

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6911197

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
GREATBATCH LTD.	09/02/2021
ELECTROCHEM SOLUTIONS, INC.	09/02/2021
LAKE REGION MEDICAL, INC.	09/02/2021
LAKE REGION MANUFACTURING, INC.	09/02/2021

RECEIVING PARTY DATA

Name:	WELLS FARGO BANK, NATIONAL ASSOCIATION, AS ADMINISTRATIVE AGENT
Street Address:	7711 PLANTATION ROAD
Internal Address:	1ST FLOOR, MAC R4057-01R
City:	ROANOKE
State/Country:	VIRGINIA
Postal Code:	24019

PROPERTY NUMBERS Total: 502

Property Type	Number
Application Number:	09560060
Application Number:	09562532
Application Number:	09564401
Application Number:	09565811
Application Number:	09591148
Application Number:	09609949
Application Number:	09633408
Application Number:	09649752
Application Number:	09657123
Application Number:	09669370
Application Number:	09707162
Application Number:	09733342
Application Number:	09735781
Application Number:	09756889
Application Number:	09757232
Application Number:	09761626

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Property Type	Number
Application Number:	09781830
Application Number:	09799394
Application Number:	09809371
Application Number:	09809404
Application Number:	09810299
Application Number:	09811903
Application Number:	09813568
Application Number:	09816205
Application Number:	09845875
Application Number:	09847678
Application Number:	09849733
Application Number:	09859355
Application Number:	09859558
Application Number:	09872092
Application Number:	09939351
Application Number:	09969389
Application Number:	09970341
Application Number:	09975711
Application Number:	09992227
Application Number:	10000884
Application Number:	10004995
Application Number:	10008823
Application Number:	10008977
Application Number:	10037840
Application Number:	10054584
Application Number:	10096040
Application Number:	10106463
Application Number:	10107769
Application Number:	10123534
Application Number:	10179124
Application Number:	10198231
Application Number:	10199773
Application Number:	10200110
Application Number:	10207608
Application Number:	10224117
Application Number:	10242096
Application Number:	10253330
Application Number:	10272185

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Application Number:	10290858
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Application Number:	10339478
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Application Number:	10377086
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Application Number:	10405830
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Application Number:	10669080
Application Number:	10670150
Application Number:	10695563
Application Number:	10701849
Application Number:	10719632
Application Number:	10737062
Application Number:	10761037
Application Number:	10763945
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Application Number:	10792315
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Application Number:	10807358
Application Number:	10840668
Application Number:	10842967
Application Number:	10916166
Application Number:	10918858
Application Number:	10920942
Application Number:	10936755
Application Number:	10944661
Application Number:	11010676

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Application Number:	12887871
Application Number:	12891292
Application Number:	12891542

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Application Number:	12955417
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Application Number:	13174863
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Application Number:	13283763
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Application Number:	13340217
Application Number:	13346409
Application Number:	13356684
Application Number:	13396068
Application Number:	13400701
Application Number:	13401608
Application Number:	13408468
Application Number:	13423355
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Application Number:	13457652
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Application Number:	13534164
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Application Number:	16435600
Application Number:	16446681

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Application Number:	16655286
Application Number:	16656775
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Application Number:	16874904
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Application Number:	17010985
Application Number:	17025573
Application Number:	17062746
Application Number:	17077337
Application Number:	17112257
Application Number:	17165500
Application Number:	17171418
Application Number:	17181416

CORRESPONDENCE DATA

Fax Number: (650)251-5002

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 6502515703

Email: jnull@stblaw.com

Correspondent Name: CORINA MCINTYRE

Address Line 1: 2475 HANOVER STREET

Address Line 4: PALO ALTO, CALIFORNIA 94304

PATENT

REEL: 057468 FRAME: 0069

ATTORNEY DOCKET NUMBER:	004541/0001
NAME OF SUBMITTER:	J. JASON MULL
SIGNATURE:	/J. Jason Mull/
DATE SIGNED:	09/10/2021

Total Attachments: 44

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PATENT SECURITY AGREEMENT

Patent Security Agreement (this “Agreement”) dated as of September 2, 2021 by and between GREATBATCH LTD., a New York corporation, ELECTROCHEM SOLUTIONS, INC., a Massachusetts corporation, LAKE REGION MEDICAL, INC., a Maryland corporation and LAKE REGION MANUFACTURING, INC., a Minnesota corporation (the “Grantors”) and WELLS FARGO BANK, NATIONAL ASSOCIATION, a national banking association, as Administrative Agent (the “Administrative Agent”), with offices at 7711 Plantation Road, 1st Floor, MAC R4057-01R, Roanoke, VA 24019, for the benefit of the Secured Parties.

This Agreement is executed pursuant to the terms of (a) the Credit Agreement dated as of September 2, 2021 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “Credit Agreement”) by and among Greatbatch Ltd., a New York corporation, as Borrower, Integer Holdings Corporation, a Delaware corporation, as Parent, the Lenders who are or may become party thereto and the Administrative Agent and (b) the Collateral Agreement dated as of September 2, 2021 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “Collateral Agreement”) executed by the Credit Parties in favor of the Administrative Agent, for the benefit of the Secured Parties. Capitalized terms used herein but not defined herein shall have the meaning assigned to them in the Credit Agreement or the Collateral Agreement, as applicable.

NOW, THEREFORE, for good and valuable consideration, receipt and sufficiency of which are hereby acknowledged, the Grantors hereby grants to the Administrative Agent, for the benefit of the Secured Parties, a security interest in all of the Grantors’ right, title and interest in, to and under the Patents and each Patent License, including those listed on Schedule A, whether presently existing or hereafter arising or acquired.

The rights and remedies of the Administrative Agent with respect to the security interest granted herein are without prejudice to, and are in addition to, those set forth in the Collateral Agreement, all terms and provisions of which are incorporated herein by reference. In the event that any provisions of this Agreement are deemed to conflict with the Collateral Agreement, the provisions of the Collateral Agreement shall govern. This Agreement may be executed in counterparts, each of which will be deemed an original, but all of which together constitute one and the same original.

[Signature page follows]

IN WITNESS WHEREOF, the undersigned has executed this Agreement as of the date first written above.

GREATBATCH LTD., as Grantor

By: Jason K. Garland
Name: Jason K. Garland
Title: Executive Vice President & Chief Financial Officer

ELECTROCHEM SOLUTIONS, INC., as Grantor

By: Jason K. Garland
Name: Jason K. Garland
Title: Executive Vice President & Chief Financial Officer

LAKE REGION MANUFACTURING, INC., as Grantor

By: Jason K. Garland
Name: Jason K. Garland
Title: Executive Vice President & Chief Financial Officer

LAKE REGION MEDICAL, INC., as Grantor

By: Jason K. Garland
Name: Jason K. Garland
Title: Executive Vice President & Chief Financial Officer

Agreed and Accepted:

WELLS FARGO BANK, NATIONAL ASSOCIATION,
as Administrative Agent

By: *Lindsey Stuckey*
Name: Lindsey Stuckey
Title: Director

Schedule A to Patent Security Agreement

Patents and Patent Applications

TITLE	APPLICATION NUMBER	DATE FILED	STATUS	Owner
SANDWICH CATHODE DESIGN FOR ALKALI METAL ELECTROCHEMICAL CELL WITH HIGH DISCHARGE RATE CAPABILITY	09/560,060	Apr 27, 2000	Issued	Greatbatch Ltd.
HIGH TEMPERATURE LITHIUM OXYHALIDE ELECTROCHEMICAL CELL	09/562,532	May 2, 2000	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL WITH NOVEL HEADER ASSEMBLY	09/564,401	May 1, 2000	Issued	Greatbatch Ltd.
PROTECTION DEVICE HAVING TAPERED RIBS AND METHOD OF ASSEMBLING A BATTERY WITH A PROTECTION DEVICE AND AN ELECTRICAL COMPONENT	09/565,811	May 5, 2000	Issued	Greatbatch Ltd.
CATHODE ASSEMBLY WITH BARE CURRENT COLLECTOR REGIONS TO FACILITATE WINDING	09/591,148	Jun 9, 2000	Issued	Greatbatch Ltd.
VARIABLE DENSITY CATHODE ASSEMBLY WHICH FACILITATES WINDING	09/609,949	Jul 3, 2000	Issued	Greatbatch Ltd.
ELECTROCHEMICAL LITHIUM ION SECONDARY CELL HAVING MULTIPLATE AND JELLYROLL ELECTRODES WITH DIFFERING DISCHARGE RATE REGIONS	09/633,408	Aug 7, 2000	Issued	Greatbatch Ltd.
HIGH RATE BATTERIES	09/649,752	Aug 28, 2000	Issued	Greatbatch Ltd.
INTERNALLY GROUNDED FEEDTHROUGH FILTER CAPACITOR WITH IMPROVED GROUND PLANE DESIGN FOR HUMAN IMPLANT AND OTHER APPLICATIONS	09/657,123	Sep 7, 2000	Issued	Greatbatch Ltd.
ENHANCED CAPACITY LI/CF _x ELECTROCHEMICAL CELL	09/669,370	Sep 26, 2000	Issued	Greatbatch Ltd.
SAFETY INTRODUCER APPARATUS AND METHOD THEREFOR	09/707,162	Nov 6, 2000	Issued	Greatbatch Ltd.

FEEDTHROUGH CAPACITOR FILTER ASSEMBLIES WITH LEAK DETECTION VENTS	09/733,342	Dec 7, 2000	Issued	Greatbatch Ltd.
BATTERY HOUSING, ELECTRICITY DELIVERING SYSTEM AND METHOD OF DELIVERING ELECTRICITY	09/735,781	Dec 13, 2000	Issued	Greatbatch Ltd.
SECONDARY CELL WITH HIGH RATE PULSE CAPABILITY	09/756,889	Jan 9, 2001	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL HAVING A CASING OF MATING PORTIONS	09/757,232	Jan 9, 2001	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL HAVING AN ELECTRODE WITH A PHOSPHATE ADDITIVE IN THE ELECTRODE ACTIVE MIXTURE	09/761,626	Jan 17, 2001	Issued	Greatbatch Ltd.
CONVERSION OF LOW RATE ENERGY INTO HIGH RATE ENERGY BY PARALLEL DISCHARGING	09/781,830	Feb 12, 2001	Issued	Greatbatch Ltd.
ELECTROCHEMICAL LITHIUM ION SECONDARY CELL HAVING A SCALLOPED ELECTRODE ASSEMBLY	09/799,394	Mar 5, 2001	Issued	Greatbatch Ltd.
MANUFACTURING PROCESS FOR IMPROVED DISCHARGE OF LITHIUM-CONTAINING ELECTROCHEMICAL CELLS	09/809,371	Mar 15, 2001	Issued	Greatbatch Ltd.
Application of gamma-SVO and mixture of gamma-SVO/epsi-SVO in high rate electrochemical lithium cells containing SVO/CF _x /SVO sandwich cathodes	09/809,404	Mar 15, 2001	Issued	Greatbatch Ltd.
THERMO-ENCAPSULATING SYSTEM AND METHOD	09/810,299	Mar 16, 2001	Issued	Greatbatch Ltd.
ONE-PIECE HEADER ASSEMBLY FOR HERMETIC BATTERY TERMINAL FEEDTHROUGH, FILL AND CLOSURE DESIGNS	09/811,903	Mar 19, 2001	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL HAVING AN ELECTRODE WITH A DICARBONATE ADDITIVE IN THE ELECTRODE ACTIVE MIXTURE	09/813,568	Mar 21, 2001	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL HAVING AN ELECTRODE WITH A CARBONATE ADDITIVE IN THE ELECTRODE ACTIVE MIXTURE	09/816,205	Mar 22, 2001	Issued	Greatbatch Ltd.

EFFICIENT CELL STACK FOR CELLS WITH DOUBLE CURRENT COLLECTORS SANDWICH CATHODES	09/845,875	Apr 30, 2001	Issued	Greatbatch Ltd.
MISMATCHED COMPRESSION GLASS-TO-METAL SEAL	09/847,678	May 2, 2001	Issued	Greatbatch Ltd.
REMOTE MEDICAL IMAGE ANALYSIS	09/849,733	May 4, 2001	Issued	Greatbatch Ltd.
CAPACITOR GRADE POWDERS	09/859,355	May 17, 2001	Issued	Greatbatch Ltd.
CONTROL OF CELL SWELLING BY THE PROPER CHOICE OF CARBON MONOFLUORIDE (CFX) CATHODE MATERIALS IN HIGH RATE DEFIBRILLATOR CELLS	09/859,558	May 17, 2001	Issued	Greatbatch Ltd.
INTEGRATED EMI FILTER-DC BLOCKING CAPACITOR	09/872,092	May 31, 2001	Issued	Greatbatch Ltd.
WIRE BONDING SURFACE	09/939,351	Aug 24, 2001	Issued	Greatbatch Ltd.
DOUBLE CURRENT COLLECTOR CATHODE DESIGN FOR ALKALI METAL ELECTROCHEMICAL CELLS HAVING SHORT CIRCUIT SAFETY CHARACTERISTICS	09/969,389	Oct 2, 2001	Issued	Greatbatch Ltd.
DOUBLE CURRENT COLLECTOR CATHODE DESIGN USING THE SAME ACTIVE MATERIAL IN VARYING FORMULATIONS FOR ALKALI METAL OR ION ELECTROCHEMICAL CELLS	09/970,341	Oct 3, 2001	Issued	Greatbatch Ltd.
DOUBLE CURRENT COLLECTOR CATHODE DESIGN USING THE SAME ACTIVE MATERIAL IN VARYING THICKNESSES FOR ALKALI METAL OR ION ELECTROCHEMICAL CELLS	09/975,711	Oct 11, 2001	Issued	Greatbatch Ltd.
POWDER PROCESS FOR DOUBLE CURRENT COLLECTOR SCREEN CATHODE PREPARATION	09/992,227	Nov 19, 2001	Issued	Greatbatch Ltd.
DOUBLE CURRENT COLLECTOR CATHODE DESIGN USING CHEMICALLY SIMILAR ACTIVE MATERIALS FOR ALKALI METAL ELECTROCHEMICAL CELLS	10/000,884	Nov 15, 2001	Issued	Greatbatch Ltd.

