

1) Family number: 4871072 (US4354676A)

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Title: EXERCISER

Abstract: An exerciser bar is supported for rotation and acts against an hydraulic cylinder with the angle of the bar and the pressure in the cylinder measured and fed to a micro computer which, using this input data, controls the cylinder pressure in accordance with a selected exercise program, the micro computer also providing outputs to displays so that the person exercising can monitor his progress.

Classifications:

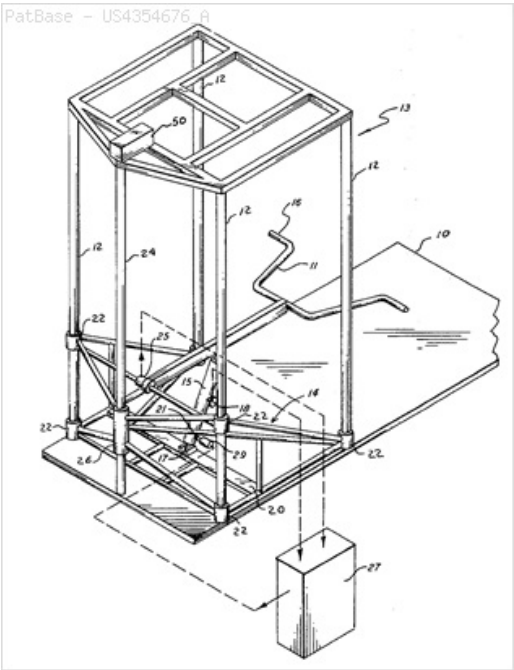
International (IPC 8-9): A63B24/00 (Advanced/Invention);
A63B21/008 (Advanced/Non-invention);
A63B24/00 (Core/Invention);
A63B21/008 (Core/Non-invention)

International (IPC 1-7): A63B21/00 A63B21/24 A63B23/00 A63B24/00
G05B19/18 G05D7/06

CPC: Y10S482/901 Y10S482/902 A63B24/00 A63B21/008 A63B2220/16
A63B2220/56

European: A63B24/00 K63B21/008 K63B220/16 K63B220/56

US: 272/129 272/130 417/545 482/113 482/137 482/5 482/9 482/901
482/902 73/379 73/379.06 73/379.09 73/745



Family:

Publication number	Publication date	Application number	Application date
DE3042520 A1	19820722	DE19803042520	19801111
DE3042520 C2	19900823	DE19803042520	19801111
FR2494008 A1	19820514	FR19800023965	19801110
FR2494008 B1	19860103	FR19800023965	19801110
US4354676 A	19821019	US19780949237	19781013
US4544154 A	19851001	US19820372178	19820426

Priority:

US19780949237 19781013 FR19800023965 19801110 DE19803042520 19801111
US19820372178 19820426

Probable Assignee: WILSON SPORTING GOODS CO

Assignee(s): (std): PEPSICO INC

Assignee(s): WILSON SPORTING GOODS CO ; ARIEL GIDEON B ; ARIEL LIFE SYSTEMS INC ; CONNECTICUT BANK AND TRUST CO ; CONNECTICUT BANK AND TRUST CO NATIONAL ASSOCIATION ; FIRST NATIONAL BANK OF BOSTON AS AGENT ; FIRST NATIONAL BANK OF CHICAGO AS AGENT ; FIRST NATIONAL BANK OF CHICAGO ; FIRST NATIONAL BANK OF BOSTON AGENT AS ; FIRST NATIONAL BANK OF CHICAGO AGENT AS ; FIRST NATIONAL BANK OF CHICAGO (AGENT) ; FIRST NATIONAL BANK OF CHICAGO AGENT ; CONNECTICUT BANK AND TRUST CO NATIONAL ASSOCIATION TRUSTEE AS

Inventor(s): (std): ARIEL GIDEON B ; ARIEL GIDEON BRUCE

Inventor(s): ARIEL GIDEON BRUCE BELCHERTOWN MASS ; BRUCE ARIEL GIDEON

2) Family number: 9648089 (US4628910A)

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Title: MUSCLE EXERCISE AND REHABILITATION APPARATUS

Abstract: A muscle exercise and rehabilitation apparatus comprises a movable arm against which a force can be applied; a servo motor mechanically coupled to the arm through a gear reducer; a sensing device for sensing the force applied to the arm and for producing a load signal corresponding thereto; a tachometer for producing a velocity signal corresponding to the velocity of the arm; a closed loop velocity servo feedback circuit for controlling the motor in response to a control signal and the velocity

signal so that the arm has a constant resistive torque applied thereto and/or has its velocity regulated, regardless of the force applied to the arm, the feedback circuit including an amplifier for amplifying the load signal to produce the control signal, a torque control circuit and a speed clamp circuit for modifying the control signal of the amplifier to produce a modified control signal, depending on the mode of operation; a switch for switching in at least one of the torque control circuit, the speed clamp circuit, an eccentric circuit which controls eccentric operation and an oscillator circuit, and a PWM amplifier for producing an error signal in response to the modified control signal and the velocity signal to control the motor to regulate the velocity of the arm and/or apply a constant resistive torque to the arm, for both extension and flexion, as well as concentric and eccentric operation, regardless of the force applied to the arm.

