COOPERATIVE PATENT CLASSIFICATION

G PHYSICS
(NOTES omitted)

INSTRUMENTS

G01 MEASURING; TESTING
(NOTES omitted)

G01B MEASURING LENGTH, THICKNESS OR SIMILAR LINEAR DIMENSIONS; MEASURING ANGLES; MEASURING AREAS; MEASURING IRREGULARITIES OF SURFACES OR CONTOURS {(measuring human body, see the relevant places, where such exist, e.g. A41H 1/00, A43D 1/02, A61B 5/103; measuring appliances combined with walking-sticks A45B 3/08; sorting according to dimensions B07; tool-setting or drawing instruments not specially modified for measuring B23B 49/00, B23Q 15/00 - B23Q 17/00, B43L; combinations of measuring devices with writing-appliances B43K 29/08; geodetical, nautical or aeronautical measuring, surveying, rangefinding G01C; photogrammetry G01C 11/00; measuring force or stress, in general G01L 1/00; investigating or analysing particle size, investigating or analysing surface area of porous material G01N; measuring position, distance or direction, in general, by reception or emission of radio waves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation G01S; geophysical measuring G01V; measuring length or roll diameter of film in cameras or projectors G03B 1/60; combinations of measuring devices with means for controlling or regulating G05; methods or arrangements for converting the position of a manually-operated writing or tracing member into an electrical signal G06K 11/00; measuring elapsed travel of recording medium in recording and playback equipment, sensing diameter of record in autochange gramophones G11B; means structurally associated with electric rotary current collectors for indicating brush wear H01R 39/58; indicating consumption of electrodes in arc lamps H05B 31/34)}

NOTES
1. This subclass covers measuring of position or displacement in terms of linear or angular dimensions.
2. In this subclass, the groups are distinguished by the means of measurement which is of major importance. Thus the mere application of other means for giving a final indication does not affect the classification.
3. Attention is drawn to the Notes following the title of class G01.
4. Machines operated on similar principles to the hand-held devices specified in this subclass are classified with these devices.
5. Measuring arrangements or details thereof covered by two or more of groups G01B 3/00 - G01B 17/00 are classified in group G01B 21/00 if no single other group can be selected as being predominantly applicable.

WARNING
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.

1/00 Measuring instruments characterised by the selection of material therefor
3/00 Instruments as specified in the subgroups and characterised by the use of mechanical measuring means (arrangements for measuring particular parameters G01B 5/00; devices of general interest specially adapted or mounted for storing and repeatedly paying-out and re-storing lengths of material B65H 75/34)
3/002 [Details]
3/004 . . [Scales; Graduations]
3/006 . . . [having both coarse and fine graduation]
3/008 . . [Arrangements for controlling the measuring force]
3/02 . . Rulers with scales or marks for direct reading (measuring tapes G01B 3/10)
3/04 . . rigid
3/06 . . folding
3/08 . . extensible
3/10 . . Measuring tapes
3/1003 . . . characterised by structure or material; characterised by layout or indicia
3/1004 . . . . [Measuring tapes without casings]
G01B