Preparation of epsilon-phase silver vanadium oxide from gamma-phase SVO starting material	10/004,995	Dec 5, 2001	Issued	Greatbatch Ltd.
DOUBLE CURRENT COLLECTOR CATHODE DESIGN USING MIXTURES OF TWO ACTIVE MATERIALS FOR ALKALI METAL OR ION ELECTROCHEMICAL CELLS	10/008,823	Oct 24, 2001	Issued	Greatbatch Ltd.
DOUBLE CURRENT COLLECTOR NEGATIVE ELECTRODE DESIGN FOR ALKALI METAL ION ELECTROCHEMICAL CELLS	10/008,977	Nov 8, 2001	Issued	Greatbatch Ltd.
INSTALLATION OF FILTER CAPACITORS INTO FEEDTHROUGHS FOR IMPLANTABLE MEDICAL DEVICES	10/037,840	Jan 2, 2002	Issued	Greatbatch Ltd.
PELLET PROCESS FOR DOUBLE CURRENT COLLECTOR SCREEN CATHODE PREPARATION	10/054,584	Nov 13, 2001	Issued	Greatbatch Ltd.
PROCESS FOR FABRICATING CONTINUOUSLY COATED ELECTRODES ON A POROUS CURRENT COLLECTOR AND CELL DESIGNS INCORPORATING SAID ELECTRODES	10/096,040	Mar 12, 2002	Issued	Greatbatch Ltd.
LINK FUSE	10/106,463	Mar 26, 2002	Issued	Greatbatch Ltd.
TRACE FUSE	10/107,769	Mar 27, 2002	Issued	ELECTROCHEM SOLUTIONS, INC.
SYSTEMS AND METHODS FOR MAGNETIC-RESONANCE-GUIDED INTERVENTIONAL PROCEDURES	10/123,534	Apr 15, 2002	Issued	GREATBATCH LTD. and SURGIVISION, INC.
CATHETER ASSEMBLY WITH SIDE WALL EXIT LUMEN AND METHOD THEREFOR	10/179,124	Jun 25, 2002	Issued	Greatbatch Ltd.
CONTOURED CASING FOR AN ELECTROCHEMICAL CELL	10/198,231	Jul 18, 2002	Issued	Greatbatch Ltd.
CONTOURED HOUSING FOR AN IMPLANTABLE MEDICAL DEVICE	10/199,773	Jul 19, 2002	Issued	Greatbatch Ltd.
INSULATIVE COMPONENT FOR AN ELECTROCHEMICAL CELL	10/200,110	Jul 19, 2002	Issued	Greatbatch Ltd.
CONNECTION FOR JOINING A CURRENT COLLECTOR TO A TERMINAL PIN FOR A PRIMARY	10/207,608	Jul 29, 2002	Issued	Greatbatch Ltd.

LITHIUM OR SECONDARY LITHIUM ION ELECTROCHEMICAL CELL				
METHOD FOR PROVIDING A CURRENT COLLECTOR WITH BARE REGIONS TO FACILITATE WINDING	10/224,117	Aug 20, 2002	Issued	Greatbatch Ltd.
PIN TO THIN PLATE JOINT AND METHOD FOR MAKING THE JOINT	10/242,096	Sep 12, 2002	Issued	Greatbatch Ltd.
IMPLANTABLE ENERGY MANAGEMENT SYSTEM AND METHOD	10/253,330	Sep 24, 2002	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL HAVING A MULTIPLATE ELECTRODE ASSEMBLY HOUSED IN AN IRREGULARLY SHAPED CASING	10/272,185	Oct 16, 2002	Issued	Greatbatch Ltd.
NOBLE METALS COATED ON TITANIUM CURRENT COLLECTORS FOR USE IN NONAQUEOUS Li/CF _x CELLS	10/286,726	Nov 1, 2002	Issued	Greatbatch Ltd.
Highly conductive and stable nonaqueous electrolyte for lithium electrochemical cells	10/287,395	Nov 4, 2002	Issued	Greatbatch Ltd.
METHOD FOR ELECTRODE DESIGN FOR IMPLANTABLE DEVICE APPLICATIONS THAT REQUIRE THE ELECTIVE REPLACEMENT INDICATOR (ERI)	10/290,858	Nov 8, 2002	Issued	Greatbatch Ltd.
CARBON-COATED TITANIUM CURRENT COLLECTORS FOR USE IN ALKALI METAL ELECTROCHEMICAL CELLS	10/294,260	Nov 14, 2002	Issued	Greatbatch Ltd.
MATCHING CELLS FOR A BATTERY PACK	10/324,762	Dec 20, 2002	Issued	Greatbatch Ltd.
UNITARY LID FOR AN ELECTRICAL ENERGY STORAGE DEVICE	10/339,478	Jan 9, 2003	Issued	Greatbatch Ltd.
EMI FILTERED CONNECTORS USING INTERNALLY GROUNDED FEEDTHROUGH CAPACITORS	10/354,818	Jan 29, 2003	Issued	Greatbatch Ltd.
EMI FEEDTHROUGH FILTER TERMINAL ASSEMBLY UTILIZING HERMETIC SEAL FOR ELECTRICAL ATTACHMENT BETWEEN LEAD WIRES AND CAPACITOR	10/377,018	Feb 27, 2003	Issued	Greatbatch Ltd.

EMI FEEDTHROUGH FILTER TERMINAL ASSEMBLY FOR HUMAN IMPLANT APPLICATIONS UTILIZING OXIDE RESISTANT BIOSTABLE CONDUCTIVE PADS FOR RELIABLE ELECTRICAL ATTACHMENTS	10/377,086	Feb 27, 2003	Issued	Greatbatch Ltd.
EMI FEEDTHROUGH FILTER TERMINAL ASSEMBLY HAVING SURFACE MOUNTED, INTERNALLY GROUNDED HYBRID CAPACITOR	10/377,272	Feb 27, 2003	Issued	Greatbatch Ltd.
ADJUSTABLE SUPPORT APPARATUS	10/390,835	Mar 18, 2003	Issued	Greatbatch Ltd.
SAFETY INTRODUCER ASSEMBLY AND METHOD	10/403,265	Mar 26, 2003	Issued	Greatbatch Ltd.
LITHIUM ION RAPID CHARGING SYSTEM AND METHOD	10/405,830	Apr 1, 2003	Issued	Greatbatch Ltd.
MULTIPIN FEEDTHROUGH CONTAINING A GROUND PIN PASSING THROUGH AN INSULATOR AND DIRECTLY BRAZED TO A FERRULE	10/452,704	Jun 2, 2003	Issued	Greatbatch Ltd.
GUIDE WIRE FOR USE IN RE- CANALISING A VASCULAR OCCLUSION IN A HUMAN OR ANIMAL SUBJECT	10/590,866	Mar 24, 2005	Issued	Lake Region Manufacturing, Inc.
REFORMING WET-TANTALUM CAPACITORS IN IMPLANTABLE DEFIBRILLATORS AND OTHER MEDICAL DEVICES	10/633,942	Aug 4, 2003	Issued	Greatbatch Ltd.
METHOD FOR PROVIDING A ONE-PIECE HEADER ASSEMBLY FOR HERMETIC BATTERY TERMINAL FEEDTHROUGH, FILL AND CLOSURE DESIGNS	10/640,595	Aug 13, 2003	Issued	Greatbatch Ltd.
PROCESS FOR FABRICATION OF LOW BASIS WEIGHT ELECTRODE ACTIVE BLANKS	10/669,080	Sep 22, 2003	Issued	Greatbatch Ltd.
BI-DIRECTIONAL CATHETER ASSEMBLY AND METHOD THEREFOR	10/670,150	Sep 24, 2003	Issued	Greatbatch Ltd.
UNIVERSAL FAMILY SPACERS FOR A BATTERY ELECTRICAL PROTECTION DEVICE	10/695,563	Oct 28, 2003	Issued	Greatbatch Ltd.
ONE PIECE HEADER ASSEMBLY FOR AN IMPLANTABLE MEDICAL DEVICE	10/701,849	Nov 5, 2003	Issued	Greatbatch Ltd.

NANOTUBE COATINGS FOR IMPLANTABLE ELECTRODES	10/719,632	Nov 21, 2003	Issued	Greatbatch Ltd.
DUAL ANODE CAPACITOR INTERCONNECT DESIGN	10/737,062	Dec 16, 2003	Issued	Greatbatch Ltd.
HERMETICALLY SEALED COIN CELL	10/761,037	Jan 20, 2004	Issued	Greatbatch Ltd.
ELECTROCHEMICAL TREATMENT METHOD TO REDUCE VOLTAGE DELAY AND CELL RESISTANCE IN LITHIUM/SILVER VANADIUM OXIDE CELLS	10/763,945	Jan 22, 2004	Issued	Greatbatch Ltd.
EMI FILTER CAPACITORS DESIGNED FOR DIRECT BODY FLUID EXPOSURE	10/778,954	Feb 12, 2004	Issued	Greatbatch Ltd.
PRIMARY ELECTROCHEMICAL CELL HAVING SCALLOPED ELECTRODES	10/788,823	Feb 27, 2004	Issued	Greatbatch Ltd.
LOW POLARIZATION COATINGS FOR IMPLANTABLE ELECTRODES	10/792,315	Mar 3, 2004	Issued	Greatbatch Ltd.
REFORMING WET-TANTALUM CAPACITORS IN IMPLANTABLE MEDICAL DEVICES	10/801,315	Mar 16, 2004	Issued	Greatbatch Ltd.
EFFICIENT ELECTRODE ASSEMBLY DESIGN FOR CELLS WITH ALKALI METAL ANODES	10/807,358	Mar 23, 2004	Issued	Greatbatch Ltd.
ROTATABLE LEAD INTRODUCER	10/840,668	May 6, 2004	Issued	Greatbatch Ltd.
EMI FILTER TERMINAL ASSEMBLY WITH WIRE BOND PADS FOR HUMAN IMPLANT APPLICATIONS	10/842,967	May 10, 2004	Issued	Greatbatch Ltd.
PIN TO THIN PLATE JOINT AND METHOD FOR MAKING THE JOINT	10/916,166	Aug 12, 2004	Issued	Greatbatch Ltd.
COATED ELECTRODE AND METHOD OF MAKING A COATED ELECTRODE	10/918,858	Aug 16, 2004	Issued	Greatbatch Ltd.
USE OF PAD PRINTING IN THE MANUFACTURE OF CAPACITORS	10/920,942	Aug 18, 2004	Issued	Greatbatch Ltd.
METHOD OF MANUFACTURING A SHAPED TITANIUM ARTICLE	10/936,755	Sep 8, 2004	Issued	Greatbatch Ltd.
PREPARATION OF COPPER SILVER VANADIUM OXIDE FROM GAMMA-PHASE SVO STARTING MATERIAL	10/944,661	Sep 17, 2004	Issued	Greatbatch Ltd.

SINTERED VALVE METAL POWDERS FOR IMPLANTABLE CAPACITORS	11/010,676	Dec 13, 2004	Issued	Greatbatch Ltd.
CAPACITOR INTERCONNECT DESIGN	11/046,165	Jan 28, 2005	Issued	Greatbatch Ltd.
SILICATE ADDITIVES FOR CAPACITOR WORKING ELECTROLYTES	11/056,789	Feb 11, 2005	Issued	Greatbatch Ltd.
MOLDED POLYMERIC CRADLE FOR CONTAINING AN ANODE IN AN ELECTROLYTIC CAPACITOR FROM HIGH SHOCK AND VIBRATION CONDITIONS	11/069,272	Mar 1, 2005	Issued	Greatbatch Ltd.
FEEDTHROUGH TERMINAL ASSEMBLY WITH LEAD WIRE BONDING PAD FOR HUMAN IMPLANT APPLICATIONS	11/096,003	Mar 30, 2005	Issued	Greatbatch Ltd.
FLAT BACK CASE FOR AN ELECTROLYTIC CAPACITOR	11/109,441	Apr 19, 2005	Issued	Greatbatch Ltd.
DEFLECTABLE CATHETER STEERING AND LOCKING SYSTEM	11/122,779	May 5, 2005	Issued	Greatbatch Ltd.
ARTICULATING HANDLE FOR A DEFLECTABLE CATHETER AND METHOD THEREFOR	11/127,818	May 12, 2005	Issued	Greatbatch Ltd.
EMI FILTER CAPACITORS DESIGNED FOR DIRECT BODY FLUID EXPOSURE	11/136,843	May 24, 2005	Issued	Greatbatch Ltd.
MEDICAL DEVICES WITH AROMATIC POLYIMIDE COATING	11/137,162	May 25, 2005	Issued	Lake Region Manufacturing, Inc.
PUSH-PULL WIRE ANCHOR	11/149,079	Jun 9, 2005	Issued	Greatbatch Ltd.
APPARATUS TO IMPROVE THE HIGH VOLTAGE FLASHOVER CHARACTERISTICS OF EMI FEEDTHROUGH FILTERS USED IN ACTIVE IMPLANTABLE MEDICAL DEVICES	11/160,712	Jul 6, 2005	Issued	Greatbatch Ltd.
FEEDTHROUGH FILTER CAPACITOR ASSEMBLY WITH INTERNALLY GROUNDED HERMETIC INSULATOR	11/161,730	Aug 15, 2005	Issued	Greatbatch Ltd.
HYBRID SPRING CONTACT SYSTEM FOR EMI FILTERED HERMETIC SEALS FOR ACTIVE IMPLANTABLE MEDICAL DEVICES	11/163,198	Oct 10, 2005	Issued	Greatbatch Ltd.

