



New connection on: : 21-08-2018 : 07:30:57 - Last disconnection on: : 21-08-2018 : 07:30:57

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

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[EPODOC: SS 4] G03B

Results in EPODOC 5

[SS 5] ..v

[EPODOC: SS 5] image+ and captur+

Results in EPODOC 144.002

[SS 6] G03B

Results in EPODOC 5

[SS 7] 5 and 6

Results in EPODOC 3

[SS 8] three and dimension+

Results in EPODOC 367.905

[SS 9] 5 and 8

Results in EPODOC 7.077

[SS 10] device or system or apparatus

Results in EPODOC 24.898.543

[SS 11] 9 and 10

Results in EPODOC 5.963

[SS 12] prism+

Results in EPODOC 103.105

[SS 13] 11 and 12

Results in EPODOC 37

[SS 14] ..li 1-10



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PN - [US2017292833](#) A1 20171012

PR - KR20140123864
20140917; WO2015KR09792
20150917

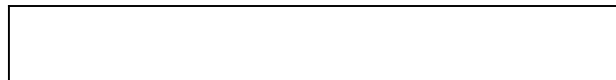
AP - US201515511852 20150917

DT - **

CT - || R141 (A1)
[US5126872](#) A 19920630 [
] (BIRKLE GEBHARD [DE]);
[US5309212](#) A 19940503 [
] (CLARK R ROBERT [US]);
[US5661294](#) A 19970826 [
] (BUCHMANN CHRISTA [CH],
et al);
[US5785651](#) A 19980728 [
] (KUHN WILLIAM P [US], et
al);
[US5905595](#) A 19990518 [
] (MINAMI HIDEAKI [JP]);
[US2003179385](#) A1 20030925
[] (FUJIWARA HISATOSHI [JP],
et al);
[US6788411](#) B1 20040907 [
] (LEBENS GARY A [US]);
[US6924897](#) B2 20050802 [
] (PARKS ROBERT E [US], et al);
[US7880891](#) B1 20110201 [
] (KIM MYUNG K [US]);
[JPH06331329](#) A 19941202 [
] (TECHNO AATSU KENKYUSHO
KK, et al);
[KR20120071899](#) A 20120703
[] (SNU R&DB FOUNDATION
[KR])

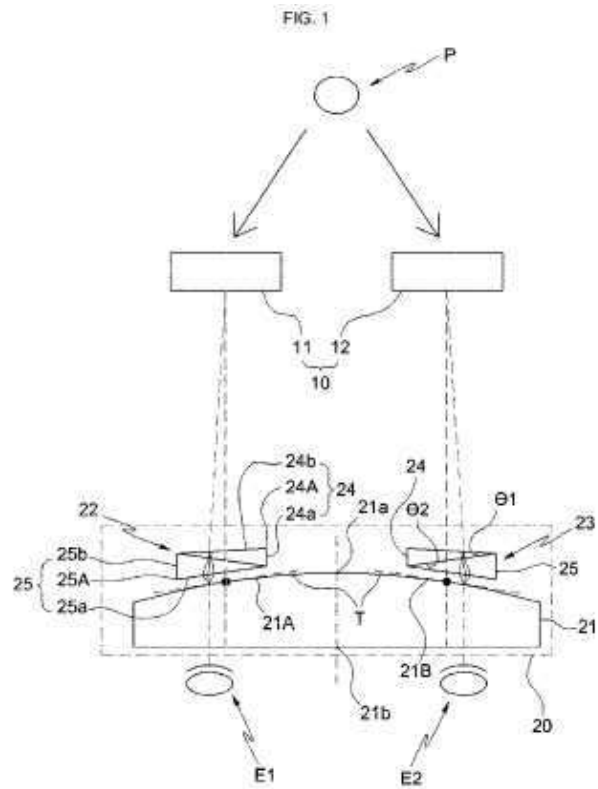
CCI - [G01B11/0608](#) ; [G01B9/02022](#)

CUI - [G01B11/06](#) ; [G01B11/24](#) ;
[G02B5/04](#)



