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Moses et al.

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(54) **HOURGLASS-SHAPED KNIFE FOR ELECTROSURGICAL FORCEPS**

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(Continued)

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OTHER PUBLICATIONS

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Linehan et al. "A Phase I Study of the LigaSure Vessel Sealing System in Hepatic Surgery" Section of HPB Surger, Washington University School of Medicine, St. Louis MO, Presented at AHPBA, Feb. 2001.

(**) Term: **14 Years**

Johnson et al. "Evaluation of the LigaSure Vessel Sealing System in Hemorrhoidectomy" American College of Surgeons (ACS) Clinical Congress Poster (2000).

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(58) **Field of Classification Search** D24/144,
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606/52, 41, 44, 48, 171, 205, 207

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(56) **References Cited**

(57) **CLAIM**

I claim the ornamental design for a hourglass-shaped knife for electro-surgical forceps, as shown.

U.S. PATENT DOCUMENTS

DESCRIPTION

371,664 A	10/1887	Brannan et al.
702,472 A	6/1902	Pignolet
728,883 A	5/1903	Downes
1,586,645 A	5/1926	Bierman
2,002,594 A	5/1935	Wappler et al.
2,011,169 A	8/1935	Wappler
2,031,682 A	2/1936	Wappler et al.
2,176,479 A	10/1939	Willis
2,305,156 A	12/1942	Grubel
2,632,661 A	3/1953	Cristofv

FIG. 1 is a perspective view of my design of a hourglass shaped knife for use with an electro-surgical forceps (shown in phantom representation);

FIG. 2 is a right side view of the hourglass-shaped knife of FIG. 1;

FIG. 3 is a bottom view of the hourglass-shaped knife of FIG. 1;

FIG. 4 is a rear view of the hourglass-shaped knife of FIG. 1;

FIG. 5 is a top view of the hourglass-shaped knife of FIG. 1;

FIG. 6 is a left side view of the hourglass-shaped knife of FIG. 1; and,

FIG. 7 is a front view of the hourglass-shaped knife of FIG. 1.

The broken line showing is for illustrative purposes only and forms no part of the claimed design.

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FOREIGN PATENT DOCUMENTS

CA	2104423	2/1994
DE	2415263	10/1975
DE	29616210	1/1997
DE	19608716	4/1997
DE	8712328	3/1998
DE	19751106	5/1999
DE	19751108	5/1999
EP	0364216 A1	4/1990