METHOD FOR PROVIDING A HERMETICALLY SEALED COIN CELL	11/163,826	Nov 1, 2005	Issued	Greatbatch Ltd.
CONTOURED CASING OF MATING CLAMSHELL PORTIONS FOR AN ELECTROCHEMICAL CELL	11/163,943	Nov 4, 2005	Issued	Greatbatch Ltd.
ONE PIECE HEADER ASSEMBLY FOR AN IMPLANTABLE MEDICAL DEVICE	11/164,150	Nov 11, 2005	Issued	Greatbatch Ltd.
ANODIZING VALVE METALS BY SELF-ADJUSTED CURRENT AND POWER	11/164,751	Dec 5, 2005	Issued	Greatbatch Ltd.
Method for making flat and high-density cathode for use in electrochemical cells	11/164,984	Dec 13, 2005	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL HAVING A POCKET SEPARATOR DESIGN	11/177,017	Jul 8, 2005	Issued	Greatbatch Ltd.
EMI FILTER TERMINAL ASSEMBLY WITH WIRE BOND PADS FOR HUMAN IMPLANT APPLICATIONS	11/182,289	Jul 14, 2005	Issued	Greatbatch Ltd.
VALVED INTRODUCER ASSEMBLY AND METHOD THEREFOR	11/198,871	Aug 5, 2005	Issued	Greatbatch Ltd.
LITHIUM/FLUORINATED CARBON (Li/CF _x) ELECTROCHEMICAL CELL	11/214,635	Aug 30, 2005	Issued	Greatbatch Ltd.
POLYMERIC RESTRAINTS FOR CONTAINING AN ANODE IN AN ELECTROLYTIC CAPACITOR FROM HIGH SHOCK AND VIBRATION CONDITIONS	11/222,259	Sep 8, 2005	Issued	Greatbatch Ltd.
LOW VOLTAGE CUTOFF CIRCUIT FOR AN ELECTROCHEMICAL CELL	11/279,274	Apr 11, 2006	Issued	ELECTROCHEM SOLUTIONS, INC.
USE OF POLY(ALKYLENE) CARBONATES IN THE MANUFACTURE OF VALVE METAL ANODES FOR ELECTROLYTIC CAPACITORS	11/306,272	Dec 21, 2005	Issued	Greatbatch Ltd.
METHOD OF USING CYCLIC PRESSURE TO INCREASE THE PLANARITY OF SVO/CURRENT COLLECTOR/CFX ELECTRODES FOR USE IN LITHIUM ELECTROCHEMICAL CELLS	11/307,021	Jan 19, 2006	Issued	Greatbatch Ltd.
RFID DETECTION AND IDENTIFICATION SYSTEM FOR	11/307,145	Jan 25, 2006	Issued	Greatbatch Ltd.

IMPLANTABLE MEDICAL DEVICES				
METHOD FOR MINIMIZING STRESS IN FEEDTHROUGH CAPACITOR FILTER ASSEMBLIES	11/307,434	Feb 7, 2006	Issued	Greatbatch Ltd.
ELECTROLYTIC CAPACITOR CAPABLE OF INSERTION INTO THE VASCULATURE OF A PATIENT	11/307,564	Feb 13, 2006	Issued	Greatbatch Ltd.
HERMETIC FEEDTHROUGH TERMINAL ASSEMBLY WITH WIRE BOND PADS FOR HUMAN IMPLANT APPLICATIONS	11/308,662	Apr 19, 2006	Issued	Greatbatch Ltd.
DEFLECTABLE SHEATH HANDLE ASSEMBLY AND METHOD THEREFOR	11/381,421	May 3, 2006	Issued	Greatbatch Ltd.
CATHETER ASSEMBLY WITH SIDE WALL EXIT LUMEN AND METHOD THEREFOR	11/385,308	Mar 21, 2006	Issued	Greatbatch Ltd.
FEEDTHROUGH FILTER CAPACITOR ASSEMBLY WITH INTERNALLY GROUNDED HERMETIC INSULATOR	11/386,161	Mar 21, 2006	Issued	Greatbatch Ltd.
ENERGY DENSE ELECTROLYTIC CAPACITOR	11/422,714	Jun 7, 2006	Issued	Greatbatch Ltd.
BAND STOP FILTER EMPLOYING A CAPACITOR AND AN INDUCTOR TANK CIRCUIT TO ENHANCE MRI COMPATIBILITY OF ACTIVE MEDICAL DEVICES	11/423,073	Jun 8, 2006	Issued	Greatbatch Ltd.
FIBER OPTIC ASSISTED MEDICAL LEAD	11/463,286	Aug 8, 2006	Issued	Greatbatch Ltd.
SANDWICH ELECTRODE DESIGN HAVING RELATIVELY THIN CURRENT COLLECTORS	11/467,664	Aug 28, 2006	Issued	Greatbatch Ltd.
SANDWICH CATHODE ELECTROCHEMICAL CELL WITH WOUND ELECTRODE ASSEMBLY	11/532,126	Sep 15, 2006	Issued	Greatbatch Ltd.
ANODE-TO-CATHODE CAPACITY RATIOS FOR SVO/CFX HYBRID CATHODE ELECTROCHEMICAL CELLS	11/535,139	Sep 26, 2006	Issued	Greatbatch Ltd.
LASER WELD PROCESS FOR SEAM WELDED ELECTROCHEMICAL DEVICES	11/548,314	Oct 11, 2006	Issued	Greatbatch Ltd.
TANK FILTERS PLACED IN SERIES WITH THE LEAD WIRES	11/558,349	Nov 9, 2006	Issued	Greatbatch Ltd.

OR CIRCUITS OF ACTIVE MEDICAL DEVICES TO ENHANCE MRI COMPATIBILITY				
METHOD OF FORMING VALVE METAL ANODE PELLETS FOR CAPACITORS USING FORCED CONVECTION OF LIQUID ELECTROLYTE DURING ANODIZATION	11/565,766	Dec 1, 2006	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR FABRICATING CATHODE COLLECTORS FOR LITHIUM/OXYHALIDE ELECTROCHEMICAL CELLS	11/615,369	Dec 22, 2006	Issued	ELECTROCHEM SOLUTIONS, INC.
DUAL ANODE CAPACITOR WITH INTERNALLY CONNECTED ANODES	11/615,410	Dec 22, 2006	Issued	Greatbatch Ltd.
LITHIUM/FLUORINATED CARBON CELL FOR HIGH-RATE PULSATILE APPLICATIONS	11/668,500	Jan 30, 2007	Issued	Greatbatch Ltd.
CONNECTION FOR A COILED LEAD TO AN ELECTRICAL CONTACT FOR AN IMPLANTABLE MEDICAL DEVICE	11/682,398	Mar 6, 2007	Issued	Greatbatch Ltd.
CONNECTION FOR A COILED LEAD TO AN ELECTRICAL CONTACT FOR AN IMPLANTABLE MEDICAL DEVICE	11/682,400	Mar 6, 2007	Issued	GREATBATCH LTD.
HIGH EFFICIENCY NEUROSTIMULATION LEAD	11/686,322	Mar 14, 2007	Issued	Greatbatch Ltd.
FEEDTHROUGH FILTER TERMINAL ASSEMBLIES WITH BREATHABLE COMPONENTS TO FACILITATE LEAK TESTING	11/689,782	Mar 22, 2007	Issued	Greatbatch Ltd.
INTRODUCER ASSEMBLY AND METHOD FOR FORMING AN INTRODUCER ASSEMBLY	11/695,452	Apr 2, 2007	Issued	Greatbatch Ltd.
CONTROL OF SILVER VANADIUM OXIDE SURFACE AREAS AS A MEANS OF CONTROLLING VOLTAGE DELAY AND RDC GROWTH IN AN ELECTROCHEMICAL CELL	11/696,867	Apr 5, 2007	Issued	Greatbatch Ltd.
DIE TRANSFER APPARATUS	11/734,115	Apr 11, 2007	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL SUPPORTING A PROTECTIVE	11/737,445	Apr 19, 2007	Issued	ELECTROCHEM SOLUTIONS, INC.

HOUSING FOR ELECTRICAL COMPONENTS				
METHOD FOR PRODUCING IMPLANTABLE ELECTRODE COATINGS WITH A PLURALITY OF MORPHOLOGIES	11/750,597	May 18, 2007	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL ELECTRODE WITH IMPROVED PARTICLE-TO-PARTICLE CONTACT AND METHOD OF MANUFACTURING	11/829,229	Jul 27, 2007	Issued	Greatbatch Ltd.
KEYED FLUID CONNECTOR AND FLUID DISPENSING SYSTEM	11/837,707	Aug 13, 2007	Issued	Greatbatch Ltd.
LOW LOSS BAND PASS FILTER FOR RF DISTANCE TELEMETRY PIN ANTENNAS OF ACTIVE IMPLANTABLE MEDICAL DEVICES	11/840,131	Aug 16, 2007	Issued	Greatbatch Ltd.
FLAT SEALING OF ANODE/SEPARATOR ASSEMBLY FOR USE IN CAPACITORS	11/858,176	Sep 20, 2007	Issued	Greatbatch Ltd.
TANK FILTERS UTILIZING VERY LOW K MATERIALS, IN SERIES WITH LEAD WIRES OR CIRCUITS OF ACTIVE MEDICAL DEVICES TO ENHANCE MRI COMPATIBILITY	11/860,402	Sep 24, 2007	Issued	Greatbatch Ltd.
IMPLANTABLE MEDICAL ASSEMBLY	11/869,118	Oct 9, 2007	Issued	Greatbatch Ltd.
IMPLANTABLE LEAD WITH A BAND STOP FILTER HAVING A CAPACITOR IN PARALLEL WITH AN INDUCTOR EMBEDDED IN A DIELECTRIC BODY	11/930,742	Oct 31, 2007	Issued	Greatbatch Ltd.
HYBRID DISCOIDAL/TUBULAR CAPACITOR	11/943,419	Nov 20, 2007	Issued	Greatbatch Ltd.
RFID DETECTION AND IDENTIFICATION SYSTEM FOR IMPLANTABLE MEDICAL LEAD SYSTEMS	11/943,470	Nov 20, 2007	Issued	Greatbatch Ltd.
CYLINDRICAL BANDSTOP FILTERS FOR MEDICAL LEAD SYSTEMS	11/943,854	Nov 21, 2007	Issued	Greatbatch Ltd.
MEDICAL LEAD SYSTEM UTILIZING ELECTROMAGNETIC BANDSTOP FILTERS	11/943,883	Nov 21, 2007	Issued	Greatbatch Ltd.

Thermo-encapsulating apparatus for providing a separator enveloping an electrode of an electrical energy storage device	11/951,601	Dec 6, 2007	Issued	Greatbatch Ltd.
BATTERY LID WITH INTEGRAL THICK BOSS SURROUNDING A TERMINAL HOLE	12/014,260	Jan 15, 2008	Issued	Greatbatch Ltd.
HYBRID BATTERY FOR USE OVER EXTENDED TEMPERATURE RANGE	12/030,895	Feb 14, 2008	Issued	ELECTROCHEM SOLUTIONS, INC.
WET TANTALUM CAPACITOR WITH MULTIPLE ANODE CONNECTIONS	12/045,798	Mar 11, 2008	Issued	Greatbatch Ltd.
BAND STOP FILTER EMPLOYING A CAPACITOR AND AN INDUCTOR TANK CIRCUIT TO ENHANCE MRI COMPATIBILITY OF ACTIVE MEDICAL DEVICES	12/170,811	Jul 10, 2008	Issued	Greatbatch Ltd.
ELECTROLYTIC CAPACITORS WITH MULTIPLE ANODES AND ANODE LEAD CONFIGURATIONS THEREOF	12/177,372	Jul 22, 2008	Issued	Greatbatch Ltd.
SPACERS FOR FIXING BATTERY CELLS WITHIN A BATTERY PACKAGE CASING AND ASSOCIATED SYSTEMS AND METHODS	12/201,636	Aug 29, 2008	Issued	Greatbatch Ltd.
HEADER OVER-MOLDED ON A FEEDTHROUGH ASSEMBLY FOR AN IMPLANTABLE DEVICE	12/255,681	Oct 22, 2008	Issued	Greatbatch Ltd.
FUNCTIONALLY GRADED COATINGS FOR LEAD WIRES IN MEDICAL IMPLANTABLE HERMETIC FEEDTHROUGH ASSEMBLIES	12/267,932	Nov 10, 2008	Issued	Greatbatch Ltd.
PASSIVE ELECTRONIC NETWORK COMPONENTS DESIGNED FOR DIRECT BODY FLUID EXPOSURE	12/269,255	Nov 12, 2008	Issued	Greatbatch Ltd.
POLYVINYLPYRIDINE ADDITIVES FOR NONAQUEOUS ELECTROLYTES ACTIVATING LITHIUM RECHARGEABLE ELECTROCHEMICAL CELLS	12/271,002	Nov 14, 2008	Issued	Greatbatch Ltd.
BIODEGRADABLE SHROUD FOR A DILATOR/SHEATH ASSEMBLY	12/357,732	Jan 22, 2009	Issued	Greatbatch Ltd.