- PA - KOH YOUNG TECH INC [KR]
- TI - **APPARATUS** FOR
MEASURING **THREE-**
DIMENSIONAL SHAPE
USING **PRISM**
- AB - The present disclosure
relates to a **three-**
dimensional shape
measurement **apparatus** for
obtaining height information
of a measurement target
object using a **prism**.
The **three-dimensional** shape
measurement **apparatus**
includes an illumination unit
irradiating light on the
measurement target object,
a **prism** unit receiving
reflective light reflected from
the measurement target
object and directing the
reflective light to an **image**
formation lens, an imaging
unit receiving the reflective
light from the **prism** unit
and **capturing** an **image** of the
reflective light, and a height
measurement unit measuring
a height of the measurement
target object based on
the **image captured** by the
imaging unit.

PN - [JP2017134399](#) A 20170803
 PR - KR20160009873 20160127
 AP - JP20170010124 20170124
 DT - I
 CT - || STSE (A)
 [JP2001042257](#) A 20010216
 [Y] (TSUTSUMI YAKU)
 [Y] 1-4
 * Paragraphs0079-0080,
 Figure23 *;
 [JPS60171031](#) A 19850904
 [Y] (CANON KK)
 [Y] 1-4
 * Page2 Upper-left-column
 Lines8-18, Page2 Lower-right-
 column Line6 - Page3 Upper-
 left-column Line14, Figure3 *;
 [JPS52137355](#) A 19771116
 [A] (FUJI PHOTO FILM CO LTD)
 [A] -
 * Whole Document *;
 [JPS58203411](#) A 19831126
 [A] (ZEISS STIFTUNG)
 [A] -
 * Whole Document *;
 [JPH0698353](#) A 19940408
 [A] (SANYO ELECTRIC CO)
 [A] -
 * Whole Document *;
 [US5673146](#) A 19970930 [A]
 [A] -
 * Whole Document *
 CCI - [G02B21/0012](#) ; [G02B21/22](#) ;
 [G02B21/36](#) ; [G02B25/004](#) ;
 [G02B25/007](#) ; [G02B27/0172](#)
 CUI - [G02B27/0025](#) ; [G02B5/04](#) ;
 [G02B27/2242](#)
 CCA - [G02B2027/0116](#) ;
 [G02B2027/0178](#) ;
 [G02B2027/011](#) ;
 [G02B2027/0132](#)
 FI - G02B27/22; G03B35/24;
 H04N13/04&220;
 H04N13/04&400
 FT - 2H059/AA24; 2H059/AA35;
 2H059/AA38; 2H199/BA05;
 2H199/BA06; 2H199/BA49;
 2H199/BA56; 2H199/BA66;
 2H199/BA67; 2H199/BB02;
 2H199/BB27; 2H199/BB52;
 2H199/BB59; 2H199/BB64;



	5C061/AA06; 5C061/AB14; 5C061/AB18
PA	- SOMETECH CO LTD
TI	- GLASSES-FREE 3D DISPLAY DEVICE WITHOUT REQUIRING INTERPUPILLARY DISTANCE ADJUSTMENT
AB	- PROBLEM TO BE SOLVED: To provide a glasses-free 3D display device that shows an area which is not easily observed or is not allowed to reach a field of view of a user, in a magnified and three dimensional manner, and thereby can be employed for extensive use in a medical field or other industrial fields. SOLUTION: The glasses-free 3D display device without requiring interpupillary distance adjustments comprises: an ocular lens having a curved structure in which a convex portion bulges outwards from a center of the ocular lens, and of which a horizontal length is formed to be longer than an interpupillary distance of a user; and a pair of achromatic prisms respectively placed at front sides of a left curved surface and a right curved surface of the convex portion, wherein the achromatic prisms enable paths of light to be corrected while left and right images of an object that are individually captured and displayed pass through the achromatic prisms , so that chromatic aberration, a change in optical axis, and nonlinear distortion are corrected, and the left and right images corrected by the achromatic prisms are magnified and formed on the retina of a left eye and a right eye of the user respectively

while passing through the ocular lens. The glasses-free 3D display **device** therefore does not need adjustment of distance between both side lenses, namely interpupillary width, which is necessary for glasses type display **device**.
 SELECTED DRAWING: Figure 1