1 Claim, 3 Drawing Sheets



US D564,662 S

U.S. PATENT DOCUMENTS

2,668,538 A	2/1954	Baker	5,352,222 A	10/1994	Rydell
2,796,065 A	6/1957	Kapp	5,354,271 A	10/1994	Voda
3,459,187 A	8/1969	Pallotta	5,356,408 A	10/1994	Rydell
3,643,663 A	2/1972	Sutter	5,366,477 A	11/1994	LeMarie, III et al.
3,651,811 A	3/1972	Hildebrandt et al.	5,383,897 A	1/1995	Wholey
3,862,630 A	1/1975	Balamuth	5,389,098 A	2/1995	Tsuruta et al.
3,868,610 A	2/1975	Kletschka	5,389,104 A	2/1995	Hahnen et al.
3,911,766 A	10/1975	Fridolph et al.	5,391,166 A	2/1995	Eggers
3,920,021 A	11/1975	Hiltebrandt	5,391,183 A	2/1995	Janzen et al.
3,921,641 A	11/1975	Hulka	5,403,312 A	4/1995	Yates et al.
3,938,527 A	2/1976	Rioux et al.	5,411,519 A	5/1995	Tovey et al.
3,952,749 A	4/1976	Fridolph et al.	5,411,520 A	5/1995	Nash et al.
4,005,714 A	2/1977	Hiltebrandt	5,413,571 A	5/1995	Katsaros et al.
4,074,718 A	2/1978	Morrison, Jr.	5,415,657 A	5/1995	Taymor-Luria
4,088,134 A	5/1978	Mazzariello	5,422,567 A	6/1995	Matsunaga
4,165,746 A	8/1979	Burgin	5,423,810 A	6/1995	Goble et al.
4,300,564 A	11/1981	Furihata	5,425,739 A	6/1995	Jessen
4,370,980 A	2/1983	Lottick	5,429,616 A	7/1995	Schaffer
4,416,276 A	11/1983	Newton et al.	5,431,674 A	7/1995	Basile et al.
4,452,246 A	6/1984	Bader et al.	5,437,292 A	8/1995	Kipshidze et al.
4,492,231 A	1/1985	Auth	5,438,302 A	8/1995	Goble
4,552,143 A	11/1985	Lottick	5,441,517 A	8/1995	Kensey et al.
4,574,804 A	3/1986	Kurwa	5,443,463 A	8/1995	Stern et al.
4,597,379 A	7/1986	Kihn et al.	5,443,464 A	8/1995	Russell et al.
4,600,007 A	7/1986	Lahodny et al.	5,443,480 A	8/1995	Jacobs et al.
4,655,216 A	4/1987	Tischer	5,445,638 A	8/1995	Rydell et al.
4,657,016 A	* 4/1987	Garito et al. 606/45	5,445,658 A	8/1995	Durrfeld et al.
4,662,372 A	5/1987	Sharkany et al.	5,451,224 A	9/1995	Goble et al.
4,671,274 A	6/1987	Sorochenko	5,456,684 A	10/1995	Schmidt et al.
4,685,459 A	8/1987	Xoch et al.	5,458,598 A	10/1995	Feinberg et al.
D295,893 S	5/1988	Sharkany et al.	5,460,629 A	10/1995	Shlain et al.
D295,894 S	5/1988	Sharkany et al.	5,462,546 A	10/1995	Rydell
4,763,669 A	8/1988	Jaeger	5,472,443 A	12/1995	Cordis et al.
4,827,929 A	5/1989	Hodge	5,478,351 A	12/1995	Meade et al.
4,887,612 A	12/1989	Esser et al.	5,480,409 A	1/1996	Riza
4,938,761 A	7/1990	Ensslin	5,484,436 A	1/1996	Eggers et al.
4,985,030 A	1/1991	Melzer et al.	5,496,317 A	3/1996	Goble et al.
5,007,908 A	4/1991	Rydell	5,496,347 A	3/1996	Hashiguchi et al.
5,026,370 A	6/1991	Lottick	5,499,997 A	3/1996	Sharpe et al.
D318,115 S	* 7/1991	Michelson D24/147	5,509,922 A	4/1996	Aranyi et al.
5,099,840 A	3/1992	Goble et al.	5,514,134 A	5/1996	Rydell et al.
5,116,332 A	5/1992	Lottick	5,527,313 A	6/1996	Scott et al.
5,147,357 A	9/1992	Rose et al.	5,531,744 A	7/1996	Nardella et al.
5,151,102 A	9/1992	Xamiyama et al.	5,536,251 A	7/1996	Evard et al.
5,176,695 A	* 1/1993	Dulebohn 606/170	5,540,684 A	7/1996	Hassler, Jr.
5,190,541 A	3/1993	Abele et al.	5,540,685 A	7/1996	Parins et al.
5,197,964 A	3/1993	Parins	5,540,715 A	7/1996	Katsaros et al.
5,215,101 A	6/1993	Jacobs et al.	5,558,672 A	9/1996	Edwards et al.
5,217,457 A	6/1993	Delahuerga et al.	5,562,699 A	10/1996	Heimberger et al.
5,217,458 A	6/1993	Parins	5,569,241 A	10/1996	Edwardds
5,219,354 A	6/1993	Choudhury et al.	5,569,243 A	10/1996	Kortenbach et al.
5,244,462 A	9/1993	Delahuerga et al.	5,571,100 A	11/1996	Goble et al.
5,250,047 A	10/1993	Rydell	5,573,424 A	11/1996	Poppe
5,258,006 A	11/1993	Rydell et al.	5,573,534 A	11/1996	Stone
5,261,918 A	11/1993	Phillips et al.	5,573,535 A	11/1996	Viklund
5,275,615 A	1/1994	Rose	5,582,611 A	12/1996	Tsukagoshi et al.
5,277,201 A	1/1994	Stern	5,585,896 A	12/1996	Yamazaki et al.
5,282,799 A	2/1994	Rydell	5,590,570 A	1/1997	LeMaire, III et al.
5,290,286 A	3/1994	Parins	5,601,601 A	2/1997	Tal et al.
5,304,203 A	4/1994	El-Mallawany et al.	5,603,711 A	2/1997	Parins et al.
5,308,357 A	5/1994	Lichtman	5,603,723 A	2/1997	Aranyi et al.
5,318,589 A	6/1994	Lichtman	5,626,578 A	5/1997	Tihon
5,324,289 A	6/1994	Eggers	5,626,609 A	5/1997	Zvenyatsky et al.
5,330,471 A	7/1994	Eggers	5,630,833 A	5/1997	Katsaros et al.
5,334,183 A	8/1994	Wuchinich	5,637,110 A	6/1997	Pennybacker et al.
5,334,215 A	8/1994	Chen	5,643,294 A	7/1997	Tovey et al.
5,336,221 A	8/1994	Anderson	5,647,869 A	7/1997	Goble et al.
5,342,359 A	8/1994	Rydell	5,647,871 A	7/1997	Levine et al.
5,342,381 A	8/1994	Tidemand	5,649,959 A	7/1997	Hannam et al.
5,342,393 A	8/1994	Stack	5,658,281 A	8/1997	Heard
			5,662,667 A	9/1997	Knodel

