

# CPC COOPERATIVE PATENT CLASSIFICATION

## A HUMAN NECESSITIES

### HEALTH; AMUSEMENT

#### A61 MEDICAL OR VETERINARY SCIENCE; HYGIENE

#### A61B **DIAGNOSIS; SURGERY; IDENTIFICATION** (analysing biological material [G01N](#), e.g. [G01N 33/48](#); obtaining records using waves other than optical waves, in general [G03B 42/00](#))

##### NOTE

This subclass covers instruments, implements and processes for diagnostic, surgical and person-identification purposes, including obstetrics, instruments for cutting corns, vaccination instruments, finger-printing, psycho-physical tests.

##### WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
 

|                             |            |                                      |
|-----------------------------|------------|--------------------------------------|
| <a href="#">A61B 5/0295</a> | covered by | <a href="#">A61B 5/026</a>           |
| <a href="#">A61B 5/151</a>  | covered by | <a href="#">A61B 5/1411</a>          |
| <a href="#">A61B 5/153</a>  | covered by | <a href="#">A61B 5/1405</a>          |
| <a href="#">A61B 5/154</a>  | covered by | <a href="#">A61B 5/1438</a>          |
| <a href="#">A61B 5/157</a>  | covered by | <a href="#">A61B 5/00</a> and s. gr. |
| <a href="#">A61B 17/03</a>  | covered by | <a href="#">A61B 17/00</a>           |
| <a href="#">A61B 17/125</a> | covered by | <a href="#">A61B 17/122</a>          |
| <a href="#">A61B 17/138</a> | covered by | <a href="#">A61B 17/12</a>           |
| <a href="#">A61B 17/76</a>  | covered by | <a href="#">A61B 17/744</a>          |
| <a href="#">A61B 17/78</a>  | covered by | <a href="#">A61B 17/744</a>          |
| <a href="#">A61B 17/90</a>  | covered by | <a href="#">A61B 17/88</a>           |
| <a href="#">A61B 17/94</a>  | covered by | <a href="#">A61B 17/29</a>           |
- In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

##### Diagnosis; Psycho-physical tests

**1/00 Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection, e.g. endoscopes (examination of body cavities or body tracts using ultrasonic, sonic or infrasonic waves [A61B 8/12](#); instruments, e.g. endoscopes, for taking a cell sample [A61B 10/00](#); endoscopic cutting instruments [A61B 17/32](#); surgical instruments using a laser beam being directed along or through a flexible conduit [A61B 18/22](#); technical endoscopes [G02B 23/24](#)); Illuminating arrangements therefor (for the eyes [A61B 3/00](#))**

1/00002 . {Operational features of endoscopes}  
 1/00004 . . {characterised by electronic signal processing}  
 1/00006 . . . {of control signals}  
 1/00009 . . . {of image signals ([G06T](#) takes precedence)}  
 1/00011 . . {characterised by data transmission}  
 1/00013 . . . {using optical means}  
 1/00016 . . . {using wireless means}  
 1/00018 . . . {using electrical cables}  
 1/0002 . . {provided with data storages}  
 1/00022 . . . {removable}  
 1/00025 . . {characterised by power management}  
 1/00027 . . . {characterised by power supply}  
 1/00029 . . . . {externally powered, e.g. wireless}  
 1/00032 . . . . {internally powered}

1/00034 . . . . . {rechargeable}  
 1/00036 . . . {Means for power saving, e.g. sleeping mode}  
 1/00039 . . {provided with data input arrangements for the user}  
 1/00041 . . . {for user message recording}  
 1/00043 . . {provided with signal output arrangements}  
 1/00045 . . . {Display arrangement}  
 1/00048 . . . . {Constructional features of the display}  
 1/0005 . . . . {for multiple images}  
 1/00052 . . . . {positioned at proximal end of the endoscope body}  
 1/00055 . . . {for alerting the user}  
 1/00057 . . {provided with means for testing or calibration}  
 1/00059 . . {provided with identification means for the endoscope}  
 1/00062 . . {provided with means for preventing overuse}  
 1/00064 . {Constructional details of the endoscope body}  
 1/00066 . . {Proximal part of endoscope body, e.g. handles ([A61B 1/0052](#) takes precedence)}  
 1/00068 . . . {Valve switch arrangements}  
 1/00071 . . {Insertion part of the endoscope body ([A61B 1/0055](#) takes precedence)}  
 1/00073 . . . {with externally grooved shaft}  
 1/00075 . . . {with externally roughened shaft}  
 1/00078 . . . {with stiffening means}  
 1/0008 . . . {characterised by distal tip features}  
 1/00082 . . . . {Balloons}

- 1/00085 . . . . {Baskets}
- 1/00087 . . . . {Tools ([A61B 17/00234](#) takes precedence)}
- 1/00089 . . . . {Hoods}
- 1/00091 . . . . {Nozzles}
- 1/00094 . . . . {Suction openings}
- 1/00096 . . . . {Optical elements}
- 1/00098 . . . . {Deflecting means for inserted tools}
- 1/00101 . . . . {the distal tip features being detachable}
- 1/00103 . . {designed for single use}
- 1/00105 . . {characterised by modular construction}
- 1/00108 . . {characterised by self-sufficient functionality for stand-alone use}
- 1/00111 . . {Manufacturing of endoscope parts}
- 1/00112 . {Connection or coupling means}
- 1/00114 . . {Electrical cables for connection to external units}
- 1/00117 . . {Optical cables, e.g. for connection to an external light source}
- 1/00119 . . {Tubes or pipes, e.g. for fluid supply to the endoscope}
- 1/00121 . . {Connectors, fasteners and adapters, e.g. on the endoscope handle}
- 1/00124 . . . {electrical, e.g. electrical plug-and-socket connection}
- 1/00126 . . . {optical, e.g. for light supply cables}
- 1/00128 . . . {mechanical, e.g. for tubes or pipes}
- 1/00131 . {Accessories for endoscopes}
- 1/00133 . . {Drive units, e.g. for endoscopic tools}
- 1/00135 . . {Oversleeves ([A61B 1/00142](#) takes precedence)}
- 1/00137 . . {End pieces, e.g. caps, seals, forceps plugs}
- 1/0014 . . {Fastening elements for attaching accessories to the outside of an endoscope shaft, e.g. clips, clamps or bands}
- 1/00142 . {with means for preventing contamination, e.g. by using a sanitary sheath}
- 1/00144 . . {Hygienic packaging}
- 1/00147 . {Holding or positioning arrangements}
- 1/00149 . . {using articulated arms}
- 1/00151 . . {using everted tubes}
- 1/00154 . . {using guide tubes}
- 1/00156 . . {using self propulsion}
- 1/00158 . . {using magnetic field}
- 1/0016 . . {using motor drive units}
- 1/00163 . {Optical arrangements ([A61B 1/002](#), [A61B 1/06](#) take precedence)}
- 1/00165 . . {with light-conductive means, e.g. fibre optics ([A61B 1/07](#) takes precedence)}
- 1/00167 . . . {Details of optical fibre bundles, e.g. shape or fibre distribution}
- 1/0017 . . . {Details of single optical fibres, e.g. material or cladding}
- 1/00172 . . {with means for scanning}
- 1/00174 . . {characterised by the viewing angles}
- 1/00177 . . . {for 90 degrees side-viewing}
- 1/00179 . . . {for off-axis viewing}
- 1/00181 . . . {for multiple fixed viewing angles ([A61B 1/00193](#) takes precedence)}
- 1/00183 . . . {for variable viewing angles}
- 1/00186 . . {with imaging filters}
- 1/00188 . . {with focusing or zooming features}
- 1/0019 . . . {characterised by variable lenses}
- 1/00193 . . {adapted for stereoscopic vision}
- 1/00195 . . {with eyepieces}
- 1/00197 . . . {characterised by multiple eyepieces}
- 1/002 . . having rod-lens arrangements ([A61B 1/055](#) takes precedence)
- 1/005 . . Flexible endoscopes
- 1/0051 . . {with controlled bending of insertion part}
- 1/0052 . . . {Constructional details of control elements, e.g. handles}
- 1/0053 . . . . {using distributed actuators, e.g. artificial muscles}
- 1/0055 . . . {Constructional details of insertion parts, e.g. vertebral elements}
- 1/0056 . . . . {the insertion parts being asymmetric, e.g. for unilateral bending mechanisms}
- 1/0057 . . . {Constructional details of force transmission elements, e.g. control wires}
- 1/0058 . . {using shape-memory elements}
- 1/008 . . Articulations
- 1/01 . . Guiding arrangements therefore
- 1/012 . . characterised by internal passages or accessories therefor
- 1/0125 . . {Endoscope within endoscope}
- 1/015 . . Control of fluid supply or evacuation
- 1/018 . . for receiving instruments
- 1/04 . . combined with photographic or television appliances ({[camera adapters G03B 17/48](#)})
- 1/041 . . {Capsule endoscopes for imaging}
- 1/042 . . {characterised by a proximal camera, e.g. a CCD camera}
- 1/043 . . {for fluorescence imaging}
- 1/045 . . Control therefor
- 1/05 . . characterised by the image sensor, e.g. camera, being in the distal end portion
- 1/051 . . . {Details of CCD assembly}
- 1/053 . . . {being detachable}
- 1/055 . . having rod-lens arrangements
- 1/06 . . with illuminating arrangements
- 1/0607 . . {for annular illumination}
- 1/0615 . . {for radial illumination}
- 1/0623 . . {for off-axis illumination}
- 1/063 . . {for monochromatic illumination}
- 1/0638 . . {providing two or more wavelengths}
- 1/0646 . . {with illumination filters}
- 1/0653 . . {with wavelength conversion}
- 1/0661 . . {Endoscope light sources}
- 1/0669 . . . {at proximal end of an endoscope}
- 1/0676 . . . {at distal tip of an endoscope}
- 1/0684 . . . {using light emitting diodes [LED]}
- 1/0692 . . . {head mounted}
- 1/07 . . using light-conductive means, e.g. optical fibres
- 1/12 . . with cooling or rinsing arrangements
- 1/121 . . {provided with means for cleaning post-use}
- 1/122 . . . {using cleaning tools, e.g. brushes}
- 1/123 . . . {using washing machines}
- 1/125 . . . {using fluid circuits}
- 1/126 . . {provided with means for cleaning in-use}
- 1/127 . . {with means for preventing fogging ([A61B 1/253](#) takes precedence)}
- 1/128 . . {provided with means for regulating temperature}
- 1/227 . . for ears, i.e. otoscopes
- 1/2275 . . {with controlled air pressure}

- 1/233 . . for the nose, i.e. nasoscopes {, e.g. testing of patency of Eustachian tubes}
- 1/24 . . for the mouth, i.e. stomatoscopes, e.g. with tongue depressors (tongue depressors per se A61B 13/00); Instruments for opening or keeping open the mouth (combined with saliva removers A61C 17/00; mouth openers for animals A61D 15/00)
- 1/247 . . with means for viewing areas outside the direct line of sight, e.g. dentists' mirrors
- 1/253 . . . with means for preventing fogging
- 1/267 . . for the respiratory tract, e.g. laryngoscopes, bronchoscopes
- 1/2673 . . {for monitoring movements of vocal chords}
- 1/2676 . . {Bronchoscopes}
- 1/273 . . for the upper alimentary canal, e.g. oesophagoscopes, gastroscopes
- 1/2733 . . {Oesophagoscopes}
- 1/2736 . . {Gastroscopes}
- 1/303 . . for the vagina, i.e. vaginoscopes
- 1/307 . . for the urinary organs, e.g. urethoscopes, cystoscopes
- 1/31 . . for the rectum, e.g. proctoscopes, sigmoidoscopes {, colonoscopes}
- 1/313 . . for introducing through surgical openings, e.g. laparoscopes
- 1/3132 . . {for laparoscopy}
- 1/3135 . . {for examination of the epidural or the spinal space}
- 1/3137 . . {for examination of the interior of blood vessels}
- 1/317 . . for bones or joints, e.g. osteoscopes, arthroscopes
- 1/32 . . Devices for opening or enlarging the visual field, e.g. of a tube of the body (dilators A61M 29/00)
- 3/00 Apparatus for testing the eyes; Instruments for examining the eyes (eye inspection using ultrasonic, sonic or infrasonic waves A61B 8/10; devices for treatment of the eyes A61F 9/00; exercisers for the eyes A61H 5/00; optical systems in general G02B)**
- 3/0008 . . {provided with illuminating means (A61B 3/117 takes precedence; goniolescopes used for laser treatment A61F 9/009; illuminating means for optical instruments G02B 27/00)}
- 3/0016 . . {Operational features thereof}
- 3/0025 . . {characterised by electronic signal processing, e.g. eye models}
- 3/0033 . . {characterised by user input arrangements}
- 3/0041 . . {characterised by display arrangements}
- 3/005 . . . {Constructional features of the display}
- 3/0058 . . . {for multiple images}
- 3/0066 . . {with identification means for the apparatus}
- 3/0075 . . {provided with adjusting devices, e.g. operated by control lever (manipulators B25J)}
- 3/0083 . . {provided with means for patient positioning}
- 3/0091 . . {Fixation targets for viewing direction}
- 3/02 . . Subjective types, i.e. testing apparatus requiring the active assistance of the patient
- 3/022 . . {for testing contrast sensitivity}
- 3/024 . . for determining the visual field, e.g. perimeter types
- 3/028 . . for testing visual acuity; for determination of refraction, e.g. phoropters
- 3/0285 . . . {Phoropters}
- 3/032 . . . Devices for presenting test symbols or characters, e.g. test chart projectors (A61B 3/036 takes precedence)
- 3/0325 . . . {provided with red and green targets}
- 3/036 . . . for testing astigmatism
- 3/04 . . . Trial frames; Sets of lenses for use therewith (lenses per se G02C 7/02)
- 3/06 . . for testing light sensitivity, e.g. adaptation; for testing colour vision
- 3/063 . . . {for testing light sensitivity, i.e. adaptation}
- 3/066 . . . {for testing colour vision}
- 3/08 . . for testing binocular or stereoscopic vision, e.g. strabismus
- 3/085 . . . {for testing strabismus}
- 3/09 . . for testing accommodation
- 3/10 . . Objective types, i.e. instruments for examining the eyes independent of the patients' perceptions or reactions
- 3/1005 . . {for measuring distances inside the eye, e.g. thickness of the cornea (A61B 3/11 takes precedence)}
- 3/101 . . {for examining the tear film}
- 3/1015 . . {for wavefront analysis}
- 3/102 . . {for optical coherence tomography [OCT]}
- 3/1025 . . {for confocal scanning}
- 3/103 . . for determining refraction, e.g. refractometers, skiascopes
- 3/1035 . . . {for measuring astigmatism (testing astigmatism A61B 3/036)}
- 3/107 . . for determining the shape or measuring the curvature of the cornea
- 3/11 . . for measuring interpupillary distance or diameter of pupils
- 3/111 . . . {for measuring interpupillary distance}
- 3/112 . . . {for measuring diameter of pupils}
- 3/113 . . for determining or recording eye movement
- 3/117 . . for examining the anterior chamber or the anterior chamber angle, e.g. gonioscopes
- 3/1173 . . . {for examining the eye lens}
- 3/1176 . . . . {for determining lens opacity, e.g. cataract}
- 3/12 . . for looking at the eye fundus, e.g. ophthalmoscopes (A61B 3/13 takes precedence)
- 3/1208 . . . {Multiple lens hand-held instruments}
- 3/1216 . . . {for diagnostics of the iris}
- 3/1225 . . . {using coherent radiation}
- 3/1233 . . . . {for measuring blood flow, e.g. at the retina}
- 3/1241 . . . {specially adapted for observation of ocular blood flow, e.g. by fluorescein angiography}
- 3/125 . . . with contact lenses (contact lenses per se G02C 7/04)
- 3/13 . . Ophthalmic microscopes
- 3/132 . . . {in binocular arrangement}
- 3/135 . . . Slit-lamp microscopes
- 3/14 . . Arrangements specially adapted for eye photography {(apparatus or arrangements for taking photographs per se G03B)}
- 3/145 . . . {by video means}
- 3/15 . . . with means for aligning, spacing or blocking spurious reflection {; with means for relaxing}
- 3/152 . . . . {for aligning}
- 3/154 . . . . {for spacing}
- 3/156 . . . . {for blocking}
- 3/158 . . . . . {of corneal reflection}

- 3/16 . . for measuring intraocular pressure, e.g. tonometers
- 3/165 . . . {Non-contacting tonometers}
- 3/18 . Arrangement of plural eye-testing or -examining apparatus
- 3/185 . . {characterised by modular construction}
- 5/00 Detecting, measuring or recording for diagnostic purposes** (radiation diagnosis [A61B 6/00](#); diagnosis by ultrasonic, sonic or infrasonic waves [A61B 8/00](#)); **Identification of persons**
- 5/0002 . {Remote monitoring of patients using telemetry, e.g. transmission of vital signals via a communication network ([A61B 5/07](#) takes precedence; transmission systems for measured values [G08C](#); transmission [H04B](#); transmission of digital information [H04L](#); wireless communication networks [H04W](#))}
- 5/0004 . . {characterised by the type of physiological signal transmitted}
- 5/0006 . . . {ECG or EEG signals}
- 5/0008 . . . {Temperature signals}
- 5/0011 . . . {Foetal or obstetric data}
- 5/0013 . . . {Medical image data ([A61B 1/00011](#), [A61B 6/56](#), [A61B 8/56](#) take precedence)}
- 5/0015 . . {characterised by features of the telemetry system}
- 5/0017 . . . {transmitting optical signals (transmission by light [H04B 10/00](#))}
- 5/002 . . . {Monitoring the patient using a local or closed circuit, e.g. in a room or building ([A61B 5/0017](#) takes precedence)}
- 5/0022 . . . {Monitoring a patient using a global network, e.g. telephone networks, internet}
- 5/0024 . . . {for multiple sensor units attached to the patient, e.g. using a body or personal area network}
- 5/0026 . . {characterised by the transmission medium}
- 5/0028 . . . {Body tissue as transmission medium, i.e. transmission systems where the medium is the human body}
- 5/0031 . . {Implanted circuitry}
- 5/0033 . {Features or image-related aspects of imaging apparatus classified in [A61B 5/00](#), e.g. for MRI, optical tomography or impedance tomography apparatus; arrangements of imaging apparatus in a room (image data processing or generation [G06T](#))}

**WARNINGS**

1. Group [A61B 5/0033](#) and subgroups are not complete pending a reorganisation.
2. Group [A61B 5/0033](#) is impacted by reclassification into group [A61B 5/0036](#). Groups [A61B 5/0033](#) and [A61B 5/0036](#) should be considered in order to perform a complete search.

- 5/0035 . . {adapted for acquisition of images from more than one imaging mode, e.g. combining MRI and optical tomography}

- 5/0036 . . {including treatment, e.g., using an implantable medical device, ablating, ventilating}

**WARNING**

Group [A61B 5/0036](#) is incomplete pending reclassification of documents from groups [A61B 5/0033](#) and [A61B 5/4836](#).

Groups [A61B 5/0033](#), [A61B 5/0036](#) and [A61B 5/4836](#) should be considered in order to perform a complete search.

- 5/0037 . . {Performing a preliminary scan, e.g. a prescan for identifying a region of interest}
- 5/004 . . {adapted for image acquisition of a particular organ or body part ([A61B 5/0082](#) takes precedence; arrangements for optical scanning [A61B 5/0062](#))}
- 5/0042 . . . {for the brain}
- 5/0044 . . . {for the heart}
- 5/0046 . . {Arrangements of imaging apparatus in a room, e.g. room provided with shielding or for improved access to apparatus}
- 5/0048 . {Detecting, measuring or recording by applying mechanical forces or stimuli ([A61B 5/021](#), [A61B 5/4884](#) and [A61B 9/00](#) take precedence)}
- 5/0051 . . {by applying vibrations}
- 5/0053 . . {by applying pressure, e.g. compression, indentation, palpation, grasping, gauging}
- 5/0055 . . {by applying suction}
- 5/0057 . . {by applying motion other than vibrations, e.g. rolling, rubbing, applying a torque, tribometry}
- 5/0059 . {using light, e.g. diagnosis by transillumination, diascopy, fluorescence ([A61B 5/0093](#), [A61B 5/1455](#), [A61B 5/02416](#) and [A61B 5/0261](#) take precedence)}
- 5/0062 . . {Arrangements for scanning}

**WARNING**

Group [A61B 5/0062](#) and subgroups are not complete pending a reorganisation, see also group [A61B 5/0059](#)

- 5/0064 . . . {Body surface scanning}
- 5/0066 . . . {Optical coherence imaging}
- 5/0068 . . . {Confocal scanning}
- 5/0071 . . {by measuring fluorescence emission}
- 5/0073 . . {by tomography, i.e. reconstruction of 3D images from 2D projections ([A61B 5/0066](#) takes precedence)}
- 5/0075 . . {by spectroscopy, i.e. measuring spectra, e.g. Raman spectroscopy, infrared absorption spectroscopy ([A61B 5/0071](#) takes precedence)}
- 5/0077 . . {Devices for viewing the surface of the body, e.g. camera, magnifying lens}
- 5/0079 . . . {using mirrors, i.e. for self-examination}
- 5/0082 . . {adapted for particular medical purposes}
- 5/0084 . . . {for introduction into the body, e.g. by catheters ([A61B 5/1459](#) takes precedence)}
- 5/0086 . . . . {using infra-red radiation}
- 5/0088 . . . {for oral or dental tissue}
- 5/0091 . . . {for mammography}
- 5/0093 . {Detecting, measuring or recording by applying one single type of energy and measuring its conversion into another type of energy}



- 5/0095 . . {by applying light and detecting acoustic waves, i.e. photoacoustic measurements}
  - 5/0097 . . {by applying acoustic waves and detecting light, i.e. acoustooptic measurements}
  - 5/01 . Measuring temperature of body parts; {Diagnostic temperature sensing, e.g. for malignant or inflamed tissue} (clinical thermometers G01K 5/22; thermometers for special purposes G01K 13/00)
  - 5/015 . . {By temperature mapping of body part}
  - 5/02 . Detecting, measuring or recording pulse, heart rate, blood pressure or blood flow; Combined pulse/heart-rate/blood pressure determination; Evaluating a cardiovascular condition not otherwise provided for, e.g. using combinations of techniques provided for in this group with electrocardiography or electroauscultation; Heart catheters for measuring blood pressure
  - 5/02007 . . {Evaluating blood vessel condition, e.g. elasticity, compliance}
  - 5/02014 . . . {Determining aneurysm}
  - 5/02021 . . . {Determining capillary fragility}
  - 5/02028 . . {Determining haemodynamic parameters not otherwise provided for, e.g. cardiac contractility or left ventricular ejection fraction}
  - 5/02035 . . . {Determining blood viscosity}
  - 5/02042 . . {Determining blood loss or bleeding, e.g. during a surgical procedure}
  - 5/0205 . . Simultaneously evaluating both cardiovascular conditions and different types of body conditions, e.g. heart and respiratory condition
  - 5/02055 . . . {Simultaneously evaluating both cardiovascular condition and temperature}
  - 5/021 . . Measuring pressure in heart or blood vessels (A61B 5/0205 takes precedence)
  - 5/02108 . . . {from analysis of pulse wave characteristics}
  - 5/02116 . . . . {of pulse wave amplitude (A61B 5/02225 takes precedence)}
  - 5/02125 . . . . {of pulse wave propagation time}
  - 5/02133 . . . {by using induced vibration of the blood vessel}
  - 5/02141 . . . {Details of apparatus construction, e.g. pump units or housings therefor, cuff pressurising systems, arrangements of fluid conduits or circuits (A61B 5/02233, A61B 5/0235 take precedence)}
  - 5/0215 . . . by means inserted into the body (catheters A61M 25/00)
  - 5/02152 . . . . {specially adapted for venous pressure}
  - 5/02154 . . . . {by optical transmission}
  - 5/02156 . . . . {Calibration means}
  - 5/02158 . . . . {provided with two or more sensor elements}
  - 5/022 . . . by applying pressure to close blood vessels, e.g. against the skin; Ophthalmodynamometers
  - 5/02208 . . . . {using the Korotkoff method}
  - 5/02216 . . . . {Ophthalmodynamometers}
  - 5/02225 . . . . {using the oscillometric method}
  - 5/02233 . . . . {Occluders specially adapted therefor (tourniquets A61B 17/132)}
  - 5/02241 . . . . . {of small dimensions, e.g. adapted to fingers}
  - 5/0225 . . . . the pressure being controlled by electric signals, e.g. derived from Korotkoff sounds
  - 5/02255 . . . . . {the pressure being controlled by plethysmographic signals, e.g. derived from optical sensors}
  - 5/023 . . . . the pressure transducers comprising a liquid column
  - 5/0235 . . . . Valves specially adapted therefor
  - 5/024 . . Detecting, measuring or recording pulse rate or heart rate (A61B 5/0205, A61B 5/021 take precedence)
  - 5/02405 . . . {Determining heart rate variability}
  - 5/02411 . . . {of foetuses}
  - 5/02416 . . . {using photoplethysmograph signals, e.g. generated by infra-red radiation (A61B 5/14552 takes precedence)}
  - 5/02422 . . . . {within occluders}
  - 5/02427 . . . . {Details of sensor}
  - 5/02433 . . . . . {for infra-red radiation}
  - 5/02438 . . . {with portable devices, e.g. worn by the patient}
  - 5/02444 . . . {Details of sensor (A61B 5/02427 takes precedence)}
  - 5/0245 . . . by using sensing means generating electric signals, i.e. ECG signals}
  - 5/02455 . . . . {provided with high/low alarm devices}
  - 5/025 . . . . within occluders, e.g. responsive to Korotkoff sounds (electric stethoscopes A61B 7/04)
  - 5/0255 . . . Recording instruments specially adapted therefor
  - 5/026 . . Measuring blood flow {(A61B 3/1233, A61B 3/1241 take precedence)}
  - 5/0261 . . . . {using optical means, e.g. infra-red light}
  - 5/0263 . . . . {using NMR}
  - 5/0265 . . . . using electromagnetic means, e.g. electromagnetic flowmeter
  - 5/027 . . . . using catheters
  - 5/0275 . . . . using tracers, e.g. dye dilution
  - 5/02755 . . . . {Radioactive tracers}
  - 5/028 . . . . by thermo-dilution
  - 5/0285 . . . Measuring or recording phase velocity of blood waves
  - 5/029 . . . Measuring or recording blood output from the heart, e.g. minute volume {(A61B 8/065 takes precedence)}
  - 5/0295 . . . . using plethysmography, i.e. measuring the variations in the volume of a body part as modified by the circulation of blood therethrough, e.g. impedance plethysmography
- WARNING**
- This sub-group is not complete pending the completion of a reclassification; see also groups A61B 5/026
- 5/03 . Detecting, measuring or recording fluid pressure within the body other than blood pressure, e.g. cerebral pressure; {Measuring pressure in body tissues or organs (A61B 5/205 takes precedence)}
  - 5/031 . . {Intracranial pressure}
  - 5/032 . . {Spinal fluid pressure}
  - 5/033 . . {Uterine pressure}
  - 5/035 . . . {Intra-uterine probes therefor}
  - 5/036 . . {by means introduced into body tracts (A61B 5/032 and A61B 5/035 take precedence)}

- 5/037 . . . {Measuring oesophageal pressure}
- 5/038 . . . {Measuring oral pressure}
- 5/04 . . . Detecting, measuring or recording bioelectric signals of the body or parts thereof
- 5/04001 . . . {adapted to neuroelectric signals, e.g. nerve impulses}
- 5/04002 . . . {Measuring direct current (D.C.) or slowly varying biopotentials}
- 5/04004 . . . {Input circuits for EEG-, or EMG-signals}
- 5/04005 . . . {Detecting magnetic fields produced by bio-electric currents (measuring magnetic variables in general [G01R 33/00](#))}
- 5/04007 . . . {specially adapted for magnetocardiographic signals}
- 5/04008 . . . {specially adapted for magneto-encephalographic signals}
- 5/04009 . . . . {using evoked response}
- 5/04011 . . . {Vector-cardiography}
- 5/04012 . . . {Analysis of electro-cardiograms, electro-encephalograms, electro-myograms}
- 5/04014 . . . {by measuring frequency distribution using a set of filters (arrangements for analysing frequency spectra in general [G01R 23/00](#))}
- 5/04015 . . . . {provided with alarm devices}
- 5/04017 . . . . {by using digital filtering}
- 5/04018 . . . . {provided with alarm devices}
- 5/0402 . . . Electrocardiography, i.e. ECG
- 5/04021 . . . {ECG simulator circuits}
- 5/04023 . . . {Physical templates or devices for measuring ECG waveforms, e.g. an electrocardiograph ruler or caliper ([A61B 5/04525](#) takes precedence)}
- 5/04025 . . . . {Preparing electrode site, e.g. by abrasion}
- 5/04026 . . . . {Means for providing electrolyte, e.g. syringes}
- 5/04028 . . . . {Generation of artificial ECG signals based on measured signals, e.g. to compensate for missing leads}
- 5/0404 . . . Hand-held devices
- 5/0408 . . . Electrodes specially adapted therefor (for foetal cardiography [A61B 5/0448](#); for electroencephalograph signals [A61B 5/0478](#); for electromyography [A61B 5/0492](#))
- 5/04082 . . . . {attached by means of suction}
- 5/04085 . . . . {Multiple electrode holders ([A61B 5/04286](#), [A61B 5/0422](#) take precedence)}
- 5/04087 . . . . {using conductive adhesive means}
- 5/0416 . . . . connected by means of snap fasteners
- 5/042 . . . . for introducing into the body
- 5/0421 . . . . . {Endotracheal, oesophageal or gastric probes}
- 5/0422 . . . . . {Multiple electrode holders}
- 5/0424 . . . . Protection against electrode failure
- 5/0428 . . . Input circuits specially adapted therefor
- 5/04282 . . . . {using insulating or floating elements, e.g. transformers, opto-couplers (transformers for specific applications [H01F 38/00](#); amplifiers [H03F](#); optocouplers [H04B 10/80](#))}
- 5/04284 . . . . {Capacitive or ionised electrodes, e.g. MOSFET}
- 5/04286 . . . . {Patient cord assembly, e.g. cable harness}
- 5/04288 . . . . {Switching circuits}
- 5/0432 . . . Recording apparatus specially adapted therefor
- 5/04325 . . . . {using integrated circuit memory devices}
- 5/0436 . . . . Magnetic recording apparatus
- 5/04365 . . . . . {Playback at speeds other than the recording speed}
- 5/044 . . . Displays specially adapted therefor { (arrangements for displaying electric variables or waveforms, e.g. cathode-ray oscilloscopes, [G01R 13/00](#)) }
- 5/0444 . . . Foetal cardiography
- 5/0448 . . . . Electrodes specially adapted therefor, e.g. scalp electrodes
- 5/04485 . . . . . {attached by means of suction}
- 5/0452 . . . . Detecting specific parameters of the electrocardiograph cycle
- 5/04525 . . . . . {by template matching}
- 5/0456 . . . . . Detecting R peaks, e.g. for synchronising diagnostic apparatus { (physiological signal analysis for synchronising or triggering a measurement or image acquisition [A61B 5/7285](#)) }
- 5/046 . . . . Detecting fibrillation
- 5/0464 . . . . Detecting tachycardia or bradycardia
- 5/0468 . . . . Detecting abnormal ECG interval {, e.g. extrasystoles, ectopic heartbeats}
- 5/0472 . . . . Detecting abnormal QRS complex {, e.g. widening}
- 5/0476 . . . Electroencephalography { (devices for psychotechnics [A61B 5/16](#)) }
- 5/0478 . . . Electrodes specially adapted therefor
- 5/048 . . . Detecting the frequency distribution of signals { (analysing frequency spectra in general [G01R 23/00](#)) }
- 5/0482 . . . . using biofeedback { (biofeedback *per se* [A61B 5/486](#)) }
- 5/0484 . . . . using evoked response
- 5/04842 . . . . . {visually}
- 5/04845 . . . . . {acoustically or auditory}
- 5/04847 . . . . . {olfactory or gustatory}
- 5/0488 . . . Electromyography
- 5/04882 . . . . {of genito-urinary organs}
- 5/04884 . . . . {Detecting gastro-intestinal contractions}
- 5/04886 . . . . {specially adapted for electroglottography or electropalatography}
- 5/04888 . . . . {Control of prosthetics}
- 5/0492 . . . Electrodes specially adapted therefor, e.g. needle electrodes
- 5/0496 . . . Electro-oculography, e.g. detecting nystagmus { (measuring or inducing nystagmus [A61B 5/4863](#)) }
- 5/05 . . . Detecting, measuring or recording for diagnosis by means of electric currents or magnetic fields; {Measuring using microwaves or radiowaves} ([A61B 5/02](#), [A61B 5/04](#), [A61B 5/11](#) take precedence)
- 5/0507 . . . {using microwaves or terahertz waves}
- 5/0515 . . . {Magnetic particle imaging}
- 5/0522 . . . {Magnetic induction tomography}
- 5/053 . . . Measuring electrical impedance or conductance of a portion of the body
- 5/0531 . . . . {Measuring skin impedance}
- 5/0532 . . . . . {specially adapted for acupuncture}
- 5/0533 . . . . . {Measuring galvanic skin response, e.g. by lie detector}
- 5/0534 . . . . {Testing vitality of teeth}

- 5/0535 . . . {impedance plethysmography}
- 5/0536 . . . {Impedance imaging, e.g. by tomography}
- 5/0537 . . . {Measuring body composition by impedance, e.g. tissue hydration or fat content}
- 5/0538 . . . {invasively, e.g. using a catheter}
- 5/055 . . involving electronic [EMR] or nuclear [NMR] magnetic resonance, e.g. magnetic resonance imaging
- 5/0555 . . . {Means for positioning of patients (for radiation diagnosis or therapy [A61B 6/04](#))}
- 5/06 . Devices, other than using radiation, for detecting or locating foreign bodies (for removing same [A61B 17/50](#)) {; determining position of probes within or on the body of the patient}
- 5/061 . . {Determining position of a probe within the body employing means separate from the probe, e.g. sensing internal probe position employing impedance electrodes on the surface of the body ([A61B 1/00158](#) takes precedence)}

**WARNING**

[A61B 5/061](#) and subgroups are not complete pending a reorganisation, see also group(s) [A61B 5/06](#)

- 5/062 . . . {using magnetic field}
- 5/063 . . . {using impedance measurements}
- 5/064 . . . {using markers ([A61B 5/062](#) takes precedence)}
- 5/065 . . {Determining position of the probe employing exclusively positioning means located on or in the probe, e.g. using position sensors arranged on the probe}

**WARNING**

[A61B 5/065](#) and subgroups are not complete pending a reorganisation, see also group [A61B 5/06](#)

- 5/066 . . . {Superposing sensor position on an image of the patient, e.g. obtained by ultrasound or x-ray imaging}
- 5/067 . . . {using accelerometers or gyroscopes}
- 5/068 . . . {using impedance sensors}
- 5/07 . Endoradiosondes
- 5/073 . . {Intestinal transmitters}
- 5/076 . . {Permanent implantations (telemetry using implanted circuitry [A61B 5/0031](#); implanted stimulators for therapy [A61N 1/3605](#), [A61N 1/362](#), [A61N 1/372](#))}
- 5/08 . Detecting, measuring or recording devices for evaluating the respiratory organs ([A61B 5/0205](#) takes precedence)
- 5/0803 . . {Recording apparatus specially adapted therefor}
- 5/0806 . . {by whole-body plethysmography (measuring blood flow using plethysmography [A61B 5/0295](#); impedance plethysmography [A61B 5/053](#); measuring volume of the body or parts thereof [A61B 5/1073](#))}
- 5/0809 . . {by impedance pneumography}
- 5/0813 . . {Measurement of pulmonary parameters by tracers, e.g. radioactive tracers}
- 5/0816 . . {Measuring devices for examining respiratory frequency (measuring frequency of electric signals [G01R 23/00](#))}