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- PN - [US2017202439](#) A1 20170720
- PR - WO2014CN78241 20140523
- AP - US201415313653 20140523
- DT - **
- CCI - [A61B1/00193](#) ; [A61B1/051](#) ;
[A61B1/3132](#) ; [H04N5/2254](#) ;
[H04N5/2259](#) ; [H04N13/218](#)
- CUI - [A61B1/313](#) ; [G02B17/08](#) ;
[G02B23/2415](#) ; [G03B35/10](#) ;
[H04N13/207](#) ; [H04N13/296](#)
- PA - COVIDIEN LP [US]
- TI - 3D LAPAROSCOPIC **IMAGE CAPTURE APPARATUS** WITH A SINGLE **IMAGE** SENSOR
- AB - A **system** is presented including a first lens for receiving a first **image**, a second lens for receiving a second **image**, the first and second lenses being synchronized with each other, and a mirror and **prism** assembly configured to receive the first and second **images**. The **system** further includes a single **image** sensor configured to receive the first and second **images** from the mirror and **prism** assembly, the first **image** projected onto a first side of the single **image** sensor and the second **image** projected onto a second side of the single **image** sensor. The **system** may also include at least one processor for separately processing the first **image** on the first side of



the single **image** sensor and the second **image** on the second side of the single **image** sensor to reconstruct a **three-dimensional image** of an object.

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PN - [KR101651995B](#) B1 20160830

PR - KR20160009873 20160127

AP - KR20160009873 20160127

DT - I

CT - || STSE (B1)
[JP2001042257](#) A 20010216 [
] (TSUTSUMI YAKU);
[JPH0698353](#) A 19940408 [
] (SANYO ELECTRIC CO);
[JP2001013448](#) A 20010119 [
] (MINOLTA CO LTD)

CCI - [G02B21/0012](#) ; [G02B21/22](#) ;
[G02B21/36](#) ; [G02B25/004](#) ;
[G02B25/007](#) ; [G02B27/0172](#)

CUI - [G02B27/0025](#) ; [G02B5/04](#) ;
[G02B27/2242](#)

CCA - [G02B2027/0116](#) ;
[G02B2027/0178](#) ;
[G02B2027/011](#) ;
[G02B2027/0132](#)

PA - SOMETECH CO LTD [KR]

TI - GLASSES-FREE 3D DISPLAY

AB - The present invention relates to a non-glasses type **three-dimensional** (3D) display **apparatus** without requiring interorbital width adjustment, capable of realizing a 3D screen by directly focusing left and right **images** of a subject to left and right eyes, respectively. The **apparatus** comprises: an eyepiece formed to have a structure in which the front surface is curved and having a protruding convex part in the central part thereof, the rear surface is flat, and a length in left/right directions is greater than an inner width; and a



pair of chromatic aberration removal **prisms** disposed in the front side of the left and the right curved surface of the convex part. Since an optical path is corrected while the individually **captured** and displayed left and right **images** of the subject penetrate the chromatic aberration removal **prisms**, chromatic aberration, optical axis modification, and non-linear distortion are corrected. An **image** corrected through the chromatic aberration removal **prism** is extended and **imaged** on left and right eyes of a user while passing the eyepiece, so interval adjustment of both glasses type lenses, which is interorbital width adjustment, is not needed. In particular, since a part is not easily seen by the eyes or not reached by vision is extended and stereoscopically displayed, an effect of being utilized as a non-glasses type 3D display **apparatus** capable of being widely used in a medical field or other various industrial fields is provided.

5/37 © EPODOC / EPO

PN - [JP2016145790](#) A 20160812

PR - JP20150013979 20150128

AP - JP20150043530 20150305

DT - I

CT - || STSE (A)

[JP2014527630](#) A 20141016 [Y]

[Y] 1-9

* Paragraphs0038,0055-0057, Figure1 *;

[JP2014102246](#) A 20140605 [Y] (NAT INST OF ADV IND & TECHNOL)

[Y] 1-9

* Abstract *;

[JP2012189612](#) A 20121004 [A] (SHINRYO AIR COND)

[A] -

* Whole Document *;

[JP2005537583](#) A 20051208 [A]

[A] -

* Whole Document *;
[JP2001174261](#) A 20010629 [A] (KATO TOSHIYASU)

