

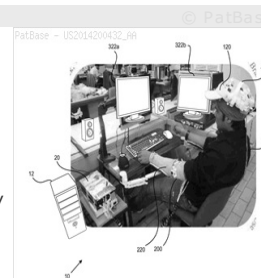
1) Family number: 52445058 (US2014200432A)

SYSTEMS, APPARATUSES, DEVICES, AND PROCESSES FOR SYNERGISTIC NEURO-PHYSIOLOGICAL REHABILITATION AND/OR FUNCTIONAL DEVELOPMENT

Abstract: Source: US2014200432A A system for facilitating a subject's functional development includes sensing devices configured for sensing mind state signals; sensing devices configured for sensing body state signals; and a set of processing resources configured for generating a mind state indicator/measure, a body state indicator/measure, and a mind-body synergy indicator/measure that corresponds to which each of the subject's mind state and body state are synergistically aligned for facilitating the subject's functional development. The system can be configured for concurrently presenting a set of activities involving a model body part; engaging in attempted imitation of the set of activities by way of attempted movement of a body part that is a mirror image of the model body part; presenting an indication of an extent to which each of the mind state and body state are cooperative with respect to performance of the set of activities; and presenting an indication of relaxation.

Probable Assignee: C O NANYANG TECHNOLOGICAL UNIV

Earliest Publication Date: 20121129



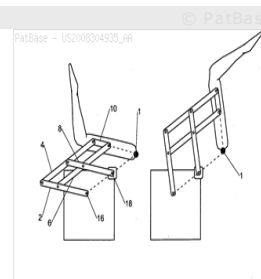
2) Family number: 42458679 (US2008304935A)

ROBOTIC EXOSKELETON FOR LIMB MOVEMENT

Abstract: Source: US2008304935A This invention relates to a robotic exoskeleton comprising mechanical linkages that couple to one or more selected joints of a limb of a subject. The robotic exoskeleton may be provided with means for obtaining data respecting angular position, torque, and/or acceleration of at least one of the joints or the links of the mechanical linkages, and may be used for assessing, studying, diagnosing a deficit, and/or treating an impairment in sensorimotor function of a limb of a subject.

Probable Assignee: QUEEN S UNIV AT KINGSTON

Earliest Publication Date: 20081106



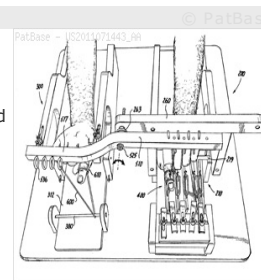
3) Family number: 48505703 (US2011071443A)

REHABILITATIVE TRAINING DEVICES FOR USE BY STROKE PATIENTS

Abstract: Source: US2011071443A According to one embodiment, a rehabilitative training device for use with a stroke patient includes a first component that is operatively coupled to a first body part (unaffected body part) of the patient and a second component that is operatively coupled to a second body part (affected body part) of the patient. The first component and second component are operatively coupled to one another such that motion of the first component as a result of movement of the first body part by the user causes the second component and second body part to move in a symmetrical motion.

Probable Assignee: MIRRORING MOTION WORKS INC

Earliest Publication Date: 20110324



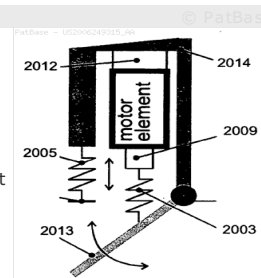
4) Family number: 33603486 (US2006249315A)

ARTIFICIAL HUMAN LIMBS AND JOINTS EMPLOYING ACTUATORS, SPRINGS, AND VARIABLE-DAMPER ELEMENTS

Abstract: Source: US2006249315A Biomimetic Hybrid Actuators employed in biologically-inspired musculoskeletal architectures employ an electric motor for supplying positive energy to and storing negative energy from an artificial joint or limb, as well as elastic elements such as springs, and controllable variable damper components, for passively storing and releasing energy and providing adaptive stiffness to accommodate level ground walking as well as movement on stairs and surfaces having different slopes.

Probable Assignee: IWALK INC

Earliest Publication Date: 20061109



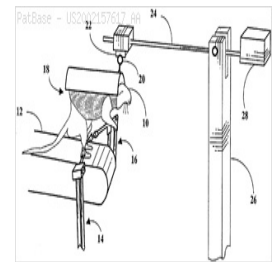
5) Family number: 28278718 (US2002157617A)

ROBOTIC DEVICE FOR LOCOMOTOR TRAINING

Abstract: Source: US2002157617A A robotic system and method for locomotion assessment and training of a mammal, exemplified by a rodent. A neurologically impaired animal is suspended over a moving surface in a harness, and the animal's hindlimbs are connected to robotic arms that apply force to the hindlimbs or measure limb movement characteristics. The moving surface can be a physical or virtual surface. A single robotic mechanism comprising two robotic arms can simultaneously apply force, measure limb movement, and provide a virtual surface. Manual or automatic adjustment of load support allows the mammal to step at varying body weight loads.

Probable Assignee: OF CALIFORNIA UNIV

Earliest Publication Date: 20021017



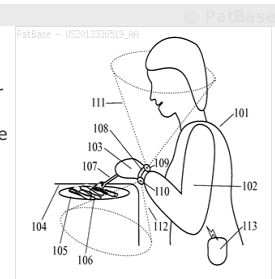
6) Family number: 55366782 (US2013336519A)

WILLPOWER WATCH (TM) -- A WEARABLE FOOD CONSUMPTION MONITOR

Abstract: Source: US2013336519A This invention is a wearable, automatic, and tamper-resistant device and method for monitoring and measuring food consumption and caloric intake. It can help people to manage their energy balance and weight. It can be embodied as: (a) one or more automatic-imaging members that are worn on a person from which these members collectively and automatically take pictures of the person's mouth and pictures of a reachable food source when the person eats; (b) a tamper-resisting mechanism which detects and responds if the operation of the one or more automatic-imaging members is impaired; and (c) an image-analyzing member which automatically analyzes pictures of the person's mouth and pictures of the reachable food source in order to estimate the types and quantities of food that are consumed by the person.

Probable Assignee: MEDIBOTICS LLC

Earliest Publication Date: 20131219



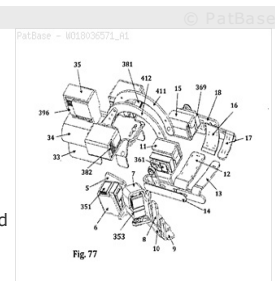
7) Family number: 66793189 (WO18036571A1)

ROBOTIC ORTHOSES FOR HAND AND WRIST REHABILITATION

Abstract: The robotic orthoses for rehabilitation of the hand and the wrist are a group of robotic orthoses designed for the passive and active rehabilitation of the fingers and the wrist, which consist in: A skin-orthosis interface formed by leather and neoprene parts to protect the patient's skin; a passive orthosis interface made of metal parts to couple the exoskeleton to the patient's wrist, fixed acrylic parts that act as a base for the structure, and mobile acrylic parts articulated by metal shafts to transmit movement to the hand and the wrist; an active orthosis interface made of servomotors that transmit movement to the mobile acrylic parts, reproducing 7 degrees of freedom to the movement of the hand and the wrist; and an electronic control module consisting of a switch-mode power supply, electronic boards and LED indicators.

Probable Assignee: MORENO ARANGO JUAN DAVID

Earliest Publication Date: 20170609



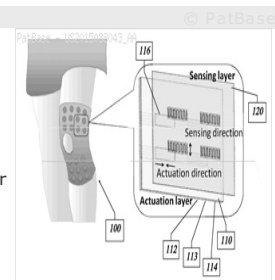
8) Family number: 53183208 (US2015088043A)

ACTIVELY CONTROLLED WEARABLE ORTHOTIC DEVICES AND ACTIVE MODULAR ELASTOMER SLEEVE FOR WEARABLE ORTHOTIC DEVICES

Abstract: Source: US2015088043A A flexible orthotic device includes two or more active components embedded in a sheet material. Each active component can include a controller and one or more actuation elements controlled by the controller. The two or more active components can communicate with each other and cause the active components to contract and dynamically change the structural characteristics of the orthotic device. By coordinating the motion of two or more active components, the flexible orthotic device can be programmed to assist or resist the motion of a subject wearing the device. The orthotic device can be effectively employed to provide locomotion assistance, gait rehabilitation, and gait training. Similarly, the orthotic device may be applied to the wrist, elbow, torso, or any other body part. The active components may be actuated to effectively transmit force to a body part, such as a limb, to assist with movement when desired. Additionally or alternatively, the active components may also be actuated to provide support with varying rigidity for the corresponding body part. The active components can be actuated to provide specialized learning tasks to enhance exploratory learning.

Probable Assignee: PRESIDENT AND FELLOWS OF HARVARD COLLEGE

Earliest Publication Date: 20130307



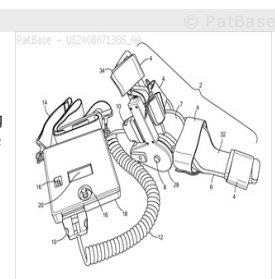
9) Family number: 41621199 (US2008071386A)

POWERED ORTHOTIC DEVICE AND METHOD OF USING SAME

Abstract: Source: US2008071386A A powered orthotic device includes a brace having a first section and a second section, the first section and the second section operationally coupled at a pivot, the first and the second sections moving about the pivot to define flexion and extension directions, such directions defining inside and outside regions of the brace respectively. The device further includes at least one set of straps that removably attach the first section and the second section to a corresponding limb segment such that the pivot is proximate to a joint between each limb segment. The device also includes an electromyographic sensor and an actuator assembly in communication with the electromyographic sensor, the actuator assembly mounted to the brace, and occupying a volume of which a majority is disposed proximately to the outside region of the brace, and coupled to the first and second sections of the brace so as to apply a force for driving the first and second sections about the pivot, the force based on signals from the electromyographic sensor.

Probable Assignee: MYOMO INC

Earliest Publication Date: 20080320



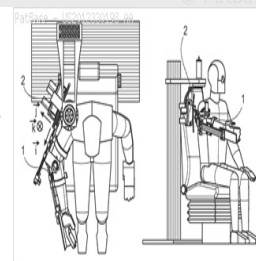
10) Family number: 52601837 (US2012330198A)

EXOSKELETON

Abstract: Source: US2012330198A An exoskeleton for humans including a joint element that interacts directly or indirectly with a human's joint via an end-effector mount, wherein the end-effector mount is arranged to perform an arbitrary planar parallel movement in a plane, allowing superimposed translational and rotational movements of the end-effector mount relative to a body of the joint element. The exoskeleton allows for excellent adjustment of the joint axes, i.e. the exoskeleton's and the human's joint, for effecting simultaneous translational and rotational movements. Particularly, the exoskeleton is self-aligning to the movements of a human's joint independent from differences in the attachment of the exoskeleton to the body and anatomical differences of the patients.

Probable Assignee: SABANCI UNIV

Earliest Publication Date: 20121227



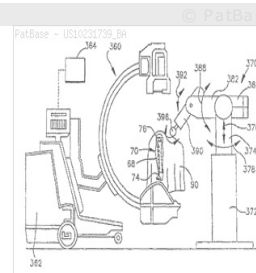
11) Family number: 73574526 (US10231739B)

SYSTEM AND METHOD FOR ROBOTIC SURGERY

Abstract: Source: US10231739B Systems and methods for performing surgery on a bone using a navigation subsystem having a locating device and a robotic subsystem having a cutting tool.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20190319



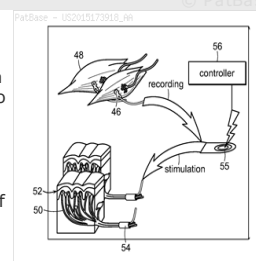
12) Family number: 59104938 (US2015173918A)

PERIPHERAL NEURAL INTERFACE VIA NERVE REGENERATION TO DISTAL TISSUES

Abstract: Source: US2015173918A At least partial function of a human limb is restored by surgically removing at least a portion of an injured or diseased human limb from a surgical site of an individual and transplanting a selected muscle into the remaining biological body of the individual, followed by contacting the transplanted selected muscle, or an associated nerve, with an electrode, to thereby control a device, such as a prosthetic limb, linked to the electrode. Simulating proprioceptive sensory feedback from a device includes mechanically linking at least one pair of agonist and antagonist muscles, wherein a nerve innervates each muscle, and supporting each pair with a support, whereby contraction of the agonist muscle of each pair will cause extension of the paired antagonist muscle. An electrode is implanted in a muscle of each pair and electrically connected to a motor controller of the device, thereby simulating proprioceptive sensory feedback from the device.