US D564,662 S

Page 3

5,667,526 A	9/1997	Levin	RE36,795 E	7/2000	Rydell
5,674,220 A	10/1997	Fox et al.	6,083,223 A	7/2000	Baker
5,681,282 A	10/1997	Eggers et al.	6,086,586 A	7/2000	Hooven
5,693,051 A	12/1997	Schulze et al.	6,090,107 A	7/2000	Borgmeier et al.
5,695,522 A	12/1997	LeMaire, III et al.	6,096,037 A	8/2000	Mulier et al.
5,700,261 A	12/1997	Brinkerhoff	6,099,550 A	8/2000	Yoon
5,702,390 A	12/1997	Austin et al.	6,102,909 A	8/2000	Chen et al.
5,707,369 A	1/1998	Vaitekunas et al.	6,110,171 A	8/2000	Rydell
5,709,680 A	1/1998	Yates et al.	6,113,596 A	9/2000	Hooven et al.
5,716,366 A	2/1998	Yates	6,113,598 A	9/2000	Baker
5,720,744 A	2/1998	Eggleston et al.	6,117,158 A	9/2000	Measamer et al.
5,727,428 A	3/1998	LeMaire, III et al.	H1904 H	10/2000	Yates et al.
5,735,848 A	4/1998	Yates et al.	6,126,658 A	10/2000	Baker
5,743,906 A	4/1998	Parins et al.	6,152,923 A	11/2000	Ryan
5,755,717 A	5/1998	Yates et al.	6,174,309 B1	1/2001	Wrublewski et al.
5,766,130 A	6/1998	Selmonosky	6,179,834 B1	1/2001	Buysse et al.
5,766,166 A	6/1998	Hooven	6,179,837 B1	1/2001	Hooven
5,766,170 A	6/1998	Eggers	6,183,467 B1	2/2001	Shapeton et al.
5,769,849 A	6/1998	Eggers	6,187,003 B1	2/2001	Buysse et al.
5,776,128 A	7/1998	Eggers	6,190,386 B1	2/2001	Rydell
5,776,130 A	7/1998	Buysse et al.	6,193,718 B1	2/2001	Kortenbach et al.
5,779,701 A	7/1998	McBrayer et al.	6,206,877 B1	3/2001	Kese et al.
5,792,137 A	8/1998	Carr et al.	6,224,593 B1	5/2001	Ryan et al.
5,792,177 A	8/1998	Kaseda	6,228,080 B1	5/2001	Gines
5,797,938 A	8/1998	Paraschac et al.	6,228,083 B1	5/2001	Lands et al.
5,797,958 A	8/1998	Yoon	6,267,761 B1	7/2001	Ryan
5,800,449 A	9/1998	Wales	6,270,497 B1	8/2001	Sekino et al.
5,810,808 A	9/1998	Eggers	6,270,508 B1	8/2001	Klieman et al.
5,810,811 A	9/1998	Yates et al.	6,273,887 B1	8/2001	Yamauchi et al.
5,810,877 A	9/1998	Roth et al.	6,277,117 B1	8/2001	Tetzlaff et al.
5,814,043 A	9/1998	Shapeton	6,280,458 B1	8/2001	Boche et al.
5,817,093 A	10/1998	Williamson, IV et al.	6,283,961 B1 *	9/2001	Underwood et al.
5,820,630 A	10/1998	Lind	D449,886 S	10/2001	Tetzlaff et al.
5,827,271 A	10/1998	Buysse et al.	6,322,561 B1	11/2001	Eggers et al.
5,827,279 A	10/1998	Hughett et al.	6,334,860 B1	1/2002	Dorn
5,827,281 A	10/1998	Levin	6,334,861 B1	1/2002	Chandler et al.