Classifications:

International (IPC 8-9): A61H1/02 A63B21/002 A63B21/005 A63B22/06 A63B23/035 A63B24/00 F16D37/02 F16D48/06 (Advanced/Invention); A63B24/00 (Advanced/Non-invention);

A61H1/02 A63B21/005 (Core/Invention);

A63B24/00 (Core/Non-invention)

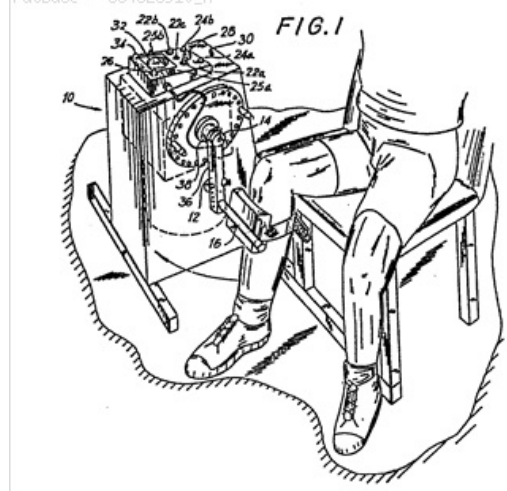
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CPC: Y10S482/901 Y10S482/90 A63B21/0056 A63B2220/34 F16D37/02 F16D2037/001 A63B21/0058 A63B2220/16 A63B2220/54 F16D48/064 F16D2500/1022 F16D2500/3023 F16D2500/3028 F16D2500/30415 F16D2500/525 F16D2500/70418

European: A63B21/005D A63B21/005F F16D37/02 F16D48/06E K63B220/16 K63B220/34 K63B220/54 R16D37/00A

US: 128/25R 272/125 272/129 272/DIG.6 482/5 482/7 482/8 482/900 482/901 601/26 601/32 601/34

PatBase - US4628910_A



Family:

Publication number	Publication date	Application number	Application date
DK549285 A	19860529	DK19850005492	19851128
DK549285 A0	19851128	DK19850005492	19851128
EP0187457 A2	19860716	EP19850308435	19851120
EP0187457 A3	19880601	EP19850308435	19851120
EP0294935 A2	19881214	EP19880304070	19880505
EP0294935 A3	19890524	EP19880304070	19880505
JP61217163 A2	19860926	JP19850268236	19851128
JP63311955 A2	19881220	JP19880140342	19880607
NO854774 A	19860530	NO19850004774	19851128
NO854774 L	19860530	NO19850004774	19851128
SE8505334 A	19860530	SE19850005334D	19851112
SE8505334 A0	19851112	SE19850005334	19851112
SE8505334 L	19860530	SE19850005334	19851112
US4628910 A	19861216	US19840676493	19841129
US4691694 A	19870908	US19860907392	19860915
US4765315 A	19880823	US19870059392	19870608

Priority:

US19840676493 19841129 DK19850005492 19851128 US19860907392 19860915
US19870059392 19870608

Probable Assignee: BIODEX A CORP OF NY CORP

Assignee(s): (std): BIODEX CORP ; BAIODETSUKUSU CORP

Assignee(s): BIODEX A CORP OF NY CORP ; SPORT MEDICAL TECHNOLOGY CORP ; BIODEX MEDICAL SYSTEMS INC ; MTB BANK

Inventor(s): (std): BOYD ROBERT L ; GEZARI DANIEL Y ; RICHIAADO KURUTSUKOSUKII ; RICHARD KRUKOWSKI ; KRUKOWSKI RICHARD ; RICHIAADO KURUKOUSUKII ; KRUKOWSKI R

Inventor(s): R KRUKOWSKI

Designated states: AT BE CH DE ES FR GB GR IT LI LU NL SE

3) Family number: 40799093 (US2007259763A)

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Title: EXERCISE DEVICE AND METHOD

Abstract: An exercise device and method.

