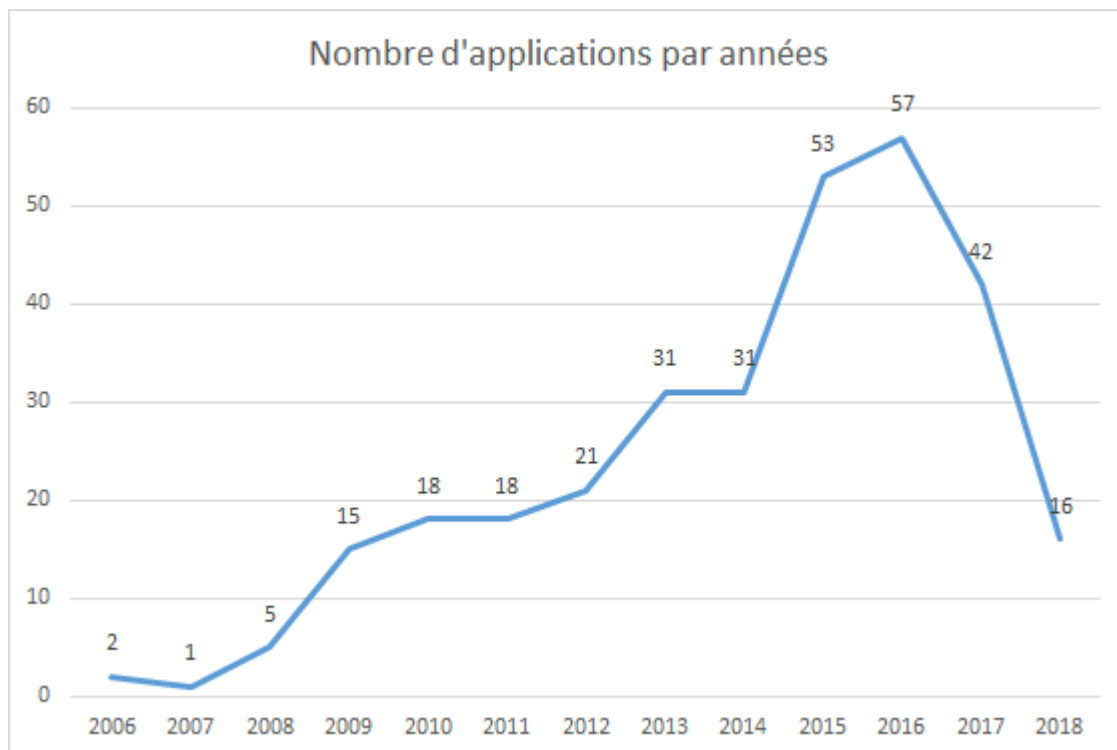


- Composition du groupe : Baruzi Amaury, Chomicki Clément
- Sujet choisi : Les exosquelettes

