

Search query (2): [SP]: for a more complete understanding of the present invention, and the advantages thereof, reference is now made to the following descriptions taken in conjunction with the accompanying drawings, in which:fig. 1 is a top plan view of a cylindrical straight fresnel prism according to the preset invention illustrating modified right triangles.fig. 2 is a prospective view of a cylindrical straight fresnel prism according to the present invention.figs. 3(a) and (b) are partial top plan views of a cylindrical straight prism (fig. 3a) and a counter equilateral cylindrical straight prism (fig. 3b) illustrating the change of direction of an optical image by using the cylindrical straight fresnel prism.fig. 4 is a graphical representation of images of a borehole wall as they enter the cylindrical prisms.fig. 5 is a cross-sectional view of the three dimensional imaging system of the present invention.fig. 6 is a top plan view of the conical mirror device.fig. 7 is another embodiment of the three dimensional imaging system of the present invention.fig. 8 is a graphical representation of the method of creating the ring shaped images.fig. 9 is a graphical representation of images from a borehole wall as they enter the cylindrical prism.fig. 10 is a graphical representation of images shown in fig. 9.fig. 11 is a graphical representation of the method of creating the ring shaped images.figs. 12(a) and (b) are graphical representations of the method of creating the ring shaped images.fig. 13 is a top plan view of a cylindrical straight fresnel prism illustrating the isosceles triangles.fig. 14 is a graphical representation of images of a borehole wall as they enter the cylindrical prisms.fig. 15 is a top plan view of a cylindrical prism illustrating the isosceles triangles.fig. 16 is a graphical representation of the method of creating the ring shaped images.figs. 17(a) and (b) are graphical representations of the method of creating the ring shaped images.fig. 18 is a prospective view of a pair of three dimensional imaging glasses.fig. 19 is a graphical representation of left and right eye images and a pair of the

Results: 23

Search history

Search PN=(us5717455) (Results 1)

1:

Search [SP]: for a more complete understanding of the present invention, and the advantages thereof, reference is now made to the following descriptions taken in conjunction with the accompanying drawings, in which:fig. 1 is a top plan view of a cylindrical straight fresnel prism according to the preset invention illustrating modified right triangles.fig. 2 is a prospective view of a cylindrical straight fresnel prism according to the present invention.figs. 3(a) and (b) are partial top plan views of a cylindrical straight prism (fig. 3a) and a counter equilateral cylindrical straight prism (fig. 3b) illustrating the change of direction of an optical image by using the cylindrical straight fresnel prism.fig. 4 is a graphical representation of images of a borehole wall as they enter the cylindrical prisms.fig. 5 is a cross-sectional view of the three dimensional imaging system of the present invention.fig. 6 is a top plan view of the conical mirror device.fig. 7 is another embodiment of the three dimensional imaging system of the present invention.fig. 8 is a graphical representation of the method of creating the ring shaped images.fig. 9 is a graphical representation of images from a borehole wall as they enter the cylindrical prism.fig. 10 is a graphical representation of images shown in fig. 9.fig. 11 is a graphical representation of the method of creating the ring shaped images.figs. 12(a) and (b) are graphical representations of the method of creating the ring shaped images.fig. 13 is a top plan view of a cylindrical straight fresnel prism illustrating the isosceles triangles.fig. 14 is a graphical representation of images of a borehole wall as they enter the cylindrical prisms.fig. 15 is a top plan view of a cylindrical prism illustrating the isosceles triangles.fig. 16 is a graphical representation of the method of creating the ring shaped images.figs. 17(a) and (b) are graphical representations of the method of creating the ring shaped images.fig. 18 is a prospective view of a pair of three dimensional imaging glasses.fig. 19 is a graphical representation of left and right eye images and a pair of the (Results 23)

1) Family number: 22197289 (US3279085A)

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Title: APPARATUS FOR INSPECTING INTERIORS OF APPARATUSES AND THE LIKE

Abstract: (Claim 1) 1. An apparatus for inspecting the wall of a borehole and determining the inclination and azimuth of the borehole, said apparatus comprising: an optical viewing device disposed in a housing, said viewing device having a lens system with the axis of said lens system being parallel to the axis of the borehole; an illuminating means disposed in said housing adjacent said viewing device, said housing having a transparent section adjacent the viewing means and said illuminating means being disposed to illuminate the borehole adjacent said transparent section; a spherical mirror, said spherical mirror being rotatably mounted in said housing for rotation relative to said housing in both the horizontal and vertical planes, said mirror in addition being disposed on the axis of the spherical mirror adjacent the outer edge of the conical and spaced from said viewing device, said mirror in surface. addition being provided with identifying marks on

Classifications:

International (IPC 8-9): E21B47/00 E21B47/022

G02B23/24 (Advanced/Invention);

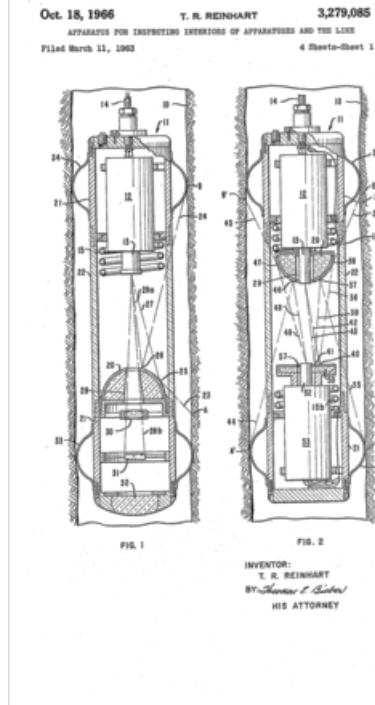
E21B47/00 E21B47/02 G02B23/24 (Core/Invention)

International (IPC 1-7): G02B23/02

CPC: E21B47/0002 E21B47/022 G02B23/2407

European: E21B47/00C E21B47/022 G02B23/24B

US: 33/313 33/314 348/85 359/876 396/19 396/21 396/429

**Family:**

Publication number	Publication date	Application number	Application date
US3279085 A	19661018	US19630264383	19630311

Priority:

US19630264383 19630311

Probable Assignee:

SHELL OIL CO

Assignee(s): (std):

SHELL OIL CO

Assignee(s):

SHELL OIL COMPANY

Inventor(s): (std):

REINHART TOM R

2) Family number: 5910931 (US4725883A)

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Title: Optical profilometry system for tubular products

Abstract: An optical inspection system for tubular products utilizes a feeler for engaging the internal surface of the tube to be inspected and a miniature charge coupled device video camera for viewing the interface between the feeler and the tube. An image processing computer responsive to the output of the video camera produces information for rapidly assessing damage or distortion of the tube. The camera is pulled or pushed through the tube while continuously monitoring the optical contrast between the feeler and the tube wall. The camera image of the tube ID is fed to the image processing computer to determine and record changes in ID contour is a function of the axial position of the camera and feeler. These data in turn can be used in tubing life prediction considerations. The data may be analyzed manually if desired.

Classifications:

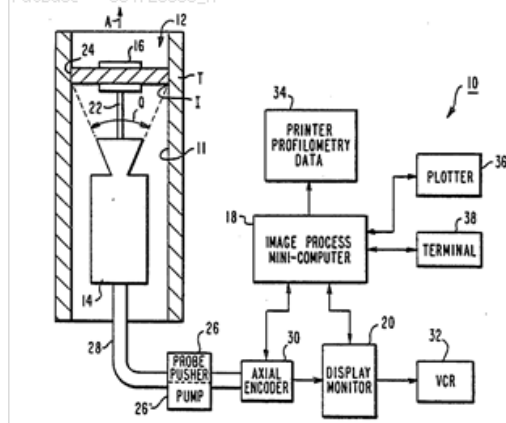
International (IPC 8-9): G01B11/24 G01N21/84 G01N21/88 G01N21/93 G01N21/954 G02B23/24 (Advanced/Invention)

International (IPC 1-7): G01B11/24 G01N21/84 G01N21/88 G01N21/90 G02B23/24 H04N7/18

CPC: G01B11/24 G01N21/954 G01N201/8887 G01N2201/102

European: G01B11/24 G01N21/954 S01N201/102 S01N21/88P6

US: 348/84 356/241.1 358/100

**Family:**

Publication number	Publication date	Application number	Application date
FR2601779 A1	19880122	FR19870010150	19870717

FR2601779 B1	19900831	FR19870010150	19870717
JP1997738 C3	19951208	JP19870176087	19870716
JP63030747 A2	19880209	JP19870176087	19870716
JP7026913 B4	19950329	JP19870176087	19870716
US4725883 A	19880216	US19860886844	19860718

Priority:

US19860886844 19860718

Probable Assignee: WESTINGHOUSE ELECTRIC CORP

Assignee(s): (std): WESTINGHOUSE ELECTRIC CORP

Inventor(s): (std): BURTNER LEE W ; CLARK JR WILLIAM G ; FURANSHISU ZEIBIA GURADEITSUCH ; GRADICH FRANCIS X ; RII UEIN BAATONAA ; UIRIAMU GAI KURAANKU JIYUNIA ; GRADICH FRANCIS XAVIER ; CLARK WILLIAM GUY JR ; BURTNER LEE WAYNE