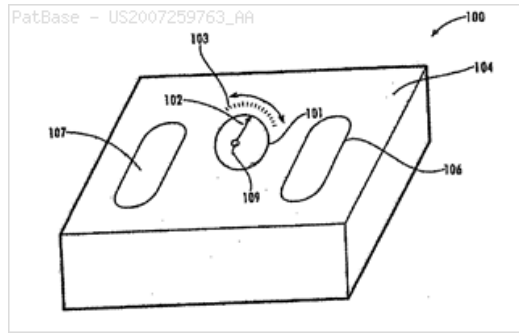
Classifications:

International (IPC 8-9): A63B22/14 A63B22/16 (Advanced/Invention); A63B22/00 (Core/Invention)

CPC: A63B21/005 A63B21/0083 A63B21/02 A63B22/14

European: A63B22/14 K63B21/005 K63B21/008B2 K63B21/02

US: 482/146 482/147



Family:

Publication number	Publication date	Application number	Application date
US2007259763 AA	20071108	US20060418594	20060505

Priority:

US20060418594 20060505

Probable Assignee:	FULL POTENTIAL LLC
Assignee(s): (std):	FULL POTENTIAL LLC
Inventor(s): (std):	WALKER DAVID A ; MCKEOWN MICHAEL
Inventor(s):	WALKER DAVID
Agent(s):	BERKELEY LAW AND TECHNOLOGY GROUP LLP

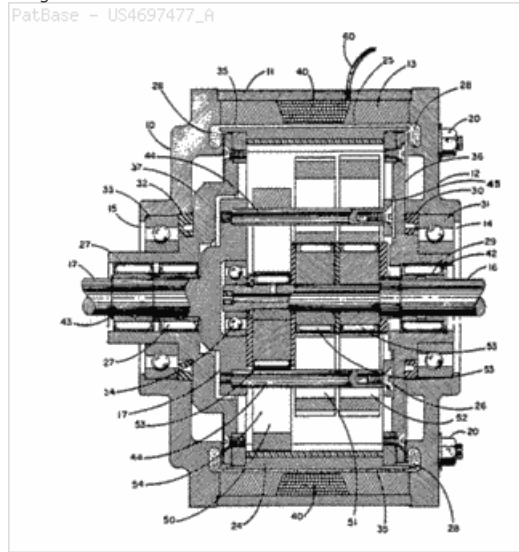
4) Family number: 5401170 (US4697477A) © PatBase

Title: Continuously variable transmission

Abstract: A continuously variable transmission with constant torque is designed using an epicyclic gear mechanism with a casing that rotates freely within an electromagnetic braking device. The braking device utilizes magnetic particles filling a gap between the inner diameter of the braking device and the outer casing of the epicyclic gear mechanism such that when the particles are magnetized, they form an adhesive-like resistance to rotation of the epicyclic gear annulus.

Classifications:

International (IPC 8-9): F16D63/00 F16D65/14 F16H3/70
F16H57/10 (Advanced/Invention);
F16H63/30 (Advanced/Non-invention)
International (IPC 1-7): F16H1/28 F16H57/10
CPC: F16D57/002 F16D2121/20 F16H3/70 F16H57/10 F16H63/304
European: F16D57/00B F16H3/70 F16H57/10 R16D121/20 R16H63/30J
US: 475/154 475/169



Family:

Publication number	Publication date	Application number	Application date
US4697477 A	19871006	US19840630874	19840919

Priority:

US19840630874 19840919

Probable Assignee:	BARR HAROLD B
Assignee(s): (std):	BARR HAROLD B
Inventor(s): (std):	BARR HAROLD B

5) Family number: 41923325 (US2008248926A) © PatBase

Title: TRAINING SYSTEM AND METHOD

Abstract: A training system and method include providing a frame, a user support portion coupled to the frame and arranged to support a user, and a user engagement portion coupled to the frame and arranged to be engaged by the body part. A force sensor is provided for sensing a user-applied force at the user engagement portion, and a position sensor is operably connected to at least one of the user support portion and the user engagement portion for sensing a relative position therebetween. A motor is coupled to at least one of the user support portion and the user engagement portion for driving a position thereof with respect to the frame over a range of motion at a preprogrammed velocity, and a controller is provided in communication with the motor, the force sensor, and the position sensor. A computer program executable by the controller generates a position-varying target force band for the user over the range of motion, and a display is provided in communication with the controller and the force and position sensors for displaying the user-applied force as a function of position in real time in comparison with the target force band.

Classifications:

International (IPC 8-9): A63B21/005 A63B24/00 (Advanced/Invention);

A63B21/005 A63B24/00 (Core/Invention)

CPC: A63B23/0494 A63B21/00058 A63B21/00181 A63B21/0023

A63B21/0628 A63B23/085 A63B24/00 A63B2024/0078 A63B2208/0228

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A63B2225/15 A63B2225/54 A63B2230/60

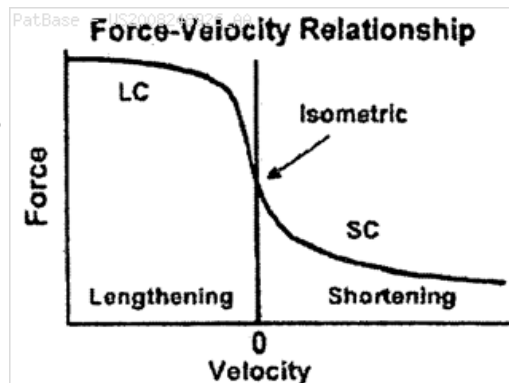
European: A63B21/002B A63B21/00T A63B21/062 A63B23/04K

