CLASS 250 RADIANT ENERGY

250 RADIO AND MICROWAVE ABSORPTION WAVEMETERS

251 ELECTRICALLY NEUTRAL MOLECULAR OR ATOMIC BEAM DEVICES AND METHODS

252.1 CALIBRATION OR STANDARDIZATION METHODS

253 GEOLOGICAL TESTING OR IRRADIATION

254 .With drill or drilling

255 .With sampling

256 .Well testing apparatus and methods

257 ..With casing collar detection

258 ..By interface of fluids

259 ..With placement of tracer in or about well

260 ...Tracer being or including radioactive material

261 ..With detector or detector circuit control

262 ..With particular detector signal circuit

263 ...With detector signal modulation or carrier wave

264 ...Having plural detectors

265 ...With radiation control to detector

266 ...With well-engaging means

267 .1 ..With source and detector

268 .2 ...With plural types of detectors

269 .3 ...Having gamma source and gamma detector

269 .4 ...Having neutron source and neutron detector

269 .5 ....Having thermal neutron detector

269 .6 ....Having neutron source and gamma detector

269 .7 ....With plural gamma detectors

269 .8 ....With detection in plural consecutive time intervals

270 .Plural detectors

271 ...With spacing or direction of detectors

271 CODED RECORD AND READERS; INVISIBLE RADIANT ENERGY TYPE

IONIC SEPARATION OR ANALYSIS

281 .Methods

282 ...With collection of ions

283 ...For material recovery

284 ...With plural, simultaneous ion generators

285 .Ion beam pulsing means with detector synchronizing means

286 ...With time-of-flight indicator

287 ...With sample supply means

288 ...With evacuation or sealing means

289 ...Cyclically varying ion selecting field means

290 ..Circular ion path

291 ..Laterally resonant ion path

292 ..Alternating field ion selecting means

293 ..Static field-type ion path-bending selecting means

294 ..With variable beam shifting field means

295 ..Plural diverse-type static path-bending fields

296 ...For causing complex ion path

297 ..Magnetic field path-bending means

298 ...With detector

299 ...With detector control or regulating

300 METHODS OF DETERMINING OIL PRESENCE, CONTAMINATION OR CONCENTRATION

RADIATION TRACER METHODS

METHODS INCLUDING SEPARATION OR NONRADIANT TREATMENT OF TEST MATERIALS

ELECTRON ENERGY ANALYSIS

INSPECTION OF SOLIDS OR LIQUIDS BY CHARGED PARTICLES

440.11 Analyte supports

441.11 ...With air lock or evacuation means

442.11 ...With object moving or positioning means

443.1 ...With heat transfer or temperature-indication means

SOURCE WITH CHARGED PLATE-TYPE DETECTOR

WITH INFRARED OR THERMAL PATTERN RECORDING

.447.1 .Thermal copying of documents

.448 ..With image transfer device
CLASS 250 RADIANT ENERGY

319  .With conveying means
324  CORONA IRRADIATION
325  .Charging of moving object
326  .Charging of objects
580  SOURCE WITH RECORDING DETECTOR
581  .Using a stimulable phosphor
582  .With image recording
583  .For specialized application
584  .With image read-out
585  .Including stimulation
586  .Including emission detection
587  .With adjustment of conditions
588  .With erasure
589  .With conveyance
590  .With a recirculation path
591  .Including a light beam read-out