- 5/082 . . {Evaluation by breath analysis, e.g. determination of the chemical composition of exhaled breath ([A61B 5/083](#), [A61B 5/091](#) take precedence)}

**WARNING**

Group [A61B 5/082](#) is not complete pending a reorganisation, see also group [A61B 5/083](#)

- 5/0823 . . {Detecting or evaluating cough events}
- 5/0826 . . {Detecting or evaluating apnoea events ([A61B 5/4818](#) takes precedence)}
- 5/083 . . Measuring rate of metabolism by using breath test, e.g. measuring rate of oxygen consumption
- 5/0833 . . . {Measuring rate of oxygen consumption}
- 5/0836 . . . {Measuring rate of CO<sub>2</sub> production}
- 5/085 . . Measuring impedance of respiratory organs or lung elasticity
- 5/087 . . Measuring breath flow
- 5/0871 . . . {Peak expiratory flowmeters}
- 5/0873 . . . {using optical means}
- 5/0875 . . . {using means carried by the fluid stream, e.g. free floating balls}
- 5/0876 . . . {using means deflected by the fluid stream, e.g. flaps}
- 5/0878 . . . {using temperature sensing means}
- 5/09 . . . using an element rotated by the flow {(toys actuated by air current [A63H 33/40](#))}
- 5/091 . . Measuring volume of inspired or expired gases, e.g. to determine lung capacity
- 5/093 . . . the gases being exhaled into, or inhaled from, an expansible chamber, e.g. bellows or expansible bag
- 5/0935 . . . . {Recording apparatus specially adapted therefor}
- 5/095 . . . . within a rigid container, e.g. the boundary being formed by a liquid surface
- 5/097 . . Devices for facilitating collection of breath or for directing breath into or through measuring devices
- 5/103 . Detecting, measuring or recording devices for testing the shape, pattern, {colour,} size or movement of the body or parts thereof, for diagnostic purposes ([A61B 5/08](#) takes precedence; measuring aids for tailors [A41H 1/00](#); measuring instruments specially adapted for dentistry [A61C 19/04](#))
- 5/1032 . . {Determining colour for diagnostic purposes (measuring colour in general [G01J 3/46](#))}
- 5/1034 . . . {by means of colour cards}
- 5/1036 . . {Measuring load distribution, e.g. podologic studies}
- 5/1038 . . . {Measuring plantar pressure during gait}
- 5/107 . . Measuring physical dimensions, e.g. size of the entire body or parts thereof
- 5/1071 . . . {measuring angles, e.g. using goniometers ([A61B 5/1123](#) takes precedence)}
- 5/1072 . . . {measuring distances on the body, e.g. measuring length, height or thickness ([A61B 5/1076](#) takes precedence)}
- 5/1073 . . . {Measuring volume, e.g. of limbs}
- 5/1074 . . . {Foot measuring devices}
- 5/1075 . . . {for measuring dimensions by non-invasive methods, e.g. for determining thickness of tissue layer ([A61B 8/0858](#) takes precedence)}

- 5/1076 . . . {for measuring dimensions inside body cavities, e.g. using catheters ([A61B 3/1005](#) takes precedence)}
- 5/1077 . . . {Measuring of profiles}
- 5/1078 . . . . {by moulding}
- 5/1079 . . . {using optical or photographic means}
- 5/11 . . Measuring movement of the entire body or parts thereof, e.g. head or hand tremor, mobility of a limb (for measuring pulse [A61B 5/02](#) ;[A61B 5/1038](#) takes precedence; motion detection to correct for motion artifacts in physiological signals [A61B 5/721](#))}
- 5/1101 . . . {Detecting tremor}
- 5/1102 . . . {Ballistocardiography}
- 5/1103 . . . {Detecting eye twinkling}
- 5/1104 . . . {induced by stimuli or drugs; ([A61B 5/1102](#) takes precedence; investigating medicinal preparations [G01N 33/15](#))}
- 5/1105 . . . . {of laboratory animals, e.g. activity}
- 5/1106 . . . . {to assess neuromuscular blockade, e.g. to estimate depth of anaesthesia}
- 5/1107 . . . {Measuring contraction of parts of the body, e.g. organ, muscle (apparatus for measuring work or force in general [G01L](#))}
- 5/1108 . . . . {of excised organs, e.g. muscle preparations}
- 5/1109 . . . . {of wounds, e.g. at the operation site}
- 5/1111 . . . {Detecting tooth mobility}
- 5/1112 . . . {Global tracking of patients, e.g. by using GPS}
- 5/1113 . . . {Local tracking of patients, e.g. in a hospital or private home}
- 5/1114 . . . . {Tracking parts of the body}
- 5/1115 . . . . {Monitoring leaving of a patient support, e.g. a bed or a wheelchair}
- 5/1116 . . . {Determining posture transitions}
- 5/1117 . . . . {Fall detection}
- 5/1118 . . . {Determining activity level}
- 5/112 . . . {Gait analysis}
- 5/1121 . . . {Determining geometric values, e.g. centre of rotation or angular range of movement}
- 5/1122 . . . . {of movement trajectories}
- 5/1123 . . . {Discriminating type of movement, e.g. walking or running ([A61B 5/1116](#), [A61B 5/112](#) take precedence)}
- 5/1124 . . . {Determining motor skills}
- 5/1125 . . . . {Grasping motions of hands}
- 5/1126 . . . {using a particular sensing technique}
- 5/1127 . . . . {using markers}
- 5/1128 . . . . {using image analysis ([A61B 5/1127](#) takes precedence)}
- 5/113 . . . occurring during breathing
- 5/1135 . . . . {by monitoring thoracic expansion}
- 5/117 . . Identification of persons (methods or arrangements for recognising patterns, e.g. fingerprints, [G06K 9/00](#); identification of persons by analysing their voice or speech [G10L 17/00](#))

**WARNING**

Group [A61B 5/117](#) is impacted by reclassification into group [A61B 5/1171](#).  
Groups [A61B 5/117](#) and [A61B 5/1171](#) should be considered in order to perform a complete search.

- 5/1171 . . based on the shapes or appearances of their bodies or parts thereof
- WARNING**
- Group [A61B 5/1171](#) is incomplete pending reclassification of documents from group [A61B 5/117](#).  
Groups [A61B 5/117](#) and [A61B 5/1171](#) should be considered in order to perform a complete search.
- 5/1172 . . . using fingerprinting
  - 5/1174 . . . using footprinting
  - 5/1176 . . . {Recognition of faces}
  - 5/1178 . . . using dental data
  - 5/12 . . Audiometering {Evaluation or the auditory system, not limited to hearing capacity ([A61B 5/04845](#), [A61B 5/4023](#) take precedence)}
  - 5/121 . . {evaluating hearing capacity}
  - 5/123 . . . {subjective methods}
  - 5/125 . . . {objective methods}
  - 5/126 . . . . {measuring compliance or mechanical impedance of the tympanic membrane}
  - 5/128 . . {evaluating tinnitus}
  - 5/14 . . {Devices for taking samples of blood (hypodermic syringes [A61M 5/00](#)); Measuring characteristics of blood in vivo, e.g. gas concentration within the blood, pH-value of blood (measuring of blood pressure [A61B 5/02](#); non-radiation detecting or locating of foreign bodies in blood [A61B 5/06](#))}
- WARNING**
- This group and its subgroups are no longer used for the classification of new documents as from April 1st, 2010. The backlog of these group is being continuously reclassified to [A61B 5/15](#) and subgroups
- 5/1405 . . {Devices for taking blood samples (devices for taking samples of other body liquids [A61B 10/0045](#))}
  - 5/1411 . . . {by percutaneous method, e.g. by lancet}
  - 5/1416 . . . {by syringes containing more than one piston (medical syringes in general [A61M 5/178](#))}
  - 5/1422 . . . {provided with indicating means, e.g. for vein entry}
  - 5/1427 . . . {Multiple blood sampling, e.g. at periodic or pre-established intervals}
  - 5/1433 . . . {provided with locking means (details of syringes [A61M 5/315](#))}
  - 5/1438 . . . {using pre-evacuated means}
  - 5/1444 . . . . {Safety means, e.g. for locking cannula (removing or disposing of used needles or syringes [A61M 5/3205](#))}
  - 5/145 . . Measuring characteristics of blood in vivo, e.g. gas concentration, pH value; {Measuring characteristics of body fluids or tissues, e.g. interstitial fluid, cerebral tissue} (measuring of blood pressure or blood flow [A61B 5/02](#); non-radiation detecting or locating of foreign bodies in blood [A61B 5/06](#))
  - 5/14503 . . {invasive, e.g. introduced into the body by a catheter or needle or using implanted sensors ([A61B 5/1459](#), [A61B 5/1464](#), [A61B 5/1473](#), [A61B 5/1482](#), [A61B 5/14865](#) take precedence)}



- 5/14507 . . {specially adapted for measuring characteristics of body fluids other than blood (devices for taking samples of body liquids [A61B 10/0045](#))}
- 5/1451 . . . {for interstitial fluid}
- 5/14514 . . . . {using means for aiding extraction of interstitial fluid, e.g. microneedles or suction}
- 5/14517 . . . {for sweat}
- 5/14521 . . . . {using means for promoting sweat production, e.g. heating the skin (measuring sweat secretion [A61B 5/4266](#))}
- 5/14525 . . {using microdialysis}
- 5/14528 . . . {invasively}
- 5/14532 . . {for measuring glucose, e.g. by tissue impedance measurement}
- 5/14535 . . {for measuring haematocrit}
- 5/14539 . . {for measuring pH}
- 5/14542 . . {for measuring blood gases ([A61B 5/14551](#) takes precedence)}
- 5/14546 . . {for measuring analytes not otherwise provided for, e.g. ions, cytochromes}
- 5/1455 . . using optical sensors, e.g. spectral photometrical oximeters
- 5/14551 . . . {for measuring blood gases}
- 5/14552 . . . . {Details of sensors specially adapted therefor}
- 5/14553 . . . . {specially adapted for cerebral tissue}
- 5/14555 . . . . {specially adapted for the eye fundus}
- 5/14556 . . . . {by fluorescence ([A61B 5/14555](#) takes precedence)}
- 5/14557 . . . . {specially adapted to extracorporeal circuits}
- 5/14558 . . . {by polarisation}
- 5/1459 . . . invasive, e.g. introduced into the body by a catheter ([A61B 5/1464](#) takes precedence)}
- 5/1464 . . . specially adapted for foetal tissue
- 5/1468 . . using chemical or electrochemical methods, e.g. by polarographic means ([A61B 5/1486](#) takes precedence)}
- 5/1473 . . . invasive, e.g. introduced into the body by a catheter ([A61B 5/1482](#) takes precedence)}
- 5/14735 . . . . {comprising an immobilised reagent}
- 5/1477 . . . non-invasive
- 5/1482 . . . specially adapted for foetal tissue
- 5/1486 . . using enzyme electrodes, e.g. with immobilised oxidase
- 5/14865 . . . {invasive, e.g. introduced into the body by a catheter or needle or using implanted sensors}
- 5/1491 . . Heated applicators
- 5/1495 . . Calibrating or testing of in-vivo probes
- 5/15 . . Devices for taking samples of blood (hypodermic syringes [A61M 5/178](#))

**NOTE**

In these subgroups, the following terms are used with the meaning indicated:

- "piercing element" means skin penetrating component e.g. blade, needle, lancet, laser beam;
- "piercing or lancing device" means device ready to be used for lancing;
- "driving device" means device for driving a piercing element e.g. spring

**WARNING**

This group and its subgroups are not complete pending a reorganisation. See also [A61B 5/14](#), [A61B 5/1405](#) and subgroups

- 5/150007 . . {Details}
- 5/150015 . . . {Source of blood}
- 5/150022 . . . . {for capillary blood or interstitial fluid}
- 5/15003 . . . . {for venous or arterial blood}
- 5/150038 . . . . {for blood from umbilical cord}
- 5/150045 . . . . {for blood from vagina, placenta, colon or mouth}
- 5/150053 . . . {for enhanced collection of blood or interstitial fluid at the sample site, e.g. by applying compression, heat, vibration, ultrasound, suction or vacuum to tissue; for reduction of pain or discomfort; Skin piercing elements, e.g. blades, needles, lancets or canulas, with adjustable piercing speed}
- 5/150061 . . . . {Means for enhancing collection}
- 5/150068 . . . . . {by tissue compression, e.g. with specially designed surface of device contacting the skin area to be pierced}
- 5/150076 . . . . . {by heating}
- 5/150083 . . . . . {by vibration, e.g. ultrasound}
- 5/150091 . . . . . {by electricity}
- 5/150099 . . . . . {by negative pressure, other than vacuum extraction into a syringe by pulling on the piston rod or into pre-evacuated tubes}
- 5/150106 . . . . . {Means for reducing pain or discomfort applied before puncturing; desensitising the skin at the location where body is to be pierced}
- 5/150114 . . . . . {by tissue compression, e.g. with specially designed surface of device contacting the skin area to be pierced}
- 5/150122 . . . . . {by heating}
- 5/150129 . . . . . {by cooling}
- 5/150137 . . . . . {by vibration ([enhancing collection by vibration A61B 5/150175](#))}
- 5/150145 . . . . . {by negative pressure, e.g. suction, vacuum}
- 5/150152 . . . . . {by an adequate mechanical impact on the puncturing location}
- 5/15016 . . . . . {by accessories for bringing the piercing element into the body, e.g. through rotation of the piercing element}
- 5/150167 . . . . . {Adjustable piercing speed of skin piercing element, e.g. blade, needle, lancet or canula, for example with varying spring force or pneumatic drive}
- 5/150175 . . . {Adjustment of penetration depth}
- 5/150183 . . . . {Depth adjustment mechanism using end caps mounted at the distal end of the sampling device, i.e. the end-caps are adjustably positioned relative to the piercing device housing for example by rotating or screwing}

- 5/15019 . . . . {Depth adjustment mechanism using movable stops located inside the piercing device housing and limiting the travel of the drive mechanism ([mechanisms using distal end caps A61B 5/150183](#), [mechanisms at the piercing element carrier proximal end A61B 5/150198](#))}
- 5/150198 . . . . {Depth adjustment mechanism at the proximal end of the carrier of the piercing element}
- 5/150206 . . . . {Construction or design features not otherwise provided for; manufacturing or production; packages; sterilisation of piercing element, piercing device or sampling device}
- 5/150213 . . . . {Venting means}
- 5/150221 . . . . {Valves}
- 5/150229 . . . . {Pumps for assisting the blood sampling}
- 5/150236 . . . . {Pistons, i.e. cylindrical bodies that sit inside the syringe barrel, typically with an air tight seal, and slide in the barrel to create a vacuum or to expel blood}
- 5/150244 . . . . {Rods for actuating or driving the piston, i.e. the cylindrical body that sits inside the syringe barrel, typically with an air tight seal, and slides in the barrel to create a vacuum or to expel blood}
- 5/150251 . . . . {Collection chamber divided into at least two compartments, e.g. for division of samples ([injection syringes having more than one chamber A61M 5/19](#); [syringes for injection of two or more media A61M 5/2448](#), [A61M 5/284](#); [sample preparation for further analysis A61B 5/150755](#))}
- 5/150259 . . . . {Improved gripping, e.g. with high friction pattern or projections on the housing surface or an ergonomic shape}
- 5/150267 . . . . {Modular design or construction, i.e. subunits are assembled separately before being joined together or the device comprises interchangeable or detachable modules}
- 5/150274 . . . . {Manufacture or production processes or steps for blood sampling devices}
- 5/150282 . . . . {for piercing elements, e.g. blade, lancet, canula, needle}
- 5/15029 . . . . {for driving devices, i.e. means for driving the piercing element}
- 5/150297 . . . . {for piercing devices, i.e. devices ready to be used for lancing or piercing ([for piercing elements A61B 5/150282](#), [for driving devices A61B 5/15029](#))}
- 5/150305 . . . . {Packages specially adapted for piercing devices or blood sampling devices ([kits for diabetes A61M 5/003](#); [packaging in general B65D](#))}
- 5/150312 . . . . {Sterilisation of piercing elements, piercing devices or sampling devices ([piercing element stocking means, e.g. cartridges, A61B 5/15176](#))}
- 5/15032 . . . . {by heating}
- 5/150328 . . . . {by aseptic fluid}
- 5/150335 . . . . {by radiation}
- 5/150343 . . . . {Collection vessels for collecting blood samples from the skin surface, e.g. test tubes, cuvettes ([sampling from within body cavities A61B 5/150015](#), [A61B 5/150045](#))}
- 5/150351 . . . . {Caps, stoppers or lids for sealing or closing a blood collection vessel or container, e.g. a test-tube or syringe barrel ([caps for bottles or containers in general B65D 41/00](#))}
- 5/150358 . . . . {Strips for collecting blood, e.g. absorbent (optical reagent test strips [G01N 21/8483](#); chemical reagent test strips [G01N 33/4875](#), [G01N 33/52](#))}
- 5/150366 . . . . {Blood collection bags, e.g. connected to the patient by a catheter comprising means for removing a small sample of collected blood from the bag ([collection bags as such A61J 1/05](#), [A61M 1/0209](#))}
- 5/150374 . . . . {Details of piercing elements or protective means for preventing accidental injuries by such piercing elements ([double-ended hollow needles A61B 5/150473](#), [A61B 5/150389](#); [single-ended hollow needles A61B 5/150503](#), [A61B 5/150389](#))}
- 5/150381 . . . . {Design of piercing elements}
- 5/150389 . . . . {Hollow piercing elements, e.g. canulas, needles, for piercing the skin}
- 5/150396 . . . . {Specific tip design, e.g. for improved penetration characteristics}
- 5/150404 . . . . {Specific design of proximal end}
- 5/150412 . . . . {Pointed piercing elements, e.g. needles, lancets for piercing the skin ([blade-like piercing elements A61B 5/150442](#))}
- 5/150419 . . . . {comprising means for capillary action}
- 5/150427 . . . . {Specific tip design, e.g. for improved penetration characteristics}
- 5/150435 . . . . {Specific design of proximal end}
- 5/150442 . . . . {Blade-like piercing elements, e.g. blades, cutters, knives, for cutting the skin}
- 5/15045 . . . . {comprising means for capillary action}
- 5/150458 . . . . {Specific blade design, e.g. for improved cutting and penetration characteristics}
- 5/150465 . . . . {Specific design of proximal end}
- 5/150473 . . . . {Double-ended needles, e.g. used with pre-evacuated sampling tubes ([hollow piercing element tip design A61B 5/150396](#); [needle sets for catheters A61M 25/06](#); [needles for bringing media into the body A61M 5/32](#))}
- 5/15048 . . . . {Details of construction of proximal end}
- 5/150488 . . . . {Details of construction of shaft}
- 5/150496 . . . . {Details of construction of hub, i.e. element used to attach the double-ended needle to a piercing device or sampling device}
- 5/150503 . . . . {Single-ended needles ([hollow piercing element tip design A61B 5/150396](#), [needle sets for catheters A61M 25/06](#), [needles for bringing media into the body A61M 5/32](#))}
- 5/150511 . . . . {Details of construction of shaft}
- 5/150519 . . . . {Details of construction of hub, i.e. element used to attach the single-ended needle to a piercing device or sampling device}
- 5/150526 . . . . {Curved or bent needles}

- 5/150534 . . . . {Design of protective means for piercing elements for preventing accidental needle sticks, e.g. shields, caps, protectors, axially extensible sleeves, pivotable protective sleeves}
- 5/150541 . . . . {Breakable protectors, e.g. caps, shields or sleeves, i.e. protectors separated destructively, e.g. by breaking a connecting area}
- 5/150549 . . . . {Protectors removed by rotational movement, e.g. torsion or screwing}
- 5/150557 . . . . {Protectors removed by bending}
- 5/150564 . . . . {Protectors removed by pulling or pushing}
- 5/150572 . . . . {Pierceable protectors, e.g. shields, caps, sleeves or films, e.g. for hygienic purposes}
- 5/15058 . . . . {Joining techniques used for protective means}
- 5/150587 . . . . {by friction fit}
- 5/150595 . . . . {by snap-lock (i.e. based on axial displacement)}
- 5/150603 . . . . {by rotation, e.g. bayonet or screw}
- 5/15061 . . . . {by material engagement, e.g. welding, bonding}
- 5/150618 . . . . {Integrally moulded protectors, e.g. protectors simultaneously moulded together with a further component, e.g. a hub, of the piercing element}
- 5/150625 . . . . {by using additional parts, e.g. clamping rings or collets}
- 5/150633 . . . . {Protective sleeves which are axially extensible, e.g. sleeves connected to, or integrated in, the piercing or driving device; pivotable protective sleeves}
- 5/150641 . . . . {comprising means to impede repositioning of protection sleeve from covering to uncovering position}
- 5/150648 . . . . {fully automatically triggered, i.e. the triggering of the protective sleeve does not require a deliberate action by the user such as terminating the contact with the patient's skin}
- 5/150656 . . . . {semi-automatically triggered, i.e. in which the triggering of the protective sleeve requires a deliberate action by the user, e.g. manual release of spring-biased extension means}
- 5/150664 . . . . {Pivotable protective sleeves, i.e. sleeves connected to, or integrated in, the piercing or driving device, and which are pivoted for covering or uncovering the piercing element}
- 5/150671 . . . . {comprising means to impede repositioning of protection sleeve from covering to uncovering position}
- 5/150679 . . . . {fully automatically triggered, i.e. the triggering of the pivotable protective sleeve does not require a deliberate action by the user such as terminating the contact with the patient's skin}
- 5/150687 . . . . {semi-automatically triggered, i.e. in which the triggering of the pivotable protective sleeve requires a deliberate action by the user such as manual release of spring-biased extension means}
- 5/150694 . . . . {Procedure for removing protection means at the time of piercing}
- 5/150702 . . . . {fully automatically removed, i.e. the removing does not require any action by the user}
- 5/150709 . . . . {semi-automatically removed, i.e. before puncturing the protection is removed by a mechanism initiated by a deliberate action by the user, such as pressing a button}
- 5/150717 . . . . {manually removed}
- 5/150725 . . . . {removal procedure linked to further actions, e.g. cocking of the piercing device, which indicate that the piercing device is used or tempered}
- 5/150732 . . . {Needle holders, for instance for holding the needle by the hub, used for example with double-ended needle and pre-evacuated tube,}
- 5/15074 . . . {Needle sets comprising wings, e.g. butterfly type, for ease of handling}
- 5/150748 . . . {Having means for aiding positioning of the piercing device at a location where the body is to be pierced ([means for aiding positioning of devices for bringing media into the body A61M 5/427](#), [locating blood vessels A61B 5/489](#))}
- 5/150755 . . . {Blood sample preparation for further analysis, e.g. by separating blood components or by mixing}
- 5/150763 . . . {with identification means ([identification means for surgical instruments A61B 90/90](#))}
- 5/15077 . . . . {characterized by physical shape}
- 5/150778 . . . . {having complementary physical shapes for indexing or registration purposes}
- 5/150786 . . . . {Optical identification systems, e.g. bar codes, colour codes}
- 5/150793 . . . . {Electrical or magnetic identification means}
- 5/150801 . . . {Means for facilitating use, e.g. by people with impaired vision; means for indicating when used correctly or incorrectly; means for alarming}
- 5/150809 . . . . {by audible feedback}
- 5/150816 . . . . {by tactile feedback, e.g. vibration}
- 5/150824 . . . . {by visual feedback}
- 5/150832 . . . . {by topography of the surface, e.g. Braille, embossed printing}
- 5/150839 . . . {Aesthetic features, e.g. distraction means to prevent fears of child patients}
- 5/150847 . . . {Communication to or from blood sampling device ([transmitting measured data A61B 5/0002](#))}
- 5/150854 . . . . {long distance, e.g. between patient's home and doctor's office}
- 5/150862 . . . . {intermediate range, e.g. within room or building}
- 5/15087 . . . . {short range, e.g. between console and disposable ([using implanted devices A61B 5/150877](#))}
- 5/150877 . . . . {with implanted devices}

- 5/150885 . . . {Preventing re-use}
- 5/150893 . . . {by indicating if used, tampered with, unsterile or defective}
- 5/1509 . . . {by disrupting a seal, e.g. puncturing a piston seal}
- 5/150908 . . . {by disconnecting components, e.g. breaking or rupturing of connected parts, e.g. piston and rod}
- 5/150916 . . . {by blocking components, e.g. piston, driving device or fluid passageway}
- 5/150923 . . . {by means for destroying components or parts, e.g. by cutting or piercing}
- 5/150931 . . . {by including soluble parts}
- 5/150938 . . . {by blunting or disabling needle}
- 5/150946 . . . {Means for varying, regulating, indicating or limiting the speed or time of blood collection}
- 5/150954 . . . {Means for the detection of operative contact with patient, e.g. by temperature sensitive sensor}
- 5/150961 . . . {Means for the detection of the presence or absence of a module, a component or an abnormal condition; detection of leaks}
- 5/150969 . . {Low-profile devices which resemble patches or plasters, e.g. also allowing collection of blood samples for testing}
- 5/150977 . . {Arrays of piercing elements for simultaneous piercing}
- 5/150984 . . . {Microneedles or microblades}
- 5/150992 . . {Blood sampling from a fluid line external to a patient, such as a catheter line, combined with an infusion line; blood sampling from indwelling needle sets, e.g. sealable ports, luer couplings, valves (tubing connectors and couplings [A61M 39/00](#))}
- 5/151 . . . {Devices} specially adapted for taking samples of capillary blood, e.g. by lancets {, needles or blades}
- 5/15101 . . . {Details}
- 5/15103 . . . {Piercing procedure}
- 5/15105 . . . {Purely manual piercing, i.e. the user pierces the skin without the assistance of any driving means or driving devices}
- 5/15107 . . . {Piercing being assisted by a triggering mechanism}
- 5/15109 . . . {Fully automatically triggered, i.e. the triggering does not require a deliberate action by the user, e.g. by contact with the patient's skin}
- 5/15111 . . . {Semi-automatically triggered, e.g. at the end of the cocking procedure, for instance by biasing the main drive spring or when reaching sufficient contact pressure, the piercing device is automatically triggered without any deliberate action by the user}
- 5/15113 . . . {Manually triggered, i.e. the triggering requires a deliberate action by the user such as pressing a drive button}
- 5/15115 . . . {Driving means for propelling the piercing element to pierce the skin, e.g. comprising mechanisms based on shape memory alloys, magnetism, solenoids, piezoelectric effect, biased elements, resilient elements, vacuum or compressed fluids}
- 5/15117 . . . {comprising biased elements, resilient elements or a spring, e.g. a helical spring, leaf spring, or elastic strap}
- 5/15119 . . . {comprising shape memory alloys}
- 5/15121 . . . {comprising piezos}
- 5/15123 . . . {comprising magnets or solenoids}
- 5/15125 . . . {comprising a vacuum or compressed fluids}
- 5/15126 . . . {Means for controlling the lancing movement, e.g. 2D- or 3D-shaped elements, tooth-shaped elements or sliding guides}
- 5/15128 . . . {comprising 2D- or 3D-shaped elements, e.g. cams, curved guide rails or threads (comprising tooth-shaped elements [A61B 5/15132](#))}
- 5/1513 . . . {comprising linear sliding guides (comprising tooth-shaped elements [A61B 5/15132](#))}
- 5/15132 . . . {comprising tooth-shaped elements, e.g. toothed wheel or rack and pinion}
- 5/15134 . . . {Bladeless capillary blood sampling devices, i.e. devices for perforating the skin in order to obtain a blood sample but not using a blade, needle, canula, or lancet, e.g. by laser perforation, suction or pressurized fluids}
- 5/15136 . . . {by use of radiation, e.g. laser}
- 5/15138 . . . {provided with means to ensure the protection of the user, e.g. to avoid laser light entering the eyes of a user}
- 5/1514 . . . {by use of gaseous agents, e.g. using suction aspiration or pressurized gas}
- 5/15142 . . . {Devices intended for single use, i.e. disposable}
- 5/15144 . . . {comprising driving means, e.g. a spring, for retracting the piercing unit into the housing}
- 5/15146 . . . {Devices loaded with multiple lancets simultaneously, e.g. for serial firing without reloading, for example by use of stocking means. (multiple simultaneous cutting or piercing [A61B 5/150977](#))}
- 5/15148 . . . {Constructional features of stocking means, e.g. strip, roll, disc, cartridge, belt or tube}
- 5/15149 . . . {Arrangement of piercing elements relative to each other}
- 5/15151 . . . {Each piercing element being stocked in a separate isolated compartment}
- 5/15153 . . . {Multiple piercing elements stocked in a single compartment}
- 5/15155 . . . {Piercing elements which are specially shaped or are provided with fittings or attachments to facilitate nesting, stacking or joining together end-to-end or side-by-side}
- 5/15157 . . . {Geometry of stocking means or arrangement of piercing elements therein}
- 5/15159 . . . {Piercing elements stocked in or on a disc}
- 5/15161 . . . {Characterized by propelling the piercing element in a radial direction relative to the disc}
- 5/15163 . . . {Characterized by propelling the piercing element in an axial direction relative to the disc}
- 5/15165 . . . {Piercing elements stocked in or on a strip}



- 5/15167 . . . . . {Characterized by a folded strip}
- 5/15169 . . . . . {Characterized by a rolled strip}
- 5/15171 . . . . . {Characterized by propelling the piercing element perpendicular to the direction of movement of the strip}
- 5/15173 . . . . . {Characterized by propelling the piercing element parallel to the direction of movement of the strip}
- 5/15174 . . . . . {Piercing elements stocked in the form of a stack or pile}
- 5/15176 . . . . . {Stocking means comprising cap, cover, sheath or protection for aseptic stocking}
- 5/15178 . . . . . {Stocking means comprising separate compartments or units for new and for used piercing elements (separate compartments for used piercing elements in piercing devices [A61B 5/15184](#))}
- 5/1518 . . . . . {Security or safety mechanism to be deactivated for forwarding next piercing element}
- 5/15182 . . . . . {Means for keeping track or checking of the total number of piercing elements already used or the number of piercing elements still remaining in the stocking, e.g. by check window, counter, display}
- 5/15184 . . . . . {Piercing device comprising a separate compartment or unit for used piercing elements (separate compartments for used piercing elements in stocking means [A61B 5/15178](#))}
- 5/15186 . . . . . {Devices loaded with a single lancet, i.e. a single lancet with or without a casing is loaded into a reusable drive device and then discarded after use; drive devices reloadable for multiple use}
- 5/15188 . . . . . {Constructional features of reusable driving devices}
- 5/1519 . . . . . {comprising driving means, e.g. a spring, for propelling the piercing unit}
- 5/15192 . . . . . {comprising driving means, e.g. a spring, for retracting the lancet unit into the driving device housing}
- 5/15194 . . . . . {fully automatically retracted, i.e. the retraction does not require a deliberate action by the user, e.g. by terminating the contact with the patient's skin}
- 5/15196 . . . . . {semi-automatically retracted, i.e. in which the retraction of the piercing unit requires a deliberate action by the user such as manual release of spring-biased retraction means}
- 5/15198 . . . . . {purely manually retracted}
- 5/153 . . . {Devices} specially adapted for taking samples of venous or arterial blood, e.g. with syringes
- 5/1535 . . . {comprising means for indicating vein or arterial entry ([A61B 5/1545](#) takes precedence)}
- 5/154 . . . {Devices} using pre-evacuated means
- 5/1545 . . . {comprising means for indicating vein or arterial entry}
- 5/155 . . . {Devices} specially adapted for continuous or multiple sampling, e.g. at predetermined intervals {(devices loaded with multiple lancets simultaneously [A61B 5/15146](#))}
- 5/157 . . . {Devices} characterised by integrated means for measuring characteristics of blood
- 5/16 . . . Devices for psychotechnics (using teaching or educational appliances [G09B 1/00 - G09B 7/00](#)); Testing reaction times {; Devices for evaluating the psychological state}
- WARNING**
- Group [A61B 5/16](#) is impacted by reclassification into group [A61B 5/163](#).
- Groups [A61B 5/16](#) and [A61B 5/163](#) should be considered in order to perform a complete search.
- 5/161 . . {Flicker fusion testing (eye testing [A61B 3/00](#))}
- 5/162 . . {Testing reaction times}
- 5/163 . . {by tracking eye movement, gaze, or pupil change}
- WARNING**
- Group [A61B 5/163](#) is incomplete pending reclassification of documents from group [A61B 5/16](#).
- Groups [A61B 5/16](#) and [A61B 5/163](#) should be considered in order to perform a complete search.
- 5/164 . . {Lie detection}
- 5/165 . . {Evaluating the state of mind, e.g. depression, anxiety}
- 5/167 . . {Personality evaluation}
- 5/168 . . {Evaluating attention deficit, hyperactivity}
- 5/18 . . for vehicle drivers {or machine operators}
- 5/20 . . for measuring urological functions {restricted to the evaluation of the urinary system ([A61B 5/4375](#) takes precedence)}
- 5/201 . . {Assessing renal or kidney functions}
- 5/202 . . {Assessing bladder functions, e.g. incontinence assessment}
- 5/204 . . . {Determining bladder volume}
- 5/205 . . . {Determining bladder or urethral pressure}
- 5/207 . . {Sensing devices adapted to collect urine}
- 5/208 . . . {adapted to determine urine quantity, e.g. flow, volume}
- 5/22 . . Ergometry; Measuring muscular strength or the force of a muscular blow ({exercising apparatus [A63B 21/00](#)}; measuring of work or force in general [G01L](#))
- 5/221 . . {Ergometry, e.g. by using bicycle type apparatus}
- 5/222 . . . {combined with detection or measurement of physiological parameters, e.g. heart rate}
- 5/224 . . {Measuring muscular strength}
- 5/225 . . . {of the fingers, e.g. by monitoring hand-grip force}
- 5/227 . . . {of constricting muscles, i.e. sphincters}
- 5/228 . . . {of masticatory organs, e.g. detecting dental force (measuring instruments for dentigraphy [A61C 19/04](#))}

