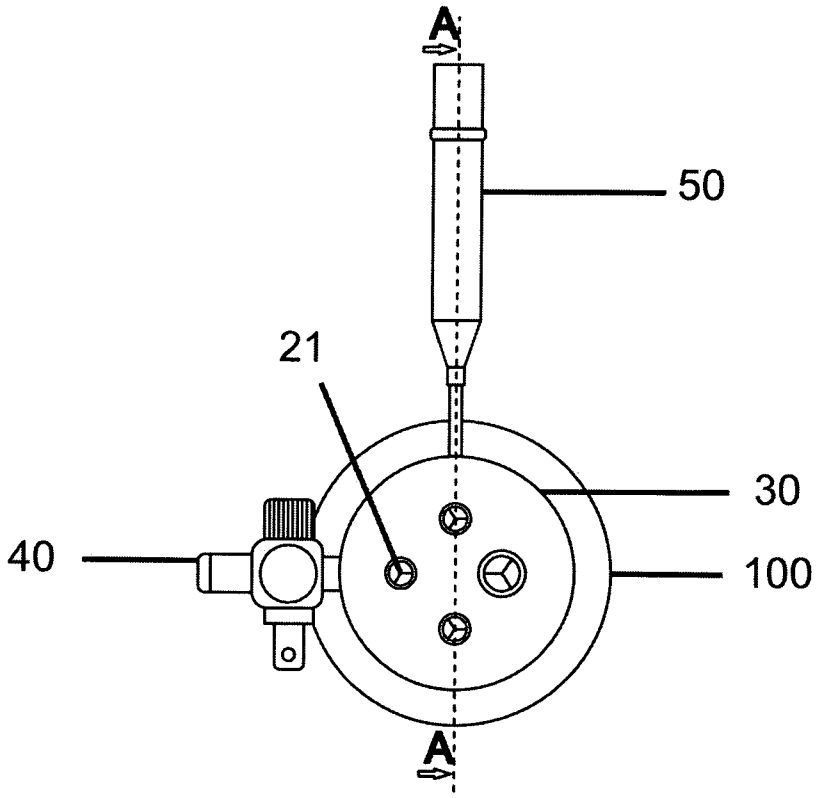

Fig. 2

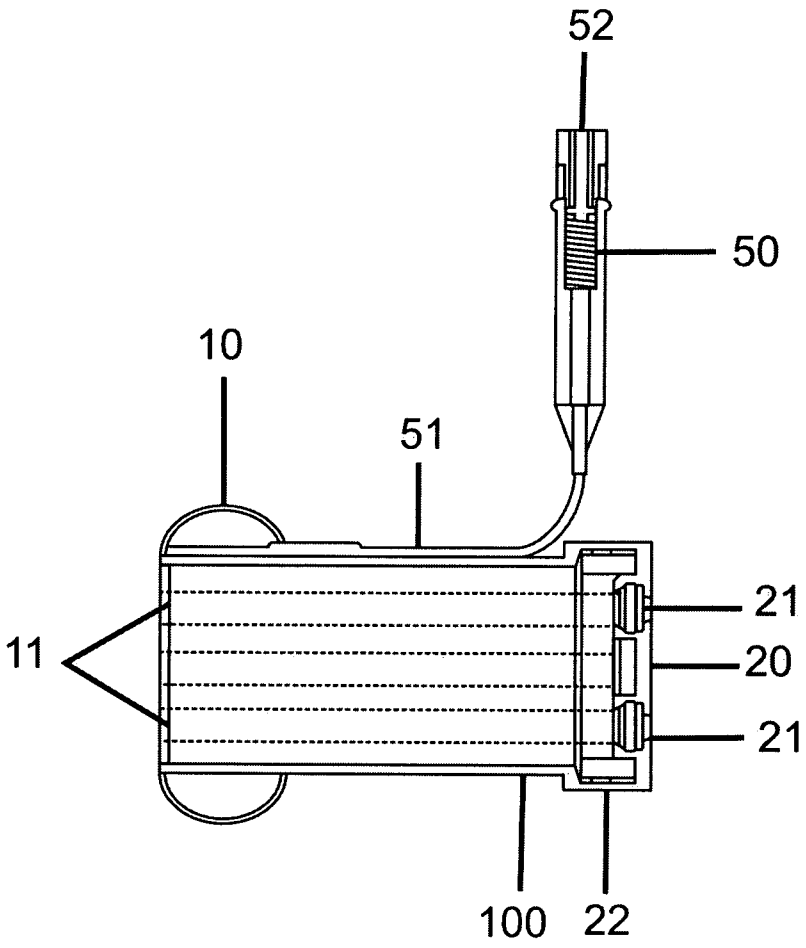

Fig. 3

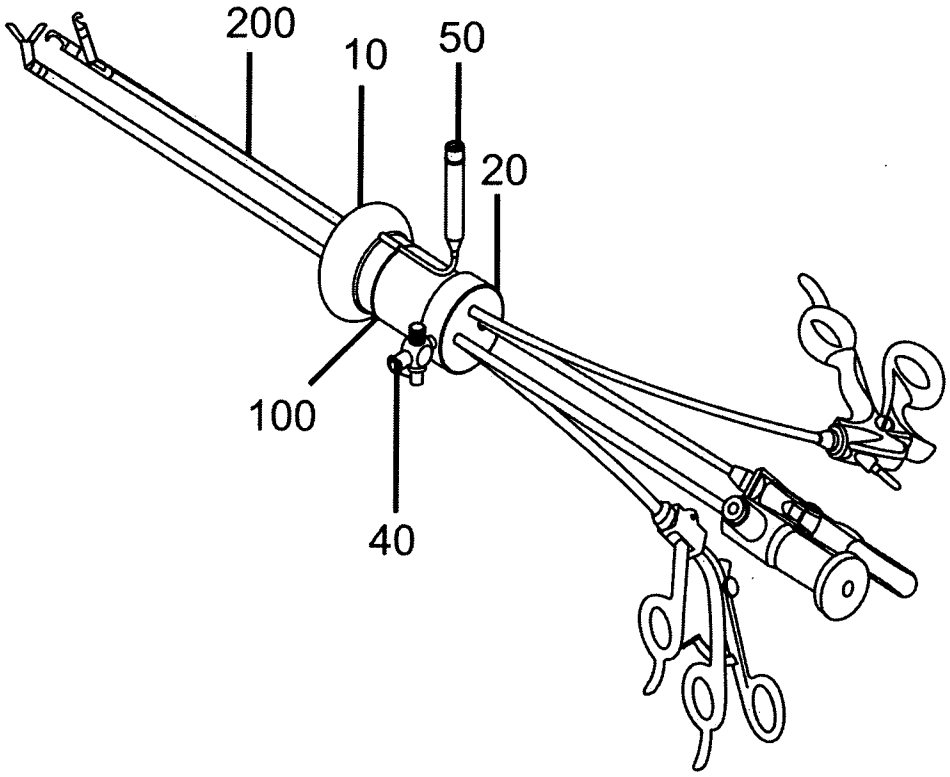

Fig. 4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR 2009/000073

A. CLASSIFICATION OF SUBJECT MATTER
IPC[8]: ***A61B 17/34*** (2006.01); ***A61M 25/10*** (2006.01)
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)
IPC[8]: A61B, A61M

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPODOC, WPI, X-FULL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6811546 B1 (CALLAS ET AL.) 2 November 2004 (02.11.2004) *Fig.2,3, Column 2 Line 41 - Column 3 Line 60* --	1-3
Y	US 2007/208312 A1 (NORTON ET AL.) 6 September 2007 (06.09.2007) *Figs.6-10, Paragraphs [0046 - 0052], Claims* --	1-3
A	WO 2007/033105 A1 (CLEVELAND CLINIC FOUND) 22 March 2007 (22.03.2007) *Figs.3,4, Abstract, Page 4 Line 9 - Page 6 Line 7* --	1-3

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* 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	Date of mailing of the international search report
29 June 2009 (29.06.2009)	16 July 2009 (16.07.2009)
Name and mailing address of the ISA/ AT **Austrian Patent Office** Dresdner Straße 87, A-1200 Vienna Facsimile No. +43 / 1 / 534 24 / 535	Authorized officer KÖNIG H. Telephone No. +43 / 1 / 534 24 / 339