3/1005 . . Means for controlling winding or unwinding of tapes
3/1007 . . Means for locking
2003/101 . . . [acting on the drum]
2003/1012 . . . [engaging the tape in a direction parallel to the tape itself]
2003/1015 . . . [engaging the tape in a direction transversal to the tape itself]
2003/1017 . . . [acting on the whole coil]
3/102 . . Means for damping
2003/1023 . . . [Winding mechanisms]
2003/1025 . . . [operated manually, e.g. crank-handles]
2003/1028 . . . [operated by electric motors]
2003/103 . . . [operated by springs]
2003/1033 . . . [Means for activating the locking, braking or releasing of the tape, e.g. buttons]
2003/1035 . . . [by pivotal operation]
2003/1038 . . . [by transulatory motion operation]
3/1041 . . . characterised by casings
3/1043 . . . Details of internal structure thereof, e.g. means for coupling separately moulded casing halves
3/1046 . . . Details of external structure thereof, e.g. shapes for ensuring firmer hold
3/1048 . . . Integrated means for affixing or holding
2003/1051 . . . [specially adapted for two or more tapes within the same casing]
2003/1053 . . . [Tape exit slots, e.g. shape or exit direction]
3/1056 . . . Tape end arrangements, e.g. end-hooks
2003/1058 . . . [Manufacturing or assembling methods]
3/1061 . . . Means for displaying or assisting reading of length measurement
2003/1064 . . . [Windows, e.g. lenses, glasses or cross-hairs]
2003/1066 . . . [Index sliding on tape]
3/1069 . . . Electronic or mechanical display arrangements
3/1071 . . . Separate means for supporting or affixing measuring tapes
2003/1074 . . . [associated with the casings]
2003/1076 . . . [associated with the end-hooks]
2003/1079 . . . [associated with the tapes]
3/1084 . . . Tapes combined with arrangements for functions other than measuring lengths
2003/1087 . . . [for illuminating]
3/1089 . . . for marking, drawing or cutting
3/1092 . . . for performing length measurements and at least one other measurement of a different nature, e.g. bubble-type level
3/1094 . . . for recording information or for performing calculations
2003/1097 . . . [Tape measures with an adhesive surface]
3/11 . . Chains for measuring length
3/12 . . Measuring wheels
3/14 . . Templates for checking contours { (templates for mounting doors or windows G04F 21/0007) }
3/16 . . Compasses, i.e. with a pair of pivoted arms
3/163 . . . [without measuring scale]
3/166 . . . [provided with a measuring scale]
3/18 . . Micrometers
3/20 . . Slide gauges
3/205 . . . [provided with a counter for digital indication of the measured dimension]
3/22 . . . Feeler-pin gauges, e.g. dial gauges (for determining profiles G01B 5/20)
3/24 . . . with open yoke, i.e. calipers
3/26 . . . Plugs gauges
3/28 . . . Depth gauges
3/30 . . Bars, blocks, or strips in which the distance between a pair of faces is fixed, although it may be preadjustable, e.g. end measure, feeler strip
3/303 . . . [pre-adjustable, e.g. by means of micrometerscrew]
3/306 . . . [with inclined slide plane]
3/32 . . Holders therefor
3/34 . . . Ring or other apertured gauges, e.g. "go/no-go" gauge
3/36 . . . for external screw-threads
3/38 . . . Gauges with an open yoke and opposed faces, i.e. calipers, in which the internal distance between the faces is fixed, although it may be preadjustable
3/40 . . . for external screw-threads
3/42 . . . of limit-gauge type, i.e. "go/no-go" (G01B 3/40 takes precedence)
3/44 . . . preadjustable for wear or tolerance
3/46 . . . Plug gauges for internal dimensions with engaging surfaces which are at a fixed distance, although they may be preadjustable
3/48 . . . for internal screw-threads
3/50 . . . of limit-gauge type, i.e. "go/no-go" (G01B 3/48 takes precedence)
3/52 . . . preadjustable for wear or tolerance
3/56 . . . Gauges for measuring angles or tapers, e.g. conical calipers
3/563 . . . [Protractors (for use in geodesy G01C 1/00; protractor heads for drawing machines B43L 13/08)]
3/566 . . . [Squares]
5/00 Measuring arrangements characterised by the use of mechanical means (instruments of the types covered by group G01B 3/00 per se G01B 3/00)
5/0002 . . . [Arrangements for supporting, fixing or guiding the measuring instrument or the object to be measured]
5/0004 . . . [Supports (in general F16M; G01B 5/025 takes precedence)]
5/0007 . . . [Surface plates]
5/0009 . . . [Guiding surfaces; Arrangements compensating for non-linearity there-of]
5/0011 . . . [Arrangements for eliminating or compensation of measuring errors due to temperature or weight]
5/0014 . . . [due to temperature (on machine tools B23Q 11/0003)]
5/0016 . . . [due to weight (on machine tools B23Q 11/001)]
5/0018 . . . [for measuring key-ways]
5/0021 . . . [for measuring the volumetric dimension of an object]
5/0023 . . . [Measuring of sport goods, e.g. bowling accessories, golfclubs, game balls]
5/0025 . . . [Measuring of vehicle parts (G01B 5/003 takes precedence)]
5/0028 . . . [Brakes, brakeshoes, clutches]
5/003 . . . [Measuring of motor parts]
5/0032 . . . [Valves, actuating devices for valves]
5/0035 . . . [Measuring of dimensions of trees]
5/0037 . . . [Measuring of dimensions of welds]
5/004 . . . for measuring coordinates of points
5/008 . . . using coordinate measuring machines
5/012 . . . Contact-making feeler heads therefor
5/016 . . . Constructional details of contacts
5/02 . . for measuring length, width or thickness
(G01B 5/004, G01B 5/08 take precedence)
5/025 . . (Measuring of circumference; Measuring length
of ring-shaped articles (G01B 5/0035 takes precedence))
5/04 . . specially adapted for measuring length or width
of objects while moving
5/043 . . [for measuring length]
5/046 . . [for measuring width]
5/06 . . for measuring thickness
5/061 . . [height gauges]
5/063 . . [provided with a slide which may be moved
along a vertical support by means of a
micrometer screw]
5/065 . . [provided with a slide which may be moved
along its vertical support in discrete
calibrated position]
5/066 . . [of coating]
5/068 . . [of objects while moving (G01B 5/066 takes
precedence)]
5/08 . . for measuring diameters ([G01B 5/0035 takes
precedence; measuring radius of curvature
G01B 5/213])
5/10 . . of objects while moving
5/12 . . internal diameters
5/14 . . for measuring distance or clearance between spaced
objects or spaced apertures (G01B 5/24 takes
precedence)
5/143 . . [between holes on a workpiece]
5/146 . . [measuring play on bearings]
5/16 . . between a succession of regularly spaced objects
or regularly spaced apertures
5/163 . . [of screw-threads]
5/166 . . [of gear teeth]
5/18 . . for measuring depth
5/20 . . for measuring contours or curvatures
5/201 . . [for measuring roundness]
5/202 . . [of gears]
5/204 . . [of screw-threads]
5/205 . . [of turbine blades or propellers]
5/207 . . using a plurality of fixed, simultaneously
operating transducers (G01B 5/213 - G01B 5/22
take precedence)
5/213 . . for measuring radius of curvature
5/22 . . Spherometers
5/24 . . for measuring angles or tapers; for testing alignment
of axes
5/241 . . [for measuring conicity]
5/242 . . [Sine bars; Sine plates]
5/243 . . [for measuring chamfer (see G01B 3/56)]
5/245 . . for testing perpendicularity
5/25 . . for testing the alignment of axes
5/252 . . for measuring eccentricity, i.e. lateral shift
between two parallel axes
5/255 . . for testing wheel alignment
5/26 . . for measuring areas, e.g. planimeter (integrators in
general G06G)
5/28 . . for measuring roughness or irregularity of surfaces
5/285 . . [for controlling eveness]
5/30 . . for measuring the deformation in a solid, e.g.
mechanical strain gauge
7/00 Measuring arrangements characterised by the use
of electric or magnetic means
7/001 . . [Constructional details of gauge heads (G01B 7/012
takes precedence)]
7/002 . . [Constructional details of contacts for gauges
acting one or more contacts (G01B 7/016 takes
precedence)]
7/003 . . for measuring position, not involving coordinate
determination (coordinate measuring G01B 7/004)
7/004 . . for measuring coordinates of points
7/008 . . using coordinate measuring machines
7/012 . . Contact-making feeler heads therefor
7/016 . . Constructional details of contacts
7/02 . . for measuring length, width or thickness
(G01B 7/004, G01B 7/102 take precedence)
7/023 . . [for measuring distance between sensor and
object (G01B 7/082 and G01B 7/102 take
precedence)]
7/026 . . [for measuring length of cable, band or the
like, which has been paid out, e.g. from a reel
(measuring length of objects while moving
G01B 7/04)]
7/04 . . specially adapted for measuring length or width
of objects while moving
7/042 . . [for measuring length]
7/044 . . . [using capacitive means]
7/046 . . . [using magnetic means]
7/048 . . . [for measuring width]
7/06 . . for measuring thickness [(measuring during the
manufacture of coatings C23C 14/54)]
7/063 . . . [using piezo-electric resonators]
7/066 . . . [for measuring thickness of coating
(apparatus or processes for the manufacture
of piezo-electric or electrostrictive resonators
for obtaining desired frequency H03H 3/04)]
7/08 . . . [using capacitive means]
7/082 . . . [Height gauges]
7/085 . . . [for measuring thickness of coating]
7/087 . . . [for measuring of objects while moving
(G01B 7/085 takes precedence)]
7/10 . . . [using magnetic means, e.g. by measuring
change of reluctance]
7/102 . . . [Height gauges]
7/105 . . . [for measuring thickness of coating]
7/107 . . . [for measuring objects while moving
(G01B 7/105 takes precedence)]
7/12 . . . for measuring diameters
7/125 . . . [of objects while moving]
7/13 . . . Internal diameters
7/14 . . . for measuring distance or clearance between spaced
objects or spaced apertures (G01B 7/30 takes
precedence)
7/142 . . . [between holes on a workpiece]
7/144 . . . [Measuring play on bearings]
7/146 . . . [Measuring on gear teeth]
7/148 . . . [Measuring on screw threads]
7/15 . . . being regularly spaced
7/16 . . . for measuring deformation in a solid, e.g. by
resistance strain gauge
7/18 . . . [using change in resistance]
7/20 . . . [formed by printed-circuit technique]
7/22 . . . [using change in capacitance]
7/24 . . . using change in magnetic properties
7/26 . . . for measuring depth
7/28 . . . for measuring contours or curvatures
90200 Instruments as specified in the subgroups and characterised by the use of optical measuring means (arrangements for measuring particular parameters G01B 11/00)