A63B24/00 K63B208/02E K63B208/02E4 K63B21/00F K63B220/13

K63B220/16 K63B220/51 K63B225/09M K63B225/15 K63B225/54

K63B23/08B K63B230/60 K63B24/00H2

US: 482/135 482/4 482/4P 482/5 482/5P 482/8 601/23 601/33



Family:

Publication number	Publication date	Application number	Application date
CA2612426 AA	20080527	CA20072612426	20071127
CA2612426 C	20160329	CA20072612426	20071127
US2008248926 AA	20081009	US20070945525	20071127
US2010279821 AA	20101104	US20100759143	20100413
US7785232 BB	20100831	US20070945525	20071127
US7854685 BB	20101221	US20100759143	20100413

Priority:

US20060861186P 20061127

CA20072612426 20071127

US20070945525 20071127

US20100759143 20100413

Probable Assignee: BIO LOGIC ENGINEERING INC

Assignee(s): (std): COLE CHARLES L ; COLE NEIL M ; COLE WALTER N

Assignee(s): MAIN STREET CAPITAL CORP ; NATIONAL INSTITUTES OF HEALTH ; NUSTEP INC ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALT ; NATIONAL INSTITUTES OF HEALTH (NIH) US DEPT OF HEALTH AND HUMAN SERVICES (DHHS) US GOVERNMENT ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH AND HUMAN SERVICES DHHS US GOVERNMENT ; BIO LOGIC ENGINEERING INC

Inventor(s): (std): COLE NEIL M ; COLE WALTER N ; COLE CHARLES L

Agent(s): BORDEN LADNER GERVAIS LLP; MACRAE AND CO; BROOKS KUSHMAN PC

6) Family number: 30867431 (US4711450A)

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Title: MULTI-MODE EXERCISING APPARATUS

Abstract: A computer controlled exercising apparatus is disclosed which includes a rotary actuator having an output shaft, and a hydraulic power system for powering the actuator in either rotational direction. The output shaft of the actuator includes splined opposite free ends, and a radial arm is selectively attachable to either one of the ends. The outer end of the radial arm mounts a user engageable handle, and a load cell is mounted immediately adjacent the handle, so as to provide an output signal which does not include any force component from the weight or inertia of the radial arm. The apparatus also includes means for sensing the rotational position of the actuator, and the signals from the load cell and the position sensing means are fed to a computerized controller, which in turn controls the operation of the actuator in accordance with a predetermined program.

Classifications:

International (IPC 8-9): A61B5/22 A61H1/02 A63B21/00 A63B21/002

A63B21/008 A63B23/035 A63B24/00 (Advanced/Invention);

A61B5/22 A61H1/02 A63B21/002 A63B21/008 A63B23/035

A63B24/00 (Core/Invention)

International (IPC 1-7): A61B5/22 A61H1/02 A63B21/00 A63B21/24

A63B23/00 A63B23/04 G01L5/02

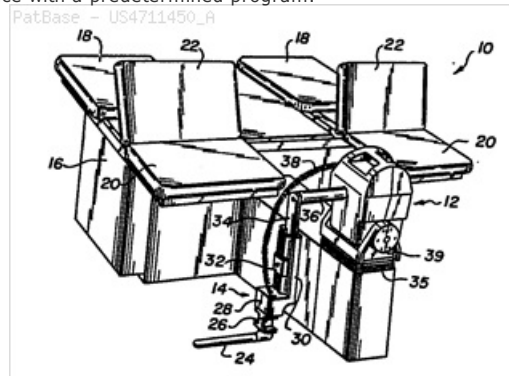
CPC: Y10S482/901 Y10S482/902 A63B24/00 A63B2220/16 A63B2220/17

A63B2220/54

European: A63B24/00 K63B220/16 K63B220/17 K63B220/54

US: 272/129 272/130 272/DIG.5 272/DIG.6 482/113 482/5 482/901

482/902 D17/20



Family:

Publication number	Publication date	Application number	Application date
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AT35091 E	19880715	AT19830301887T	19830405
CA1222782 A1	19870609	CA19820404235	19820601
DE3377048 D1	19880721	DE19833377048	19830405
EP0095832 A1	19831207	EP19830301887	19830405
EP0095832 B1	19880615	EP19830301887	19830405
JP1016191 B4	19890323	JP19830082844	19830513
JP1534118 C3	19891212	JP19830082844	19830513
JP58216053 A2	19831215	JP19830082844	19830513
KR19840004867 A	19841031	KR19830002397	19830531
KR840004867 A	19841031	KR19830002397	19830531
KR920004543 B1	19920608	KR19830002397	19830531
US4711450 A	19871208	US19850738447	19850528

Priority:

