(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 314 199 A3

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
28.03.2012 Bulletin 2012/13

(43) Date of publication A2:
27.04.2011 Bulletin 2011/17

(21) Application number: **10179735.5**

(22) Date of filing: **08.09.2000**

(51) Int Cl.:
A61B 1/32 *(2006.01)*

(84) Designated Contracting States:
DE ES FR GB IT

(30) Priority: **05.10.1999 US 413225**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
00960037.0 / 1 223 869

(71) Applicant: **ETHICON ENDO-SURGERY, INC.**
Cincinnati, OH 45242-2839 (US)

(72) Inventor: **Messerly, Jeffrey D.**
Cincinnati, Ohio 45209 (US)

(74) Representative: **Fisher, Adrian John**
Carpmaels & Ransford
One Southampton Row
London
WC1B 5HA (GB)

(54) **Multifunctional curved blade for use with an ultrasonic surgical instrument**

(57) The present invention relates, in general, to ultrasonic surgical clamping instruments and, more particularly, to a multi-functional curved shears blade for an ultrasonic surgical clamping instrument (120). Disclosed is an ultrasonic surgical instrument that combines end effector geometry to best affect the multiple functions of a shears type configuration. The shape of the blade is characterized by a radius cut to form a curved, and potentially tapered geometry. This cut creates a curved surface including a concave surface (53), and a convex surface (57). The convex surface transitions into a short, straight, flat surface. The length of this straight portion affects, in part, the acoustic balancing of the transverse motion induced by the curved shape. Relative to straight blade tips, the tip curvature of the present design provides improved visibility of the transection site and improved access to targeted tissues.

EP 2 314 199 A3

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 10 17 9735

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	US 5 322 055 A (DAVISON THOMAS W [US] ET AL) 21 June 1994 (1994-06-21) * figures * -----	1,2	INV. A61B1/32
A	EP 0 908 152 A1 (ETHICON ENDO SURGERY [US] ETHICON ENDO SURGERY INC [US]) 14 April 1999 (1999-04-14) * figures * -----	1-17	
A	JP 11 113922 A (OLYMPUS OPTICAL CO) 27 April 1999 (1999-04-27) * figures * -----	1-17	

TECHNICAL FIELDS SEARCHED (IPC)

A61B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	15 February 2012	Held, Günter

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

1

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 10 17 9735

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.

15-02-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5322055 A	21-06-1994	CA 2153155 A1	04-08-1994
		DE 69432741 D1	03-07-2003
		DE 69432741 T2	25-03-2004
		DE 69433704 D1	13-05-2004
		DE 69433704 T2	28-04-2005
		DE 69434776 T2	28-06-2007
		EP 0681457 A1	15-11-1995
		JP H08505801 A	25-06-1996
		US 5322055 A	21-06-1994
		WO 9416631 A1	04-08-1994
EP 0908152 A1	14-04-1999	AU 730085 B2	22-02-2001
		AU 8841698 A	29-04-1999
		CA 2249748 A1	10-04-1999
		DE 69803349 D1	28-02-2002
		DE 69803349 T2	08-02-2007
		EP 0908152 A1	14-04-1999
		ES 2170454 T3	01-08-2002
		JP 11192239 A	21-07-1999
		JP 2008259864 A	30-10-2008
		US 5947984 A	07-09-1999
JP 11113922 A	27-04-1999	JP 3274826 B2	15-04-2002
		JP 11113922 A	27-04-1999
		US 6790216 B1	14-09-2004

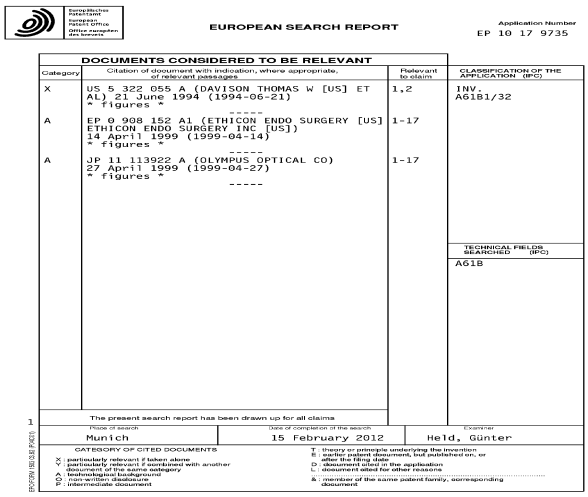
EPO FORM P0459

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

专利名称(译)	多功能弯曲刀片，用于超声波手术器械		
公开(公告)号	EP2314199A3	公开(公告)日	2012-03-28
申请号	EP2010179735	申请日	2000-09-08
[标]申请(专利权)人(译)	伊西康内外科公司		
申请(专利权)人(译)	爱惜康内镜手术，INC.		
当前申请(专利权)人(译)	爱惜康内镜手术，INC.		
[标]发明人	MESSERLY JEFFREY D		
发明人	MESSERLY, JEFFREY D.		
IPC分类号	A61B1/32 A61B17/3211 A61B17/32 A61B18/00		
CPC分类号	A61B17/320092 A61B2017/320093 A61B2017/320094 A61B2017/320095		
代理机构(译)	FISHER，ADRIAN JOHN		
优先权	09/413225 1999-10-05 US		
其他公开文献	EP2314199A2 EP2314199B1		
外部链接	Espacenet		

摘要(译)

本发明一般涉及超声外科夹持器械，更具体地说，涉及一种用于超声外科夹持器械（120）的多功能弯曲剪刀片。公开了一种超声外科手术器械，其结合了末端执行器几何形状以最好地影响剪切型构造的多种功能。刀片的形状的特征在于半径切割以形成弯曲的且可能锥形的几何形状。该切口形成包括凹面（53）和凸面（57）的曲面。凸面过渡成短而直的平坦表面。该直线部分的长度部分地影响由弯曲形状引起的横向运动的声学平衡。相对于直刀片尖端，本设计的尖端曲率提供了横切部位的改善的可见性和改善了对目标组织的接近。



EUROPEAN SEARCH REPORT

Application Number
EP 10 17 9735

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	US 5 322 055 A (DAVISON THOMAS W [US] ET AL) 21 June 1994 (1994-06-21) * figures *	1,2	INV. A61B1/32
A	EP 0 908 152 A1 (ETHICON ENDO SURGERY [US] ETHICON ENDO SURGERY INC [US]) 14 April 1999 (1999-04-14) * figures *	1-17	
A	JP 11 113922 A (OLYMPUS OPTICAL CO) 27 April 1999 (1999-04-27) * figures *	1-17	
			TECHNICAL FIELDS SEARCHED (IPC) A61B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	15 February 2012	Held, Günter

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)