DEFLECTABLE CATHETER STEERING AND LOCKING SYSTEM	12/364,391	Feb 2, 2009	Issued	Greatbatch Ltd.
ELECTRICALLY CONNECTING MULTIPLE CATHODES IN A CASE NEGATIVE MULTI-ANODE CAPACITOR	12/397,779	Mar 4, 2009	Issued	Greatbatch Ltd.
SHIELDED THREE-TERMINAL FLAT-THROUGH EMI/ENERGY DISSIPATING FILTER	12/407,402	Mar 19, 2009	Issued	Greatbatch Ltd.
In parallel hybrid power source comprising a lithium/oxyhalide electrochemical cell coupled with a lithium ion cell	12/409,866	Mar 24, 2009	Issued	ELECTROCHEM SOLUTIONS, INC.
MODULAR BATTERY PACK	12/431,278	Apr 28, 2009	Issued	ELECTROCHEM SOLUTIONS, INC.
PROCESS FOR MANUFACTURING EMI FILTERS UTILIZING COUNTER-BORED CAPACITORS TO FACILITATE SOLDER RE-FLOW	12/437,345	May 7, 2009	Issued	Greatbatch Ltd.
BI-DIRECTIONAL SHEATH DEFLECTION MECHANISM	12/463,570	May 11, 2009	Issued	Greatbatch Ltd.
ROTATABLE LEAD INTRODUCER	12/478,301	Jun 4, 2009	Issued	Greatbatch Ltd.
METHOD FOR INSERTING A LEAD ELECTRODE INTO BODY TISSUE USING A ROTATABLE LEAD INTRODUCER	12/478,797	Jun 5, 2009	Issued	Greatbatch Ltd.
PUSH/PULL WIRE ANCHOR	12/479,193	Jun 5, 2009	Issued	Greatbatch Ltd.
FREQUENCY SELECTIVE PASSIVE COMPONENT NETWORKS FOR IMPLANTABLE LEADS OF ACTIVE IMPLANTABLE MEDICAL DEVICES UTILIZING AN ENERGY DISSIPATING SURFACE	12/489,921	Jun 23, 2009	Issued	Greatbatch Ltd.
BI-DIRECTIONAL CATHETER ASSEMBLY AND METHOD THEREFOR	12/546,206	Aug 24, 2009	Issued	Greatbatch Ltd.
ELECTRICAL INSULATION SYSTEM AND METHOD FOR ELECTRICAL POWER STORAGE COMPONENT SEPARATION	12/554,806	Sep 4, 2009	Issued	Greatbatch Ltd.
Insulator component design for maintaining electrode assembly compression in prismatic medical cells	12/561,668	Sep 17, 2009	Issued	Greatbatch Ltd.

ELECTROMAGNETIC INTERFERENCE FILTER AND METHOD FOR ATTACHING A LEAD AND/OR A FERRULE TO CAPACITOR ELECTRODES	12/563,919	Sep 21, 2009	Issued	Greatbatch Ltd.
RFID DETECTION AND IDENTIFICATION SYSTEM INCLUDING AN RFID READER HAVING A LIMITED TRANSMIT TIME AND A TIME-OUT PERIOD TO PROTECT A MEDICAL DEVICE AGAINST RFID-ASSOCIATED ELECTROMAGNETIC INTERFERENCE	12/566,490	Sep 24, 2009	Issued	Greatbatch Ltd.
FREQUENCY SELECTIVE PASSIVE COMPONENT NETWORKS FOR IMPLANTABLE LEADS OF ACTIVE IMPLANTABLE MEDICAL DEVICES UTILIZING AN ENERGY DISSIPATING SURFACE	12/574,147	Oct 6, 2009	Issued	Greatbatch Ltd.
SPLITTABLE VALVED INTRODUCER APPARATUS	12/603,596	Oct 22, 2009	Issued	Greatbatch Ltd.
TUNED ENERGY BALANCED SYSTEM FOR MINIMIZING HEATING AND/OR TO PROVIDE EMI PROTECTION OF IMPLANTED LEADS IN A HIGH POWER ELECTROMAGNETIC FIELD ENVIRONMENT	12/686,137	Jan 12, 2010	Issued	Greatbatch Ltd.
SWITCHED DIVERTER CIRCUITS FOR MINIMIZING HEATING OF AN IMPLANTED LEAD AND/OR PROVIDING EMI PROTECTION IN A HIGH POWER ELECTROMAGNETIC FIELD ENVIRONMENT	12/686,272	Jan 12, 2010	Issued	Greatbatch Ltd.
SYSTEM FOR TERMINATING ABANDONED IMPLANTED LEADS TO MINIMIZE HEATING IN HIGH POWER ELECTROMAGNETIC FIELD ENVIRONMENTS	12/693,836	Jan 26, 2010	Issued	Greatbatch Ltd.
Method for providing an electrochemical cell having a pocket seperator design	12/702,403	Feb 9, 2010	Issued	Greatbatch Ltd.
EMI FILTER EMPLOYING A CAPACITOR AND AN	12/707,084	Feb 17, 2010	Issued	Greatbatch Ltd.

INDUCTOR TANK CIRCUIT HAVING OPTIMUM COMPONENT VALUES				
DEFLECTABLE CATHETER STEERING AND LOCKING SYSTEM	12/714,122	Feb 26, 2010	Issued	Greatbatch Ltd.
RF ACTIVATED AIMD TELEMETRY TRANSCEIVER	12/719,630	Mar 8, 2010	Issued	Greatbatch Ltd.
FREQUENCY SELECTIVE PASSIVE COMPONENT NETWORKS FOR ACTIVE IMPLANTABLE MEDICAL DEVICES UTILIZING AN ENERGY DISSIPATING SURFACE	12/751,711	Mar 31, 2010	Issued	Greatbatch Ltd.
FEEDTHROUGH-FLAT-THROUGH CAPACITOR	12/755,967	Apr 7, 2010	Issued	Greatbatch Ltd.
SURFACE MODIFICATION FOR COATING	12/776,095	May 7, 2010	Issued	Greatbatch Ltd.
ACTIVE IMPLANTABLE MEDICAL SYSTEM HAVING EMI SHIELDED LEAD	12/788,123	May 26, 2010	Issued	Greatbatch Ltd.
TERMINAL CONNECTOR FOR CONNECTING A CELL TO A MEDICAL DEVICE	12/813,563	Jun 11, 2010	Issued	Greatbatch Ltd.
MULTIPLEXER FOR SELECTION OF AN MRI COMPATIBLE BANDSTOP FILTER PLACED IN SERIES WITH A PARTICULAR THERAPY ELECTRODE OF AN ACTIVE IMPLANTABLE MEDICAL DEVICE	12/817,030	Jun 16, 2010	Issued	Greatbatch Ltd.
IMPLANTED LEAD SLEEVE HAVING RFID TAG	12/845,559	Jul 28, 2010	Issued	Greatbatch Ltd.
ELECTRICALLY ISOLATING ELECTRICAL COMPONENTS IN A MEDICAL ELECTRICAL LEAD WITH AN ACTIVE FIXATION ELECTRODE	12/873,862	Sep 1, 2010	Issued	Greatbatch Ltd.
MINIATURE HERMETICALLY SEALED RFID MICROELECTRONIC CHIP CONNECTED TO A BIOCOMPATIBLE RFID ANTENNA FOR USE IN CONJUNCTION WITH AN AIMD	12/887,720	Sep 22, 2010	Issued	Greatbatch Ltd.
GUIDEWIRE-STYLE PACING LEAD	12/887,871	Sep 22, 2010	Issued	Lake Region Manufacturing, Inc. dba Lake Region Medical

SHIELDED NETWORK FOR AN ACTIVE MEDICAL DEVICE IMPLANTABLE LEAD	12/891,292	Sep 27, 2010	Issued	Greatbatch Ltd.
SHIELDED THREE-TERMINAL FLAT-THROUGH EMI/ENERGY DISSIPATING FILTER	12/891,542	Sep 27, 2010	Issued	Greatbatch Ltd.
TEMPORARY INSULATOR FOR BATTERY PACKS AND ASSOCIATED SYSTEMS AND METHODS	12/903,878	Oct 13, 2010	Issued	Greatbatch Ltd.
SCREEN-LESS ANODE DESIGN CONCEPTS FOR LOW COST LITHIUM ELECTROCHEMICAL CELLS FOR USE IN IMPLANTABLE MEDICAL DEVICE APPLICATIONS	12/914,254	Oct 28, 2010	Issued	Greatbatch Ltd.
Tank filters placed in series with the lead wires or circuits of active medical devices to enhance MRI compatability	12/938,774	Nov 3, 2010	Issued	Greatbatch Ltd.
SWITCHED DIVERTER CIRCUITS FOR MINIMIZING HEATING OF AN IMPLANTED LEAD IN A HIGH POWER ELECTROMAGNETIC FIELD ENVIRONMENT	12/938,926	Nov 3, 2010	Issued	Greatbatch Ltd.
FIBER OPTIC ASSISTED MEDICAL LEAD	12/955,417	Nov 29, 2010	Issued	Greatbatch Ltd.
IMPLANTABLE LEAD FOR AN ACTIVE MEDICAL DEVICE HAVING AN INDUCTOR DESIGN MINIMIZING EDDY CURRENT LOSSES	13/042,177	Mar 7, 2011	Issued	Greatbatch Ltd.
TANK FILTERS PLACED IN SERIES WITH THE LEAD WIRES OR CIRCUITS OF ACTIVE MEDICAL DEVICES TO ENHANCE MRI COMPATIBILITY	13/074,186	Mar 29, 2011	Issued	Greatbatch Ltd.
TANK FILTERS PLACED IN SERIES WITH THE LEAD WIRES OR CIRCUITS OF ACTIVE MEDICAL DEVICES TO ENHANCE MRI COMPATIBILITY	13/081,314	Apr 6, 2011	Issued	Greatbatch Ltd.
ARBITRARY WAVEFORM GENERATOR AND NEURAL STIMULATION APPLICATION WITH SCALABLE WAVEFORM FEATURE	13/082,097	Apr 7, 2011	Issued	Greatbatch Ltd.

INTEGRATED TANK FILTER FOR A MEDICAL THERAPEUTIC DEVICE	13/114,555	May 24, 2011	Issued	Greatbatch Ltd.
VALVED INTRODUCER ASSEMBLY AND METHOD THEREFOR	13/174,863	Jul 1, 2011	Issued	Greatbatch Ltd.
SELECTIVE PLATING FIXTURE	13/177,190	Jul 6, 2011	Issued	Greatbatch Ltd.
CATHETER FOR POSITIONING A LEAD IN THE VASCULATURE	13/185,054	Jul 18, 2011	Issued	Greatbatch Ltd.
DEVELOPMENT OF MIXED BINDER SYSTEM FOR PRIMARY CELL CATHODES	13/241,508	Sep 23, 2011	Issued	Greatbatch Ltd.
BI-DIRECTIONAL CATHETER STEERING HANDLE	13/269,858	Oct 10, 2011	Issued	Greatbatch Ltd.
PUSH-PULL WIRE ANCHOR	13/270,576	Oct 11, 2011	Issued	Greatbatch Ltd.
IMPLANTABLE LEAD BANDSTOP FILTER EMPLOYING AN INDUCTIVE COIL WITH PARASITIC CAPACITANCE TO ENHANCE MRI COMPATIBILITY OF ACTIVE MEDICAL DEVICES	13/276,195	Oct 18, 2011	Issued	Greatbatch Ltd.
IMPLANTABLE LEAD BANDSTOP FILTER EMPLOYING AN INDUCTIVE COIL WITH PARASITIC CAPACITANCE TO ENHANCE MRI COMPATIBILITY OF ACTIVE MEDICAL DEVICES	13/276,484	Oct 19, 2011	Issued	Greatbatch Ltd.
MECHANICAL STABILITY OF THE BIOMIMETIC COATING BY CROSS LINKING OF SURFACTANT POLYMER	13/283,763	Oct 28, 2011	Issued	Greatbatch Ltd.
MEDICAL LEAD SYSTEM UTILIZING ELECTROMAGNETIC BANDSTOP FILTERS	13/312,741	Dec 6, 2011	Issued	Greatbatch Ltd.
METHOD OF JOINING TITANIUM AND TITANIUM-BASED ALLOYS TO FERROUS METALS USING TANTALUM	13/327,055	Dec 15, 2011	Issued	Lake Region Manufacturing, Inc.
GUIDE WIRE FOR USE IN RE-CANALISING A VASCULAR OCCLUSION IN A HUMAN OR ANIMAL SUBJECT	13/337,490	Dec 27, 2011	Issued	Lake Region Manufacturing, Inc.
Mechanical conditioning by bead blasting lithium iodine cell case	13/340,217	Dec 29, 2011	Issued	Greatbatch Ltd.
ULTRASONIC WELDING OF LITHIUM ONTO A CURRENT COLLECTOR	13/346,409	Jan 9, 2012	Issued	Greatbatch Ltd.

INTRODUCER ASSEMBLY AND METHOD FOR FORMING AN INTRODUCER ASSEMBLY	13/356,684	Jan 24, 2012	Issued	Greatbatch Ltd.
VOLTAGE ACTIVATED 2ND LEVEL SAFETY CIRCUIT FOR PERMANENT ISOLATION	13/396,068	Feb 14, 2012	Issued	ELECTROCHEM SOLUTIONS, INC.
POSITIONING OF A MEDICAL DEVICE CONDUCTOR IN AN MRI ENVIRONMENT TO REDUCE RF INDUCED CURRENT	13/400,701	Feb 21, 2012	Issued	Greatbatch Ltd.
COMPOSITE RF CURRENT ATTENUATOR FOR A MEDICAL LEAD	13/401,608	Feb 21, 2012	Issued	Greatbatch Ltd.
METHOD OF TUNING BANDSTOP FILTERS FOR IMPLANTABLE MEDICAL LEADS	13/408,468	Feb 29, 2012	Issued	Greatbatch Ltd.
MAGNETIC FIXTURE	13/423,355	Mar 19, 2012	Issued	Greatbatch Ltd.
BAND STOP FILTER EMPLOYING A CAPACITOR AND AN INDUCTOR TANK CIRCUIT TO ENHANCE MRI COMPATIBILITY OF ACTIVE MEDICAL DEVICES	13/440,382	Apr 5, 2012	Issued	Greatbatch Ltd.
DUAL GLASS TO METAL SEAL CELL	13/457,652	Apr 27, 2012	Issued	Greatbatch Ltd.
FEEDTHROUGH WIRE CONNECTOR FOR USE IN A MEDICAL DEVICE	13/487,293	Jun 4, 2012	Issued	Greatbatch Ltd.
SHIELDED THREE-TERMINAL FLAT-THROUGH EMI/ENERGY DISSIPATING FILTER	13/528,052	Jun 20, 2012	Issued	Greatbatch Ltd.
LITHIUM BATTERY HAVING IRREGULARLY SHAPED CASING	13/531,706	Jun 25, 2012	Issued	Greatbatch Ltd.
PEPTIDE BASED ANTIMICROBIAL COATING	13/534,164	Jun 27, 2012	Issued	Greatbatch Ltd.
PATIENT ATTACHED BONDING STRAP FOR ENERGY DISSIPATION FROM A PROBE OR A CATHETER DURING MAGNETIC RESONANCE IMAGING	13/535,029	Jun 27, 2012	Issued	Greatbatch Ltd.
Band stop filter employing a capacitor and an inductor tank circuit to enhance MRI compatibility of active medical devices	13/544,461	Jul 9, 2012	Issued	Greatbatch Ltd.