CA19820404235 19820601 US19820427121 19820929 EP19830301887 19830405

Probable Assignee: BIODEX MEDICAL SYSTEMS INC

Assignee(s): (std): CHATTECX CORP ; JIMU MATSUKAASAA ; MCARTHUR JIM

Assignee(s): MED EX DIAGNOSTICS OF CANADA INC ; MED EX DIAGNOSTICS OF CANADA INC 51 LEEDER AVENUE COQUITLAM BRITISH COLUMBIA CANADA A CORP OF CANADA ; BIODEX MEDICAL SYSTEMS INC ; CHATTANOOGA GROUP INC ; CHATTECX 101 MEMORIAL DRIVE CHATTANOOGA TENNESSEE A CORP OF TN CORP

Inventor(s): (std): JIMU MATSUKAASAA ; MCARTHUR JIM

Agent(s): FETHERSTONHAUGH AND CO

Designated states: AT BE CH DE FR GB IT LI LU NL SE

7) Family number: 10338444 (US4776587A)

© PatBase

Title: LEG EXERCISE MACHINE

Abstract: A leg exercise machine (10) for bilateral and unilateral leg exercising. Machine (10) preferably includes an electromagnetic brake unit (44) coupled to a side-mounted exercise arm (68) through a planetary drive assembly (51). A longitudinally-adjustable leg pad support (70) is slidably mounted on exercise arm (68). Leg pad support (70) can carry a long rod (78) suitable for supporting a pair of leg pad assemblies (84) or a short rod (93) suitable for carrying a single leg pad assembly (84), depending on whether bilateral or unilateral exercising, respectively, is desired. Rods (78, 93) are sufficiently long to allow for lateral play in the leg pad assemblies (84) relative to the exercise arm (68) so as to accommodate various hip widths and so as not to create a side load on the knees during flexion and extension.

Classifications:

International (IPC 8-9): A63B23/04 (Advanced/Invention);

A63B21/005 A63B23/035 (Advanced/Non-invention);

A63B23/04 (Core/Invention);

A63B21/005 A63B23/035 (Core/Non-invention)

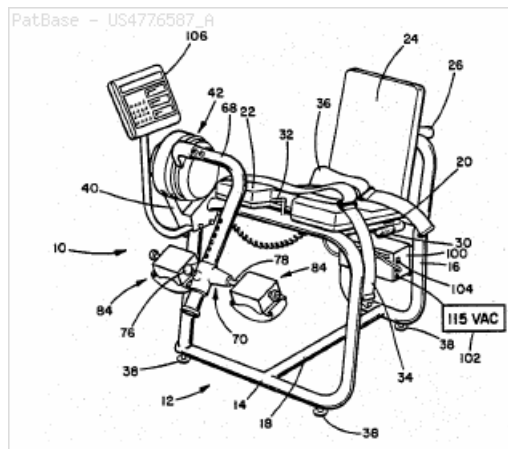
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CPC: A63B23/03525 Y10S482/901 Y10S482/902 A63B23/0494

A63B21/0052 A63B21/4047

European: A63B23/04K

US: 482/134 482/5 482/901 482/902 601/24 601/36



Family:

Publication number	Publication date	Application number	Application date
US4776587 A	19881011	US19870041395	19870423

Priority:

US19870041395 19870423

Probable Assignee: TORO CO A CORP OF DE

Assignee(s): (std): TORO CO

Assignee(s): TORO CO A CORP OF DE ; THE TORO COMPANY

Inventor(s): (std): CARLSON ROBERT B ; WUCHERPFENNIG FREDRICK

8) Family number: 3294466 (US4891764A)

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Title: PROGRAM CONTROLLED FORCE MEASUREMENT AND CONTROL SYSTEM

Abstract: A microprocessor based electric actuator control system is provided which allows accurate determination of the forces opposing movement of manipulator driveshaft. The control system electronically sets a predetermined current through an actuator to produce an electromagnetic force. A displacement measuring device, in conjunction with a time clock measures

velocity and calculates acceleration of the actuator in response to the current. The force on the shaft is computer varied such that the acceleration is determined. For the acceleration to be zero, the electromagnetic force be exactly balanced by forces equal but opposite in magnitude. Since the force value is determined by the computer, the opposing force is also accurately determined with no external sensing device needed.