328  AUTOMATIC/SERIAL DETECTION OF SIMILAR SOURCES
329  RECORD PROJECTORS
330  INFRARED-TO-VISIBLE IMAGING
331  .Including liquid crystal detector
332  .Including detector array
333  .Including image tube-type detector
334  .Including means for scanning field of view
335  CLOUD OR BUBBLE CHAMBERS
336  INVISIBLE RADIANT ENERGY
336.1 RESPONSIVE ELECTRIC SIGNALLING
336.2 .Superconducting type
337  .With heating of luminophors
338  .Infrared responsive
338.1  .Ferroelectric, ferromagnetic, photomagnetic types
338.2  .Pyroelectric type
338.3  .Semiconducting type
338.4  .With means to analyze uncontained fluent material
339  .With selection of plural discrete wavelengths or bands
339.01  .Including detector array
339.02  .Including temperature control means
339.03  .Including spectrometer or spectrophotometer
339.04  .Including temperature determining means
339.05  .With additional noninfrared wavelengths
339.06  .With radiation source
339.07  .Including spectrometer or spectrophotometer
339.08  .Including Fourier transform infrared spectrometry
339.09  .With calibration steps in measurement process
339.1  .Determining moisture content
339.11  .Measuring infrared radiation reflected from sample
339.12  .Using sample absorption for chemical composition analysis
339.13  .With gaseous sample
339.14  .Detecting infrared emissive objects
339.15  .Sensing flame or explosion
340  .Methods
341  .With irradiation or heating of object or material
341.1  .With probe
341.2  .Including polarizing means
341.3  .With semiconductor sample
341.4  .With calibration
341.5  .Heating of object or material
341.6  .With multiple sources
341.7  .Measuring infrared radiation reflected from sample
342  .Locating infrared emissive objects
343  .With means to transmission-test contained fluent material
344  .Plural series signalling means
345  .Plural beam/detector pairs
346  .Plural temperature sensitive signalling means
347  .With movable beam deflector or focussing means
348  .Controlled by signalling means
349  .Plural signalling means
350  .With periodic beam varying means
351  .With periodic beam varying means
352  .With temperature modifying means
353  .With beam deflector or focussing means
354  .Signalling means controls incident radiation
354.1  .Flow metering
356  .Using radioactive tracer
356.1  .Fluent material level signalling
357  .With means to inspect passive solid objects
358  .Rectilinearly moving object
360  .With relative movement means
361  .With or including a luminophor
362  .Methods

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363.01 ...With radiant energy source
363.02 ...Body scanner or camera
363.03 ...With positron source
363.04 ...Emission tomography
363.05 ...With detector support
363.06 ...Using coded aperture
363.07 ...With distortion correction
363.08 ...With detector support
363.09 ...With calibration
363.1 ...With a collimator
364 ...With fluent source handling or collecting means
365 ...Ultraviolet light source
366 ...Plural electric signalling means
367 ...Plural or composite luminophor
368 ...With optics
369 ...With output system
361 C ...Chemiluminescent detection
370.01 ...Semiconductor system
370.02 ...Alpha particle detection system
370.03 ...Fission fragment/fissionable isotope detection system
370.04 ...Self-powered system
370.05 ...Neutron detection system
370.06 ...Discrimination-type system
370.07 ...Dose or dose rate measurement
370.08 ...Imaging system
370.09 ...X-ray or gamma-ray system
370.1 ...Position sensitive detection system
370.11 ...Scintillation system
370.12 ...Of material other than germanium, diamond, or silicon
370.13 ...Containing cadmium telluride
370.14 ...Particular detection structure (e.g., MOS, PIN)
370.15 ...Temperature control or compensation system
371 ...Methods
372 ...Ultraviolet light responsive means
373 ...With means to transmission-test contained fluent material
374 ...Including a radiant energy responsive gas discharge device
375 ...Methods
376 ...With electroscopic indicators
377 ...With charge generator
378 ...With charge storage means
379 ...With means to supply the gas
380 ...Radioactive gas, or with gas-borne radioactive material
381 ...With radioactive source
382 ...With means to ionize the gas
383 ...Emissive fluent type, or with transmissive fluent material
384 ...Radioactive
385.1 ...Plural chambers or three or more electrodes
385.2 ...Spark chambers
386 ...With a periodic electrode bias varying means
387 ...With periodic electrode bias supply
388 ...With indicator
389 ...Including ionization means
390.01 ...Neutron responsive means
390.02 ...Radiographic analysis
390.03 ...With dose measurement
390.04 ...Composition analysis
390.05 ...For moisture content
390.06 ...Density/thickness/consistency analysis
390.07 ...Spectrum analysis
390.08 ...Using time-of-flight spectrometers
390.09 ...Using diffractometers
390.1 ...Including beam control
390.11 ...Including a scintillator
390.12 ...Position-sensitive
391 ...Methods
392 ...With indicating or recording means
393 ...With radiant energy source
394 ...Plural signalling means
395 ...Methods