- 5/40 . . {Detecting, measuring or recording for evaluating the nervous system ([A61B 5/4806](#), [A61B 5/4821](#), [A61B 5/4824](#) take precedence)}
- WARNING**
- Group [A61B 5/40](#) and subgroups are not complete pending a reorganisation, see also groups also groups [A61B 5/00](#), [A61B 5/02](#), [A61B 5/0476](#), [A61B 5/048](#), [A61B 5/145](#), [A61B 5/16](#), [A61B 5/18](#).
- 5/4005 . . {for evaluating the sensory system ([A61B 5/12](#), [A61B 5/4058](#) take precedence)}
- 5/4011 . . . {Evaluating olfaction, i.e. sense of smell}
- 5/4017 . . . {Evaluating sense of taste}
- 5/4023 . . . {Evaluating sense of balance}
- 5/4029 . . {for evaluating the peripheral nervous systems ([A61B 5/04001](#) takes precedence)}
- 5/4035 . . . {Evaluating the autonomic nervous system}
- 5/4041 . . . {Evaluating nerves condition}
- 5/4047 . . . . {afferent nerves, i.e. nerves that relay impulses to the central nervous system}
- 5/4052 . . . . {efferent nerves, i.e. nerves that relay impulses from the central nervous system}
- 5/4058 . . {for evaluating the central nervous system ([A61B 5/4806](#), [A61B 5/4821](#) take precedence)}
- 5/4064 . . . {Evaluating the brain ([A61B 5/031](#), [A61B 5/0476](#), [A61B 5/14553](#) take precedence)}
- 5/407 . . . {Evaluating the spinal cord ([A61B 5/4896](#) takes precedence)}
- 5/4076 . . {Diagnosing or monitoring particular conditions of the nervous system ([A61B 5/4821](#), [A61B 5/4824](#) take precedence)}
- 5/4082 . . . {Diagnosing or monitoring movement diseases, e.g. Parkinson, Huntington or Tourette}
- 5/4088 . . . {Diagnosing or monitoring cognitive diseases, e.g. Alzheimer, prion diseases or dementia}
- 5/4094 . . . {Diagnosing or monitoring seizure diseases, e.g. epilepsy}
- 5/41 . . {Detecting, measuring or recording for evaluating the immune or lymphatic systems}
- WARNING**
- Group [A61B 5/41](#) and subgroups are not complete pending a reorganisation, see also groups [A61B 5/00](#), [A61B 5/02](#), [A61B 5/04](#), [A61B 5/05](#), [A61B 5/145](#).
- 5/411 . . {Detecting or monitoring allergy or intolerance reactions to an allergenic agent or substance}
- 5/412 . . {Detecting or monitoring sepsis}
- 5/413 . . {Monitoring transplanted tissue or organ, e.g. for possible rejection reactions after a transplant}
- 5/414 . . {Evaluating particular organs or parts of the immune or lymphatic systems}
- 5/415 . . . {the glands, e.g. tonsils, adenoids or thymus}
- 5/416 . . . {the spleen}
- 5/417 . . . {the bone marrow}
- 5/418 . . . {lymph vessels, ducts or nodes}
- 5/42 . . {Detecting, measuring or recording for evaluating the gastrointestinal, the endocrine or the exocrine systems ([A61B 1/00](#), [A61B 5/4857](#), [A61B 5/486](#), [A61B 5/4866](#), [A61B 5/4869](#) take precedence)}
- 5/4205 . . {Evaluating swallowing}
- 5/4211 . . . {Diagnosing or evaluating reflux}
- 5/4216 . . . {Diagnosing or evaluating gastrointestinal ulcers}
- 5/4222 . . . {Evaluating particular parts, e.g. particular organs}
- 5/4227 . . . . {endocrine glands, i.e. thyroid, adrenals, hypothalamic, pituitary}
- 5/4233 . . . . {oesophagus}
- 5/4238 . . . . {stomach}
- 5/4244 . . . . {liver}
- 5/425 . . . . {pancreas}
- 5/4255 . . . . {Intestines, colon or appendix}
- 5/4261 . . {Evaluating exocrine secretion production ([A61B 3/101](#) takes precedence)}
- 5/4266 . . . {sweat secretion}
- 5/4272 . . . {sebum secretion}
- 5/4277 . . . {saliva secretion}
- 5/4283 . . . . {gastrointestinal secretions, e.g. bile production}
- 5/4288 . . . . {mammary secretions}
- 5/4294 . . . . {vaginal secretions}
- 5/43 . . {Detecting, measuring or recording for evaluating the reproductive systems}
- 5/4306 . . {for evaluating the female reproductive systems, e.g. gynaecological evaluations}
- 5/4312 . . . . {Breast evaluation or disorder diagnosis ([A61B 5/0091](#) takes precedence)}
- 5/4318 . . . . {Evaluation of the lower reproductive system ([A61B 5/4343](#) takes precedence)}
- 5/4325 . . . . . {of the uterine cavities, e.g. uterus, fallopian tubes, ovaries}
- 5/4331 . . . . . {of the cervix ([A61B 5/435](#) takes precedence)}
- 5/4337 . . . . . {of the vagina}
- 5/4343 . . . . {Pregnancy and labour monitoring, e.g. for labour onset detection}
- 5/435 . . . . . {Assessing cervix alteration or dilation}
- 5/4356 . . . . . {Assessing uterine contractions ([A61B 5/033](#) takes precedence)}
- 5/4362 . . . . . {Assessing foetal parameters}
- 5/4368 . . . . {Sexual arousal evaluation}
- 5/4375 . . . {for evaluating the male reproductive system}
- 5/4381 . . . . {Prostate evaluation or disorder diagnosis}
- 5/4387 . . . . {Testicles, seminal vesicles or sperm ducts evaluation}
- 5/4393 . . . . {Sexual arousal or erectile dysfunction evaluation, e.g. tumescence evaluation}
- 5/44 . . {Detecting, measuring or recording for evaluating the integumentary system, e.g. skin, hair or nails ([A61B 5/117](#) takes precedence)}
- 5/441 . . . {Skin evaluation, e.g. for skin disorder diagnosis}
- 5/442 . . . . {Evaluating skin mechanical properties, e.g. elasticity, hardness, texture, wrinkle assessment}
- 5/443 . . . . {Evaluating skin constituents, e.g. elastin, melanin, water}
- 5/444 . . . . {Evaluating skin marks, e.g. mole, nevi, tumour, scar}
- 5/445 . . . . {Evaluating skin irritation or skin trauma, e.g. rash, eczema, wound, bed sore}
- 5/446 . . . . {Scalp evaluation or scalp disorder diagnosis, e.g. dandruff}

- 5/447 . . . {specially adapted for aiding the prevention of ulcer or pressure sore development, i.e. before the ulcer or sore has developed}
- 5/448 . . {Hair evaluation, e.g. for hair disorder diagnosis}
- 5/449 . . {Nail evaluation, e.g. for nail disorder diagnosis}
- 5/45 . {For evaluating or diagnosing the musculoskeletal system or teeth ([A61B 5/1036](#), [A61B 5/1074](#), [A61B 7/006](#) take precedence)}
- 5/4504 . . {Bones ([A61B 5/4547](#) takes precedence)}
- 5/4509 . . . {Bone density determination}
- 5/4514 . . {Cartilage}
- 5/4519 . . {Muscles ([A61B 5/0488](#), [A61B 5/224](#) take precedence)}
- 5/4523 . . {Tendons}
- 5/4528 . . {Joints ([A61B 5/4533](#), [A61B 5/4538](#) take precedence)}
- 5/4533 . . {Ligaments}
- 5/4538 . . {Evaluating a particular part of the musculoskeletal system or a particular medical condition}
- 5/4542 . . . {Evaluating the mouth, e.g. the jaw}
- 5/4547 . . . . {Evaluating teeth}
- 5/4552 . . . . {Evaluating soft tissue within the mouth, e.g. gums or tongue}
- 5/4557 . . . . {Evaluating bruxism}
- 5/4561 . . . {Evaluating static posture, e.g. undesirable back curvature ([A61B 5/1116](#) takes precedence)}
- 5/4566 . . . {Evaluating the spine ([A61B 5/4561](#) takes precedence)}
- 5/4571 . . . {Evaluating the hip}
- 5/4576 . . . {Evaluating the shoulder}
- 5/458 . . . {Evaluating the elbow}
- 5/4585 . . . {Evaluating the knee}
- 5/459 . . . {Evaluating the wrist}
- 5/4595 . . . {Evaluating the ankle}
- 5/48 . {Other medical applications}
- 5/4803 . . {Speech analysis specially adapted for diagnostic purposes}
- 5/4806 . . {Sleep evaluation ([A61B 5/4821](#) takes precedence; devices for inducing sleep [A61M 21/02](#))}
- 5/4809 . . . {Sleep detection, i.e. determining whether a subject is asleep or not}
- 5/4812 . . . {Detecting sleep stages or cycles}
- 5/4815 . . . {Sleep quality}
- 5/4818 . . . {Sleep apnoea}
- 5/4821 . . {Determining level or depth of anaesthesia ([A61B 5/1106](#) takes precedence)}
- 5/4824 . . {Touch or pain perception evaluation ([A61B 5/4821](#) takes precedence)}
- 5/4827 . . . {assessing touch sensitivity, e.g. for evaluation of pain threshold}
- 5/483 . . . . {by thermal stimulation}
- 5/4833 . . {Assessment of subject's compliance to treatment}
- 5/4836 . . {Diagnosis combined with treatment in closed-loop systems or methods ([A61B 5/0036](#) takes precedence)}
- WARNING**
- Group [A61B 5/4836](#) is impacted by reclassification into [A61B 5/0036](#).
- Groups [A61B 5/0036](#) and [A61B 5/4836](#) should be considered in order to perform a complete search.
- 5/4839 . . . {combined with drug delivery}
- 5/4842 . . {Monitoring progression or stage of a disease}
- 5/4845 . . {Toxicology, e.g. by detection of alcohol, drug or toxic products ([A61B 5/4848](#) takes precedence)}
- 5/4848 . . {Monitoring or testing the effects of treatment, e.g. of medication}
- 5/4851 . . {Prosthesis assessment or monitoring ([A61B 5/04888](#) takes precedence)}
- 5/4854 . . {Diagnosis based on concepts of traditional oriental medicine}
- 5/4857 . . {Indicating the phase of biorhythm (clocks or watches with indicators for biological cycles [G04B 19/264](#))}
- 5/486 . . {Bio-feedback ([A61B 5/0482](#) takes precedence)}
- 5/4863 . . {Measuring or inducing nystagmus}
- 5/4866 . . {Evaluating metabolism ([A61B 5/083](#) takes precedence)}
- 5/4869 . . {Determining body composition}
- 5/4872 . . . {Body fat}
- 5/4875 . . . {Hydration status, fluid retention of the body}
- 5/4878 . . . . {Evaluating oedema}
- 5/4881 . . . {Determining interstitial fluid distribution or content within body tissue (measuring analytes in interstitial fluid in-vivo [A61B 5/1451](#))}
- 5/4884 . . {inducing physiological or psychological stress, e.g. applications for stress testing}
- 5/4887 . . {Locating particular structures in or on the body}
- 5/489 . . . {Blood vessels}
- 5/4893 . . . {Nerves}
- 5/4896 . . . {Epidural space}
- 5/68 . {Arrangements of detecting, measuring or recording means, e.g. sensors, in relation to patient}
- 5/6801 . . {specially adapted to be attached to or worn on the body surface}
- 5/6802 . . . {Sensor mounted on worn items}
- 5/6803 . . . . {Head-worn items, e.g. helmets, masks, headphones or goggles}
- 5/6804 . . . . {Garments; Clothes}
- 5/6805 . . . . . {Vests}
- 5/6806 . . . . . {Gloves}
- 5/6807 . . . . . {Footwear}
- 5/6808 . . . . {Diapers}
- 5/681 . . . . {Wristwatch-type devices}
- 5/6811 . . . . {External prosthesis}
- 5/6812 . . . . {Orthopaedic devices}
- 5/6813 . . . {Specially adapted to be attached to a specific body part ([A61B 5/6802](#) takes precedence)}
- 5/6814 . . . . {Head}
- 5/6815 . . . . . {Ear}
- 5/6816 . . . . . {Ear lobe}
- 5/6817 . . . . . {Ear canal}
- 5/6819 . . . . . {Nose}

- 5/682 . . . . . {Mouth, e.g., oral cavity; tongue; Lips; Teeth}
- 5/6821 . . . . . {Eye}
- 5/6822 . . . . . {Neck}
- 5/6823 . . . . . {Trunk, e.g., chest, back, abdomen, hip}
- 5/6824 . . . . . {Arm or wrist}
- 5/6825 . . . . . {Hand}
- 5/6826 . . . . . {Finger}
- 5/6828 . . . . . {Leg}
- 5/6829 . . . . . {Foot or ankle}
- 5/683 . . . {Means for maintaining contact with the body  
([A61B 5/6802](#) takes precedence)}
- 5/6831 . . . . . {Straps, bands or harnesses}
- 5/6832 . . . . . {using adhesives ([A61B 5/04087](#) takes precedence)}

**WARNING**

Group [A61B 5/6832](#) is impacted by reclassification into group [A61B 5/68335](#).  
Groups [A61B 5/6832](#) and [A61B 5/68335](#) should be considered in order to perform a complete search.

- 5/6833 . . . . . {Adhesive patches}
- 5/68335 . . . . . {including release sheets or liners}

**WARNING**

Group [A61B 5/68335](#) is incomplete pending reclassification of documents from group [A61B 5/6832](#).  
Groups [A61B 5/6832](#) and [A61B 5/68335](#) should be considered in order to perform a complete search.

- 5/6834 . . . . . {using vacuum}
- 5/6835 . . . . . {Supports or holders, e.g., articulated arms}
- 5/6837 . . . . . {Sutures}
- 5/6838 . . . . . {Clamps or clips}
- 5/6839 . . . . . {Anchoring means, e.g. barbs}
- 5/684 . . . {Indicating the position of the sensor on the body}
- 5/6841 . . . . . {by using templates}
- 5/6842 . . . . . {by marking the skin}
- 5/6843 . . . {Monitoring or controlling sensor contact pressure}
- 5/6844 . . . {Monitoring or controlling distance between sensor and tissue}
- 5/6846 . . {specially adapted to be brought in contact with an internal body part, i.e. invasive}
- 5/6847 . . . {mounted on an invasive device}
- 5/6848 . . . . . {Needles}
- 5/6849 . . . . . {in combination with a needle set}
- 5/685 . . . . . {Microneedles}
- 5/6851 . . . . . {Guide wires}
- 5/6852 . . . . . {Catheters}
- 5/6853 . . . . . {with a balloon}
- 5/6855 . . . . . {with a distal curved tip}
- 5/6856 . . . . . {with a distal loop}
- 5/6857 . . . . . {with a distal pigtail shape}
- 5/6858 . . . . . {with a distal basket, e.g. expandable basket}
- 5/6859 . . . . . {with multiple distal splines}

- 5/686 . . . . . {Permanently implanted devices, e.g. pacemakers, other stimulators, biochips  
([A61B 5/6861](#) takes precedence)}
- 5/6861 . . . . . {Capsules, e.g. for swallowing or implanting}
- 5/6862 . . . . . {Stents}
- 5/6864 . . . . . {Burr holes}
- 5/6865 . . . . . {Access ports}
- 5/6866 . . . . . {Extracorporeal blood circuits, e.g. dialysis circuits}
- 5/6867 . . . {specially adapted to be attached or implanted in a specific body part ([A61B 5/6847](#) takes precedence)}
- 5/6868 . . . . . {Brain}
- 5/6869 . . . . . {Heart}
- 5/687 . . . . . {Oesophagus}
- 5/6871 . . . . . {Stomach}
- 5/6873 . . . . . {Intestine}
- 5/6874 . . . . . {Bladder}
- 5/6875 . . . . . {Uterus}
- 5/6876 . . . . . {Blood vessel}
- 5/6877 . . . . . {Nerve}
- 5/6878 . . . . . {Bone}
- 5/6879 . . . {Means for maintaining contact with the body  
([A61B 5/6847](#) takes precedence)}
- 5/688 . . . . . {using adhesives}
- 5/6882 . . . . . {Anchoring means}
- 5/6883 . . . . . {Sutures}
- 5/6884 . . . . . {Clamps or clips}
- 5/6885 . . . {Monitoring or controlling sensor contact pressure}
- 5/6886 . . . {Monitoring or controlling distance between sensor and tissue}
- 5/6887 . . {mounted on external non-worn devices, e.g. non-medical devices}
- 5/6888 . . . {Cabins}
- 5/6889 . . . {Rooms}
- 5/6891 . . . {Furniture}
- 5/6892 . . . {Mats}
- 5/6893 . . . {Cars}
- 5/6894 . . . {Wheel chairs}
- 5/6895 . . . {Sport equipment}
- 5/6896 . . . {Toys}
- 5/6897 . . . {Computer input devices, e.g. mice or keyboards}
- 5/6898 . . . {Portable consumer electronic devices, e.g. music players, telephones, tablet computers}
- 5/70 . . {Means for positioning the patient in relation to the detecting, measuring or recording means}
- 5/702 . . {Posture restraints}
- 5/704 . . {Tables}
- 5/706 . . {Indicia not located on the patient, e.g. floor marking}
- 5/708 . . {Breast positioning means}
- 5/72 . . {Signal processing specially adapted for physiological signals or for diagnostic purposes  
([pattern recognition G06K 9/00](#))}
- 5/7203 . . {for noise prevention, reduction or removal}
- 5/7207 . . {of noise induced by motion artifacts}
- 5/721 . . . . . {using a separate sensor to detect motion or using motion information derived from signals other than the physiological signal to be measured}



- 5/7214 . . . . {using signal cancellation, e.g. based on input of two identical physiological sensors spaced apart, or based on two signals derived from the same sensor, for different optical wavelengths}
- 5/7217 . . . . {of noise originating from a therapeutic or surgical apparatus, e.g. from a pacemaker}
- 5/7221 . . {Determining signal validity, reliability or quality ([A61B 5/7207](#) and [A61B 5/7217](#) take precedence)}
- 5/7225 . . {Details of analog processing, e.g. isolation amplifier, gain or sensitivity adjustment, filtering, baseline or drift compensation ([A61B 5/04004](#), [A61B 5/04012](#), [A61B 5/0428](#) take precedence; transformers for specific applications [H01F 38/00](#); amplifiers [H03F](#))}
- 5/7228 . . {Signal modulation applied to the input signal sent to patient or subject; demodulation to recover the physiological signal ([modulation H03C](#))}
- 5/7232 . . {involving compression of the physiological signal, e.g. to extend the signal recording period}
- 5/7235 . . {Details of waveform analysis ([A61B 5/0452](#) takes precedence)}
- 5/7239 . . . {using differentiation including higher order derivatives}
- 5/7242 . . . {using integration}
- 5/7246 . . . {using correlation, e.g. template matching or determination of similarity}
- 5/725 . . . {using specific filters therefor, e.g. Kalman or adaptive filters ([A61B 5/04014](#) and [A61B 5/04017](#) take precedence)}
- 5/7253 . . . {characterised by using transforms}
- 5/7257 . . . . {using Fourier transforms}
- 5/726 . . . . {using Wavelet transforms}
- 5/7264 . . . {Classification of physiological signals or data, e.g. using neural networks, statistical classifiers, expert systems or fuzzy systems ([neural networks per se G01N 3/00](#); expert systems per se [G06N 5/00](#))}
- 5/7267 . . . . {involving training the classification device}
- 5/7271 . . {Specific aspects of physiological measurement analysis ([A61B 5/04012](#), [A61B 5/0452](#) and [A61B 5/048](#) take precedence)}
- 5/7275 . . . {Determining trends in physiological measurement data}; Predicting development of a medical condition based on physiological measurements, e.g. determining a risk factor
- 5/7278 . . . {Artificial waveform generation or derivation, e.g. synthesising signals from measured signals ([A61B 5/04028](#) takes precedence)}
- 5/7282 . . . {Event detection, e.g. detecting unique waveforms indicative of a medical condition ([A61B 5/4094](#), [A61B 5/4818](#), [A61B 5/0452](#), [A61B 5/0823](#) take precedence)}
- 5/7285 . . . {for synchronising or triggering a physiological measurement or image acquisition with a physiological event or waveform, e.g. an ECG signal ([A61B 6/5205](#), [A61B 6/541](#), [A61B 8/5207](#), [A61B 8/543](#) take precedence)}
- 5/7289 . . . . {Retrospective gating, i.e. associating measured signals or images with a physiological event after the actual measurement or image acquisition, e.g. by simultaneously recording an additional physiological signal during the measurement or image acquisition}
- 5/7292 . . . . {Prospective gating, i.e. predicting the occurrence of a physiological event for use as a synchronisation signal}
- 5/7296 . . . {for compensation of signal variation due to stress unintentionally induced in the patient, e.g. due to the stress of the medical environment or examination ([deliberately inducing physiological or psychological stress A61B 5/4884](#))}
- 5/74 . . {Details of notification to user or communication with user or patient ([indicating measured values G01D 7/00](#)); user input means ([input or output arrangements for computers G06F 3/00](#))}
- WARNING**
- Group [A61B 5/74](#) and subgroups are not complete pending a reorganisation; see also other subgroups of [A61B 5/00](#)
- 5/7405 . . {using sound}
- 5/741 . . . {using synthesised speech}
- 5/7415 . . . {Sound rendering of measured values, e.g. by pitch or volume variation ([A61B 5/741](#) takes precedence)}
- 5/742 . . {using visual displays ([A61B 5/044](#) takes precedence)}
- 5/7425 . . . {Displaying combinations of multiple images regardless of image source, e.g. displaying a reference anatomical image with a live image ([geometric transforms for image registration G06T 3/0068](#); [enhancement using image fusion G06T 5/50](#); [algorithms for registration of images G06T 7/30](#))}
- 5/743 . . . {Displaying an image simultaneously with additional graphical information, e.g. symbols, charts, function plots}
- 5/7435 . . . {Displaying user selection data, e.g. icons in a graphical user interface}
- 5/744 . . . {Displaying an avatar, e.g. an animated cartoon character}
- 5/7445 . . . {Display arrangements, e.g. multiple display units}
- 5/745 . . . {using a holographic display}
- 5/7455 . . {characterised by tactile indication, e.g. vibration or electrical stimulation}
- 5/746 . . {Alarms related to a physiological condition, e.g. details of setting alarm thresholds or avoiding false alarms ([alarms per se G08B](#))}
- 5/7465 . . {Arrangements for interactive communication between patient and care services, e.g. by using a telephone network ([telemetry of measured physiological signal A61B 5/0002](#))}
- 5/747 . . . {in case of emergency, i.e. alerting emergency services}
- 5/7475 . . {User input or interface means, e.g. keyboard, pointing device, joystick}
- 5/748 . . . {Selection of a region of interest, e.g. using a graphics tablet}

- 5/7485 . . . . {Automatic selection of region of interest}
- 5/749 . . . {Voice-controlled interfaces}
- 5/7495 . . . {using a reader or scanner device, e.g. barcode scanner}
- 6/00 Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment** (analysis of materials using radiation [G01N 23/00](#), detecting hidden objects by radiation [G01V 5/0008](#), radiodiagnostic or X-ray contrast preparations [A61K 49/00](#); radiation therapy per se [A61N 5/00](#); instruments measuring radiation intensity for application in the field of nuclear medicine, e.g. in vivo counting [G01T 1/161](#); apparatus for taking X-ray photographs [G03B 42/02](#); X-ray photographic processes [G03C 5/16](#); irradiation devices [G21K](#); X-ray apparatus or circuits therefor [H05G 1/00](#))
- 6/02 . Devices for diagnosis sequentially in different planes; Stereoscopic radiation diagnosis
- 6/022 . . {Stereoscopic imaging}
- 6/025 . . {Tomosynthesis}
- 6/027 . . {characterised by the use of a particular data acquisition trajectory, e.g. helical or spiral}
- 6/03 . . Computerised tomographs ({diagnosis by magnetic resonance imaging [A61B 5/055](#); } echo-tomography [A61B 8/14](#))
- 6/032 . . . {Transmission computed tomography [CT]}
- 6/035 . . . . {Mechanical aspects of CT}
- 6/037 . . . {Emission tomography (detector details for PET [G01T 1/2985](#), detector details for SPECT [G01T 1/1644](#))}
- 6/04 . Positioning of patients; Tilttable beds or the like (operating tables [A61G 13/00](#); operating chairs [A61G 15/00](#))
- 6/0407 . . {Tables or beds}
- 6/0414 . . . {Tables or beds with compression means}
- 6/0421 . . . {Tables or beds with immobilising means}
- 6/0428 . . . . {Patient cradles}
- 6/0435 . . . {Tables or beds with means for imaging suspended breasts}
- 6/0442 . . . {Tables or beds made from non-metallic materials}
- 6/045 . . . {Tables or beds with heating or cooling means}
- 6/0457 . . {Servo-controlled positioning}
- 6/0464 . . {Supports mounted to ceiling}
- 6/0471 . . {Endless-band supports}
- 6/0478 . . {Patient positioning chairs}
- 6/0485 . . {Inflatable rests for lifting of patients}
- 6/0492 . . {using markers or indicia for aiding patient positioning}
- 6/06 . Diaphragms {for particular diagnostic applications, e.g. tomography, i.e. not of general applicability (diaphragms, e.g. variable, or collimators in general [G21K 1/02](#))}
- 6/08 . Auxiliary means for directing the radiation beam to a particular spot, e.g. using light beams
- 6/10 . Application or adaptation of safety means (protection against dangerous radiation in general [G21F](#))
- 6/102 . . {Protection against mechanical damage, e.g. anti-collision devices}
- 6/105 . . . {Braking or locking devices}
- 6/107 . . {Protection against radiation, e.g. shielding (techniques for handling radiation not otherwise provided for [G21K](#))}
- 6/12 . Devices for detecting or locating foreign bodies ([A61B 6/02](#) takes precedence {; radio-opaque markers [A61B 90/39](#)})
- 6/14 . Applications or adaptations for dentistry
- 6/145 . . {by intraoral means (X-ray tubes having a small cross-section to facilitate introduction into small cavities [H01J 35/32](#))}
- 6/40 . {with arrangements for generating radiation specially adapted for radiation diagnosis (X-ray tubes or details thereof [H01J 35/00](#))}
- 6/4007 . . {characterised by using a plurality of source units (circuit arrangements driving apparatuses comprising more than one X ray tube [H05G 1/70](#))}
- 6/4014 . . . {arranged in multiple source-detector units}
- 6/4021 . . {involving movement of the focal spot}
- 6/4028 . . . {resulting in acquisition of views from substantially different positions, e.g. EBCT}
- 6/4035 . . {the source being combined with a filter or grating (filters for radiation per se [G21K 1/10](#))}
- 6/4042 . . . {K-edge filters}
- 6/405 . . {Source units adapted to modify characteristics of the beam during the data acquisition process ([A61B 6/4021](#), [A61B 6/4035](#) take precedence; arrangements changing the time structure of an already generated radiation beam [G21K 1/043](#))}
- 6/4057 . . {by using a source unit in the interior of the body ([A61B 6/037](#) takes precedence; X-ray tubes with small cross-section [H01J 35/32](#))}
- 6/4064 . . {adapted for producing a particular type of beam}
- 6/4071 . . . {Pencil beams}
- 6/4078 . . . {Fan-beams}
- 6/4085 . . . {Cone-beams}
- 6/4092 . . . {for producing synchrotron radiation}
- 6/42 . {with arrangements for detecting radiation specially adapted for radiation diagnosis (details of radiation detection [G01T 1/00](#))}
- 6/4208 . . {characterised by using a particular type of detector}
- 6/4216 . . . {using storage phosphor screens (details of stimulative phosphor sheets [G01T 1/2012](#))}
- 6/4225 . . . {using image intensifiers}
- 6/4233 . . . {using matrix detectors (for semiconductor radiation detectors [G01T 1/24](#), [G01T 1/2928](#))}
- 6/4241 . . . {using energy resolving detectors, e.g. photon counting (detectors for nuclear medicine [G01T 1/16](#), [G01T 1/29](#))}
- 6/425 . . . {using detectors specifically adapted to be used in the interior of the body (detector details for in vivo counting [G01T 1/161](#))}
- 6/4258 . . . {for detecting non x-ray radiation, e.g. gamma radiation ([A61B 6/037](#) takes precedence)}
- 6/4266 . . {characterised by using a plurality of detector units ([A61B 6/4014](#) takes precedence)}
- 6/4275 . . {using a detector unit almost surrounding the patient, e.g. more than 180°}
- 6/4283 . . {characterised by a detector unit being housed in a cassette}
- 6/4291 . . {the detector being combined with a grid or grating}

- 6/44 . {Constructional features of the device for radiation diagnosis}
- 6/4405 . . {the device being mobile or portable, e.g. mounted on a trolley or handheld}
- 6/4411 . . {the device being modular}
- 6/4417 . . {related to combined acquisition of different diagnostic modalities}
- 6/4423 . . {related to hygiene or sterilisation}
- 6/4429 . . {related to the mounting of source units and detector units ([A61B 6/02 takes precedence](#))}
- 6/4435 . . . {the source unit and the detector unit being coupled by a rigid structure}
- 6/4441 . . . . {the rigid structure being a C-arm or U-arm}
- 6/4447 . . . . {Tiltable gantries}
- 6/4452 . . . {the source unit and the detector unit being able to move relative to each other}
- 6/4458 . . . {the source unit or the detector unit being attached to robotic arms}
- 6/4464 . . . {the source unit or the detector unit being mounted to ceiling}
- 6/447 . . . {the source unit or the detector unit being mounted to counterpoise or springs}
- 6/4476 . . {related to servo controlled movement of the source unit}
- 6/4482 . . . {involving power assist circuits}
- 6/4488 . . {Means for cooling ([A61B 6/045 takes precedence](#))}
- 6/4494 . . {Means for identifying the diagnostic device}
- 6/46 . {with special arrangements for interfacing with the operator or the patient}
- 6/461 . . {Displaying means of special interest}
- 6/462 . . . {characterised by constructional features of the display}
- 6/463 . . . {characterised by displaying multiple images or images and diagnostic data on one display}
- 6/464 . . . {involving a plurality of displays}
- 6/465 . . . {adapted to display user selection data, e.g. icons or menus}
- 6/466 . . . {adapted to display 3D data ([3D image rendering G06T 15/00; manipulating 3D models for computer graphics G06T 19/00](#))}
- 6/467 . . {characterised by special input means}
- 6/468 . . . {allowing annotation or message recording}
- 6/469 . . . {for selecting a region of interest [ROI]}
- 6/48 . {Diagnostic techniques ([A61B 6/022, A61B 6/032, A61B 6/037 take precedence](#))}
- 6/481 . . {involving the use of contrast agents}
- 6/482 . . {involving multiple energy imaging}
- 6/483 . . {involving scattered radiation}
- 6/484 . . {involving phase contrast X-ray imaging}
- 6/485 . . {involving fluorescence X-ray imaging}
- 6/486 . . {involving generating temporal series of image data}
- 6/487 . . . {involving fluoroscopy}
- 6/488 . . {involving pre-scan acquisition}
- 6/50 . {Clinical applications ([dentistry A61B 6/14 takes precedence](#))}
- 6/501 . . {involving diagnosis of head, e.g. neuroimaging, craniography}
- 6/502 . . {involving diagnosis of breast, i.e. mammography}
- 6/503 . . {involving diagnosis of heart}
- 6/504 . . {involving diagnosis of blood vessels, e.g. by angiography}
- 6/505 . . {involving diagnosis of bone}
- 6/506 . . {involving diagnosis of nerves}
- 6/507 . . {involving determination of haemodynamic parameters, e.g. perfusion CT}
- 6/508 . . {for non-human patients}
- 6/52 . {Devices using data or image processing specially adapted for radiation diagnosis ([image processing per se G06T](#))}
- 6/5205 . . {involving processing of raw data to produce diagnostic data}
- 6/5211 . . {involving processing of medical diagnostic data}
- 6/5217 . . . {extracting a diagnostic or physiological parameter from medical diagnostic data ([details of algorithms to analyse biomedical images G06T 7/0012](#))}
- 6/5223 . . . {generating planar views from image data, e.g. extracting a coronal view from a 3D image}
- 6/5229 . . . {combining image data of a patient, e.g. combining a functional image with an anatomical image ([details of algorithms for image registration G06T 7/30](#))}
- 6/5235 . . . . {combining images from the same or different radiation imaging techniques, e.g. PET and CT}
- 6/5241 . . . . . {combining overlapping radiation images, e.g. by stitching}
- 6/5247 . . . . . {combining images from different diagnostic modalities, e.g. X-ray and ultrasound}
- 6/5252 . . . {removing objects from field of view, e.g. removing patient table from a CT image}
- 6/5258 . . {involving detection or reduction of artifacts or noise ([details of algorithms for image enhancement G06T 7/97](#))}
- 6/5264 . . . {due to motion}
- 6/527 . . . . {using data from a motion artifact sensor ([A61B 6/5276 takes precedence](#))}
- 6/5276 . . . . . {involving measuring table sag}
- 6/5282 . . . {due to scatter}
- 6/5288 . . {involving retrospective matching to a physiological signal}
- 6/5294 . . {involving using additional data, e.g. patient information, image labeling, acquisition parameters}
- 6/54 . {Control of devices for radiation diagnosis}
- 6/541 . . {involving acquisition triggered by a physiological signal}
- 6/542 . . {involving control of exposure}
- 6/544 . . . {dependent on patient size}
- 6/545 . . {involving automatic set-up of acquisition parameters}
- 6/547 . . {involving tracking of position of the device or parts of the device ([using an image of a phantom A61B 6/584](#))}
- 6/548 . . {Remote control of radiation diagnosis devices}
- 6/56 . {Details of data transmission or power supply, e.g. use of slip rings}
- 6/563 . . {involving image data transmission via a network}
- 6/566 . . {involving communication between imaging systems}
- 6/58 . {Testing, adjusting or calibrating devices for radiation diagnosis}

- 6/581 . . {Remote testing of the device}
- 6/582 . . {Calibration}
- 6/583 . . . {using calibration phantoms (models for medical purposes [G09B 23/28](#))}
- 6/584 . . . . {determining position of components of the device using images of the phantom}
- 6/585 . . . {Calibration of detector units}
- 6/586 . . {Detection of faults or malfunction of the device}
- 6/587 . . {Alignment of source unit to detector unit}
- 6/588 . . {Setting distance between source unit and detector unit}
- 6/589 . . {Setting distance between source unit and patient}
- 7/00 Instruments for auscultation**
- 7/001 . {Detecting cranial noise, e.g. caused by aneurism}
- 7/003 . {Detecting lung or respiration noise}
- 7/005 . {Detecting noise caused by implants, e.g. cardiac valves}
- 7/006 . {Detecting skeletal, cartilage or muscle noise ([A61B 7/003](#) and [A61B 7/008](#) take precedence)}
- 7/008 . {Detecting noise of gastric tract, e.g. caused by voiding}
- 7/02 . Stethoscopes {(acoustic details thereof [G10K 11/00](#))}
- 7/023 . . {for introduction into the body, e.g. into the oesophagus (oesophageal ECG probes [A61B 5/0421](#))}
- 7/026 . . {comprising more than one sound collector}
- 7/04 . . Electric stethoscopes (microphones, acoustic transducers therefor [H04R](#))
- 7/045 . . . {Detection of Korotkoff sounds ([A61B 5/0225](#) takes precedence; measuring blood pressure [A61B 5/021](#))}
- 8/00 Diagnosis using ultrasonic, sonic or infrasonic waves (imaging of objects using sonar [G01S 15/00](#))**
- 8/02 . Measuring pulse or heart rate
- 8/04 . Measuring blood pressure
- 8/06 . Measuring blood flow (measuring volume flow in general [G01F](#), e.g. [G01F 1/66](#), [G01F 1/72](#); measuring speed of fluids in general [G01P 5/00](#))
- 8/065 . . {to determine blood output from the heart (in general [A61B 5/029](#))}
- 8/08 . Detecting organic movements or changes, e.g. tumours, cysts, swellings ([A61B 8/02](#) - [A61B 8/06](#) take precedence)
- 8/0808 . . {for diagnosis of the brain}
- 8/0816 . . . {using echo-encephalography}
- 8/0825 . . {for diagnosis of the breast, e.g. mammography}
- 8/0833 . . {involving detecting or locating foreign bodies or organic structures}
- 8/0841 . . . {for locating instruments}
- 8/085 . . . {for locating body or organic structures, e.g. tumours, calculi, blood vessels, nodules}
- 8/0858 . . {involving measuring tissue layers, e.g. skin, interfaces}
- 8/0866 . . {involving foetal diagnosis; pre-natal or peri-natal diagnosis of the baby}
- 8/0875 . . {for diagnosis of bone ([A61B 5/4504](#) takes precedence)}
- 8/0883 . . {for diagnosis of the heart}
- 8/0891 . . {for diagnosis of blood vessels}
- 8/10 . Eye inspection
- 8/12 . in body cavities or body tracts, e.g. by using catheters (catheters per se [A61M 25/00](#))
- 8/13 . Tomography ([A61B 8/10](#), [A61B 8/12](#) take precedence; tomography for radiation diagnosis [A61B 6/02](#))
- 8/14 . . Echo-tomography
- 8/145 . . . {characterised by scanning multiple planes}
- 8/15 . . Transmission-tomography
- 8/40 . {Positioning of patients, e.g. means for holding or immobilising parts of the patient's body}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)
- 8/403 . . {using compression means}
- 8/406 . . {using means for diagnosing suspended breasts}
- 8/42 . {Details of probe positioning or probe attachment to the patient}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)
- 8/4209 . . {by using holders, e.g. positioning frames}
- 8/4218 . . . {characterised by articulated arms}
- 8/4227 . . . {characterised by straps, belts, cuffs or braces}
- 8/4236 . . . {characterised by adhesive patches}
- 8/4245 . . {involving determining the position of the probe, e.g. with respect to an external reference frame or to the patient}
- 8/4254 . . . {using sensors mounted on the probe}
- 8/4263 . . . {using sensors not mounted on the probe, e.g. mounted on an external reference frame}
- 8/4272 . . {involving the acoustic interface between the transducer and the tissue}
- 8/4281 . . . {characterised by sound-transmitting media or devices for coupling the transducer to the tissue}
- 8/429 . . . {characterised by determining or monitoring the contact between the transducer and the tissue}
- 8/44 . {Constructional features of the ultrasonic, sonic or infrasonic diagnostic device}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)
- 8/4405 . . {Device being mounted on a trolley}
- 8/4411 . . {Device being modular}
- 8/4416 . . {related to combined acquisition of different diagnostic modalities, e.g. combination of ultrasound and X-ray acquisitions}
- 8/4422 . . {related to hygiene or sterilisation}
- 8/4427 . . {Device being portable or laptop-like}
- 8/4433 . . {involving a docking unit}
- 8/4438 . . {Means for identifying the diagnostic device, e.g. barcodes}
- 8/4444 . . {related to the probe}
- 8/445 . . . {Details of catheter construction}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/12](#)



