

RECENT PATENTS^a

Adjustable Tubular Skeletal Systems for Artificial Limbs: Jan Prahl, assignor to William J. Teufel. A tubular skeletal prosthesis with slotted joints and connectors arranged to provide both vertical and horizontal adjustment. (Patent No. 3,597,767, Aug. 10, 1971; filed Sept. 3, 1969, Serial No. 854,860; 9 claims.)

Artificial Limb Having Adjustable Parts: Carl Woodall. An artificial limb with adjustable thigh, knee, shin, and foot sections which are assembled to allow fitting, alignment, and adjustment without having to custom make all portions of a prosthesis for each patient. (Patent No. 3,551,915, Jan. 5, 1971; filed Feb. 5, 1968, Serial No. 702,990; 9 claims.)

Biomedical Body Electrode: Milos T. Kopecky, assignor to Honeywell, Inc. A biomedical body electrode consisting of a nonconducting housing with an apertured face for application to skin. A metallic element is mounted within the housing, with the element and the face defining a cavity which contains the electrolyte. A membrane is secured to the face to cover the apertures thereby sealing in the electrolyte. A lead is connected to the metallic element for attaching the electrode to external instrumentation. (Patent No. 3,590,810, July 6, 1971; filed May 27, 1968, Serial No. 732,145; 8 claims.)

Carbon-Impregnated Body Electrode: Lucas H. Moe, Jr., assignor to United Aircraft Corp. A plastic or metallic carbon-impregnated electrode encapsulated in a body-contacting adhesive-coated web. The electrode is secured to skin by the adhesive and may be used with conductive paste or jelly to enhance the conduction between the electrode and skin. (Patent No. 3,566,860, Mar. 2, 1971; filed Dec. 20, 1968, Serial No. 785,577, 1 claim.)

Electrically Driven Prosthetic Elbow: Roy I. Katsuren, assignor to the United States of America as represented by the Secretary of the Army. An electrically driven prosthetic elbow with locking and automatic unlocking features. The elbow is capable of locking in any desired position and is automatically unlocked when the arm is placed in the fully extended position. (Patent No. 3,548,419, Dec. 22, 1970; filed Dec. 10, 1968, Serial No. 782,556; 4 claims.)

Electromechanical Prosthetic Devices for the Control of Movements in Handicapped Individuals: Wladimir Theodore Liberson. An electromechanical gait-rehabilitation device which provides artificially induced reciprocal movements of one or both lower extremities. The system is based on two types of control—automatic and voluntary. The device is applicable to orthoses (for hemiplegic and paraplegic subjects) and to prostheses (locking mechanisms for knee joints). (Patent No. 3,553,738, Jan. 12, 1971; filed June 27, 1966, Serial No. 560,482; 5 claims.)

Externally Powered Joint Prosthesis: Cord W. Ohlenbusch and David B. Russell, assignors to Liberty Mutual Insurance Co. An externally powered, myoelectrically controlled prosthetic elbow, with a force and velocity feedback system. The elbow has a fore-

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arm section which contains motor components and circuitry. The prosthesis is controlled by myoelectric signals from two muscles, and can be used with a conventional terminal device. The feedback system controls the amount of velocity and force required by the elbow to maintain and lift a given load in a given period of time. (Patent No. 3,557,387, Jan. 26, 1971; filed Nov. 12, 1968, Serial No. 774,789; 51 claims.)

Method and Apparatus for Sensing Bioelectric Potentials: Donald B. Everett and Louis W. Schlenz. An apparatus for detecting bioelectrical potentials. The apparatus includes electrode members, a substantially electrically nonconducting region between the electrode members and the body, and a signal-producing system connected to the electrode that produces a signal representative of the potential on the electrode in variable accordance with body potentials. (Patent No. 3,568,662, Mar. 9, 1971; filed July 7, 1967, Serial No. 651,737; 15 claims.)

Natural Action Toe Lift Artificial Foot: Carl Woodall. A prosthetic foot in which the toe section has a natural action provided by toe lift during the swing phase of gait and plantar-flexion at heel strike. (Patent No. 3,551,914, Jan. 5, 1971; filed May 9, 1968, Serial No. 727,863; 9 claims.)

Paste Dispensing Body Electrode: Lucas H. Moe, Jr., assignor to United Aircraft Corp. An electrode assembly containing a reservoir for accepting conductive paste or jelly. The reservoir contains a punch anvil and channels for the free passage of the conductive paste onto a thin webbing. The electrode has an outer adhesive layer, for attachment to skin, and a protective, removable membrane. Conductive paste is placed in the reservoir by inserting a component containing a controlled quantity of paste held in by a membrane. The membrane is punctured by the anvil punch thereby releasing the paste into the reservoir. (Patent No. 3,602,216, Aug. 31, 1971; filed Sept. 16, 1969, Serial No. 858,264; 3 claims.)

Toe Lift Device for a Dropped Foot: Aljie Heedly, assignor to James B. Lake, Jr. A toe-lift device consisting of swingably joined members bolted to the heel of a shoe. Spring tension is provided by means of an adjustable strap that is buckled around the back of a shoe. When tension is applied by buckling the strap, a member under the instep and parallel to the sole of the shoe is swung upright and raises the sole. (Patent No. 3,585,993, June 22, 1971; filed July 22, 1969, Serial No. 843,353; 4 claims.)

Typhlocane With Range Extending Obstacle Sensing Devices: J. M. Benjamin, Jr., et al., assignors to Bionic Instruments, Inc. A typhlocane containing lasers and sensors positioned so as to detect overhanging and straight-ahead obstacles as well as the absence of an object, such as a drop-off from ground level. (Patent No. 3,546,467, Dec. 8, 1970; filed April 21, 1967, Serial No. 632,665; 10 claims.)

Unidirectional Fiberglass Composite Drop-Foot Brace: James T. Hill, assignor to The United States of America as represented by the Secretary of the Army. A unidirectional fiber-glass-reinforced epoxy resin drop-foot brace that includes two embodiments. The first consists of two rods disposed on each side of the wearer's leg and extending from the calf band to shoe adapters. The second is a contoured, posterior, unibar brace with a rod extending from the calf band to a single shoe connection. (Patent No. 3,589,359, June 29, 1971; filed July 24, 1968, Serial No. 747,316; 2 claims.)