Probable Assignee: MASSACHUSETTS INST OF TECHNOLOGY

Earliest Publication Date: 20150430



13) Family number: 51701766 (MA33163B)

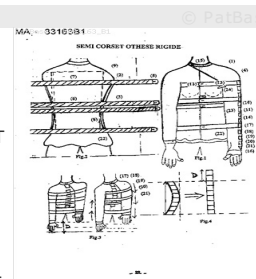
SEMI CORSET ORTHESE RIGIDE SEMI RIGID CORSET BRACE (MACHINE TRANSLATION)

Abstract: Source: MA33163B CONFORMEMENT A LA DESCRIPTION, AUX FigureS ET DES DESSINS (1.2.3.4.5.6.7 ET 8) LE PARAGRAPHE CI-APRES RESUME LES CHAPITRES DE L'EXPOSE, CONCERNANT LE SEMI CORSET ORTHESE RIGIDE ET SES VARIANTES, ET SON APPLICATION AU TRAITEMENT ORTHOPEDIQUE DE LA SCOLIOSE EVOLUTIVE IDIOPATHIQUE DE L'ENFANT (E.I.E.).- LE DOMAINE SE RAPPORTE AUX CORSETS DE CONTENTION ORTHOPEDIQUE UTILISES DANS LE TRAITEMENT DES RHUMATISMES, ET TRAUMATISMES DU DOS ET DE LA COLONNE VERTEBRALE.- LE PROBLEME A RESOUDRE CONCERNE LES EFFETS SECONDAIRES; LES DIFFERENTS CORSETS ET CEINTURES DE CONTENTION DORSOLOMBAIRE, EN GENERAL BIEN CONCUS, QUI ONT DES RESULTATS POSITIFS: LES COMPLICATIONS CUTANEEES, DIGESTIVES, RESPIRATOIRES ET DE COMPRESSION VASCULO-NERVEUSES.- LA SCOLIOSE EST ASSEZ FREQUENTE PARMIS LES ELEVES ET JEUNES ADOLESCENTS SCOLARISES. (= 1 A 3 percent).- LE SEMI CORSET ORTHESE RIGIDE EST UN CORSET DE CONTENTION DORSOLOMBAIRE FORME D'UN DOS, DE QUATRE BANDES OU SANGLES ETAGEES ET ESPACEES DE HAUT EN BAS, QUI ENTOURENT LE TRONC ET LE OU LES BRAS EN ADDUCTION ET D'UN MEMBRE ORTHESE RIGIDE THERMO FORMABLE, APRES MOULAGE ET DES MOYENS DE FERMETURE PLACES SUR LES EXTREMITES LIBRES DES SANGLES.

Machine translation: UNDER THE DESCRIPTION, WITH FigureS AND DRAWINGS (1.2.3.4.5.6.7 AND 8) THE FOLLOWING PARAGRAPH SUMMARY CHAPTERS OF THE PRESENTATION ON THE SEMI RIGID CORSET BRACE AND ITS ALTERNATIVES, AND APPLICATION TO ORTHOPEDIC TREATMENT OF IDIOPATHIC SCOLIOSIS EVOLUTIONARY CHILD (EIA). - THE FIELD RELATES TO GUARDS ORTHOPEDIC CONTENTION FOR THE TREATMENT OF RHEUMATISM AND TRAUMA OF THE BACK AND SPINE. - RESPECT TO SOLVE THE PROBLEM SIDE EFFECTS, THE DIFFERENT BELTS AND GUARDS thoracolumbar RESTRAINT IN GENERAL WELL-DESIGNED, WHICH HAVE POSITIVE RESULTS: COMPLICATIONS SKIN, DIGESTIVE, AND RESPIRATORY COMPRESSION neurovascular. - SCOLIOSIS IS QUITE FREQUENT AMONG STUDENTS AND YOUNG ADOLESCENTS SCHOOL. (= 1 A 3 percent). - THE SEMI CORSET CORSET BRACE IS A RIGID RESTRAINT AS A lumbar DOS, FOUR BANDS OR STRAPS SPACED AND STEPPED UP AND DOWN, AND SURROUNDING THE TRUNK OR IN ARMS SUPPLY AND A MEMBER BRACE RIGID THERMO FORMABLE AFTER MOLD AND MEANS OF PLACES CLOSE ON FREE ENDS OF THE STRAPS.

Probable Assignee: KHADIJA BELALLAM

Earliest Publication Date: 20120402



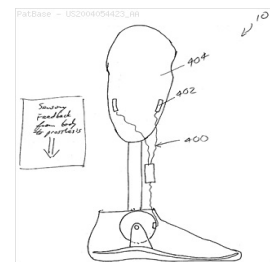
14) Family number: 29427662 (US2004054423A)

ELECTRONICALLY CONTROLLED PROSTHETIC SYSTEM

Abstract: Source: US2004054423A A prosthetic joint system for users comprising a housing having an interior cavity, a center axis in said interior cavity, and an attachment means for fixedly connecting said housing to said user; an inner cylinder disposed in said housing interior cavity wherein said inner cylinder rotates around said center axis of said housing; an appendage attached to said inner cylinder; a sensor system attached to said appendage; and a dampening system, having a power source, in communication with said sensor system, said inner cylinder, and said housing for controlling dampening of the rotation of said inner cylinder around said center axis of said housing.

Probable Assignee: LEVEL ONE BANK

Earliest Publication Date: 20031023



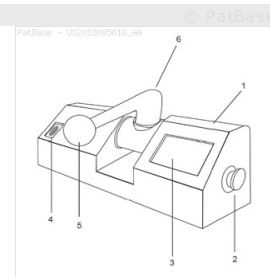
15) Family number: 69018460 (US2018085616A)

APPARATUS FOR MOTOR REHABILITATION OF UPPER AND LOWER LIMBS

Abstract: Source: US2018085616A An apparatus for the motor rehabilitation of the upper and lower limbs is disclosed, which is compact, portable, lightweight, and easy to transport. The apparatus has an adapter for the distal end of the patient's limb, a robotic arm, a gear system, two motors, and virtual and/or augmented reality software to interact with the patient. A management and control system makes possible the execution of movements and exercises in the three-dimensional space so that patients with neurological, musculoskeletal, muscular, rheumatic, motor and/or cognitive diseases or injuries and patients in post-surgical recovery may exercise and recover the movements of their upper and/or lower limbs. The equipment may also be used for the purpose of training and physical fitness.

Probable Assignee: TOMAS JOSHIO MAKIYAMA

Earliest Publication Date: 20180328



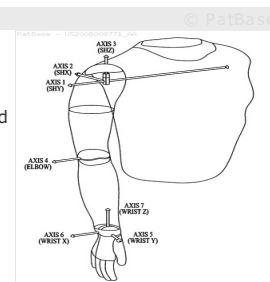
16) Family number: 41038378 (US2008009771A)

EXOSKELETON

Abstract: Source: US2008009771A This document discloses, among other things, a wearable structure having links and joints corresponding to those of a human upper body. Transducers are located on the wearable structure and are coupled to a processor. The transducers exchange energy and information between the user and the wearable structure and enable control of the movement of the structure.

Probable Assignee: OF WASHINGTON UNIV

Earliest Publication Date: 20080110



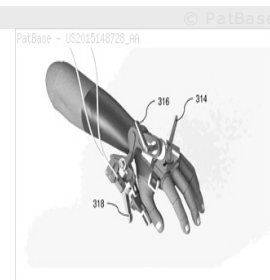
17) Family number: 53194901 (US2015148728A)

ISOLATED ORTHOSIS FOR THUMB ACTUATION

Abstract: Source: US2015148728A An orthosis system includes an orthotic device adapted to be worn on the hand of a subject that includes at least one brace component coupled to one or more fingers of the hand and including at least one joint permitting movement of one or more fingers. One or more actuators can be connected to each joint to cause movement of the joint. A control unit can be provided to control each of the actuators to control the movements of each joint separately. The control unit can be operated by the subject or a clinician to facilitate everyday tasks or for treatment or therapy.

Probable Assignee: HARVARD COLLEGE

Earliest Publication Date: 20130314



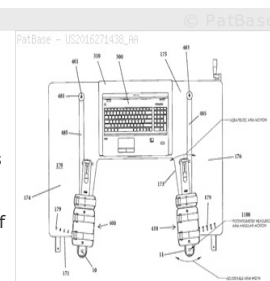
18) Family number: 63596815 (US2016271438A)

BIMANUAL ARM TRAINER

Abstract: Source: US2016271438A A bimanual arm trainer that provides therapeutic bimanual repetitive exercise to improve upper body movement and flexibility has a top support that is elevated relative to a ground surface. The trainer further includes: (a) first and second arm holders that are pivotable relative to the top support; and (b) first and second arm holder housings that are pivotably coupled to the top support and can be moved into a plurality of different positions and locked in place in one of the plurality of different positions relative to the top support. The first arm holder is pivotably coupled to the first arm holder and the second arm holder is pivotably coupled to the second arm holder. A reciprocating translation mechanism operatively connects the first and second arm holders such that the motion of one of the first and second arm holders is mirrored in the other of the first and second arm holders.

Probable Assignee: MIRRORED MOTION WORKS LLC

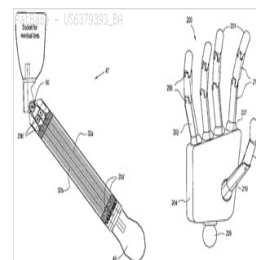
Earliest Publication Date: 20160922



19) Family number: 21714565 (US6379393B)

PROSTHETIC, ORTHOTIC, AND OTHER REHABILITATIVE ROBOTIC ASSISTIVE DEVICES ACTUATED BY SMART MATERIALS

Abstract: Source: US6379393B The present invention is directed to state-of-the-art medical devices using smart materials and related emerging technologies under development for robotics. In particular, the present invention is directed to the development of rehabilitative (i.e. prosthetic, orthotic, surgical) devices actuated by smart material artificial muscles to increase the dexterity and agility of an artificial limb or a dysfunctional body part, so that movement of the limb more accurately simulates movement of a human appendage. A kinetic assistive device is provided is provided which is constructed of a lightweight material (such as aluminum) and has a plurality of smart material actuators attached thereto. A system for detecting environmental stimulation of the device is provided in electrical communication with such actuators to effect movement of said device in response to detection signals produced thereby. The system includes a plurality of sensors, such as proximity detectors, accelerometers, tactile sensors and the like which are mounted on the assistive device and which provide data to computer-controlled command circuitry. This data can be encoded and used to control the movement of the assistive device via the actuators to more accurately predict the performance of the device in relation to that of an actual human limb.



Probable Assignee: RUTGERS STATE UNIV OF NEW JERSEY

Earliest Publication Date: 20000323

20) Family number: 42424777 (US2008279896A)

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TREATMENT OF MOVEMENT DISORDERS BY A COMBINED USE OF CHEMODENERVATING AGENT AND AUTOMATED MOVEMENT THERAPY

Abstract: Source: US2008279896A The present invention relates to a method of treating a movement disorder in a patient, the method comprising administering a medicament comprising an effective amount of chemodenerivating agent to the patient, wherein the patient is subjected to a muscle stimulation therapy, for example an movement therapy or an muscle activation therapy, and the medicament is administered prior to and/or during and/or after the movement therapy and a kit for the treatment of patients suffering from movement disorders comprising a medicament comprising an effective amount of a chemodenerivating agent, and a device for carrying out automated movement therapy.