[A] -

* Whole Document *;
[US2014343890](#) A1 20141120 [A] (LEICA GEOSYSTEMS AG [CH])

[A] -

* Whole Document *

CCI - [G01C1/04](#) ; [G01C3/08](#) ; [G01C11/04](#) ; [G01C15/002](#) ; [G06T7/74](#)
CQI - [G06T7/70](#)
CCA - [G06T2207/10028](#) ; [G06T2207/30204](#)
FI - G01C15/00&103A; G01C15/06&T
PA - TOPCON CORP
TI - **THREE-DIMENSIONAL POSITION MEASUREMENT SYSTEM**
AB - PROBLEM TO BE SOLVED: To provide a **three-dimensional** position measurement **system** which can perform measurement only by setting a tip end of an indication bar at a measurement point even if the indication bar is inclined from the measurement point.SOLUTION: The **three-dimensional** position measurement **system** comprises: a surveying instrument having an imaging part, a distance measuring part for measuring distance to a **prism** 3, and an angle measuring part for measuring an angle; an indication bar 4 set at a measurement point, on which the **prism** 3 is fixed at a position shifted from the measurement point by a known fixed length; and an inclinometer sheet 5 having a mark with which an inclination angle from a visual line direction can be analyzed. The inclinometer sheet 5 is provided on the indication bar 4, the imaging part **captures** an **image** of a mark surface, the mark surface is subjected to **image** analysis to calculate an inclination angle of the inclinometer sheet 5 with respect to a visual line direction from the surveying instrument, and a **three-dimensional** position of the measurement point is measured by using a **three-dimensional** point of the **prism** 3, the inclination angle of the inclinometer sheet 5 and the fixed length.SELECTED DRAWING: Figure 3

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PN - [EP3196591](#) A1 20170726

PNFP - EP3196591 A4 20170726
- EP3196591 B1 20180801

PR - KR20140123864 20140917; WO2015KR09792 20150917

AP - EP20150841802 20150917

DT - *; Rep

CCI - [G01B11/0608](#) ; [G01B9/02022](#)

CUI - [G01B11/06](#) ; [G01B11/24](#) ; [G02B5/04](#)

PA - (A1 A4 B1)
KOH YOUNG TECH INC [KR]

TI - (A1 A4 B1)
APPARATUS FOR MEASURING THREE-DIMENSIONAL SHAPE USING PRISM

AB - (A1)
The present disclosure relates to a **three-dimensional** shape measurement **apparatus** for obtaining height information of a measurement target object using a **prism**.
The **three-dimensional** shape measurement **apparatus** includes an illumination unit irradiating light on the measurement target object, a **prism** unit receiving reflective light reflected from the measurement target object and directing the reflective light

to an **image** formation lens, an imaging unit receiving the reflective light from the **prism** unit and **capturing** an **image** of the reflective light, and a height measurement unit measuring a height of the measurement target object based on the **image captured** by the imaging unit.

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PN - [US2015250380](#) A1 20150910

PR - US201514716293
20150519; WO2013JP85337
20131226; US201261746809P
20121228

AP - US201514716293 20150519

DT - **

CT - || R141 (A1)
[US5940126](#) A 19990817 [
] (KIMURA MASANOBU [JP]);
[US6364830](#) B1 20020402 [
] (DURELL WILLIAM E [US])

CCI - [A61B1/00096](#) ;
[A61B1/00183](#) ;
[A61B1/00193](#) ; [A61B1/045](#) ;
[G02B23/2415](#) ; [G03B35/08](#)

CQI - [A61B1/00006](#) ;
[A61B1/00087](#) ;
[A61B1/00133](#) ; [A61B1/04](#)

