

Search strategy

Query

(PHOTOACOUSTIC+ AND MEASUR+ AND CELL+)/TI/AB/CLMS AND PD <= 2018-12-07

1 AND (MICROPHON+ AND LED+ AND CELL+)/TI/AB/CLMS

16 Documents

Publication numbers	Title	Current assignees
EP1795120 A1	Method and apparatus for noninvasive measurement of blood glucose by photoacoustics	NORTHROP GRUMMAN CORPORAITON, ...
EP-478136 A1	Photoacoustic cell and photoacoustic measuring device.	SHISEIDO
EP1325307 A1	Optoacoustic measuring arrangement and use thereof	SIEMENS
EP1564543 A2	Measuring cell for a photoacoustic gas sensor	AVL LIST
EP-950179 A1	Photoacoustic device and process for multi-gas sensing	HONEYWELL
EP2392916 A2	Photoacoustic gas sensor comprising an integrated IR source and acoustic detector	HONEYWELL INTERNATIONAL
US4399689 A	Temperature-controlled sample cell for photoacoustic spectroscopy	FORSCHUNGSZENTRUM JUELICH
DE4018393 A1	Measuring photosynthesis exchange gases - using leaf cuvette and photo-acoustic gas measurement in gas analyser	NATIONAL OSCAR OEHLER DR, ...
EP1797478 A2	Thermal selectivity multivariate optical computing	HALLIBURTON ENERGY SERVICES
US3948345 A	Methods and means for analyzing substances	HOFFMANN LA ROCHE
EP2286201 A1	A pipe system, a gas sensing system for a pipe system, and a method of determining a gas component in a cavity of a pipe	NATIONAL OILWELL VARCO
EP2930506 A1	Detection device with helmholtz differential acoustic resonator	CEA - COMMISSARIAT A L ENERGIE ATOMIQUE & AUX ENERGIES ALTERNATIVES
US20050160791 A1	Ultraviolet photoacoustic ozone detection	ACADEMIA SINICA
EP-840105 A1	Spectroscopic method and apparatus	ORBISPHERE LABORATORIES NEUCHATEL
CN206772812U U	Atmosphere albedo monitoring devices based on spectral technique	HANGZHOU CHUNLAI TECHNOLOGY
EP-752085 A1	Indoor air quality sensor and method	TRANE INTERNATIONAL, ...

Family 1/16 - FAMPAT - ©Questel

Title

(EP1795120)

Method and apparatus for noninvasive measurement of blood glucose by photoacoustics

Images**OTHER PUBLICATIONS**

Kohmel, K., et al., "Evaluation of Drug Penetration into the Skin by Photoacoustic Measurement", Sep./Oct. 1986, pp. 375-385, *J. Soc. Cosmet. Chem.*, vol. 37.

Marbach, R., et al., "Optical Diffuse Reflectance Accessory for Measurements of Skin Tissue by Near-Infrared Spectroscopy", Feb. 1995, pp. 610-621, *Applied Optics*, vol. 34, No. 4.

Heise, H., "Non-Invasive Monitoring of Metabolites Using Near-Infrared Spectroscopy: State of the Art", Jul. 1996, pp. 527-533, *Hum. Metab. Res.* 28.

Derpeho, D., et al., "Digital Signal Processing for Step-Scan Fourier Transform Infrared Photoacoustic Spectroscopy", 1997, pp. 453-460, *Applied Spectroscopy*, vol. 51, No. 4.

Jones, R., et al., "Quantitative Depth Profiling of Layered Samples Using Phase Modulation FT-IR Photoacoustic Spectroscopy", 1996, pp. 1258-1263, *Applied Spectroscopy*, vol. 50, No. 10.

Froberg, G., "The Race to Develop a Painless Blood Glucose Monitor", Mar. 1997, pp. 53-64, *Medical Device & Diagnostic Industries*.

Jiang, L., et al., "Comparison of Phase Rotation, Phase Spectrum, and Two-Dimensional Correlation Methods in Step-Scan Fourier Transform Infrared Photoacoustic Spectral Depth Profiling", May 15, 1997, pp. 1931-1935, *Analytical Chemistry*, vol. 69, No. 10.

Combs, R., et al., "The Design, Performance and Applications of a Dynamically Aligned Step-Scan Interferometer".

Publication numbers with kind code & date

DE69837425	T2	2007-12-13	DE69837425
EP1795120	A1	2007-06-13	EP1795120
DE69837425	D1	2007-05-10	DE69837425
EP0919180	B1	2007-03-28	EP-919180
JP3210632	B2	2001-09-17	JP3210632



TW408219	B	2000-10-11	TW-408219				
US6049728	A	2000-04-11	US6049728				
JP11235331	A	1999-08-31	JP11235331				
US5941821	A	1999-08-24	US5941821				
KR19990045525	A	1999-06-25	KR19990045525				
EP0919180	A1	1999-06-02	EP-919180				

Abstract

(EP1795120)

A method and apparatus for noninvasively measuring blood glucose levels provides an indirect, reagentless, differential, photoacoustic technique which responds to absorption in a thin surface layer. An excitation source provides electromagnetic energy which is utilized to irradiate the tissue, such as skin. The output of the radiation of the excitation source at the desired wavelength is coupled through a transmission device, such as a fiber optic bundle, which irradiates the electromagnetic energy onto the body surface. Upon irradiation, acoustic energy is generated by the absorption of the electromagnetic energy in a relatively thin layer of the sample to be measured, characterized by a heat-diffusing length. The acoustic energy is detected by the probe which includes a measuring **cell**, reference **cell**, window and differential **microphone**. Absorption of the light beam results in periodic heating of the tissue, at and near the tissue surface. The air in contact with the tissue surface in the measuring **cell** is in turn heated, and produces an acoustic emission in the measuring **cell**. This acoustic emission is detected with the differential **microphone**, one end of which is positioned in the measuring **cell** and the other end of which is positioned in the reference **cell**. A processor determines the concentration of the substance based upon the detected acoustic signal.