Inventor(s): WILLIAM GUY CLARK JR LEE WAYNE BURTNER ET ; WILLIAM GUY CLARK JR LEE WAYNE BURTNER ET FRANCIS ; FURANSHISU ZEIBIA GURADEITSUCHI

3) Family number: 2989763 (US4941723A)

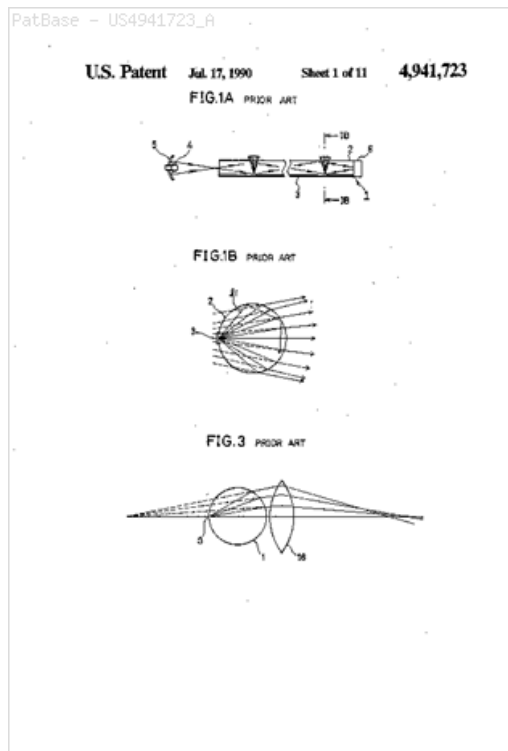
© PatBase

Title: Rod shaped linear light diffusion apparatus

Abstract: A linear light diffusing apparatus is formed of a transparent cylindrical rod. A white layer is formed on the outer periphery of the cylindrical rod along the longitudinal direction thereof. A plurality of elongated saw tooth shaped grooves are formed on the opposite side of the outer periphery. Light entering from one end of the transparent cylindrical rod is irregularly reflected by the white layer. The irregularly reflected light is refracted by the saw tooth shaped grooves to be linearly condensed at a prescribed position.

Classifications:

International (IPC 8-9): F21V8/00 G02B5/02 G02B6/00 G02B6/04 G02B6/42 G03B27/54 G03G15/04 H04N1/04 (Advanced/Invention); G02B6/00 (Advanced/Non-invention); F21V8/00 G02B6/00 G03B27/54 G03G15/04 H04N1/04 (Core/Invention)
International (IPC 1-7): F21V8/00 G02B3/04 G02B3/08 G02B5/02 G02B5/16 G02B6/00 G03B27/54 G03G15/04 H04N1/04
CPC: G02B5/0215 G02B6/0001 G02B6/001 G02B6/4206
European: G02B5/02D2G G02B6/00L4L G02B6/42C3B S02B6/00L
US: 350/433 350/452 350/96.10 359/599 359/641 385/147



Family:

Publication number	Publication date	Application number	Application date
DE68923020 D1	19950720	DE19896023020	19890317
DE68923020 T2	19951102	DE19896023020T	19890317
EP0333203 A2	19890920	EP19890104772	19890317
EP0333203 A3	19910703	EP19890104772	19890317
EP0333203 B1	19950614	EP19890104772	19890317
JP1237534 A2	19890922	JP19880063400	19880318
JP1254903 A2	19891011	JP19880082323	19880405
JP1255804 A2	19891012	JP19880083127	19880406
JP1943489 C3	19950623	JP19880082323	19880405
JP2026186 C3	19960226	JP19880063400	19880318
JP2057371 C3	19960523	JP19880083127	19880406
JP6072963 B4	19940914	JP19880082323	19880405
JP7054399 B4	19950607	JP19880063400	19880318
JP7082127 B4	19950906	JP19880083127	19880406
US4941723 A	19900717	US19890324399	19890315

Priority:

JP19880063400 19880318 JP19880082323 19880405 JP19880083127 19880406

Probable Assignee: DAINIPPON SCREEN MFG CO LTD
Assignee(s): (std): DAINIPPON SCREEN MFG
Assignee(s): DAINIPPON SCREEN MFG CO ; DAINIPPON SCREEN MFG CO LTD ; DAINIPPON SCREEN MFG CO LTD KYOTO JP
Inventor(s): (std): SASADA SHIGERU DAINIPPON SCREE ; SASADA SHIGERU
Inventor(s): SASADA SHIGERU DAINIPPON SCREEN MFG CO
Designated states: DE FR GB IT

4) Family number: 3401219 (US4915489A)

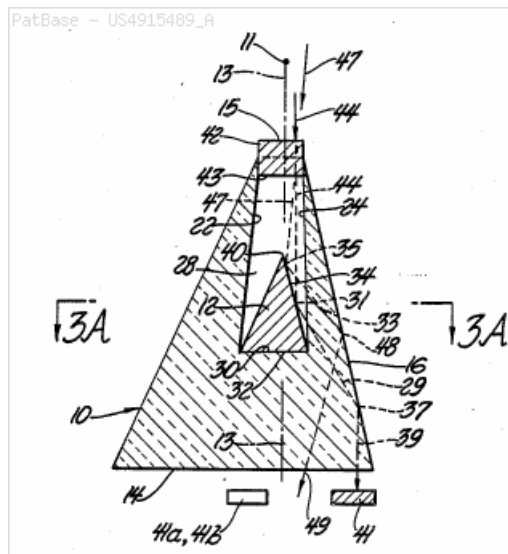
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Title: PRISM WITH INTERNAL REFLECTOR

Abstract: Disclosed is an optical for directing radiant energy comprising a pyramidal prism having energy reflective side surfaces. These side surfaces diverge from an imaginary apex on a central axis equidistant from the side surfaces. Within the prism is a pyramidal reflector whose apex is also on the central axis. The reflector has reflective side surfaces faced toward the prism side surfaces, the reflector's side surfaces diverging from the central axis at a different angle than do the prism side surfaces. One embodiment of the optical device creates several relatively concentrated, polarized energy beams from a relatively unconcentrated, unpolarized energy beam.

Classifications:

International (IPC 8-9): F24J2/06 F24S23/00
G02B5/04 (Advanced/Invention);
F24J2/06 G02B5/04 (Core/Invention)
International (IPC 1-7): G02B5/04
CPC: F24S23/10 G02B5/04 Y02E10/40
European: F24J2/06D G02B5/04 Y02E10/40
US: 359/834 359/857



Family:

Publication number	Publication date	Application number	Application date
US4915489 A	19900410	US19880227047	19880801

Priority:

US19880227047 19880801

Probable Assignee: MINKO ROBERT
Assignee(s): (std): MINKO ROBERT
Assignee(s): SECRETARY OF ARMY AS US GOV ; SECRETARY OF ARMY US
Inventor(s): (std): MINKO ROBERT

5) Family number: 4930514 (US5134468A)

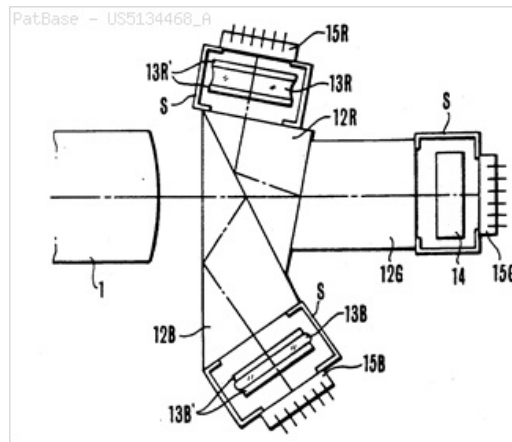
© PatBase

Title: Optical apparatus for varying the lengths of optical path of color component light beams

Abstract: An optical apparatus comprising an objective lens for producing a light bundle, a color separation prism receptive of the light bundle for producing two or more component light beams, two or more solid-state image sensors arranged behind the respective spaces between the exit faces of the prism in fixedly secured relation, and optical means arranged in all but one of the spaces between the exit faces of the prism and the image sensors to vary the lengths of the optical paths.