5,833,690 A	11/1998	Yates et al.	6,350,264 B1	2/2002	Hooven
5,843,080 A	12/1998	Fleenor et al.	6,352,536 B1	3/2002	Buysse et al.
5,849,022 A	12/1998	Sakashita et al.	D457,958 S	5/2002	Dycus et al.
5,853,412 A	12/1998	Mayenberger	D457,959 S	5/2002	Tetzlaff et al.
5,876,401 A	3/1999	Schulze et al.	6,387,094 B1	5/2002	Eitenmuller
5,891,141 A	4/1999	Rydell	6,398,779 B1	6/2002	Buysse et al.
5,891,142 A	4/1999	Eggers et al.	6,402,747 B1	6/2002	Lindemann et al.
5,893,863 A	4/1999	Yoon	6,409,726 B1	6/2002	Ellman et al.
5,893,875 A	4/1999	O'Connor et al.	H2037 H	7/2002	Yates et al.
5,893,877 A	4/1999	Gampp, Jr. et al.	6,419,675 B1	7/2002	Gallo, Sr.
5,902,301 A	5/1999	Olig	6,425,896 B1	7/2002	Baltschun et al.
5,906,630 A	5/1999	Anderhub et al.	6,440,144 B1	8/2002	Bacher
5,908,420 A	6/1999	Parins et al.	6,443,970 B1	9/2002	Schulze et al.
5,913,874 A	6/1999	Berns et al.	6,451,018 B1	9/2002	Lands et al.
5,921,984 A	7/1999	Sutcu et al.	6,458,128 B1	10/2002	Schulze
5,935,126 A	8/1999	Riza	6,458,130 B1	10/2002	Frazier et al.
5,944,718 A	8/1999	Dafforn et al.	6,464,702 B2	10/2002	Schulze et al.
5,951,549 A	9/1999	Richardson et al.	6,464,704 B2	10/2002	Schmaltz et al.
5,954,720 A	9/1999	Wilson et al.	6,511,480 B1	1/2003	Tetzlaff et al.
5,961,514 A	10/1999	Long et al.	6,585,735 B1	7/2003	Frazier et al.
5,976,132 A	11/1999	Morris	6,620,161 B2	9/2003	Schulze et al.
5,984,939 A	11/1999	Yoon	6,626,901 B1	9/2003	Treat et al.
5,989,277 A	11/1999	LeMaire, III et al.	6,652,521 B2	11/2003	Schulze
6,004,335 A	12/1999	Vaitekunas et al.	6,682,528 B2	1/2004	Frazier et al.
6,010,516 A	1/2000	Hulka et al.	6,685,724 B1	2/2004	Haluck
6,024,741 A	2/2000	Williamson et al.	6,695,840 B2	2/2004	Schulze
6,024,744 A	2/2000	Kese et al.	6,726,686 B2	4/2004	Buysse et al.
6,033,399 A	3/2000	Gines	6,733,498 B2	5/2004	Paton et al.
6,039,733 A	3/2000	Buysse et al.	6,743,229 B2	6/2004	Buysse et al.
6,041,679 A	3/2000	Slater et al.	6,770,072 B1	8/2004	Truckai et al.
6,050,996 A	4/2000	Schmaltz et al.	D496,997 S	10/2004	Dycus et al.
6,053,914 A	4/2000	Eggers et al.	D499,181 S	11/2004	Dycus et al.
6,053,933 A	4/2000	Balazs et al.	6,926,716 B2	8/2005	Baker et al.
D424,694 S	5/2000	Tetzlaff et al.	6,929,644 B2	8/2005	Truckai et al.
D425,201 S	5/2000	Tetzlaff et al.	6,942,662 B2	9/2005	Goble et al.