Probable Assignee: MERZ PHARMA GMBH AND CO KGAA

Earliest Publication Date: 20081029

21) Family number: 31373022 (US2004243025A)

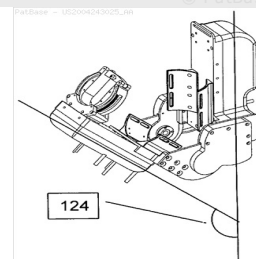
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ORTHODYNAMIC REHABILITATOR

Abstract: Source: US2004243025A The present invention is a portable orthotic system that performs predefined or user-controlled limb movements, collects data regarding limb movement, performs data analysis and displays representations of the data and data analysis results in real time, and modifies current operational parameters based upon such data so as to optimize the rehabilitative process performed by the system.

Probable Assignee: MUSCLE TECH LTD

Earliest Publication Date: 20041202



22) Family number: 54128123 (US2013158444A)

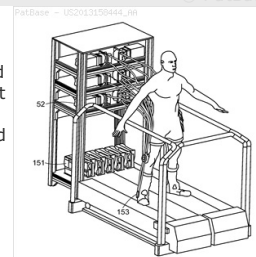
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ROBOTIC SYSTEM FOR SIMULATING A WEARABLE DEVICE AND METHOD OF USE

Abstract: Source: US2013158444A A robotic system for simulating a wearable device actuation delivery mechanism and the source removed from the actuation delivery mechanism that is linked to the actuation delivery mechanism by at least one cable. A sensing system detects a physiological feature of the subject and, based on feedback from the sensing system, a control system linked to both the sensing system and the actuation source modulates the actuation source, and thereby modulating actuation of the joint of a subject in response to the physiological feature sensed by the sensing system. A method for simulating a wearable robotic system employs the robotic system of the invention to thereby provide a model on which to base design of an ambulatory prosthetic for a subject.

Probable Assignee: MASSACHUSETTS INST OF TECHNOLOGY

Earliest Publication Date: 20130620

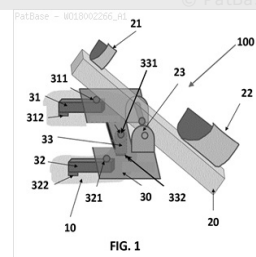


23) Family number: 68075791 (WO18002266A1)

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PORTABLE DEVICE FOR UPPER LIMB REHABILITATION

Abstract: The invention refers to a portable device (100) for upper limb (2, 3) rehabilitation which is movable over a surface, usually a flat horizontal surface, and which comprises means for detecting an intention to move from the user (1), thereby providing assistance/resistance to perform the right movement just when needed, especially when the goal movement is non-deterministic. Additionally, the portable device (100) of the invention comprises a support structure for the forearm of a user (which can be similar to an armrest) which is pivotable, preferably in a direction of the rotational joint of elbow (it pivots vertically around a horizontal axis), thereby allowing free ergonomic elbow and shoulder flexion/extension, but restricting shoulder rotation, which is determined by the orientation of the device in order to avoid injuries. The invention further refers to a method for rehabilitating an upper limb (2, 3) of a user (1), and to a rehabilitation system for an upper limb (2, 3) of a user (1), comprising such portable device (100).



Probable Assignee: FUNDACION TECNALIA RES AND INNOVATION

Earliest Publication Date: 20180103

24) Family number: 33341620 (US2006206043A)

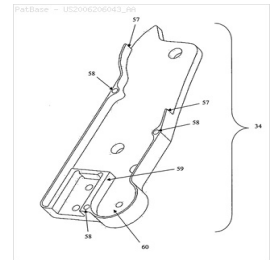
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ARTICULATING JOINT

Abstract: Source: US2006206043A The present invention pertains to an articulating joint that is disengageable between two modes of operation: unidirectional movement of the joint or bi-directional movement of the joint, with features that allow the mode to be automatically switched as required. When fully locked, the joint inhibits joint flexion while allowing joint extension. When actuated, a locking mechanism is disengaged to allow both uninhibited flexion and extension of the joint.

Probable Assignee: OF OTTAWA UNIV

Earliest Publication Date: 20060822



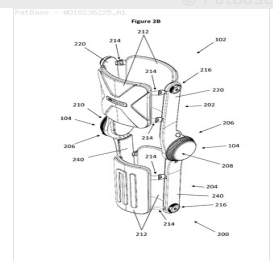
25) Family number: 72570179 (WO18236225A1)

ORTHOSIS OR EXOSKELETON SYSTEM WITH MODULAR ELEMENTS

Abstract: There is provided an orthosis or exoskeleton system (200) comprising: one or more body mounting modules (102), the or each body mounting module being structured and arranged to, in use, be mounted to one or more parts of a body of a patient, the body mounting modules having different sizes or configurations with respect to each other; and one or more function modules (104), the or each function module being structured and arranged to provide a different sensing, charging or control function; the body mounting modules and the function modules each having an interfacing structure such that any said body mounting module is interchangeably couplable to any said function module.

Probable Assignee: OPUM TECH LTD

Earliest Publication Date: 20181227



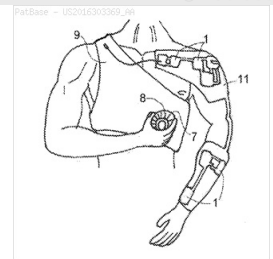
26) Family number: 59103686 (US2016303369A)

NEUROPROSTHETIC SYSTEM RESTORING UPPER LIMB FUNCTION THROUGH COORDINATED ELECTRICAL STIMULATION

Abstract: Source: US2016303369A Neuroprosthetic device for restoring daily-life action movements of upper limbs in patients suffering from motor impairments. The neuroprosthetic device comprises several non-invasive electrodes adapted to be fixed on a patient body, in a way as to stimulate at least two separate muscles which participate to the movement execution of the upper limb, an electrical stimulation device for injecting electrical current into said electrodes and a controller unit for regulating said currents through said electrodes. The neuroprosthetic device is characterized by the fact that the controller unit comprises transducing means which are adapted to convert an input current. The input current is regulated according to the intention to execute a movement, into a plurality of electrical currents defined in a way as to generate and modulate the movement execution, in order to generate complex goal-oriented movements for performing daily-living activities.

Probable Assignee: ECOLE POLYTECH

Earliest Publication Date: 20150430



"PROTOTIPO EMMRA-1"
PROTOTYPE HAND AND DOLL EXOSKELETON WITH APPLICATIONS OF REHABILITATION AND ASSISTANCE
"PROTOTYPE EMMRA-1" (MACHINE TRANSLATION)

Abstract: Source: CO15278320A [Source: Claim 1] 1. O Poderes si fuera el caso. 12. ? Documento que legalmente pruebe la cesion del inventor al solicitante o a su causante 13. Q Coda del contrato de acceso de recursos geneticos o productos denvados. o certificado o numero de registro, si fuera el caso 1». ? Copia de la licencia o autorizacion de conocimientos tradicionales, o Certificado o numero de registro, si fuera el caso 15. Reduccion de tasas Micro, pequenas o medinas empresas ? Copia simple de la declaracion de renta del ano inmediatamente ante nor. o en su defecto prueba documental idonea D Documento de constancia de cumplimiento con lo establecido en la ley 9C6 de 2004. Universidades publicas o privadas O Copia acto de reconocimiento institucional emitido por el Ministerio de Educacion Entidades sin animo de lucro ? Copia de registro vigente en Camara de comercio d Hoja de informacion complementaria ? Otros, especificar 16. d Comprobante de pago de la tasa de presentacion de la solicitud 17. O Comprobante de pago por reivindicado! de pnondad. 18. ? Comprobante de pago por reivindicacion adicional a 10. PKW-F01 Vr.9 (2015-08-05) EXOESQUELETO DE MANO Y MUÑECA CON APLICACIONES DE REHABILITACION Y ASISTENCIA (PROTOTIPO EMMRA-1) } X REGISTRO DE PATENTE INVENTORES: JUAN DAVID MORENO ARANGO JULIAN ALBERTO MORENO ARANGO Manizales, 17 de Noviembre de 2015 1. [Source: Claim 1] 1. Or Powers. 12. ? The assignment of the inventor to the solicitante document that legally try or cause 13. Q coda of the access contract of genetic resources or products. denvados or certificate or registration number, if the case 1". ? Copy of the certificate or license or authorization of traditional knowledge, or registration number, if the case 15. Reduction of fees or medinas Micro, small companies ? Copy of the declaration of income in the year immediately before nor. or, failing that exhibit suitable D Document of Compliance with the provisions of the law of constancy 9C6 of 2004. Public or private universities or Copy act of institutional recognition issued by the Ministry of Education not-for-profit organizations ? Copy of record in force in Chamber of Commerce d complementary information sheet ? Other, specify 16. d Proof of payment of the rate of submission of the Application 17. Or proof of payment by claimed! Of pnondad. 18. ? Proof of payment by additional 10 reivindicacion. PKW.9 Vr-F01 (2015-08-05) HAND AND WRIST EXOSKELETON WITH APPLICATIONS OF REHABILITATION AND ASSISTANCE (PROTOTYPE EMMRA-1) } X REGISTRATION OF PATENT INVENTORS: JUAN DAVID MORENO ARANGO JULIAN ALBERTO MORENO ARANGO Manizales, 17 November 2015 1.

Probable Assignee: JUAN DAVID MORENO ARANGO

Earliest Publication Date: 20170531

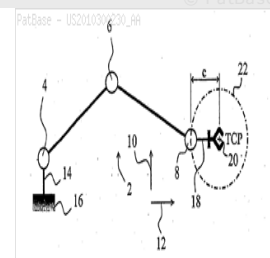
30) Family number: 43179939 (US2010300230A)

DEVICE FOR MOVEMENT BETWEEN AN INPUT MEMBER AND AN OUTPUT MEMBER

Abstract: Source: US2010300230A A device for the relative movement between an input member and an output member, the device comprising an input member (100); an output member (108); an intermediate member (104) coupling the input member (100) and the output member (108); a first kinematics bond (102) coupling the intermediate member (104) and the input member (100); the first kinematics bond (102) providing at least two rotational degrees of freedom; and a second kinematics bond (106) coupling the intermediate member (104) and the output member (108), the second kinematics bond (106) being adapted to transmit rotational motions between the intermediate member (104) and the output member (108) and to offset rotation axes of at least two rotational degrees of freedom of the output member (108).

Probable Assignee: FORCE DIMENSION

Earliest Publication Date: 20090423



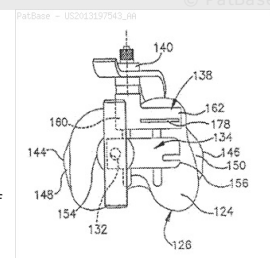
31) Family number: 54421744 (US2013197543A)

ROBOTIC ARTHROPLASTY SYSTEM INCLUDING NAVIGATION

Abstract: Source: US2013197543A A system for performing surgery on a femur and tibia of a knee joint. The system includes a robotic subsystem; a navigation subsystem in communication with the robotic subsystem; a control unit in communication with the robotic subsystem; and a display in communication with the control unit. The navigation subsystem provides the robotic subsystem with information relating to positions of the femur and tibia thereby enabling their separate tracking when the femur and tibia move during surgery. The navigation subsystem cooperates with the robotic subsystem to determine a position of the cutting tool relative to the femur and tibia to guide movement of the cutting tool to cut away material from the femur and tibia. The control unit receives information relating to the position of the cutting tool such that movement of the cutting tool relative to the femur and tibia during surgery is viewable on the display.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20130801



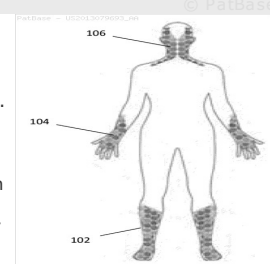
32) Family number: 53294109 (US2013079693A)

CUSTOMIZABLE EMBEDDED SENSORS

Abstract: Source: US2013079693A A method of constructing a sensor includes depositing a first material in a predetermined arrangement to form a structure. The depositing results in at least one void occurring within the structure. The method further includes depositing a second material within the voids. The second material may have electrical properties that vary according to deformation of the second material. The method also includes providing electrical access to the second material to enable observation of the one or more electrical properties. A sensor includes a structure that has one or more voids distributed within the structure. The sensor also includes a material deposited within the one or more voids. The material may be characterized by one or more electrical properties such as piezoresistivity. The sensor includes a first contact electrically coupled to a first location on the material, and a second contact electrically coupled to a second location on the material.