Inventors

CHOU MAU-SONG

Latest standardized assignees - inventors removed

NORTHROP GRUMMAN CORPORAITON

NORTHROP GRUMMAN

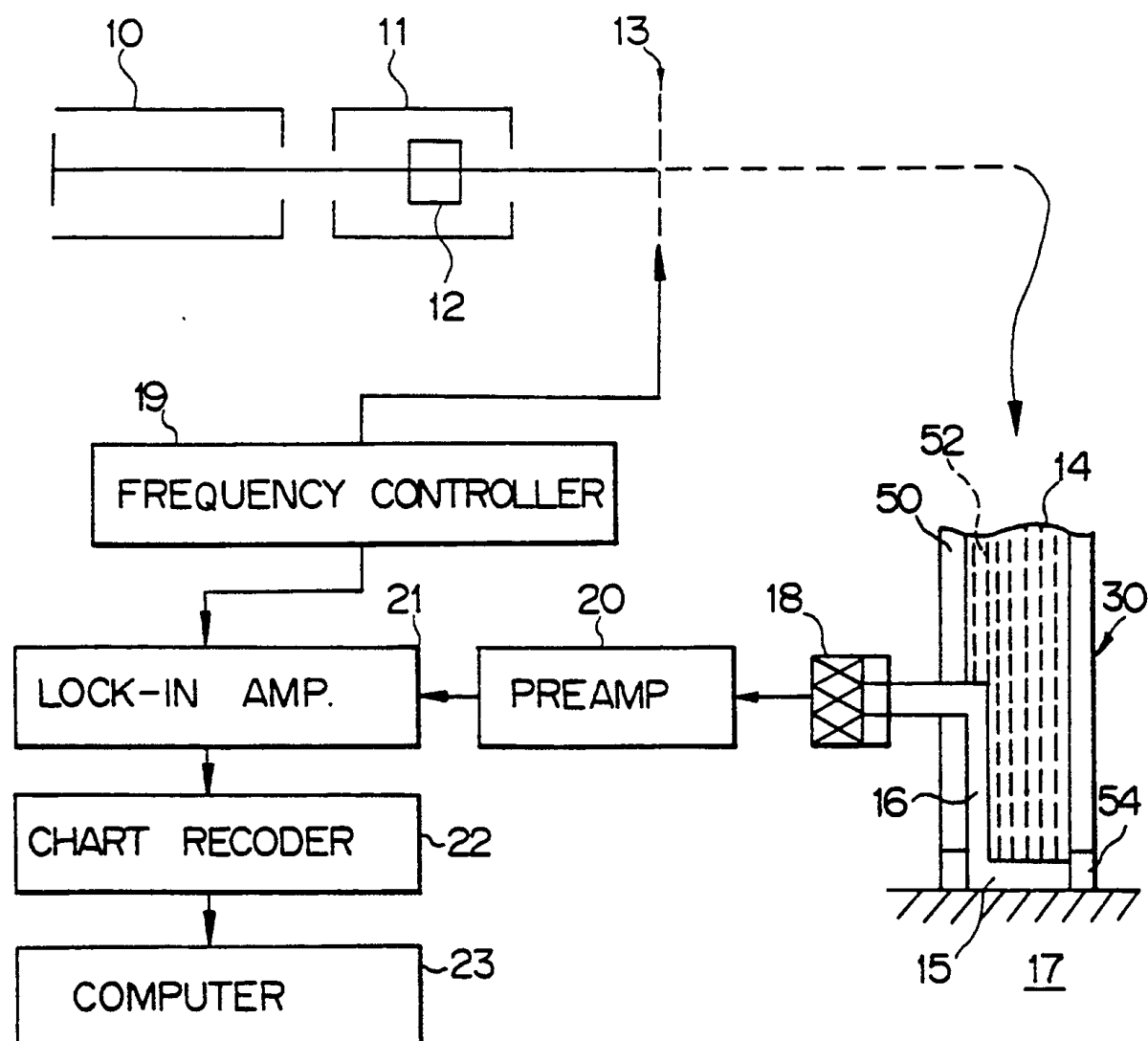
NORTHROP GRUMMAN SYSTEMS

Family 2/16 - FAMPAT - ©Questel

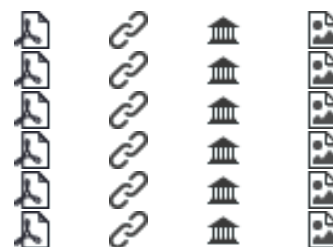
Title

(EP-478136)