US D564,662 S

Page 4

2002/0013583	A1	1/2002	Camran et al.	EP	0875209	A1	11/1998
2002/0099372	A1	7/2002	Schulze et al.	EP	0878169	A1	11/1998
2002/0107517	A1	8/2002	Witt et al.	EP	0887046	A3	1/1999
2002/0111624	A1	8/2002	Witt et al.	EP	0923907	A1	6/1999
2002/0188294	A1	12/2002	Couture et al.	EP	09866990	A1	3/2000
2003/0014052	A1	1/2003	Buyse et al.	EP	1034747	A1	9/2000
2003/0014053	A1	1/2003	Nguyen et al.	EP	1034749	A1	9/2000
2003/0018331	A1	1/2003	Dycus et al.	EP	1025807	A3	10/2000
2003/0018332	A1	1/2003	Schmaltz et al.	EP	1034746	A3	10/2000
2003/0032956	A1	2/2003	Lands et al.	EP	1050278	A1	11/2000
2003/0006957	A1	4/2003	Treat et al.	EP	1053719	A1	11/2000
2003/0069571	A1 *	4/2003	Treat et al.	EP	1053720	A1	11/2000
2003/0078578	A1	4/2003	Truckai Csaba et al.	EP	1055399	A1	11/2000
2003/0109875	A1	6/2003	Tetzlaff et al.	EP	1055400	A1	11/2000
2003/0139741	A1	7/2003	Goble et al.	EP	1080694	A1	3/2001
2003/0139742	A1 *	7/2003	Wampler et al.	EP	1082944	A1	3/2001
2003/0158549	A1 *	8/2003	Swanson	EP	1159926	A2	12/2001
2003/0181910	A1	9/2003	Dycus et al.	EP	1330991	A1	7/2003
2003/0199869	A1	10/2003	Johnson et al.	EP	1486177	A2	6/2004
2003/0220637	A1	11/2003	Truckai et al.	EP	1532932	A1	5/2005
2003/0229344	A1	12/2003	Dycus et al.	EP	2214430	A	6/1989
2003/0236325	A1	12/2003	Bonora	GB	501068		9/1984
2004/0049185	A1	3/2004	Latterell et al.	JP	502328		3/1992
2004/0082952	A1	4/2004	Dycus et al.	JP	5-40112		2/1993
2004/0087943	A1	5/2004	Dycus et al.	JP	06343644	A2	12/1994
2004/0115296	A1	6/2004	Duffin	JP	07265328	A2	10/1995
2004/0116924	A1	6/2004	Dycus et al.	JP	08056955	A2	3/1996
2004/0116979	A1	6/2004	Truckai et al.	JP	08252263	A2	10/1996
2004/0122423	A1	6/2004	Dycus et al.	JP	09010223	A2	1/1997
2004/0143263	A1	7/2004	Schechter et al.	JP	11244298	A2	9/1999
2004/0147925	A1	7/2004	Buyse et al.	JP	2000342599	A2	12/2000
2004/0162557	A1	8/2004	Tetzlaff et al.	JP	2000350732	A2	12/2000
2004/0176762	A1	9/2004	Lawes et al.	JP	2001008944	A2	1/2001
2004/0225288	A1	11/2004	Buyse et al.	JP	2001029356	A2	2/2001
2004/0230189	A1	11/2004	Keppel	JP	2001128990	A2	5/2001
2004/0236325	A1 *	11/2004	Tetzlaff et al.	JP	401367		11/1974
2004/0243125	A1	12/2004	Dycus et al.	SU	401387		11/1974
2004/0249371	A1	12/2004	Dycus et al.	WO	WO 92/06642		4/1992
2004/0249374	A1	12/2004	Tetzlaff et al.	WO	WO 96/13218		9/1993
2004/0250419	A1	12/2004	Sremcich et al.	WO	WO 94/08524	A	4/1994
2004/0254573	A1	12/2004	Dycus et al.	WO	WO 95/02369		1/1995
2005/0004564	A1	1/2005	Wham et al.	WO	WO 95/07662		3/1995
2005/0004568	A1	1/2005	Lawes et al.	WO	WO 96/022056		7/1996
2005/0004570	A1	1/2005	Chapman et al.	WO	WO 97/00646		1/1997
2005/0021025	A1	1/2005	Buyse et al.	WO	WO 97/00647		1/1997
2005/0021026	A1	1/2005	Baily	WO	WO 97/10764		3/1997
2005/0021027	A1	1/2005	Shields et al.	WO	WO 97/24073		7/1997
2005/0033278	A1	2/2005	McClurken et al.	WO	WO 97/24993		7/1997
2005/0101951	A1	5/2005	Wham et al.	WO	WO 98/27880		7/1998
2005/0101952	A1	5/2005	Lands et al.	WO	WO 99/03407		1/1999
2005/0107784	A1	5/2005	Moses et al.	WO	WO 99/03408		1/1999
2005/0107785	A1	5/2005	Dycus et al.	WO	WO 99/03409		1/1999
2005/0113818	A1	5/2005	Sartor et al.	WO	WO 99/12488	A	3/1999
2005/0113819	A1	5/2005	Wham et al.	WO	WO 99/40857		8/1999
2005/0113826	A1	5/2005	Johnson et al.	WO	WO 99/040861		8/1999
2005/0113827	A1	5/2005	Dumbauld et al.	WO	WO 99/51158		10/1999
2005/0113828	A1	5/2005	Shields et al.	WO	WO 99/66850	A	12/1999
2005/0119655	A1	6/2005	Moses et al.	WO	WO 99/066850		12/1999
2005/0149151	A1	7/2005	Orszulak et al.	WO	WO 00/24330		5/2000
2006/0079891	A1	4/2006	Arts et al.	WO	WO 00/24331		5/2000

FOREIGN PATENT DOCUMENTS

EP	0572131	12/1993	WO	WO 01/17448	A	3/2001
EP	0584787	A1 3/1994	WO	WO 01/54604		8/2001
EP	0623316	A1 11/1994	WO	WO 02/07627		1/2002
EP	0624348	A2 11/1994	WO	WO 02/080783		10/2002
EP	0694290	A3 3/1996	WO	WO 02/080784		10/2002
EP	0717966	A1 6/1996	WO	WO 02/080785		10/2002
EP	0754437	A3 3/1997	WO	WO 02/080786		10/2002
EP	0650701	A1 5/1998	WO	WO 02/080793		10/2002
EP	0853922	A1 7/1998	WO	WO 02080794		10/2002

WO	WO 02/080795	10/2002
WO	WO 02/080796 A1	10/2002
WO	WO 02/080796	10/2002
WO	WO 02/080797	10/2002
WO	WO 02/080798	10/2002
WO	WO 02080799	10/2002
WO	WO 02/081170	10/2002
WO	WO 03/101311	12/2003
WO	WO 04/032777	4/2004
WO	WO 2004/052224 A1	6/2004
WO	WO 04/073490	9/2004
WO	WO 04/082495	9/2004
WO	WO 2004/082495 A1	9/2004
WO	WO 2004/098383 A1	11/2004
WO	WO 04/103156	12/2004