90201 [Interference between three or more discrete surfaces]
90202 [Two or more interferometric channels or interferometers]
90203 [Two or more reference or object arms in one interferometer]
90204 [Combination with non-interferometric systems, i.e. for measuring the object]
90205 [With imaging systems]
90206 [Non-optical systems, e.g. tactile]
90207 [Generating a spatial carrier frequency, e.g. by creating lateral or angular offset between reference and object beam (shearing interferometers G01B 9/02009)]
90208 [Characterised by particularly shaped beams or wavefronts]
90209 [Shaping the focal point, e.g. elongated focus]
90210 [By using chromatic effects, e.g. a wavelength dependent focal point]
90211 [By generating a transverse line focus]
90212 [Shaping the wavefront, e.g. generating a spherical wavefront]
90213 [By matching the wavefront with a particular object surface shape]
90214 [Characterised by particular imaging or detection techniques]
90215 [Confocal imaging]
90216 [Imaging of the Fourier or pupil or back focal plane, i.e. angle resolved imaging]
90217 [Imaging in the frequency domain, e.g. by using a spectrometer]
90218 [Using the Doppler effect]
90219 [Using digital holographic imaging, e.g. lensless phase imaging without hologram in the reference path]
90220 [Rough and fine measurement]
90221 [Characterised by particular mechanical design details]
90222 [Of probe head]
90223 [Integrated design, e.g. on-chip or monolithic]
90224 [Protecting, e.g. shock absorbing, arrangements]
90225 [Hand held]
90226 [Characterised by error reduction techniques]
90227 [Passive error reduction, i.e. not varying during measurement, e.g. by constructional details of optics]
90228 [By using common path configuration, i.e. reference and object path almost entirely overlapping]
90229 [By particular optical compensation or alignment elements, e.g. dispersion compensation]
90230 [Reducing effect of parasitic reflections, e.g. cyclic errors]
90231 [Reducing or preventing effect of tilt or misalignment, e.g. of object or reference mirror]
90232 [Active error reduction, i.e. varying with time]
90233 [By particular alignment of focus position, e.g. dynamic focussing in optical coherence tomography]
11/00 Measuring arrangements characterised by the use of optical means (instruments of the types covered by group G01B 9/00 per se G01B 9/00)