Classifications:

International (IPC 8-9): G02B27/10 G02B27/40 G02B3/00
H04N9/097 (Advanced/Invention);
G02B27/10 (Core/Invention)
International (IPC 1-7): G02B27/10 G02B27/40 G02B3/00 H04N9/04
H04N9/07 H04N9/09 H04N9/097
CPC: G02B2207/117 H04N9/097
European: H04N9/097 S02B207/117
US: 348/337 348/345 348/E09.008 348/E9.008 358/50 358/55 359/637
359/665



Family:

Publication number	Publication date	Application number	Application date
JP2220021 A2	19900903	JP19890042778	19890221
JP2308104 A2	19901221	JP19890130683	19890523
JP2872270 B2	19990317	JP19890130683	19890523
US5134468 A	19920728	US19900479605	19900213

Priority:

JP19890042778 19890221 JP19890130683 19890523

Probable Assignee: CANON INC

Assignee(s): (std): CANON KK

Assignee(s): KYANON KK ; CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s): (std): OMURO TAKASHI ; OHMURO RYUJI

Inventor(s): OOMURO TAKASHI

6) Family number: 3428344 (US5321259A)

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Title: Imaging device with prism scan element means

Abstract: PCT No. PCT/GB91/00093 Sec. 371 Date Jul. 21, 1992 Sec. 102(e) Date Jul. 21, 1992 PCT Filed Jan. 22, 1991 PCT Pub. No. WO91/11290 PCT Pub. Date Aug. 8, 1991. The device comprises a structure (1) supporting a light beam source (2), a beam guide and a camera assembly (3), the light beam source (2) being arranged to direct an outgoing beam of light (I) into the beam guide which projects the outgoing beam (P) onto a target surface to sweep the beam around an endless path (E) on the target surface, scans synchronously around the endless path (E) to receive light returning from the portion of the path (E) illuminated by the outgoing beam (P), and directs the returning light (P) onto a light sensor (12) provided in the camera assembly (3); the beam guide comprising a rotatable wedge prism (5) arranged such that the outgoing beam (2) is transmitted through relatively inclined surfaces (9, 10) of a projecting element of the prism (5) as it is rotated to direct the beam (P) to sweep around the endless path (E) and the light returning from the portion of the path illuminated by the beam (P) is received through relatively inclined surfaces (9, 10) of a receiving element of the prism (5) as it is rotated to direct the returning light (P) onto the light sensor (12). The position of the image formed on the sensor (12) is indicative of the range of the illuminated portion of the target surface and, from a knowledge of the position of the scanning beam, its three-dimensional position can be determined. An image of the sensed topology can thus be built up as the target surface is scanned.

Classifications:

International (IPC 8-9): B23K9/127 B23Q35/40 G01B11/24 G01B11/245

G02B26/08 G02B26/10 (Advanced/Invention);

G01B11/24 (Advanced/Non-invention);

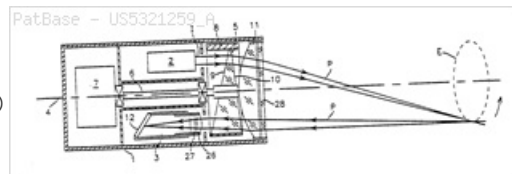
B23K9/127 B23Q35/00 G01B11/24 G02B26/08 G02B26/10 (Core/Invention)

International (IPC 1-7): B23K26/04 B23K9/127 B23Q35/40 G01B11/24 H01J3/14

CPC: B23K9/1274 G02B26/0808 G02B26/10

European: B23K9/127G2 G02B26/08D G02B26/10

US: 250/236 359/211 359/211.2



Family:

Publication number	Publication date	Application number	Application date
AU199172168 A1	19910821	AU19910072168	19910122
DE69103744 D1	19941006	DE19916003744	19910122
DE69103744 T2	19950302	DE19916003744T	19910122
EP0512019 A1	19921111	EP19910903441	19910122
EP0512019 B1	19940831	EP19910903441	19910122
GB9001509 A0	19900321	GB19900001509	19900123
JP2949600 B2	19990913	JP19910503788	19910122
JP5503578 T2	19930610	JP19910503788T	19910122
US5321259 A	19940614	US19920910308	19920721
WO9111290 A1	19910808	WO1991GB00093	19910122

Priority:

GB19900001509 19900123 WO1991GB00093 19910122

Probable Assignee: OXFORD SENSOR TECHNOLOGY LTD

Assignee(s): (std): OXFORD SENSOR TECH ; OXFORD SENSOR TECHNOLOGY LIMIT ; OXFORD SENSOR TECHNOLOGY LTD ; DAVY MCKEE POOLE

Assignee(s): DAVY MCKEE POOLE LTD ; OTSUKUSUFUODOO SENSAA TEKUNOROJII LTD ; Q TEC ENGINEERING GROUP INC ; OXFORD SENSOR TECHNOLOGY LIMITED ; OXFORD SENSOR TECHNOLOGY LTD OXFORD GB

Inventor(s): (std): MORGAN COLIN G ; MORGAN COLIN GEORGE

Inventor(s): MORGAN COLIN GEORGE HORSPATH OXFORD OX9 1RS GB ; COLIN GEORGE MORGAN ; MOOGAN KORIN JOOJI

Designated states: AT AU BB BE BF BG BJ BR CA CF CG CH CM DE DK ES FI FR GA GB GR HU IT JP KP KR LK LU MC MG ML MR MW NL NO PL RO SD SE SN SU TD TG US

7) Family number: 20666944 (US5543972A)

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Title: Mirror for producing a development picture of the wall of a borehole in the ground and device therefor

Abstract: PCT No. PCT/JP91/01282 Sec. 371 Date Jun. 6, 1992 Sec. 102(e) Date Jun. 6, 1992 PCT Filed Sep. 26, 1991 PCT Pub. No. WO92/06277 PCT Pub. Date Apr. 16, 1992A compound type cone mirror installed inside a sonde moving up and down in a borehole for observing the whole circumference of the hole wall at an arbitrary depth at a time, a combined mirror for locally observing the hole wall in detail, and an elevating sonde equipped with these mirrors are provided for observing the wall surface of a borehole in the ground. In the compound type cone mirror, a transparent truncated cone block the surface of which is finished by polishing is inserted into a concave portion or pierced hole having the same shape as said truncated cone block and formed coaxially in the axial direction in a transparent column block the surface of which is finished by polishing, and said inserting face is a mirror finished face. Moreover, in the combined mirror, a plane mirror slanted upward at 45 DEG to the axial direction is mounted onto the top face of the truncated cone block or column block of the compound type cone mirror.

Classifications:

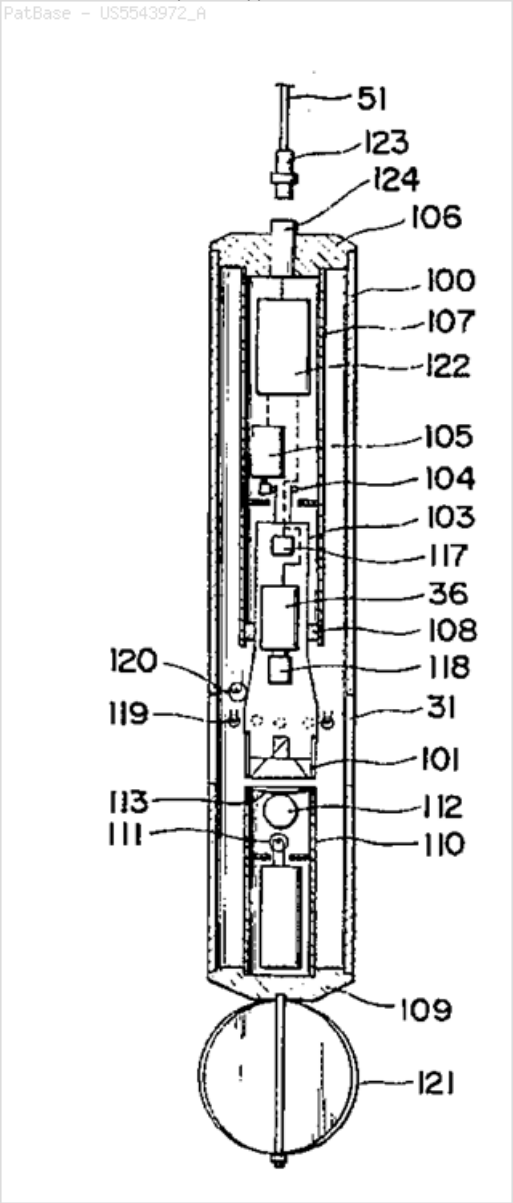
International (IPC 8-9): E21B47/00 E21B47/002 E21B47/09 E21B49/00 G01B11/24 G01N21/84 G01N21/88 G01N21/95 G01N21/954 G02B23/24 (Advanced/Invention); E21B47/00 E21B49/00 G01B11/24 G01N21/84 G01N21/88 (Core/Invention)

International (IPC 1-7): E21B47/00 E21B47/09 E21B49/00 G01B11/24 G01N21/00 G01N21/84 G01N21/88 G02B23/24 G02B27/02 G02B5/00 G02B5/08 G02B5/10

CPC: E21B47/0002 G01N21/954 G02B23/2423

European: E21B47/00C G01N21/954 G02B23/24B2

US: 175/49 175/50 33/302 33/304 356/241.1 359/834 359/868 359/894 73/152.01



Family:

Publication number	Publication date	Application number	Application date
AU199185378 A1	19920428	AU19910085378	19910926
AU643834 B2	19931125	AU19910085378	19910926

DE69128240 D1	19980102	DE19916028240	19910926
DE69128240 T2	19980319	DE19916028240T	19910926
EP0504413 A1	19920923	EP19910916750	19910926
EP0504413 A4	19940914	EP19910916750	19910926
EP0504413 B1	19971119	EP19910916750	19910926
JP2782114 B2	19980730	JP19900287827	19901025
JP2825333 B2	19981118	JP19900270880	19901009
JP4146394 A2	19920520	JP19900270880	19901009
JP4161693 A2	19920605	JP19900287827	19901025
US5543972 A	19960806	US19920867226	19920605
WO9206277 A1	19920416	WO1991JP01282	19910926

Priority:

JP19900270880 19901009 JP19900287827 19901025 WO1991JP01282 19910926

Probable Assignee: RAAX CO LTD

Assignee(s): (std): RAAX CO LTD ; REATSUKUSU KK

Assignee(s): RAAX CO ; RAAX CO LTD SAPPORO HOKKAIDO JP

Inventor(s): (std): KAMEWADA SHUNICHI ; KAMEWADA SHUNICHI RAAX CO ; KAMEWADA SHUNICHI RAAX CO LTD ; KIWADA SHUNICHI ; SHUNICHI KAMEWADA

Agent(s): GRIFFITH HACK

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

8) Family number: 10655929 (US5717455A)

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Title: System and method for three dimensional image acquisition and processing of a borehole wall

Abstract: This invention provides a three dimensional image acquisition and processing method and system that enable three dimensional viewing of an underground borehole wall. Also provided are a cylindrical straight prism and a counter cylindrical straight prism that are used in this method and system of three dimensional viewing of a borehole wall.