Photoacoustic **cell** and photoacoustic measuring device.**Images**

Fig. 1**Publication numbers with kind code & date**

DE69114096	T2	1996-07-04	DE69114096
DE69114096	D1	1995-11-30	DE69114096
EP0478136	B1	1995-10-25	EP-478136
JPH04357440	A	1992-12-10	JP04357440
US5151590	A	1992-09-29	US5151590
EP0478136	A1	1992-04-01	EP-478136

**Abstract**

(EP0478136)

A photoacoustic **cell**, including a light guide having a fiber portion consisting of a bundle of a number of optical fibers and a covering portion by which the side surface of the fiber portion is covered, the covering portion of the light guide extending beyond the fiber portion in a manner that when a first end of the light guide is brought into contact with the surface of a material to be measured, a closed space is defined by the end surface of the fiber portion, by the inner wall of the covering portion, and by the surface of the material to be measured; a pipe having a first end that is open in the closed space and a second end that penetrates through the covering portion and is open toward the outside of the covering portion; and a **microphone** that is coupled to the second end of the pipe, and a photoacoustic measuring device including this photoacoustic **cell**. <IMAGE>

Inventors

TAKAMOTO RYUICHI

NANBA RYUJIRO

MATSUOKA MASAHIRO

SAWADA TSUGUO

Latest standardized assignees - inventors removed

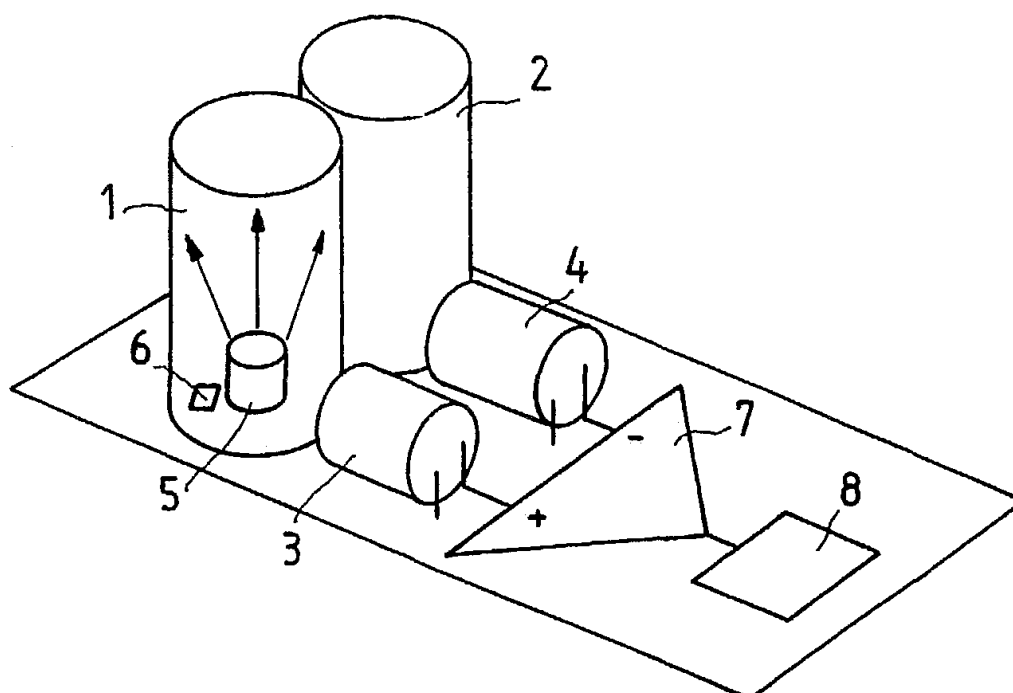
SHISEIDO

Family 3/16 - FAMPAT - ©Questel

Title

(EP1325307)

Optoacoustic measuring arrangement and use thereof

Images**Publication numbers with kind code & date**

IN234732	B	2009-07-17	IN-234732
DE50114746	D1	2009-04-16	DE50114746
AT424554	T	2009-03-15	ATE424554
EP1325307	B1	2009-03-04	EP1325307
KR100809130	B1	2008-02-29	KR100809130
IN0871/CHENP/2002	A	2007-12-21	IN2002CN00871
US7091869	B2	2006-08-15	US7091869
CN1250959	C	2006-04-12	CN1250959C
AU772018	B2	2004-04-08	AU-772018
PL354646	A1	2004-02-09	PL2001354646
EP1325307	A1	2003-07-09	EP1325307
US20030112019	A1	2003-06-19	US20030112019
HU0204193	A2	2003-03-28	HU200204193
CN1392952	A	2003-01-22	CN1392952
CZ20021963	A3	2002-11-13	CZ200201963
KR20020071885	A	2002-09-13	KR20020071885



NO20022674	L	2002-07-24	NO20022674				
NO20022674	D0	2002-06-06	NO200202674				
AU8946401	A	2002-04-22	AU200189464				
WO02/31475	A1	2002-04-18	WO200231475				

Abstract

(EP1325307)

The measuring arrangement contains a measuring **cell** and a reference **cell** (9, 10) to which **microphones** (11 or 12) are allocated, an evaluating electronics unit (7, 8) being connected to said **microphones**. In said evaluating electronics unit, the signals of the **microphones** (11 or 12) are subtracted. The inventive arrangement also comprises a source of radiation (5) which acts on the measuring **cell** (9) in a modulated manner. The modulation frequency of the radiation source (5) corresponds to the resonance frequency of the measuring **cell** (9), and the measuring **cell** and reference **cells** (9 to 10) are open on at least one side in relation to the gas and/or aerosol to be detected. The measuring arrangement is used as a smoke detector, gas detector, fire risk detector or a combined smoke and gas detector. The measuring **cell** (9) is subjected to radiation of a wavelength at which a relevant substance to be detected is absorbed and an optoacoustic effect is produced as a result.