11/002 [for measuring two or more coordinates]
11/005 [coordinate measuring machines]
11/007 [feeler heads therefor]
11/02 [for measuring length, width or thickness (G01B 11/08 takes precedence)]
11/022 [by means of tv-camera scanning]
11/024 [by means of diode-array scanning]
11/026 [by measuring distance between sensor and object (G01B 11/0608 takes precedence)]
11/028 [by measuring lateral position of a boundary of the object (G01B 11/022, G01B 11/024, G01B 11/04 take precedence)]
11/03 [by measuring coordinates of points]
11/04 [specially adapted for measuring length or width of objects while moving]
11/043 [for measuring length]
11/046 [for measuring width]
11/06 [for measuring thickness, e.g. of sheet material (thickness measurement by thermal means G01B 21/085)]
11/0608 [Height gauges]
11/0616 [of coating]
11/0625 [with measurement of absorption or reflection]
11/0633 [using one or more discrete wavelengths]
11/0641 [with measurement of polarization]
11/065 [using one or more discrete wavelengths]
11/0658 [with measurement of emissivity or re radation]
11/0666 [using an exciting beam and a detection beam including surface acoustic waves (SAW)]
11/0675 [using interferometry]
11/0683 [measurement during deposition or removal of the layer]
11/0691 [of objects while moving (G01B 11/0616 takes precedence)]
11/08 [for measuring diameters]
11/10 [of objects while moving]
11/105 [using photoelectric detection means]
11/12 [internal diameters]
11/14 [for measuring distance or clearance between spaced objects or spaced apertures (G01B 11/26 takes precedence; rangefinders G01C)]
11/16 [for measuring the deformation in a solid, e.g. optical strain gauge]
11/161 [by interferometric means]
11/162 [by speckle- or shearing interferometry]
11/164 [by holographic interferometry]
11/165 [by means of a grating deformed by the object]
11/167 [by projecting a pattern on the object]
11/168 [by means of polarisation]
11/18 [using photoelastic elements]
11/20 [using brittle lacquer]
11/22 [for measuring depth]
11/24 [for measuring contours or curvatures]
11/2408 [for measuring roundness]
Measuring arrangements characterised by the use of wave or particle radiation (G01B 21/00, G01B 9/000, G01B 11/000 take precedence [; by radar technique G01S])