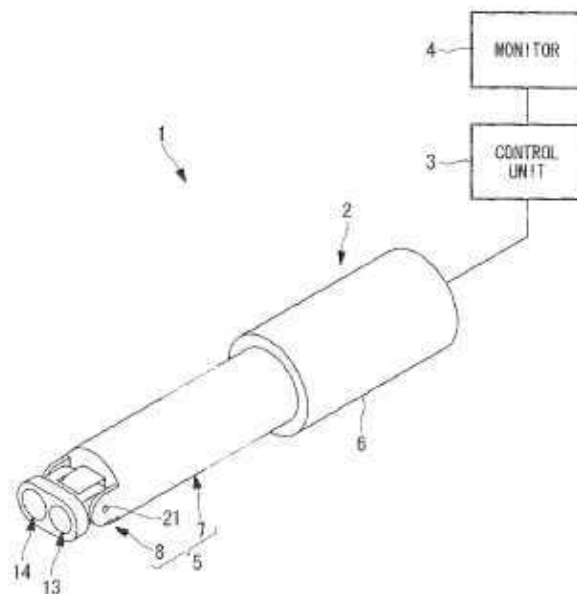
CCA - [A61B1/00009](#) ; [G03B37/005](#)

PA - OLYMPUS CORP [JP]

TI - **THREE-DIMENSIONAL**
ENDOSCOPE

AB - This **three-dimensional** endoscope is provided with optical systems that are provided with a pair of lens groups, which focus light coming from an object, a pair of first **prisms**, which deflect the light focused by the respective lens groups, and a pair of second **prisms**, which deflect the light deflected by the respective first **prisms**, and that form two **images** exhibiting parallax; a distal-end-side rotating mechanism that rotates the pair of lens groups and the pair of first **prisms** relative to the pair of second **prisms** about an axis perpendicular to the optical axes; an imaging **device** that **captures**

FIG. 1

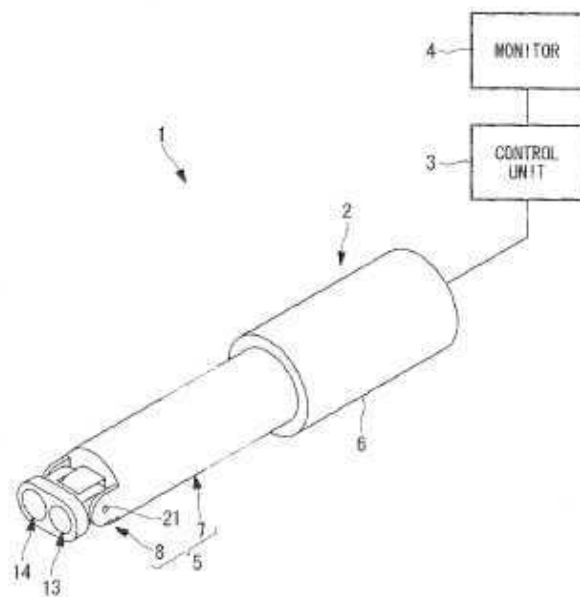


the two **images** exhibiting parallax formed by the optical systems; and an **image** processing portion that processes screen **images** acquired by the imaging **device** and that rotates the two **images** acquired by the imaging **device** in opposite directions from each other.

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PN - [CN104822306](#) A 20150805
 PNFP - CN104822306B B 20170308
 PR - WO2013JP85337
 20131226; US201261746809P
 20121228
 AP - CN2013863390 20131226
 DT - I
 CT - || STSE (A)
[US2005234296](#) A1 20051020
 [A] (SAADAT VAHID [US], et al)
 [A] 1-3
 * 全文 *;
[US5166787](#) A 19921124
 [A] (IRION KLAUS [DE])
 [A] 1-3
 * 全文 *;
[CN102596000](#) A 20120718
 [A] (OLYMPUS MEDICAL
 SYSTEMS CORP)
 [A] 1-3
 * 全文 *;
[DE19613431](#) A1 19961017
 [A] (ZEISS CARL FA [DE])
 [A] 1-3
 * 全文 *;
[JPH10309258](#) A 19981124
 [A] (OLYMPUS OPTICAL CO)
 [A] 1-3
 * 全文 *;
[US2003092966](#) A1 20030515
 [A] (SCHARA NATHAN J [US], et
 al)
 [A] 1-3
 * 全文 *;
[JPH06105806](#) A 19940419
 [A] (OLYMPUS OPTICAL CO)
 [A] 1-3
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[US2005014994](#) A1 20050120

FIG. 1



[A] (FOWLER DENNIS L [US], et al)

[A] 1-3

* 全文 *;

[JPH0416812](#) A 19920121

[A] (OLYMPUS OPTICAL CO)

[A] 1-3

* 全文 *;

[CN101889853](#) A 20101124

[A] (UNIV SHANGHAI

JIAOTONG)

[A] 1-3

* 全文 *;

[JPH1199124](#) A 19990413

[A] (TECH RES ASS MED &

WELFARE APP)

[A] 1-3

* 全文 *;

[JPS63210813](#) A 19880901

[A] (OLYMPUS OPTICAL CO)

[A] 1-3

* 全文 *;

[US2002007110](#) A1 20020117

[A] (IRION ING KLAUS [DE])

[A] 1-3

* 全文 *;

[US6560013](#) B1 20030506

[A] (RAMSBOTTOM ANDREW

PAUL[GB])

[A] 1-3

* 全文 *

- CCI - [A61B1/00096](#) ;
[A61B1/00183](#) ;
[A61B1/00193](#) ; [A61B1/045](#) ;
[G02B23/2415](#) ; [G03B35/08](#)
- CQI - [A61B1/00006](#) ;
[A61B1/00087](#) ;
[A61B1/00133](#) ; [A61B1/04](#)
- CNOI - (A)
[A61B1/00188](#) ;
[A61B1/00193](#) ; [G02B23/2415](#)
- CCA - [A61B1/00009](#) ; [G03B37/005](#)
- CNOA - (A)
[A61B1/00006](#) ;
[A61B1/00009](#) ;
[A61B1/00087](#) ;
[A61B1/00096](#) ;
[A61B1/00133](#) ;
[A61B1/00183](#) ; [A61B1/04](#)
- PA - (A)
OLYMPUS CORP
- TI - (A)

THREE-DIMENSIONAL ENDOSCOPE

AB

- (A)

A **three-dimensional** endoscope is provided with optical systems (9, 10) that are provided with a pair of lens groups (13, 14), which focus light coming from an object, a pair of first **prisms** (15, 16), which deflect the light focused by the respective lens groups, and a pair of second **prisms** (17, 18), which deflect the light deflected by the respective first **prisms**, and that form two **images** exhibiting parallax; a distal-end-side rotating mechanism (22) that rotates the pair of lens groups and the pair of first **prisms** relative to the pair of second **prisms** about an axis perpendicular to the optical axes; an imaging **device** (11) that **captures** the two **images** exhibiting parallax formed by the optical systems; and an **image** processing portion that processes screen **images** acquired by the imaging **device** and that rotates the two **images** acquired by the imaging **device** in opposite directions from each other.

PN - [WO2014104405](#) A1 20140703

PR - US201261746809P 20121228

AP - WO2013JP85337 20131226

DT - *; Rep

CT - |JP| ISR (A1)
[JPH1199124](#) A 19990413
 [A] (TECH RES ASS MED & WELFARE APP);
[JPH0416812](#) A 19920121
 [A] (OLYMPUS OPTICAL CO);
[JPH10309258](#) A 19981124
 [A] (OLYMPUS OPTICAL CO)

CCI - [A61B1/00096](#) ;
[A61B1/00183](#) ;
[A61B1/00193](#) ; [A61B1/045](#) ;
[G02B23/2415](#) ; [G03B35/08](#)

CQI - [A61B1/00006](#) ;
[A61B1/00087](#) ;
[A61B1/00133](#) ; [A61B1/04](#)

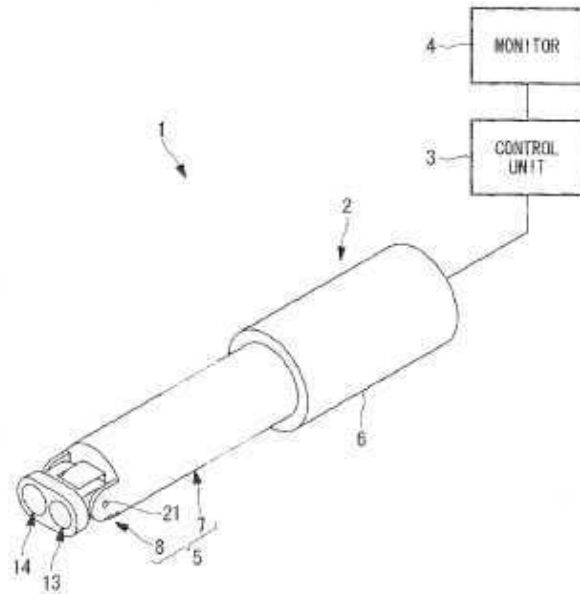
CCA - [A61B1/00009](#) ; [G03B37/005](#)