Inventors

FORSTER MARTIN

NEBIKER PETER

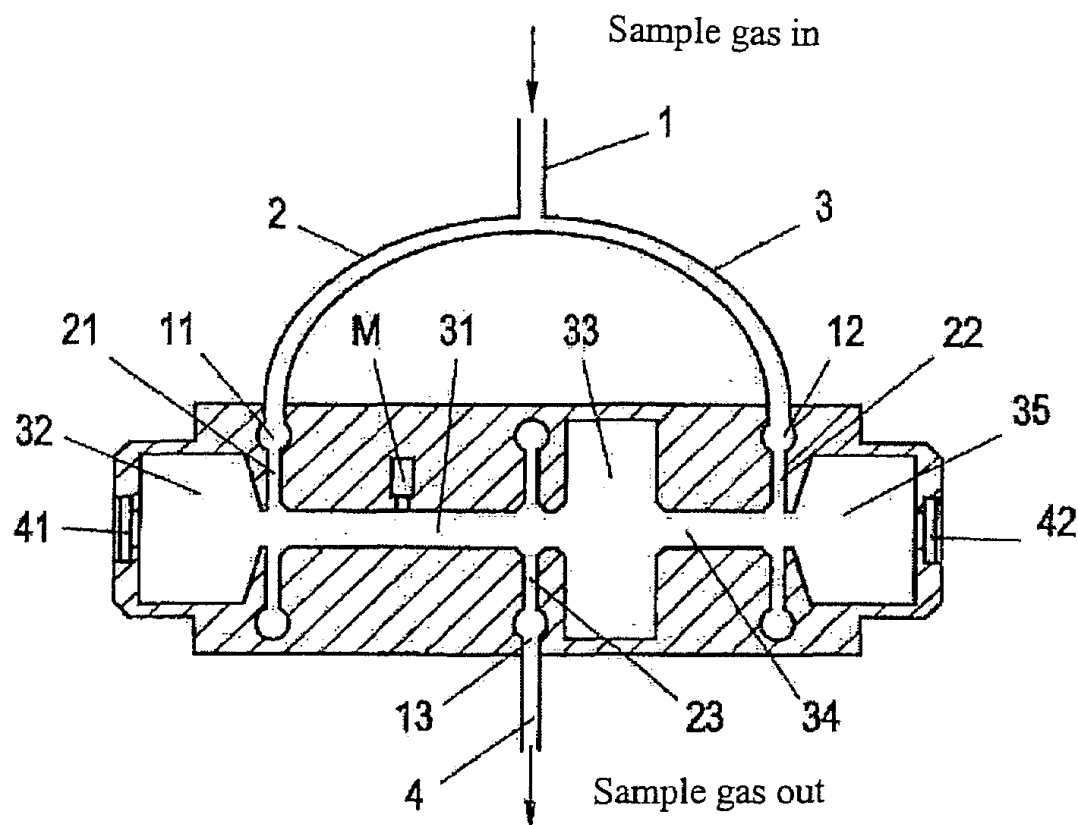
Latest standardized assignees - inventors removed

SIEMENS

Family 4/16 - FAMPAT - ©Questel

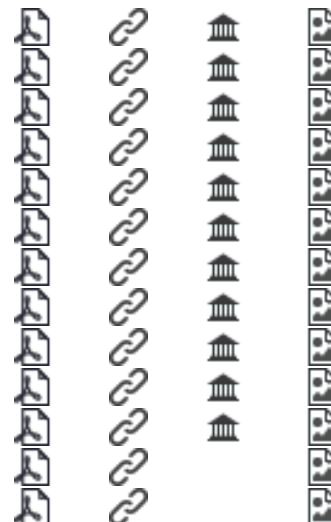
Title

(EP1564543)

Measuring **cell** for a photoacoustic gas sensor**Images**

Publication numbers with kind code & date

JP4109262	B2	2008-04-11	JP4109262
US7345766	B2	2008-03-18	US7345766
CN100350234	C	2007-11-21	CN100350234C
DE502004004284	D1	2007-08-23	DE502004004284
DK1564543	T3	2007-08-06	DK1564543T
EP1564543	B1	2007-07-11	EP1564543
EP1564543	A3	2005-08-24	EP1564543
CN1654945	A	2005-08-17	CN1654945
EP1564543	A2	2005-08-17	EP1564543
JP2005214973	A	2005-08-11	JP2005214973
US20050160800	A1	2005-07-28	US20050160800
AT6894	U3	2005-01-25	AT---6894U
AT6894	U2	2004-05-25	AT---6894U

**Abstract**

(EP1564543)

Measuring chamber for photo-acoustical sensor for continuous measurement of radiation-absorbing substances in gaseous samples, has two entries at ends of tube section that are opposite to each other, and exit placed centered between entries