15/00 Measuring arrangements characterised by the use of wave or particle radiation (G01B 9/00, G01B 11/000 take precedence; image analysis for depth or shape recovery G06T 7/50)

15/02 . . . for measuring thickness
15/025 . . . [by measuring absorption]
15/04 . . . for measuring contours or curvatures
15/045 . . . [by measuring absorption]
15/06 . . . for measuring the deformation in a solid
15/08 . . . for measuring roughness or irregularity of surfaces

17/00 Measuring arrangements characterised by the use of subsonic, sonic or ultrasonic vibrations (by sonar technique G01S 15/000)

17/02 . . . for measuring thickness
17/025 . . . [for measuring thickness of coating]
17/04 . . . for measuring the deformation in a solid, e.g. by vibrating string
17/06 . . . for measuring contours or curvatures
17/08 . . . for measuring roughness or irregularity of surfaces

21/00 Measuring arrangements or details thereof in so far as they are not adapted to particular types of measuring means of the preceding groups

NOTE
Measuring arrangements or details thereof covered by two or more of groups G01B 3/00 - G01B 17/00 are classified in this group if no single other group can be selected as being predominantly applicable.

21/02 . . . for measuring length, width, or thickness (G01B 21/10 takes precedence)
21/04 . . . by measuring coordinates of points
21/042 . . . [Calibration or calibration artifacts (G01B 3/30, G01B 9/02072 take precedence)]
21/045 . . . [Correction of measurements (G01B 9/02055 takes precedence)]
21/047 . . . [Accessories, e.g. for positioning, for tool-setting, for measuring probes]
21/06 . . . specially adapted for measuring length or width of objects while moving (unwinding or rewinding apparatus incorporating length measuring devices B65H 16/025)
21/065 . . . [for stretchable materials]
21/08 . . . for measuring thickness
21/085 . . . [using thermal means]
21/10 . . . for measuring diameters
21/12 . . . of objects while moving
21/14 . . . internal diameters [(of bores or wells E21B 47/08)]
21/16 . . . for measuring distance of clearance between spaced objects
21/18 . . . for measuring depth