Classifications:

International (IPC 8-9): A63B24/00 B23P19/06 B25J9/18 G01M1/18 G05B11/01 G05B19/23 G05B19/414 G05D17/02 (Advanced/Invention); A63B21/005 (Advanced/Non-invention); A63B24/00 B23P19/06 B25J9/18 G01M1/00 G05B11/01 G05B19/19 G05B19/414 G05D17/00 (Core/Invention); A63B21/005 (Core/Non-invention)

International (IPC 1-7): A63B21/005 B25J13/00 G01M1/18 G05B11/01 G05D13/02 G05D17/02 G05F1/10

CPC: Y10S482/901 Y10S482/90 Y10S482/902 Y10S601/22 G05B19/237 A63B21/0058 A63B24/00 A63B2220/16 B23P19/066 G05B19/4142 G05B2219/37297 G05B2219/37388 G05B2219/37391 G05B2219/37612 G05B2219/37621 G05B2219/41023 G05B2219/42152 G05B2219/42168

European: A63B24/00 B23P19/06C1 G05B19/23C4 G05B19/414K K63B21/005F K63B220/16 S05B219/37297 S05B219/37388 S05B219/37391 S05B219/37612 S05B219/37621 S05B219/41023 S05B219/42152 S05B219/42168

US: 128/25R 272/125 272/129 272/DIG.6 318/432 318/568.22 318/594 364/508 364/567 364/571.03 388/854 414/5 482/137 482/9 482/900 482/901 482/902 482/92 601/33 601/5 601/DIG.22 700/183 700/260 700/275 700/304 73/379.06 901/34 901/9

PatBase - US4891764_A

U.S. Patent Jan. 2, 1990 Sheet 1 of 9 4,891,764

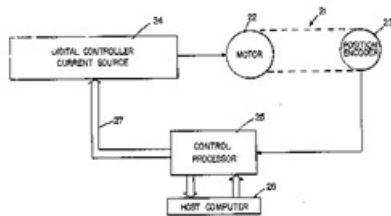


Fig. 1

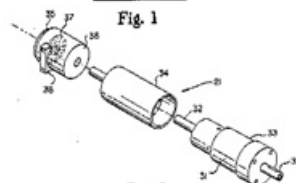


Fig. 2

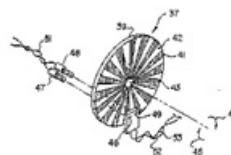


Fig. 3

Family:

Publication number	Publication date	Application number	Application date
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US4891764 A	19900102	US19870131991	19871211
US4934694 A	19900619	US19880166031	19880309
US4959797 A	19900925	US19880169974	19880318
US5103404 A	19920407	US19890453325	19891220
WO9007741 A1	19900712	WO1988US04374	19881230

Priority:

US19850805719 19851206	US19870131991 19871211	US19880166031 19880309
US19880169974 19880318	AU19890027993 19881230	WO1988US04374 19881230
US19890453325 19891220		

Probable Assignee: TENSOR DEVELOPMENT INC A CORP OF COLORADO

Assignee(s): (std): MCINTOSH JAMES L ; TENSOR DEV INC

Assignee(s): TENSOR DEVELOPMENT INC ; TENSOR DEVELOPMENT INC 4430 W 109TH PL WESTMINSTER ; TENSOR DEVELOPMENT INC 4430 W 109TH PL WESTMINSTER COLORADO 80030 A CORP OF CO ; TENSOR DEVELOPMENT INC A CORP OF CO ; TENSOR DEVELOPMENT INC A CORP OF COLORADO

Inventor(s): (std): MCINTOSH JAMES L

Inventor(s): JAMES L MCINTOSH

Designated states: AT AU BE CH DE FR GB IT JP KR LU NL SE

9) Family number: 3367599 (US4907797A)

© PatBase

Title: MUSCLE EXERCISE AND/OR REHABILITATION APPARATUS USING LINEAR MOTION

Abstract: A muscle exercise and/or rehabilitation apparatus includes a fixture against which a force can be applied; a sensor which senses the force applied to the fixture and produces a load signal corresponding thereto; a speed detector which produces a velocity signal corresponding to the speed of the fixture; a servo motor which produces a rotational output of an output shaft thereof; a closed loop servo circuit which controls the motor in response to the load signal and the velocity signal to control rotation of the output shaft of the servo motor; and a conversion device connected between the fixture and the output shaft of the servo motor for translating the rotational output of the output shaft to linear motion of the fixture, the conversion device including a frame formed by a base, two spaced vertical support bars extending upwardly from the base, and an upper cap securing upper ends of the vertical support bars together, two vertical guide rods supported by the frame, a slide movable along the guide rods in such linear motion, an operational pulley rotatably connected with the output shaft of the servo motor, and a rope secured to the slide and wrapped about the pulley for controlling movement of the slide in the linear motion in response to the output shaft of the servo motor.

Classifications:

International (IPC 8-9): A63B21/005 (Advanced/Invention);

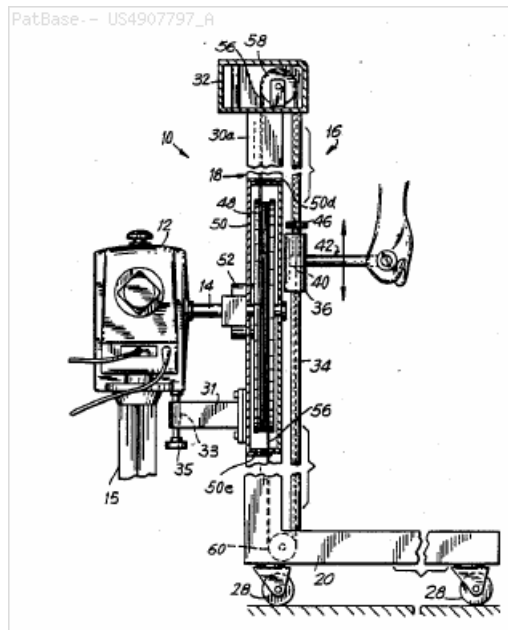
A63B21/00 (Advanced/Non-invention);

A63B21/005 (Core/Invention);

A63B21/00 (Core/Non-invention)

International (IPC 1-7): A63B21/24

CPC: Y10S482/90 Y10S482/901 A63B21/154 A63B21/0058
European: A63B21/005F A63B21/15F6
US: 272/118 272/129 272/134 272/DIG.6 482/135 482/9 482/900
482/901 482/92



Family:

Publication number	Publication date	Application number	Application date
US4907797 A	19900313	US19880198568	19880525

Priority:

US19880198568 19880525

Probable Assignee: BIODEX A CORP OF NY CORP
Assignee(s): (std): BIODEX CORP
Assignee(s): BIODEX A CORP OF NY CORP
Inventor(s): (std): GEZARI DANIEL Y ; GEZARI WALTER

10) Family number: 880639 (US3465592A)

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Title: ISOKINETIC EXERCISE PROCESS AND APPARATUS

Abstract: 1,051,818. Exercising g apparatus. J. J. PERRINE. Oct. 11, 1965, No. 42942/65. Heading A6M. Apparatus for muscular exercise comprises means for receiving muscular force in which speed up of movement of a person to move such means is limited to a predetermined maximum over the entire path of movement In one embodiment an adjustable hand lever 32 is pivoted at 28 on a shaft 26 driving a belt 48 connected to an hydraulic piston 52 coupled to an arrangement of pipes comprising a feedback system having a pressure gauge 58 coupled thereto to indicate the amount of force applied by the user. The length of the lever 32 is adjustable by holes 34 and a pin 36 so that the axis of pivotation may be adjusted to coincide with the axis of pivotation of elbow or shoulder. The height is similarly adjustable and a seat fitted for leg exercises of a similar nature. Figs. 3, 4, 5 and 6 (not shown) diagrammatically illustrate exercises which may be performed.

Classifications:

International (ipc 8-9): A61B5/22 A63B21/005

A63B21/008 (Advanced/Invention);

A63B21/00 A63B21/002 A63B24/00 (Advanced/Non-invention);

A61B5/22 A63B21/005 A63B21/008 (Core/Invention);

A63B21/00 A63B21/002 A63B24/00 (Core/Non-invention)

International (ipc 1-7): A61H1/02 A63B21/00 A63B21/08 G01L5/02

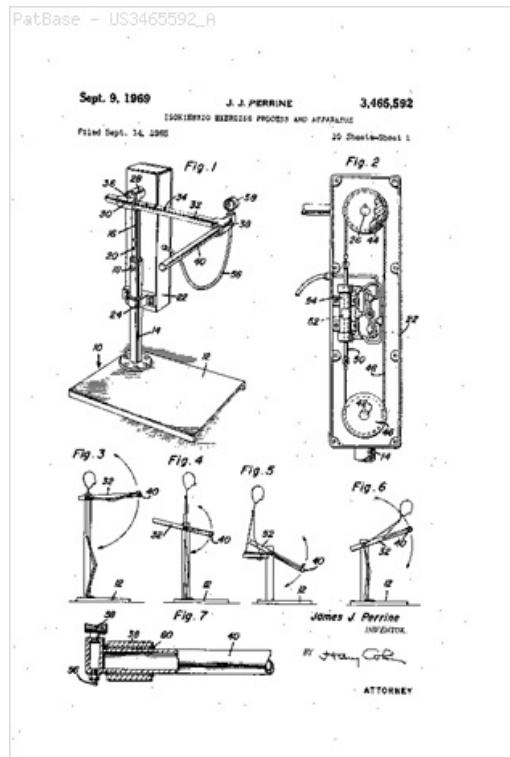
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A63B21/0058 A63B21/0083 A63B2220/51 A63B21/002 A63B21/4047

European: A61B5/22D A63B21/005F A63B21/008B2 A63B21/15G

K61B5/45F K63B21/002C K63B220/51

US: 482/113 482/5 73/379

**Family:**

Publication number	Publication date	Application number	Application date
BE671593 A	19660428	BE19650671593	19651028
CH446982 A	19671115	CH19650015345	19651108
DE1478056 A1	19690313	DE1965P038048	19651105
DE1478056 B2	19771222	DE1965P038048	19651105
DE1478056 C3	19780831	DE1965P038048	19651105
FR1460135 A	19660617	FR19650036653	19651029
GB1051818 A	00000000		00000000
US3465592 A	19690909	US19650487258	19650914