- 8/4455 . . . {Features of the external shape of the probe, e.g. ergonomic aspects}
- 8/4461 . . . {Features of the scanning mechanism, e.g. for moving the transducer within the housing of the probe}
- 8/4466 . . . . {involving deflection of the probe}
- 8/4472 . . . {Wireless probes}
- 8/4477 . . {using several separate ultrasound transducers or probes}
- 8/4483 . . {characterised by features of the ultrasound transducer}
- 8/4488 . . . {the transducer being a phased array}
- 8/4494 . . . {characterised by the arrangement of the transducer elements (devices for short-range imaging using particular transducer elements arrangements under G01S 15/8909; arrangements of transducers in generation of mechanical vibrations of infrasonic, sonic or ultrasonic frequency B06B 1/0607)}
- 8/46 . {Ultrasonic, sonic or infrasonic diagnostic devices with special arrangements for interfacing with the operator or the patient}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)
- 8/461 . . {Displaying means of special interest}
- 8/462 . . . {characterised by constructional features of the display}
- 8/463 . . . {characterised by displaying multiple images or images and diagnostic data on one display (composite display in devices for short-range imaging with acoustic waves G01S 7/52074)}
- 8/464 . . . {involving a plurality of displays}
- 8/465 . . . {adapted to display user selection data, e.g. icons or menus}
- 8/466 . . . {adapted to display 3D data (3D imaging and stereoscopic displays in devices for short-range imaging with acoustic waves G01S 15/8993 and G01S 7/52068, respectively; 3D image rendering G06T 15/00; manipulating 3D models for computer graphics G06T 19/00)}
- 8/467 . . {characterised by special input means}
- 8/468 . . . {allowing annotation or message recording}
- 8/469 . . . {for selection of a region of interest}
- 8/48 . {Diagnostic techniques ([A61B 8/13](#) takes precedence)}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/08](#)
- 8/481 . . {involving the use of contrast agent, e.g. microbubbles introduced into the bloodstream (analysis of echo signal exploiting properties of a contrast enhancer in devices for short-range imaging with acoustic waves G01S 7/52039)}
- 8/483 . . {involving the acquisition of a 3D volume of data}
- 8/485 . . {involving measuring strain or elastic properties}
- 8/486 . . {involving arbitrary m-mode}
- 8/488 . . {involving Doppler signals}
- 8/52 . {Devices using data or image processing specially adapted for diagnosis using ultrasonic, sonic or infrasonic waves ([image processing per se G06T](#))}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/08](#) and [A61B 8/14](#)
- 8/5207 . . {involving processing of raw data to produce diagnostic data, e.g. for generating an image (reconstruction G06T 11/00)}
- 8/5215 . . {involving processing of medical diagnostic data}
- 8/5223 . . . {for extracting a diagnostic or physiological parameter from medical diagnostic data (for algorithms to analyse biomedical images G06T 7/0012)}
- 8/523 . . . {for generating planar views from image data in a user selectable plane not corresponding to the acquisition plane}
- 8/5238 . . . {for combining image data of patient, e.g. merging several images from different acquisition modes into one image (for image registration algorithms G06T 7/30)}
- 8/5246 . . . . {combining images from the same or different imaging techniques, e.g. color Doppler and B-mode}
- 8/5253 . . . . . {combining overlapping images, e.g. spatial compounding}
- 8/5261 . . . . {combining images from different diagnostic modalities, e.g. ultrasound and X-ray}
- 8/5269 . . {involving detection or reduction of artifacts (for image enhancement algorithms G06T 5/00)}
- 8/5276 . . . {due to motion}
- 8/5284 . . {involving retrospective matching to a physiological signal}
- 8/5292 . . {using additional data, e.g. patient information, image labeling, acquisition parameters}
- 8/54 . {Control of the diagnostic device}
- 8/543 . . {involving acquisition triggered by a physiological signal}
- 8/546 . . {involving monitoring or regulation of device temperature}
- 8/56 . {Details of data transmission or power supply}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)
- 8/565 . . {involving data transmission via a network}
- 8/58 . {Testing, adjusting or calibrating the diagnostic device}
- WARNING**
- This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)
- 8/582 . . {Remote testing of the device}
- 8/585 . . {Automatic set-up of the device}
- 8/587 . . {Calibration phantoms (models for medical purposes G09B 23/28)}
- 9/00 Instruments for examination by percussion; Pleximeters**
- 9/005 . {Electric apparatus for detecting reflex action, e.g. monitoring depth of anaesthesia ([detection of movements A61B 5/11](#))}

|              |  |   |
|--------------|--|---|
| <b>10/00</b> | <b>Other methods or instruments for diagnosis, e.g. instruments for taking a cell sample, for biopsy, for vaccination diagnosis (vaccination prophylaxis, vaccination therapy <a href="#">A61B 17/20</a>); Sex determination; Ovulation-period determination (menstruation tables <a href="#">G06C 3/00</a>); Throat striking implements</b> |   |
|              | <b>NOTE</b>  |   |
|              | Attention is drawn to group <a href="#">A61F 13/15</a> which provides for swabs  |   |
| 2010/0003    | . {including means for analysis by an unskilled person}  | 10/0096 . {Casings for storing test samples ( <a href="#">A61B 10/0038</a> and <a href="#">A61B 10/0045</a> take precedence; preservation of living parts of the human or animal body <a href="#">A01N 1/02</a> ; containers for retaining a material to be analysed <a href="#">B01L 3/50</a> ; containers for enzymology or microbiology <a href="#">C12M 1/16</a> ; swab-sampler being part of enzymology or microbiology container <a href="#">C12M 1/30</a> )} |
| 2010/0006    | . . {involving a colour change}  | 10/02 . Instruments for taking cell samples or for biopsy ({ <a href="#">A61B 10/0038</a> and <a href="#">A61B 10/0045</a> take precedence; needle locating or guiding means <a href="#">A61B 17/3403</a> ; samplers for enzymology or microbiology <a href="#">C12M 1/26</a> ; sampling or preparing biological specimens <a href="#">G01N 33/48</a> )}  |
| 2010/0009    | . {Testing for drug or alcohol abuse}  | 2010/0208 . . {Biopsy devices with actuators, e.g. with triggered spring mechanisms}  |
| 10/0012      | . {Ovulation-period determination (for animals <a href="#">A61D 17/002</a> )}  | 2010/0216 . . {Sampling brushes}  |
| 2010/0016    | . . {based on measurement of electric currents, e.g. conductivity tests}   | 2010/0225 . . {for taking multiple samples}   |
| 2010/0019    | . . {based on measurement of temperature}  | 10/0233 . . {Pointed or sharp biopsy instruments}   |
| 2010/0022    | . . {based on measurement of viscosity or visco-elasticity}  | 10/0241 . . . {for prostate}  |
| 2010/0025    | . . {based on analysis of crystallisation structure}   | 10/025 . . . {for taking bone, bone marrow or cartilage samples}  |
| 2010/0029    | . . {based on time measurement}  | 2010/0258 . . . . {Marrow samples}  |
| 2010/0032    | . . {based on measurement of pH-value}   | 10/0266 . . . {means for severing sample}   |
| 10/0035      | . {Vaccination diagnosis other than by injuring the skin, e.g. allergy test patches}   | 10/0275 . . . . {with sample notch, e.g. on the side of inner stylet}   |
| 10/0038      | . {Devices for taking faeces samples; Faecal examination devices ( <a href="#">anal receptacles A61F 5/451</a> )}  | 10/0283 . . . {with vacuum aspiration, e.g. caused by retractable plunger or by connected syringe ( <a href="#">A61B 10/025</a> , <a href="#">A61B 10/0266</a> take precedence)}  |
| 10/0041      | . {Detection of breast cancer (mammography by transillumination <a href="#">A61B 5/0091</a> , by X-rays <a href="#">A61B 6/502</a> , by ultrasonic means <a href="#">A61B 8/0825</a> )}  | 10/0291 . . {for uterus ( <a href="#">A61B 10/0045</a> takes precedence)}   |
| 10/0045      | . {Devices for taking samples of body liquids (devices for taking blood samples <a href="#">A61B 5/1405</a> )}   | 10/04 . . Endoscopic instruments  |
| 10/0048      | . . {for taking amniotic fluid samples}  | 2010/045 . . . {Needles (pointed biopsy devices with vacuum aspiration <a href="#">A61B 10/0283</a> )}  |
| 10/0051      | . . {for taking saliva or sputum samples (devices for receiving spittle <a href="#">A61J 9/00</a> )}   | 10/06 . . Biopsy forceps {, e.g. with cup-shaped jaws}  |
| 2010/0054    | . . {Ear liquid}   | <b>13/00 Instruments for depressing the tongue (combined with illuminating and viewing instruments <a href="#">A61B 1/24</a>)</b>   |
| 10/0058      | . . {for taking sperm samples (artificial insemination <a href="#">A61B 17/43</a> ; for animals <a href="#">A61D 19/021</a> ; genital receptacles for the male member <a href="#">A61F 5/453</a> ; massage of the genitals <a href="#">A61H 19/00</a> )}   | <b>16/00 Devices specially adapted for vivisection or autopsy (similar devices for medical purposes, see the relevant groups for such devices {; autopsy tables <a href="#">A61G 13/0027</a>)}</b>  |
| 2010/0061    | . . {Alimentary tract secretions, e.g. biliary, gastric, intestinal, pancreatic secretions}  |   |
| 10/0064      | . . {for taking sweat or sebum samples (measuring sweat production <a href="#">A61B 5/4266</a> )}  | <b>Surgery</b>  |
| 2010/0067    | . . {Tear or lachrymal fluid}  | <b>17/00 Surgical instruments, devices or methods, e.g. tourniquets (<a href="#">A61B 18/00</a> takes precedence; contraceptive devices, pessaries, or applicators therefor <a href="#">A61F 6/00</a>; eye surgery <a href="#">A61F 9/007</a>; ear surgery <a href="#">A61F 11/00</a>)</b>  |
| 10/007       | . . {for taking urine samples (measuring urological functions <a href="#">A61B 5/20</a> ; genital receptacles <a href="#">A61F 5/451</a> ; urinals for bed-ridden persons <a href="#">A61G 9/006</a> )}  | 2017/00004 . {(bio)absorbable, (bio)resorbable, resorptive (for implantable prostheses <a href="#">A61F 2210/0004</a> )}  |
| 2010/0074    | . . {Vaginal or cervical secretions}   | 17/00008 . {Vein tendon strippers (tube strippers <a href="#">A61M 1/0078</a> )}  |
| 2010/0077    | . . {Cerebrospinal fluid}  | 2017/00013 . . {Cables with a stripper head}  |
| 2010/008     | . . {Interstitial fluid}   | 2017/00017 . {Electrical control of surgical instruments}   |
| 2010/0083    | . {for taking gas samples}   | 2017/00022 . . {Sensing or detecting at the treatment site}   |
| 2010/0087    | . . {Breath samples}   | 2017/00026 . . . {Conductivity or impedance, e.g. of tissue}  |
| 2010/009     | . {Various features of diagnostic instruments}   | 2017/0003 . . . . {of parts of the instruments}   |
| 2010/0093    | . . {slide rules}  | 2017/00035 . . . . {pH}   |
|              |  | 2017/00039 . . . {Electric or electromagnetic phenomena other than conductivity, e.g. capacity, inductivity, Hall effect}   |
|              |  | 2017/00044 . . . . {Sensing electrocardiography, i.e. ECG}  |

- 2017/00048 . . . . . {Spectral analysis}
- 2017/00053 . . . . . {Mapping}
- 2017/00057 . . . {Light}
- 2017/00061 . . . . {spectrum}
- 2017/00066 . . . . {intensity}
- 2017/0007 . . . . . {Pyrometers}
- 2017/00075 . . . {Motion}
- 2017/00079 . . . {Radioactivity}
- 2017/00084 . . . {Temperature}
- 2017/00088 . . . . {using thermistors}
- 2017/00092 . . . . {using thermocouples}
- 2017/00097 . . . . . {one of the thermometric elements being an electrode or the heating element}
- 2017/00101 . . . . {using an array of thermosensors}
- 2017/00106 . . . {ultrasonic}
- 2017/0011 . . . . {piezo-electric}
- 2017/00115 . . {with audible or visual output (with imaging means [A61B 90/37](#), [A61B 34/20](#))}
- 2017/00119 . . . {alarm; indicating an abnormal situation}
- 2017/00123 . . . . {and automatic shutdown}
- 2017/00128 . . . {related to intensity or progress of surgical action}
- 2017/00132 . . {Setting operation time of a device ([A61B 2017/00123](#) takes precedence)}
- 2017/00137 . . {Details of operation mode}
- 2017/00141 . . . {continuous, e.g. wave}
- 2017/00146 . . . . {with multiple frequencies}
- 2017/0015 . . . . . {applied simultaneously}
- 2017/00154 . . . {pulsed}
- 2017/00159 . . . . {Pulse shapes}
- 2017/00163 . . . . . {starting with a negative pulse}
- 2017/00168 . . . . . {Spike}
- 2017/00172 . . . . {Pulse trains, bursts, intermittent continuous operation}
- 2017/00176 . . . . . {Two pulses, e.g. second pulse having an effect different from the first one}
- 2017/00181 . . . . {Means for setting or varying the pulse energy}
- 2017/00185 . . . . . {Means for setting or varying the pulse height}
- 2017/0019 . . . . . {Means for setting or varying the pulse width}
- 2017/00194 . . . . {Means for setting or varying the repetition rate}
- 2017/00199 . . {with a console, e.g. a control panel with a display}
- 2017/00203 . . {with speech control or speech recognition}
- 2017/00207 . . {with hand gesture control or hand gesture recognition}
- 2017/00212 . . {using remote controls}
- 2017/00216 . . {with eye tracking or head position tracking control}
- 2017/00221 . . {with wireless transmission of data, e.g. by infrared radiation or radiowaves}
- 2017/00225 . . {Systems for controlling multiple different instruments, e.g. microsurgical systems}
- 2017/0023 . {disposable}
- 17/00234 . {for minimally invasive surgery ([A61B 17/0218](#), [A61B 17/0469](#), [A61B 17/12013](#), [A61B 17/1285](#), [A61B 17/29](#), [A61B 17/320016](#) take precedence)}
- 2017/00238 . . {Type of minimally invasive operation ([A61B 2017/00805](#) takes precedence)}
- 2017/00243 . . . {cardiac}
- 2017/00247 . . . . {Making holes in the wall of the heart, e.g. laser Myocardial revascularization}
- 2017/00252 . . . . . {for by-pass connections, i.e. connections from heart chamber to blood vessel or from blood vessel to blood vessel}
- 2017/00256 . . . . {Creating an electrical block}
- 2017/00261 . . . {Dissectomy}
- 2017/00265 . . . {Hand assisted surgery, i.e. minimally invasive surgery with at least part of an assisting hand inside the body}
- 2017/00269 . . . {endoscopic mucosal resection EMR}
- 2017/00274 . . . {Prostate operation, e.g. prostatectomy, turp, bhp treatment}
- 2017/00278 . . . {Transorgan operations, e.g. transgastric}
- 2017/00283 . . . {with a device releasably connected to an inner wall of the abdomen during surgery, e.g. an illumination source}
- 2017/00287 . . {Bags for minimally invasive surgery}
- 2017/00292 . . {mounted on or guided by flexible, e.g. catheter-like, means}
- 2017/00296 . . . {mounted on an endoscope}
- 2017/003 . . . {Steerable}
- 2017/00305 . . . . {Constructional details of the flexible means}
- 2017/00309 . . . . . {Cut-outs or slits}
- 2017/00314 . . . . . {Separate linked members}
- 2017/00318 . . . . {Steering mechanisms}
- 2017/00323 . . . . . {Cables or rods}
- 2017/00327 . . . . . {with actuating members moving in opposite directions}
- 2017/00331 . . . . . {with preformed bends}
- 2017/00336 . . . {with a protective sleeve, e.g. retractable or slidable}
- 2017/0034 . . . {adapted to be inserted through a working channel of an endoscope}
- 2017/00345 . . {Micromachines, nanomachines, microsystems}
- 2017/00349 . . {Needle-like instruments having hook or barb-like gripping means, e.g. for grasping suture or tissue ([A61B 17/06066](#) takes precedence)}
- 2017/00353 . . {one mechanical instrument performing multiple functions, e.g. cutting and grasping ([channel for multiple instruments A61B 2017/3445](#); [instrument channel A61B 2017/22072](#); [replaceable heads A61B 2017/2931](#); [suction A61M 1/00](#))}
- 2017/00358 . . {Snares for grasping}
- 2017/00362 . . {Packages or dispensers for MIS instruments ([A61B 2017/0479](#) takes precedence)}
- 2017/00367 . {Details of actuation of instruments, e.g. relations between pushing buttons, or the like, and activation of the tool, working tip, or the like}
- 2017/00371 . . {Multiple actuation, e.g. pushing of two buttons, or two working tips becoming operational}
- 2017/00376 . . . {Simultaneous actuation of two tools by simultaneously pushing two buttons}
- 2017/0038 . . . {Simultaneous actuation of two tools by pushing one button or the like}
- 2017/00384 . . . {Actuation of one tool by pushing two buttons simultaneously}
- 2017/00389 . . {Button or wheel for performing multiple functions, e.g. rotation of shaft and end effector}
- 2017/00393 . . . {with means for switching between functions}
- 2017/00398 . . {using powered actuators, e.g. stepper motors, solenoids}

- 2017/00402 . . . {Piezo electric actuators}
- 2017/00407 . . {Ratchet means}
- 2017/00411 . . {actuated by application of energy from an energy source outside the body}
- 2017/00415 . . {having power generation near the working tip of the tool}
- 2017/0042 . . {with special provisions for gripping}
- 2017/00424 . . {ergonomic, e.g. fitting in fist}
- 2017/00429 . . {with a roughened portion}
- 2017/00433 . . . {knurled}
- 2017/00438 . . {connectable to a finger}
- 2017/00442 . . {connectable to wrist or forearm}
- 2017/00446 . . {for use only by lefthanded or only by righthanded persons}
- 2017/00451 . . . {by lefthanded persons}
- 2017/00455 . . {Orientation indicators, e.g. recess on the handle}
- 2017/0046 . . {with a releasable handle; with handle and operating part separable (for prosthetic joint-implanting tools [A61F 2002/4624](#))}
- 2017/00464 . . {for use with different instruments (with hole for different instruments [A61B 2017/22072](#))}
- 2017/00469 . . {for insertion of instruments, e.g. guide wire, optical fibre}
- 2017/00473 . . {Distal part, e.g. tip or head ([A61B 2017/00464 takes precedence](#))}
- 2017/00477 . {Coupling ([A61B 2017/0046 takes precedence](#))}
- 2017/00482 . . {with a code}
- 2017/00486 . . {Adaptors for coupling parts with incompatible geometries}
- 17/00491 . {Surgical glue applicators (surgical adhesives [A61L 24/00](#); two-component delivery syringes [A61M 5/19](#))}
- 2017/00495 . . {for two-component glue}
- 2017/005 . . {hardenable using external energy source, e.g. laser, ultrasound}
- 2017/00504 . . {Tissue welding}
- 2017/00508 . . . {using laser}
- 2017/00513 . . {Tissue soldering}
- 2017/00517 . . . {using laser}
- 2017/00522 . . {Sprayers}
- 2017/00526 . {Methods of manufacturing}
- 2017/0053 . . {Loading magazines or sutures into applying tools}
- 2017/00535 . {pneumatically or hydraulically operated ([A61B 2017/22051](#), [A61B 2090/401 take precedence](#))}
- 2017/00539 . . {hydraulically}
- 2017/00544 . . {pneumatically}
- 2017/00548 . . . {Gas cartridges therefor}
- 2017/00553 . . {using a turbine}
- 2017/00557 . . {inflatable ([A61B 2017/22051 takes precedence](#))}
- 2017/00561 . . {creating a vacuum}
- 2017/00566 . . . {fixation of form upon application of vacuum}
- 17/0057 . {Implements for plugging an opening in the wall of a hollow or tubular organ, e.g. for sealing a vessel puncture or closing a cardiac septal defect (sutures [A61B 17/04](#); closing rectum or urethra near body surface [A61F 2/0009](#))}
- 2017/00575 . . {for closure at remote site, e.g. closing atrial septum defects}
- 2017/00579 . . . {Barbed implements}
- 2017/00584 . . . {Clips}
- 2017/00588 . . . {Rigid or stiff implements, e.g. made of several rigid parts linked by hinges}
- 2017/00592 . . . {Elastic or resilient implements}
- 2017/00597 . . . {Implements comprising a membrane}
- 2017/00601 . . . {Implements entirely comprised between the two sides of the opening}
- 2017/00606 . . . {Implements H-shaped in cross-section, i.e. with occluders on both sides of the opening}
- 2017/0061 . . . {Implements located only on one side of the opening}
- 2017/00615 . . . {Implements with an occluder on one side of the opening and holding means therefor on the other}
- 2017/00619 . . . {Locking means for locking the implement in expanded state}
- 2017/00623 . . . {Introducing or retrieving devices therefor}
- 2017/00628 . . . {T-shaped occluders}
- 2017/00632 . . . {Occluding a cavity, i.e. closing a blind opening}
- 2017/00637 . . {for sealing trocar wounds through abdominal wall}
- 2017/00641 . . {for closing fistulae, e.g. anorectal fistulae}
- 2017/00646 . . {Type of implements}
- 2017/0065 . . . {the implement being an adhesive}
- 2017/00654 . . . {entirely comprised between the two sides of the opening}
- 2017/00659 . . . {located only on one side of the opening}
- 2017/00663 . . . {the implement being a suture}
- 2017/00668 . . . {the implement being a tack or a staple}
- 2017/00672 . . {Locating means therefor, e.g. bleed back lumen}
- 2017/00676 . . {promotion of self-sealing of the puncture}
- 2017/00681 . {Aspects not otherwise provided for ([not used](#))}
- 2017/00685 . . {Archimedes screw}
- 2017/0069 . . {with universal joint, cardan joint}
- 2017/00694 . . {with means correcting for movement of or for synchronisation with the body}
- 2017/00699 . . . {correcting for movement caused by respiration, e.g. by triggering}
- 2017/00703 . . . {correcting for movement of heart, e.g. ECG-triggered}
- 2017/00707 . . {Dummies, phantoms; Devices simulating patient or parts of patient}
- 2017/00712 . . . {simulating mathematical properties, e.g. for testing of positioning in the isocentre or focus}
- 2017/00716 . . . {simulating physical properties}
- 2017/00721 . . . . {using artificial kidney stones for testing purposes}
- 2017/00725 . . {Calibration or performance testing}
- 2017/0073 . . {with means for minimising or preventing pain during treatment}
- 2017/00734 . . {battery operated}
- 2017/00738 . . {part of the tool being offset with respect to a main axis, e.g. for better view for the surgeon}
- 2017/00743 . {Type of operation; Specification of treatment sites ([A61B 2017/00238 takes precedence](#))}
- 2017/00747 . . {Dermatology}
- 2017/00752 . . . {Hair removal or transplantation}
- 2017/00756 . . . {Port wine stains}
- 2017/00761 . . . {Removing layer of skin tissue, e.g. wrinkles, scars or cancerous tissue}
- 2017/00765 . . . {Decreasing the barrier function of skin tissue by radiated energy, e.g. using ultrasound, using laser for skin perforation}



- 2017/00769 . . . {Tattoo removal}
- 2017/00774 . . . {Wart}
- 2017/00778 . . {Operations on blood vessels ([A61B 2017/22097](#), [A61B 2017/320741](#) take precedence)}
- 2017/00783 . . . {Valvuloplasty}
- 2017/00787 . . {Surgery of the ear}
- 2017/00792 . . {Plastic surgery}
- 2017/00796 . . {Breast surgery}
- 2017/008 . . . {Removal of tumors}
- 2017/00805 . . {Treatment of female stress urinary incontinence}
- 2017/00809 . . {Lung operations}
- 2017/00814 . . {Surgery of the tongue, e.g. glossoplasty}
- 2017/00818 . . {Treatment of the gastro-intestinal system}
- 2017/00823 . . . {Appendectomy}
- 2017/00827 . . . {Treatment of gastro-esophageal reflux}
- 2017/00831 . {Material properties}
- 2017/00836 . . {corrosion-resistant ([A61B 2017/00853](#) takes precedence; preventing galvanic or electrolytic corrosion in prostheses [A61F 2210/0009](#))}
- 2017/0084 . . {low friction ([A61B 2017/00853](#) takes precedence)}
- 2017/00845 . . . {of moving parts with respect to each other}
- 2017/00849 . . . {with respect to tissue, e.g. hollow organs}
- 2017/00853 . . {low friction, hydrophobic and corrosion-resistant fluorocarbon resin coating (ptf, ptfe, polytetrafluoroethylene)}
- 2017/00858 . . {high friction, non-slip ([on handles](#) [A61B 2017/00429](#))}
- 2017/00862 . . {elastic or resilient ([for sutures](#) [A61B 2017/0618](#))}
- 2017/00867 . . {shape memory effect ([for prostheses](#) [A61F 2210/0014](#))}
- 2017/00871 . . . {polymeric}
- 2017/00876 . . {magnetic}
- 2017/0088 . . {ceramic}
- 2017/00884 . . {enhancing wound closure}
- 2017/00889 . . {antimicrobial, disinfectant}
- 2017/00893 . . {pharmaceutically effective}
- 2017/00898 . . {expandable upon contact with fluid}
- 2017/00902 . . {transparent or translucent}
- 2017/00907 . . . {for light}
- 2017/00911 . . . {for fields applied by a magnetic resonance imaging system}
- 2017/00915 . . . {for radioactive radiation}
- 2017/0092 . . . . {for X-rays}
- 2017/00924 . . . {for ultrasonic waves}
- 2017/00929 . . {isolating electrical current}
- 2017/00933 . . {bone or bone-like}
- 2017/00938 . . {hydrophobic}
- 2017/00942 . . {hydrophilic}
- 2017/00946 . . {malleable}
- 2017/00951 . . {adhesive}
- 2017/00955 . . {thermoplastic}
- 2017/0096 . . {self cleaning, e.g. having lotus effect}
- 2017/00964 . . {composite}
- 2017/00969 . {used for transplantation}
- 2017/00973 . {pedal-operated}
- 2017/00977 . . {the depression depth determining the power rate}
- 2017/00982 . {General structural features}
- 2017/00986 . . {Malecots, e.g. slotted tubes, of which the distal end is pulled to deflect side struts}
- 2017/00991 . . {Telescopic means}
- 2017/00995 . . {having a thin film}
- 17/02 . . for holding wounds open; Tractors ([{specula](#) [A61B 1/32](#) } ; drainage appliances for wounds [A61M 27/00](#))
- 17/0206 . . {with antagonistic arms as supports for retractor elements}
- 2017/0212 . . {Cushions or pads, without holding arms, as tissue retainers, e.g. for retracting viscera}
- 17/0218 . . {for minimally invasive surgery ([A61B 17/0218](#), [A61B 17/0281](#), [A61B 17/0469](#), [A61B 17/12013](#), [A61B 17/1285](#), [A61B 17/29](#), [A61B 17/320016](#) take precedence)}
- 2017/0225 . . . {flexible, e.g. fabrics, meshes, or membranes}
- 17/0231 . . {for eye surgery}
- 2017/0237 . . {for heart surgery ([endoscopic heart surgery](#) [A61B 2017/00243](#); [endoscopic access devices](#), i.e. trocars, [A61B 17/34](#))}
- 2017/0243 . . . {for immobilizing local areas of the heart, e.g. while it beats ([trocars attached to inner organs](#) or inner body tissue [A61B 2017/3488](#))}
- 17/025 . . {Joint distractors}
- 2017/0256 . . . {for the spine}
- 2017/0262 . . . . {with a provision for protecting nerves}
- 2017/0268 . . . {for the knee}
- 2017/0275 . . . {for the hip}
- 17/0281 . . {Abdominal wall lifters}
- 2017/0287 . . {with elastic retracting members connectable to a frame, e.g. hooked elastic wires}
- 17/0293 . . {with ring member to support retractor elements}
- 17/04 . . for suturing wounds; Holders or packages for needles or suture materials ([suture materials](#) [A61L 17/00](#))
- 17/0401 . . {Suture anchors, buttons or pledgets, i.e. means for attaching sutures to bone, cartilage or soft tissue; Instruments for applying or removing suture anchors ([A61B 17/0642](#) takes precedence; fixation devices for tendons or ligaments [A61F 2/0811](#))}
- 2017/0403 . . . {Dowels ([other bone dowels](#) [17:68](#); dowels for connecting prosthetic parts [A61F 2002/30436](#))}
- 2017/0404 . . . {Buttons}
- 2017/0406 . . . {Pledgets}
- 2017/0408 . . . {Rivets ([other bone rivets](#) [17:68](#); rivets for connecting prosthetic parts [A61F 2002/30441](#), [A61F 2220/0041](#))}
- 2017/0409 . . . {Instruments for applying suture anchors ([for applying suture clamps, clips or locks](#) [A61B 2017/0488](#))}
- 2017/0411 . . . {Instruments for removing suture anchors ([for removing suture clamps, clips or locks](#) [A61B 2017/049](#))}
- 2017/0412 . . . {having anchoring barbs or pins extending outwardly from suture anchor body}
- 2017/0414 . . . {having a suture-receiving opening, e.g. lateral opening ([lateral eyelet for attaching suture to needle](#) [A61B 2017/06019](#))}
- 2017/0416 . . . {Packages or dispensers for suture anchors or for anchor applicators}
- 2017/0417 . . . {T-fasteners}
- 2017/0419 . . . {H-fasteners}
- 2017/042 . . . {plastically deformed during insertion}
- 2017/0422 . . . . {by insertion of a separate member into the body of the anchor}

- 2017/0424 . . . . . {the separate member staying in the anchor after placement}
- 2017/0425 . . . . . {the anchor or the separate member comprising threads, e.g. a set screw in the anchor}
- 2017/0427 . . . . . {having anchoring barbs or pins extending outwardly from the anchor body}
- 2017/0429 . . . . . {the barbs being expanded by a mechanical mechanism which also locks them in the expanded state}
- 2017/043 . . . . . {by insertion of a separate spreading member into the anchor}
- 2017/0432 . . . . . {the separate member staying in the anchor after placement}
- 2017/0433 . . . . . {the anchor or the separate member comprising threads, e.g. a set screw or a worm gear for moving spreading members}
- 2017/0435 . . . . . {the barbs being separate elements mechanically linked to the anchor, e.g. by pivots}
- 2017/0437 . . . . . {the barbs being resilient or spring-like}
- 2017/0438 . . . . . {slotted, i.e. having a longitudinal slot for enhancing their elasticity}
- 2017/044 . . . . . {with a threaded shaft, e.g. screws}
- 2017/0441 . . . . . {the shaft being a rigid coil or spiral}
- 2017/0443 . . . . . {the shaft being resilient and having a coiled or helical shape in the released state}
- 2017/0445 . . . . . {cannulated, e.g. with a longitudinal through-hole for passage of an instrument}
- 2017/0446 . . . . . {Means for attaching and blocking the suture in the suture anchor}
- 2017/0448 . . . . . {Additional elements on or within the anchor}
- 2017/045 . . . . . {snug fit within the anchor}
- 2017/0451 . . . . . {Cams or wedges holding the suture by friction}
- 2017/0453 . . . . . {threaded elements, e.g. set screws}
- 2017/0454 . . . . . {the anchor being crimped or clamped on the suture}
- 2017/0456 . . . . . {Surface features on the anchor, e.g. ribs increasing friction between the suture and the anchor}
- 2017/0458 . . . . . {Longitudinal through hole, e.g. suture blocked by a distal suture knot}
- 2017/0459 . . . . . {Multiple holes in the anchor through which the suture extends and locking the suture when tension is applied}
- 2017/0461 . . . . . {with features cooperating with special features on the suture, e.g. protrusions on the suture}
- 2017/0462 . . . . . {One way system, i.e. also tensioning the suture}
- 2017/0464 . . . . . {for soft tissue}
- 17/0466 . . . . . {Suture bridges}
- 17/0467 . . . . . {Instruments for cutting sutures (surgical cutting instruments [A61B 17/32](#))}
- 17/0469 . . . . . {Suturing instruments for use in minimally invasive surgery, e.g. endoscopic surgery}
- 2017/047 . . . . . {having at least one proximally pointing needle located at the distal end of the instrument, e.g. for suturing trocar puncture wounds starting from inside the body ([J-shaped suture needles A61B 2017/0608](#))}
- 2017/0472 . . . . . {Multiple-needed, e.g. double-needed, instruments}
- 2017/0474 . . . . . {Knot pushers}
- 2017/0475 . . . . . {using sutures having a slip knot}
- 2017/0477 . . . . . {with pre-tied sutures}
- 2017/0479 . . . . . {Packages or dispensers for MIS suturing instruments}
- 2017/048 . . . . . {for reducing heart wall tension, e.g. sutures with a pad on each extremity}
- 17/0482 . . . . . {Needle or suture guides ([guides for drills, pins or wire A61B 17/17](#); [for puncturing needles A61B 17/3403](#))}
- 17/0483 . . . . . {Hand-held instruments for holding sutures ([A61B 17/0469](#) takes precedence; other holders for needles or sutures [A61B 17/06061](#); surgical forceps [A61B 17/28](#); surgical pincettes [A61B 17/30](#))}
- 17/0485 . . . . . {Devices or means, e.g. loops, for capturing the suture thread and threading it through an opening of a suturing instrument or needle eyelet}
- 17/0487 . . . . . {Suture clamps, clips or locks, e.g. for replacing suture knots; Instruments for applying or removing suture clamps, clips or locks ([suture anchors A61B 17/0401](#); [wound clamps or clips A61B 17/08](#); [ligaturing clamps or clips A61B 17/122](#))}
- 2017/0488 . . . . . {Instruments for applying suture clamps, clips or locks ([for applying suture anchors A61B 2017/0409](#); [for applying wound clamps A61B 17/10](#); [for applying ligaturing clamps or clips A61B 17/128](#))}
- 2017/049 . . . . . {Instruments for removing suture clamps, clips or locks ([for removing suture anchors A61B 2017/0411](#); [for removing wound clamps A61B 17/10](#); [for removing ligaturing clamps or clips A61B 17/128](#))}
- 17/0491 . . . . . {Sewing machines for surgery}
- 17/0493 . . . . . {Protective devices for suturing, i.e. for protecting the patient's organs or the operator}
- 2017/0495 . . . . . {Reinforcements for suture lines}
- 2017/0496 . . . . . {for tensioning sutures}
- 2017/0498 . . . . . {for advancing a suture filament along a helical path through tissue}
- 17/06 . . . . . Needles {}; Sutures; Needle-suture combinations}; Holders or packages for needles or suture materials ([puncturing needles A61B 17/34](#); [hypodermic needles A61M 5/32](#) {}; [sewing needles D05B 85/00](#))}
- 17/06004 . . . . . {Means for attaching suture to needle ([tipping A61B 17/06195](#); [connecting wire to other metallic objects B21F 15/00](#))}
- 2017/06009 . . . . . {having additional means for releasably clamping the suture to the needle, e.g. actuating rod slideable within the needle}
- 2017/06014 . . . . . {spring-loaded}
- 2017/06019 . . . . . {by means of a suture-receiving lateral eyelet machined in the needle ([lateral opening for attaching suture to suture anchor A61B 2017/0414](#))}
- 2017/06023 . . . . . {Multiple eyelets}
- 2017/06028 . . . . . {by means of a cylindrical longitudinal blind bore machined at the suture-receiving end of the needle, e.g. opposite to needle tip}