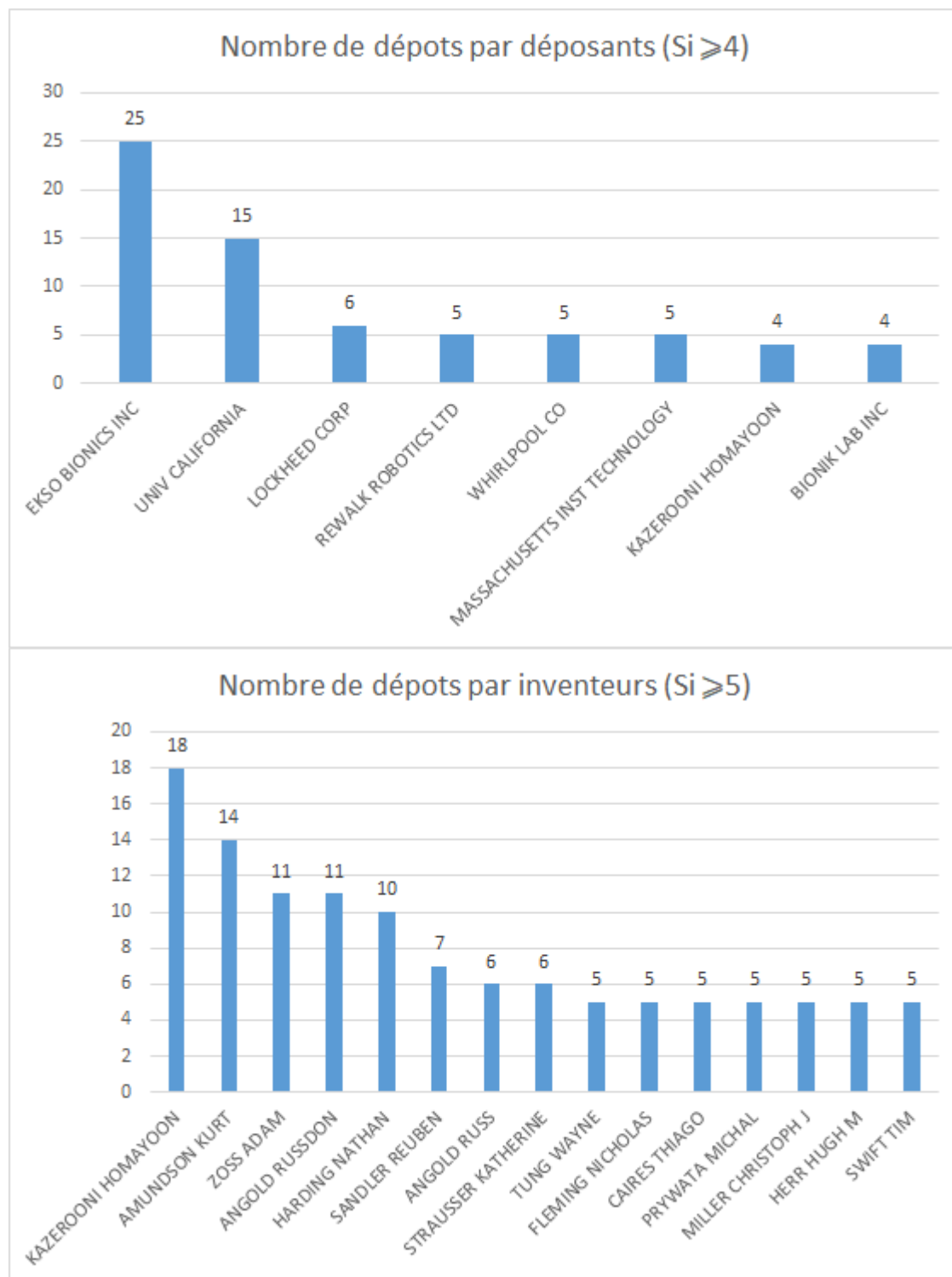
Requête

(exoskeleton OR exoskeletons) NOT insect, US, 2009:2018