PA - OLYMPUS CORP [JP]

TI - **THREE-DIMENSIONAL
ENDOSCOPE**

AB - This **three-dimensional** endoscope is provided with optical systems (9, 10) that are provided with a pair of lens groups (13, 14), which focus light coming from an object, a pair of first **prisms** (15, 16), which deflect the light focused by the respective lens groups, and a pair of second **prisms** (17, 18), which deflect the light deflected by the respective first **prisms**, and that form two **images** exhibiting parallax; a distal-end-side rotating mechanism (22) that rotates the pair of lens groups and the pair of first **prisms** relative to the pair of second **prisms** about an axis perpendicular to the optical axes; an imaging **device** (11) that **captures** the two **images** exhibiting parallax formed by the optical systems; and an **image** processing portion

FIG. 1



that processes screen **images**
 acquired by the
 imaging **device** and that
 rotates the two **images**
 acquired by the
 imaging **device** in opposite
 directions from each other.

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PN - [CN203572780U](#) U 20140430

PR - CN20132543945U 20130903

AP - CN20132543945U 20130903

DT - I

PA - XI AN KEYWAY TECHNOLOGY CO LTD

TI - **Image capturing** mechanism and beverage can defect detection **system** based on spatial expansion

AB - The utility model relates to the technical field of industrial production line detection and in particular to a beverage can defect detection **system** and a detection method based on spatial expansion. The detection **system** comprises a product conveying line and an intelligent camera and a light source which are erected above the product conveying line, wherein the intelligent camera is connected with a **three-dimensional** modeling and detecting comparison computer and a PLC (programmable logic controller) in sequence; a front cambered-surface **prism** group and a rear cambered-surface **prism** group are erected on the product conveying line; a front cambered-surface **prism** and a rear cambered-surface **prism** form a cambered-surface **prism** combination. The beverage can defect detection **system** only needs one camera, so that the **system** cost is reduced; a picture splicing algorithm with high calculation intensity is not used, so that the program running speed is lowered, and a requirement on a processor is low.

[SS 14] ..stat CCI



..STAT CCI

#	FREQ	/CCI	DESCRIPTION
1	13	G03B35/08	G03B35/08 . by simultaneous recording
2	9	H04N13/239	H04N13/239 ... using two 2D image sensors having a relative position equal to or related to the interocular distance
3	8	A61B1/00193	A61B1/00193 ... {adapted for stereoscopic vision}
4	7	G02B27/2235	G02B27/2235 ... {including reflecting surfaces in the optical path between the images and the observer}
5	7	G02B27/2257	G02B27/2257 ... {Collapsible stereoscopes}
6	7	H04N13/296	H04N13/296 ... Synchronisation thereof; Control thereof
7	6	G02B23/2415	G02B23/2415 ... {Stereoscopic endoscopes}
8	3	A61B1/00096	A61B1/00096 {Optical elements}
9	3	A61B1/00183	A61B1/00183 ... {for variable viewing angles}
10	3	A61B1/045	A61B1/045 .. Control therefor
11	3	G02B27/2242	G02B27/2242 ... {including refractive beam deviating means, e.g. wedges, prisms, in the optical path between the images and the observer}

12	3	H05K13/08	H05K13/08 .	Monitoring manufacture of assemblages
13	2	G01B11/0608	G01B11/0608 ...	{Height gauges}
14	2	G01B9/02022	G01B9/02022 ...	{contacting one object by grazing incidence}
15	2	G02B21/0012	G02B21/0012 ..	{Surgical microscopes}

REMARKS

- Per default, a list of maximum 15 terms is displayed. Execute **..STAT CCI NUM 20** if you wish to display maximum 20 terms per list.

[EPODOC: SS 14]