Classifications:

International (IPC 8-9): G02B23/24 (Advanced/Invention);

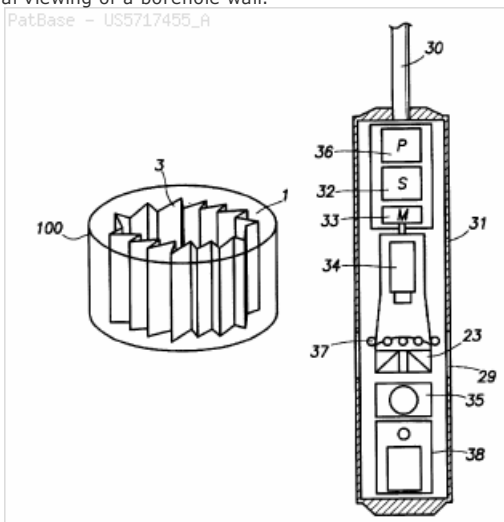
G02B23/24 (Core/Invention)

International (IPC 1-7): H04N7/18

CPC: G02B23/2415

European: G02B23/24B1

US: 348/85 356/241 356/241.1



Family:

Publication number	Publication date	Application number	Application date
US5717455 A	19980210	US19960674397	19960702

Priority:

US19960674397 19960702

Probable Assignee: RAAX CO LTD

Assignee(s): (std): RAAX CO LTD

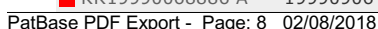
Inventor(s): (std): KAMEWADA SHUNICHI

9) Family number: 11135359 (US5805289A)

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Title: Portable measurement system using image and point measurement devices

Abstract: Calibrated spatial reference devices (SRDs) of known dimensions having targets at known relative locations are attached to a large structure to be measured. A design device employs a digital camera to acquire digital images of 'islands' of the structure including the SRDs and employs photogrammetry techniques to determine relative locations of 'islands' within a large structure. A highly accurate coordinate measurement device provides absolute 3D measured locations of the targets used to convert the relative photogrammetry locations into absolute 3D locations. A monitor displays the digital images, measured 3D locations, photogrammetry locations in a superimposed manner to a user and a user interface allows the user to select objects to be measured. Image detection techniques are used to identify objects selected by a user and dimensions, and distances between selected objects are automatically calculated. A remote link allows remote users to interact with the device to view, select



Priority:

KR19980002787 19980202

Probable Assignee: KOREA ADVANCED INST SCIENCE AND TECHNOLOGY

Assignee(s): (std): KOREA ADVANCED INST SCI AND TECH ; KOREA ADVANCED INST SCIENCE AN

Assignee(s): KOREA ADVANCED INST SCIENCE AND TECHNOLOGY ; KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY ; KOREA ADVANCED INSTITUTE SCIENCE AND TECHNOLOGY ; KOREA ADVANCED INST ; KOREA ADVANCED INST OF SCIENCE AND TECHNOLOGY

Inventor(s): (std): KOWN IN SO ; KWEON IN SO ; LEE DOO HYUN ; LEE DU HYEON

11) Family number: 28318286 (US2002180728A)

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Title: METHOD AND APPARATUS FOR INTERACTIVE CURVED SURFACE BOREHOLE INTERPRETATION AND VISUALIZATION

Abstract: An enlarged computer graphic image of borehole data is displayed on a concave three-dimensional surface, preferably a semi-cylindrical shape. Thus providing an enlarged image of a borehole surface where the data is spatially correct in three-dimensions, and which increases the ease with which interpreters can locate geological features such as surfaces, faults, and fractures.

Classifications:

International (ipc 8-9): G01V1/34 G03B21/56 G03B35/18 G06F3/00 G06F3/033 G06T17/00 G09F19/18 H04N13/04

H04N5/74 (Advanced/Invention);

G03B21/56 G03B35/18 H04N13/04 H04N5/74 (Advanced/Non-invention);

G01V1/28 G03B21/56 G03B35/18 G06F3/00 G06F3/033 G09F19/12

H04N13/04 H04N5/74 (Core/Invention)

International (ipc 1-7): G01V1/00 G01V1/34 G03B21/00 G03B21/56

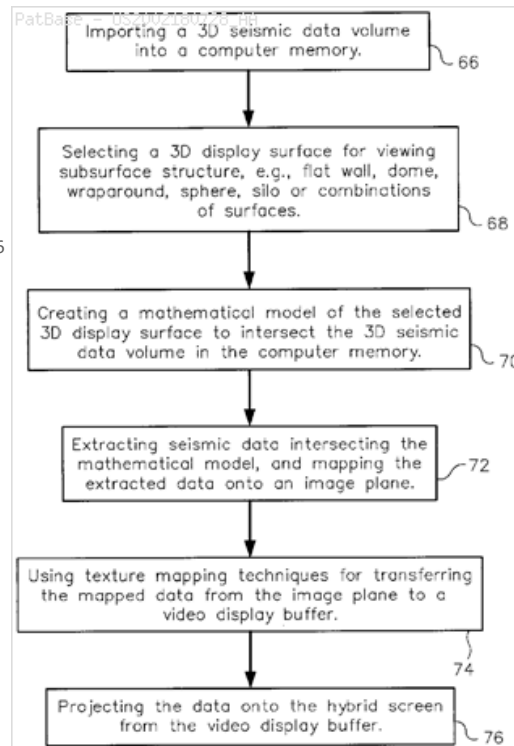
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H04N13/04 H04N5/74

CPC: G01V1/34 G03B21/56 G06F3/002 G06F3/0346 G09F19/18

European: G01V1/34 G03B21/56 G06F3/00B G06F3/033Z8E G06F3/0346 G09F19/18

US: 345/419 345/419P 353/7 359/451 359/458 367/37 367/38 367/70 367/72



Family:

Publication number	Publication date	Application number	Application date
AU200046979 A1	20001121	AU20000046979	20000503
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AU200046980 A1	20001121	AU20000046980	20000503
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CA2361540 AA	20010720	CA20002361540	20000503
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CN1344381 A	20020410	CN20008005254	20000503
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KR20020012565 A	20020216	KR20017014032	20000503
US2002180728 AA	20021205	US20020154015	20020523
US6188517 BA	20010213	US19990306612	19990506
US6215499 BA	20010410	US19990306611	19990506
US6424464 BA	20020723	US20000698678	20001027

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Priority:

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WO2001US26863 20010829 US20020154015 20020523

Probable Assignee: CONOCO PHILLIPS CO

Assignee(s): (std): GRISMORE JOHN R ; LAYTON JESSE E ; PHILLIPS PETROLEUM CO ; NEFF DENNIS B ; WYATT STEVEN B ; LUCAS WILLIAM A ; SINGLETON JACQUELYN K ; PHILLIPS PETROLEUM COMPANY ; PHILIPS PETROLEUM CO ; CONOCO PHILLIPS CO ; CONOCOPHILLIPS CO

Assignee(s): CONOCOPHILLIPS COMPANY ; PHILLIPS PETROLEUM CO A OF DELAWARE BUSINESS AT BA

Inventor(s): (std): JESSE E LAYTON ; JOHN R GRISMORE ; LAYTON JESSE E ; LUCAS WILLIAM A ; NEFF DENNIS B ; SINGLETON JACQUELYN K ; STEVEN B WYATT ; DENNIS B NEFF ; GRISMORE JOHN R ; JACQUELYN K SINGLETON ; WILLIAM A LUCAS ; WYATT STEVEN B

Agent(s): PHILLIPS ORMONDE FITZPATRICK; OSLER HOSKIN AND HARCOURT LLP

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

12) Family number: 15900271 (US2004021858A)

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Title: APPARATUS AND METHOD FOR DETECTING PIPELWE DEFECTS

Abstract: An apparatus and method are disclosed for scanning and detecting defects in sewer and similar pipelines that eliminate the need to stop and pan-and-tilt areas of concern. In the method of the invention, a pipeline (15) inspection probe (10) of the apparatus of the invention comprising a CCD camera (14) with fish-eye lens (12) travels through the pipeline (15) on a self-propelled tractor automatically collecting data and transmitting it to a computer to provide a real-time display of the pipeline (15) interior with quasi three-dimensional information for effective and quick data analysis and management. The data includes digitized forward views and unfolded 360 degree laid-flat side-san (22) views of the pipeline (15) interior. Additionally, the digitized data may be stored for further analysis, tabulation, and for use with pipeline infrastructure maintenance software.