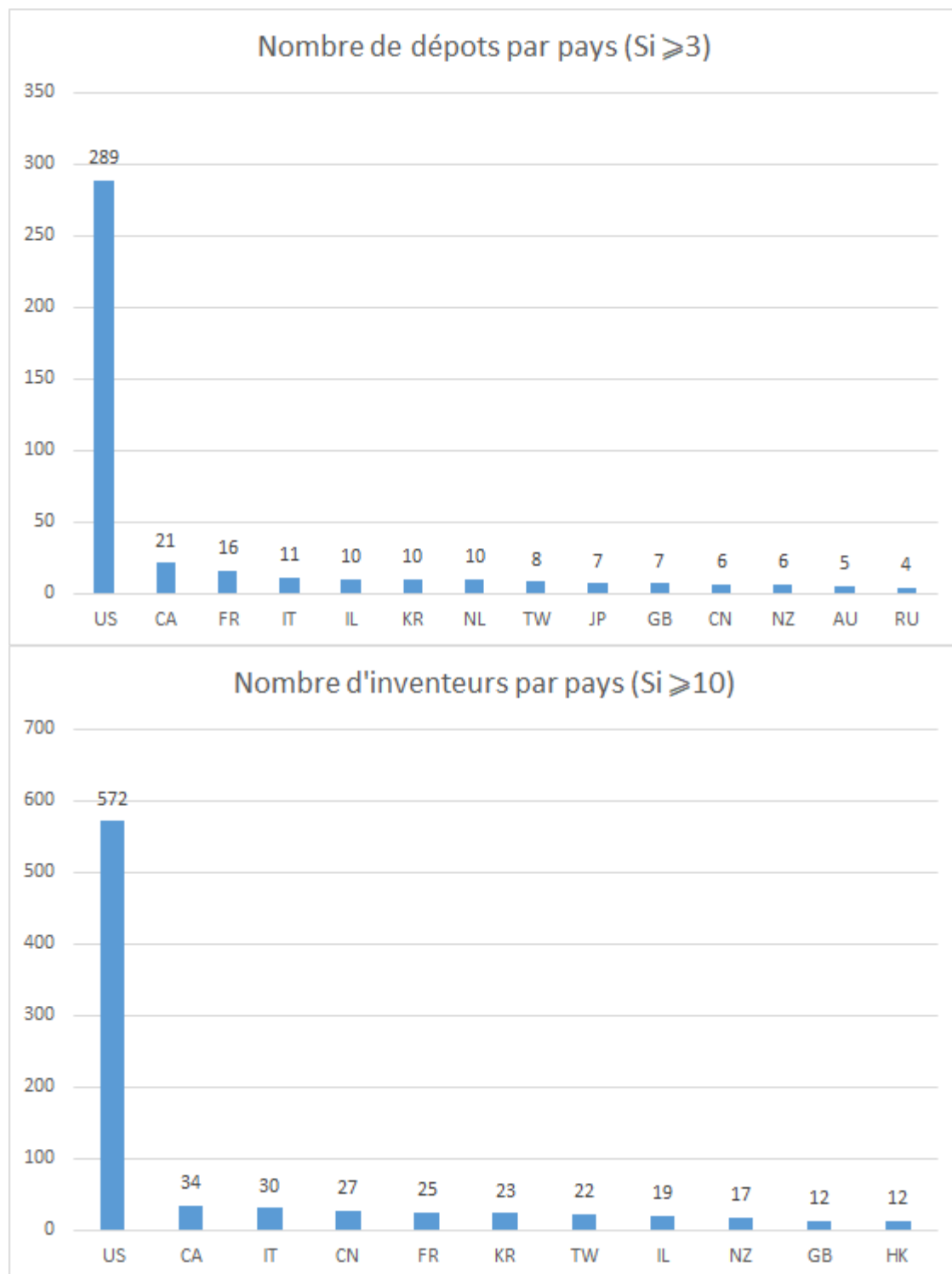
Analyse dynamique du développement du champ technologique