A measuring chamber for photo-acoustical sensors for the continuous measurement of radiation-absorbing substances in gaseous samples, comprises at least entry and at least one exit for the samples, and at least one entry and exit point for laser beam that is aligned with tube section. The two entries are envisioned at ends of tube section that are opposite to each other and at least one exit is envisioned at location that is centered between entries. - A measuring chamber for photo-acoustical sensors for continuous measurement of radiation-absorbing substances, in particular of radiation-absorbing particles in gaseous samples, comprises at least one entry and at least one exit for the samples, a tube section with **microphone** that allows for the flow-through of the sample in longitudinal direction, and at least one entry and exit point for a laser beam that is aligned with the tube section. The entry and exit points are arranged at a distance relative to the measuring tube by respectively at least one chamber with a cross-sectional area that is expanded relative to the tube section. The two entries are envisioned at the ends of the tube section that are opposite to each other and at least one exit is envisioned at a location that is centered between the entries.

Inventors

SCHINDLER WOLFGANG DR
 HARMS KLAUS-CHRISTOPH DR
 KNOPF FRANZ
 GRANTNER HARALD DIPL-ING

Latest standardized assignees - inventors removed

AVL LIST

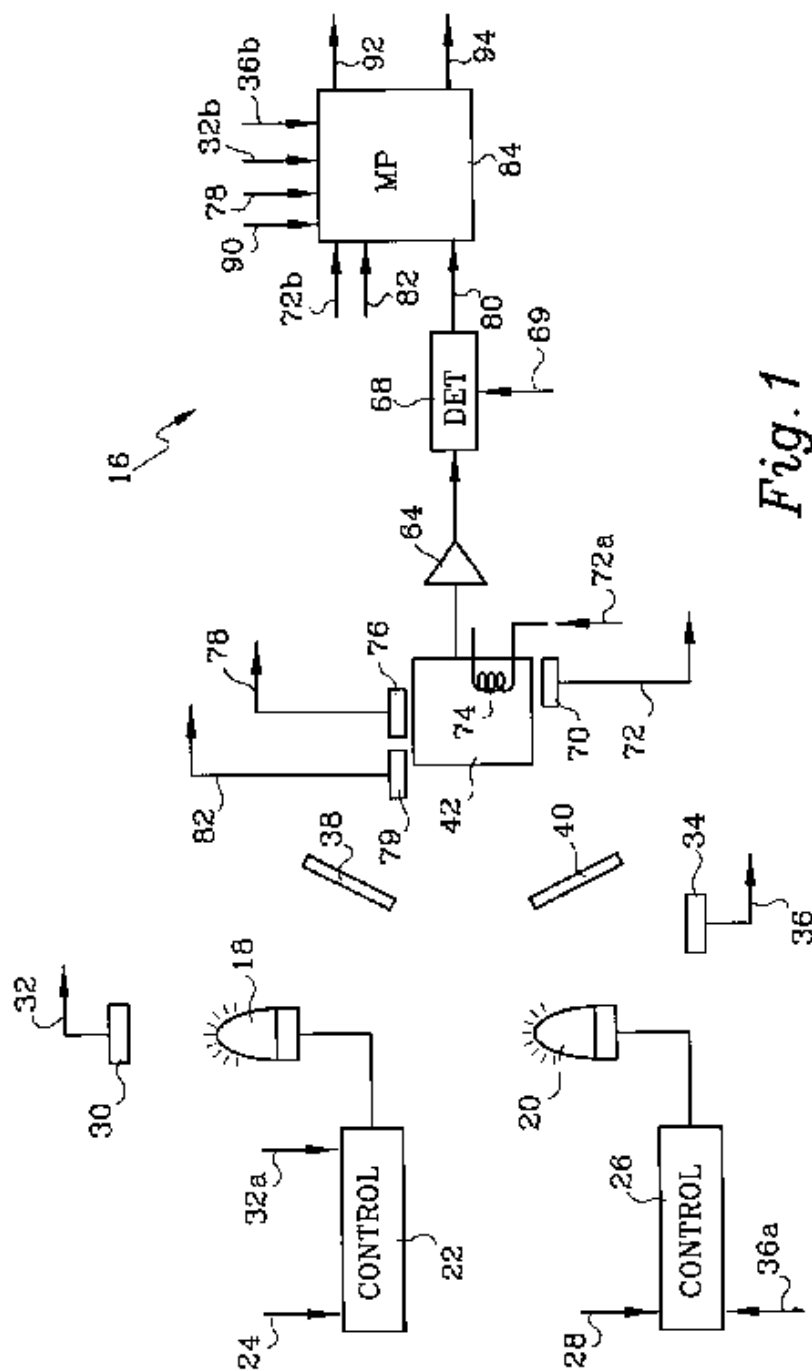
Family 5/16 - FAMPAT - ©Questel

Title

(EP-950179)

Photoacoustic device and process for multi-gas sensing

Images



Publication numbers with kind code & date

DE69723891	T2	2004-06-03	DE69723891
DE69723891	D1	2003-09-04	DE69723891
EP1111367	B1	2003-07-30	EP1111367
DE69706438	T2	2002-06-13	DE69706438
DE69706438	D1	2001-10-04	DE69706438
EP1111367	A3	2001-10-04	EP1111367
EP0950179	B1	2001-08-29	EP-950179
EP1111367	A2	2001-06-27	EP1111367
JP2001507798	A	2001-06-12	JP2001507798
EP0950179	A1	1999-10-20	EP-950179
US5933245	A	1999-08-03	US5933245