DUAL STAGE EMI FILTER AND OFFSET HIGHLY EFFICIENT MULTI-POLAR ACTIVE CAPACITOR ELECTRODES FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	13/547,484	Jul 12, 2012	Issued	Greatbatch Ltd.
INTRODUCER HANDLE NOTCH DESIGN/CONCEPT	13/555,470	Jul 23, 2012	Issued	Greatbatch Ltd.
MULTILAYER HELICAL WAVE FILTER FOR MEDICAL THERAPEUTIC OR DIAGNOSTIC APPLICATIONS	13/562,169	Jul 30, 2012	Issued	Greatbatch Ltd.
Self-resonant inductor wound portion of an implantable lead for enhanced MRI compatibility of active implantable medical devices	13/680,083	Nov 18, 2012	Issued	Greatbatch Ltd.
DISTAL SHIELD FOR PACKAGED GUIDEWIRE	13/685,009	Nov 26, 2012	Issued	Lake Region Manufacturing, Inc. dba Lake Region Medical
TRANSEPTAL NEEDLE ASSEMBLY	13/692,759	Dec 3, 2012	Issued	Greatbatch Ltd.
BALANCING DISCHARGE IN PARALLEL BATTERY CONFIGURATIONS	13/706,537	Dec 6, 2012	Issued	ELECTROCHEM SOLUTIONS, INC.
ELEVATED HERMETIC FEEDTHROUGH INSULATOR ADAPTED FOR SIDE ATTACHMENT OF ELECTRICAL CONDUCTORS ON THE BODY FLUID SIDE OF AN ACTIVE IMPLANTABLE MEDICAL DEVICE	13/742,781	Jan 16, 2013	Issued	Greatbatch Ltd.
EMI FILTERED CO-CONNECTED HERMETIC FEEDTHROUGH, FEEDTHROUGH CAPACITOR AND LEADWIRE ASSEMBLY FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	13/743,276	Jan 16, 2013	Issued	Greatbatch Ltd.
OXIRANE (ETHYLENE OXIDE) POLYURETHANE COATINGS	13/834,988	Mar 15, 2013	Issued	Lake Region Manufacturing, Inc. dba Lake Region Medical
SATELLITE THERAPY DELIVERY SYSTEM FOR BRAIN NEUROMODULATION	13/858,268	Apr 8, 2013	Issued	Greatbatch Ltd.
IMPLANTABLE LEAD HAVING A SHIELDED BANDSTOP FILTER COMPRISING A SELF-	13/860,191	Apr 10, 2013	Issued	Greatbatch Ltd.

RESONANT INDUCTOR FOR AN ACTIVE MEDICAL DEVICE				
ELECTROMAGNETIC SHIELD FOR A PASSIVE ELECTRONIC COMPONENT IN AN ACTIVE MEDICAL DEVICE IMPLANTABLE LEAD	13/860,888	Apr 11, 2013	Issued	Greatbatch Ltd.
FIRE SUPPRESSANT BATTERY PACK	13/870,045	Apr 25, 2013	Issued	ELECTROCHEM SOLUTIONS, INC.
INTERNALLY GROUNDED FLAT THROUGH FILTER WITH HERMETICALLY SEALED INSULATIVE BODY WITH INTERNAL GROUND PLATES	13/873,832	Apr 30, 2013	Issued	Greatbatch Ltd.
TRANSSEPTAL NEEDLE APPARATUS	13/887,768	May 6, 2013	Issued	Greatbatch Ltd.
TRANSSEPTAL NEEDLE APPARATUS	13/888,845	May 7, 2013	Issued	Greatbatch Ltd.
TUNNELING TOOL FOR DELIBERATE PLACEMENT OF AN ILR	13/889,779	May 8, 2013	Issued	Greatbatch Ltd.
CAPTURE DEVICE	13/895,663	May 16, 2013	Issued	Lake Region Manufacturing, Inc.
SWITCHED DIVERTER CIRCUITS FOR MINIMIZING HEATING OF AN IMPLANTED LEAD AND/OR PROVIDING EMI PROTECTION IN A HIGH POWER ELECTROMAGNETIC FIELD ENVIRONMENT	13/896,728	May 17, 2013	Issued	Greatbatch Ltd.
SWITCHED SAFETY PROTECTION CIRCUIT FOR AN AIMD SYSTEM DURING EXPOSURE TO HIGH POWER ELECTROMAGNETIC FIELDS	13/897,490	May 20, 2013	Issued	Greatbatch Ltd.
ANTENNA COVERING FOR WIRELESS SENSOR	13/914,249	Jun 10, 2013	Issued	ELECTROCHEM SOLUTIONS, INC.
EMI filters utilizing counter-bored capacitors to facilitate solder re-flow	13/926,255	Jun 25, 2013	Issued	Greatbatch Ltd.
IMPLANTABLE CARDIOVERTER DEFIBRILLATOR DESIGNED FOR USE IN A MAGNETIC RESONANCE IMAGING ENVIRONMENT	13/958,582	Aug 4, 2013	Issued	Greatbatch Ltd.
BATTERY AUTHENTICATION CIRCUIT	13/970,087	Aug 19, 2013	Issued	Greatbatch Ltd.
FIBER OPTIC ASSISTED MEDICAL LEAD	14/038,984	Sep 27, 2013	Issued	Greatbatch Ltd.

BATTERY PACK DESIGN FOR HIGH TEMPERATURE AND SHOCK AND VIBRATION APPLICATIONS	14/058,683	Oct 21, 2013	Issued	ELECTROCHEM SOLUTIONS, INC.
BAND STOP FILTER COMPRISING AN INDUCTIVE COMPONENT DISPOSED IN A LEAD WIRE IN SERIES WITH AN ELECTRODE	14/080,830	Nov 15, 2013	Issued	Greatbatch Ltd.
CAPACITOR FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE (AIMD) FOR HANDLING HIGH RF POWER INDUCED IN AN IMPLANTED LEAD FROM AN EXTERNAL RF FIELD	14/088,849	Nov 25, 2013	Issued	Greatbatch Ltd.
DIRECTIONAL MESH AND ASSOCIATED SYSTEMS	14/155,233	Jan 14, 2014	Issued	Lake Region Medical, Inc. and Lapterell, Scott
CONTROL CIRCUIT FOR WIRELESS POWER	14/170,945	Feb 3, 2014	Issued	Greatbatch Ltd.
CO-FIRED HERMETICALLY SEALED FEEDTHROUGH WITH ALUMINA SUBSTRATE AND PLATINUM FILLED VIA FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	14/182,569	Feb 18, 2014	Issued	Greatbatch Ltd.
IMPLANTABLE LEAD HAVING A SHIELDED BANDSTOP FILTER COMPRISING A SELF-RESONANT INDUCTOR FOR AN ACTIVE MEDICAL DEVICE	14/185,085	Feb 20, 2014	Issued	Greatbatch Ltd.
LOW INDUCTANCE AND LOW RESISTANCE HERMETICALLY SEALED FILTERED FEEDTHROUGH FOR AN AIMD	14/187,295	Feb 23, 2014	Issued	Greatbatch Ltd.
RF FILTER FOR AN ACTIVE MEDICAL DEVICE (AMD) FOR HANDLING HIGH RF POWER INDUCED IN AN ASSOCIATED IMPLANTED LEAD FROM AN EXTERNAL RF FIELD	14/187,297	Feb 23, 2014	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR PATIENT ACTIVITY ESTIMATION AND CLASSIFICATION	14/200,550	Mar 7, 2014	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR DETECTION OF SLEEP DISORDERED BREATHING	14/208,021	Mar 13, 2014	Issued	Greatbatch Ltd.
EMI filter employing a self-resonant inductor bandstop filter having	14/247,277	Apr 8, 2014	Issued	Greatbatch Ltd.

optimum inductance and capacitance values				
ELECTROMAGNETIC SHIELD FOR A PASSIVE ELECTRONIC COMPONENT IN AN ACTIVE MEDICAL DEVICE IMPLANTABLE LEAD	14/264,080	Apr 29, 2014	Issued	Greatbatch Ltd.
INTERNAL INSULATION DESIGN USING POROUS MATERIAL FOR AN ELECTROCHEMICAL CELL	14/271,901	May 7, 2014	Issued	Greatbatch Ltd.
CIRCUITS FOR MINIMIZING HEATING OF AN IMPLANTED LEAD AND/OR PROVIDING EMI PROTECTION IN A HIGH POWER ELECTROMAGNETIC FIELD ENVIRONMENT	14/300,477	Jun 10, 2014	Issued	Greatbatch Ltd.
INTRODUCER HANDLE NOTCH DESIGN/CONCEPT	14/307,054	Jun 17, 2014	Issued	Greatbatch Ltd.
GUIDE WIRE FOR USE WITH A CATHETER	14/312,934	Jun 24, 2014	Issued	Lake Region Manufacturing, Inc.
IMPLANTABLE LEAD HAVING MULTI-PLANAR SPIRAL INDUCTOR FILTER	14/316,896	Jun 27, 2014	Issued	Greatbatch Ltd.
NEUROSTIMULATOR INTERCONNECTION APPARATUS, SYSTEM, AND METHOD	14/316,960	Jun 27, 2014	Issued	Greatbatch Ltd.
CIRCUIT FOR DISCRIMINATING BETWEEN BATTERY CHARGING SIGNALS AND RF TELEMTRY SIGNALS RECEIVED BY A SINGLE COIL IN AN IMPLANTABLE MEDICAL DEVICE	14/319,714	Jun 30, 2014	Issued	Greatbatch Ltd.
SYSTEMS AND METHODS FOR REDUCING POWER CONSUMPTION IN AN IMPLANTABLE MEDICAL DEVICE	14/321,234	Jul 1, 2014	Issued	Greatbatch Ltd.
SYSTEM AND METHOD FOR IMPROVING NERVE FINDING FOR PERIPHERAL NERVE STIMULATION	14/322,172	Jul 2, 2014	Issued	Greatbatch Ltd.
CHARGE PUMP SYSTEM, DEVICES AND METHODS FOR AN IMPLANTABLE STIMULATOR	14/322,394	Jul 2, 2014	Issued	Greatbatch Ltd.

PADDLE LEAD MAXIMIZING LATERAL TARGET POINTS ACROSS A PERIPHERAL NERVE	14/322,455	Jul 2, 2014	Issued	Greatbatch Ltd.
NEUROSTIMULATOR CONFIGURED TO SENSE EVOKED POTENTIALS IN PERIPHERAL NERVES	14/322,716	Jul 2, 2014	Issued	Greatbatch Ltd.
MRI COMPATIBLE MEDICAL LEADS	14/326,183	Jul 8, 2014	Issued	Greatbatch Ltd.
MRI COMPATIBLE MEDICAL LEADS	14/326,183	Jul 8, 2014	Issued	Greatbatch Ltd.
INDEPENDENTLY ACTUATABLE SWITCH FOR SELECTION OF AN MRI COMPATIBLE BANDSTOP FILTER PLACED IN SERIES WITH A PARTICULAR THERAPY ELECTRODE OF AN ACTIVE IMPLANTABLE MEDICAL DEVICE	14/337,314	Jul 22, 2014	Issued	Greatbatch Ltd.
MULTICONDUCTOR OR MULTIPOLAR GUIDEWIRE	14/348,689	Oct 4, 2012	Issued	Lake Region Manufacturing, Inc. dba Lake Region Medical
MULTI-THICKNESS CURRENT COLLECTOR	14/467,966	Aug 25, 2014	Issued	Greatbatch Ltd.
ADAPTIVE CHARGER TO MAXIMIZE CHARGE RATE	14/492,112	Sep 22, 2014	Issued	Greatbatch Ltd.
POLYVINYLPIRIDINE ADDITIVES FOR NONAQUEOUS ELECTROLYTES ACTIVATING LITHIUM RECHARGEABLE ELECTROCHEMICAL CELLS	14/499,310	Sep 29, 2014	Issued	Greatbatch Ltd.
SACRIFICIAL RESISTANCE WELD ELECTRODE	14/513,295	Oct 14, 2014	Issued	Greatbatch Ltd.
SHIELDED THREE-TERMINAL FLAT-THROUGH EMI/ENERGY DISSIPATING FILTER WITH CO-FIRED HERMETICALLY SEALED FEEDTHROUGH	14/556,239	Dec 1, 2014	Issued	Greatbatch Ltd.
ELEVATED HERMETIC FEEDTHROUGH INSULATOR ADAPTED FOR SIDE ATTACHMENT OF ELECTRICAL CONDUCTORS ON THE BODY FLUID SIDE OF AN ACTIVE IMPLANTABLE MEDICAL DEVICE	14/600,401	Jan 20, 2015	Issued	Greatbatch Ltd.
SPLIT WINDING REPEATER	14/602,828	Jan 22, 2015	Issued	Greatbatch Ltd.