OTHER PUBLICATIONS

- McLellan et al. "Vessel Sealing for Hemostasis During Pelvic Surgery" Int'l Federation of Gynecology and Obstetrics FIGO World Congress 2000, Washington, D.C.
- Levy et al. "Use of a New Energy-based Vessel Ligation Device During Vaginal Hysterectomy" Int'l Federation of Gynecology and Obstetrics (FIGO) World Congress.
- Rothenberg et al. "Use of the LigaSure Vessel Sealing System in Minimally Invasive Surgery in Children" Int'l Pediatric Endosurgery Group (IPEG) 2000.
- "Reducing Needlestick Injuries in the Operating Room" Sales/Product Literature.
- Barbara Levy, "Use of a New Vessel Ligation Device During Vaginal Hysterectomy" FIGO 2000, Washington, D.C.
- McLellan et al. "Vessel Sealing For Hemostasis During Gynecologic Surgery" Sales/Product Literature.
- E. David Crawford "Use of a Novel Vessel Sealing Technology in Management of the Dorsal Complex" Sales/Product Literature.
- Jarrett et al., "Use of the LigaSure Vessel Sealing System for Peri-Hilar Vessels in Laparoscopic Nephrectomy" Sales/Product Literature.
- E. David Crawford "Evaluation of a New Vessel Sealing Device in Urologic Cancer Surgery" Sales/Product Literature.
- Sigel et al. "The Mechanism of Blood Vessel Closure by High Frequency Electrocoagulation" Surgery Gynecology & Obstetrics, Oct. 1965 pp. 823-831.
- Bergdahl et al. "Studies on Coagulation and the Development of an Automatic Computerized Bipolar Coagulator" J. Neurosurg, vol. 75, Jul. 1991, pp. 148-151.
- Kennedy et al. "High-burst-strength, feedback-controlled bipolar vessel sealing" Surgical Endoscopy (1998) 12: 876-878.
- Peterson et al. "Comparison of Healing Process Following Ligation with Sutures and Bipolar Vessel Sealing" Surgical Technology International (2001).
- Sayfan et al. "Sutureless Closed Hemorrhoidectomy: A New Technique" Annals of Surgery vol. 234 No. 1 Jul. 2001 pp. 21-24.
- Heniford et al. "Initial Results with an Electrothermal Bipolar Vessel Sealer" Surgical Endoscopy (2000) 15:799-801.
- Crawford et al. "Use of the LigaSure Vessel Sealing System in Urologic Cancer Surgery" British Journal of Surgery 2002, 89, 154-157.
- Carbonell et al., "Comparison the theGyrus PlasmaKinetic Sealer and the Valleylab LigaSure Device in the Hemostasis of Small, Medium, and Large-Sized Arteries" Carolinas Laparoscopic and Advanced Surgery Program, Carolinas Medical Center, Charlotte, NC, 2003.
- Chunge et al., "Clinical Experience of Sutureless Closed Hemorrhoidectomy with LigaSure" Disease of the Colon & Rectum vol. 46, No. 1 Jan. 2003.
- Strasberg et al., "Use of a Bipolar Vessel-Sealing Device for Parenchymal Transection During Liver Surgery" Journal of Gastrointestinal Surgery, vol. 6, No. 4, Jul./Aug. 2002 pp. 569-574.
- Paul G. Horgan, "A Novel Technique for Parenchymal Division During Hepatectomy" The American Journal of Surgery, vol. 181, No. 3, Apr. 2001 pp. 236-237.
- W. Scott Helton, "LigaSure Vessel Sealing System: Revolutionary Hemostasis Product for General Surgery" Sales/Product Literature, 1999.
- Michael Choti, "Abdominoperineal Resection with the LigaSure Vessel Sealing System and LigaSure Atlas 20 cm Open Instrument" Innovations That Work, Jun. 2003.
- Craig Johnson, "Use of the LigaSure Vessel Sealing System in Bloodless Hemorrhoidectomy" Innovations That Work, Mar. 2000.
- Muller et al., "Extended Left Hemicolectomy Using the LigaSure Vessel Sealing System" Innovations That Work, Sep. 1999.
- Herman et al., "Laparoscopic Intestinal Resection With the LigaSure Vessel Sealing System: A Case Report" Innovations That Work, Feb. 2002.
- Carus et al., "Initial Experience With The LigaSure Vessel Sealing System in Abdominal Surgery" Innovations That Work, Jun. 2002.
- Levy et al., "Randomized Trial of Suture Versus Electro-surgical Bipolar Vessel Sealing in Vaginal Hysterectomy" Obstetrics & Gynecology, vol. 102, No. 1, Jul. 2003.
- Levy et al., "Update on Hysterectomy—New Technologies and Techniques" OBG Management, Feb. 2003.
- Sangupta et al., "Use of a Computer-Controlled Bipolar Diathermy System in Radical Prostatectomies and Other Open Urological Surgery" ANZ Journal of Surgery (2001) 71.9 pp. 538-540.
- Joseph Ortenberg "LigaSure System Used System in Laparoscopic 1st and 2nd Stage Orchiopexy" Innovations That Work, Nov. 2002.
- Koyle et al., "Laparoscopic Palomo Varicocele Ligation in Children and Adolescents" Pediatric Endosurgery & Innovative Techniques, vol. 6, No. 1, 2002.
- Int'l Search Report PCT/US01/11218.
- Int'l Search Report PCT/US99/24869.
- Int'l Search Report PCT/US98/18640.
- Int'l Search Report PCT/US98/23950.
- PCT/US01/11340 International Search Report.
- PCT/US01/11420 International Search Report.
- PCT/US02/01890 International Search Report.
- PCT/US02/11100 International Search Report.
- PCT/US04/03436 International Search Report.
- PCT/US04/13273 International Search Report.
- PCT/US04/15311 International Search Report.
- EP 98911778 International Search Report.
- EP 04027479 International Search Report.
- EP 04027705 International Search Report.
- EP 04027314 International Search Report.