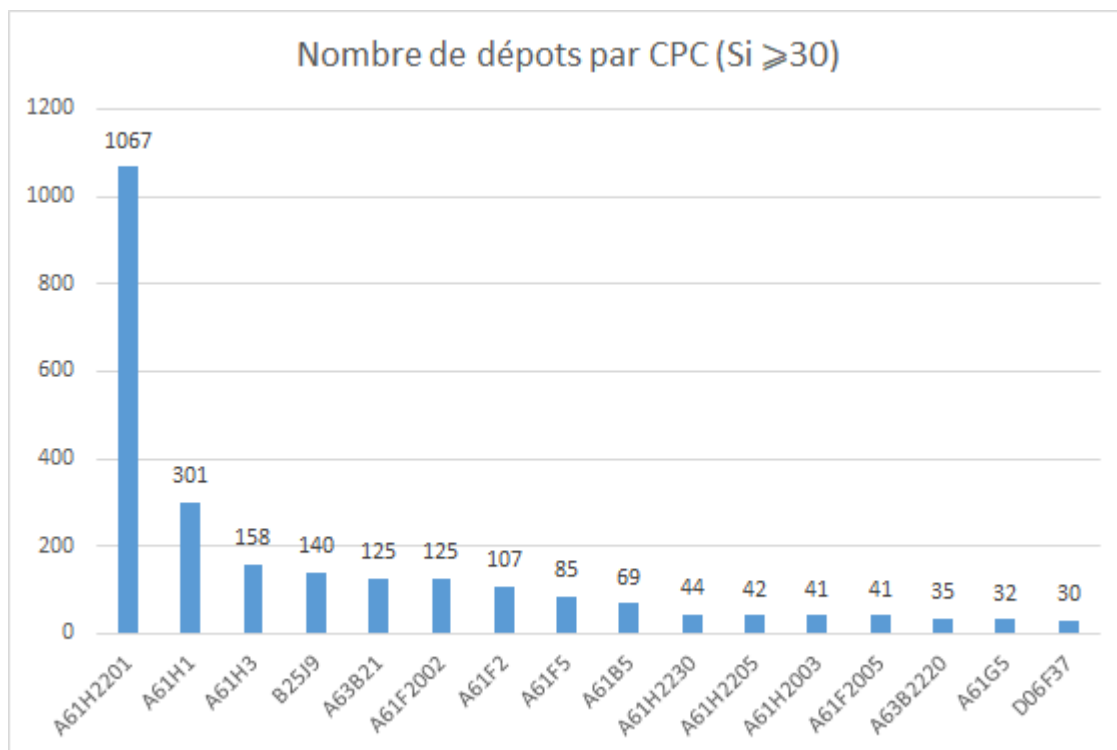
Principaux déposants et inventeur·se·s



Principaux pays des déposants et inventeur·se·s



Principaux codes CPC



A61H2201

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL OR VETERINARY SCIENCE; HYGIENE

A61H

PHYSICAL THERAPY APPARATUS, e.g. DEVICES FOR LOCATING OR STIMULATING REFLEX POINTS IN THE BODY; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES FOR SPECIAL THERAPEUTIC OR HYGIENIC PURPOSES OR SPECIFIC PARTS OF THE BODY (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy A61N)

A61H2201/00

Characteristics of apparatus not provided for in the preceding codes

A61H1

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61H

PHYSICAL THERAPY APPARATUS, e.g. DEVICES **FOR** LOCATING **OR** STIMULATING REFLEX POINTS **IN** THE **BODY**; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES **FOR** SPECIAL THERAPEUTIC **OR** HYGIENIC PURPOSES **OR** SPECIFIC PARTS **OF** THE **BODY** (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy A61N)

A61H1/00

Apparatus **for** passive exercising (A61H5/00 takes precedence); Vibrating apparatus (driving means **for** vibrating A61H23/00); Chiropractic devices, e.g. **body** impacting devices, external devices **for** briefly extending **or** aligning unbroken bones

A61H3

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61H

PHYSICAL THERAPY APPARATUS, e.g. DEVICES **FOR** LOCATING **OR** STIMULATING REFLEX POINTS **IN** THE **BODY**; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES **FOR** SPECIAL THERAPEUTIC **OR** HYGIENIC PURPOSES **OR** SPECIFIC PARTS **OF** THE **BODY** (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy A61N)

A61H3/00

Appliances **for** aiding patients **or** disabled persons **to** walk about (apparatus **for** helping babies **to** walk A47D13/04; orthopaedic devices **for** correcting deformities **of**, **or** supporting, limbs A61F5/0102; exercising apparatus **for** the feet **or** toes A63B23/10; stairways **or** ramps E04F11/00)