Classifications:

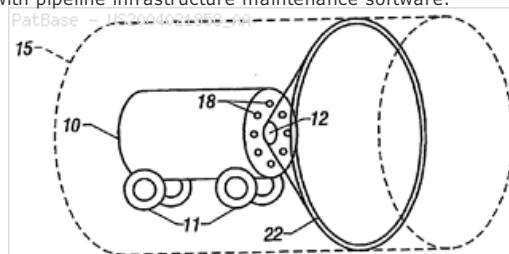
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International (ipc 1-7): G01B11/24 G01M3/00 G01M3/38 G01N21/00 G01N21/88 G01N21/954

CPC: G01N21/954 G01N2021/9544

European: G01N21/954 S01N21/954A2

US: 250/559.07 356/241.1 356/241.100P 73/865.5 73/865.8



Family:

Publication number	Publication date	Application number	Application date
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AU200169717 A5	20011211	AU20010069717	20010530
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EP1305594 A4	20050629	EP20010948246	20010530
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JP2004509321 T2	20040325	JP20020501011T	20010530
US2004021858 AA	20040205	US20020258974	20021029
US7164476 BB	20070116	US20010258974	20010530
WO0192852 A1	20011206	WO2001US17390	20010530
WO0192852 A9	20090723	WO2001US17390	20010530

Priority:

US20000207784P 20000530 US20010258974 20010530 WO2001US17390 20010530
US20020258974 20021029

Probable Assignee: OYO CORP USA

Assignee(s): (std): GOEBUCHI TORU ; IINUMA HIROYUKI ; ISELEY DAVID THOMAS ; OYO CORP USA ; SHIMA HIROMASA ; KARASAKI KENZI ; SANO KO ; OYO CORP

Assignee(s): OYO U S A CORP ; OYO CORP U S A ; OYO USA CORP

Inventor(s): (std): GOEBUCHI TORU ; IINUMA HIROYUKI ; ISELEY DAVID THOMAS ; KARASAKI KENZI ; SANO KO ; SHIMA HIROMASA

Inventor(s): TORU GOEBUCHI ; KO SANO ; KENZI KARASAKI ; HIROYUKI IINUMA ; HIROMASA SHIMA ; DAVID THOMAS ISELEY

Agent(s): SKONE JAMES ROBERT EDMUND; KAREN B

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

Title: METHOD AND APPARATUS FOR GENERATING STRUCTURAL PATTERN ILLUMINATION

Abstract: A three-dimensional imaging method and system illuminates an object to be imaged with a light pattern that is formed from two or more light sub-patterns. The sub-patterns can each encompass the visible light spectrum or can be spatially varying intensity sub-patterns that each correspond to a red, green, or blue component. The light pattern is generated by a slotted planar member or an optical filter.

Classifications:

International (ipc 8-9): A61B1/00 A61B1/24 A61B1/247 A61B5/00 A61B6/00 A61C1/08 A61C1/16 A62C13/76 B05B15/06 G01B11/25 G01S17/89 G02B13/06 G02B23/24 G06F19/00 G08F19/00

H04R25/00 (Advanced/Invention);

H04N5/225 (Advanced/Non-invention);

A61B1/24 A61B5/00 A61B6/00 G01B11/24 G01S17/00 G02B13/06

G02B23/24 G06F19/00 H04R25/00 (Core/Invention);

H04N5/225 (Core/Non-invention);

A61B (Subclass/Invention)

International (ipc 1-7): A61B1/247 A61B6/00 A61C G01B11/24

G01B11/25 G01B11/30 G01S17/89 G02B23/24 G06F19/00 G06K9/00

CPC: A61B5/0064 A61B5/0073 A61B5/1455 A61B5/14556 G01B11/2513

A62C37/08 H04R2225/77 G01S17/89 H04R25/658 A61B1/00193

A61B1/0638 A61B1/0646 A61B1/06 A61B1/247 A61C1/088 A61C1/16 B82Y15/00 G02B13/06 G02B23/2407 H04N2005/2255

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European: A61B1/00J A61B1/06 A61B1/24 A61B1/247 A61B5/00P1A A61B5/00P6 A61C1/08L A61C1/16 A62C37/08 B82Y15/00

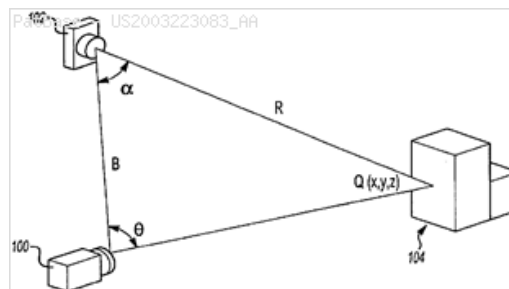
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US: 169/37 239/282 239/283 248/327 248/75 264/16 356/326 356/432 356/602 356/603 356/603P 356/610 382/154 433/29

433/37 600/309 600/312 600/328 600/473 600/473P 600/476 600/476P 600/476S 700/117 700/117P 977/931 977/931S 977/952

977/952S

**Family:**

Publication number	Publication date	Application number	Application date
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AU200166840 A1	20020130	AU20010066840	20010611
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WO02059545 A1	20020801	WO2001US18644	20010611
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Priority:

US19990282067	19990329	US19990144010P	19990715	US20000178695P	20000128
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Probable Assignee: TECHNEST HOLDINGS INC

Assignee(s): (std): GENEX TECHNOLOGIES INC ; GENG JASON Z ; GENG ZHENG JASON ; GENG ZHENG J ; GENG Z JASON ; AUTOMATIC FIRE CONTROL INC

Assignee(s): CERBERUS BUSINESS FINANCE LLC COLLATERAL AGENT AS ; E OIR TECHNOLOGIES INC ; ANVIL INT LLC ; SILICON VALLEY BANK ; TECHNEST HOLDINGS INC ; JPMORGAN CHASE BANK NA COLLATERAL AGENT AS ; GENG Z

Inventor(s): (std): GENG Z JASON ; GENG ZHENG J ; GENG ZHENG JASON ; JASON Z GENG ; KIRSCHNER KRAIG A ; Z ; Z JASON GENG ; ZHENG JASON GENG ; GENG JASON Z

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

14) Family number: 29527197 (US2002024658A)

© PatBase

Title: ENGINE BEARING INSPECTION SYSTEM

Abstract: An inspection system is used to view an image of the inside diameter (ID) of an engine bearing. The inspection system includes a stationary line scan camera, a pivoting mirror, a scanning mirror and a stationary mount. The engine bearing is placed in the stationary mount such that the bearing remains motionless throughout the entire scanning process. The light line generator produces a light line that initially contacts a beam splitter. The beam splitter then guides the light line onto the pivoting mirror, which then directs the light line onto one of a pair of stationary mirrors and then finally onto the scanning mirror. The scanning mirror will sweep the light line across a portion of the engine bearing ID surface. The light line will generate reflected images of the ID surface. These reflected images will return along the light line's path; however, instead of being directed back into the light line generator by the beam splitter, the reflected images will pass through the beam splitter. Once the reflected images pass through the beam splitter, they will journey through the lens and into the stationary line scan camera. From the stationary line camera, the reflected images can be viewed on a monitor and recorded for future use.

Classifications:

International (IPC 8-9): G01B11/30 G01N21/88 G01N21/954 G02B26/10 H04N7/18 (Advanced/Invention);

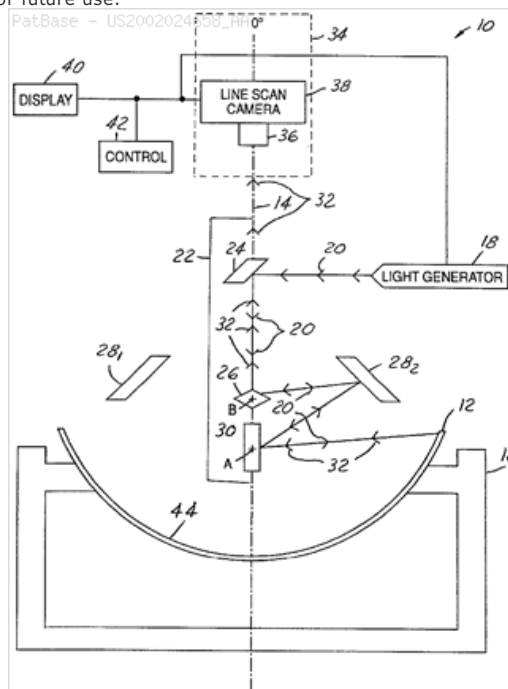
G01B11/30 G01N21/88 G02B26/10 H04N7/18 (Core/Invention)

International (IPC 1-7): F16C G01B11/30 G01N21/00 G01N21/88 G01N21/89 G02B26/10 H04N7/18 H04N9/47

CPC: G01N21/8806

European: G01N21/88K G01N21/954

US: 356/237.1 356/237.2



Family:

Publication number	Publication date	Application number	Application date
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EP1336302 A2	20030820	EP20010966081	20010822
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JP3905475 B2	20070418	JP20020521850T	20010822
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Priority:

US20000227538P 20000824 US20010934151 20010821 WO2001US26222 20010822

Probable Assignee: OG TECHNOLOGIES INC

Assignee(s): (std): CHANG TZYU SHUH ; OG TECHNOLOGIES INC

Inventor(s): (std): CHANG TZYU SHUH

Inventor(s): TZYU SHUH CHANG

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

Title: METHOD AND APPARATUS FOR THREE-DIMENSIONAL OPTICAL SCANNING OF INTERIOR SURFACES

Abstract: The invention concerns the three-dimensional scanning of interior surfaces or cavities of limited dimensions or with restricted accessibility by providing a probe-shaped non-contact adapted to perform a scan 360 degrees around the axis of the probe and a method for scanning. The invention furthermore relates to the creation of high precision three-dimensional replicas of real objects using 3-D scan data obtainable with the scanner according to the invention. Furthermore, the invention relates to a specific embodiment for scanning the human ear and ear canal.