“Innovations in Electrosurgery” Sales/Product Literature; Dec. 31, 2000.

LigaSure Vessel Sealing System, the Seal of Confidence in General, Gynecologic, Urologic, and Laparoscopic Surgery Sales/Product Literature; Jan., 2004.

Olssen et al. “Radical Cystectomy in Females” Current Surgical Techniques in Urology, vol. 14, Issue 3, 2001.

Dutemba et al. “Use of a Bipolar Electrothermal Vessel Sealer in Laparoscopically Assisted Vaginal Hysterectomy” Sales Product Literature; Jan. 2004.

Johnson et al. “Evaluation of a Bipolar electrothermal Vessel Sealing Device in Hemorrhoidectomy” Sales Product Literature; Jan. 2004.

International Search Report PCT/US01/11224 dated Nov. 13, 2001.

International Search Report EP 98958575.7 dated Sep. 20, 2002.

International Search Report EP 04013772 dated Apr. 1, 2005.

International Search Report EP 05013895 dated Oct. 14, 2005.

International Search Report EP 05017281 dated Nov. 18, 2005.

Int’l Search Report EP 05013463.4 dated Sep. 28, 2005.

Int’l Search Report EP 05019130.3 dated Oct. 18, 2005.

Int’l Search Report EP 05020665.5 dated Feb. 16, 2006.

Int’l Search Report EP 05020666.3 dated Feb. 17, 2006.

Int’l Search Report EP 05021779.3 dated Jan. 18, 2006.

Int’l Search Report EP 05021197.8 dated Jan. 31, 2006.

Int’l Search Report EP 05021937.7 dated Jan. 13, 2006.

Int’l Search Report –extended–EP 0521937.7 dated Mar. 6, 2006.

Int’l Search Report EP 05023017.6 dated Feb. 16, 2006.

Int’l Search Report EP 05021780.1 dated Feb. 9, 2006.

Int’l Search Report EP 06002279.5 dated Mar. 22, 2006.