Priority:

US19650487258 19650914 FR19650036653 19651029 DE1965P038048 19651105

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11) Family number: 30516752 (US2004082437A)

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Title: SYSTEM AND METHOD FOR DERIVING ANGULAR ISOKINETIC MEASUREMENTS USING A LINEAR DYNAMOMETER

Abstract: A method for deriving isokinetic measurements of the moment applied by a body portion while the body portion performs a pivotal or flexing motion at a given angular velocity about an effective pivot axis. The method uses a linear dynamometer configured for performing isokinetic measurements over a predefined range of motion along a linear path. First, the linear dynamometer is deployed with its linear path substantially tangential to a circle of given radius about the effective pivot axis for measuring force applied by the body portion. The linear dynamometer is then used to measure a force profile applied by the body portion over a predefined range of motion at a predefined linear velocity. This force profile, the linear velocity and the radius are then used to derive data for the moment applied by the body portion and the corresponding angular velocity.

Classifications:

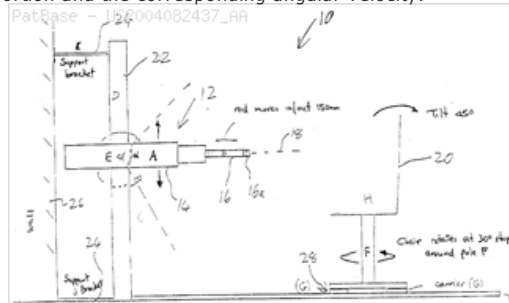
International (IPC 8-9): A61B5/11 A61B5/22 A63B21/002 A63B21/005 A63B24/00 A63B71/06 (Advanced/Invention); A61B5/11 A61B5/22 A63B21/002 A63B24/00 A63B71/06 (Core/Invention)

International (IPC 1-7): A61B5/22 A63B21/005 A63B71/00

CPC: A61B5/224 A61B5/6887

European: A61B5/22D A61B5/68F

US: 482/8 482/8P 482/9 601/23 73/379.01

**Family:**

Publication number	Publication date	Application number	Application date
AU2003272067 AA	20040513	AU20030272067	20031019
CN1325134 C	20070711	CN200380101990	20031019
CN1708332 A	20051214	CN200380101990	20031019
EP1594578 A1	20051116	EP20030753908	20031019
EP1594578 A4	20090121	EP20030753908	20031019
JP2006503635 T2	20060202	JP20040546333T	20031019
US2004082437 AA	20040429	US20020278066	20021023
US6773376 BB	20040810	US20020278066	20021023
WO04037351 A1	20040506	WO2003IL00847	20031019

Priority:

US20020278066 20021023 WO2003IL00847 20031019

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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

12) Family number: 5139812 (US4621620A)

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Title: HUMAN LIMB MANIPULATION DEVICE

Abstract: An active human limb manipulation device utilizes a frame to which a carriage is slidably mounted for vertical movement. A sub-carriage is movably mounted to the carriage for horizontal movement and carries the limb of a patient along a predetermined path. Both carriage and sub-carriage are powered by a pair of rodless cylinders which are controlled by a computer control system which simulates normal walking movement so as to strengthen and stretch the limbs of a patient who otherwise lacks the strength and muscle tone associated with normal limb movement. The cylinders have yokes which are fixed to the carriage and sub-carriage and retained in position on the cylinders by a magnetic attraction. When the patient's resistance to movement reaches a predetermined level, the yoke will break the magnetic bonds with the cylinder piston so as to avoid overstressing the limbs of the patient. The yoke may be supplied with an electromagnet so that the magnetic attraction can be closely controlled.

Classifications:

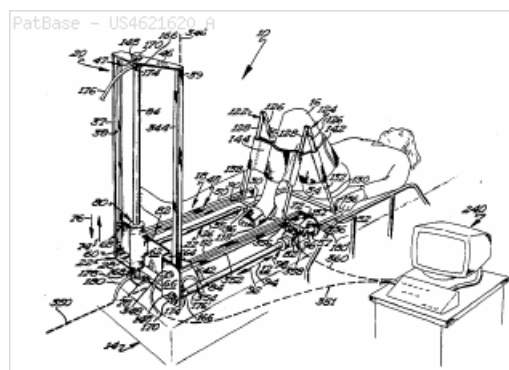
International (IPC 8-9): A61H1/02 (Advanced/Invention); A61H1/02 (Core/Invention)

International (IPC 1-7): A61H1/02

CPC: Y10S482/901 A61H1/0262 A61H2201/1215 A61H2201/1642 A61H2201/1664 A61H2201/1676 A61H1/0259 A61H2201/1246

European: A61H1/02L4L K61H201/12C2

US: 128/25R 482/901 601/34



Family:

Publication number	Publication date	Application number	Application date
US4621620 A	19861111	US19840600502	19840416

Priority:

US19840600502 19840416

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