Classifications:

International (IPC 8-9): A61B1/00 A61B1/04 A61B1/05 A61B1/227

G01B11/24 G01B11/25 G01B3/30 (Advanced/Invention);

A61B5/107 (Advanced/Non-invention);

A61B1/00 A61B1/04 A61B1/05 A61B1/227 G01B11/24

G01B3/30 (Core/Invention);

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International (IPC 1-7): A61B1/05 G01B11/00 G01B11/24 G01B11/25 G01B3/30

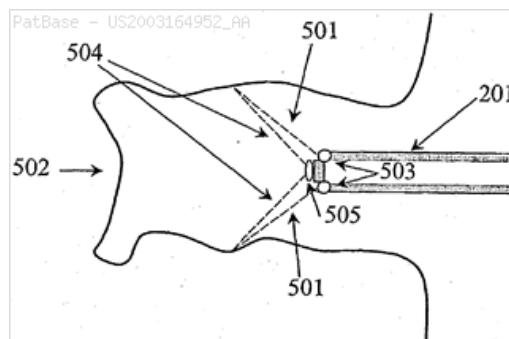
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G06T7/00R3 K61B5/107J K61B5/45R2B

US: 356/603 600/103 600/117 600/129



Family:

Publication number	Publication date	Application number	Application date
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WO0216865 A2	20020228	WO2001DK00564	20010824
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WO0216867 A1	20020228	WO2001DK00561	20010824

Priority:

DK20000001258 20000825 US20000244561P 20001031 WO2001DK00561 20010824
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Probable Assignee: 3SHAPE APS

Assignee(s): (std): 3SHAPE APS ; 3SHAPE AS ; CLAUSEN TAIS ; DEICHMANN NIKOLAJ ; FISHER RENE ; VASILJEV BARTHE CHRISTOPHE

Assignee(s): 3SHAPE A S

Inventor(s): (std): CLAUSEN TAIS ; DEICHMANN NIKOLAJ ; FISHER RENE ; BARTHE CHRISTOPHE VASILJEV ; VASILJEV BARTHE CHRISTOPHE

Inventor(s): CHRISTOPHE VASILJEV BARTHE ; NIKOLAJ DEICHMANN ; RENE FISHER ; TAIS CLAUSEN

Agent(s): HOEIBERG A S ; JACOBSON HOLMAN PLLC

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

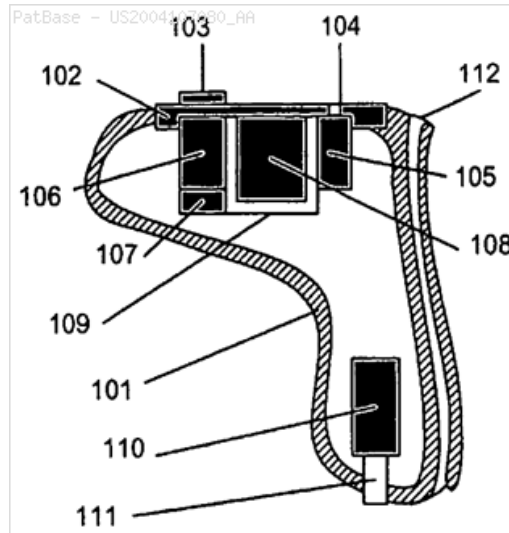
Title: METHOD FOR MODELLING CUSTOMISED EARPIECES

Abstract: The present invention relates to a method for computer-controlled modelling of customised earpieces. These earpieces include housings for hearing aids, wireless or connected communication devices (headsets, mobile phones, personal agents), loud speakers, tinnitus masking devices, devices recording vibrations in the skull and transforming these into audio signals, voice recognition devices, earplugs, noise blockers with selective frequencies or sound levels, Man Machine Interface (MMI) products that enable clear communication even in the noisiest environments, or products related to wireless Internet applications. All these earpieces may be worn in the user's meatus and/or auditory canal. The invention also relates to a computerised system for manufacturing such customised earpieces. In particular, the invention is directed to a computerised system that models an earpiece based on a three-dimensional replica of the user's meatus and/or auditory canal.

Classifications:

International (IPC 8-9): A61F11/00 A61F11/08 G06F17/50 G06T17/00

H04R1/10 H04R25/00 (Advanced/Invention);
A61F11/00 H04R1/10 H04R25/00 (Core/Invention)
International (IPC 1-7): A61F11/00 G06G7/48 G06T17/00 H04R1/10
CPC: G06T17/00 G06T2210/21 G05B19/4099 G06T19/00 H04R25/658
A61F11/08 H04R1/1016 H04R25/652 H04R2225/77 H04R2460/11
B33Y50/00 B33Y80/00
European: A61F11/08 G05B19/4099 G06T17/20 G06T19/00 H04R1/10B
H04R25/65B H04R25/65M S06T200/08 T04R225/75 T04R225/77
T04R460/11
US: 345/419 345/420 381/312 381/322 381/324 381/328 703/1 703/2
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Family:

Publication number	Publication date	Application number	Application date
AT539562 E	20120115	AT20020702231T	20020301
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US2004107080 AA	20040603	US20030469591	20030902
US8032337 BB	20111004	US20020469591	20020301
WO02071794 A1	20020912	WO2002DK00137	20020301

Priority:

DK20010000346 20010302 US20010275112P 20010313 DK20010000519 20010328
DK20010001521 20011017 WO2002DK00137 20020301 EP20020702231 20020301

Probable Assignee: 3SHAPE APS

Assignee(s): (std): 3SHAPE APS ; 3SHAPE AS ; BARTHE CHRISTOPHE VASILJEV ; SHAPE APS ; FISHER RENE ; CLAUSEN TAIS ;
DEICHMANN NIKOLAJ

Assignee(s): 3SHAPE A S ; VASILJEV BARTHE CHRISTOPHE

Inventor(s): (std): BARTHE CHRISTOPHE ; BARTHE CHRISTOPHE VASILJEV ; CLAUSEN TAIS ; DEICHMANN NIKOLAJ ; FISHER
RENE ; VASILJEV BARTHE CHRISTOPHE

Agent(s): CBDL PATENTANWALTE; HOEIBERG A S; BUCHANAN INGERSOLL AND ROONEY PC

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

17) Family number: 30313743 (US6697102B)

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Title: BORE HOLE CAMERA WITH IMPROVED FORWARD AND SIDE VIEW ILLUMINATION

Abstract: An elongate rugged cylindrical metal housing encloses rotatable forward looking and side looking video cameras for inspecting bore holes of water, oil and natural gas wells. A ring-shaped array of white LEDs is mounted on a PC board at the forward end of the housing. The ring-shaped array of LEDs surrounds, and is spaced rearward of a flat sapphire window through which the forward looking video camera views down the bore hole. The array of forward looking LEDs is encased behind a dome-shaped acrylic window which protects the forward looking LEDs from physical impacts and also functions as a light pipe. A side looking video camera is mounted in an inner tube rotatable by a motor drive within the outer housing about a longitudinal axis of the outer housing. The side field of view of the second video camera can be aligned with a predetermined circumferential region of a side wall of the bore hole for locating and inspecting defects in a well casing. A stationary cylindrical array of white LEDs is mounted in the exterior housing, surrounding the inner rotatable tube, slightly rearward of the second video camera. A light bending film with tiny Fresnel prisms is mounted just inside a cylindrical window of the housing and maximizes the amount of illumination that strikes the predetermined circumferential region. Switch mechanisms and circuitry are provided so that one or more sixty-degree circumferential segments of the cylindrical side facing array of LEDs which are adjacent the field of view of the side looking video camera are energized in order to minimize power consumption and heat dissipation. The forward and side illumination design minimizes the common illuminated volume and maximizes the resolution of the forward and side video images.