13/00 Measuring arrangements characterised by the use of fluids (pressure regulation G05D 16/00)

13/02 . . . for measuring length, width or thickness (G01B 13/08 takes precedence)
13/03 . . . by measuring coordinates of points
13/04 . . . specially adapted for measuring length or width of objects while moving
13/06 . . . for measuring thickness, e.g. of sheet material
13/065 . . . [Height gauges]
13/08 . . . for measuring diameters
13/10 . . . internal diameters
13/12 . . . for measuring distance or clearance between spaced objects or spaced apertures (G01B 13/18 takes precedence)
13/14 . . . for measuring depth
13/16 . . . for measuring contours or curvatures
21/20 . for measuring contours or curvatures, e.g. determining profile
21/22 . for measuring angles or tapers; for testing the alignment of axes
21/24 . for testing alignment of axes
21/26 . for testing wheel alignment
21/28 . for measuring areas (integrators in general G06G)
21/30 . for measuring roughness or irregularity of surfaces
21/32 . for measuring the deformation in a solid

2210/00 Aspects not specifically covered by any group under G01B, e.g. of wheel alignment, caliper-like sensors
2210/10 . Wheel alignment
2210/12 . Method or fixture for calibrating the wheel aligner
2210/14 . One or more cameras or other optical devices capable of acquiring a two-dimensional image
2210/143 . One or more cameras on each side of a vehicle in the main embodiment
2210/146 . Two or more cameras imaging the same area
2210/16 . Active or passive device attached to the chassis of a vehicle
2210/18 . Specially developed for using with motorbikes or other two-wheeled vehicles
2210/20 . Vehicle in a state of translatory motion
2210/22 . Wheels in a state of motion supported on rollers, rotating platform or other structure substantially capable of only one degree of rotational freedom
2210/24 . Specially developed for using with trucks or other heavy-duty vehicles
2210/26 . Algorithms, instructions, databases, computerized methods and graphical user interfaces employed by a user in conjunction with the wheel aligner
2210/28 . Beam projector and related sensors, camera, inclinometer or other active sensing or projecting device
2210/283 . Beam projectors and related sensors
2210/286 . Projecting a light pattern on the wheel or vehicle body
2210/30 . Reference markings, reflector, scale or other passive device
2210/303 . fixed to the ground or to the measuring station
2210/306 . Mirror, prism or other reflector
2210/40 . Caliper-like sensors
2210/42 . with one or more detectors on a single side of the object to be measured and with a backing surface of support or reference on the other side
2210/44 . with detectors on both sides of the object to be measured
2210/46 . with one or more detectors on a single side of the object to be measured and with a transmitter on the other side
2210/48 . for measurement of a wafer
2210/50 . Using chromatic effects to achieve wavelength-dependent depth resolution
2210/52 . Combining or merging partially overlapping images to an overall image
2210/54 . Revolving an optical measuring instrument around a body
2210/56 . Measuring geometric parameters of semiconductor structures, e.g. profile, critical dimensions or trench depth
2210/58 . Wireless transmission of information between a sensor or probe and a control or evaluation unit
2210/60 . Unique sensor identification
2210/62 . Support for workpiece air film or bearing with positive or negative pressure
2210/64 . Interconnection or interfacing through or under capping or via rear of substrate in microsensors
2210/66 . Rock or ground anchors having deformation measuring means

2290/00 Aspects of interferometers not specifically covered by any group under G01B 9/02
2290/10 . Astronomical interferometers
2290/15 . Cat eye, i.e. reflection always parallel to incoming beam
2290/20 . Dispersive element for generating dispersion
2290/25 . Fabry-Perot in interferometer, e.g. etalon, cavity
2290/30 . Grating as beam-splitter
2290/35 . Mechanical variable delay line
2290/40 . Non-mechanical variable delay line
2290/45 . Multiple detectors for detecting interferometer signals
2290/50 . Pupil plane manipulation, e.g. filtering light of certain reflection angles
2290/55 . Quantum effects
2290/60 . Reference interferometer, i.e. additional interferometer not interacting with object
2290/65 . Spatial scanning object beam
2290/70 . Using polarization in the interferometer