- 2017/06033 . . . . {using adhesives ([glue applicators A61B 17/00491](#); for connecting prosthetic parts [A61F 2002/30448](#))}
- 2017/06038 . . . . {soldered or brazed or welded (for connecting prosthetic parts [A61F 2002/30451](#), [A61F 2220/0058](#))}
- 2017/06042 . . . . {located close to needle tip}
- 2017/06047 . . . . {located at the middle of the needle}
- 2017/06052 . . . . {Needle-suture combinations in which a suture is extending inside a hollow tubular needle, e.g. over the entire length of the needle ([hollow suture needles A61B 2017/061](#))}
- 2017/06057 . . . . {Double-armed sutures, i.e. sutures having a needle attached to each end}
- 17/06061 . . . . {Holders for needles or sutures, e.g. racks, stands ([hand-held holding instruments A61B 17/0483](#); holders for articles [A61B 50/20](#); racks for syringes or for hypodermic or infusion needles [A61M 5/008](#))}
- 17/06066 . . . . {Needles, e.g. needle tip configurations ([making needles B21G 1/00](#))}
- 2017/06071 . . . . {with an abrupt angle formed between two adjacent sections}
- 2017/06076 . . . . {helically or spirally coiled ([for sutures A61B 2017/06171](#))}
- 2017/0608 . . . . {J-shaped}
- 2017/06085 . . . . {having a blunt tip ([blunt dissectors A61B 2017/320044](#))}
- 2017/0609 . . . . {having sharp tips at both ends, e.g. shuttle needle alternately retained and released by first and second facing jaws of a suturing instrument ([MIS suturing instruments A61B 17/0469](#); jaws of MIS forceps [A61B 2017/2926](#))}
- 2017/06095 . . . . {pliable}
- 2017/061 . . . . {hollow or tubular ([suture extending inside a hollow needle A61B 2017/06052](#); [hollow sutures A61B 2017/06185](#))}
- 2017/06104 . . . . {interconnected at their distal ends, e.g. two hollow needles forming a loop for passing a suture}
- 17/06109 . . . . {Big needles, either gripped by hand or connectable to a handle}
- 17/06114 . . . . {Packages or dispensers for needles or sutures ([packages for sharps A61B 50/3001](#); for dental floss [A61C 15/043](#); packages for needles in general [B65D 85/24](#))}
- 17/06119 . . . . {of cylindrical shape}
- 17/06123 . . . . {Flat cylinders, e.g. including an inner reel}
- 17/06128 . . . . {Elongate cylinders, i.e. tubes}
- 17/06133 . . . . {of parallelepipedal shape, e.g. made of rectangular or slightly oval panels}
- 17/06138 . . . . {including a retainer comprising three or more foldable panels}
- 2017/06142 . . . . {having needle- or suture- retaining members, e.g. holding tabs or needle parks}
- 2017/06147 . . . . {Foam blocks, e.g. slitted}
- 2017/06152 . . . . {containing a suture wound in a figure-8 configuration}
- 2017/06157 . . . . {containing a suture wound in a sinusoidal or zigzag configuration}
- 17/06161 . . . . {Devices for removing or collecting used needles or sutures ([A61B 17/0467](#) takes precedence; for sharps [A61B 50/362](#))}
- 17/06166 . . . . {Sutures ([suture materials A61L 17/00](#); manufacture of artificial threads [D01D](#); treatment of threads [D06M](#))}
- 2017/06171 . . . . {helically or spirally coiled ([for needles A61B 2017/06076](#))}
- 2017/06176 . . . . {with protrusions, e.g. barbs}
- 2017/0618 . . . . {elastic, e.g. stretchable ([for prostheses A61F 2210/0057](#))}
- 2017/06185 . . . . {hollow or tubular ([hollow suture needles A61B 2017/061](#))}
- 2017/0619 . . . . {thermoplastic, e.g. for bonding, welding, fusing or cutting the suture by melting it ([suture cutters A61B 17/0467](#); ultrasonic cutters [A61B 17/320068](#); electrically heated instruments [A61B 18/08](#))}
- 17/06195 . . . . {Apparatus or means for preparing the cut end of the suture thread to be attached to the needle, e.g. tipping to prevent brooming ([A61B 17/06004](#) takes precedence)}
- 17/062 . . . . Needle manipulators
- 17/0625 . . . . {the needle being specially adapted to interact with the manipulator, e.g. being ridged to snap fit in a hole of the manipulator ([A61B 17/06109](#) takes precedence)}
- 17/064 . . . . Surgical staples, {i.e. penetrating the tissue}
- 2017/0641 . . . . {having at least three legs as part of one single body}
- 17/0642 . . . . {for bones, e.g. for osteosynthesis or connecting tendon to bone}
- 17/0643 . . . . {with separate closing member, e.g. for interlocking with staple}
- 17/0644 . . . . {penetrating the tissue, deformable to closed position}
- 2017/0645 . . . . {being elastically deformed for insertion}
- 2017/0646 . . . . {for insertion into cartilage, e.g. meniscus}
- 2017/0647 . . . . {having one single leg, e.g. tacks}
- 2017/0648 . . . . {threaded, e.g. tacks with a screw thread}
- 2017/0649 . . . . {Coils or spirals}
- 17/068 . . . . Surgical staplers {, e.g. containing multiple staples or clamps} ([staplers containing only one staple A61B 17/10](#); [magazines or containers for staples A61B 17/105](#); for performing anastomosis [A61B 17/115](#); [staplers in general B25C 5/00](#))}
- 17/0682 . . . . {for applying U-shaped staples or clamps, e.g. without a forming anvil}
- 17/0684 . . . . {having a forming anvil staying above the tissue during stapling}
- 17/0686 . . . . {having a forming anvil staying below the tissue during stapling}
- 2017/0688 . . . . {Packages or dispensers for surgical staplers}
- 17/072 . . . . for applying a row of staples in a single action {, e.g. the staples being applied simultaneously}
- 17/07207 . . . . {the staples being applied sequentially}
- 2017/07214 . . . . {Stapler heads}
- 2017/07221 . . . . {curved}
- 2017/07228 . . . . {Arrangement of the staples}
- 2017/07235 . . . . {containing different staples, e.g. staples of different shapes, sizes or materials}
- 2017/07242 . . . . {achieving different staple heights during the same shot, e.g. using an anvil having different heights or staples of different sizes}

- 2017/0725 . . . . {with settable gap between anvil and cartridge, e.g. for different staple heights at different shots}
- 2017/07257 . . . . {characterised by its anvil}
- 2017/07264 . . . . {characterised by its staple forming cavities, e.g. geometry or material}
- 2017/07271 . . . . {characterised by its cartridge}
- 2017/07278 . . . . {characterised by its sled or its staple holder}
- 2017/07285 . . . . {characterised by its cutter}
- 17/07292 . . . {Reinforcements for staple line, e.g. pledgets}
- 17/076 . for removing surgical staples {or wound clamps}
- 17/08 . Wound clamps {or clips, i.e. not or only partly penetrating the tissue ([suture bridges A61B 17/0466](#)); Devices for bringing together the edges of a wound}
- 2017/081 . . {Tissue approximator ([A61B 2017/1103](#), [A61B 17/8866](#) take precedence)}
- 17/083 . . {Clips, e.g. resilient}
- 17/085 . . {with adhesive layer}
- 2017/086 . . . {having flexible threads, filaments, laces or wires, e.g. parallel threads, extending laterally from a strip, e.g. for tying to opposing threads extending from a similar strip}
- 2017/088 . . {Sliding fasteners}
- 17/10 . for applying or removing wound clamps, {e.g. containing only one clamp or staple ([A61B 17/076](#) takes precedence; containing multiple wound clamps [A61B 17/068](#))}; Wound clamp magazines (containers, packaging elements or packages specially adapted for particular articles or with special means for dispensing contents [B65D 83/00](#), [B65D 85/00](#))
- 17/105 . . {Wound clamp magazines (for packaging sharps [A61B 50/3001](#))}
- 17/11 . for performing anastomosis; Buttons for anastomosis
- 2017/1103 . . {Approximator}
- 2017/1107 . . {for blood vessels}
- 2017/111 . . {with means for removing a constriction after performing anastomosis}
- 17/1114 . . {of the digestive tract, e.g. bowels or oesophagus}
- 2017/1117 . . . {adapted for discharge after necrotisation, e.g. by evacuation, expulsion or excretion}
- 2017/1121 . . {adapted for performing tissue or graft eversion}
- 2017/1125 . . {Forceps, specially adapted for performing or assisting anastomosis}
- 17/1128 . . {of nerves}
- 2017/1132 . . {End-to-end connections}
- 2017/1135 . . {End-to-side connections, e.g. T- or Y-connections ([Y-shaped blood vessel prostheses A61F 2002/065](#))}
- 2017/1139 . . {Side-to-side connections, e.g. shunt or X-connections}
- 2017/1142 . . {Purse-string sutures}
- 17/1146 . . {of tendons}
- 17/115 . . Staplers {for performing anastomosis in a single operation}
- 17/1152 . . . {applying the staples on the outside of the lumen}
- 17/1155 . . . {Circular staplers comprising a plurality of staples}
- 2017/1157 . . . {applying the staples radially}
- 17/12 . for ligaturing or otherwise compressing tubular parts of the body, e.g. blood vessels, umbilical cord ([specially adapted for vas deferens or fallopian tubes A61F 6/20](#); materials for ligaturing blood vessels [A61L 17/00](#))
- 2017/12004 . . {for haemostasis, for prevention of bleeding}
- 17/12009 . . {Implements for ligaturing other than by clamps or clips, e.g. using a loop with a slip knot}
- 17/12013 . . . {for use in minimally invasive surgery, e.g. endoscopic surgery}
- 2017/12018 . . . {Elastic band ligators}
- 17/12022 . . {Occluding by internal devices, e.g. balloons or releasable wires ([plugging an opening in the wall of an organ A61B 17/0057](#); occluders for the cervical canal [A61F 6/146](#); vas deferens occluders [A61F 6/20](#))}
- 17/12027 . . . {Type of occlusion ([A61B 17/12113](#) takes precedence)}
- 17/12031 . . . . {complete occlusion}
- 17/12036 . . . . {partial occlusion}
- 17/1204 . . . . {temporary occlusion}
- 17/12045 . . . . {double occlusion, e.g. during anastomosis}
- 2017/1205 . . . {Introduction devices}
- 2017/12054 . . . . {Details concerning the detachment of the occluding device from the introduction device}
- 2017/12059 . . . . {Joint of soluble material}
- 2017/12063 . . . . {electrolytically detachable}
- 2017/12068 . . . . {detachable by heat}
- 2017/12072 . . . . {the heat created by laser light}
- 2017/12077 . . . . {Joint changing shape upon application of heat, e.g. bi-metal or reversible thermal memory}
- 2017/12081 . . . . {detachable by inflation}
- 2017/12086 . . . . {magnetically detachable}
- 2017/1209 . . . . {detachable by electrical current or potential, e.g. electroactive polymer}
- 2017/12095 . . . . {Threaded connection}
- 17/12099 . . . {characterised by the location of the occluder}
- 17/12104 . . . . {in an air passage}
- 17/12109 . . . . {in a blood vessel}
- 17/12113 . . . . {within an aneurysm}
- 17/12118 . . . . {for positioning in conjunction with a stent}
- 17/12122 . . . . {within the heart ([for closing a cardiac septal defect A61B 17/0057](#))}
- 2017/12127 . . . {Double occlusion, e.g. for creating blood-free anastomosis site}
- 17/12131 . . . {characterised by the type of occluding device}
- 17/12136 . . . . {Balloons}
- 17/1214 . . . . {Coils or wires}
- 17/12145 . . . . {having a pre-set deployed three-dimensional shape ([methods of manufacturing A61B 2017/00526](#))}
- 17/1215 . . . . {comprising additional materials, e.g. thrombogenic, having filaments, having fibers, being coated}
- 17/12154 . . . . {having stretch limiting means}
- 17/12159 . . . . {Solid plugs; being solid before insertion}
- 17/12163 . . . . {having a string of elements connected to each other}



- 17/12168 . . . . {having a mesh structure ([A61B 17/1214](#) takes precedence)}
- 17/12172 . . . . {having a pre-set deployed three-dimensional shape (methods of manufacturing [A61B 2017/00526](#))}
- 17/12177 . . . . {comprising additional materials, e.g. thrombogenic, having filaments, having fibers or being coated}
- 17/12181 . . . . {formed by fluidized, gelatinous or cellular remodelable materials, e.g. embolic liquids, foams or extracellular matrices}
- 17/12186 . . . . {liquid materials adapted to be injected}
- 17/1219 . . . . {expandable in contact with liquids}
- 17/12195 . . . . {comprising a curable material}
- 17/122 . . Clamps or clips {, e.g. for the umbilical cord (for the vas deferens [A61F 6/206](#))}
- 17/1222 . . . {Packages or dispensers therefor (clip magazines incorporated in a clip-applying instrument [A61B 17/128](#); for surgical articles [A61B 50/30](#))}
- 2017/1225 . . . {for clipping and cutting in a single operation}
- 17/1227 . . . {Spring clips}
- 17/128 . . for applying or removing clamps or clips
- 17/1285 . . . {for minimally invasive surgery}
- 17/132 . . Tourniquets {(sphygmometers [A61B 5/02](#))}
- 17/1322 . . . {comprising a flexible encircling member ([A61B 17/135](#) takes precedence)}
- 17/1325 . . . . {with means for applying local pressure (pressure pads [A61F 5/30](#))}
- 17/1327 . . . . {Tensioning clamps}
- 17/135 . . . inflatable (for measuring blood pressure [A61B 5/022](#); inflatable pressure pads [A61F 5/34](#))
- 17/1355 . . . . {Automated control means therefor}
- 17/14 . . Surgical saws ({[A61B 17/1637](#) takes precedence; } tooth saws [A61C 3/12](#) ) {; Accessories therefor}
- WARNING**
- Group [A61B 17/14](#) is impacted by reclassification into groups [A61B 17/147](#) and [A61B 17/149](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 17/142 . . {with reciprocating saw blades, e.g. with cutting edges at the distal end of the saw blades}
- WARNING**
- Group [A61B 17/142](#) is impacted by reclassification into group [A61B 17/144](#).
- Groups [A61B 17/142](#) and [A61B 17/144](#) should be considered in order to perform a complete search.
- 17/144 . . . {with cutting edges at the side of the saw blades}
- WARNING**
- Group [A61B 17/144](#) incomplete pending reclassification of documents from group [A61B 17/142](#).
- Groups [A61B 17/142](#) and [A61B 17/144](#) should be considered in order to perform a complete search.
- 17/147 . . {with circularly moving saw blades, i.e. non-reciprocating saw blades}
- WARNING**
- Group [A61B 17/147](#) is incomplete pending reclassification of documents from group [A61B 17/14](#).
- Groups [A61B 17/147](#) and [A61B 17/14](#) should be considered in order to perform a complete search.
- 17/149 . . {Chain, wire or band saws}
- WARNING**
- Group [A61B 17/149](#) is incomplete pending reclassification of documents group [A61B 17/14](#).
- Groups [A61B 17/149](#) and [A61B 17/14](#) should be considered in order to perform a complete search.
- 17/15 . . Guides therefor {(arrangements for guiding straight saw blades in general [B23D 51/025](#))}
- 17/151 . . . {for corrective osteotomy}
- 17/152 . . . . {for removing a wedge-shaped piece of bone}
- 17/154 . . . {for preparing bone for knee prosthesis}
- 17/155 . . . . {Cutting femur}
- 17/157 . . . . {Cutting tibia}
- 17/158 . . . . {Cutting patella}
- 17/16 . . {Bone cutting, breaking or removal means other than saws, e.g.} Osteoclasts; Drills or chisels for bones; Trepanns {(arthroscopic bone cutters [A61B 17/320016](#); dental implant drills potentially for other surgical use [A61C 8/0089](#); bone grinders [A61F 2/4644](#), [A22C 17/06](#); [A61B 17/1662](#) takes precedence over all other subgroups except [A61B 17/17](#))}
- 2017/1602 . . {Mills}
- 17/1604 . . {Chisels; Rongeurs; Punches; Stamps}
- 17/1606 . . . {of forceps type, i.e. having two jaw elements moving relative to each other}
- 17/1608 . . . . {the two jaw elements being linked to two elongated shaft elements moving longitudinally relative to each other}
- 17/1611 . . . . . {the two jaw elements being integral with respective elongate shaft elements}
- 17/1613 . . {Component parts (not used, see subgroups)}
- 17/1615 . . . {Drill bits, i.e. rotating tools extending from a handpiece to contact the worked material}
- 17/1617 . . . . {with mobile or detachable parts}
- 17/162 . . . {Chucks or tool parts which are to be held in a chuck}
- 17/1622 . . . {Drill handpieces ([A61B 17/1626](#), [A61B 17/1628](#) take precedence)}

17/1624 . . . . {Drive mechanisms therefor}  
 17/1626 . . . {Control means; Display units}  
 17/1628 . . . {Motors; Power supplies}  
 17/1631 . . . {Special drive shafts, e.g. flexible shafts  
 ([A61B 17/1642](#), [A61B 17/164](#) take  
 precedence)}  
 17/1633 . . . {Sleeves, i.e. non-rotating parts surrounding  
 the bit shaft, e.g. the sleeve forming a single  
 unit with the bit shaft ([A61B 17/1644](#) takes  
 precedence)}  
 17/1635 . . {for grafts, harvesting or transplants}  
 17/1637 . . {Hollow drills or saws producing a curved cut,  
 e.g. cylindrical ([A61B 10/025](#), [A61B 17/1695](#)  
 take precedence)}  
 17/164 . . {intramedullary}  
 17/1642 . . {for producing a curved bore}  
 17/1644 . . {using fluid other than turbine drive fluid}  
 17/1646 . . . {with sealing means}  
 2017/1648 . . . {as cutting jet}  
 2017/1651 . . . {for cooling}  
 2017/1653 . . . {for lubrication}  
 17/1655 . . {for tapping}  
 17/1657 . . {Bone breaking devices}  
 17/1659 . . {Surgical rasps, files, planes, or scrapers}  
 17/1662 . . {for particular parts of the body}  
 17/1664 . . . {for the hip}  
 17/1666 . . . . {for the acetabulum}  
 17/1668 . . . . {for the upper femur ([A61B 17/164](#) takes  
 precedence)}  
 17/1671 . . . {for the spine}  
 17/1673 . . . {for the jaw}  
 17/1675 . . . {for the knee}  
 17/1677 . . . . {for the patella}  
 17/1679 . . . {for the ear}  
 17/1682 . . . {for the foot or ankle}  
 17/1684 . . . {for the shoulder}  
 17/1686 . . . {for the hand or wrist}  
 17/1688 . . . {for the sinus or nose}  
 17/1691 . . . {for the sternum}  
 17/1693 . . . {for the ribs}  
 17/1695 . . {Trepans or craniotomes, i.e. specially adapted  
 for drilling thin bones such as the skull}  
 17/1697 . . {specially adapted for wire insertion}  
 17/17 . . Guides {or aligning means} for drills {, mills,  
 pins or wires}  
 17/1703 . . . {using imaging means, e.g. by X-rays}  
 17/1707 . . . {using electromagnetic effects, e.g. with  
 magnet and external sensors}  
 17/171 . . . {for external fixation}  
 17/1714 . . . {for applying tendons or ligaments  
 (implements for applying tendons or ligaments  
[A61F 2/0805](#))}  
 17/1717 . . . {for applying intramedullary nails or pins}  
 17/1721 . . . {for applying pins along or parallel to the axis  
 of the femoral neck}  
 17/1725 . . . {for applying transverse screws or pins through  
 intramedullary nails or pins}  
 17/1728 . . . {for holes for bone plates or plate screws}  
 17/1732 . . . {for bone breaking devices}  
 17/1735 . . . {for rasps or chisels}

17/1739 . . . {specially adapted for particular parts of the  
 body}

#### **WARNING**

Group [A61B 17/1739](#) is impacted by  
 reclassification into groups [A61B 17/1771](#),  
[A61B 17/1775](#), [A61B 17/1778](#),  
[A61B 17/1782](#), [A61B 17/1785](#),  
[A61B 17/1789](#) and [A61B 17/1792](#).

All groups listed in this Warning should be  
 considered in order to perform a complete  
 search.

17/1742 . . . . {for the hip}  
 17/1746 . . . . . {for the acetabulum}  
 17/175 . . . . . {for preparing the femur for hip prosthesis  
 insertion}  
 17/1753 . . . . . {for fixing pins through femoral hip  
 prostheses}  
 17/1757 . . . . {for the spine}  
 17/176 . . . . {for the jaw ([guiding dental drills](#)  
[A61C 1/082](#))}  
 17/1764 . . . . {for the knee}  
 17/1767 . . . . . {for the patella}  
 17/1771 . . . . {for the ear}

#### **WARNING**

Group [A61B 17/1771](#) is incomplete  
 pending reclassification of documents  
 from group [A61B 17/1739](#).

Groups [A61B 17/1771](#) and [A61B 17/1739](#)  
 should be considered in order to perform  
 a complete search.

17/1775 . . . . {for the foot or ankle}

#### **WARNING**

Group [A61B 17/1775](#) is incomplete  
 pending reclassification of documents  
 from group [A61B 17/1739](#).

Groups [A61B 17/1775](#) and [A61B 17/1739](#)  
 should be considered in order to perform  
 a complete search.

17/1778 . . . . {for the shoulder}

#### **WARNING**

Group [A61B 17/1778](#) is incomplete  
 pending reclassification of documents  
 from group [A61B 17/1739](#).

Groups [A61B 17/1778](#) and [A61B 17/1739](#)  
 should be considered in order to perform  
 a complete search.

17/1782 . . . . {for the hand or wrist}

#### **WARNING**

Group [A61B 17/1782](#) is incomplete  
 pending reclassification of documents  
 from group [A61B 17/1739](#).

Groups [A61B 17/1782](#) and [A61B 17/1739](#)  
 should be considered in order to perform  
 a complete search.

- 17/1785 . . . . {for the sinus or nose}
- WARNING**
- Group [A61B 17/1785](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
- Groups [A61B 17/1785](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.
- 17/1789 . . . . {for the sternum}
- WARNING**
- Group [A61B 17/1789](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
- Groups [A61B 17/1789](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.
- 17/1792 . . . . {for the ribs}
- WARNING**
- Group [A61B 17/1792](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
- Groups [A61B 17/1792](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.
- 17/1796 . . . {for holes for sutures or flexible wires}
- 17/20 . . for vaccinating or cleaning the skin previous to the vaccination (diagnosis by vaccination {other than by injuring the skin [A61B 10/0035](#)}; apparatus for injections [A61M](#))
- NOTE**
- Cleaning the skin previous to the vaccination is classified in [A61B 90/80](#)
- 17/205 . . {Vaccinating by means of needles or other puncturing devices}
- 17/22 . . Implements for squeezing-off ulcers or the like on {the inside of} inner organs of the body; Implements for scraping-out cavities of body organs, e.g. bones; Calculus removers; Calculus smashing apparatus; {Apparatus for removing obstructions in blood vessels, not otherwise provided for ([dilators A61M 29/00](#))}
- 2017/22001 . . {Angioplasty, e.g. PCTA}
- 2017/22002 . . . {preventing restenosis}
- 17/22004 . . {using mechanical vibrations, e.g. ultrasonic shock waves ([A61B 17/225](#) takes precedence)}
- 2017/22005 . . . {Effects, e.g. on tissue}
- 2017/22007 . . . . {Cavitation or pseudocavitation, i.e. creation of gas bubbles generating a secondary shock wave when collapsing}
- 2017/22008 . . . . {used or promoted}
- 2017/22009 . . . . {reduced or prevented}
- 2017/22011 . . . . {Combined types of vibration, e.g. ultrasonic and electrohydraulic}
- 17/22012 . . . {in direct contact with, or very close to, the obstruction or concrement (for removing obstructions in blood vessels by laser [A61B 18/245](#))}
- 2017/22014 . . . . {the ultrasound transducer being outside patient's body; with an ultrasound transmission member; with a wave guide; with a vibrated guide wire ([not applied in A61B 17/22012](#))}
- 2017/22015 . . . . {with details of the transmission member}
- 2017/22017 . . . . {the ultrasonic transmitting members being fibres}
- 2017/22018 . . . . {segmented along its length}
- 17/2202 . . . . {the ultrasound transducer being inside patient's body at the distal end of the catheter}
- 2017/22021 . . . . {electric leads passing through the catheter}
- 17/22022 . . . . {using electric discharge}
- 2017/22024 . . . . {with a part reflecting mechanical vibrations, e.g. for focusing}
- 2017/22025 . . . . {applying a shock wave ([A61B 2017/22091](#) takes precedence)}
- 2017/22027 . . . {Features of transducers}
- 2017/22028 . . . . {arrays, e.g. phased arrays}
- 17/22029 . . . {Means for measuring shock waves}
- 17/22031 . . {Gripping instruments, e.g. forceps, for removing or smashing calculi ([A61B 17/221](#) takes precedence)}
- 17/22032 . . . {having inflatable gripping elements ([balloon catheters A61M 25/10](#))}
- 2017/22034 . . . {for gripping the obstruction or the tissue part from inside}
- 2017/22035 . . . {for retrieving or repositioning foreign objects}
- 2017/22037 . . {Fecal impaction removal}
- 2017/22038 . . {with a guide wire}
- 2017/22039 . . . {eccentric}
- 2017/22041 . . . {outside the catheter}
- 2017/22042 . . . {Details of the tip of the guide wire}
- 2017/22044 . . . . {with a pointed tip}
- 2017/22045 . . . {fixed to the catheter; guiding tip}
- 2017/22047 . . . {Means for immobilising the guide wire in the patient}
- 2017/22048 . . . . {Balloons}
- 2017/22049 . . . {Means for locking the guide wire in the catheter}
- 2017/22051 . . {with an inflatable part, e.g. balloon, for positioning, blocking, or immobilisation ([A61B 2017/22048](#), [A61B 2017/3486](#) take precedence)}
- 2017/22052 . . . {eccentric}
- 2017/22054 . . . {with two balloons}
- 2017/22055 . . . {with three or more balloons}
- 2017/22057 . . . {Optical properties}
- 2017/22058 . . . . {reflective}
- 2017/22059 . . . . {transparent}
- 2017/22061 . . . {for spreading elements apart}
- 2017/22062 . . . {to be filled with liquid}
- 2017/22064 . . . . {transparent liquid}
- 2017/22065 . . . {Functions of balloons ([dilating A61M 29/02](#))}
- 2017/22067 . . . . {Blocking; Occlusion ([A61B 2017/22054](#) takes precedence)}
- 2017/22068 . . . . {Centering}
- 2017/22069 . . . . {Immobilising; Stabilising}
- 2017/22071 . . . . {Steering}

- 2017/22072 . . {with an instrument channel, e.g. for replacing one instrument by the other ([in cannulas A61B 17/3417](#))}
- 2017/22074 . . . {the instrument being only slidable in a channel, e.g. advancing optical fibre through a channel}
- 2017/22075 . . . . {with motorized advancing or retracting means}
- 2017/22077 . . . . {with a part piercing the tissue ([A61B 2017/22044 takes precedence](#))}
- 2017/22078 . . . {for rotating the instrument within a channel, e.g. an optical fibre}
- 2017/22079 . . {with suction of debris}
- 2017/22081 . . {Treatment of vulnerable plaque}
- 2017/22082 . . {after introduction of a substance}
- 2017/22084 . . . {stone- or thrombus-dissolving}
- 2017/22085 . . . {light-absorbing ([A61B 2017/22087 takes precedence](#))}
- 2017/22087 . . . {photodynamic}
- 2017/22088 . . . {ultrasound absorbing, drug activated by ultrasound}
- 2017/22089 . . . {Gas-bubbles}
- 2017/22091 . . . {Explosive}
- 2017/22092 . . . {Lubricant}
- 2017/22094 . . {for crossing total occlusions, i.e. piercing}
- 2017/22095 . . . {accessing a blood vessel true lumen from the sub-intimal space}
- 2017/22097 . . {Valve removal in veins}
- 2017/22098 . . {Decalcification of valves}
- 17/221 . . Gripping devices in the form of loops or baskets {for gripping calculi or similar types of obstructions ([surgical snare instruments A61B 17/32056](#))}
- 2017/2212 . . . {having a closed distal end, e.g. a loop}
- 2017/2215 . . . {having an open distal end}
- 2017/2217 . . . {single wire changing shape to a gripping configuration}
- 17/225 . . for extracorporeal shock wave lithotripsy [ESWL], e.g. by using ultrasonic waves
- 17/2251 . . . {characterised by coupling elements between the apparatus, e.g. shock wave apparatus or locating means, and the patient, e.g. details of bags, pressure control of bag on patient}
- 2017/2253 . . . . {using a coupling gel or liquid}
- 17/2255 . . . {Means for positioning patient, shock wave apparatus or locating means, e.g. mechanical aspects, patient beds, support arms, aiming means ([positioning of patients for radiation diagnosis A61B 6/04](#); [positioning of locating means inside shock wave apparatus A61B 17/2256](#))}
- 17/2256 . . . {with means for locating or checking the concrement, e.g. X-ray apparatus, imaging means ([A61B 17/2255 takes precedence](#))}
- 17/2258 . . . . {integrated in a central portion of the shock wave apparatus}
- 17/24 . . for use in the oral cavity, larynx, bronchial passages or nose ([for medical inspection of cavities or tubes in the body A61B 1/00](#)); Tongue scrapers
- 2017/242 . . {for bronchial passages}
- 17/244 . . {for cleaning of the tongue}
- 2017/246 . . {for cleaning of the nose}
- 2017/248 . . {Operations for treatment of snoring, e.g. uvulopalatoplasty}
- 17/26 . . Tonsillotomes, with or without means for stopping bleeding
- 17/28 . . Surgical forceps ({for holding suture needles or materials [A61B 17/0483](#); for removing or smashing calculi [A61B 17/221](#); surgical scissors [A61B 17/3201](#) ; obstetrical forceps [A61B 17/44](#); for inserting intraocular lenses [A61F 2/1662](#); hand-held gripping tools in general [B25B 7/00](#) )}
- 17/2804 . . {with two or more pivotal connections ([A61B 17/29 takes precedence](#))}
- 2017/2808 . . {Clamp, e.g. towel clamp}
- 17/2812 . . {with a single pivotal connection ([A61B 17/29 takes precedence](#))}
- 17/2816 . . . {Pivots}
- 17/282 . . . {Jaws}
- 2017/2825 . . . . {Inserts of different material in jaws}
- 2017/2829 . . . . {with a removable cover}
- 17/2833 . . . {Locking means}
- 2017/2837 . . . . {with a locking ratchet}
- 17/2841 . . . {Handles}
- 2017/2845 . . . . {with a spring pushing the handle back}
- 17/285 . . combined with cutting implements
- 17/29 . . Forceps for use in minimally invasive surgery
- 2017/2901 . . . {Details of shaft}
- 2017/2902 . . . . {characterized by features of the actuating rod}
- 2017/2903 . . . . . {transferring rotary motion}
- 2017/2904 . . . . {curved, but rigid}
- 2017/2905 . . . . {flexible}
- 2017/2906 . . . . {Multiple forceps}
- 2017/2908 . . . . {Multiple segments connected by articulations}
- 17/2909 . . . {Handles}
- 2017/291 . . . . {the position of the handle being adjustable with respect to the shaft}
- 2017/2911 . . . . {rings}
- 2017/2912 . . . . {transmission of forces to actuating rod or piston}
- 2017/2913 . . . . . {cams or guiding means}
- 2017/2915 . . . . . {arcuate shaped guiding means}
- 2017/2916 . . . . . {pins in guiding slots}
- 2017/2917 . . . . . {with flexible part}
- 2017/2918 . . . . . {flexible handles}
- 2017/2919 . . . . . {details of linkages or pivot points}
- 2017/292 . . . . . {connection of actuating rod to handle, e.g. ball end in recess}
- 2017/2922 . . . . . {toggle linkages}
- 2017/2923 . . . . . {Toothed members, e.g. rack and pinion}
- 2017/2924 . . . . . {Translation movement of handle without rotating movement}
- 2017/2925 . . . . {Pistol grips}
- 2017/2926 . . . {Details of heads or jaws}
- 2017/2927 . . . . {the angular position of the head being adjustable with respect to the shaft}
- 2017/2929 . . . . . {with a head rotatable about the longitudinal axis of the shaft}
- 2017/293 . . . . . {with means preventing relative rotation between the shaft and the actuating rod}
- 2017/2931 . . . . {with releasable head}
- 2017/2932 . . . . {Transmission of forces to jaw members}
- 2017/2933 . . . . . {camming or guiding means}
- 2017/2934 . . . . . {arcuate shaped guiding means}
- 2017/2936 . . . . . {Pins in guiding slots}



2017/2937 . . . . . {with flexible part}

2017/2938 . . . . . {Independently actuatable jaw members, e.g. two actuating rods}

2017/2939 . . . . . {Details of linkages or pivot points}

2017/294 . . . . . {Connection of actuating rod to jaw, e.g. releasable}

2017/2941 . . . . . {Toggle linkages}

2017/2943 . . . . . {Toothed members, e.g. rack and pinion}

2017/2944 . . . . . {Translation of jaw members}

2017/2945 . . . . . {Curved jaws}

2017/2946 . . . . . {Locking means}

2017/2947 . . . . . {Pivots}

2017/2948 . . . . . {Sealing means, e.g. for sealing the interior from fluid entry}

17/295 . . . . . combined with cutting implements

17/30 . . . . . Surgical pincettes {without pivotal connections} ([for holding suture needles or materials A61B 17/0483](#); [wound clamps A61B 17/08](#) {; hand-held gripping tools without pivotal connections in general [B25B 9/02](#)})

2017/301 . . . . . {with three legs}

2017/303 . . . . . {with four or more legs}

2017/305 . . . . . {Tweezer like handles with tubular extensions, inner slidable actuating members and distal tools, e.g. microsurgical instruments}

2017/306 . . . . . {holding by means of suction}

2017/308 . . . . . {with suction cups}

17/32 . . . . . Surgical cutting instruments ([A61B 18/042](#) takes precedence; suture cutters [A61B 17/0467](#); instruments for ligaturing or cutting [A61B 17/128](#); instruments for rupturing the amniotic membrane [A61B 17/4208](#); specially adapted knives for eye surgery [A61F 9/0133](#))

2017/320004 . . . . . {abrasive}

2017/320008 . . . . . {Scrapers}

2017/320012 . . . . . {Brushes}

17/320016 . . . . . {Endoscopic cutting instruments, e.g. arthroscopes, resectoscopes ([A61B 10/0233](#), [A61B 17/29](#), [A61B 17/3207](#) take precedence)}

17/32002 . . . . . {with continuously rotating, oscillating or reciprocating cutting instruments}

2017/320024 . . . . . {Morcellators, e.g. having a hollow cutting tube with an annular cutter for morcellating and removing tissue}

2017/320028 . . . . . {with reciprocating movements}

2017/320032 . . . . . {Details of the rotating or oscillating shaft, e.g. using a flexible shaft}

17/320036 . . . . . {adapted for use within the carpal tunnel}

2017/32004 . . . . . {having a laterally movable cutting member at its most distal end which remains within the contours of said end}

2017/320044 . . . . . {Blunt dissectors ([blunt suture needles A61B 2017/06085](#))}

2017/320048 . . . . . {Balloon dissectors}

2017/320052 . . . . . {Guides for cutting instruments ([by marking A61B 2090/395](#))}

2017/320056 . . . . . {Tunnelers}

2017/32006 . . . . . {with a cutting strip, band or chain, e.g. like a chainsaw}

2017/320064 . . . . . {with tissue or sample retaining means}

17/320068 . . . . . {using mechanical vibrations, e.g. ultrasonic ([A61B 17/22012](#) takes precedence; dental tooth drilling devices operated by vibration [A61C 3/03](#); removing intra-ocular material using mechanical vibrations [A61F 9/00745](#))}

### **WARNING**

Group [A61B 17/320068](#) is impacted by reclassification into groups [A61B 2017/320069](#), [A61B 2017/32007](#), [A61B 2017/320071](#), and [A61B 2017/320082](#), [A61B 2017/320089](#), and [A61B 2017/32009](#).

All groups listed in this Warning should be considered in order to perform a complete search..

2017/320069 . . . . . {for ablating tissue}

### **WARNING**

Group [A61B 2017/320069](#) is incomplete pending reclassification of documents from group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and [A61B 2017/320069](#) should be considered in order to perform a complete search.

2017/32007 . . . . . {with suction or vacuum means}

### **WARNING**

Group [A61B 2017/32007](#) is incomplete pending reclassification of documents from group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and [A61B 2017/32007](#) should be considered in order to perform a complete search.

2017/320071 . . . . . {with articulating means for working tip}

### **WARNING**

Group [A61B 2017/320071](#) is incomplete pending reclassification of documents from group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and [A61B 2017/320071](#) should be considered in order to perform a complete search.

2017/320072 . . . . . {Working tips with special features, e.g. extending parts}

### **WARNING**

Group [A61B 2017/320072](#) is impacted by reclassification into groups [A61B 2017/320073](#), [A61B 2017/320074](#), [A61B 2017/320075](#), and [A61B 2017/320077](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2017/320073 . . . . {probe}

**WARNING**

Group [A61B 2017/320073](#) is incomplete pending reclassification of documents from group [A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and [A61B 2017/320073](#) should be considered in order to perform a complete search.

2017/320074 . . . . {blade}

**WARNING**

Group [A61B 2017/320074](#) is incomplete pending reclassification of documents from group [A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and [A61B 2017/320074](#) should be considered in order to perform a complete search.

2017/320075 . . . . {single edge blade, e.g. for cutting}

**WARNING**

Group [A61B 2017/320075](#) is incomplete pending reclassification of documents from group [A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and [A61B 2017/320075](#) should be considered in order to perform a complete search.

2017/320077 . . . . {double edge blade, e.g. reciprocating}

**WARNING**

Group [A61B 2017/320077](#) is incomplete pending reclassification of documents from group [A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and [A61B 2017/320077](#) should be considered in order to perform a complete search.

2017/320078 . . . . {Tissue manipulating surface}

2017/32008 . . . . {preventing clogging of suction channel}

2017/320082 . . . . {for incising tissue}

**WARNING**

Group [A61B 2017/320082](#) is incomplete pending reclassification of documents from group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and [A61B 2017/320082](#) should be considered in order to perform a complete search.

2017/320084 . . . {Irrigation sleeves}

2017/320088 . . . {with acoustic insulation, e.g. elements for damping vibrations between horn and surrounding sheath}

2017/320089 . . . {node location}

**WARNING**

Group [A61B 2017/320089](#) is incomplete pending reclassification of documents from group [A61B 2017/320088](#).

Groups [A61B 2017/320088](#) and [A61B 2017/320089](#) should be considered in order to perform a complete search.

2017/32009 . . . . {node at distal end of cutting means}

**WARNING**

Group [A61B 2017/32009](#) is incomplete pending reclassification of documents from group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and [A61B 2017/32009](#) should be considered in order to perform a complete search.

17/320092 . . . {with additional movable means for clamping or cutting tissue, e.g. with a pivoting jaw}

**WARNING**

Group [A61B 17/320092](#) is impacted by reclassification into groups [A61B 2017/320093](#), [A61B 2017/320094](#), [A61B 2017/320095](#), and [A61B 2017/320097](#).

All groups listed in this Warning should be considered in order to perform a complete search.

2017/320093 . . . . {additional movable means performing cutting operation}

**WARNING**

Group [A61B 2017/320093](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320093](#) should be considered in order to perform a complete search.

2017/320094 . . . . {additional movable means performing clamping operation}

**WARNING**

Group [A61B 2017/320094](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320094](#) should be considered in order to perform a complete search.

2017/320095 . . . . {with sealing or cauterizing means}

**WARNING**

Group [A61B 2017/320095](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320095](#) should be considered in order to perform a complete search.

- 2017/320097 . . . . {with stapling means}
- WARNING**
- Group [A61B 2017/320097](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).
- Groups [A61B 17/320092](#) and [A61B 2017/320097](#) should be considered in order to perform a complete search.
- 2017/320098 . . . {with transverse or torsional motion}
- 17/3201 . . Scissors ([for biopsy A61B 10/02](#))
- 17/3203 . . Fluid jet cutting instruments
- 2017/32032 . . . {using cavitation of the fluid}
- 2017/32035 . . . {with gas or air}
- 17/32037 . . . {for removing obstructions from inner organs or blood vessels, e.g. for atherectomy}
- 17/3205 . . Excision instruments
- 17/32053 . . . {Punch like cutting instruments, e.g. using a cylindrical or oval knife ([A61B 17/326](#) takes precedence; [trepan A61B 17/1695](#); [for use on the cornea A61F 9/007](#))}
- 17/32056 . . . {Surgical snare instruments ([for removing or smashing calculi A61B 2017/2212](#); [tonsillotomes A61B 17/26](#))}
- 17/3207 . . . Atherectomy devices {working by cutting or abrading; Similar devices specially adapted for non-vascular obstructions ([A61B 17/32037](#) takes precedence; [endoscopic cutting instruments A61B 17/320016](#))}
- 17/320708 . . . . {Curettes, e.g. hollow scraping instruments}
- 2017/320716 . . . . {comprising means for preventing embolism by dislodged material}
- 17/320725 . . . . {with radially expandable cutting or abrading elements ([A61B 17/32075](#) takes precedence)}
- 2017/320733 . . . . {with a flexible cutting or scraping element, e.g. with a whip-like distal filament member}
- 2017/320741 . . . . {for stripping the intima or the internal plaque from a blood vessel, e.g. for endarterectomy}
- 17/32075 . . . . {Pullback cutting; combined forward and pullback cutting, e.g. with cutters at both sides of the plaque}
- 17/320758 . . . . {with a rotating cutting instrument, e.g. motor driven ([A61B 17/320725](#), [A61B 17/32075](#) and [A61B 17/320783](#) take precedence; [for removing intra-ocular material A61F 9/00763](#); [endoscopic rotatable cutting instruments A61B 17/32002](#))}
- 2017/320766 . . . . . {eccentric}
- 2017/320775 . . . . . {Morcellators, impeller or propeller like means}
- 17/320783 . . . . {through side-hole, e.g. sliding or rotating cutter inside catheter}
- 2017/320791 . . . . . {with cutter extending outside the cutting window}
- 17/3209 . . Incision instruments
- 17/32093 . . . {for skin incisions}
- 2017/32096 . . . {for slowly cutting through tissue, e.g. stent like temporary implants having sharp edges}
- 17/3211 . . . Surgical scalpels, knives; Accessories therefor
- 2017/32113 . . . . {with extendable or retractable guard or blade}
- 2017/32116 . . . . {with means for improving the rigidity of the blade, e.g. with a reinforcing rib}
- 17/3213 . . . . with detachable blades
- 17/3215 . . . . Packages or dispensers for scalpel blades {([for sharps A61B 50/3001](#))}
- 17/3217 . . . . Devices for removing or collecting used scalpel blades {([for sharps A61B 50/362](#))}
- 17/322 . . Skin grafting apparatus
- 2017/3225 . . . {with processing of harvested tissue}
- 17/326 . . Circumcision apparatus
- 17/34 . . Trocars; Puncturing needles {([pointed biopsy instruments A61B 10/0233](#); [devices for piercing the ear-lobes A44C 7/001](#); [seals or hemostasis valves A61M 39/06](#))}
- 17/3401 . . {Puncturing needles for the peridural or subarachnoid space or the plexus, e.g. for anaesthesia ([local anaesthesia A61M 19/00](#))}
- 17/3403 . . {Needle locating or guiding means ([guides for suture needles A61B 17/0482](#); [guiding or tracking by nuclear magnetic resonance G01R 33/285](#))}
- 2017/3405 . . . {using mechanical guide means}
- 2017/3407 . . . . {including a base for support on the body}
- 2017/3409 . . . . {including needle or instrument drives}
- 2017/3411 . . . . {with a plurality of holes, e.g. holes in matrix arrangement}
- 2017/3413 . . . {guided by ultrasound}
- 17/3415 . . {for introducing tubes or catheters, e.g. gastrostomy tubes, drain catheters ([A61B 17/3417](#) takes precedence; [body piercing catheter guide needles A61M 25/06](#))}
- 17/3417 . . {Details of tips or shafts, e.g. grooves, expandable, bendable; Multiple coaxial sliding cannulas, e.g. for dilating ([syringe needles A61M 5/32](#); [dilators A61M 29/00](#))}
- 2017/3419 . . . {Sealing means between cannula and body}
- 17/3421 . . . {Cannulas}
- 17/3423 . . . . {Access ports, e.g. toroid shape introducers for instruments or hands ([access sites for liquids A61M 39/0247](#))}
- 2017/3425 . . . . . {for internal organs, e.g. heart ports}
- 2017/3427 . . . . . {for intercostal space}
- 2017/3429 . . . . . {having a unitary compressible body, e.g. made of silicone or foam}
- 17/3431 . . . . {being collapsible, e.g. made of thin flexible material ([A61B 17/3423](#) takes precedence)}
- 2017/3433 . . . . {with different outer diameters of the cannula}
- 2017/3435 . . . . {using everted sleeves}
- 2017/3437 . . . . {with means for removing or absorbing fluid, e.g. wicks or absorbent pads}
- 17/3439 . . . . {with means for changing the inner diameter of the cannula, e.g. expandable ([A61B 17/3423](#), [A61B 17/3431](#) take precedence; [catheters A61M 25/0662](#))}
- 2017/3441 . . . . . {with distal sealing means}
- 2017/3443 . . . . {with means for adjusting the length of a cannula}
- 2017/3445 . . . . {used as instrument channel for multiple instruments ([catheters A61B 2017/22072](#))}
- 2017/3447 . . . . . {Linked multiple cannulas}
- 2017/3449 . . . . . {whereby the instrument channels merge into one single channel}
- 2017/345 . . . . {for introduction into a natural body opening}

- 2017/3452 . . . . {for the rectum, e.g. for hemorrhoid surgery}
- 2017/3454 . . . {Details of tips}
- 2017/3456 . . . . {blunt}
- 2017/3458 . . . . {threaded}
- 2017/346 . . . . {with wings}
- 17/3462 . . {with means for changing the diameter or the orientation of the entrance port of the cannula, e.g. for use with different-sized instruments, reduction ports, adapter seals ([expandable cannulas A61B 17/3417](#))}
- 2017/3464 . . . {with means acting on inner surface of valve or seal for expanding or protecting, e.g. inner pivoting fingers}
- 2017/3466 . . . {for simultaneous sealing of multiple instruments}
- 17/3468 . . {for implanting or removing devices, e.g. prostheses, implants, seeds, wires ([devices for implanting seeds A61M 37/0069](#))}
- 2017/347 . . {Locking means, e.g. for locking instrument in cannula}
- 17/3472 . . {for bones, e.g. intraosseous injections}
- 17/3474 . . {Insufflating needles, e.g. Veress needles}
- 17/3476 . . {Powered trocars, e.g. electrosurgical cutting, lasers, powered knives}
- 17/3478 . . {Endoscopic needles, e.g. for infusion ([biopsy needles A61B 10/0233](#); [catheters with injection needles A61M 25/0067](#))}
- 2017/348 . . {Means for supporting the trocar against the body or retaining the trocar inside the body}
- 2017/3482 . . . {inside}
- 2017/3484 . . . . {Anchoring means, e.g. spreading-out umbrella-like structure}
- 2017/3486 . . . . . {Balloon}
- 2017/3488 . . . . . {Fixation to inner organ or inner body tissue}
- 2017/349 . . . . {Trocar with thread on outside}
- 2017/3492 . . . {against the outside of the body}
- 17/3494 . . {with safety means for protection against accidental cutting or pricking, e.g. limiting insertion depth, pressure sensors ([for the peridural space A61B 17/3401](#))}
- 17/3496 . . . {Protecting sleeves or inner probes; Retractable tips ([for protecting body piercing guide needles A61M 25/0612](#))}
- 17/3498 . . {Valves therefor, e.g. flapper valves, slide valves ([haemostasis valves A61M 39/06](#); [check valves A61M 39/24](#))}
- 17/42 . . Gynaecological or obstetrical instruments or methods ([ligaturing clamps or clips for the umbilical cord A61B 17/122](#); [curette A61B 17/3207](#) ; [dilators A61M 29/00](#))
- 17/4208 . . {Instruments for rupturing the amniotic membrane}
- 2017/4216 . . {Operations on uterus, e.g. endometrium}
- 2017/4225 . . . {Cervix uteri}
- 2017/4233 . . {Operations on Fallopian tubes, e.g. sterilization ([A61B 2017/1125 takes precedence](#))}
- 17/4241 . . {Instruments for manoeuvring or retracting the uterus, e.g. during laparoscopic surgery}
- 17/425 . . for reproduction or fertilisation ([specially adapted for use with animals A61D 19/00](#) ) { (not used, see subgroups)}
- 17/43 . . . for artificial insemination
- 17/435 . . . for embryo {or ova} transplantation
- 17/44 . . Obstetrical forceps
- 17/442 . . . {without pivotal connections, e.g. using vacuum}
- 2017/445 . . . {with force indication}
- 2017/447 . . . {with force limitation}
- 17/46 . . Embryotomes ([for animals A61D 1/10](#))
- 17/48 . . Bags for midwives
- 17/50 . . Instruments, other than pincettes or toothpicks, for removing foreign bodies from the human body ([locating otherwise A61B 5/06](#); [locating by radiation A61B 6/00](#); [removing calculi A61B 17/22](#); [from the eyes A61F 9/00709](#))}
- 2017/505 . . {Parasite, e.g. tick, removers}
- 17/52 . . Magnets
- 17/54 . . Chiropodists' instruments {, e.g. pedicure ([chiropractic devices A61H 1/008](#))}
- 17/545 . . {using a stream or spray of abrasive particles}
- 17/56 . . Surgical instruments or methods for treatment of bones or joints; Devices specially adapted therefor ([orthopaedic methods or devices for non-surgical treatment of bones or joints A61F 5/00](#))}
- ### NOTES
1. Documents concerning exclusively surgical methods are classified only in this group.
  2. Surgical instruments or devices are classified only in the relevant subgroups
- 2017/561 . . {Implants with special means for releasing a drug}
- 17/562 . . {Implants for placement in joint gaps without restricting joint motion, e.g. to reduce arthritic pain}
- 2017/564 . . {Methods for bone or joint treatment}
- 2017/565 . . . {for surgical correction of axial deviation, e.g. hallux valgus or genu valgus}
- 2017/567 . . {Joint mechanisms or joint supports in addition to the natural joints and outside the joint gaps}
- 2017/568 . . {produced with shape and dimensions specific for an individual patient}
- 17/58 . . for osteosynthesis, e.g. bone plates, screws, {setting implements} or the like ([A61B 17/14](#), [A61B 17/16 take precedence](#); [splints A61B 5/01](#); [traction bandages A61F 13/10](#))}
- 17/60 . . . for external osteosynthesis, e.g. distractors, contractors
- 2017/603 . . . . {with three points of contact, e.g. tripod}
- 2017/606 . . . . {with resilient spring element}
- 17/62 . . . . Ring frames, i.e. devices extending around the bones to be positioned ([A61B 17/6433](#) , [A61B 17/66 take precedence](#))
- 17/64 . . . . Devices extending alongside the bones to be positioned { (not used, [see subgroups and A61B 17/60](#))}
- 17/6408 . . . . . {Devices not permitting mobility, e.g. fixed to bed, with or without means for traction or reduction ([without surgery A61F 5/04](#))}
- 17/6416 . . . . . {with non-continuous, e.g. hinged, pin-clamp connecting element ([A61B 17/6425](#), [A61B 17/6441 take precedence](#))}
- 17/6425 . . . . . {specially adapted to be fitted across a bone joint}



|          |           |   |         |           |   |
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| 17/6433  | . . . . . | { specially adapted for use on body parts other than limbs, e.g. trunk or head }  | 17/701  | . . . . . | { Longitudinal elements with a non-circular, e.g. rectangular, cross-section ( <a href="#">A61B 17/7005</a> , <a href="#">A61B 17/7007</a> take precedence) }   |
| 17/6441  | . . . . . | { Bilateral fixators, i.e. with both ends of pins or wires clamped }  | 17/7011 | . . . . . | { Longitudinal element being non-straight, e.g. curved, angled or branched ( <a href="#">adjustable length longitudinal elements A61B 17/7014</a> ; <a href="#">A61B 17/7019</a> takes precedence, e.g. coil springs) } |
| 17/645   | . . . . . | { comprising a framework ( <a href="#">A61B 17/6425</a> , <a href="#">A61B 17/6441</a> take precedence) }   | 17/7013 | . . . . . | { the shape of the element being adjustable before use ( <a href="#">adjustable length plates A61B 17/7014</a> ) }  |
| 17/6458  | . . . . . | { with pin-clamps fixed at ends of connecting element }   | 17/7014 | . . . . . | { with means for adjusting the distance between two screws or hooks }   |
| 17/6466  | . . . . . | { with pin-clamps movable along a solid connecting rod }  | 17/7016 | . . . . . | { electric or electromagnetic means }   |
| 17/6475  | . . . . . | { the connecting rod being threaded }   | 17/7017 | . . . . . | { pneumatic or hydraulic means }  |
| 17/6483  | . . . . . | { the connecting rod having a non-circular section }  | 17/7019 | . . . . . | { Longitudinal elements having flexible parts, or parts connected together, such that after implantation the elements can move relative to each other }   |
| 17/6491  | . . . . . | { allowing small-scale motion of bone ends }  | 17/702  | . . . . . | { having a core or insert, and a sleeve, whereby a screw or hook can move along the core or in the sleeve }   |
| 17/66    | . . . . . | { Alignment }, compression or distraction mechanisms  | 17/7022 | . . . . . | { Tethers, i.e. longitudinal elements capable of transmitting tension only, e.g. straps, sutures or cables ( <a href="#">A61B 17/702</a> takes precedence) }  |
| 17/663   | . . . . . | { for jaw bones, e.g. subcutaneous distractors with external access ( <a href="#">periodontal bone regeneration A61C 8/0006</a> ) }   | 17/7023 | . . . . . | { with a pivot joint }  |
| 17/666   | . . . . . | { for alveolar distraction }  | 17/7025 | . . . . . | { with a sliding joint }  |
| 17/68    | . . . . . | Internal fixation devices {, including fasteners and spinal fixators, even if a part thereof projects from the skin ( <a href="#">bone staples A61B 17/0642</a> ; <a href="#">dental regeneration membranes A61C 8/0006</a> ) } | 17/7026 | . . . . . | { with a part that is flexible due to its form }  |
| 2017/681 | . . . . . | { Alignment, compression, or distraction mechanisms }   | 17/7028 | . . . . . | { the flexible part being a coil spring }   |
| 17/683   | . . . . . | { comprising bone transfixation elements, e.g. bolt with a distal cooperating element such as a nut }   | 17/7029 | . . . . . | { the entire longitudinal element being flexible }  |
| 17/685   | . . . . . | { Elements to be fitted on the end of screws or wires, e.g. protective caps }   | 17/7031 | . . . . . | { made wholly or partly of flexible material }  |
| 17/686   | . . . . . | { Plugs, i.e. elements forming interface between bone hole and implant or fastener, e.g. screw }  | 17/7032 | . . . . . | { Screws or hooks with U-shaped head or back through which longitudinal rods pass }   |
| 17/688   | . . . . . | { for reattaching pieces of the skull }   | 17/7034 | . . . . . | { characterised by a lateral opening }  |
| 17/70    | . . . . . | Spinal positioners or stabilisers {; Bone stabilisers comprising fluid filler in an implant }   | 17/7035 | . . . . . | { Screws or hooks, wherein a rod-clamping part and a bone-anchoring part can pivot relative to each other }   |
| 17/7001  | . . . . . | { Screws or hooks combined with longitudinal elements which do not contact vertebrae ( <a href="#">A61B 17/7058</a> takes precedence) }   | 17/7037 | . . . . . | { wherein pivoting is blocked when the rod is clamped }   |
| 17/7002  | . . . . . | { Longitudinal elements, e.g. rods }  | 17/7038 | . . . . . | { to a different extent in different directions, e.g. within one plane only }   |
| 17/7004  | . . . . . | { with a cross-section which varies along its length ( <a href="#">A61B 17/7019</a> takes precedence) }   | 17/704  | . . . . . | { the longitudinal element passing through a ball-joint in the screw head }   |
| 17/7005  | . . . . . | { Parts of the longitudinal elements, e.g. their ends, being specially adapted to fit in the screw or hook heads }  | 17/7041 | . . . . . | { with single longitudinal rod offset laterally from single row of screws or hooks ( <a href="#">A61B 17/7044</a> takes precedence) }   |
| 17/7007  | . . . . . | { Parts of the longitudinal elements, e.g. their ends, being specially adapted to fit around the screw or hook heads }  | 17/7043 | . . . . . | { with a longitudinal element fixed to one or more transverse elements which connect multiple screws or hooks }   |
| 17/7008  | . . . . . | { with parts of, or attached to, the longitudinal elements, bearing against an outside of the screw or hook heads, e.g. nuts on threaded rods ( <a href="#">A61B 17/7007</a> takes precedence) }                                | 17/7044 | . . . . . | { also having plates, staples or washers bearing on the vertebrae }   |

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| 17/7046   | . . . . . | {the screws or hooks being mobile in use relative to the longitudinal element ( <a href="#">A61B 17/702</a> , <a href="#">A61B 17/7035</a> take precedence)}   | 17/7077 | . . . . . | {for moving bone anchors attached to vertebrae, thereby displacing the vertebrae}  |
| 17/7047   | . . . . . | {Clamps comprising opposed elements which grasp one vertebra between them}   | 17/7079 | . . . . . | {Tools requiring anchors to be already mounted on an implanted longitudinal or transverse element, e.g. where said element guides the anchor motion}   |
| 17/7049   | . . . . . | {Connectors, not bearing on the vertebrae, for linking longitudinal elements together ( <a href="#">A61B 17/7055</a> , <a href="#">A61B 17/7053</a> , <a href="#">A61B 17/7019</a> take precedence)}   | 17/708  | . . . . . | {with tubular extensions coaxially mounted on the bone anchors}  |
| 17/705    | . . . . . | {for linking adjacent ends of longitudinal elements}   | 17/7082 | . . . . . | {for driving, i.e. rotating, screws or screw parts specially adapted for spinal fixation, e.g. for driving polyaxial or tulip-headed screws ( <a href="#">driving other bone screws A61B 17/8875</a> )}  |
| 17/7052   | . . . . . | {of variable angle or length}  | 17/7083 | . . . . . | {Tools for guidance or insertion of tethers, rod-to-anchor connectors, rod-to-rod connectors, or longitudinal elements}  |
| 17/7053   | . . . . . | {with parts attached to bones or to each other by flexible wires, straps, sutures or cables}   | 17/7085 | . . . . . | {for insertion of a longitudinal element down one or more hollow screw or hook extensions, i.e. at least a part of the element within an extension has a component of movement parallel to the extension's axis}   |
| 17/7055   | . . . . . | {connected to sacrum, pelvis or skull}   | 17/7086 | . . . . . | {Rod reducers, i.e. devices providing a mechanical advantage to allow a user to force a rod into or onto an anchor head other than by means of a rod-to-bone anchor locking element; rod removers}   |
| 17/7056   | . . . . . | {Hooks with specially-designed bone-contacting part}   | 17/7088 | . . . . . | {wherein the rod is moved transverse to the axis of the bone anchor}   |
| 17/7058   | . . . . . | {Plates mounted on top of bone anchor heads or shoulders}  | 17/7089 | . . . . . | {wherein insertion is along an arcuate path}   |
| 17/7059   | . . . . . | {Cortical plates}  | 17/7091 | . . . . . | {for applying, tightening or removing longitudinal element-to-bone anchor locking elements, e.g. caps, set screws, nuts or wedges}   |
| 17/7061   | . . . . . | {for stabilising vertebrae or discs by improving the condition of their tissues, e.g. using implanted medication or fluid exchange ( <a href="#">intraosseous injection devices A61B 17/3472</a> )}  | 17/7092 | . . . . . | {for checking pedicle hole has correct depth or has an intact wall ( <a href="#">pedicle drill depth limiters A61B 17/1626</a> )}  |
| 17/7062   | . . . . . | {Devices acting on, attached to, or simulating the effect of, vertebral processes, vertebral facets or ribs ( <a href="#">rib fixation devices A61B 17/8076</a> ); Tools for such devices}   | 17/7094 | . . . . . | {Solid vertebral fillers; devices for inserting such fillers}  |
| 17/7064   | . . . . . | {Devices acting on, attached to, or simulating the effect of, vertebral facets; Tools therefor}  | 17/7095 | . . . . . | {the filler comprising unlinked macroscopic particles}   |
| 17/7065   | . . . . . | {Devices with changeable shape, e.g. collapsible or having retractable arms to aid implantation; Tools therefor}   | 17/7097 | . . . . . | {Stabilisers comprising fluid filler in an implant, e.g. balloon; devices for inserting or filling such implants ( <a href="#">disc prostheses made of inflatable chambers or pockets filled with fluid A61F 2/441</a> ; replacing the nucleus pulposus <a href="#">A61F 2002/444</a> )} |
| 17/7067   | . . . . . | {Devices bearing against one or more spinous processes and also attached to another part of the spine; Tools therefor}   | 17/7098 | . . . . . | {wherein the implant is permeable or has openings, e.g. fenestrated screw ( <a href="#">hollow surgical screws A61B 17/864</a> )}  |
| 17/7068   | . . . . . | {Devices comprising separate rigid parts, assembled <i>in situ</i> , to bear on each side of spinous processes; Tools therefor}  | 17/72   | . . . . . | Intramedullary {pins, nails or other} devices {( <a href="#">A61B 17/744</a> takes precedence)}  |
| 17/707    | . . . . . | {Devices acting on, or attached to, a transverse process or rib; Tools therefor}   | 17/7208 | . . . . . | {Flexible pins, e.g. ENDER pins}   |
| 17/7071   | . . . . . | {Implants for expanding or repairing the vertebral arch or wedged between laminae or pedicles; Tools therefor}   | 17/7216 | . . . . . | {for bone lengthening or compression ( <a href="#">A61B 17/7258</a> takes precedence)}   |
| 2017/7073 | . . . . . | {with intervertebral connecting element crossing an imaginary spinal median surface}   | 17/7225 | . . . . . | {for bone compression}   |
| 17/7074   | . . . . . | {Tools specially adapted for spinal fixation operations other than for bone removal or filler handling ( <a href="#">A61B 17/7062</a> , <a href="#">A61B 17/808</a> , <a href="#">A61B 17/8858</a> take precedence; for spinal image producing devices <a href="#">A61B 90/36</a> , <a href="#">A61B 34/20</a> ; markers <a href="#">A61B 90/39</a> )} |         |           |  |
| 17/7076   | . . . . . | {for driving, positioning or assembling spinal clamps or bone anchors specially adapted for spinal fixation}   |         |           |  |

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| 17/7233 | . . . . . | {with special means of locking the nail to the bone}  | 17/8061   | . . . . . | {specially adapted for particular bones ( <a href="#">A61B 17/70</a> and <a href="#">A61B 17/74</a> take precedence)}   |
| 17/7241 | . . . . . | {the nail having separate elements through which screws pass}   | 17/8066   | . . . . . | {for pelvic reconstruction}   |
| 17/725  | . . . . . | {with locking pins or screws of special form}   | 17/8071   | . . . . . | {for the jaw ( <a href="#">prostheses for mandibular reconstruction A61F 2/2803</a> )}  |
| 17/7258 | . . . . . | {with laterally expanding parts, e.g. for gripping the bone}  | 17/8076   | . . . . . | {for the ribs or the sternum}   |
| 17/7266 | . . . . . | {with fingers moving radially outwardly}  | 17/808    | . . . . . | {Instruments for holding or positioning bone plates, or for adjusting screw-to-plate locking mechanisms}  |
| 17/7275 | . . . . . | {with expanding cylindrical parts}  | 17/8085   | . . . . . | {with pliable or malleable elements or having a mesh-like structure, e.g. small strips for craniofacial surgery ( <a href="#">A61B 17/8071</a> , <a href="#">A61B 17/8076</a> take precedence; connecting prostheses with the body <a href="#">A61F 2/00</a> )} |
| 17/7283 | . . . . . | {with special cross-section of the nail}  | 17/809    | . . . . . | {with bone-penetrating elements, e.g. blades or prongs ( <a href="#">bone staples A61B 17/0642</a> )}   |
| 17/7291 | . . . . . | {for small bones, e.g. in the foot, ankle, hand or wrist}   | 17/8095   | . . . . . | {Wedge osteotomy devices}   |
| 17/74   | . . . . . | Devices for the head {or neck or trochanter} of the femur {(trochanteric devices connected to the proximal part of an endoprosthesis femoral shaft <a href="#">A61F 2/30739</a> ; endoprosthesis internal fixation devices for the head or neck of the femur <a href="#">A61F 2/3601</a> )} | 17/82     | . . . . . | for bone cerclage {(apparatus for manipulating wires or straps <a href="#">A61B 17/8861</a> ; wires, bands or straps other than cerclage <a href="#">A61B 17/842</a> )}   |
| 17/742  | . . . . . | {having one or more longitudinal elements oriented along or parallel to the axis of the neck}   | 17/823    | . . . . . | {for the sternum}   |
| 17/744  | . . . . . | {the longitudinal elements coupled to an intramedullary nail}   | 17/826    | . . . . . | {Nets or webs}  |
| 17/746  | . . . . . | {the longitudinal elements coupled to a plate opposite the femoral head}  | 17/84     | . . . . . | Fasteners therefor {or fasteners being internal fixation devices}   |
| 17/748  | . . . . . | {with means for adapting the angle between the longitudinal elements and the shaft axis of the femur}   | 17/842    | . . . . . | {Flexible wires, bands or straps ( <a href="#">A61B 17/72</a> , <a href="#">A61B 17/82</a> , <a href="#">A61B 17/86</a> take precedence)}   |
| 17/80   | . . . . . | Cortical plates {, i.e. bone plates; Instruments for holding or positioning cortical plates, or for compressing bones attached to cortical plates}  | 17/844    | . . . . . | {with expandable anchors or anchors having movable parts}   |
| 17/8004 | . . . . . | {with means for extending or compressing the bone or bones}   | 17/846    | . . . . . | {Nails or pins, i.e. anchors without movable parts, holding by friction only, with or without structured surface ( <a href="#">A61B 17/72</a> , <a href="#">A61B 17/86</a> take precedence)}  |
| 17/8009 | . . . . . | {the plate having a ratchet}  | 17/848    | . . . . . | {Kirschner wires, i.e. thin, long nails}  |
| 17/8014 | . . . . . | {the extension or compression force being caused by interaction of the plate hole and the screws}   | 17/86     | . . . . . | {Threaded wires}, pins or screws; {Nuts therefor ( <a href="#">A61B 17/72</a> , <a href="#">A61B 17/74</a> , <a href="#">A61F 2/4455</a> take precedence)}  |
| 17/8019 | . . . . . | {where the means are a separate tool rather than being part of the plate}   | 17/8605   | . . . . . | {Heads, i.e. proximal ends projecting from bone}  |
| 17/8023 | . . . . . | {Variable length plates}  | 17/861    | . . . . . | {specially shaped for gripping driver}  |
| 17/8028 | . . . . . | {Cushions, i.e. elements forming interface between bone plate and bone}   | 17/8615   | . . . . . | {at the central region of the screw head}   |
| 17/8033 | . . . . . | {having indirect contact with screw heads, or having contact with screw heads maintained with the aid of additional components, e.g. nuts, wedges or head covers}   | 17/862    | . . . . . | {at the periphery of the screw head}  |
| 17/8038 | . . . . . | {the additional component being inserted in the screw head}   | 17/8625   | . . . . . | {Shanks, i.e. parts contacting bone tissue ( <a href="#">screw-in dental implants A61C 8/0018</a> )}  |
| 17/8042 | . . . . . | {the additional component being a cover over the screw head}  | 17/863    | . . . . . | {with thread interrupted or changing its form along shank, other than constant taper}   |
| 17/8047 | . . . . . | {wherein the additional element surrounds the screw head in the plate hole}   | 17/8635   | . . . . . | {Tips of screws}  |
| 17/8052 | . . . . . | {immobilised relative to screws by interlocking form of the heads and plate holes, e.g. conical or threaded}  | 17/864    | . . . . . | {hollow, e.g. with socket or cannulated}  |
| 17/8057 | . . . . . | {the interlocking form comprising a thread}   | 17/8645   | . . . . . | {Headless screws, e.g. ligament interference screws}  |
|         |           |   | 17/865    | . . . . . | {Packages or dispensers for bone screws or threaded wires}  |
|         |           |   | 2017/8655 | . . . . . | {with special features for locking in the bone}   |
|         |           |   | 17/866    | . . . . . | {Material or manufacture}   |

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| 17/8665   | . . . . . | {Nuts}  | 17/8847      | . . . . . | {for removing cement from a bone cavity (using surgical bone chisels, drills, mills, rasps, reamers or scrapers <a href="#">A61B 17/16</a> ; using laser <a href="#">A61B 18/20</a> ; using ultrasonic surgical instruments <a href="#">A61N 7/00</a> )} |
| 2017/867  | . . . . . | {with integral locking or clamping means}   | 17/885       | . . . . . | {Tools for expanding or compacting bones or discs or cavities therein ( <a href="#">A61B 17/8805</a> , <a href="#">A61B 17/7097</a> take precedence)}  |
| 2017/8675 | . . . . . | {clamping effect due to tapering, e.g. conical thread}  | 17/8852      | . . . . . | {capable of being assembled or enlarged, or changing shape, inside the bone or disc}   |
| 2017/868  | . . . . . | {self-locking due to part of nut being deformed upon tightening}  | 17/8855      | . . . . . | {inflatable, e.g. kyphoplasty balloons}  |
| 17/8685   | . . . . . | {comprising multiple separate parts}  | 17/8858      | . . . . . | {laterally or radially expansible ( <a href="#">inflatable A61B 17/8855</a> )}   |
| 17/869    | . . . . . | {characterised by an open form, e.g. wire helix}  | 17/8861      | . . . . . | {Apparatus for manipulating flexible wires or straps}  |
| 17/8695   | . . . . . | {Washers (surrounding screw head in plate hole <a href="#">A61B 17/8047</a> , between bone plate and bone <a href="#">A61B 17/8028</a> )}   | 17/8863      | . . . . . | {Apparatus for shaping or cutting osteosynthetic equipment}  |
| 17/88     | . . .     | {Osteosynthesis instruments;} Methods or means for implanting or extracting internal {or external} fixation devices {( <a href="#">A61B 17/7074</a> takes precedence)}  | 17/8866      | . . . . . | {for gripping or pushing bones, e.g. approximators}  |
| 17/8802   | . . . . . | {Equipment for handling bone cement or other fluid fillers (plugs or restrictors for bone cement <a href="#">A61F 2/30723</a> )}  | 17/8869      | . . . . . | {Tensioning devices}   |
| 17/8805   | . . . . . | {for introducing fluid filler into bone or extracting it ( <a href="#">A61B 17/7097</a> , <a href="#">A61B 17/8833</a> take precedence; for introducing bone graft <a href="#">A61F 2/4601</a> )}                   | 17/8872      | . . . . . | {Instruments for putting said fixation devices against or away from the bone ( <a href="#">A61B 17/7074</a> , <a href="#">A61B 17/808</a> take precedence)}  |
| 17/8808   | . . . . . | {with sealing collar for bone cavity}   | 17/8875      | . . . . . | {Screwdrivers, spanners or wrenches}   |
| 17/8811   | . . . . . | {characterised by the introducer tip, i.e. the part inserted into or onto the bone}   | 17/8877      | . . . . . | {characterised by the cross-section of the driver bit}   |
| 2017/8813 | . . . . . | {Discharging means for excessively introduced fluid fillers, e.g. discharging excess cement}  | 17/888       | . . . . . | {the driver bit acting on the central region of the screw head}  |
| 17/8816   | . . . . . | {characterised by the conduit, e.g. tube, along which fluid flows into the body or by conduit connections}  | 17/8883      | . . . . . | {the driver bit acting on the periphery of the screw head}   |
| 17/8819   | . . . . . | {characterised by the introducer proximal part, e.g. cannula handle, or by parts which are inserted inside each other, e.g. stylet and cannula ( <a href="#">A61B 17/8825</a> takes precedence)}                    | 17/8886      | . . . . . | {holding the screw head}   |
| 17/8822   | . . . . . | {characterised by means facilitating expulsion of fluid from the introducer, e.g. a screw pump plunger, hydraulic force transmissions, application of vibrations or a vacuum}                                       | 17/8888      | . . . . . | {at its central region}  |
| 17/8825   | . . . . . | {characterised by syringe details ( <a href="#">A61B 17/8822</a> , <a href="#">A61B 17/8827</a> take precedence)}   | 17/8891      | . . . . . | {at its periphery}   |
| 17/8827   | . . . . . | {with filtering, degassing, venting or pressure relief means}   | 17/8894      | . . . . . | {holding the implant into or through which the screw is to be inserted ( <a href="#">A61B 17/7082</a> , <a href="#">A61B 17/7091</a> take precedence)}   |
| 2017/883  | . . . . . | {Means for indicating hardening of bone cement}   | 17/8897      | . . . . . | {Guide wires or guide pins}  |
| 17/8833   | . . . . . | {Tools for preparing, e.g. curing, cement or other fluid fillers ( <a href="#">B01F</a> takes precedence); Means for supplying cement or other fluid fillers to an introducing tool, e.g. cartridge handling means} | 2017/90      | . . . . . | {Guides therefor}  |
| 17/8836   | . . . . . | {for heating, cooling or curing the filler}   | 17/92        | . . . . . | Impactors or extractors, e.g. for removing intramedullary devices {(insertion or extraction of artificial joints <a href="#">A61F 2/4603</a> )}  |
| 2017/8838 | . . . . . | {for mixing, with or without means for supplying the mixed filler to an injecting tool}   | 17/921       | . . . . . | {for intramedullary devices}   |
| 17/8841   | . . . . . | {Tools specially adapted to engage a prosthesis}  | 2017/922     | . . . . . | {Devices for impaction, impact element}  |
| 2017/8844 | . . . . . | {Means for determining the viscosity of bone cement}  | 2017/924     | . . . . . | {Impact element driving means}   |
|           |           |   | 2017/925     | . . . . . | {a spring}   |
|           |           |   | 2017/927     | . . . . . | {Returning means}  |
|           |           |   | 2017/928     | . . . . . | {a spring}   |
|           |           |   | <b>18/00</b> |           | <b>Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body (eye surgery <a href="#">A61F 9/007</a>; ear surgery <a href="#">A61F 11/00</a>)</b>   |
|           |           |   | 2018/00005   | . . . . . | {Cooling or heating of the probe or tissue immediately surrounding the probe}  |
|           |           |   | 2018/00011   | . . .     | {with fluids}  |
|           |           |   | 2018/00017   | . . .     | {with gas}   |
|           |           |   | 2018/00023   | . . .     | {closed, i.e. without wound contact by the fluid}  |
|           |           |   | 2018/00029   | . . .     | {open}   |
|           |           |   | 2018/00035   | . . . . . | {with return means}  |
|           |           |   | 2018/00041   | . . .     | {Heating, e.g. defrosting}   |
|           |           |   | 2018/00047   | . . .     | {using Peltier effect}   |
|           |           |   | 2018/00053   | . . .     | {Mechanical features of the instrument of device}  |



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|------------|--|------------|--|
| 2018/00059 | . . . {Material properties}  | 2018/00392 | . . . . {Transmyocardial revascularisation}  |
| 2018/00065 | . . . {porous}   | 2018/00398 | . . . {Blood}  |
| 2018/00071 | . . . {Electrical conductivity}  | 2018/00404 | . . . {Blood vessels other than those in or around the heart}                                |
| 2018/00077 | . . . . {high, i.e. electrically conducting}                             | 2018/0041  | . . . . {Removal of thrombosis}  |
| 2018/00083 | . . . . {low, i.e. electrically insulating}                              | 2018/00416 | . . . . {Treatment of aneurisms}   |
| 2018/00089 | . . . {Thermal conductivity}   | 2018/00422 | . . . . {Angioplasty}  |
| 2018/00095 | . . . . {high, i.e. heat conducting}                                     | 2018/00428 | . . . . {Severing}   |
| 2018/00101 | . . . . {low, i.e. thermally insulating}                                 | 2018/00434 | . . {Neural system}  |
| 2018/00107 | . . {Coatings on the energy applicator}                                  | 2018/0044  | . . . {Spinal cord}  |
| 2018/00113 | . . . {with foam}  | 2018/00446 | . . . {Brain}  |
| 2018/00119 | . . . {with metal oxide nitride}   | 2018/00452 | . . {Skin}   |
| 2018/00125 | . . . {with nanostructure}   | 2018/00458 | . . . {Deeper parts of the skin, e.g. treatment of vascular disorders or port wine stains}   |
| 2018/0013  | . . . {non-sticking}   | 2018/00464 | . . . . {Subcutaneous fat, e.g. liposuction, lipolysis}                                      |
| 2018/00136 | . . . {with polymer}   | 2018/0047  | . . . {Upper parts of the skin, e.g. skin peeling or treatment of wrinkles}                  |
| 2018/00142 | . . . {lubricating}  | 2018/00476 | . . . {Hair follicles}   |
| 2018/00148 | . . . {with metal}   | 2018/00482 | . . {Digestive system}   |
| 2018/00154 | . . . {containing and delivering drugs}                                  | 2018/00488 | . . . {Esophagus}  |
| 2018/0016  | . . {Energy applicators arranged in a two- or three dimensional array}   | 2018/00494 | . . . {Stomach, intestines or bowel}   |
| 2018/00166 | . . {Multiple lumina}  | 2018/005   | . . . {Rectum}   |
| 2018/00172 | . . {Connectors and adapters therefor}                                   | 2018/00505 | . . {Urinary tract}  |
| 2018/00178 | . . . {Electrical connectors}  | 2018/00511 | . . . {Kidney}   |
| 2018/00184 | . . {Moving parts}   | 2018/00517 | . . . {Urinary bladder or urethra}   |
| 2018/0019  | . . . {vibrating}  | 2018/00523 | . . . {Treatment of incontinence}  |
| 2018/00196 | . . . {reciprocating lengthwise}   | 2018/00529 | . . {Liver}  |
| 2018/00202 | . . . {rotating}   | 2018/00535 | . . . {Biliary tract}  |
| 2018/00208 | . . . . {actively driven, e.g. by a motor}                               | 2018/00541 | . . {Lung or bronchi}  |
| 2018/00214 | . . {Expandable means emitting energy, e.g. by elements carried thereon} | 2018/00547 | . . {Prostate}   |
| 2018/0022  | . . . {Balloons}   | 2018/00553 | . . {Sphincter}  |
| 2018/00226 | . . . . {extending from a surface, i.e. Blisters}                        | 2018/00559 | . . {Female reproductive organs}   |
| 2018/00232 | . . . . {having an irregular shape}                                      | 2018/00565 | . . {Bone}   |
| 2018/00238 | . . . . {porous}   | 2018/00571 | . {for achieving a particular surgical effect}   |
| 2018/00244 | . . . . {adapted to separate target tissue from other tissue}            | 2018/00577 | . . {Ablation}   |
| 2018/0025  | . . . . {Multiple balloons}  | 2018/00583 | . . . {Coblation, i.e. ablation using a cold plasma}   |
| 2018/00255 | . . . . . {arranged one inside another}                                  | 2018/00589 | . . {Coagulation}  |
| 2018/00261 | . . . . . {arranged in a line}   | 2018/00595 | . . {Cauterization}  |
| 2018/00267 | . . . {having a basket shaped structure}                                 | 2018/00601 | . . {Cutting}  |
| 2018/00273 | . . {Anchoring means for temporary attachment of a device to tissue}     | 2018/00607 | . . {Coagulation and cutting with the same instrument}                                       |
| 2018/00279 | . . . {deployable}   | 2018/00613 | . . {Irreversible electroporation ( <a href="#">reversible electroporation A61N 1/327</a> )} |
| 2018/00285 | . . . . {Balloons}   | 2018/00619 | . . {Welding}  |
| 2018/00291 | . . . {using suction}  | 2018/00625 | . . {Vaporization}   |
| 2018/00297 | . . {Means for providing haptic feedback}                                | 2018/0063  | . . {Sealing}  |
| 2018/00303 | . . . {active, e.g. with a motor creating vibrations}                    | 2018/00636 | . {Sensing and controlling the application of energy}  |
| 2018/00309 | . . . {passive, e.g. palpable click when activating a button}            | 2018/00642 | . . {with feedback, i.e. closed loop control}  |
| 2018/00315 | . {for treatment of particular body parts}                               | 2018/00648 | . . . {using more than one sensed parameter}   |
| 2018/00321 | . . {Head or parts thereof}  | 2018/00654 | . . . {with individual control of each of a plurality of energy emitting elements}           |
| 2018/00327 | . . . {Ear, nose or throat}  | 2018/0066  | . . {without feedback, i.e. open loop control}   |
| 2018/00333 | . . {Breast}   | 2018/00666 | . . {using a threshold value}  |
| 2018/00339 | . . {Spine, e.g. intervertebral disc}                                    | 2018/00672 | . . . {lower}  |
| 2018/00345 | . . {Vascular system}  | 2018/00678 | . . . {upper}  |
| 2018/00351 | . . . {Heart}  | 2018/00684 | . . {using lookup tables}  |
| 2018/00357 | . . . . {Endocardium}  | 2018/0069  | . . {using fuzzy logic}  |
| 2018/00363 | . . . . {Epicardium}   | 2018/00696 | . . {Controlled or regulated parameters}   |
| 2018/00369 | . . . . {Heart valves}   | 2018/00702 | . . . {Power or energy}  |
| 2018/00375 | . . . . {Ostium, e.g. ostium of pulmonary vein or artery}                | 2018/00708 | . . . . {switching the power on or off}  |
| 2018/0038  | . . . . {Foramen ovale}  | 2018/00714 | . . . {Temperature}  |
| 2018/00386 | . . . . {Coronary vessels}   |            |  |

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| 2018/0072  | . . . {Current}  | 18/0206   | . . {ultrasonic, e.g. for destroying tissue or enhancing freezing}  |
| 2018/00726 | . . . {Duty cycle}   | 2018/0212 | . . {using an instrument inserted into a body lumen, e.g. catheter}   |
| 2018/00732 | . . . {Frequency}  | 18/0218   | . . {with open-end cryogenic probe, e.g. for spraying fluid directly on tissue or via a tissue-contacting porous tip}   |
| 2018/00738 | . . . {Depth, e.g. depth of ablation}  | 2018/0225 | . . {using an instrument for clamping tissue, e.g. forceps}   |
| 2018/00744 | . . . {Fluid flow}   | 2018/0231 | . . {Characteristics of handpieces or probes}   |
| 2018/0075  | . . . {Phase}  | 2018/0237 | . . . {with a thermoelectric element in the probe for cooling purposes}   |
| 2018/00755 | . . . {Resistance or impedance}  | 2018/0243 | . . . . {cooling of the hot side of the junction, e.g. heat sink}   |
| 2018/00761 | . . . {Duration}   | 2018/025  | . . . . . {by circulating liquid}   |
| 2018/00767 | . . . {Voltage}  | 2018/0256 | . . . . . {by circulating gas, e.g. air}  |
| 2018/00773 | . . {Sensed parameters}  | 2018/0262 | . . . . {using a circulating cryogenic fluid}   |
| 2018/00779 | . . . {Power or energy}  | 2018/0268 | . . . . . {with restriction of flow}  |
| 2018/00785 | . . . . {Reflected power}  | 2018/0275 | . . . . . {using porous elements}   |
| 2018/00791 | . . . {Temperature}  | 2018/0281 | . . . . . {using a tortuous path, e.g. formed by fins or ribs}  |
| 2018/00797 | . . . . {measured by multiple temperature sensors}   | 2018/0287 | . . . . . {the fluid flowing through a long thin tube with spiral shape}  |
| 2018/00803 | . . . . {with temperature prediction}  | 2018/0293 | . . {using an instrument interstitially inserted into the body, e.g. needle}  |
| 2018/00809 | . . . . {measured thermochromatically}   | 18/04     | . by heating (by applying electromagnetic radiation <a href="#">A61B 18/18</a> ; hyperthermia using electric or magnetic fields, radiation or ultrasound <a href="#">A61N</a> ) |
| 2018/00815 | . . . . {measured by a thermistor}   | 18/042    | . . {using additional gas becoming plasma}  |
| 2018/00821 | . . . . {measured by a thermocouple}   | 2018/044  | . . {the surgical action being effected by a circulating hot fluid}   |
| 2018/00827 | . . . {Current}  | 2018/046  | . . . {in liquid form}  |
| 2018/00833 | . . . . {Differential current}   | 2018/048  | . . . {in gaseous form}   |
| 2018/00839 | . . . {Bioelectrical parameters, e.g. ECG, EEG}  | 18/06     | . . caused by chemical reaction {, e.g. moxaburners}  |
| 2018/00845 | . . . {Frequency}  | 2018/062  | . . . {one of the reactants being oxygen}   |
| 2018/00851 | . . . . {fundamental}  | 2018/064  | . . . . {Moxaburners}   |
| 2018/00857 | . . . . {harmonic}   | 2018/066  | . . . {one of the reactants being oxygen not from the air}  |
| 2018/00863 | . . . {Fluid flow}   | 2018/068  | . . . {none of the reactants being oxygen}  |
| 2018/00869 | . . . {Phase}  | 18/08     | . . by means of electrically-heated probes  |
| 2018/00875 | . . . {Resistance or impedance}  | 18/082    | . . . {Probes or electrodes therefor}   |
| 2018/0088  | . . . {Vibration}  | 18/085    | . . . . {Forceps, scissors}   |
| 2018/00886 | . . . {Duration}   | 2018/087  | . . . . {using semiconductors as heating element}   |
| 2018/00892 | . . . {Voltage}  | 18/10     | . . . Power sources therefor  |
| 2018/00898 | . . {Alarms or notifications created in response to an abnormal condition}   | 18/12     | . . by passing a current through the tissue to be heated, e.g. high-frequency current   |
| 2018/00904 | . . {Automatic detection of target tissue}   | 18/1206   | . . . {Generators therefor}   |
| 2018/0091  | . {Handpieces of the surgical instrument or device}  | 2018/1213 | . . . . {creating an arc}   |
| 2018/00916 | . . {with means for switching or controlling the main function of the instrument or device}  | 2018/122  | . . . . {ionizing, with corona}   |
| 2018/00922 | . . . {by switching or controlling the treatment energy directly within the hand-piece}  | 2018/1226 | . . . . {powered by a battery}  |
| 2018/00928 | . . . {by sending a signal to an external energy source}   | 18/1233   | . . . . {with circuits for assuring patient safety}   |
| 2018/00934 | . . . . {the signal being non electric, e.g. pneumatic, hydraulic, optical}  | 2018/124  | . . . . {switching the output to different electrodes, e.g. sequentially}   |
| 2018/0094  | . . . {Types of switches or controllers}   | 2018/1246 | . . . . {characterised by the output polarity}  |
| 2018/00946 | . . . . {slidable}   | 2018/1253 | . . . . . {monopolar}   |
| 2018/00952 | . . . . {rotatable}  | 2018/126  | . . . . . {bipolar}   |
| 2018/00958 | . . . {for switching between different working modes of the main function}   | 2018/1266 | . . . . . {with DC current output}  |
| 2018/00964 | . {Features of probes}   | 2018/1273 | . . . . . {including multiple generators in one device}   |
| 2018/0097  | . . {Cleaning probe surfaces}  | 2018/128  | . . . . . {generating two or more frequencies}  |
| 2018/00976 | . . . {with scraping means}  | 2018/1286 | . . . . . {having a specific transformer}   |
| 2018/00982 | . {combined with or comprising means for visual or photographic inspections inside the body, e.g. endoscopes}  | 2018/1293 | . . . . . {having means to prevent interference}  |
| 2018/00988 | . {Means for storing information, e.g. calibration constants, or for preventing excessive use, e.g. usage, service life counter}                     | 18/14     | . . . Probes or electrodes therefor   |
| 2018/00994 | . {combining two or more different kinds of non-mechanical energy or combining one or more non-mechanical energies with ultrasound}                  |           |   |
| 18/02      | . by cooling, e.g. cryogenic techniques (devices for cooling specific reflex points of the body within cell-life limits <a href="#">A61H 39/06</a> ) |           |   |

|           |           |   |   |           |   |
|-----------|-----------|---|---|-----------|---|
| 18/1402   | . . . . . | {Probes for open surgery}   | 2018/1495   | . . . . . | {Electrodes being detachable from a support structure}  |
| 2018/1405 | . . . . . | {Electrodes having a specific shape}  | 2018/1497   | . . . . . | {Electrodes covering only part of the probe circumference}  |
| 2018/1407 | . . . . . | {Loop}  | 18/16   | . . . . . | Indifferent or passive electrodes for grounding   |
| 2018/141  | . . . . . | {Snare}   | 2018/162  | . . . . . | {located on the probe body}   |
| 2018/1412 | . . . . . | {Blade}   | 2018/165  | . . . . . | {Multiple indifferent electrodes}   |
| 2018/1415 | . . . . . | {multiple blades}   | 2018/167  | . . . . . | {Passive electrodes capacitively coupled to the skin}   |
| 2018/1417 | . . . . . | {Ball}  | 18/18   | . . . . . | by applying electromagnetic radiation, e.g. microwaves ( <a href="#">radiation therapy A61N 5/00</a> )  |
| 2018/142  | . . . . . | {at least partly surrounding the target, e.g. concave, curved or in the form of a cave}                                 | 2018/1807   | . . . . . | {using light other than laser radiation}  |
| 2018/1422 | . . . . . | {Hook}  | 18/1815   | . . . . . | {using microwaves}  |
| 2018/1425 | . . . . . | {Needle}  | 2018/1823   | . . . . . | {Generators therefor}   |
| 2018/1427 | . . . . . | {with a beveled end}  | 2018/183  | . . . . . | {characterised by the type of antenna}  |
| 2018/143  | . . . . . | {multiple needles}  | 2018/1838   | . . . . . | {Dipole antennas}   |
| 2018/1432 | . . . . . | {curved}  | 2018/1846   | . . . . . | {Helical antennas}  |
| 2018/1435 | . . . . . | {Spiral}  | 2018/1853   | . . . . . | {Monopole antennas}   |
| 2018/1437 | . . . . . | {whereby the windings of the spiral touch each other such as to create a continuous surface}                            | 2018/1861   | . . . . . | {with an instrument inserted into a body lumen or cavity, e.g. a catheter}  |
| 2018/144  | . . . . . | {Wire}  | 2018/1869   | . . . . . | {with an instrument interstitially inserted into the body, e.g. needles}  |
| 18/1442   | . . . . . | {Probes having pivoting end effectors, e.g. forceps}  | 2018/1876   | . . . . . | {with multiple frequencies}   |
| 18/1445   | . . . . . | {at the distal end of a shaft, e.g. forceps or scissors at the end of a rigid rod}                                      | 2018/1884   | . . . . . | {with non-uniform emissions}  |
| 18/1447   | . . . . . | {wherein sliding surfaces cause opening/closing of the end effectors}   | 2018/1892   | . . . . . | {Details of electrical isolations of the antenna}   |
| 2018/145  | . . . . . | {wherein the effectors remain parallel during closing and opening}  | 18/20   | . . . . . | using laser   |
| 2018/1452 | . . . . . | {including means for cutting ( <a href="#">A61B 2018/146 takes precedence</a> )}  | 2018/2005   | . . . . . | {with beam delivery through an interstitially insertable device, e.g. needle}   |
| 2018/1455 | . . . . . | {having a moving blade for cutting tissue grasped by the jaws}  | 18/201  | . . . . . | {with beam delivery through a hollow tube, e.g. forming an articulated arm ( <a href="#">through a flexible conduit A61B 18/22</a> ); Hand-pieces therefor} |
| 2018/1457 | . . . . . | {having opposing blades cutting tissue grasped by the jaws, i.e. combined scissors and pliers}                          | 2018/2015   | . . . . . | {Miscellaneous features}  |
| 2018/146  | . . . . . | {Scissors}  | 2018/202  | . . . . . | {Laser enclosed in a hand-piece}  |
| 2018/1462 | . . . . . | {Tweezers}  | <b>WARNING</b>  |           |   |
| 2018/1465 | . . . . . | {Deformable electrodes}   | Group <a href="#">A61B 2018/202</a> is impacted by reclassification into group <a href="#">A61B 2018/2023</a> .                     |           |   |
| 2018/1467 | . . . . . | {using more than two electrodes on a single probe}  | Groups <a href="#">A61B 2018/202</a> and <a href="#">A61B 2018/2023</a> should be considered in order to perform a complete search. |           |   |
| 2018/147  | . . . . . | {Electrodes transferring energy by capacitive coupling, i.e. with a dielectricum between electrode and target tissue}   | <b>WARNING</b>  |           |   |
| 2018/1472 | . . . . . | {for use with liquid electrolyte, e.g. virtual electrodes}  | Group <a href="#">A61B 2018/2023</a> is incomplete pending reclassification of documents from group <a href="#">A61B 2018/202</a> . |           |   |
| 2018/1475 | . . . . . | {Electrodes retractable in or deployable from a housing}  | Groups <a href="#">A61B 2018/202</a> and <a href="#">A61B 2018/2023</a> should be considered in order to perform a complete search. |           |   |
| 18/1477   | . . . . . | {Needle-like probes}  | 2018/2023   | . . . . . | {Self-contained devices, i.e. with power supply in the hand-piece}  |
| 18/148    | . . . . . | {having a short, rigid shaft for accessing the inner body transcutaneously, e.g. for neurosurgery or arthroscopy}       | <b>WARNING</b>  |           |   |
| 18/1482   | . . . . . | {having a long rigid shaft for accessing the inner body transcutaneously in minimal invasive surgery, e.g. laparoscopy} | Group <a href="#">A61B 2018/2023</a> is incomplete pending reclassification of documents from group <a href="#">A61B 2018/202</a> . |           |   |
| 18/1485   | . . . . . | {having a short rigid shaft for accessing the inner body through natural openings}                                      | Groups <a href="#">A61B 2018/202</a> and <a href="#">A61B 2018/2023</a> should be considered in order to perform a complete search. |           |   |
| 18/1487   | . . . . . | {Trocár-like, i.e. devices producing an enlarged transcutaneous opening}  | 2018/2025   | . . . . . | {with a pilot laser}  |
| 18/149    | . . . . . | {bow shaped or with rotatable body at cantilever end, e.g. for resectoscopes, or coagulating rollers}                   | 18/203  | . . . . . | {applying laser energy to the outside of the body}  |
| 18/1492   | . . . . . | {having a flexible, catheter-like structure, e.g. for heart ablation ( <a href="#">A61B 18/1477 takes precedence</a> )} |   |           |   |

2018/2035 . . . {Beam shaping or redirecting; Optical components therefor ([A61B 2018/2255](#) takes precedence)}

#### **WARNING**

Group [A61B 2018/2035](#) is impacted by reclassification into groups [A61B 2018/20361](#), [A61B 2018/20553](#), [A61B 2018/20554](#), [A61B 2018/205545](#), and [A61B 2018/205547](#).

Groups [A61B 2018/2035](#), [A61B 2018/20361](#), [A61B 2018/20553](#), [A61B 2018/20554](#), [A61B 2018/205545](#), and [A61B 2018/205547](#) should be considered in order to perform a complete search.

2018/20351 . . . {Scanning mechanisms}

#### **WARNING**

Group [A61B 2018/20351](#) is impacted by reclassification into groups [A61B 2018/20353](#) and [A61B 2018/20355](#).

Groups [A61B 2018/20351](#), [A61B 2018/20353](#) and [A61B 2018/20355](#) should be considered in order to perform a complete search.

2018/20353 . . . {Scanning in three dimensions [3D]}

#### **WARNING**

Group [A61B 2018/20353](#) is incomplete pending reclassification of documents from group [A61B 2018/20351](#).

Groups [A61B 2018/20353](#) and [A61B 2018/20351](#) should be considered in order to perform a complete search.

2018/20355 . . . {Special scanning path or conditions, e.g. spiral, raster or providing spot overlap}

#### **WARNING**

Group [A61B 2018/20355](#) is incomplete pending reclassification of documents from group [A61B 2018/20351](#).

Groups [A61B 2018/20355](#) and [A61B 2018/20351](#) should be considered in order to perform a complete search.

2018/20357 . . . {by movable optical fibre end}

2018/20359 . . . {by movable mirrors, e.g. galvanometric}

2018/20361 . . . {with redirecting based on sensed condition, e.g. tissue analysis or tissue movement}

#### **WARNING**

Group [A61B 2018/20361](#) is incomplete pending reclassification of documents from group [A61B 2018/2035](#).

Groups [A61B 2018/20361](#) and [A61B 2018/2035](#) should be considered in order to perform a complete search.

2018/204 . . . {Attenuators}

2018/2045 . . . {Choppers}

2018/205 . . . {with electronic means, e.g. acousto-optic}

2018/2055 . . . {with mechanical means}

2018/20553 . . . {with special lens or reflector arrangement ([A61B 2018/2255](#), [A61B 2018/2261](#), [A61B 2018/2266](#), [A61B 2018/2272](#), [A61B 2018/2277](#), [A61B 2018/2283](#) take precedence)}

#### **WARNING**

Group [A61B 2018/20553](#) is incomplete pending reclassification of documents from group [A61B 2018/2035](#).

Groups [A61B 2018/20553](#) and [A61B 2018/2035](#) should be considered in order to perform a complete search.

2018/20554 . . . {Arrangements for particular intensity distribution, e.g. tophat}

#### **WARNING**

Group [A61B 2018/20554](#) is incomplete pending reclassification of documents from group [A61B 2018/2035](#).

Groups [A61B 2018/20554](#) and [A61B 2018/2035](#) should be considered in order to perform a complete search.

2018/205545 . . . {Arrangements for particular spot shape, e.g. square or annular}

#### **WARNING**

Group [A61B 2018/205545](#) is incomplete pending reclassification of documents from group [A61B 2018/2035](#).

Groups [A61B 2018/205545](#) and [A61B 2018/2035](#) should be considered in order to perform a complete search.

2018/205547 . . . {Controller with specific architecture or programmatic algorithm for directing scan path, spot size or shape, or spot intensity, fluence or irradiance}

#### **WARNING**

Group [A61B 2018/205547](#) is incomplete pending reclassification of documents from group [A61B 2018/2035](#).

Groups [A61B 2018/205547](#) and [A61B 2018/2035](#) should be considered in order to perform a complete search.

2018/206 . . . {the laser light passing along a liquid-filled conduit}

2018/2065 . . . {Multiwave; Wavelength mixing, e.g. using four or more wavelengths ([pilot laser A61B 2018/2025](#))}

2018/207 . . . {mixing two wavelengths}

2018/2075 . . . {mixing three wavelengths}

2018/208 . . . {with multiple treatment beams not sharing a common path, e.g. non-axial or parallel}



- 18/22 . . . the beam being directed along or through a flexible conduit, e.g. an optical fibre; {Couplings or} hand-pieces therefor

**WARNING**

Group [A61B 18/22](#) is impacted by reclassification into groups [A61B 18/22](#) and [A61B 2018/2247](#).

Groups [A61B 18/22](#) and [A61B 2018/2247](#) should be considered in order to perform a complete search.

- 2018/2205 . . . . {Characteristics of fibres}  
 2018/2211 . . . . {Plurality of fibres}  
 2018/2216 . . . . {Braided or helically wound}  
 2018/2222 . . . . {Fibre material or composition}  
 2018/2227 . . . . {Hollow fibres}  
 2018/2233 . . . . {Solid transparent for far infrared light}  
 2018/2238 . . . . {with means for selectively laterally deflecting the tip of the fibre}  
 2018/2244 . . . . {Features of optical fibre cables, e.g. claddings}  
 2018/2247 . . . . {Fibre breakage detection}

**WARNING**

Group [A61B 2018/2247](#) is incomplete pending reclassification of documents from group [A61B 18/22](#).  
 Groups [A61B 18/22](#) and [A61B 2018/2247](#) should be considered in order to perform a complete search.

- 2018/225 . . . . {Features of hand-pieces ([A61B 2018/2255](#) takes precedence)}

**WARNING**

Group [A61B 2018/225](#) is impacted by reclassification into group [A61B 2018/2253](#).  
 Groups [A61B 2018/225](#) and [A61B 2018/2253](#) should be considered in order to perform a complete search.

- 2018/2253 . . . . {characterised by additional functions, e.g. surface cooling or detecting pathological tissue}

**WARNING**

Group [A61B 2018/2253](#) is incomplete pending reclassification of documents from group [A61B 2018/225](#).  
 Groups [A61B 2018/2253](#) and [A61B 2018/225](#) should be considered in order to perform a complete search.

- 2018/2255 . . . . {Optical elements at the distal end of probe tips}

**WARNING**

Group [A61B 2018/2255](#) is impacted by reclassification into groups [A61B 2018/2285](#) and [A61B 2018/22853](#).  
 Groups [A61B 2018/2255](#), [A61B 2018/2285](#) and [A61B 2018/22853](#) should be considered in order to perform a complete search.

- 2018/2261 . . . . {with scattering, diffusion or dispersion of light}  
 2018/2266 . . . . {with a lens, e.g. ball tipped}  
 2018/2272 . . . . {with reflective or refractive surfaces for deflecting the beam ([A61B 2018/2261](#), [A61B 2018/2266](#) take precedence)}

- 2018/2277 . . . . {with refractive surfaces}  
 2018/2283 . . . . {with pivotable mirrors}  
 2018/2285 . . . . {with removable, replacable, or exchangeable tips}

**WARNING**

Group [A61B 2018/2285](#) is incomplete pending reclassification of documents from group [A61B 2018/2255](#).

Groups [A61B 2018/2285](#) and [A61B 2018/2255](#) should be considered in order to perform a complete search.

- 2018/22853 . . . . {Means to identify tip configuration}

**WARNING**

Group [A61B 2018/22853](#) is incomplete pending reclassification of documents from group [A61B 2018/2255](#).

Groups [A61B 2018/22853](#) and [A61B 2018/2255](#) should be considered in order to perform a complete search.