Classifications:

International (IPC 8-9): E21B47/00 H04N7/18 (Advanced/Invention);
E21B47/00 H04N7/18 (Core/Invention)

International (IPC 1-7): G01V3/00 H04N7/18 H04N9/47

CPC: E21B47/0002 H04N7/183

European: E21B47/00C H04N7/18D

US: 324/323 348/131 348/85 348/E07.087 348/E7.087

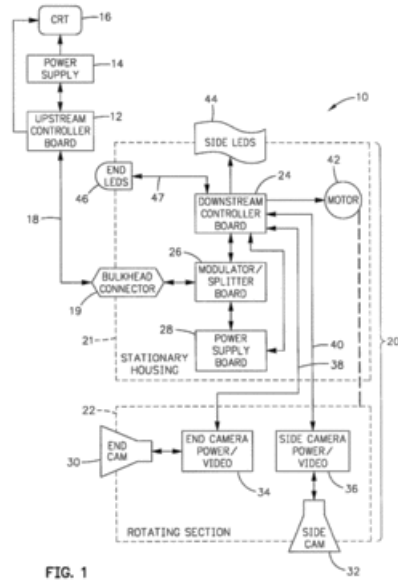


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
US6697102 BA	20040224	US20000703331	20001031

Priority:

US20000703331 20001031

Probable Assignee: DEEPSEA POWER AND LIGHT INC A CALIFORNIA CORP**Assignee(s):** (std): DEEPSEA POWER AND LIGHT COMPANY ; DEEPSEA POWER AND LIGHT CO**Assignee(s):** DEEPSEA POWER AND LIGHT CO A CALIFORNIA CORP ; DEEPSEA POWER AND LIGHT INC ; DEEPSEA POWER AND LIGHT INC A CALIFORNIA CORP ; DEEPSEA POWER AND LIGHT LLC**Inventor(s):** (std): TURGEON MICHAEL E ; PRSHA JEFFREY A ; OLSSON MARK S ; COX DAVID A**18) Family number: 30787232** (US2004160514A)

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Title: BORESCOPE FOR DRILLED SHAFT INSPECTION

Abstract: Visual inspection of an interior surface of a borehole. A housing adapted to be lowered in the borehole supports a portable camera for generating images of a portion of the interior surface of the borehole and a light source for illuminating an area adjacent the camera. A monitor receives signals from the camera and, in response thereto, displays the images generated by the camera. A viewing envelope positioned adjacent the camera defines a viewing area adjacent the camera, particularly for use in visually inspecting slurry-filled boreholes.

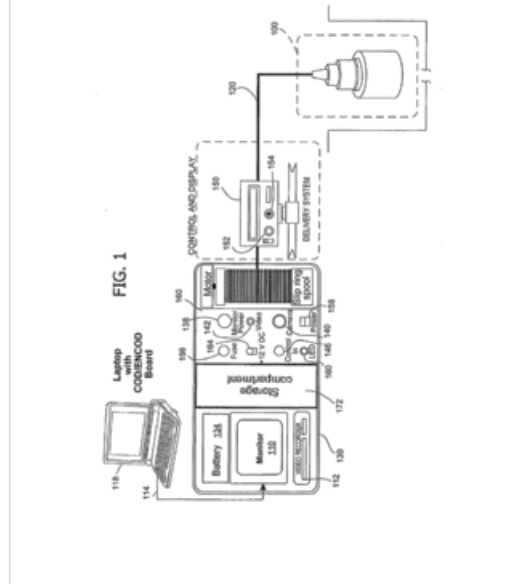
Classifications:**International (IPC 8-9):** A61B1/04 E21B47/00 G01V1/40 G01V3/18

G06K9/00 H04N7/18 (Advanced/Invention);

G01N21/954 (Advanced/Non-invention);

G01N21/88 (Core/Non-invention)

International (IPC 1-7): H04N7/18**CPC:** E21B47/0002 G01N21/954**European:** E21B47/00C S01N21/954**US:** 166/250.01 175/50 348/61 348/61S 348/82 348/85 348/85P 382/109 382/109P 702/6 73/152.02

**Family:**

Publication number	Publication date	Application number	Application date
US2004160514 AA	20040819	US20040776817	20040211
US2007127780 AA	20070607	US20070672430	20070207
US7187784 BB	20070306	US20040776817	20040211
US8169477 BB	20120501	US20070672430	20070207

Priority:

US19980102408P 19980930 US19990409450 19990930 US20040776817 20040211
 US20070672430 20070207

Probable Assignee: AVASARALA SWAMY

Assignee(s): (std): TURNER DAN ; TAWFIQ KAMAL ; PUTCHA SASTRY ; MALLORY EDWARD J ; UNIV FLORIDA STATE RES FOUND

Assignee(s): FLORIDA STATE UNIVERSITY RESEARCH FOUNDATION INC ; SWAMY AVASARALA ; AVASARALA SWAMY ; AVASARALA SWAMY KUMAR V ; AVER TECHNOLOGIES INC ; FLORIDA STATE UNIV ; FLORIDA STATE UNIV RESEARCH FOUNDATION ; FLORIDA STATE UNIV RESEARCH FOUNDATION INC ; FLORIDA STATE UNIVERSITY RESEARCH FOUNDATION

Inventor(s): (std): MALLORY EDWARD J ; PUTCHA SASTRY ; TAWFIQ KAMAL ; TURNER DAN ; TAWFIQ KAMAL

Inventor(s): MALLORY EDWARD

Agent(s): SENNIGER POWERS; SENNIGER POWERS LLP

19) Family number: 32763383 (US2006066847A)

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Title: INSPECTION APPARATUS

Abstract: An inspection system is provided that includes a camera and a laser distance measuring device. The camera has high magnification capabilities and can be panned and tilted as needed. The laser distance measuring device provides information regarding the distance from the camera to the object being imaged. The camera and laser distance measuring device are carried by a frame, which has an elongated member attached thereto for resting the frame on a surface. This configuration makes the inspection system well suited to inspect horizontal pipelines without feeding the camera along the length of the pipeline.

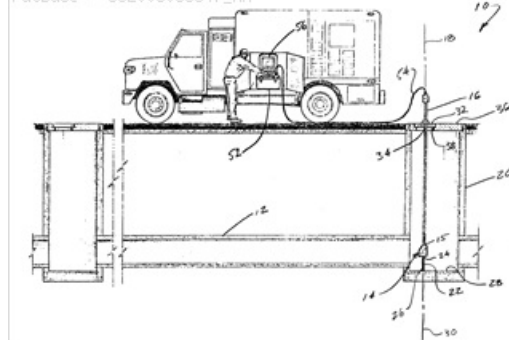
Classifications:

International (IPC 8-9): G01N21/00 G01N21/88 (Advanced/Invention); G01N21/88 (Core/Invention)

CPC: G01N21/8806 G01N21/954

European: G01N21/88K G01N21/954

US: 356/241.1 356/241.100P 356/241.6

**Family:**

Publication number	Publication date	Application number	Application date
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■ US2006066847 AA	20060330	US20040952019	20040928
■ US7345757 BB	20080318	US20040952019	20040928

Priority:

US20040952019 20040928

Probable Assignee:

PENZA G GREGORY

Assignee(s): (std):

PENZA G G ; PENZA G GREGORY

Inventor(s): (std):

PENZA G GREGORY ; PENZA G G

Inventor(s):

PENZA G

Agent(s):

BROOKS KUSHMAN PC

20) Family number: 34381782 (US2007080997A)

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Title: METHOD OF UNBLOCKING NOZZLES IN A PRINTHEAD

Abstract: A method of unblocking nozzles in a printhead is provided. The method comprises the steps of: (a) providing an elastically deformable pad having a contact surface for sealing engagement with an ink ejection face of the printhead; and (b) moving the pad from a first position in which the contact surface is sealingly engaged with the face to a second position in which the contact surface is disengaged from said face. The movement causes the contact surface to be peeled away from the face during disengagement.

Classifications:

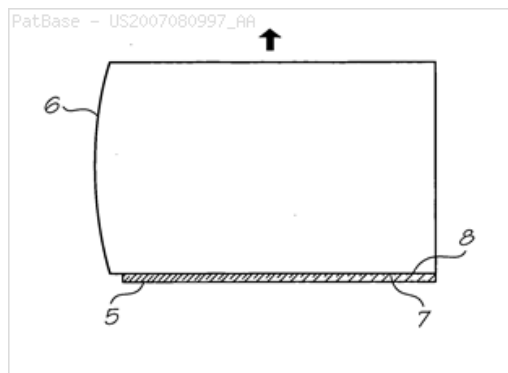
International (IPC 8-9): B41J2/165 (Advanced/Invention);

B41J2/165 (Core/Invention)

CPC: B41J2/16535

European: B41J2/165C2

US: 347/29 347/31 347/31P 347/32 347/33 347/36



Family:

Publication number	Publication date	Application number	Application date
■ US2007080997 AA	20070412	US20050246679	20051011
■ US2009278885 AA	20091112	US20090506212	20090720
■ US7575297 BB	20090818	US20050246679	20051011
■ US7938503 BB	20110510	US20090506212	20090720

Priority:

US20050246679 20051011 US20090506212 20090720

Probable Assignee: MEMJET TECHNOLOGY LTD

Assignee(s): (std): SILVERBROOK RES PTY LTD

Assignee(s): SILVERBROOK RESEARCH PTY LTD ; ZAMTEC LTD ; MEMJET TECHNOLOGY LTD

Inventor(s): (std): HOLYOAKE BRUCE G ; MORGAN JOHN D P ; HOLYOAKE BRUCE GORDON ; HIBBARD CHRISTOPHER ; SILVERBROOK KIA ; MORGAN JOHN DOUGLAS PETER

Inventor(s): HOLYOAKE BRUCE ; MORGAN JOHN ; MORGAN JOHN DP

Agent(s): SILVERBROOK RESEARCH PTY LTD

21) Family number: 41143347 (US2010026998A)

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Title: METHODS AND APPARATUS FOR MICRO-IMAGING

Abstract: Apparatus and method for investigating underground formations surrounding a borehole, comprises: a drill bit (28); an optical probe (30) having substantially the same outer diameter as the drill bit; a drive mechanism (22), operable to cause the drill bit to drill a hole in the formation when the apparatus is in the borehole, and to advance the optical probe into the drilled hole; and an optical system (36), arranged such that when the optical probe is in the drilled hole, light from a light source (32) is directed into the optical probe, light entering the probe from the source is directed at the formation around the drilled hole, and light entering the probe from the formation around the drilled hole is directed to a detector.