PHOTOCELLS; CIRCUITS AND APPARATUS

200 ...Following a target (e.g., a star or instrument pointer or other object) other than a pattern
201.1 ...Photocell controls its own optical systems
201.2 ...Automatic focus control
201.3 ...Of a microscope
201.4 ...Active autofocus
201.5 ...With optical storage medium; e.g., optical disc, etc.
201.6 ...Based on triangulation
201.7 ...Based on contrast
201.8 ...Based on image shift
201.9 ...Light beam wavefront phase adaptation
203.3 ...Self-luminous target
203.4 ....Sun
203.5 ....Cathode-ray tube scanning
203.6 ....Airborne target, or spaceborne target other than the sun (e.g., star or missile)
203.7 ....With moving reticle in optical path
202 ...Following a pattern (e.g., line or edge)
548 ..Controlling web, strand, strip, or sheet
549 ..Cathode-ray tube
204 ..Adjusting optical system to balance brightness in plural paths
205 ..Controlling light source intensity
550 .Interference pattern analysis (e.g., spatial filtering or holography)
551 .Signal isolator
552 .Solid state light source
553 ..Array or matrix
554 .Flame light source
559.01 ..With circuit for evaluating a web, strand, strip, or sheet
559.02 ..Evaluation of photographic film
559.03 ..Sequential detector arrangement
559.04 ..Evaluation by regions, zones, or pixels
559.05 ...With imaging
559.06 ...With scanning
559.07 ..With imaging
559.08 ..With camera
559.09 ..With polarization
559.1 ..With calibration
559.11 ..Detection of both reflected and transmitted light
559.12 ..Beam interruption or shadow
559.13 ...With laser source
559.14 ...With rotation of material
559.15 ...With plural detectors
559.16 ..Detection of diffuse light
559.17 ..With diffusion optics
559.18 ...With discrimination of discrete light diffusing region
559.19 ..Measuring dimensions
559.2 ...With comparison to reference or standard
559.21 ...Volume
559.22 ...Profile
559.23 ....With triangulation
559.24 ...Transversal measurement (e.g., width, diameter, cross-sectional area)
559.25 ....Lumber
559.26 ...Longitudinal measurement (e.g., length or spacing)
559.27 ...Thickness
559.28 ....With translucent material
559.29 ..Measuring position
559.3 ...With alignment detection
559.31 ...With triangulation
559.32 ...Measuring rate of motion or flow (change of position)
559.33 ...With robotics
559.34 ...Lead or wire bond inspection
559.35 ...Centroid
559.36 ...Edge
559.37 ...Angular orientation (e.g., skew)
559.38 ...Determining range from detector
559.39 ..With comparison to reference or standard
559.4 ...With indication of presence of material or feature
559.41 ...With foreign particle discrimination circuitry
559.42 ...Discontinuity detection (e.g., hole, crack)
559.43 ...Break detection
559.44 ...Identifying marking, pattern, or indicia
559.45 ...With defect discrimination circuitry
559.46 ....With camera or plural detectors
559.47 ....With counting means
559.48 ....With transversal scan
559.49 .....With moving reflector
206 .Photocell controlled circuit
206.1 ..Having means to generate positional information in at least one plane of a target moving relative to one or more photodetectors
206.2 ...Detection of positional information in two or more planes (e.g., azimuth and elevation; hour angle and declination)
206.3 ....With moving reticle in optical path
555 ..Including coded record
556 ...Document verification or graph reader
...With means to position, direct, or detect record
Stereoplotters
...With circuit for evaluating a fluent material
...With comparison
Electron multiplier
Plural photosensitive image detecting element arrays
Plural photosensitive nonimage detecting elements
...With electronic scanning
...Used to switch an electrical circuit or device on or off
...With photodetector output ratioing other than by bridge or push-pull circuits
...With specific relative positional geometry of photosensitive elements (e.g., an annular photosensitive element surrounding a coaxially mounted photosensitive element)
Bridge and push-pull circuits
Special photocell or electron tube circuits
Photographic control
Light dimmers
Amplifier type
Light amplifier type
Switching type
Vacuum tube type
Photosensitive rheostat type
Self-generating type
Special photocell
Automatic gain control
Ambient light responsive
Ambient light desensitizing means
Compensation
Logarithmic/linear signal
Rate of change
Slave flash
Electronic switch
Combined with diverse-type device
Optical or pre-photocell system
Light conductor
Light delay line
Light pen
Condition responsive light guide (e.g., light guide is physically affected by parameter sensed which results in light conveyed to the photocell)
...With detection of macroscopic break in fiber
...With detection of fiber microbend caused by parameter affecting fiber
...Caus ing polarization change in fiber
...Caus ing light spectral frequency/wavelength change
...With coherent interferrometric light
...With imaging
...With light chopping or modulation
...Keyboard or other manual switch controlled
...With spectral frequency/wavelength discrimination
...With coupling enhancement means
...Fluid coupling
...With scanning
...With coherent interferrometric light
...With specific configuration of light conductor components with respect to each other
...With specific illumination or viewing orientation of light conductor relative to viewed object (e.g., light normal to, and detector at 45 degree angle to, viewed object)
...With variable orientation of light conductor relative to viewed object (e.g., goniometer)
...Side or edge illuminated light conductor or collector
...End illuminated light conductor with noncircular geometric cross section
Including coded record
...Digital information
...Card type
...Tape, drum, or disc types
...Scattered or reflected light
...Plural paths
...Sample holder or supply
577 ....Volume or level
221 ....Controlled by article, person, or animal
222.1 ...Inanimate article
222.2 ....Particle detection
223 R ....Conveyor or chute
223 B .....Bottles
224 ....Article and light ray relatively moved during sensing
225 ..Polarizing
226 ..Color (e.g., filter or spectroscope)
228 ..Integrating sphere
229 ..Light valve (e.g., iris diaphragm)
231.1 ...Actuated by dynamic external physical quantity
231.11 ....Actuated by gauge element deflection
ggyroscopes
g231.12 ....Gyrosopes
g231.13 ....Shaft angle transducers
231.14 .....Incremental shaft readers; i.e., with means to generate increments of angular shaft rotation
231.15 ......With plural gear driven discs
231.16 ......Using phase difference of output signals from plural photodetectors
231.17 ......With means to indicate a complete shaft rotation
231.18 ......Position indicating shaft encoder with means to generate a unique signal for each specific angular shaft position
231.19 ....Pressure-responsive light valves
230 ...Reflection type (e.g., mirror galvanometer)
232 ...Light chopper type
233 ....Rotary
578.1 ...Plural light sources or optical paths
234 ....Means for moving optical system
235 ....Repetitious path
236 ....Rotary motion
237 R .....Hoods, grating, baffles, diaphragms, masks
237 G .....Gratings (moire fringes)
238 .Temperature control of photocell