- 2018/2288 . . . . {the optical fibre cable having a curved distal end}  
 2018/2294 . . . . {with a diffraction grating}  
 18/24 . . . . with a catheter ([A61B 18/26](#), [A61B 18/28](#) take precedence)  
 18/245 . . . . {for removing obstructions in blood vessels or calculi}  
 18/26 . . . . for producing a shock wave, e.g. laser lithotripsy  
 2018/263 . . . . {the conversion of laser energy into mechanical shockwaves taking place in a liquid}  
 2018/266 . . . . {the conversion of laser energy into mechanical shockwaves taking place in a part of the probe}  
 18/28 . . . . for heating a thermal probe or absorber

**34/00 Computer-aided surgery; Manipulators or robots specially adapted for use in surgery**

- 34/10 . . . . Computer-aided planning, simulation or modelling of surgical operations  
 2034/101 . . . {Computer-aided simulation of surgical operations}  
 2034/102 . . . {Modelling of surgical devices, implants or prosthesis}  
 2034/104 . . . . {Modelling the effect of the tool, e.g. the effect of an implanted prosthesis or for predicting the effect of ablation or burring}  
 2034/105 . . . {Modelling of the patient, e.g. for ligaments or bones}  
 2034/107 . . . {Visualisation of planned trajectories or target regions}  
 2034/108 . . . {Computer aided selection or customisation of medical implants or cutting guides}

|           |   |           |   |
|-----------|---|-----------|---|
| 34/20     | . Surgical navigation systems; Devices for tracking or guiding surgical instruments, e.g. for frameless stereotaxis | 2034/742  | . . . {Joysticks}   |
| 2034/2046 | . . {Tracking techniques}   | 2034/743  | . . . {Keyboards}   |
| 2034/2048 | . . . {using an accelerometer or inertia sensor}  | 2034/744  | . . . {Mouse}   |
| 2034/2051 | . . . {Electromagnetic tracking systems}  | 34/75     | . . {Manipulators having means for prevention or compensation of hand tremors}  |
| 2034/2053 | . . . . {Tracking an applied voltage gradient}  | 34/76     | . . {Manipulators having means for providing feel, e.g. force or tactile feedback}  |
| 2034/2055 | . . . {Optical tracking systems}  | 34/77     | . . {Manipulators with motion or force scaling}   |
| 2034/2057 | . . . . {Details of tracking cameras}   | 42/00     | <b>Surgical gloves; Finger-stalls specially adapted for surgery; Devices for handling or treatment thereof</b>  |
| 2034/2059 | . . . {Mechanical position encoders}  |           | <b>WARNING</b>  |
| 2034/2061 | . . . {using shape-sensors, e.g. fiber shape sensors with Bragg gratings}   |           | Group <a href="#">A61B 42/00</a> is impacted by reclassification into group <a href="#">A61B 42/10</a> .  |
| 2034/2063 | . . . {Acoustic tracking systems, e.g. using ultrasound}  |           | Groups <a href="#">A61B 42/00</a> and <a href="#">A61B 42/10</a> should be considered in order to perform a complete search.  |
| 2034/2065 | . . . {Tracking using image or pattern recognition}   |           |   |
| 2034/2068 | . . {using pointers, e.g. pointers having reference marks for determining coordinates of body points}               | 42/10     | . Surgical gloves   |
| 2034/207  | . . . {Divots for calibration}  |           | <b>WARNING</b>  |
| 2034/2072 | . . {Reference field transducer attached to an instrument or patient}   |           | Group <a href="#">A61B 42/10</a> is incomplete pending reclassification of documents from group <a href="#">A61B 42/00</a> .  |
| 2034/2074 | . . {Interface software}  |           | Groups <a href="#">A61B 42/00</a> and <a href="#">A61B 42/10</a> should be considered in order to perform a complete search.  |
| 34/25     | . {User interfaces for surgical systems}  |           |   |
| 2034/252  | . . {indicating steps of a surgical procedure}  | 42/20     | . Finger-stalls specially adapted for surgery   |
| 2034/254  | . . {being adapted depending on the stage of the surgical procedure}  | 42/30     | . Devices for detecting perforations, leaks or tears  |
| 2034/256  | . . {having a database of accessory information, e.g. including context sensitive help or scientific articles}      | 42/40     | . Packages or dispensers  |
| 2034/258  | . . {providing specific settings for specific users}  | 42/50     | . Devices for putting-on or removing  |
| 34/30     | . Surgical robots   | 42/60     | . Devices for cleaning, washing, drying or powdering  |
| 2034/301  | . . {for introducing or steering flexible instruments inserted into the body, e.g. catheters or endoscopes}         | 46/00     | <b>Surgical drapes</b>  |
| 2034/302  | . . {specifically adapted for manipulations within body cavities, e.g. within abdominal or thoracic cavities}       | 46/10     | . specially adapted for instruments{, e.g. microscopes}   |
| 2034/303  | . . {specifically adapted for manipulations within body lumens, e.g. within lumen of gut, spine, or blood vessels}  | 46/13     | . . the drapes entering the patient's body  |
| 2034/304  | . . {including a freely orientable platform, e.g. so called 'Stewart platforms'}                                    | 46/17     | . . . closed at the distal end  |
| 2034/305  | . . {Details of wrist mechanisms at distal ends of robotic arms}  | 46/20     | . specially adapted for patients  |
| 2034/306  | . . . {Wrists with multiple vertebrae}  | 2046/201  | . . {for extremities, e.g. having collection pouch}   |
| 34/32     | . . operating autonomously  | 2046/205  | . . {Adhesive drapes}   |
| 34/35     | . . for telesurgery   | 46/23     | . . with means to retain or hold surgical implements  |
| 34/37     | . . Master-slave robots ( <a href="#">A61B 34/35</a> takes precedence)  | 2046/234  | . . . {with means for retaining a catheter}   |
| 34/70     | . {Manipulators specially adapted for use in surgery}   | 2046/236  | . . . {with means for collecting drain fluid, e.g. drain tubes}   |
| 34/71     | . . {Manipulators operated by drive cable mechanisms}   | 46/27     | . . tubular, e.g. for arms or legs ( <a href="#">A61B 46/13</a> takes precedence)   |
| 2034/715  | . . . {Cable tensioning mechanisms for removing slack}  | 46/30     | . {for surgery through the lower body openings, e.g. urology, gynaecology}  |
| 34/72     | . . {Micromanipulators}   | 46/40     | . {Drape material, e.g. laminates; Manufacture thereof}   |
| 34/73     | . . {Manipulators for magnetic surgery}   | 50/00     | <b>Containers, covers, furniture or holders specially adapted for surgical or diagnostic appliances or instruments, e.g. sterile covers (drapes specially adapted for instruments <a href="#">A61B 46/10</a>)</b> |
| 2034/731  | . . . {Arrangement of the coils or magnets}   | 2050/001  | . {Temperature-modifying means}   |
| 2034/732  | . . . . {arranged around the patient, e.g. in a gantry}   | 2050/0014 | . . {Cooling means}   |
| 2034/733  | . . . . {arranged only on one side of the patient, e.g. under a table}  | 2050/0016 | . . {Heating means}   |
| 34/74     | . . {Manipulators with manual electric input means}   | 2050/0017 | . . . {Chemical heating}  |
| 2034/741  | . . . {Glove like input devices, e.g. "data gloves"}  | 2050/0018 | . . . {Electric heating}  |
|           |   | 2050/002  | . {having adhesive means, e.g. an adhesive strip}   |
|           |   | 2050/005  | . {with a lid or cover}   |
|           |   | 2050/0051 | . . {closable by rotation}  |

- 2050/0052 . . . {of two concentric cylinders with corresponding lateral openings, about their common longitudinal axis}
- 2050/0053 . . . {of two concentric parallelepipeds about a common longitudinal axis}
- 2050/0054 . . . {about the central longitudinal axis perpendicular to the lid plane}
- 2050/0055 . . . {about a lateral axis perpendicular to the lid plane}
- 2050/0056 . . . {about a lateral axis in the lid plane}
- 2050/0057 . . . {about a transverse axis in the lid plane}
- 2050/0058 . . {closable by translation}
- 2050/0059 . . . {parallel to the lid plane}
- 2050/006 . . . {perpendicular to the lid plane, e.g. by a downward movement}
- 2050/0061 . . . . {the height of the lid being adjustable with respect to the casing sidewalls}
- 2050/0062 . . {closable by a combination of rotation and translation}
- 2050/0063 . . . {Bayonet coupling}
- 2050/0064 . . . {by screwing}
- 2050/0065 . . {Peelable cover}
- 2050/0066 . . {with additional sealing means, e.g. O-ring}
- 2050/0067 . . {Types of closures or fasteners}
- 2050/0068 . . . {Cooperating dimples}
- 2050/0069 . . . {Press-buttons}
- 2050/007 . . . {Locking clamps}
- 2050/0071 . . . {Draw-strings}
- 2050/0072 . . . {Plugs, e.g. rubber plugs}
- 2050/0073 . . . {Ties}
- 2050/0074 . . . {Toggle latches or clamps}
- 2050/0075 . . . {Swingable wire bails or handles}
- 2050/0076 . . . {having additional locking means}
- 2050/0078 . . . {having additional unlocking means}
- 2050/0079 . . . {Magnetic closures}
- 2050/008 . . . {Pegs inserted, e.g. forced, into openings}
- 2050/0081 . . . {Pins cooperating with slots of a slideable locking bar}
- 2050/0082 . . . {Rib-and-groove connection}
- 2050/0083 . . . {Snap connection}
- 2050/0084 . . . {Tabs inserted into slots}
- 2050/0085 . . . {Hook and loop}
- 2050/0086 . . . {closed by or under vacuum}
- 2050/0087 . . . {closed in two steps}
- 2050/0088 . . . {Zip}
- 2050/0089 . . {having permanent closure means}
- 2050/009 . . . {having additional means for temporarily preventing said permanent closure}
- 50/10 . Furniture specially adapted for surgical or diagnostic appliances or instruments
- 2050/105 . . {Cabinets}
- 50/13 . . Trolleys{, e.g. carts}
- 50/15 . . Mayo stands; Tables
- 2050/155 . . . {Mayo stands}
- 50/18 . . Cupboards; Drawers therefor
- 2050/185 . . . {Drawers}
- 50/20 . Holders specially adapted for surgical or diagnostic appliances or instruments ([drapes with means to hold surgical instruments A61B 46/23](#); for catheters [A61M 25/02](#))
- 2050/21 . . {Magnetic holders}
- 50/22 . . Racks
- 50/24 . . Stands ([Mayo stands A61B 50/15](#))
- WARNING**  
Group [A61B 50/24](#) is impacted by reclassification into groups [A61B 50/26](#) and [A61B 50/28](#).  
Groups [A61B 50/24](#), [A61B 50/26](#) and [A61B 50/28](#) should be considered in order to perform a complete search.
- 50/26 . . . floor-based
- WARNING**  
Group [A61B 50/26](#) is incomplete pending reclassification of documents from group [A61B 50/24](#).  
Groups [A61B 50/24](#), [A61B 50/26](#) and [A61B 50/28](#) should be considered in order to perform a complete search.
- 50/28 . . . suspended from the ceiling
- WARNING**  
Group [A61B 50/28](#) is incomplete pending reclassification of documents from group [A61B 50/24](#).  
Groups [A61B 50/24](#), [A61B 50/26](#) and [A61B 50/28](#) should be considered in order to perform a complete search.
- 50/30 . Containers specially adapted for packaging, protecting, dispensing, collecting or disposing of surgical or diagnostic appliances or instruments ([for wound clamps A61B 17/10](#); for ligaturing clips [A61B 17/122](#); packages or dispensers for surgical gloves or finger-stalls [A61B 42/40](#))
- 50/3001 . . {for sharps}
- 2050/3002 . . . {including foam blocks for retaining sharps}
- 2050/3004 . . {containing desiccant means, e.g. desiccant pouches}
- 2050/3005 . . {containing a preservative liquid, e.g. an antiseptic liquid}
- 2050/3006 . . {Nested casings}
- 2050/3007 . . {Stackable casings}
- 2050/3008 . . {having multiple compartments}
- 2050/3009 . . {having means for connecting similar adjacent containers}
- 2050/301 . . {carried on the medical practitioner's clothing or back}
- 2050/3011 . . {having carrying handles}
- 2050/3012 . . . {Wrist hangers}
- 2050/3013 . . {having means for automatically ejecting the stored article}
- 2050/3014 . . {waterproof}
- 2050/3015 . . {transparent}
- 50/31 . . Carrying cases or bags, e.g. doctors' bags
- 2050/311 . . . {Cases}
- 50/312 . . . {Doctors' or nurses' bags}
- 2050/314 . . {Flexible bags or pouches}
- 2050/316 . . . {double- or multiple-walled}
- 2050/318 . . . {Multi-pouches, e.g. strips of side-by-side pouches}
- 50/33 . . Trays
- 50/34 . . Baskets
- 50/36 . . for collecting or disposing of used articles

- 50/362 . . . {for sharps}
- 2050/364 . . . . {having additional means for destroying used sharps}
- 50/37 . . . for absorbent articles, e.g. bandages, garments, swabs or towels
- 2050/375 . . . . {for sponges}
- 50/39 . . . the containers containing antimicrobial, antiviral or disinfectant agents
- 90/00 Instruments, implements or accessories specially adapted for surgery or diagnosis and not covered by any of the groups [A61B 1/00](#) - [A61B 50/00](#), e.g. for luxation treatment or for protecting wound edges (protective face masks [A41D 13/11](#); surgeon's or patient's gowns or dresses [A41D 13/12](#); devices for carrying-off, for treatment of, or for carrying-over, body liquids [A61M 1/00](#))**
- 90/02 . {Devices for expanding tissue, e.g. skin tissue (implements for holding wounds open, surgical tractors [A61B 17/02](#); implantable mammary prosthesis [A61F 2/12](#); dilators [A61M 29/00](#))}
- 90/03 . {Automatic limiting or abutting means, e.g. for safety}
- 2090/031 . . {torque limiting}
- 2090/032 . . {pressure limiting, e.g. hydrostatic}
- 2090/033 . . {Abutting means, stops, e.g. abutting on tissue or skin}
- 2090/034 . . . {abutting on parts of the device itself}
- 2090/035 . . . . {preventing further rotation}
- 2090/036 . . . {abutting on tissue or skin}
- 2090/037 . . {with a frangible part, e.g. by reduced diameter}
- 2090/038 . . {during shipment}
- 90/04 . {Protection of tissue around surgical sites against effects of non-mechanical surgery, e.g. laser surgery (protection of eyes against laser radiation [A61F 9/022](#))}
- 2090/0409 . . {Specification of type of protection measures}
- 2090/0418 . . . {Compensation}
- 2090/0427 . . . {Prevention of contact}
- 2090/0436 . . . {Shielding}
- 2090/0445 . . . . {by absorption}
- 2090/0454 . . . . {by reflection}
- 2090/0463 . . {against cooling or freezing}
- 2090/0472 . . {against ultrasound energy}
- 2090/0481 . . {against EM radiation, e.g. microwave}
- 2090/049 . . {against light, e.g. laser}
- 90/05 . {Splash shields for protection of the surgeon, e.g. splash guards connected to the apparatus ([A41D 13/11](#) takes precedence)}
- 90/06 . {Measuring instruments not otherwise provided for}
- 2090/061 . . {for measuring dimensions, e.g. length}
- 2090/062 . . {penetration depth}
- 2090/063 . . {for measuring volume}
- 2090/064 . . {for measuring force, pressure or mechanical tension}
- 2090/065 . . . {for measuring contact or contact pressure}
- 2090/066 . . . {for measuring torque}
- 2090/067 . . {for measuring angles}
- 2090/068 . . . {with a bubble level}
- 2090/069 . . . {using a plummet or weight}
- 90/08 . {Accessories or related features not otherwise provided for}
- 2090/0801 . . {Prevention of accidental cutting or pricking}
- 2090/08021 . . . {of the patient or his organs}
- 2090/0803 . . {Counting the number of times an instrument is used}
- 2090/0804 . . {Counting number of instruments used; Instrument detectors}
- 2090/0805 . . . {automatically, e.g. by means of magnetic, optical or photoelectric detectors}
- 2090/0806 . . . {Instrument detectors with a removable part, e.g. working tip}
- 2090/0807 . . {Indication means}
- 2090/0808 . . . {for indicating correct assembly of components, e.g. of the surgical apparatus}
- 2090/0809 . . . {Indication of cracks or breakages}
- 2090/081 . . . {for contamination or dirt}
- 2090/0811 . . . {for the position of a particular part of an instrument with respect to the rest of the instrument, e.g. position of the anvil of a stapling instrument}
- 2090/0812 . . . . {indicating loosening or shifting of parts of an instrument, signaling maladjustment of parts}
- 2090/0813 . . {Accessories designed for easy sterilising, i.e. re-usable}
- 2090/0814 . . {Preventing re-use}
- 2090/0815 . . {Implantable devices for insertion in between organs or other soft tissues}
- 2090/0816 . . . {for preventing adhesion}
- 2090/0817 . . {Spatulas or spatula like extensions}
- 2090/0818 . . {Redundant systems, e.g. using two independent measuring systems and comparing the signals}
- 90/10 . for stereotaxic surgery, e.g. frame-based stereotaxis
- 2090/101 . . {for stereotaxic radiosurgery}
- 2090/103 . . {Cranial plugs for access to brain}
- 90/11 . . with guides for needles or instruments, e.g. arcuate slides or ball joints
- 90/13 . . . guided by light, e.g. laser pointers
- 90/14 . . Fixators for body parts, e.g. skull clamps; Constructional details of fixators, e.g. pins
- 90/16 . . . Bite blocks
- 90/17 . . . for soft tissue, e.g. breast-holding devices
- 90/18 . . . Retaining sheets, e.g. immobilising masks {made from a thermoplastic material}
- 90/20 . Surgical microscopes characterised by non-optical aspects
- WARNING**  
Group [A61B 90/20](#) is impacted by reclassification into group [A61B 90/25](#).  
Groups [A61B 90/20](#) and [A61B 90/25](#) should be considered in order to perform a complete search.
- 90/25 . . Supports therefor
- WARNING**  
Group [A61B 90/25](#) is incomplete pending reclassification of documents from group [A61B 90/20](#).  
Groups [A61B 90/20](#) and [A61B 90/25](#) should be considered in order to perform a complete search.



|   |  |   |
|---|--|---|
| 90/30   | <ul style="list-style-type: none"> <li>Devices for illuminating a surgical field, the devices having an interrelation with other surgical devices or with a surgical procedure</li> </ul> <p><b>WARNING</b></p> <p>Group <a href="#">A61B 90/30</a> is impacted by reclassification into group <a href="#">A61B 90/35</a>.</p> <p>Groups <a href="#">A61B 90/30</a> and <a href="#">A61B 90/35</a> should be considered in order to perform a complete search.</p> | <ul style="list-style-type: none"> <li><a href="#">2090/3904</a> . . {specially adapted for marking specified tissue}</li> <li><a href="#">2090/3908</a> . . . {Soft tissue, e.g. breast tissue}</li> <li><a href="#">2090/3912</a> . . . {Body cavities}</li> <li><a href="#">2090/3916</a> . . . {Bone tissue}</li> <li><a href="#">2090/392</a> . . {Radioactive markers}</li> <li><a href="#">2090/3925</a> . . {ultrasonic}</li> <li><a href="#">2090/3929</a> . . . {Active markers}</li> <li><a href="#">2090/3933</a> . . {Liquid markers}</li> <li><a href="#">2090/3937</a> . . {Visible markers}</li> <li><a href="#">2090/3941</a> . . . {Photoluminescent markers}</li> <li><a href="#">2090/3945</a> . . . {Active visible markers, e.g. light emitting diodes}</li> <li><a href="#">2090/395</a> . . . {with marking agent for marking skin or other tissue}</li> <li><a href="#">2090/3954</a> . . {magnetic, e.g. NMR or MRI}</li> <li><a href="#">2090/3958</a> . . . {emitting a signal}</li> <li><a href="#">2090/3962</a> . . {palpable}</li> <li><a href="#">2090/3966</a> . . {Radiopaque markers visible in an X-ray image}</li> <li><a href="#">2090/397</a> . . {electromagnetic other than visible, e.g. microwave}</li> <li><a href="#">2090/3975</a> . . . {active}</li> <li><a href="#">2090/3979</a> . . . . {infrared}</li> <li><a href="#">2090/3983</a> . . {Reference marker arrangements for use with image guided surgery}</li> <li><a href="#">2090/3987</a> . . {Applicators for implanting markers}</li> <li><a href="#">2090/3991</a> . . {having specific anchoring means to fixate the marker to the tissue, e.g. hooks}</li> <li><a href="#">2090/3995</a> . . {Multi-modality markers}</li> </ul>  |
| <ul style="list-style-type: none"> <li><a href="#">2090/304</a> . . {using chemi-luminescent materials}</li> <li><a href="#">2090/306</a> . . {using optical fibres}</li> <li><a href="#">2090/308</a> . . {Lamp handles}</li> <li><a href="#">2090/309</a> . . {using white LEDs}</li> <li><a href="#">90/35</a> . . Supports therefor</li> </ul> <p><b>WARNING</b></p> <p>Group <a href="#">A61B 90/35</a> is incomplete pending reclassification of documents from group <a href="#">A61B 90/30</a>.</p> <p>Groups <a href="#">A61B 90/30</a> and <a href="#">A61B 90/35</a> should be considered in order to perform a complete search.</p>   |  | <ul style="list-style-type: none"> <li><a href="#">2090/397</a> . . {electromagnetic other than visible, e.g. microwave}</li> <li><a href="#">2090/3975</a> . . . {active}</li> <li><a href="#">2090/3979</a> . . . . {infrared}</li> <li><a href="#">2090/3983</a> . . {Reference marker arrangements for use with image guided surgery}</li> <li><a href="#">2090/3987</a> . . {Applicators for implanting markers}</li> <li><a href="#">2090/3991</a> . . {having specific anchoring means to fixate the marker to the tissue, e.g. hooks}</li> <li><a href="#">2090/3995</a> . . {Multi-modality markers}</li> </ul>  |
| <ul style="list-style-type: none"> <li><a href="#">90/36</a> . {Image-producing devices or illumination devices not otherwise provided for}</li> <li><a href="#">90/361</a> . . {Image-producing devices, e.g. surgical cameras}</li> <li><a href="#">2090/3612</a> . . . {with images taken automatically}</li> <li><a href="#">2090/3614</a> . . . {using optical fibre}</li> <li><a href="#">2090/3616</a> . . . {Magnifying glass}</li> <li><a href="#">2090/3618</a> . . . {with a mirror}</li> <li><a href="#">2090/363</a> . . {Use of fiducial points}</li> <li><a href="#">2090/364</a> . . {Correlation of different images or relation of image positions in respect to the body}</li> <li><a href="#">2090/365</a> . . . {augmented reality, i.e. correlating a live optical image with another image}</li> <li><a href="#">2090/366</a> . . . {using projection of images directly onto the body}</li> <li><a href="#">2090/367</a> . . . {creating a 3D dataset from 2D images using position information}</li> <li><a href="#">2090/368</a> . . . {changing the image on a display according to the operator's position}</li> <li><a href="#">90/37</a> . . {Surgical systems with images on a monitor during operation}</li> <li><a href="#">2090/371</a> . . . {with simultaneous use of two cameras}</li> <li><a href="#">2090/372</a> . . . {Details of monitor hardware}</li> <li><a href="#">2090/373</a> . . . {using light, e.g. by using optical scanners}</li> <li><a href="#">2090/3735</a> . . . . {Optical coherence tomography [OCT]}</li> <li><a href="#">2090/374</a> . . . {NMR or MRI}</li> <li><a href="#">2090/376</a> . . . {using X-rays, e.g. fluoroscopy}</li> <li><a href="#">2090/3762</a> . . . . {using computed tomography systems [CT]}</li> <li><a href="#">2090/3764</a> . . . . . {with a rotating C-arm having a cone beam emitting source}</li> <li><a href="#">2090/378</a> . . . {using ultrasound}</li> <li><a href="#">2090/3782</a> . . . . {transmitter or receiver in catheter or minimal invasive instrument}</li> <li><a href="#">2090/3784</a> . . . . . {both receiver and transmitter being in the instrument or receiver being also transmitter}</li> <li><a href="#">2090/3786</a> . . . . . {receiver only}</li> <li><a href="#">2090/3788</a> . . . . . {transmitter only}</li> <li><a href="#">90/39</a> . {Markers, e.g. radio-opaque or breast lesions markers}</li> </ul> |  | <ul style="list-style-type: none"> <li><a href="#">2090/397</a> . . {electromagnetic other than visible, e.g. microwave}</li> <li><a href="#">2090/3975</a> . . . {active}</li> <li><a href="#">2090/3979</a> . . . . {infrared}</li> <li><a href="#">2090/3983</a> . . {Reference marker arrangements for use with image guided surgery}</li> <li><a href="#">2090/3987</a> . . {Applicators for implanting markers}</li> <li><a href="#">2090/3991</a> . . {having specific anchoring means to fixate the marker to the tissue, e.g. hooks}</li> <li><a href="#">2090/3995</a> . . {Multi-modality markers}</li> <li><a href="#">90/40</a> . Apparatus fixed or close to patients specially adapted for providing an aseptic surgical environment</li> <li><a href="#">2090/401</a> . . {using air flow}</li> <li><a href="#">90/50</a> . Supports for surgical instruments, e.g. articulated arms</li> <li><a href="#">2090/502</a> . . {Headgear, e.g. helmet, spectacles}</li> <li><a href="#">2090/5025</a> . . {with a counter-balancing mechanism}</li> <li><a href="#">2090/504</a> . . . {with a counterweight}</li> <li><a href="#">2090/506</a> . . {using a parallelogram linkage, e.g. pantograph}</li> <li><a href="#">2090/508</a> . . {with releasable brake mechanisms}</li> <li><a href="#">90/53</a> . . connected to the surgeon's body, e.g. by a belt</li> <li><a href="#">90/57</a> . . Accessory clamps</li> <li><a href="#">2090/571</a> . . . {for clamping a support arm to a bed or other supports}</li> <li><a href="#">90/60</a> . Supports for surgeons, e.g. chairs or hand supports (seats for dentists or surgeons associated with dental chairs or operating chairs <a href="#">A61G 15/00</a>)</li> <li><a href="#">90/70</a> . Cleaning devices specially adapted for surgical instruments</li> <li><a href="#">2090/701</a> . . {for flexible tubular instruments, e.g. endoscopes}</li> <li><a href="#">2090/702</a> . . {Devices for testing the cleaning process, e.g. test soils}</li> <li><a href="#">90/80</a> . Implements for cleaning or washing the skin of surgeons or patients</li> <li><a href="#">90/90</a> . Identification means for patients or instruments, e.g. tags</li> <li><a href="#">90/92</a> . . coded with colour</li> <li><a href="#">90/94</a> . . coded with symbols, e.g. text</li> <li><a href="#">90/96</a> . . . using barcodes</li> <li><a href="#">90/98</a> . . using electromagnetic means, e.g. transponders</li> </ul> |

- 2217/00 General characteristics of surgical instruments**
- 2217/002 . Auxiliary appliance
  - 2217/005 . . with suction drainage system
  - 2217/007 . . with irrigation system

#### **Diagnosis; Psycho-physical tests**

**2218/00 Details of surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body**

- 2218/001 . having means for irrigation and/or aspiration of substances to and/or from the surgical site ([A61B 2018/00029](#) and [A61B 2018/1472](#) take precedence)
- 2218/002 . . Irrigation
- 2218/003 . . . using a spray or a foam
- 2218/005 . . . using gas or vapor, e.g. for protection or purging
- 2218/006 . . . for smoke evacuation
- 2218/007 . . Aspiration
- 2218/008 . . . for smoke evacuation

**2503/00 Evaluating a particular growth phase or type of persons or animals**

- 2503/02 . Foetus
- 2503/04 . Babies, e.g. for SIDS detection
- 2503/045 . . Newborns, e.g. premature baby monitoring
- 2503/06 . Children, e.g. for attention deficit diagnosis
- 2503/08 . Elderly
- 2503/10 . Athletes
- 2503/12 . Healthy persons not otherwise provided for, e.g. subjects of a marketing survey
- 2503/20 . Workers
- 2503/22 . . Motor vehicles operators, e.g. drivers, pilots, captains
- 2503/24 . . Computer workstation operators
- 2503/40 . Animals
- 2503/42 . for laboratory research

**2505/00 Evaluating, monitoring or diagnosing in the context of a particular type of medical care**

- 2505/01 . Emergency care
- 2505/03 . Intensive care
- 2505/05 . Surgical care
- 2505/07 . Home care
- 2505/09 . Rehabilitation or training

**2560/00 Constructional details of operational features of apparatus; Accessories for medical measuring apparatus**

- 2560/02 . Operational features
- 2560/0204 . . of power management
- 2560/0209 . . . adapted for power saving
- 2560/0214 . . . of power generation or supply
- 2560/0219 . . . . of externally powered implanted units
- 2560/0223 . . of calibration, e.g. protocols for calibrating sensors
- 2560/0228 . . . using calibration standards
- 2560/0233 . . . . Optical standards
- 2560/0238 . . . Means for recording calibration data
- 2560/0242 . . adapted to measure environmental factors, e.g. temperature, pollution
- 2560/0247 . . . for compensation or correction of the measured physiological value
- 2560/0252 . . . . using ambient temperature

- 2560/0257 . . . . using atmospheric pressure
- 2560/0261 . . . . using hydrostatic pressure
- 2560/0266 . . for monitoring or limiting apparatus function
- 2560/0271 . . . using a remote monitoring unit
- 2560/0276 . . . Determining malfunction
- 2560/028 . . . Arrangements to prevent overuse, e.g. by counting the number of uses

- 2560/0285 . . . . Apparatus for single use
- 2560/029 . . adapted for auto-initiation
- 2560/0295 . . adapted for recording user messages or annotations

- 2560/04 . Constructional details of apparatus
- 2560/0406 . . specially shaped apparatus housings
- 2560/0412 . . . Low-profile patch shaped housings
- 2560/0418 . . . Pen-shaped housings
- 2560/0425 . . . Ergonomically shaped housings ([A61B 2560/0418](#) takes precedence)

- 2560/0431 . . Portable apparatus, e.g. comprising a handle or case

- 2560/0437 . . Trolley or cart-type apparatus
- 2560/0443 . . Modular apparatus
- 2560/045 . . . with a separable interface unit, e.g. for communication

- 2560/0456 . . Apparatus provided with a docking unit
- 2560/0462 . . Apparatus with built-in sensors
- 2560/0468 . . . Built-in electrodes
- 2560/0475 . . Special features of memory means, e.g. removable memory cards

- 2560/0481 . . . in implanted apparatus
- 2560/0487 . . Special user inputs or interfaces
- 2560/0493 . . . controlled by voice

- 2560/06 . Accessories for medical measuring apparatus
- 2560/063 . . Devices specially adapted for delivering implantable medical measuring apparatus
- 2560/066 . . . catheters therefor

**2562/00 Details of sensors; Constructional details of sensor housings or probes; Accessories for sensors**

- 2562/02 . Details of sensors specially adapted for in-vivo measurements

- 2562/0204 . . Acoustic sensors
- 2562/0209 . . Special features of electrodes classified in [A61B 5/04001](#), [A61B 5/0408](#), [A61B 5/042](#), [A61B 5/0478](#), [A61B 5/0492](#) or [A61B 5/053](#)

#### **WARNING**

Group [A61B 2562/0209](#) is impacted by reclassification into groups [A61B 2562/0215](#) and [A61B 2562/0217](#).

Groups [A61B 2562/0209](#), [A61B 2562/0215](#), and [A61B 2562/0217](#) should be considered in order to perform a complete search.

- 2562/0214 . . . Capacitive electrodes
- 2562/0215 . . . Silver or silver chloride containing

#### **WARNING**

Group [A61B 2562/0215](#) is incomplete pending reclassification of documents from group [A61B 2562/0209](#).

Groups [A61B 2562/0209](#) and [A61B 2562/0215](#) should be considered in order to perform a complete search.

2562/0217 . . . Electrolyte containing

### **WARNING**

Group [A61B 2562/0217](#) is incomplete pending reclassification of documents from group [A61B 2562/0209](#).

Groups [A61B 2562/0209](#) and [A61B 2562/0217](#) should be considered in order to perform a complete search.

2562/0219 . . . Inertial sensors, e.g. accelerometers, gyroscopes, tilt switches

2562/0223 . . . Magnetic field sensors

2562/0228 . . . Microwave sensors

2562/0233 . . . Special features of optical sensors or probes classified in [A61B 5/00](#)

2562/0238 . . . Optical sensor arrangements for performing transmission measurements on body tissue

2562/0242 . . . for varying or adjusting the optical path length in the tissue

2562/0247 . . . Pressure sensors

2562/0252 . . . Load cells

2562/0257 . . . Proximity sensors

2562/0261 . . . Strain gauges

2562/0266 . . . Optical strain gauges

2562/0271 . . . Thermal or temperature sensors

2562/0276 . . . comprising a thermosensitive compound

2562/028 . . . Microscale sensors, e.g. electromechanical sensors [MEMS]

2562/0285 . . . Nanoscale sensors

2562/029 . . . Humidity sensors

2562/0295 . . . Strip shaped analyte sensors for apparatus classified in [A61B 5/145](#) or [A61B 5/157](#) (disposable multilayered or laminated electrodes [G01N 27/307](#); details of handling chemical test elements [G01N 33/4875](#))

2562/04 . . . Arrangements of multiple sensors of the same type

2562/043 . . . in a linear array

2562/046 . . . in a matrix array

2562/06 . . . Arrangements of multiple sensors of different types

2562/063 . . . in a linear array

2562/066 . . . in a matrix array

2562/08 . . . Sensors provided with means for identification, e.g. barcodes or memory chips

2562/085 . . . combined with means for recording calibration data

2562/12 . . . Manufacturing methods specially adapted for producing sensors for in-vivo measurements

2562/125 . . . characterised by the manufacture of electrodes

2562/14 . . . Coupling media or elements to improve sensor contact with skin or tissue

2562/143 . . . for coupling microwaves

2562/146 . . . for optical coupling

2562/16 . . . Details of sensor housings or probes; Details of structural supports for sensors ([A61B 2560/0462](#) takes precedence)

### **WARNING**

Group [A61B 2562/16](#) is impacted by reclassification into group [A61B 2562/17](#).

Groups [A61B 2562/16](#) and [A61B 2562/17](#) should be considered in order to perform a complete search.

2562/162 . . . Capsule shaped sensor housings, e.g. for swallowing or implantation

2562/164 . . . the sensor is mounted in or on a conformable substrate or carrier

2562/166 . . . the sensor is mounted on a specially adapted printed circuit board

2562/168 . . . Fluid filled sensor housings

2562/17 . . . Comprising radiolucent components

### **WARNING**

Group [A61B 2562/17](#) is incomplete pending reclassification of documents from group [A61B 2562/16](#).

Groups [A61B 2562/16](#) and [A61B 2562/17](#) should be considered in order to perform a complete search.

2562/18 . . . Shielding or protection of sensors from environmental influences, e.g. protection from mechanical damage

2562/182 . . . Electrical shielding, e.g. using a Faraday cage

2562/185 . . . Optical shielding, e.g. baffles

2562/187 . . . Strain relief means

2562/22 . . . Arrangements of medical sensors with cables or leads; Connectors or couplings specifically adapted for medical sensors

2562/221 . . . Arrangements of sensors with cables or leads, e.g. cable harnesses

2562/222 . . . Electrical cables or leads therefor, e.g. coaxial cables or ribbon cables

2562/223 . . . Optical cables therefor

2562/224 . . . Cables for conducting fluids therefor

2562/225 . . . Connectors or couplings

2562/226 . . . comprising means for identifying the connector, e.g. to prevent incorrect connection to socket

2562/227 . . . Sensors with electrical connectors

2562/228 . . . Sensors with optical connectors

2562/24 . . . Hygienic packaging for medical sensors; Maintaining apparatus for sensor hygiene

2562/242 . . . Packaging, i.e. for packaging the sensor or apparatus before use

2562/245 . . . Means for cleaning the sensor in-situ or during use, e.g. hygienic wipes

2562/247 . . . Hygienic covers, i.e. for covering the sensor or apparatus during use

**2576/00 Medical imaging apparatus involving image processing or analysis ([A61B 1/00009](#), [A61B 6/52](#) and [A61B 8/52](#) take precedence; image processing per se [G06T](#); details of algorithms for analysing medical images [G06T 7/0012](#))**

2576/02 . . . specially adapted for a particular organ or body part

2576/023 . . . for the heart

2576/026 . . . for the brain