* cited by examiner

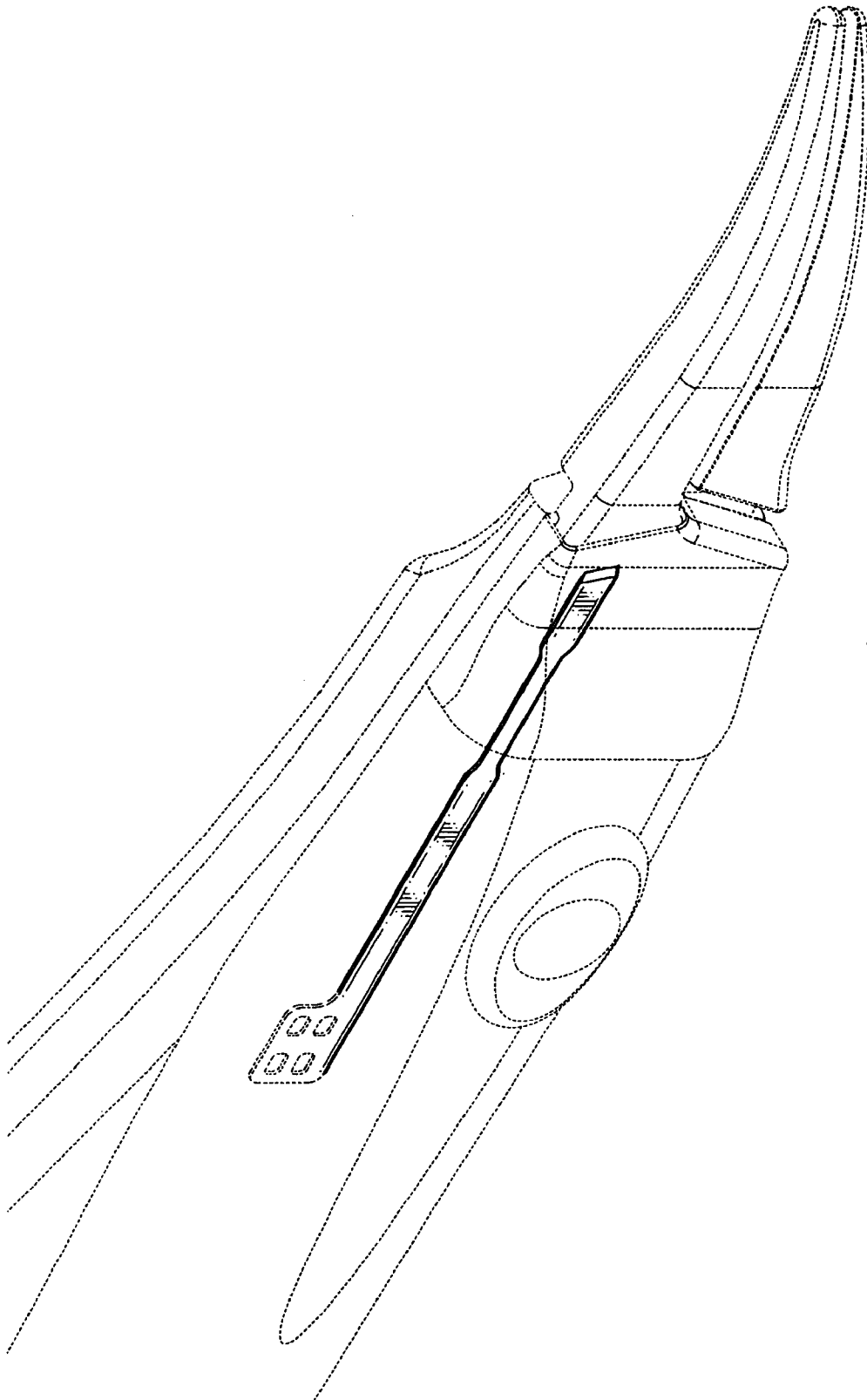


FIG. 1

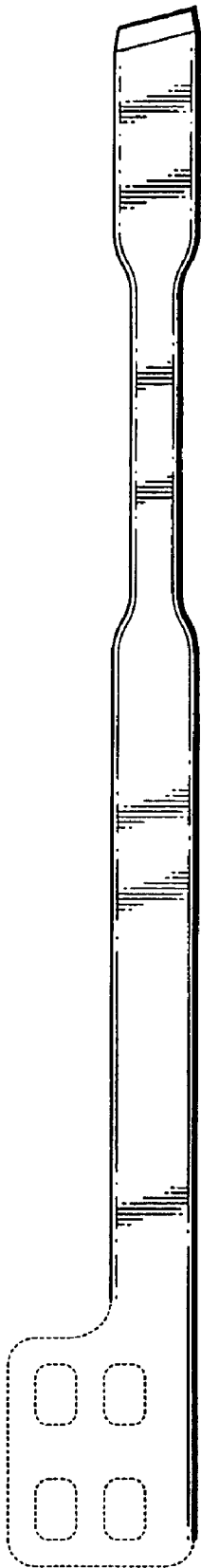


FIG. 2



FIG. 3

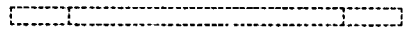


FIG. 4



FIG. 5

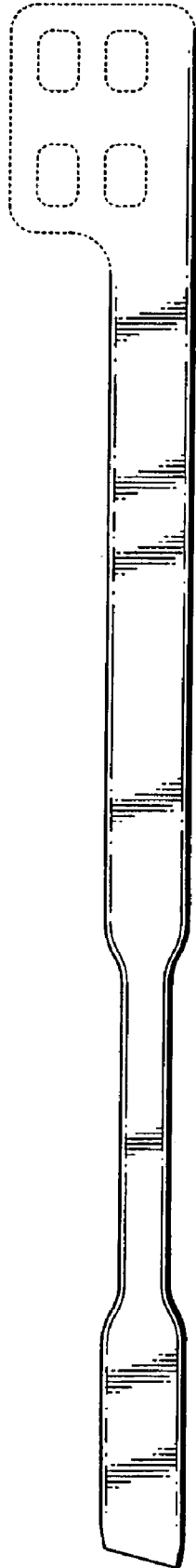


FIG. 6

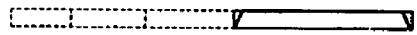


FIG. 7