Probable Assignee: NORTHEASTERN UNIV

Earliest Publication Date: 20130328



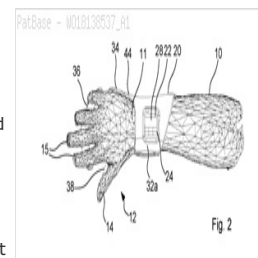
33) Family number: 70644373 (WO18138537A1)

ACTIVE HAND ORTHOSIS

Abstract: Active hand orthosis (20) for people with nerve-related paresis/paralysis of the hand, and for people with spastic paresis/paralysis of the hand, which comprises supporting elements (30) and moving elements (40) connecting the supporting elements (30), the moving elements (40) containing shape memory material, further comprising a control system (22), electric circuit elements (50) and a power source (60) for creating an activation signal inducing transformation of the shape memory material, and thereby deformation of the moving elements (40), characterised by that the moving elements (40) comprise: a wrist joint moving element (44), at least one finger moving element (46), and a thumb moving element (48), furthermore, in a state fitted to a lower arm (10) the supporting elements (30) comprise: a lower arm splint (32) supporting a lower side of the lower arm (10), and leaving a wrist joint (11) free, a palm support (34) connected to the lower arm splint (32) by the wrist joint moving element (44), palm support (34) being provided at the proximal end of the fingers (15) opposable to the thumb (14), at least one finger support (36) connected to the palm support (34) by the at least one finger moving element (46), at least one finger support (36) being provided at the middle bone of the fingers (15) opposable to the thumb (14), and a thumb support (38) connected to the lower arm splint (32) by the thumb moving element (48), the thumb support (38) extending from the proximal end of the thumb (14) on the palm (13) to the lower bone of the thumb (14).

Probable Assignee: GELANYI LASZLO

Earliest Publication Date: 20180730



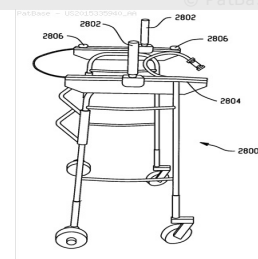
34) Family number: 60899908 (US2015335940A)

PATIENT AID DEVICES, PARTICULARLY FOR MOBILE UPPER EXTREMITY SUPPORT IN RAILED DEVICES SUCH AS PARALLEL BARS AND TREADMILLS

Abstract: Source: US2015335940A Patient aid devices and an associated method of supporting an upper extremity are described and include a mobile upper extremity support for the patient. A support assembly supports a first side of an upper body of the user for movement along a first rail. The support assembly also allows motion of a second side of an upper body relative to the first side.

Probable Assignee: NEUROMOBILITY LLC

Earliest Publication Date: 20151126



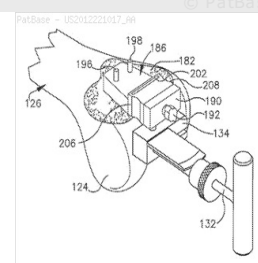
35) Family number: 51812186 (US2012221017A)

METHODS FOR ROBOTIC ARTHROPLASTY

Abstract: Source: US2012221017A A computer navigation system may be used with the robot to guide movement of a cutting tool. A robot may perform cutting and/or implant placement operations on a portion of a patient. A robot may have computer controls that could be utilized to form the cuts without using guide members.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20120830



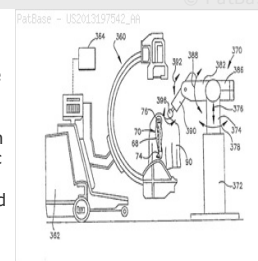
36) Family number: 54421743 (US2013197542A)

METHOD OF PREPARING A FEMUR AND TIBIA IN KNEE ARTHROPLASTY

Abstract: Source: US2013197542A A cutting tool of a robotic system cuts away material from the femur without the use of physical resection guides while a navigation system tracks movement of the femur, with the navigation system cooperating with the robotic system to provide information associated with the position of the femur to the robotic system. The cutting tool of the robotic system also cuts away material from the tibia without the use of physical resection guides while the navigation system tracks movement of the tibia, with the navigation system cooperating with the robotic system to provide information associated with the position of the tibia to the robotic system. The navigation system enables separate tracking of the femur and tibia so that their respective positions can be determined when the femur and tibia move during surgery, with movement of the cutting tool relative to the femur and tibia represented on a display.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20130801



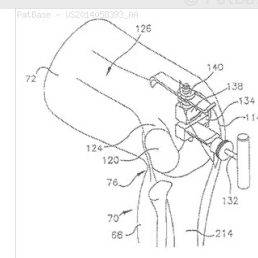
37) Family number: 55885106 (US2014058393A)

ROBOTIC ARTHROPLASTY SYSTEM INCLUDING NAVIGATION

Abstract: Source: US2014058393A A system for performing surgery on a joint. The system includes a robotic subsystem and a navigation subsystem. The navigation subsystem provides the robotic subsystem, during the surgery, with information relating to positions of the bones associated with the joint thereby enabling separate tracking of the bones when the bones move during the surgery. The robotic subsystem includes a base, a plurality of arms, and a cutting tool. The navigation subsystem may include a plurality of locating devices.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20140227



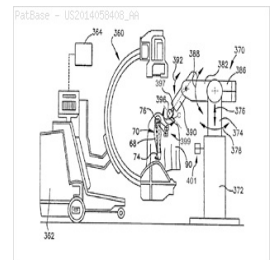
38) Family number: 55885114 (US2014058408A)

METHOD FOR ROBOTIC ARTHROPLASTY USING NAVIGATION

Abstract: Source: US2014058408A A method for robotic surgery on a joint using a robotic system and a navigation system. The robotic system includes a base, a plurality of arms, and a cutting tool. The navigation system tracks movement of bones associated with the joint during the surgery. Information related to tracked positions of the bones is communicated from the navigation system to the robotic system. The navigation system may include a plurality of locating devices.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

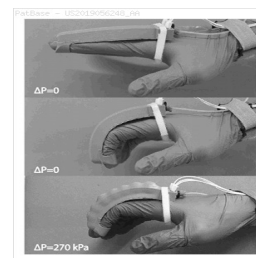
Earliest Publication Date: 20140227



Abstract: Source: US2019056248A Waveguides, such as light guides, made entirely of elastomeric material or with indents on an outer surface are disclosed. These improved waveguides can be used in sensors, soft robotics, or displays. For example, the waveguides can be used in a strain sensor, a curvature sensor, or a force sensor. In an instance, the waveguide can be used in a hand prosthetic. Sensors that use the disclosed waveguides and methods of manufacturing waveguides also are disclosed.

Probable Assignee: UNIV CORNELL

Earliest Publication Date: 20170831



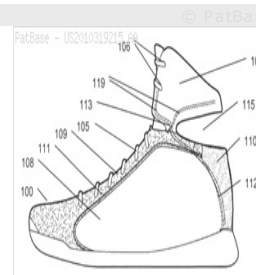
44) Family number: 47899575 (US2010319215A)

HUMAN LOCOMOTION ASSISTING SHOE

Abstract: Source: US2010319215A Embodiments of footwear, in particular, a shoe, sandal or boot, may reduce the effort and improve the performance of walking, running, hiking, marching, and various other gaits as well as jumping, hopping, and other motion involving the ankle and lower leg and Achilles tendon, through integration of force-carrying mechanisms within footwear that manage the forces and energy associated with such motion by productively harvesting and storing energy during dorsiflexion motion and releasing and returning energy during plantar flexion. One structural element of such footwear may comprise a top collar yoke having anterior and posterior gussets forming a channel and a shoe comprising a rotation zone supporting the channel and an elastomeric zone forming a tension spring via an elastomeric overlay or otherwise providing a spring-like member approximately parallel to and to assist the Achilles tendon during locomotion.

Probable Assignee: MARK COSTIN ROSER

Earliest Publication Date: 20101223



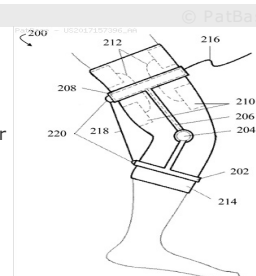
45) Family number: 61255014 (US2017157396A)

FUNCTIONAL ELECTRICAL STIMULATION CYCLING DEVICE FOR PEOPLE WITH IMPAIRED MOBILITY

Abstract: Source: US2017157396A Functional electrical stimulation (FES) cycling devices and associated methods are generally described. An FES cycling device may comprise a crank, two or more pedals connected to the crank, one or more sensors adapted to measure position and/or velocity of the crank, and one or more electrodes configured to deliver electrical stimulation to a person associated with the cycling device. In some cases, the FES cycling device further comprises a controller configured to receive input signals from the one or more sensors and deliver output signals to the one or more electrodes. In certain cases, the controller may dynamically generate a control signal to deliver an amount of electrical stimulation to a muscle group (e.g., quadriceps femoris, gluteal muscles, hamstring muscles) based on the value of a determined torque transfer ratio between a joint of the person and the crank of the cycling device. The electrical stimulation may, in some cases, cause the person to pedal the cycling device.

Probable Assignee: UNIV FLORIDA

Earliest Publication Date: 20151230



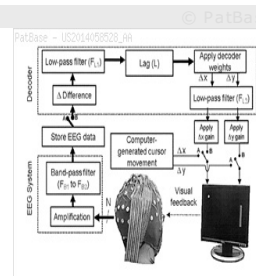
46) Family number: 49918116 (US2014058528A)

TIME DOMAIN-BASED METHODS FOR NONINVASIVE BRAIN-MACHINE INTERFACES

Abstract: Source: US2014058528A A noninvasive brain computer interface (BCI) system includes an electroencephalography (EEG) electrode array configured to acquire EEG signals generated by a subject. The subject observes movement of a stimulus. A computer is coupled to the EEG electrode array and configured to collect and process the acquired EEG signals. A decoding algorithm is used that analyzes low-frequency (delta band) brain waves in the time domain to continuously decode neural activity associated with the observed movement.

Probable Assignee: OF MARYLAND COLLEGE PARK UNIV

Earliest Publication Date: 20111110



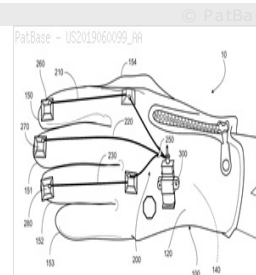
47) Family number: 65425582 (US2019060099A)

WEARABLE AND FUNCTIONAL HAND ORTHOTIC

Abstract: Source: US2019060099A A motor-driven wearable hand orthotic.

Probable Assignee: UNIV COLUMBIA

Earliest Publication Date: 20170413



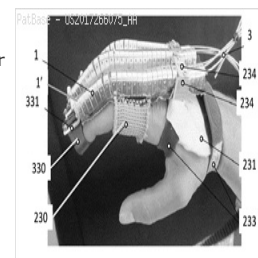
48) Family number: 62569440 (US2017266075A)

AID DEVICE FOR THE MOVEMENT AND/OR REHABILITATION OF ONE OR MORE FINGERS OF A HAND

Abstract: Source: US2017266075A An aid device for the movement and rehabilitation hand fingers includes a exoskeleton, an articulated glove or a wearable mechanism configured to be positioned on the back of at least one finger and to be mechanically constrained to the finger, and a motorized system exerting a movement or a change in the configuration of the exoskeleton. The exoskeleton includes a rigid elements arranged on a row one behind the other along a longitudinal axis parallel to the longitudinal extension of the finger and articulated with each other to make a modular underactuated structure and obtain maximum shape and kinematic adaptability to the fingers, particularly to follow the extension and flexing movement of the fingers. The motorized system includes pulling and/or pushing elements that act on one or more of the elements of the exoskeleton to produce finger movements and particularly the extension and flexing movements of the fingers.

Probable Assignee: TELEROBOT LABS S R L

Earliest Publication Date: 20160609



49) Family number: 64428369 (US2018168477A)

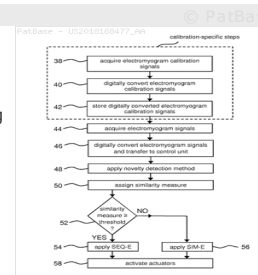
POWERED, MULTI-FUNCTIONAL LIMB MOVEMENT AUXILIARY DEVICE, PARTICULARLY PROSTHESIS AND MOVEMENT-ASSISTING ORTHOSIS, WITH COMBINED ESTIMATION REGIMES

Abstract: Source: US2018168477A A method of operating a multi-functional limb movement auxiliary device comprising a plurality of actuators configured to move, upon activation, limb movement auxiliary device members in at least two independent degrees of freedom, a bio-signal sensing unit that is configured to acquire bio-signals indicative of motor activity, a control unit configured to receive and evaluate the acquired bio-signals, the method comprising steps of

- acquiring bio-signals from the user of the limb movement auxiliary device,
- applying a novelty detection method (ND) for comparing digitally converted, acquired bio-signals with calibration bio-signals, and, based on a result of the comparison, for assigning a similarity measure to the acquired, digitally converted bio-signals,
- applying at least one sequential estimator (SEQ-E) to the acquired, digitally converted bio-signals, if the assigned similarity measure is equal to or larger than a pre-determined threshold value,
- applying at least one simultaneous estimator (SIM-E) to the acquired, digitally converted bio-signals, if the assigned similarity measure is less than the pre-determined threshold value, and
- activating at least one actuator out of the plurality of actuators, based on a result of applying one of the estimators (SIM-E, SEQ-E) to the acquired, digitally converted bio-signals; and a multi-functional limb movement auxiliary device including a control unit configured for carrying out such method.

Probable Assignee: GEORG AUGUST UNIV GOETTINGEN STIFTUNG OEFFENTLICHEN RECHTS

Earliest Publication Date: 20161221



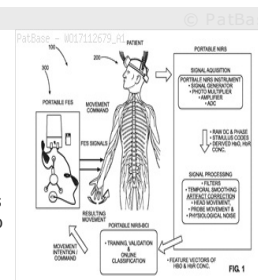
50) Family number: 66216983 (WO17112679A1)

MULTIMODAL CLOSED-LOOP BRAIN-COMPUTER INTERFACE AND PERIPHERAL STIMULATION FOR NEURO-REHABILITATION

Abstract: Brain impairment, for example due to stroke, is corrected in order to improve body movement. An fNIRS device is positioned over the motor cortex of non-impaired individuals, and blood oxygen in locations of the brain is analyzed to determine brain activity corresponding to a particular body movement. The movements are statistically analyzed, and are compared with fNIRS data gathered from a movement impaired individual attempting the same movement. A weighted value corresponding to the desired brain activity is generated using the statistical analysis, and is graphically displayed to the movement impaired individual during the attempts. This produces a feedback loop relating to the movement which can be repeated to produce brain plasticity in the impaired individual to facilitate the movement. Additionally, correct brain activity can be used to cause the application of an electrical signal to muscles of the body to produce the desired movement.

Probable Assignee: UNITED STATES OF AMERICA

Earliest Publication Date: 20170629



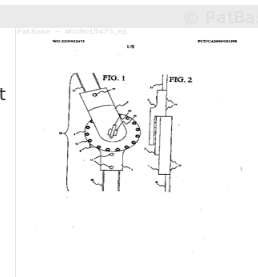
51) Family number: 42910036 (WO09015473A1)

HYDRAULIC ARTICULATING JOINT

Abstract: The present invention pertains to an articulating joint that delivers a combination of function and structure that permits natural gait in an orthosis and creates unidirectional damping or resistance when exceeding a predetermined angular velocity. The articulating joint of the present invention is autonomous, requiring no external control system to actuate unidirectional resistance to motion. The joint allows free bidirectional motion and impedes joint flexion only when the joint flexes beyond a set angular velocity.

Probable Assignee: UNIV OP OTTAWA

Earliest Publication Date: 20090205



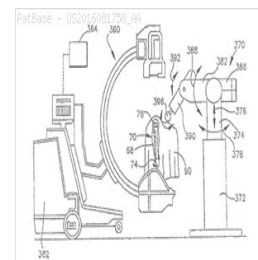
52) Family number: 61906073 (US2016081758A)

METHOD FOR PLACING IMPLANT USING ROBOTIC SYSTEM

Abstract: Source: US2016081758A A method for placing an implant on a patient in a robotic surgical procedure using a robotic system. During the robotic surgical procedure, a navigation system tracks the patient. The navigation system also provides information to the robotic system to guide movement of a cutting tool to remove material from the patient such that a cut surface is created to receive the implant. The implant is then robotically placed on the cut surface.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20160324



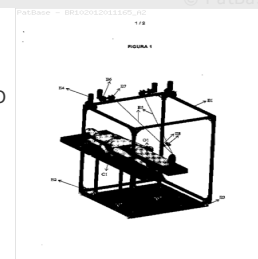
53) Family number: 56263485 (BR102012011165A)

ESTRUTURA ROBOTICA APLICADA PARA REABILITACAO DO MEMBRO INFERIOR ROBOTICA STRUCTURE APPLIED FOR REHABILITATION OF LOWER LIMB (MACHINE TRANSLATION)

Abstract: Source: BR102012011165A 1 RESUMO "ESTRUTURA ROBOTICA APLICADA PARA REABILITACAO DO MEMBRO INFERIOR" Atuada por cabos aplicada a reabilitacao do membro inferior do corpo 5 humano, a fim de auxiliar nas sessoes de recuperacao de pacientes, capaz de realizar todos os movimentos do membro inferior, isoladamente ou de forma combinada, atuando nas articulacoes do quadril, joelho e tornozelo. Formada por barras, motores responsaveis por exercer a tracao dos cabos fixados em uma ortese colocada no paciente. Acoplado a cada motor ha um encoder, uma 10 polia com cabo e uma celula de carga. Para o sistema de controle da estrutura, tem-se placas de controle e um computador para servir de interface grafica para o profissional que utilizar o equipamento. Para acomodacao do paciente, faz-se uso de uma cadeira com encosto reclinavel tanto para as costas do paciente como para seu membro inferior. O controle da estrutura 15 para a sessao de reabilitacao e feito sobre a tecnica de "learning by demonstration", que significa aprendizagem por demonstracao. Tal controle tambem pode ser empregado em atletas que queiram aperfeicoar o movimento para uma determinada atividade. Para ganho de forca, pode-se utilizar um sistema que exerca reacao contraria ao sentido de movimentacao desejado 20 pelo paciente, estimulando assim o membro. 1 SUMMARY "ROBOTICA APPLIED STRUCTURE FOR LOWER LIMB rehabilitation" Acted for cables applied to rehabilitation of the lower limb of the fifth human body in order to assist in sessions of recovery of patients, able to perform all lower limb movements, alone or in combination, acting in the hip articulations, knee and ankle. Formed by bars, responsible for exercising the traction motor cable fixed in a orthosis placed on the patient. Coupled to each engine there is an encoder, a pulley 10 with cable and a load cell. For the structure of the control system has control boards and a computer to provide a graphical interface for the professional who use the equipment. For the patient accomodation, makes use of a chair with reclining back both to the patient's back as to his leg. The control structure 15 for the session of rehabilitation and done on the technique of "learning by demonstration" which means learning by demonstration. Such control can also be used in athletes who want to improve the movement for a particular activity. To gain strength, you can use a system that carries reaction contrary to the desired direction of movement 20 by the patient, thus stimulating the member.

Probable Assignee: FAPEMIG FUNDACAO DE AMPARO A PESQUISA DO ESTADO DE MINAS GERAIS

Earliest Publication Date: 20140415



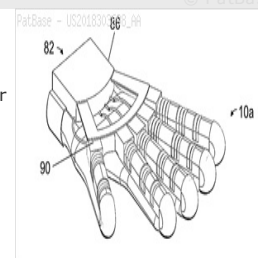
54) Family number: 71613384 (US2018303698A)

FLUID-DRIVEN ACTUATORS AND RELATED METHODS

Abstract: Source: US2018303698A This disclosure includes manipulating apparatuses and related methods. Some manipulating apparatuses include an actuator having a semi-rigid first segment, a semi-rigid second segment, and one or more flexible cells disposed between the first segment and the second segment, where the actuator is configured to be coupled to a fluid source such that the fluid source can communicate fluid to vary internal pressures of the one or more cells, and where each cell is configured such that adjustments of an internal pressure of the cell causes angular displacement of the second segment relative to the first segment.

Probable Assignee: UNIV TEXAS

Earliest Publication Date: 20181025



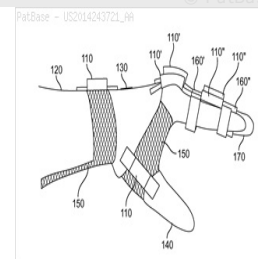
55) Family number: 57263722 (US2014243721A)

MYOELECTRIC HAND ORTHOSIS

Abstract: Source: US2014243721A The present invention relates to an orthotic glove intended to be worn by a human hand and be used for assisting or controlling movement of one or more fingers of the hand, the thumb, and/or the wrist in response to an input signal and methods related thereto. The finger is animated by the shape recovery of a shape memory alloy wire. The invention further relates to a microprocessor-controlled, electromechanical hand orthosis to provide functional use of a hand.

Probable Assignee: BRYANT MARVIN FRANK

Earliest Publication Date: 20140828



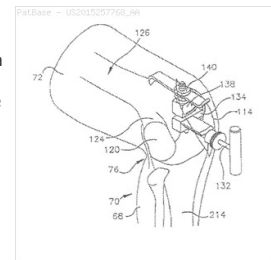
56) Family number: 60348900 (US2015257768A)

METHOD FOR PERFORMING SURGICAL PROCEDURES USING OPTICAL CUTTING GUIDES

Abstract: Source: US2015257768A A method for performing a surgical procedure on a patient using a robotic system and a navigation system. The robotic system includes a cutting tool. The navigation system has at least one locating device to track a portion of the patient during the surgical procedure. The navigation system provides information as to a position of the portion of the patient. An optical cutting guide is projected onto the portion of the patient to enable cutting of the portion of the patient with the cutting tool of the robotic system while the optical cutting guide is projected onto the portion of the patient.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20150917



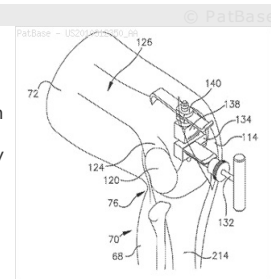
57) Family number: 47807411 (US2010312350A)

SEGMENTAL KNEE ARTHROPLASTY

Abstract: Source: US2010312350A A method for unicompartmental knee replacement. Replacement of a medial or lateral compartment may be through a limited incision and patellofemoral replacement may be through the same incision or another incision. An embodiment may include a trochlear implant and medial implant. Implants may be dimensioned and configured so that bone is located between the implants. Implants may be modular, being assembled inside the body or outside the body prior to implantation.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20101209



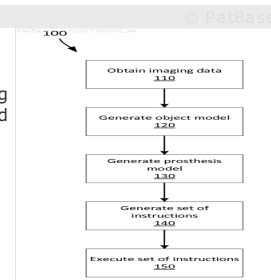
58) Family number: 62570864 (US2017360578A)

SYSTEM AND METHOD FOR PRODUCING CLINICAL MODELS AND PROSTHESES

Abstract: Source: US2017360578A An example method for producing a prosthetic device for a patient includes obtaining imaging data corresponding to a body part of a patient, generating an object model corresponding to the body part based on the imaging data, generating a prosthesis model based on the object model, generating a set of instructions based on the prosthesis model, and executing the set of instructions using a three-dimensional printer, where the set of instructions, when executed by the three-dimensional printer, cause the three-dimensional printer to produce the prosthetic device for the patient.

Probable Assignee: SHIN JAMES

Earliest Publication Date: 20160609



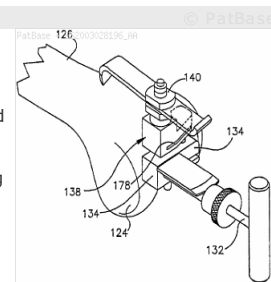
59) Family number: 33466645 (US2003028196A)

METHOD OF PERFORMING SURGERY

Abstract: Source: US2003028196A An improved method of performing surgery on a joint in a patient's body, such as a knee, includes making an incision in a knee portion of one leg while a lower portion of the one leg is extending downward from an upper portion of the one leg and while a foot connected with the lower portion of the one leg is below a support surface on which the patient is disposed. The incision is relatively short, for example, between seven and thirteen centimeters. A patella may be offset from its normal position with an inner side of the patella facing inward during cutting of a bone with a cutting tool. During cutting of the bone, one or more guide members having opposite ends which are spaced apart by a distance less than the width of an implant may be utilized to guide movement of a cutting tool.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20030206



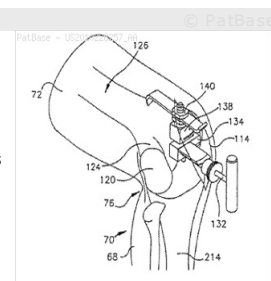
60) Family number: 46804288 (US2010228257A)

JOINT REPLACEMENT COMPONENT

Abstract: Source: US2010228257A Imaging of a left or right joint is performed preoperatively, and an alignment guide and a custom cutting guide are formed based on the imaging. The alignment guide includes cannulations into which pins are placed. The cutting guide is then aligned using the pins, and bone of the joint is cut, using the guide, in preparation for an implant operative to replace a portion of the joint. The cutting guide is provided with one or more slots or surfaces to aid in aligning a cutting instrument. The alignment guide or cutting guide may be modified to correct for an existing joint problem, for example an incorrect alignment of the joint. The alignment guide or cutting guide may be formed with polymeric material.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20100909



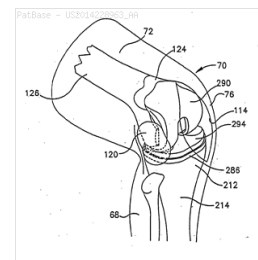
61) Family number: 57180955 (US2014228963A)

METHOD OF PERFORMING TOTAL KNEE ARTHROPLASTY

Abstract: Source: US2014228963A An improved method of performing total knee arthroplasty. The method including making an incision having a length of less than eleven (11) centimeters proximate a knee joint of a leg of a patient. Performing all of the following through the incision: moving a femoral cutting guide through the incision; positioning the femoral cutting guide against a femur of the leg; cutting a medial condyle, a lateral condyle, and a trochlear groove of the femur of the leg to create at least one femoral cut surface; moving a unitary femoral component of a knee implant through the incision to replace articulating surfaces of the medial and lateral condyles and the trochlear groove; and positioning the unitary femoral component with respect to the at least one femoral cut surface.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20140814



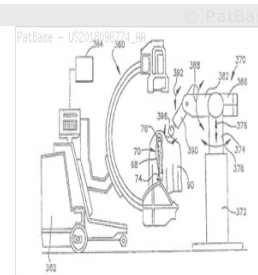
62) Family number: 69192088 (US2018098774A)

SYSTEMS AND METHODS FOR LIGAMENT BALANCING IN ROBOTIC SURGERY

Abstract: Source: US2018098774A Systems and methods for ligament balancing during robotic surgery. One or more transducers are positioned within a knee joint to detect forces indicative of tension in ligaments and to provide output based on the detected forces. A distraction device is used to provide a distraction force to cause movement of a distal end portion of a femur relative to a proximal end portion of a tibia to increase tension in the ligaments. Information associated with output from the transducers is displayed for viewing.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20180412



63) Family number: 70449768 (IN201841025468A)

AN EXOARM FRAME STRUCTURE UTILIZING ELECTRICAL ACTUATORS FOR ARM REHABILITATION AND EFFORTLESS LOAD

Abstract: Source: IN201841025468A The various aspects of the invention generally comprises an arm and fore arm assistance device and system as well as a method for operating the arm rehabilitation device. One exemplary embodiment relates to a device for assisting a user to articulate the arm and forearm, the device having an upper section, a lower section, and at least one flexible movable joint between the upper and lower section. In this embodiment, the device comprises an exoskeleton with a top rectangular hollow frame in one plane adapted to be coupled to the bottom hexagonal hollow frame in a second plane for encompassing around the arm and fore arm section of the device user's shoulder such that the lower hexagonal frame provides a 120 degree of movement to the fore arm in a single axis on a one degree of freedom enabling the lifting of the pre-determined load. The entire weight of the said device is transferred to the shoulder of the user through the backpack holding the said arrangement. The further exemplary embodiment relates to the device comprising the shafts and pulley operating in the block and tackle mechanism connected through the plurality of cables. The brushless out runner motor provides a high speed energy controlled by the speed controller which is transmitted to the said cable through the gear box for the movement of the frame structure. The said device further comprises microcontroller for controlling the operation of the said motor, processing the input from the user, enabling the display of the device working information and for arresting the operation of the device at emergency, a high powered LiPo battery source discharging at the rate of 2200 mAh for the efficient operation of the load up liftment and plurality of sensors.

Probable Assignee: K PALANIKUMAR

Earliest Publication Date: 20180713

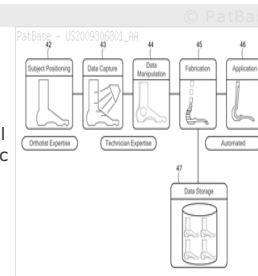
64) Family number: 41861491 (US2009306801A)

PATIENT SPECIFIC ANKLE-FOOT ORTHOTIC DEVICE

Abstract: Source: US2009306801A The unique advantages of computer-controlled fabrication of a patient-specific orthotic device using an automated fabrication machine capable of following computer instructions to create 3D surface contours and new developments in non-invasive three-dimensional (3D) scanning have made it possible to acquire digital models of freeform surfaces such as the surface anatomy of the human body and to then fabricate such a patient-specific device with high precision. Such a patient-specific device brings significant improvement in patient-specific fit, comfort, and function of medical devices (and, in particular, to orthoses that require a close fit to the wearer's body to act effectively). The combination of these two technologies is ideally suited for the development of patient-specific orthotic devices. A patient specific ankle-foot orthotic device using this technology is disclosed. This exemplary device is used to help stabilize the ankle-foot region, for example, in patients with impaired gait.

Probable Assignee: NORTHEASTERN UNIV

Earliest Publication Date: 20080605



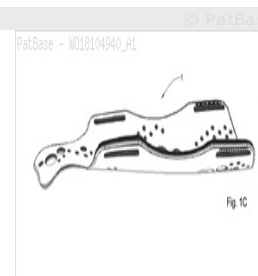
65) Family number: 64829912 (WO18104940A1)

THERMOPLASTIC ORTHOPEDIC DEVICES

Abstract: A formable orthopedic device having at least one first configuration and at least one second configuration, the second configuration being adapted to provide support to at least one limb, the device being made of a thermoplastic polymeric material selected to have an elastic modulus of at least about 1500 MPa when measured according to ASTM D638, a glass transition temperature (Tg) of between about 65 degrees centigrade and about 120 degrees centigrade, and elongation to break of at least 75 percent when measured according to ASTM D638, the device being capable of being formed into the second configuration by heating the device to said Tg.

Probable Assignee: CASSIT ORTHOPEDICS LTD

Earliest Publication Date: 20180614



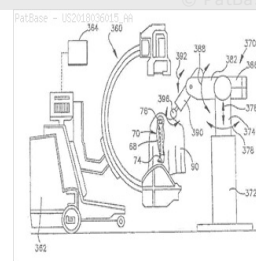
66) Family number: 68496869 (US2018036015A)

METHODS FOR ROBOTIC SURGERY USING A CANNULA

Abstract: Source: US2018036015A Methods for preparing a bone in surgery using an imaging system, a navigation system having a locating device, and a robotic system having a cutting tool. A cannula is guided into an incision to expand the incision and provide access to the bone so that the cutting tool is insertable through the cannula to remove material from the bone. An implant is insertable through the cannula to be placed in the bone.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20180208



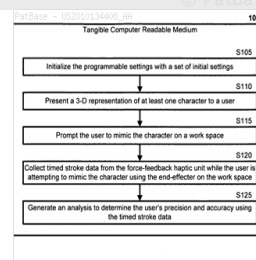
67) Family number: 45102602 (US2010134408A)

FINE-MOTOR EXECUTION USING REPETITIVE FORCE-FEEDBACK

Abstract: Source: US2010134408A An individual's fine-motor skills can be assessed using a force-feedback haptic unit that includes an end-effector and programmable settings. To assess these skills, a tangible computer readable medium initializes the programmable settings with a set of initial settings. It then presents a 3-D representation of a character or characters to a user. The user in turn is prompted to mimic the character(s) on a work space. While the user is attempting to mimic the character(s) using the end-effector on the work space, timed stroke data are collected from the force-feedback haptic unit. Using the timed stroke data, an analysis is then generated to determine the user's precision and accuracy of mimicking the character.

Probable Assignee: DURIC ZORAN

Earliest Publication Date: 20100603



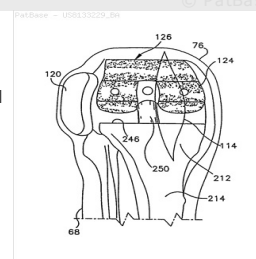
68) Family number: 50770395 (US8133229B)

KNEE ARTHROPLASTY METHOD

Abstract: Source: US8133229B An improved method of performing surgery on a joint in a patient's body, such as a knee, includes making an incision in a knee portion of one leg while a lower portion of the one leg is extending downward from an upper portion of the one leg and while a foot connected with the lower portion of the one leg is below a support surface on which the patient is disposed. The incision is relatively short, for example, between seven and thirteen centimeters. A patella may be offset from its normal position with an inner side of the patella facing inward during cutting of a bone with a cutting tool. During cutting of the bone, one or more guide members having opposite ends which are spaced apart by a distance less than the width of an implant may be utilized to guide movement of a cutting tool.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20120313



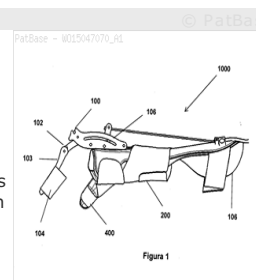
69) Family number: 58870087 (WO15047070A1)

ORTHOTIC DEVICE FOR ASSISTING WITH BENDING AND EXTENDING MOVEMENTS OF THE FINGERS OF A HAND, FOR PATIENTS SUFFERING FROM PARALYSIS OF THE BRACHIAL PLEXUS

Abstract: The invention relates to an orthotic device for assisting with bending and extending movements of the fingers of a hand, for patients suffering from paralysis of the brachial plexus, said device comprising an opening and closing mechanism used to convert a linear movement (input) into the actual movement of a bent finger (output); a forearm support which, as its name suggests, is used to support the forearm of a user suffering from brachial paralysis, as well as supporting the opening and closing mechanism; a sub-assembly for transmitting the bending/extending movement, which is interconnected with the opening and closing mechanism via a first cable, and with a vest fitted to the chest of the user, via the outlet of a second cable; and a support for the thumb of the hand, which is secured to the forearm support, and said support is used to keep said thumb immobilised.

Probable Assignee: UNIV NAC AUTONOMA DE MEXICO

Earliest Publication Date: 20150324



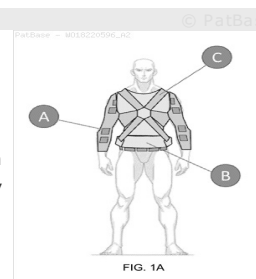
70) Family number: 72259605 (WO18220596A2)

A SOFT PORTABLE WEARABLE PNEUMATIC INTERACTIVE SUIT

Abstract: A fully wearable system used for communication and information transfer between two users or between a user and a machine to render an effective and intuitive physical interface for combined input and output functions, the fully wearable system including a bidirectional wearable skin including distributed actuator and sensing elements, the actuator and sensing elements including a multimodal actuation layer and a sensing layer, the bidirectional wearable skin being flexible and stretchable, and a portable control device for controlling the distributed actuator and sensing elements, and reading signals from the sensing layer, the portable control device is configured to perform pixilated actuation for both micro- and macrostimulation of a body of a wearer by an actuation frequency and stimulation amplitude.

Probable Assignee: ECOLE POLYTECHNIQUE FED DE LAUSANNE EPFL

Earliest Publication Date: 20181206



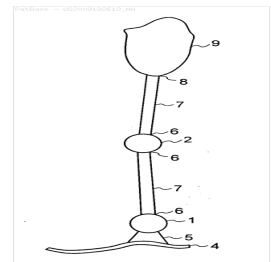
71) Family number: 43296501 (US2009192619A)

PASSIVE ELECTRO-MAGNETICALLY DAMPED JOINT

Abstract: Source: US2009192619A The present invention comprises an apparatus, system and method utilizing a passive electro-magnetically damped joint for prosthetics or orthotics. Such as system may be controlled through changing the resistive nature of the circuit in which a braking or damping mechanism can sufficiently replicate and augment biomechanical movement. This may be accomplished through electronic circuitry means only, or through the use of intelligent control through a microprocessor and dynamic ambulation replication algorithms.

Probable Assignee: ORTHOCARE INNOVATIONS LLC

Earliest Publication Date: 20090528



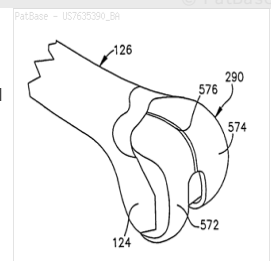
72) Family number: 44127832 (US7635390B)

JOINT REPLACEMENT COMPONENT HAVING A MODULAR ARTICULATING SURFACE

Abstract: Source: US7635390B An improved method of performing surgery on a joint in a patient's body, such as a knee, includes making an incision in a knee portion of one leg while a lower portion of the one leg is extending downward from an upper portion of the one leg and while a foot connected with the lower portion of the one leg is below a support surface on which the patient is disposed. The incision is relatively short, for example, between seven and thirteen centimeters. A patella may be offset from its normal position with an inner side of the patella facing inward during cutting of a bone with a cutting tool. During cutting of the bone, one or more guide members having opposite ends which are spaced apart by a distance less than the width of an implant may be utilized to guide movement of a cutting tool.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20091222



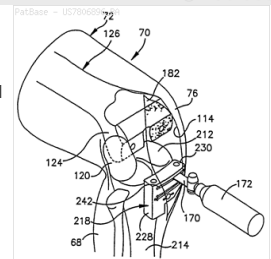
73) Family number: 46995196 (US7806896B)

KNEE ARTHROPLASTY METHOD

Abstract: Source: US7806896B An improved method of performing surgery on a joint in a patient's body, such as a knee, includes making an incision in a knee portion of one leg while a lower portion of the one leg is extending downward from an upper portion of the one leg and while a foot connected with the lower portion of the one leg is below a support surface on which the patient is disposed. The incision is relatively short, for example, between seven and thirteen centimeters. A patella may be offset from its normal position with an inner side of the patella facing inward during cutting of a bone with a cutting tool. During cutting of the bone, one or more guide members having opposite ends which are spaced apart by a distance less than the width of an implant may be utilized to guide movement of a cutting tool.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20101005



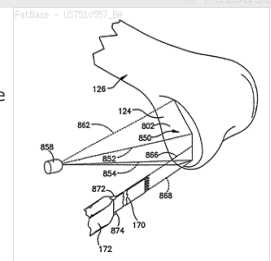
74) Family number: 43072907 (US7510557B)

CUTTING GUIDE

Abstract: Source: US7510557B The present invention provides a system and method of performing surgery on a patient's joint. The method includes making an incision proximal to the joint. The incision exposes at least a portion of the joint. A cutting guide is provided which projects a cutting guide image on to a first bone of the joint. A cutting tool is aligned with the cutting guide image. The first bone is cut by moving the cutting tool in relation to the cutting guide image.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20090331



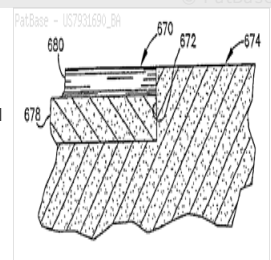
75) Family number: 48769048 (US7931690B)

METHOD OF RESURFACING AN ARTICULAR SURFACE OF A BONE

Abstract: Source: US7931690B A method is provided for performing a total knee arthroplasty. The method includes making a primary incision near a knee joint of a patient and resecting medial and lateral condyles of the femur of the leg to create at least one femoral cut surface. The resecting step is performed without dislocating the knee joint. The method also includes balancing various ligament tensions to obtain desired tension and moving a femoral component of a total knee implant through the primary incision. The method further includes positioning the femoral component with respect to the at least one femoral cut surface.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20110426



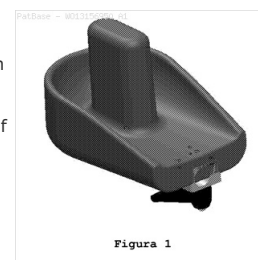
76) Family number: 55001890 (WO13156950A1)

POSTURAL CORRECTION DEVICE

Abstract: The present invention describes a bilateral postural correction device with up to five degrees of freedom, which can be mounted by means of an universal support for correcting the position of the upper limbs of hemiplegic patients, reducing spasticity and preventing shoulder pain. The present invention is thus useful for patients suffering from upper limb hemiparesis (victims of CVA, cranio-encephalic trauma, spinal cord lesions, multiple sclerosis, Parkinson's disease, inter alia), who tend to develop typical postures resulting from the disease - internal shoulder rotation, wrist pronation, clenched fist and elbow flexion. Moreover, since these patients have no muscular control or efficient support of the limb under gravity, the limb becomes pendent, causing subluxation of the shoulder joint, with typical shoulder pain.

Probable Assignee: CALMWAYS S A

Earliest Publication Date: 20131024



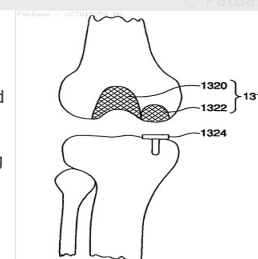
77) Family number: 43958365 (US7615054B)

BICOMPARTMENTAL KNEE IMPLANT AND METHOD

Abstract: Source: US7615054B An improved method of performing surgery on a joint in a patient's body, such as a knee, includes making an incision in a knee portion of one leg while a lower portion of the one leg is extending downward from an upper portion of the one leg and while a foot connected with the lower portion of the one leg is below a support surface on which the patient is disposed. The incision is relatively short, for example, between seven and thirteen centimeters. A patella may be offset from its normal position with an inner side of the patella facing inward during cutting of a bone with a cutting tool. During cutting of the bone, one or more guide members having opposite ends which are spaced apart by a distance less than the width of an implant may be utilized to guide movement of a cutting tool.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20091110



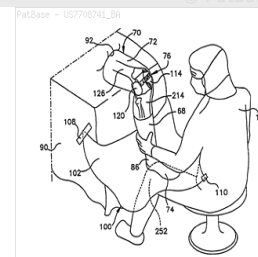
78) Family number: 44940827 (US7708741B)

METHOD OF PREPARING BONES FOR KNEE REPLACEMENT SURGERY

Abstract: Source: US7708741B A method is provided for performing knee replacement surgery on a leg of a patient. The method includes making a cut on a posterior portion of a patella, making a cut on a proximal portion of a tibia, and making a cut on the distal portion of the femur. The cut on the patella is performed before making the cuts on the tibia and femur.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20100504



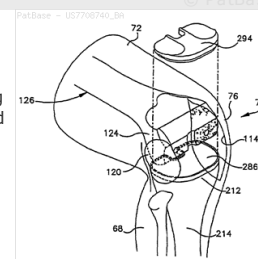
79) Family number: 44940828 (US7708740B)

METHOD FOR TOTAL KNEE ARTHROPLASTY AND RESECTING BONE IN SITU

Abstract: Source: US7708740B A method is provided for performing a total knee arthroplasty. The method includes making a primary incision near a knee joint of a patient and resecting medial and lateral condyles of the femur of the leg to create at least one femoral cut surface. The resecting step is performed without dislocating the knee joint. The method also includes balancing various ligament tensions to obtain desired tension and moving a femoral component of a total knee implant through the primary incision. The method further includes positioning the femoral component with respect to the at least one femoral cut surface.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20100504



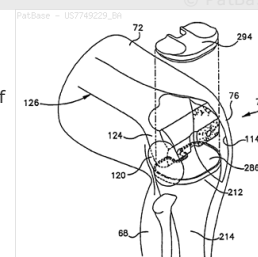
80) Family number: 45939991 (US7749229B)

TOTAL KNEE ARTHROPLASTY THROUGH SHORTENED INCISION

Abstract: Source: US7749229B A method is provided for performing total knee arthroplasty. The method includes making a primary incision near the knee joint of a leg of a patient and cutting medial and lateral condyles of the femur of the leg to create at least one femoral cut surface. The method also includes moving a femoral component of a total knee implant through the primary incision and positioning the femoral component with respect to the at least one femoral cut surface. The primary incision has a length of less than thirteen (13) centimeters.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20100706



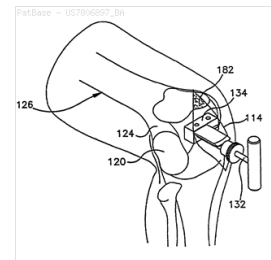
81) Family number: 46995105 (US7806897B)

KNEE ARTHROPLASTY AND PRESERVATION OF THE QUADRICEPS MECHANISM

Abstract: Source: US7806897B A method is provided for the preparation and performance of a total knee arthroplasty. The method includes making a primary incision near the knee joint of a leg of a patient. The incision is sized or located preserving a quadriceps mechanism in the leg of the patient. The method also includes resecting medial and lateral condyles of the femur of the leg to create at least one femoral cut surface and moving a femoral component of a total knee implant through the primary incision. The method further includes positioning the femoral component with respect to the at least one femoral cut surface.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20101005



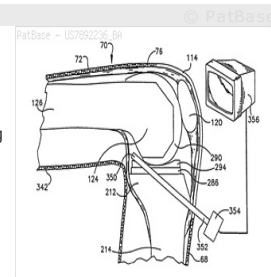
82) Family number: 48322682 (US7892236B)

SYSTEM AND METHOD FOR TOTAL JOINT REPLACEMENT

Abstract: Source: US7892236B The present invention provides a system and method of performing a total joint replacement surgery on a patient. The method includes making an incision through skin of the patient proximal to the joint. At least a portion of an imaging device is inserted under the skin, proximal to the joint. The joint is inspected, using the imaging device. A cutting guide is positioned through the incision and on an end portion of a first bone in the joint. The end portion of the first bone is cut by moving a cutting tool along the cutting guide. An implant is moved through the incision and connected with the cut end portion of the first bone. The imaging device is used to view the joint prior to and/or after connection of the implant to the first bone.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20110222



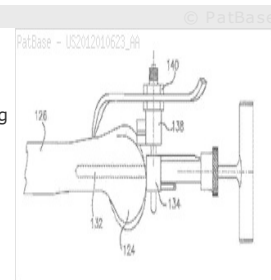
83) Family number: 50475344 (US2012010623A)

CANNULATED SYSTEMS

Abstract: Source: US2012010623A Access to the interior of the knee portion of the leg may be obtained through a cannula. The cannula may be inserted into a incision. The cannula may stretch the viscoelastic material of tissues forming the knee portion of the leg. Insertion of the cannula into the incision may expand the incision. The cannula may be expanded to facilitate movement of implants through the cannula. The implant may be formed of two or more portions, which may facilitate movement of the implant through the cannula. After the plurality of portions of the implant have been moved through the incision, portions of the implant may be interconnected to form a unitary implant.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20120112



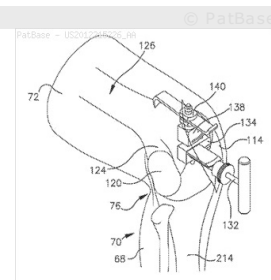
84) Family number: 51780513 (US2012215226A)

METHODS FOR USING A PATIENT SPECIFIC ALIGNMENT DEVICE

Abstract: Source: US2012215226A A moveable implant may be provided between the distal end portion of a femur and a proximal end portion of a tibia. The implant may be freely moveable relative to both the femur and the tibia. Embodiments may be configured to fit the surfaces on the distal end portion and proximal end portion of the femur and tibia. As a result of imaging a portion of the patient, the actual configurations of the existing surfaces on the femur and tibia can be accommodated.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20120823



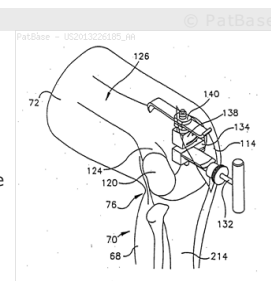
85) Family number: 54633302 (US2013226185A)

FEMORAL GUIDE FOR KNEE SURGERY

Abstract: Source: US2013226185A A joint replacement kit for use in a joint replacement procedure replacing a portion of a body joint. The kit includes a cutting guide and a trial component wherein the cutting guide and trial component are packaged together. There is also provided a method for replacing a portion of a body joint. The method includes providing a joint replacement kit having a cutting guide and a trial component, positioning the cutting guide against an end portion of a bone, cutting the end portion of the bone with a cutting instrument, positioning the trial component to the cut end portion of the bone, and disposing of the cutting guide and trial component.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20130829



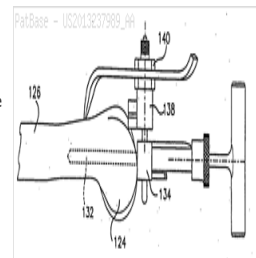
86) Family number: 54731000 (US2013237989A)

TIBIAL GUIDE FOR KNEE SURGERY

Abstract: Source: US2013237989A A joint replacement kit for use in a joint replacement procedure replacing a portion of a body joint. The kit includes a cutting guide and a trial component wherein the cutting guide and trial component are packaged together. There is also provided a method for replacing a portion of a body joint. The method includes providing a joint replacement kit having a cutting guide and a trial component, positioning the cutting guide against an end portion of a bone, cutting the end portion of the bone with a cutting instrument, positioning the trial component to the cut end portion of the bone, and disposing of the cutting guide and trial component.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20130912



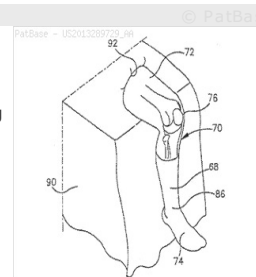
87) Family number: 55062004 (US2013289729A)

JOINT REPLACEMENT IMPLANT

Abstract: Source: US2013289729A An implant for one of partial and total replacement of an articulating joint between a first bone and a second bone. The implant has a joint component implant including a body and a head, the body including a first region spaced from the head and a second region proximate the head, the head including a convex bearing surface. At least a portion of the first region has a textured surface, the textured surface constructed of a foam metal material that is configured to promote bone in-growth into the textured surface, the body constructed of a metallic material and configured for attaching to the first bone, the first region tapering from a proximal end adjacent the second region toward a distal end.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20131031



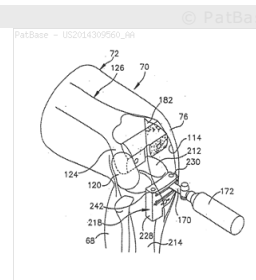
88) Family number: 57600514 (US2014309560A)

APPARATUS AND METHOD FOR MEASURING FORCES IN A KNEE JOINT

Abstract: Source: US2014309560A An apparatus for measuring forces in a knee joint. The apparatus includes a first transducer configured to be position in a medial compartment of the knee joint. The first transducer is configured to measure a first force in the medial compartment and transmit the first measured force to a display. The apparatus also includes a second transducer configured to be positioned in a lateral compartment of the knee joint. The second transducer is configured to measure a second force in the lateral compartment and transmit the second measured force to the display.

Probable Assignee: BONUTTI SKELETAL INNOVATIONS LLC

Earliest Publication Date: 20141016



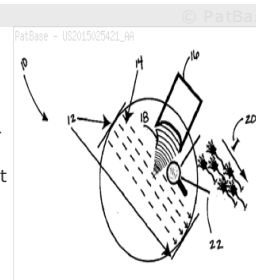
89) Family number: 58339367 (US2015025421A)

STIMULATION TO GUIDE PHYSICAL THERAPY

Abstract: Source: US2015025421A The invention generally relates to methods for guiding physical therapy to a subject. In certain embodiments, methods of the invention involve providing stimulation to a subject's central nervous system to modulate one or more signals sent to or from a plurality of target regions of the subject. Methods of the invention further involve assessing the response of the plurality of target regions to the stimulation to determine if there is a differential response among the target regions to the stimulation, and providing focused physical therapy to at least one of the target regions based on the assessment of the response of the plurality of peripheral target regions to the stimulation.

Probable Assignee: HIGHLAND INSTRUMENTS INC

Earliest Publication Date: 20150122



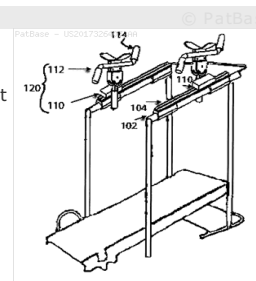
90) Family number: 67490919 (US2017326407A)

DEVICE WITH RECIPROCATING UPPER EXTREMITY SUPPORT ASSEMBLIES

Abstract: Source: US2017326407A An upper body support assembly for use with an associated railed device having first and second rails is disclosed. The assembly includes first and second upper body supports capable of moving along the first and second rails, respectively. The upper body supports have at least one of: (i) first and second forearm supports, (ii) first and second hand grips, or (iii) a first forearm support and a first hand grip. An interconnecting member extends between and selectively connects both the first and second upper body supports to permit (i) interrelated movement therebetween when connected, and (ii) independent movement therebetween when disconnected. The assembly can achieve two point gait, three point gait, and four point gait movement.

Probable Assignee: JOHNSON CYNTHIA L

Earliest Publication Date: 20171116



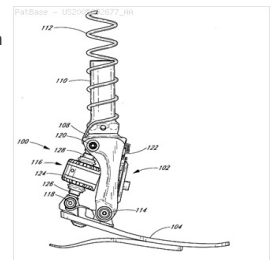
91) Family number: 32195646 (US2005192677A)

SYSTEM AND METHOD FOR MOTION-CONTROLLED FOOT UNIT

Abstract: Source: US2005192677A A system and method associated with the movement of a limb. In one example, the system, such as a prosthetic or orthotic system, includes an actuator that actively controls, or adjusts, the angle between a foot unit and a lower limb member. A processing module may control movement of the actuator based on data obtained from a sensor module. For instance, sensing module data may include information relating to the gait of a user and may be used to adjust the foot unit to substantially mimic the movement of a natural, healthy ankle. The system may further accommodate, for example, level ground walking, traveling up/down stairs, traveling up/down sloped surfaces, and various other user movements. In addition, the processing module may receive user input or display output signals through an external interface. For example, the processing module may receive a heel height input from the user.

Probable Assignee: OSSUR HF

Earliest Publication Date: 20050901



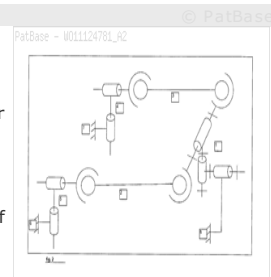
92) Family number: 49725203 (WO11124781A2)

COMPLEX ARTICULATION FOR ORTHOSIS, EXOSKELETON, ROBOT AND PROSTHESIS

Abstract: Invention for a mechanical articulation assembly that can be used for an orthosis, exoskeleton, robot and prosthesis, which will have an application in any system for aiding mobility, for muscle support, for rehabilitation of motor skills, and for amplification and reproduction of natural movements. The invention turns around a kinematic plan that is able to permit the same movements as the natural articulation, by surrounding the latter by placing the mechanical elements opposite the natural elements (Figure 2). The mechanical system uses, as initial base, the movement in space of a plane formed by two spars forming a parallelepipedal, joining two distinct elements, for example on one side the torso and on the other side the arm. Each link to the ends of the spars (2 and 3), permitting the rotation in at least one of the three axes, will be able to be mounted on a "plane" positioning system in order to amplify the movement of the articulation (4 and 5).

Probable Assignee: PENOT BENJAMIN

Earliest Publication Date: 20111007



93) Family number: 62656650 (BR102014029649A)

PROCESSO DE FABRICACAO DE PROTESES ARTICULADAS A PARTIR DA COMBINACAO DE MATERIAIS RIGIDOS E FLEXIVEIS EM UMA UNICA PECA PROCESS OF MANUFACTURE THE PROSTHESES ARTICULATED MATERIALS COMBINATION FROM RIGID AND FLEXIBLE IN ONE PIECE (MACHINE TRANSLATION)

Abstract: Source: BR102014029649A RESUMO PROCESSO DE FABRICACAO DE PROTESES ARTICULADAS A PARTIR DA COMBINACAO DE MATERIAIS RIGIDOS E FLEXIVEIS EM UMA UNICA PECA A presente invencao trata de um processo de fabricacao de estruturas articuladas, por meio de impressao tridimensional de uma peca unica, gerada a partir de um modelo digital em 3D. A impressao da estrutura combina polimeros de natureza rigida e flexivel utilizando o processo conhecido como Fused Deposition Modeling (FDM). O produto resultante da aplicacao do processo corresponde a estruturas funcionais e flexiveis para a aplicacao em proteses, orteses ou garras. SUMMARY PROCESS Prostheses manufacturing ARTICULATED The MATERIAL COMBINATION FROM rigid and flexible in one piece to the present invention is a manufacturing process of articulated structures, through three-dimensional impression of a single piece, generated from a digital 3D model. The impression of the structure combines polymers rigid and flexible nature using the process known as Fused Deposition Modeling (FDM). The product resulting from the application of the process corresponds to functional and flexible structures for application in prostheses, orthotics or talons.

Probable Assignee: FUNDACAO UNIVERSIDADE DE BRASILIA

Earliest Publication Date: 20160531