WO98/29733

A1 1998-07-09

WO9829733

**Abstract**

(EP0950179)

A photoacoustic gas sensing system includes either separate lasers or an arrangement of emitters and filters, to provide infrared energy within at least two distinguishable frequency bandwidths, modulated at two or more associated and different modulating frequencies. The modulated energy signals illuminate a gas **cell** containing a mixture of gases that experience temperature and pressure fluctuations responsive to the radiant energy. An amplified **microphone** signal, produced responsive to the pressure fluctuations, is detected at the different modulation frequencies to provide two or more detector signals in digital form. These signals are processed in combination with predetermined constants derived by calibrating the system, to generate two or more concentration values corresponding to the individual gases involved. The system can utilize a photoacoustic **cell** with walls formed entirely of a polymer that is both gas-permeable and transparent to the infrared radiation. If desired, a temperature sensor and a pressure sensor near the **cells** provide respective signals based on ambient temperature and ambient pressure. These ambient condition signals are used to provide concentration measurements corrected for changes in ambient temperature and pressure, including pressure differences due to differences in elevation. Temperature and light sensors can be included to reduce temperature-dependent and time-dependent variations in sensor calibration.

Inventors

WOOD R ANDREW

REZACHEK THOMAS M

HEGEL RUDY R

Latest standardized assignees - inventors removed

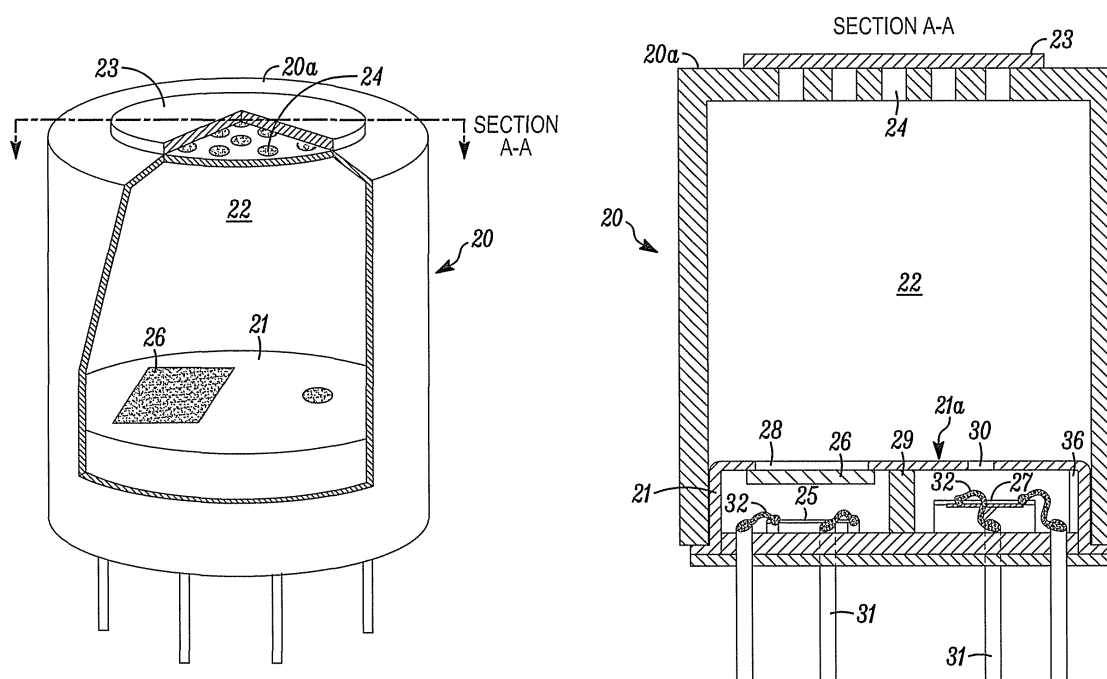
HONEYWELL

Family 6/16 - FAMPAT - ©Questel

Title

(EP2392916)

Photoacoustic gas sensor comprising an integrated IR source and acoustic detector

Images**Publication numbers with kind code & date**

EP2392916

B1 2019-11-27

EP2392916

KR101837073

B1 2018-03-09

KR101837073



IN288304	B	2017-10-13	IN-288304				
CN102279156	B	2017-03-01	CN102279156B				
JP5868615	B2	2016-01-15	JP5868615				
US8695402	B2	2014-04-15	US8695402				
IN1555/DEL/2011	A	2012-04-27	IN2011DE01555				
EP2392916	A3	2012-02-15	EP2392916				
JP2011252906	A	2011-12-15	JP2011252906				
CN102279156	A	2011-12-14	CN102279156				
KR20110132982	A	2011-12-09	KR20110132982				
US20110296900	A1	2011-12-08	US20110296900				
EP2392916	A2	2011-12-07	EP2392916				
CA2741788	A1	2011-12-03	CA2741788				

Abstract

(EP2392916)

A photoacoustic gas detector includes an integrated source (25), infrared filter (26) and an acoustic sensor (27). The source, filter and acoustic sensor can be integrated onto one or more semiconductor substrates, such as silicon. Processing circuitry (36) can also be integrated onto the substrate. Further, the source, filter and acoustic sensor can be integrated into a single component package (21), such as a metal can transistor package

Inventors

THORSON WALTER

Latest standardized assignees - inventors removed

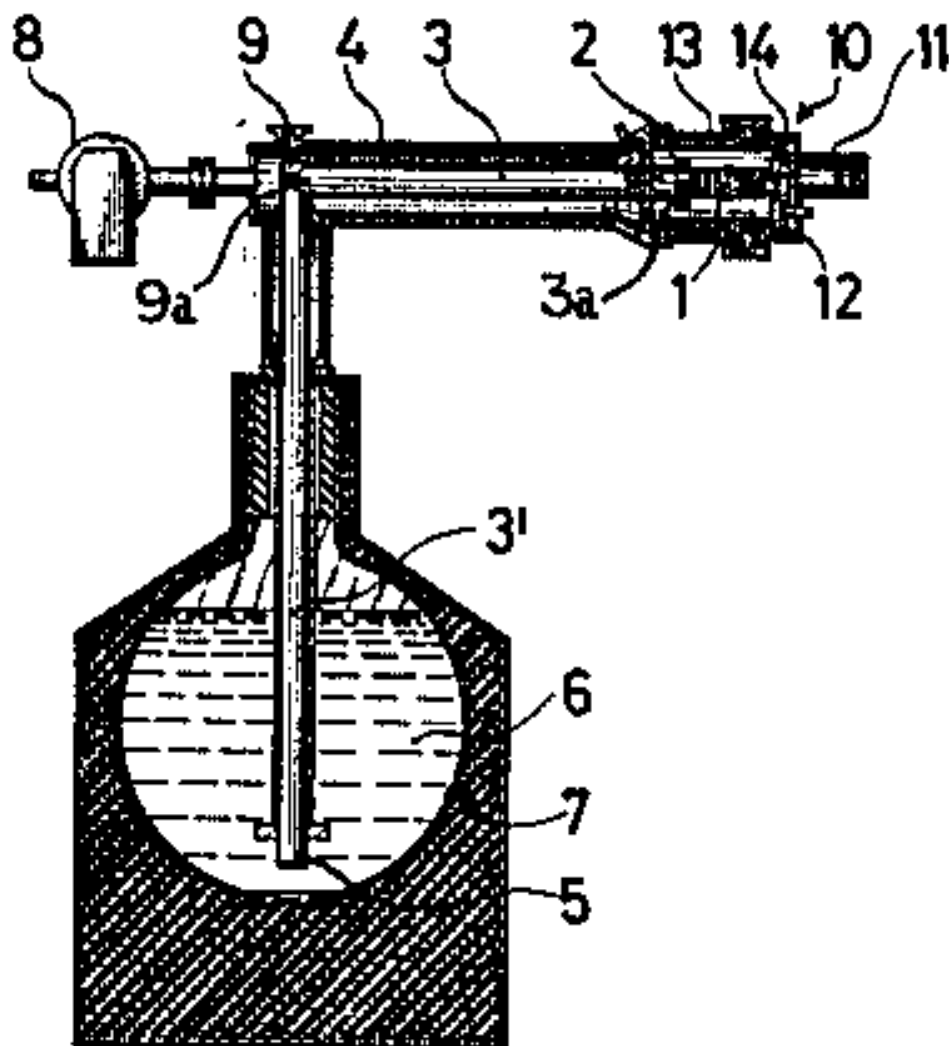
HONEYWELL INTERNATIONAL

Family 7/16 - FAMPAT - ©Questel

Title

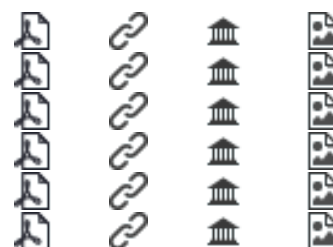
(US4399689)

Temperature-controlled sample **cell** for photoacoustic spectroscopy**Images**



Publication numbers with kind code & date

GB2071297	B	1984-05-31	GB2071297
DE3008546	C2	1983-11-24	DE3008546
US4399689	A	1983-08-23	US4399689
JPS56137245	A	1981-10-27	JP56137245
GB2071297	A	1981-09-16	GB2071297
DE3008546	A1	1981-09-10	DE3008546



Abstract

(US4399689)

A **cell** for photoacoustic spectroscopy has a metal heat conductive rod immersed at one end in a liquid coolant and another end forming part of the sample-receiving **cell** for accurate control of the temperature to eliminate thermal distortion of the measurements.