MIXED CATHODE MATERIAL WITH HIGH ENERGY DENSITY	14/641,836	Mar 9, 2015	Issued	ELECTROCHEM SOLUTIONS, INC.
APPARATUS AND METHOD FOR IMPLANTING AN IMPLANTABLE DEVICE	14/665,309	Mar 23, 2015	Issued	Greatbatch Ltd.
COMPOSITE RF CURRENT ATTENUATOR FOR A MEDICAL LEAD	14/669,041	Mar 26, 2015	Issued	Greatbatch Ltd.
RF FILTER FOR AN ACTIVE MEDICAL DEVICE (AMD) FOR HANDLING HIGH RF POWER INDUCED IN AN ASSOCIATED IMPLANTED LEAD FROM AN EXTERNAL RF FIELD	14/688,302	Apr 16, 2015	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR PERSONALIZED CARDIAC SIGNAL PROCESSING	14/738,022	Jun 12, 2015	Issued	Greatbatch Ltd.
FEEDTHROUGH WIRE CONNECTOR FOR USE IN A MEDICAL DEVICE	14/747,582	Jun 23, 2015	Issued	Greatbatch Ltd.
REVERSE LOOP ABLATION DEVICE	14/787,528	Apr 30, 2014	Issued	Lake Region Manufacturing, Inc.
HERMETICALLY SEALED FEEDTHROUGH WITH CO-FIRED FILLED VIA AND CONDUCTIVE INSERT FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	14/797,123	Jul 11, 2015	Issued	Greatbatch Ltd.
LOW IMPEDANCE OXIDE RESISTANT GROUNDED CAPACITOR FOR AN AIMD	14/826,229	Aug 14, 2015	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR CARDIAC SIGNAL NOISE DETECTION AND DISPOSITION BASED ON PHYSIOLOGIC RELEVANCE	14/832,311	Aug 21, 2015	Issued	Greatbatch Ltd.
SYSTEM AND METHOD OF ESTABLISHING A PROTOCOL FOR PROVIDING ELECTRICAL STIMULATION WITH A STIMULATION SYSTEM TO TREAT A PATIENT	14/863,469	Sep 24, 2015	Issued	Greatbatch Ltd.
EMI FILTERED CO-CONNECTED HERMETIC FEEDTHROUGH, FEEDTHROUGH CAPACITOR AND LEADWIRE ASSEMBLY FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	14/864,959	Sep 25, 2015	Issued	Greatbatch Ltd.
LITHIUM OXYHALIDE ELECTROCHEMICAL CELL	14/968,600	Dec 14, 2015	Issued	ELECTROCHEM SOLUTIONS, INC.

WITH CARBON MONOFLUORIDE				
NONAQUEOUS ELECTROLYTE FOR LITHIUM BATTERY SAFETY	14/983,650	Dec 30, 2015	Issued	Greatbatch Ltd.
COILED, CLOSED-LOOP RF CURRENT ATTENUATOR CONFIGURED TO BE PLACED ABOUT AN IMPLANTABLE LEAD CONDUCTOR	14/986,647	Jan 1, 2016	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CURRENT COLLECTOR SCREEN DESIGNS UTILIZING ULTRASONIC WELDING	15/016,988	Feb 5, 2016	Issued	Greatbatch Ltd.
BATTERY WIRELESS CHARGING SYSTEM	15/055,063	Feb 26, 2016	Issued	Greatbatch Ltd.
MECHANICAL CONDITIONING BY BEAD BLASTING LITHIUM IODINE CELL CASE	15/073,706	Mar 18, 2016	Issued	Greatbatch Ltd.
HIGH VOLTAGE TANTALUM ANODE AND METHOD OF MANUFACTURE	15/095,196	Apr 11, 2016	Issued	Greatbatch Ltd.
FIBER BRAGG GRATING MULTI-POINT PRESSURE SENSING GUIDEWIRE WITH BIREFRINGENT COMPONENT	15/129,432	Oct 30, 2015	Issued	Lake Region Manufacturing, Inc.
RF FILTER ON A CIRCUIT BOARD FOR AN ACTIVE MEDICAL DEVICE (AMD) FOR HANDLING HIGH RF POWER INDUCED IN AN ASSOCIATED IMPLANTED LEAD FROM AN EXTERNAL RF FIELD	15/163,241	May 24, 2016	Issued	Greatbatch Ltd.
EMI FILTERED CO-CONNECTED HERMETIC FEEDTHROUGH, FEEDTHROUGH CAPACITOR AND LEADWIRE ASSEMBLY FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	15/164,945	May 26, 2016	Issued	Greatbatch Ltd.
MULTI-THICKNESS CURRENT COLLECTOR	15/171,082	Jun 2, 2016	Issued	Greatbatch Ltd.
SYSTEM AND METHOD FOR SELECTIVE AND MAINTAINED ACTIVATION OF SENSORY PERIPHERAL NERVE FIBERS	15/180,613	Jun 13, 2016	Issued	Greatbatch Ltd.
GUIDE WIRE FOR USE IN RE-CANALISING A VASCULAR OCCLUSION IN A HUMAN OR ANIMAL SUBJECT	15/220,741	Jul 27, 2016	Issued	Lake Region Manufacturing, Inc.

OXIRANE (ETHYLENE OXIDE) POLYURETHANE COATINGS	15/224,952	Aug 1, 2016	Issued	Lake Region Manufacturing, Inc.
MODIFIED HYALURONATE HYDROPHILIC COMPOSITIONS, COATINGS AND METHODS	15/231,844	Aug 9, 2016	Issued	Lake Region Manufacturing, Inc.
LOW IMPEDANCE OXIDE RESISTANT GROUNDED CAPACITOR FOR AN AIMD	15/250,210	Aug 29, 2016	Issued	Greatbatch Ltd.
PROTECTING WIRELESS COMMUNICATION COMPONENTS IN A HIGHLY RESONANT FIELD	15/276,179	Sep 26, 2016	Issued	Greatbatch Ltd.
CONNECTOR FROM THE TAB OF AN ELECTRODE CURRENT COLLECTOR TO THE TERMINAL PIN OF A FEEDTHROUGH IN AN ELECTROCHEMICAL CELL	15/289,392	Oct 10, 2016	Issued	Greatbatch Ltd.
SANDWICH CATHODE LITHIUM BATTERY WITH HIGH ENERGY DENSITY	15/290,595	Oct 11, 2016	Issued	Greatbatch Ltd.
HIGH VOLTAGE TANTALUM CAPACITOR WITH IMPROVED CATHODE/SEPARATOR DESIGN AND METHOD OF MANUFACTURE	15/334,813	Oct 26, 2016	Issued	Greatbatch Ltd.
APPARATUS, SYSTEM, AND METHOD FOR WIRELESS CHARGING OF A DEVICE WITHIN A STERILIZABLE VESSEL	15/339,960	Nov 1, 2016	Issued	Greatbatch Ltd.
DUAL WELD PLUG FOR AN ELECTROCHEMICAL CELL	15/341,083	Nov 2, 2016	Issued	Greatbatch Ltd.
NEUROSTIMULATOR INTERCONNECTION APPARATUS, SYSTEM, AND METHOD	15/355,117	Nov 18, 2016	Issued	Greatbatch Ltd.
HIGH VOLTAGE CAPACITOR HAVING A DUAL TANTALUM ANODE/CATHODE CURRENT COLLECTOR ELECTRODE ASSEMBLY HOUSED IN A DUAL SEPARATOR ENVELOPE DESIGN	15/356,727	Nov 21, 2016	Issued	Greatbatch Ltd.
HERMETIC FILTER FEEDTHROUGH INCLUDING MLCC-TYPE CAPACITORS FOR USE WITH AN ACTIVE IMPLANTABLE MEDICAL DEVICE	15/368,722	Dec 5, 2016	Issued	Greatbatch Ltd.

MLCC filter on an AIMD circuit board with ground electrical connection to a gold braze between a hermetic feedthrough ferrule and insulator	15/373,139	Dec 8, 2016	Issued	Greatbatch Ltd.
MLCC FILTER ON AN AIMD CIRCUIT BOARD WITH CONDUCTIVE GROUND PIN ATTACHED TO A HERMETIC FEEDTHROUGH FERRULE	15/375,235	Dec 12, 2016	Issued	Greatbatch Ltd.
MLCC filter on an AIMD circuit board with direct connect to the gold braze hermetically sealing a feed through insulator to a ferrule	15/375,315	Dec 12, 2016	Issued	Greatbatch Ltd.
MLCC FILTER ON AN AIMD CIRCUIT BOARD HAVING AN EXTERNAL GROUND PLATE ADJACENT TO THE HERMETIC SEAL INSULATOR	15/398,098	Jan 4, 2017	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CELL CASING HAVING AN OPEN-ENDED MAIN BODY PORTION OF GRADE 5 OR 23 TITANIUM CLOSED BY UPPER AND LOWER LIDS OF GRADE 1 OR 2 TITANIUM	15/398,253	Jan 4, 2017	Issued	Greatbatch Ltd.
CAPACITOR HAVING MULTIPLE ANODES HOUSED IN A STACKED CASING	15/449,111	Mar 3, 2017	Issued	Greatbatch Ltd.
SURROGATE IMPLANTED MEDICAL DEVICE FOR ENERGY DISSIPATION OF EXISTING IMPLANTED LEADS DURING MRI SCANS	15/466,939	Mar 23, 2017	Issued	Greatbatch Ltd.
CAPACITOR HAVING MULTIPLE ANODES HOUSED IN A SWAGED CASING	15/467,254	Mar 23, 2017	Issued	Greatbatch Ltd.
FEEDTHROUGH SEAL APPARATUS, SYSTEM, AND METHOD	15/475,209	Mar 31, 2017	Issued	Greatbatch Ltd.
METHOD FOR FORMING A DIRECTIONAL MESH	15/478,270	Apr 4, 2017	Issued	Lake Region Manufacturing, Inc.
CAPACITOR HAVING MULTIPLE ANODES HOUSED IN A COMPARTMENTED CASING	15/479,573	Apr 5, 2017	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR ELECTROCARDIOGRAPHIC MONITORING	15/494,628	Apr 24, 2017	Issued	Greatbatch Ltd.
CHARGE PUMP SYSTEM, DEVICES AND METHODS FOR	15/583,249	May 1, 2017	Issued	Greatbatch Ltd.

AN IMPLANTABLE STIMULATOR				
WIRELESS CHARGING AUTOCLAVABLE BATTERIES INSIDE A STERILIZABLE TRAY	15/592,678	May 11, 2017	Issued	Greatbatch Ltd.
SYSTEMS AND METHODS FOR REDUCING POWER CONSUMPTION IN AN IMPLANTABLE MEDICAL DEVICE	15/594,841	May 15, 2017	Issued	Greatbatch Ltd.
HERMETIC TERMINAL FOR AN AIMD HAVING A COMPOSITE BRAZED CONDUCTIVE LEAD	15/603,521	May 24, 2017	Issued	Greatbatch Ltd.
LOW-RATE BATTERY DESIGN	15/620,488	Jun 12, 2017	Issued	Greatbatch Ltd.
CIRCUIT BOARD HAVING A FEEDTHROUGH WIRE CONNECTOR FOR USE IN A MEDICAL DEVICE	15/628,741	Jun 21, 2017	Issued	Greatbatch Ltd.
MLCC FILTER ON AN AIMD CIRCUIT BOARD WITH CONDUCTIVE GROUND PIN ATTACHED TO A HERMETIC FEEDTHROUGH FERRULE	15/651,045	Jul 17, 2017	Issued	Greatbatch Ltd.
SYSTEM AND METHOD FOR IMPROVING NERVE FINDING FOR PERIPHERAL NERVE STIMULATION	15/657,968	Jul 24, 2017	Issued	Greatbatch Ltd.
TRANSSEPTAL CROSSING GUIDEWIRE WITH FACETED PIERCING HEAD	15/695,117	Sep 5, 2017	Issued	Lake Region Manufacturing, Inc.
LOW EQUIVALENT SERIES RESISTANCE RF FILTER FOR AN AIMD	15/704,657	Sep 14, 2017	Issued	Greatbatch Ltd.
GOLD WETTING ON CERAMIC SURFACES UPON COATING WITH TITANIUM HYDRIDE	15/712,669	Sep 22, 2017	Issued	Greatbatch Ltd.
RECHARGEABLE INTRAOCULAR IMPLANT	15/757,315	Sep 3, 2015	Issued	Greatbatch Ltd and Elenza, Inc.
HERMETIC TERMINAL FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE WITH COMPOSITE CO-FIRED FILLED VIA AND BODY FLUID SIDE BRAZED LEADWIRE	15/797,278	Oct 30, 2017	Issued	Greatbatch Ltd.
CATHODE INSULATOR DESIGN	15/803,973	Nov 6, 2017	Issued	Greatbatch Ltd.
METHOD FOR PROVIDING A HIGH CAPACITY CATHODE MATERIAL WITH IMPROVED	15/807,633	Nov 9, 2017	Issued	Greatbatch Ltd.