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467.1 ..Reticles, gun sights or with optical element
472.1 INVISIBLE RADIATION RESPONSIVE NONELECTRIC SIGNALLING
473.1 .Methods
474.1 .Optical change type
475.2 .Photographic type
482.1 ..With radiation filter, modifier, or shield (e.g., dosimeter badges)
483.1 .Luminescent device
484.2 ..Requiring an additional energy source to cause luminescence
484.3 ...With thermally-stimulated phosphor
484.4 ...With optically-stimulated phosphor
484.5 ....Dosimeter
485.1 ...With light excluding casing having an aperture
486.1 ..With plural luminescent material or plural luminescent containing layers or areas
487.1 ..With optical member of material to directly modify luminous energy
488.1 ...Plural planar layer type
489 ION COLLECTORS
491.1 MEANS TO ALIGN OR POSITION AN OBJECT RELATIVE TO A SOURCE OR DETECTOR
492.1 IRRADIATION OF OBJECTS OR MATERIAL
492.2 ..Irradiation of semiconductor devices
492.21 ..Ion bombardment
492.22 ..Pattern control
492.23 ..Variable beam
492.24 ..Photocathode projection
492.3 .Ion or electron beam irradiation
493.1 RADIANT ENERGY GENERATION AND SOURCES
494.1 ..Plural radiation sources
495.1 ..Including an infrared source
496.1 ..With container for radioactive source and radiation directing or selectable shielding
497.1 ..With means to move source between shielded and unshielded position
498.1 ..With pivoted or rotatable radiation shield
503.1 ..With radiation modifying member
504 R ..Ultraviolet or infrared source
504 H ..Hand-held

505.1 RADIATION CONTROLLING MEANS
506.1 ..Shielded receptacles for radioactive sources
507.1 ..Having plural storage compartments or plural nested receptacles
515.1 ..Shields
516.1 ..Garments
517.1 ..Construction elements or building parts
518.1 ..With neutron absorption material
519.1 ..Flexible
522.1 SOURCE SUPPORTS
526 MISCELLANEOUS

CROSS-REFERENCE ART COLLECTIONS

900 OPTICAL LIQUID LEVEL SENSORS
901 ..With gap between light guide elements (includes open light path preset)
902 ..With closed light path preset
903 ...With prism contacting liquid
904 ..With single light guide element to guide light in a continuous path
905 ..With longitudinal irregularity
906 ...With large scale longitudinal bend
907 ...With portions of light guide coating or cladding removed
908 ...With waveguide twisted about its longitudinal axis
909 METHODS AND APPARATUS ANCILLARY TO STIMULABLE PHOSPHOR SYSTEMS
910 FOOD SAMPLE ANALYSIS USING INVISIBLE RADIANT ENERGY SOURCE

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

DIGESTS

DIG 1 PASSIVE INTRUSION DETECTORS
DIG 2 RADON DETECTION