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR 2009/000073

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007/191874 A1 (SUN) 16 August 2007 (16.08.2007) *Fig.1, Abstract* ---	1-3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/BR 2009/000073

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US A 6811546		US B1 7276075	2007-10-02
		US B1 6811546	2004-11-02
US A 2007208312		US A1 2009012477	2009-01-08
		WO A2 2008103151	2008-08-28
		US A1 2007208312	2007-09-06
WO A 2007033105		WO A1 2007033105	2007-03-22
		US A1 2007060884	2007-03-15
US A 2007191874		US A1 2007191874	2007-08-16

专利名称(译)	腹腔镜进入装置		
公开(公告)号	EP2303158A1	公开(公告)日	2011-04-06
申请号	EP2009771861	申请日	2009-03-16
[标]发明人	GEROGIADIS THEODORE		
发明人	GEROGIADIS, THEODORE		
IPC分类号	A61B17/34 A61M25/10 A61F2/958		
CPC分类号	A61B17/3423 A61B17/3421 A61B2017/3445 A61B2017/3447 A61B2017/3466 A61B2017/3486		
优先权	PI0802874 2008-06-30 BR		
外部链接	Espacenet		

摘要(译)

一种具有圆柱形主体（100）的腹腔镜进入装置，其特征在于内部区域具有刚性结构（30），在远端具有可充气室（10），中央区域具有通孔（11）;在近端的基部（20）中的通孔（21）形成导管，在远端处具有通孔（11）。基部（20）呈现直径大于圆柱形主体（100）的裙部（22）的突起，并且还包括碳酸气体注气入口（40），其连接到圆柱形主体（100）的内部区域。和包括连杆（52）的截止阀（50），截止阀通过柔性管（51）连接到可充气室（10）。