RATE CAPABILITY PERFORMANCE				
CLOSURE SYSTEM FOR THE ELECTROLYTE FILL PORT OF AN ELECTROCHEMICAL CELL	15/834,724	Dec 7, 2017	Issued	Greatbatch Ltd.
HERMETIC TERMINAL FOR AN AIMD HAVING A PIN JOINT IN A FEEDTHROUGH CAPACITOR OR CIRCUIT BOARD	15/844,683	Dec 18, 2017	Issued	Greatbatch Ltd.
PROCESS FOR MANUFACTURING A LEADLESS FEEDTHROUGH FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	15/863,194	Jan 5, 2018	Issued	Greatbatch Ltd.
HERMETICALLY SEALED FEEDTHROUGH WITH CO-FIRED FILLED VIA AND CONDUCTIVE INSERT FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	15/894,239	Feb 12, 2018	Issued	Greatbatch Ltd.
ELECTROCHEMICAL CURRENT COLLECTOR SCREEN DESIGNS UTILIZING ULTRASONIC WELDING	15/899,397	Feb 20, 2018	Issued	Greatbatch Ltd.
WIRELESSLY POWERED DEVICES FOR MINIMALLY INVASIVE SURGERY	15/902,242	Feb 22, 2018	Issued	Greatbatch Ltd.
STEERABLE MEDICAL DEVICE AND METHOD	15/917,953	Mar 12, 2018	Issued	Greatbatch Ltd.
FLEXIBLE HERMETIC MEMBRANES WITH ELECTRICALLY CONDUCTING VIAS	15/936,495	Mar 27, 2018	Issued	Greatbatch Ltd.
METALLURGICALLY BONDED GOLD POCKET PAD FOR GROUNDING AN EMI FILTER TO A HERMETIC TERMINAL FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	15/943,998	Apr 3, 2018	Issued	Greatbatch Ltd.
MEDICAL DEVICE WITH HEMOSTATIC VALVE	15/970,927	May 4, 2018	Issued	Greatbatch Ltd.
APPARATUS AND METHOD FOR IMPLANTING AN IMPLANTABLE DEVICE	15/979,700	May 15, 2018	Issued	Greatbatch Ltd.
MINIATURE ELECTROCHEMICAL CELL HAVING A CASING COMPRISING SPACED APART CERAMIC SUBSTRATES SECURED TOGETHER USING A	16/003,868	Jun 8, 2018	Issued	Greatbatch Ltd.

SINTERED CERAMIC/METAL STRUCTURE				
HERMETICALLY SEALED FILTERED FEEDTHROUGH ASSEMBLY HAVING A CAPACITOR WITH AN OXIDE RESISTANT ELECTRICAL CONNECTION TO AN ACTIVE IMPLANTABLE MEDICAL DEVICE HOUSING	16/004,569	Jun 11, 2018	Issued	Greatbatch Ltd.
GROUND ELECTRICAL PATH FROM AN MLCC FILTER CAPACITOR ON AN AIMD CIRCUIT BOARD TO THE FERRULE OF A HERMETIC FEEDTHROUGH	16/045,035	Jul 25, 2018	Issued	Greatbatch Ltd.
LITHIUM-IODINE ELECTROCHEMICAL CELLS EXHIBITING LOW DISCHARGE IMPEDANCE	16/048,984	Jul 30, 2018	Issued	Greatbatch Ltd.
METHOD OF MANUFACTURING A FEEDTHROUGH INSULATOR FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE INCORPORATING A POST CONDUCTIVE PASTE FILLED PRESSING STEP	16/101,639	Aug 13, 2018	Issued	Greatbatch Ltd.
FILTERED FEEDTHROUGH ASSEMBLY HAVING AN MLCC FILTER CAPACITOR ON AN AIMD CIRCUIT BOARD ATTACHED TO THE FERRULE OF A HERMETIC FEEDTHROUGH	16/106,937	Aug 21, 2018	Issued	Greatbatch Ltd.
LOW EQUIVALENT SERIES RESISTANCE RF FILTER FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	16/121,716	Sep 5, 2018	Issued	Greatbatch Ltd.
METHOD OF PROVIDING AN ELECTROCHEMICAL CELL CASING HAVING AN OPEN-ENDED MAIN BODY PORTION OF GRADE 5 OR 23 TITANIUM CLOSED BY UPPER AND LOWER LIDS OF GRADE 1 OR 2 TITANIUM	16/152,864	Oct 5, 2018	Issued	Greatbatch Ltd.
METHODS AND DEVICES FOR DELIVERING DRUGS USING DRUG-DELIVERY OR DRUG-COATED GUIDEWIRES	16/166,324	Oct 22, 2018	Issued	Lake Region Manufacturing, Inc.

APPARATUS AND METHOD FOR DETECTION OF SLEEP DISORDERED BREATHING	16/170,542	Oct 25, 2018	Issued	Greatbatch Ltd.
A POLYURETHANE UREA CONTAINING ADIPIIC ACID DIHYDRAZIDE WHERE ACTIVE HYDROGENS REACT WITH THE EPOXY GROUP FOUND ON GLYCIDOL TO FORM A DIOL	16/173,001	Oct 29, 2018	Issued	Lake Region Manufacturing, Inc.
FOIL-TYPE CURRENT COLLECTOR HAVING AN UNPERFORATED STRIP AT THE CONNECTOR TAB	16/185,187	Nov 9, 2018	Issued	Greatbatch Ltd.
SYSTEM FOR WIRELESS CHARGING OF A BATTERY WITHIN A STERILIZABLE VESSEL	16/194,458	Nov 19, 2018	Issued	Greatbatch Ltd.
HERMETIC THIN FILM ELECTROCHEMICAL CELLS HOUSED IN A CERAMIC CASING AND ACTIVATED WITH A SOLID ELECTROLYTE	16/240,173	Jan 4, 2019	Issued	Greatbatch Ltd.
MINIATURE ELECTROCHEMICAL CELLS HOUSED IN A METALLIC CASING HAVING A GLASS-TO-METAL SEAL ISOLATING THE OPPOSITE POLARITY TERMINALS	16/240,850	Jan 7, 2019	Issued	Greatbatch Ltd.
CIRCUIT BOARD MOUNTED FILTERED FEEDTHROUGH ASSEMBLY HAVING A COMPOSITE CONDUCTIVE LEAD FOR AN AIMD	16/291,356	Mar 4, 2019	Issued	Greatbatch Ltd.
SANDWICH CATHODE LITHIUM BATTERY WITH HIGH ENERGY DENSITY	16/295,518	Mar 7, 2019	Issued	Greatbatch Ltd.
HERMETIC TERMINAL FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE HAVING A FEEDTHROUGH CAPACITOR PARTIALLY OVERHANGING A FERRULE FOR HIGH EFFECTIVE CAPACITANCE AREA	16/360,372	Mar 21, 2019	Issued	Greatbatch Ltd.
ELECTRICAL CONNECTION FOR AN AIMD EMI FILTER UTILIZING AN ANISOTROPIC CONDUCTIVE LAYER	16/362,043	Mar 22, 2019	Issued	Greatbatch Ltd.
PROCESS FOR MANUFACTURING A LEADLESS	16/362,862	Mar 25, 2019	Issued	Greatbatch Ltd.

FEEDTHROUGH FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE				
GROUND ELECTRICAL PATH FROM AN MLCC FILTER CAPACITOR ON AN AIMD CIRCUIT BOARD TO THE FERRULE OF A HERMETIC FEEDTHROUGH	16/364,953	Mar 26, 2019	Issued	Greatbatch Ltd.
A FLAT-THROUGH CAPACITOR MOUNTED IN A TOMBSTONE POSITION ON A HERMETIC FEEDTHROUGH FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	16/385,338	Apr 16, 2019	Issued	Greatbatch Ltd.
SYSTEM FOR WIRELESS CHARGING OF A BATTERY WITHIN A STERILIZABLE VESSEL	16/386,333	Apr 17, 2019	Issued	Greatbatch Ltd.
LOW EQUIVALENT SERIES RESISTANCE RF FILTER FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE UTILIZING A CERAMIC REINFORCED METAL COMPOSITE FILLED VIA	16/391,801	Apr 23, 2019	Issued	Greatbatch Ltd.
AIMD RF SWITCH TO CONNECT AN ICD DEFIBRILLATION ELECTRODE CONDUCTOR EITHER TO A FILTER CAPACITOR OR TO AN RF SOURCE CONFIGURED TO DETECT A DEFECTIVE LEAD CONDUCTOR	16/414,996	May 17, 2019	Issued	Greatbatch Ltd.
MINIATURE ELECTROCHEMICAL CELL HAVING A CASING COMPRISING AN OPEN ENDED CONTAINER CLOSED WITH A SINTERED CERAMIC/METAL STRUCTURE	16/422,103	May 24, 2019	Issued	Greatbatch Ltd.
LEAD ADAPTOR, DOUBLE PORT FOR IMPLANTABLE NEURO-STIMULATION SYSTEM	16/508,884	Jul 11, 2019	Issued	Greatbatch Ltd.
METHOD FOR PROVIDING A HERMETICALLY SEALED FEEDTHROUGH WITH CO-FIRED FILLED VIA FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	16/708,881	Dec 10, 2019	Issued	Greatbatch Ltd.

HERMETICALLY SEALED FILTERED FEEDTHROUGH ASSEMBLY HAVING A CAPACITOR WITH AN OXIDE RESISTANT ELECTRICAL CONNECTION TO AN ACTIVE IMPLANTABLE MEDICAL DEVICE HOUSING	16/827,171	Mar 23, 2020	Issued	Greatbatch Ltd.
AN AIMD RF SWITCH TO CONNECT AN ICD DEFIBRILLATOR ELECTRODE CONDUCTOR EITHER TO A FILTER CAPACITOR OR TO AN RF SOURCE CONFIGURED TO DETECT A DEFECTIVE IMPLANTED LEAD	16/854,138	Apr 21, 2020	Issued	Greatbatch Ltd.
GUIDEWIRE WITH FIBER OPTIC FORCE SENSOR WITH AN ENCODED MIRROR	17/144,447	Jan 8, 2021	Issued	Lake Region Manufacturing, Inc.
INTRODUCER APPARATUS	29/278,565	Apr 2, 2007	Issued	Greatbatch Ltd.
DILATOR APPARATUS	29/278,566	Apr 2, 2007	Issued	Greatbatch Ltd.
CATHETER HANDLE	29/330,433	Jan 7, 2009	Issued	Greatbatch Ltd.
CATHETER HANDLE	29/360,668	Apr 29, 2010	Issued	Greatbatch Ltd.
Catheter handle	29/377,537	Oct 22, 2010	Issued	Greatbatch Ltd.
BATTERY PACK	29/379,243	Nov 16, 2010	Issued	Greatbatch Ltd.
CATHETER HANDLE	29/402,104	Sep 21, 2011	Issued	Greatbatch Ltd.
APPARATUS, SYSTEM, AND METHOD FOR TARGETED PLACEMENT OF A PERCUTANEOUS ELECTRODE	14/320,898	Jul 1, 2014	Pending	Greatbatch Ltd.
APPARATUS INCLUDING MULTIPLE JOINED HYPOTUBES AND METHOD OF MAKING SAME	15/729,847	Oct 11, 2017	Pending	Lake Region Manufacturing, Inc.
INTRODUCER FOR A MINIMALLY INVASIVE PHYSIOLOGIC PARAMETER RECORDER	15/810,476	Nov 13, 2017	Pending	Greatbatch Ltd.
EMBOLIC PROTECTION DEVICE	15/825,528	Nov 29, 2017	Pending	Lake Region Manufacturing, Inc.
APPARATUS, SYSTEM, AND METHOD FOR EXTENDING A GUIDEWIRE	15/884,429	Jan 31, 2018	Pending	Lake Region Manufacturing, Inc.

GUIDEWIRE MADE FROM A DRAWN FILLED TUBE OF A STAINLESS STEEL SHEATH AND NITINOL CORE	15/964,112	Apr 27, 2018	Pending	Lake Region Manufacturing, Inc.
APPARATUS AND METHOD FOR CARDIAC SIGNAL NOISE DETECTION AND DISPOSITION BASED ON PHYSIOLOGIC RELEVANCE	16/170,550	Oct 25, 2018	Pending	Greatbatch Ltd.
LASER BRAZED COMPONENT AND METHOD THEREFOR	16/177,486	Nov 1, 2018	Pending	Greatbatch Ltd.
METHOD FOR CREATING A RESISTANCE WELD BOND BETWEEN TWO METALS	16/181,499	Nov 6, 2018	Pending	Greatbatch Ltd.
TITANIUM CLAD NICKEL TERMINATION-PAD WELDED TO A TITANIUM TAB FOR A CAPACITOR	16/291,061	Mar 4, 2019	Pending	Greatbatch Ltd.
MLCC FILTER ON AN AIMD CIRCUIT BOARD CONDUCTIVELY CONNECTED TO A GROUND PIN ATTACHED TO A HERMETIC FEEDTHROUGH FERRULE	16/452,785	Jun 26, 2019	Pending	Greatbatch Ltd.
LITHIUM ELECTROCHEMICAL CELL ACTIVATED WITH AN ELECTROLYTE CONTAINING AN ADDITIVE	16/729,642	Dec 30, 2019	Pending	Greatbatch Ltd.
REMOVABLE TERMINAL PIN CONNECTOR FOR AN ACTIVE ELECTRONICS CIRCUIT BOARD FOR USE IN AN IMPLANTABLE MEDICAL DEVICE	16/809,676	Mar 5, 2020	Pending	Greatbatch Ltd.
LITHIUM OXYHALIDE ELECTROCHEMICAL CELL WITH CARBON MONOFLUORIDE	16/842,868	Apr 8, 2020	Pending	ELECTROCHEM SOLUTIONS, INC.
CELL DESIGN FOR HIGH RATE DISCHARGE	16/925,755	Jul 10, 2020	Pending	ELECTROCHEM SOLUTIONS, INC.
LITHIUM ELECTROCHEMICAL CELL ACTIVATED WITH AN ELECTROLYTE CONTAINING DBC AND FEC ADDITIVES	17/142,317	Jan 6, 2021	Pending	Greatbatch Ltd.
SEGMENTED CONFORMAL ANODE FOR A CAPACITOR	17/151,258	Jul 29, 2021	Pending	Greatbatch Ltd.
ECA OXIDE-RESISTANT CONNECTION TO A HERMETIC SEAL FERRULE FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	17/181,542	Feb 22, 2021	Pending	Greatbatch Ltd.