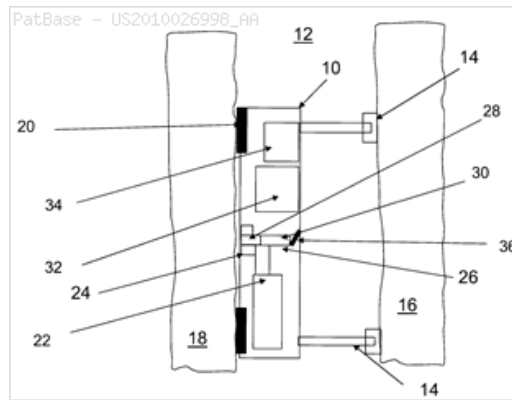
Classifications:

International (IPC 8-9): E21B47/00 (Advanced/Invention)

CPC: E21B47/0002 E21B49/10

European: E21B47/00C E21B49/10

US: 356/241.1 356/241.100P



Family:

Publication number	Publication date	Application number	Application date
AT505623 E	20110415	AT20060291222T	20060724
DE602006021294 D1	20110526	DE200660021294T	20060724
EP1882809 A1	20080130	EP20060291222	20060724
EP1882809 B1	20110413	EP20060291222	20060724
US2010026998 AA	20100204	US20070374706	20070719
WO08012035 A1	20080131	WO2007EP06478	20070719

Priority:

EP20060291222 20060724 WO2007EP06478 20070719

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Assignee(s): (std): PRAD RES AND DEV NV ; REZGUI FADHEL ; SCHLUMBERGER SERVICES PETROL ; SCHLUMBERGER HOLDINGS ; SCHLUMBERGER HOLDING LTD ; SCHLUMBERGER CA LTD ; SCHLUMBERGER TECHNOLOGY BV

Assignee(s): SCHLUMBERGER TECHNOLOGY CORP ; SERVICES PETROLIERS SCHLUMBERGER ; SCHLUMBERGER CANADA LTD ; SCHLUMBERGER CANADA LIMITED ; SCHLUMBERGER HOLDING LIMITED ; SCHLUMBERGER HOLDINGS LTD ; SCHLUMBERGER TECHNOLOGY B V ; SCHLUMBERGER HOLDINGS LIMITED ; PRAD RESEARCH AND DEVELOPMENT N V ; PRAD RESEARCH AND DEVELOPMENT N V WILLEMSTAD ; PRAD RESEARCH AND DEVELOPMENT NV

Inventor(s): (std): REZGUI FADHEL

Agent(s): WHITE NICHOLAS JOHN ET AL; HYDEN MARTIN DOUGLAS; SCHLUMBERGER OILFIELD SERVICES; ETUDES PRODUCTION SCHLUMBERGER

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

22) Family number: 44515612 (US2010060904A)

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Title: HAND-HELD SURFACE PROFILER

Abstract: A light-emitting hand-held surface profiler for scanning and profiling the surfaces of objects has a transparent housing, a focusable light source, a conical mirror aligned to redirect light emitted by the light source onto a surface to be profiled, an imaging sensor and a lens aligned to redirect toward the imaging sensor light reflected by the surface onto the lens. The light source, conical mirror, imaging sensor and lens are mounted within the housing and positionally referentially coupled to the housing.

Classifications:

International (IPC 8-9): G01B11/24 G01B11/245

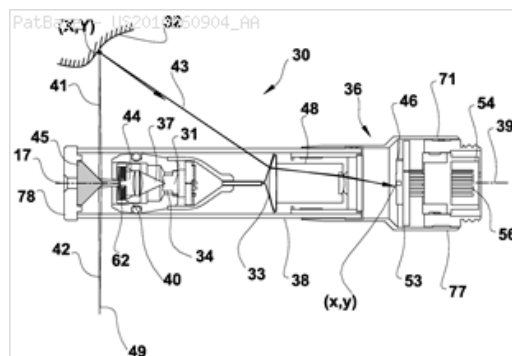
G01B11/30 (Advanced/Invention);

G01B11/24 (Core/Invention)

CPC: G06T7/521 G01B11/2513 G01B11/2518

European: G01B11/25D G01B11/25F G06T7/00R3

US: 356/606 356/608 356/608P



Family:

Publication number	Publication date	Application number	Application date
US2010060904 AA	20100311	US20080204915	20080905
US8035823 BB	20111011	US20080204915	20080905
WO10025561 A1	20100311	WO2009CA01234	20090904

Priority:

Probable Assignee: 3DM DEVICES INC

Assignee(s): (std): 3DM DEVICES INC ; CUNHA ADRIANO GONCALVES ; DUMONT MARK AURELE LOUIS ; KEIGHTLEY JOHN HOWARD

Inventor(s): (std): CUNHA ADRIANO GONCALVES ; DUMONT MARK AURELE LOUIS ; KEIGHTLEY JOHN HOWARD

Agent(s): OYEN WIGGS GREEN AND MUTALA LLP 480 STATION; OYEN WIGGS GREEN AND MUTALA LLP; WIGGS BLAKE R

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

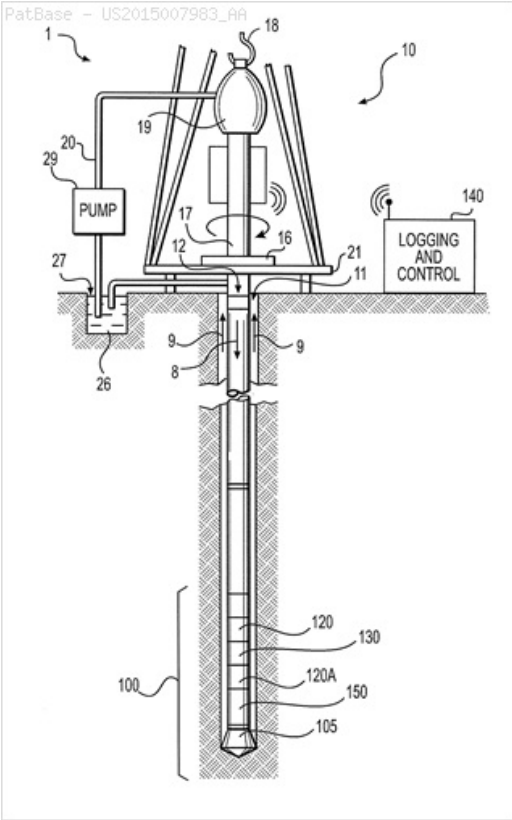
23) Family number: 58190917 (US2015007983A)

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Title: DOWNHOLE IMAGING SYSTEMS AND METHODS

Abstract: Downhole Camera systems and methods. Certain systems include a high-speed video camera configured with a 360 degree optical field-of-view, a jet-flushing system capable of temporarily displacing debris substantially simultaneously along all azimuths within the optical field-of-view, and optionally a downhole real-time image processing system for reducing the amount of captured video transmitted to surface. Certain methods include capturing a set of images downhole using a high-speed video camera having a 360 degree optical field-of-view, substantially simultaneously temporarily displacing debris in the optical field-of-view for at least a portion of the time the camera is capturing video using a jet-flushing system capable of projecting flushing fluid substantially simultaneously along all azimuths in the borehole. The methods may also involve pre-processing the set of images to reduce the number of images or reduce the amount of information transmitted to surface.

Classifications:
International (IPC 8-9): E21B10/60 E21B21/00 E21B47/00 E21B47/002 G01N21/01 (Advanced/Invention)
CPC: E21B47/0002 E21B10/60 E21B21/00
US: 166/250.01 166/66



Family:

Publication number	Publication date	Application number	Application date
US2015007983 AA	20150108	US20130935492	20130704
US9581011 BB	20170228	US20130935492	20130704
WO15003107 A1	20150108	WO2014US45342	20140703

Priority:
US20130935492 20130704

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Assignee(s): (std): PRAD RES AND DEV LTD ; SCHLUMBERGER CA LTD ; SCHLUMBERGER TECHNOLOGY CORP ; SCHLUMBERGER TECHNOLOGY BV ; SCHLUMBERGER HOLDINGS ; SCHLUMBERGER SERVICES PETROL

Assignee(s): SERVICES PETROLIERS SCHLUMBERGER ; SCHLUMBERGER HOLDINGS LTD ; SCHLUMBERGER CANADA LTD ; PRAD RESEARCH AND DEVELOPMENT LTD

Inventor(s): (std): TJHANG THEODORUS

Agent(s): TREVOR G; WRIGHT DARYL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN

IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX
MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN
ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW