RECENT PATENTS [a]

Angular Adjustment Devices for use in Artificial Limb Manufacture: Denis Ronald William May, assignor to J. E. Hanger and Company, Ltd., London, England. An alignment device for use in setting the relative angularity between the axes of two parts of a prosthesis. The device consists of wedge-shaped disks which can be rotated on a horizontal or transverse plane by adjusting a centrally located bolt. The degree of tightening on the bolt will determine the amount of tilt or angularity and will lock the disks into place. (Patent No. 3,671,978, June 27, 1972; filed Aug. 9, 1971, Appl. No. 170,098; 4 claims.)

Articulated Hand Brace: Michael Keropian. An upper-limb orthosis to control wrist extension and finger motion. The orthosis extends from the patient's forearm, where it is secured to the thumb and first two digits. The thumb and finger guides are mounted to the hand support by a movable joint and permit movement of the thumb and fingers to approximate each other. The orthosis permits radial and ulnar deviation, some wrist flexion and extension, and a three-jaw-chuck prehension. The securing portion, joints, and hand support are modular in nature, permitting interchangeability of the components. (Patent No. 3,707,963, Jan. 2, 1973; filed Jan. 21, 1970, Appl. No. 4,646; 9 claims.)

Compressible Biomedical Electrode: George M. Low and James D. Frost, Jr. A biomedical electrode assembly incorporating a silicone rubber sponge, which retains the electrolytic substance until usage. The sponge is adjacent to a silver chloride disk which is carried in a silicone rubber base. The entire electrode is covered with a thin coating of leak-proof vinyl. The device is placed on the subject's skin, and the electrolyte is simply squeezed from the sponge to the disk and, hence, to the skin. (Patent No. 3,669,110, June 13, 1972; filed Nov. 5, 1970, Appl. No. 87,222; 2 claims.)

Fluid Pressure Clamp for Prosthetic Appliance: Lincoln F. Baird. A means of suspension for a below-knee prosthesis, comprised of a self-contained built-in fluid-pressure wedge. The fluid-pressure clamp overlies the superior edge of the socket near the condyle, and it yields to the amount of pressure placed on the prosthesis. When weight is removed from the limb, the wedge "inflates" to provide suspension during swing phase. The air supply and control is located distal to the socket, in a hollowed-out portion of the shank; a tube connects the air source to the pneumatic wedge. (Patent No. 3,671,980, June 27, 1972; filed Feb. 19, 1971, Appl. No. 117,027; 9 claims.)

Fluid Pressure Control Device for an Artificial Leg: Frank Allan Webb and John Jeffrey Shorter, assignors to Chas. A. Blatchford and Sons, Ltd., Hampshire, England. A fluid-controlled knee mechanism which uses a pneumatic piston/cylinder arrangement to control flexion and extension during swing phase. The device has independent adjustment of flexion and extension resistance by the rotation of either of two knobs that open or close their respective needle valves. (Patent No. 3,670,341, June 20, 1972; filed Dec. 1, 1969, Appl. No. 881,100; 7 claims.)

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[a] Patents may be ordered by number from the Commissioner of Patents, Washington, D.C. 20231, at 50¢ each.

Knee Joints for Artificial Legs: Denis Ronald William May, assignor, to J. E. Hanger and Company, Ltd., London, England. A mechanical friction prosthetic knee unit with an adjustable locking mechanism. Upon weight-bearing, the two portions of a hoop clamp, which encircle a drum, engage an eccentric pin to lock the knee joint. The pivot pin is disengaged as weight is shifted from the prosthesis. A lever located on the thigh portion of the unit is used to adjust the amount of tension to suit the individual patient's needs. (Patent No. 3,694,823, Oct. 3, 1972; filed June 25, 1970, Appl. No. 49,858; 1 claim.)

Knee Joint for Prosthetic Appliance: Edwin Ehbrecht. A mechanical friction knee unit which provides knee locking during stance by means of a wedge-and-flank "brake." The wedge, attached to the shank portion, engages the walls of a cylindrical bore in the knee during weight-bearing, similar to brake linings. When weight is removed from the limb, a spring raises the cylinder to release the wedge, allowing the shin to swing upon the thigh. (Patent No. 3,678,517, July 25, 1972; filed Jan. 21, 1971, Appl. No. 108,480; 9 claims.)

Partial Weight Bear Warning Device: Ivan A. Gradisar. A shoe-mounted device for warning a patient or therapist when the patient exceeds a predetermined amount of weight-bearing. The device consists of two force- (pressure) sensitive electrical contactors placed beneath the heel and the ball of the foot, mounted in a thin pad of soft, resilient material placed in the inner sole of the shoe. Each flat, metal contactor (pressure sensor) is connected to a battery-powered alarm which can be conveniently carried in a pocket or worn on a belt. (Patent No. 3,702,999, Nov. 14, 1972; filed Feb. 22, 1971, Appl. No. 117,509; 21 claims.)

Variable Friction Knee Unit with an Improved Swing Phase Control of Artificial Legs: Charles C. Asbelle, Michael F. Arrigo, Kenneth E. Hunting, and Gene R. Helmuth, assignors to the United States of America as represented by the Secretary of the Navy. A mechanical variable friction knee unit that utilizes two brakes to terminate the flexion and extension portions of swing phase, simulating the functions of the quadriceps and hamstring muscles, respectively. The deceleration and braking function is performed by two bumpers, attached to a tubular knee bolt, which provide continuous friction throughout the gait cycle. (Patent No. 3,673,613, July 4, 1972; filed April 8, 1971, Appl. No. 132,465; 10 claims.)

Viewscope for the Blind: Morse Robb. A lightweight scanning system of concave mirrors mounted on a wheel. The device is worn on the head of a blind individual, with the receiving system placed over the forehead. The concave mirrors revolve on the aforementioned wheel to scan a scene; the image is then focused on a radiation detector cell. A distributor brush passes over a circle of contacts to distribute amplified currents from the detector to the tactile components in the receiver. The image is portrayed on the person's forehead and can be "focused" by moving the detector cell nearer or farther away from the concave mirrors. (Patent No. 3,704,378, Nov. 28, 1972; filed April 13, 1971, Appl. No. 133,624; 15 claims.)