B25J9

B

PERFORMING OPERATIONS; TRANSPORTING

SHAPING

B25

HAND TOOLS; PORTABLE POWER-DRIVEN TOOLS; MANIPULATORS

B25J

MANIPULATORS; CHAMBERS PROVIDED **WITH** MANIPULATION DEVICES (manipulators specially adapted **for use in** surgery A61B34/70; manipulators used **in** cleaning hollow articles B08B9/04 ; manipulators associated **with** rolling mills B21B39/20; manipulators associated **with** forging machines B21J13/10; manipulators associated **with** picking-up **and** placing mechanisms B23P19/007 ; means **for** holding wheels **or** parts thereof B60B30/00; vehicles **with** ground-engaging propulsion means, e.g. walking members B62D57/02, B62D57/032; devices **for** picking-up **and** depositing articles **or** materials between conveyors B65G47/90, B65G47/91; manipulators **with** gripping **or** holding means **for** transferring packages B65H67/065; cranes B66C; manipulators used **in** the protection **or** supervision **of** pipe-line installations F17D5/00; walking equipment adapted **for** nuclear steam-generators F22B37/006; manipulators specially adapted **for**, **or** associated **with**, nuclear reactors G21C; apparatus used **for** handling wafers during manufacture **or** treatment **of** semiconductor H01L21/68)

B25J9/00

Programme-controlled manipulators

A63B21

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A63

SPORTS; GAMES; AMUSEMENTS

A63B

APPARATUS FOR PHYSICAL TRAINING, GYMNASTICS, SWIMMING, CLIMBING, OR FENCING; BALL GAMES; TRAINING EQUIPMENT (apparatus **for** passive exercising, massage A61H)

Gymnastic exercising apparatus (training apparatus **for** special sports A63B69/00; apparatus **for** passive exercising, massage A61H)

A63B21/00

Exercising apparatus **for** developing **or** strengthening **the** muscles **or** joints **of the** body **by** working against **a** counterforce, **with or without** measuring devices (electric **or** electronic controls therefor A63B24/00)

A61F2002

A61F2

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61F

FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY **TO**, **OR** PREVENTING COLLAPSING **OF**, TUBULAR STRUCTURES **OF** THE **BODY**, e.g. STENTS; ORTHOPAEDIC, NURSING **OR** CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT **OR** PROTECTION **OF** EYES **OR** EARS; BANDAGES, DRESSINGS **OR** ABSORBENT PADS; FIRST-AID KITS (dental prosthetics A61C)

Filters; Devices providing patency **to** tubular structures; Prostheses; Accessories

A61F2/00

Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes **or** replacements **for** parts **of** the **body**; Appliances **for** connecting them **with** the **body**; Devices providing patency **to**, **or** preventing collapsing **of**, tubular structures **of** the **body**, e.g. stents (as cosmetic articles, see the relevant subclasses, e.g. wigs, hair pieces, A41G3/00, A41G5/00, artificial nails A45D31/00; dental prostheses A61C13/00; materials **for** prostheses A61L27/00; artificial hearts A61M1/10; artificial kidneys A61M1/14)

A61F5

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61F

FILTERS IMPLANTABLE **INTO** BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY **TO**, **OR** PREVENTING COLLAPSING **OF**, TUBULAR STRUCTURES **OF** THE BODY, e.g. STENTS; ORTHOPAEDIC, NURSING **OR** CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT **OR** PROTECTION **OF** EYES **OR** EARS; BANDAGES, DRESSINGS **OR** ABSORBENT PADS; FIRST-AID KITS (dental prosthetics A61C)

A61F5/00

Orthopaedic methods **or** devices **for** non-surgical treatment **of** bones **or** joints (surgical instruments **or** methods **for** treatment **of** bones **or** joints, devices specially adapted therefor A61B17/56); Nursing devices; Anti-rape devices (bandages, dressings **or** absorbent pads A61F13/00)