PRIMARY LITHIUM BATTERY CONTAINING AN FEC ELECTROLYTE ADDITIVE	17/182,827	Feb 23, 2021	Pending	Greatbatch Ltd.
PRIMARY LITHIUM BATTERY CONTAINING LiBOB AND FEC ELECTROLYTE ADDITIVES	17/200,975	Mar 15, 2021	Pending	Greatbatch Ltd.
TANTALUM POWDER FOR ELECTROLYTIC CAPACITOR	17/221,444	Apr 2, 2021	Pending	Greatbatch Ltd.
PRIMARY LITHIUM BATTERY CONTAINING DBC AND LiBOB AND FEC ELECTROLYTE ADDITIVES	17/246,861	May 3, 2021	Pending	Greatbatch Ltd.
AN ELECTRICALLY CONDUCTIVE COATING APPLIED TO AN OXIDIZABLE SURFACE OF AN AIMD FERRULE OR HOUSING TO PROVIDE AN OXIDE-RESISTANT CONNECTION TO AN EMI FILTER CAPACITOR, AN EMI FILTER CIRCUIT OR AIMD ELECTRONIC CIRCUITS AND COMPONENTS	17/315,895	May 11, 2021	Pending	Greatbatch Ltd.
APPARATUS AND METHOD FOR IMPLANTING AN IMPLANTABLE DEVICE	17/317,447	May 11, 2021	Pending	Greatbatch Ltd.
LASER BRAZED COMPONENT AND METHOD THEREFOR	17/344,162	Jun 10, 2021	Pending	Greatbatch Ltd.
Electrochemical Cell Activated With A Liquid Electrolyte Wetting The Electrode Assembly Through An Opening In One Of The Electrodes	17/346,328	Jun 14, 2021	Pending	Greatbatch Ltd.
ELECTROCHEMICAL CELL ACTIVATED WITH A LIQUID ELECTROLYTE WETTING THE ELECTRODE ASSEMBLY THROUGH AN INNER CHANNEL IN THE CASING LID	17/358,076	Jun 25, 2021	Pending	Greatbatch Ltd.
HEADER CONNECTION SYSTEM FOR IMPLANTABLE MEDICAL DEVICE	17/384,193	Jul 23, 2021	Pending	Greatbatch Ltd.
Tangential Fill Hole With Raised Embossed Edge Battery Lid Design	63/076,963	Sep 11, 2020	Pending	Greatbatch Ltd.
Shaft Structure Using Flat Wire Coiled on Edge	63/083,651	Sep 25, 2020	Pending	Greatbatch Ltd.
GUIDEWIRE WITH FIBER BRAGG GRATING STAIN SENSORS	63/091,702	Oct 14, 2020	Pending	Lake Region Manufacturing, Inc.
EYELET METHOD OF BRAID ATTACHMENT	63/093,900	Oct 20, 2020	Pending	Lake Region Manufacturing, Inc.

Novel Insulation Design for Medical Implanted Batteries	63/104,561	Oct 23, 2020	Pending	Greatbatch Ltd.
Conductor Management by Means of Flexible Substrate Sewing	63/110,389	Nov 6, 2020	Pending	Greatbatch Ltd.
Improved Miniaturized Hermetic Battery Glass Joint	63/116,219	Nov 20, 2020	Pending	Greatbatch Ltd.
Heat dissipation system for Charging Head	63/127,190	Dec 18, 2020	Pending	Greatbatch Ltd.
METAL-CERAMIC HERMETIC BODIES FOR IMPLANTABLE DEVICES	63/127,394	Dec 18, 2020	Pending	Greatbatch Ltd.
METAL-CERAMIC HERMETIC BODIES FOR IMPLANTABLE DEVICES	63/127,394	Dec 18, 2020	Pending	Greatbatch Ltd.
Use of anode wire to prevent failure due to cracked anode	63/131,350	Dec 29, 2020	Pending	Greatbatch Ltd.
Magnetic Regions and Plates for Alignment and Attachment of Portable Electronic Devices such as Cellular Telephones to a Wireless Charging Unit	63/138,924	Jan 19, 2021	Pending	Greatbatch Ltd.
Lead Adaptor Cable-less for Implantable Neurostimulator System	63/160,050	Mar 12, 2021	Pending	Greatbatch Ltd.
Conductor Management by Means of Flexible Substrate Sewing	63/165,859	Mar 25, 2021	Pending	Greatbatch Ltd.
The Triple Flip: Polarity Sensing To Prevent Inadvertent Actuation Of Magnet Mode in An Active Implantable Medical Device	63/174,498	Apr 13, 2021	Pending	Greatbatch Ltd.
Component Exterior Insulators	63/175,811	Apr 16, 2021	Pending	Greatbatch Ltd.
COMB MOLD METHOD FOR MOLDED ELECTRODE/CONTACT SPACING USED WITHIN STIMULATION LEADS	63/188,485	May 14, 2021	Pending	Greatbatch Ltd.
THREE-DIMENSIONAL PRINTED FEEDTHROUGHS FOR IMPLANTABLE MEDICAL DEVICES	63/214,942	Jun 25, 2021	Pending	Greatbatch Ltd.
SPRING CONNECTORWITH LATERAL THROUGH HOLE	63/215,255	Jun 25, 2021	Pending	Greatbatch Ltd.
The Triple Flip: Flipping a Clinical Magnet for Field Polarity Sensing and/or Multiple Timed Placements to Prevent Inadvertent Actuation Of Magnet Mode in An Active Implantable Medical Device	63/215,429	Jun 26, 2021	Pending	Greatbatch Ltd.
CATHETER HAVING A FIBER OPTIC FORCE SENSOR WITH A	63/217,985	Jul 2, 2021	Pending	Lake Region Manufacturing, Inc.

MIRROR HAVING A PATTERNED REFLECTANCE				
Stepped RF Ablation Wire With Multi-Layer Polymer Insulator jacket	63/225,015	Jul 23, 2021	Pending	Lake Region Manufacturing, Inc.
IMPLANTABLE COIL CONFIGURATION	63/227,481	Jul 30, 2021	Pending	Greatbatch Ltd.
MEDICAL DEVICE WITH GUIDEWIRE DETECTION	16/248,937	Jan 16, 2019	Published	Lake Region Manufacturing, Inc.
MINIATURE ELECTROCHEMICAL CELL HAVING A CASING OF A METAL CONTAINER CLOSED WITH A CERAMIC PLATE HAVING TWO VIA HOLES SUPPORTING OPPOSITE POLARITY PLATINUM-CONTAINING CONDUCTIVE PATHWAYS	16/431,025	Jun 4, 2019	Published	Greatbatch Ltd.
FEEDTHROUGH TERMINAL ASSEMBLY WITH AN ELECTRICALLY CONDUCTIVE PAD CONDUCTIVELY CONNECTED TO A TERMINAL PIN	16/435,600	Jun 10, 2019	Published	Greatbatch Ltd.
IMPLANTABLE PULSE GENERATOR WITH MULTIPLE SUTURE PORTS	16/446,681	Jun 20, 2019	Published	Greatbatch Ltd and Galvani Bioelectronics Limited
ELECTROCHEMICAL CELL HAVING A SERPENTINE ANODE WITH A PLURALITY OF INTERLEAVED CATHODE PLATES HAVING EXTENDING TABS STACKED AND CONNECTED TO EACH OTHER BY A WELDED SURROUNDING METAL HOOP	16/504,423	Jul 8, 2019	Published	Greatbatch Ltd.
OPTICAL CONNECTOR FOR OPTICALLY CONNECTING A PROXIMAL OPTICAL FIBER TO THE DISTAL OPTICAL FIBER OF A GUIDEWIRE	16/523,121	Jul 26, 2019	Published	Lake Region Manufacturing, Inc.
TRANSFERABLE ELECTRODE TIP FOR RESISTANCE WELDING AN ANODE TAB TO THE CASING OF AN ELECTROCHEMICAL CELL	16/550,367	Aug 26, 2019	Published	Greatbatch Ltd.
METHOD OF MANUFACTURING A SINGULATED FEEDTHROUGH INSULATOR FOR A HERMETIC SEAL OF AN ACTIVE	16/578,476	Sep 23, 2019	Published	Greatbatch Ltd.

IMPLANTABLE MEDICAL DEVICE INCORPORATING A POST CONDUCTIVE PASTE FILLED PRESSING STEP				
FILTERED FEEDTHROUGH ASSEMBLY HAVING A CAPACITOR GROUND METALLIZATION ELECTRICALLY CONNECTED TO THE GOLD BRAZE PORTION SEALING A FERRULE PENINSULA TO A MATCHING INSULATOR CUTOUT	16/589,752	Oct 1, 2019	Published	Greatbatch Ltd.
Braided Construct And Method Of Making The Same	16/609,608	May 2, 2018	Published	Lake Region Manufacturing, Inc.
MINIATURE ELECTROCHEMICAL CELL HAVING A CASING OF A CONDUCTIVE PLATE CLOSING AN OPEN-ENDED CERAMIC CONTAINER HAVING A VIA HOLE SUPPORTING A PLATINUM-CONTAINING CONDUCTIVE PATHWAY	16/653,247	Oct 15, 2019	Published	Greatbatch Ltd.
MINIATURE ELECTROCHEMICAL CELL HAVING A CASING OF A CONDUCTIVE PLATE CLOSING AN OPEN-ENDED CERAMIC CONTAINER HAVING TWO VIA HOLES SUPPORTING OPPOSITE POLARITY PLATINUM-CONTAINING CONDUCTIVE PATHWAYS	16/655,286	Oct 17, 2019	Published	Greatbatch Ltd.
HERMETIC TERMINAL FOR AN AIMD HAVING A PIN JOINT IN A FEEDTHROUGH CAPACITOR OR CIRCUIT BOARD	16/656,775	Oct 18, 2019	Published	Greatbatch Ltd.
ELECTRODE CONNECTION AND METHOD THEREFOR	16/669,887	Oct 31, 2019	Published	Greatbatch Ltd.
FIBER BRAGG GRATING MULTI-POINT PRESSURE SENSING GUIDEWIRE WITH BIREFRINGENT COMPONENT	16/690,170	Nov 21, 2019	Published	Lake Region Manufacturing, Inc.
HERMETIC WELD FOR A THIN FILM ELECTROCHEMICAL CELL ACTIVATED WITH A SOLID ELECTROLYTE AND HOUSED IN A CERAMIC CASING	16/788,679	Feb 12, 2020	Published	Greatbatch Ltd.

SUBSTRATE WITH HERMETIC VIAS FOR A THIN FILM ELECTROCHEMICAL CELL ACTIVATED WITH A SOLID ELECTROLYTE AND HOUSED IN A CERAMIC CASING	16/812,492	Mar 9, 2020	Published	Greatbatch Ltd.
GUIDEWIRE AND METHOD THEREFOR	16/823,409	Mar 19, 2020	Published	Lake Region Manufacturing, Inc.
ABLATION CATHETER WITH FBG BASED FORCE SENSOR	16/851,764	Apr 17, 2020	Published	Lake Region Manufacturing, Inc.
GUIDEWIRE WITH TACTILE FEEL	16/857,313	Apr 24, 2020	Published	Lake Region Medical, Inc.
STEERABLE MEDICAL DEVICE AND METHOD	16/874,904	May 15, 2020	Published	Greatbatch Ltd.
LOW EQUIVALENT SERIES RESISTANCE RF FILTER CIRCUIT BOARD FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	16/880,392	May 21, 2020	Published	Greatbatch Ltd.
Basket-Type EP Catheter With Electrode Polling For Sequential Electrode Sampling	16/894,238	Jun 5, 2020	Published	Lake Region Manufacturing, Inc.
MEDICAL DEVICE WITH HEMOSTATIC VALVE	16/897,485	Jun 10, 2020	Published	Greatbatch Ltd.
CATHETER WITH EMBEDDED CORE WIRES	16/938,935	Jul 25, 2020	Published	Lake Region Manufacturing, Inc.
GUIDE WIRE AND CATHETER SYSTEM FOR IN-VIVO FORWARD VIEWING OF BLOOD VESSELS	16/953,515	Nov 20, 2020	Published	Lake Region Manufacturing, Inc.
MINIATURE ELECTROCHEMICAL CELL HAVING A CASING COMPRISING SPACED APART CERAMIC SUBSTRATES SECURED TOGETHER USING A GOLD BRAZE	17/010,985	Sep 3, 2020	Published	Greatbatch Ltd.
METHOD OF ESTABLISHING A COMMUNICATION SESSION BETWEEN AN EXTERNAL DEVICE AND AN IMPLANTABLE MEDICAL DEVICE	17/025,573	Sep 18, 2020	Published	Greatbatch Ltd.
Electropolishing Of MP35N Wire For Fatigue Life Improvement Of An Implantable Lead	17/062,746	Oct 5, 2020	Published	Lake Region Manufacturing, Inc.
AN RF SWITCH AND AN EMI FILTER CAPACITOR FOR AN AIMD CONNECTED IN SERIES BETWEEN A FEEDTHROUGH	17/077,337	Oct 22, 2020	Published	Greatbatch Ltd.

ACTIVE CONDUCTOR AND SYSTEM GROUND				
A POLYURETHANE UREA CONTAINING ADIPIC ACID DIHYDRAZIDE WHERE ACTIVE HYDROGENS REACT WITH THE EPOXY GROUP FOUND ON GLYCIDOL TO FORM A DIOL	17/112,257	Dec 4, 2020	Published	Lake Region Manufacturing, Inc.
ELECTRICAL CONNECTION FOR AN AIMD UTILIZING AN ANISOTROPIC CONDUCTIVE LAYER	17/165,500	Feb 2, 2021	Published	Greatbatch Ltd.
ELECTRICAL CONNECTION FOR A HERMETIC TERMINAL FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE UTILIZING A FERRULE POCKET	17/171,418	Feb 9, 2021	Published	Greatbatch Ltd.
ECA OXIDE RESISTANT CONNECTION TO A HERMETIC SEAL FERRULE FOR AN ACTIVE IMPLANTABLE MEDICAL DEVICE	17/181,416	Feb 22, 2021	Published	Greatbatch Ltd.