A61B5

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61B

DIAGNOSIS; SURGERY; IDENTIFICATION (analysing biological material G01N, e.g. G01N33/48; obtaining records **using** waves other than optical waves, **in** general G03B42/00)

Diagnosis; Psycho-physical tests

A61B5/00

Detecting, measuring **or** recording **for** diagnostic purposes (radiation diagnosis A61B6/00; diagnosis **by** ultrasonic, sonic **or** infrasonic waves A61B8/00); Identification **of** persons

A61H2230

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61H

PHYSICAL THERAPY APPARATUS, e.g. DEVICES **FOR** LOCATING **OR** STIMULATING REFLEX POINTS **IN** THE **BODY**; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES **FOR** SPECIAL THERAPEUTIC **OR** HYGIENIC PURPOSES **OR** SPECIFIC PARTS **OF** THE **BODY** (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy A61N)

A61H2230/00

Measuring physical parameters **of** the user

A61H2205

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61H

PHYSICAL THERAPY APPARATUS, e.g. DEVICES **FOR** LOCATING **OR** STIMULATING REFLEX POINTS **IN** THE **BODY**; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES **FOR** SPECIAL THERAPEUTIC **OR** HYGIENIC PURPOSES **OR** SPECIFIC PARTS **OF** THE **BODY** (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy A61N)

A61H2205/00

Devices **for** specific parts **of**

A61H2003

A61F2005

A63B2220

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A63

SPORTS; GAMES; AMUSEMENTS

A63B

APPARATUS **FOR** PHYSICAL TRAINING, GYMNASTICS, SWIMMING, CLIMBING, **OR**
FENCING; BALL GAMES; TRAINING EQUIPMENT (apparatus **for** passive exercising, massage
A61H)

A63B2220/00

Measuring **of** physical parameters relating **to** sporting activity

A61G5

A

HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61

MEDICAL **OR** VETERINARY SCIENCE; HYGIENE

A61G

TRANSPORT, PERSONAL CONVEYANCES, **OR** ACCOMMODATION SPECIALLY ADAPTED **FOR** PATIENTS **OR** DISABLED PERSONS (appliances **for** aiding patients **or** disabled persons **to** walk A61H3/00); OPERATING TABLES **OR** CHAIRS; CHAIRS **FOR** DENTISTRY; FUNERAL DEVICES (embalming corpses A01N1/00)

Ambulance service

A61G5/00

Chairs **or** personal conveyances specially adapted **for** patients **or** disabled persons, e.g. wheelchairs (chairs **with** toilet conveniences A47K11/04; devices enabling patients **or** disabled persons **to** operate an apparatus **or** device **not** forming part **of** the **body** A61F4/00; running gear **or** propulsion features B60K; bicycles specially adapted **for** disabled riders B62K3/16 ; Invalid chairs having removable seats specially adapted **to** be transferred **with** the invalid **to** a vehicle **and** support the invalid during **use of** the vehicle A61G3/02)

D06F37

D

TEXTILES; PAPER

TEXTILES **OR** FLEXIBLE MATERIALS **NOT** OTHERWISE PROVIDED **FOR**

D06

TREATMENT **OF** TEXTILES **OR** THE **LIKE**; LAUNDERING; FLEXIBLE MATERIALS **NOT** OTHERWISE PROVIDED **FOR**

D06F

LAUNDERING, DRYING, IRONING, PRESSING **OR** FOLDING TEXTILE ARTICLES (apparatus **for** blocking, pressing, steaming, **or** stretching hats A42C; treating textile materials **by** liquids, gases **or** vapours D06B; chemical matters, see D06L, D06M)

Washing; Rinsing; Dry-cleaning

D06F37/00

Details **of** washing machines **of** kinds covered **by** groups D06F21/00
- D06F25/00, restricted **to** machines **of** these kinds (details **of** more general application D06F39/00; details concerning drying only D06F58/00)