Inventors

BECHTHOLD PAUL S

CHATZIPETROS JOHANN

Latest standardized assignees - inventors removed

FORSCHUNGSZENTRUM JUELICH

Family 8/16 - FAMPAT - ©Questel

Title

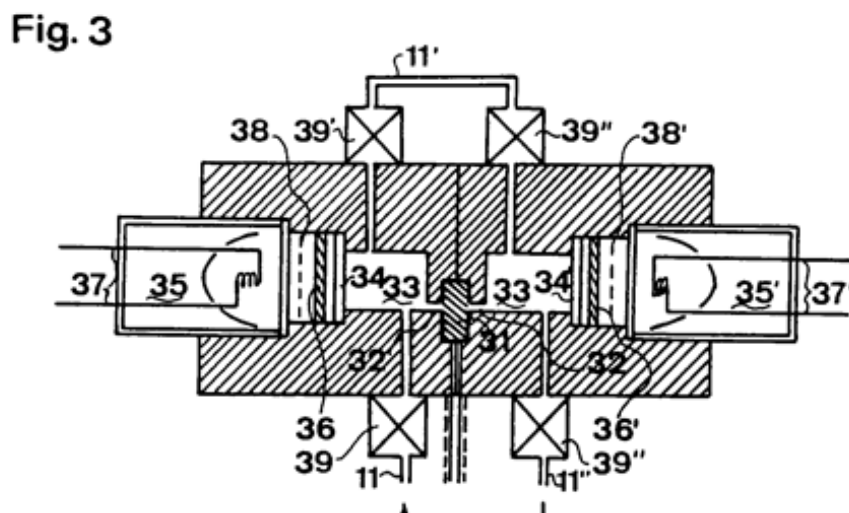
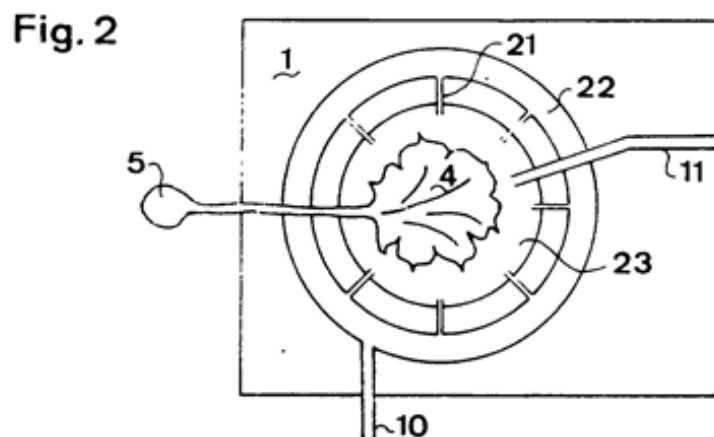
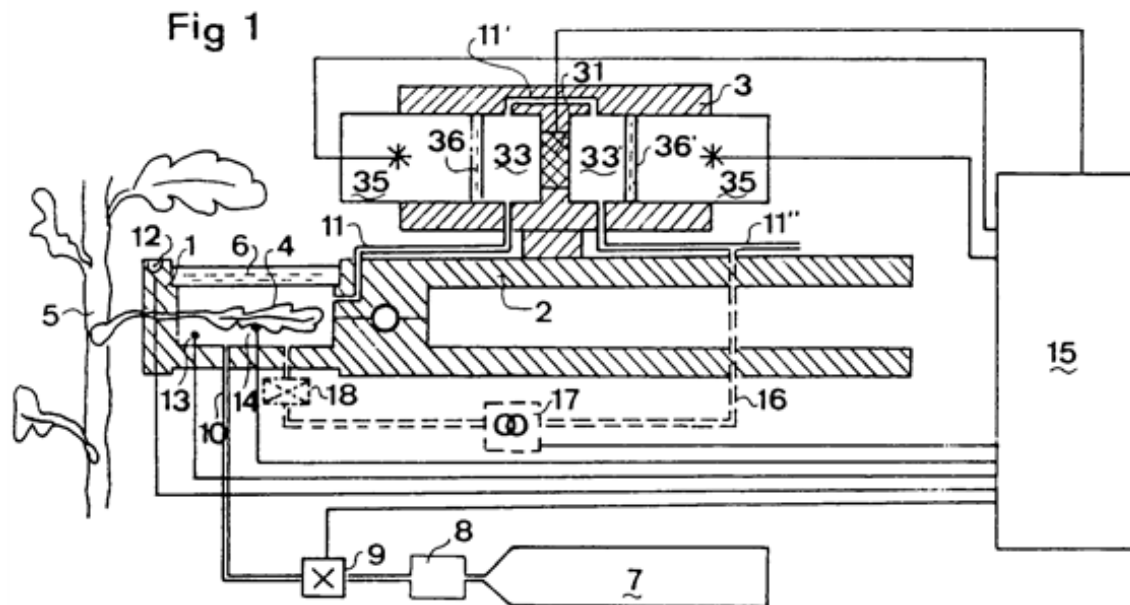
(DE4018393)

Measuring photosynthesis exchange gases - using leaf cuvette and photo-acoustic gas measurement in gas analyser

Images

Offenlegungstag:

20. Dezember 1990



DE4018393

A1

1990-12-20

DE4018393

**Abstract**

(DE4018393)

A leaf (4) completely or partially enclosed in a leaf cuvette (1) is supplied with measurement gas. A homogeneous gas mixture is set up in the cuvette and the gas interacting with the leaf analysed for CO₂ and, if required, H₂O concn. The photoacoustic gas measurement principle in a gas analyser (3) is used. The leaf cuvette and analyser unit can be held in the hand during gas analysis. USE/ADVANTAGE - Measuring CO₂ and H₂O concn. during gas exchange, esp. of plant leaves. Leaf is only enclosed for short period so that exchange processes are practically unaffected.

Inventors

OEHLER OSCAR DIPL PHYS DR SC N

BLUM HERBERT DIPL PHYS DR SC N

PLEISCH ROLF DIPL PHYS

Latest standardized assignees - inventors removed

NATIONAL OSCAR OEHLER DR

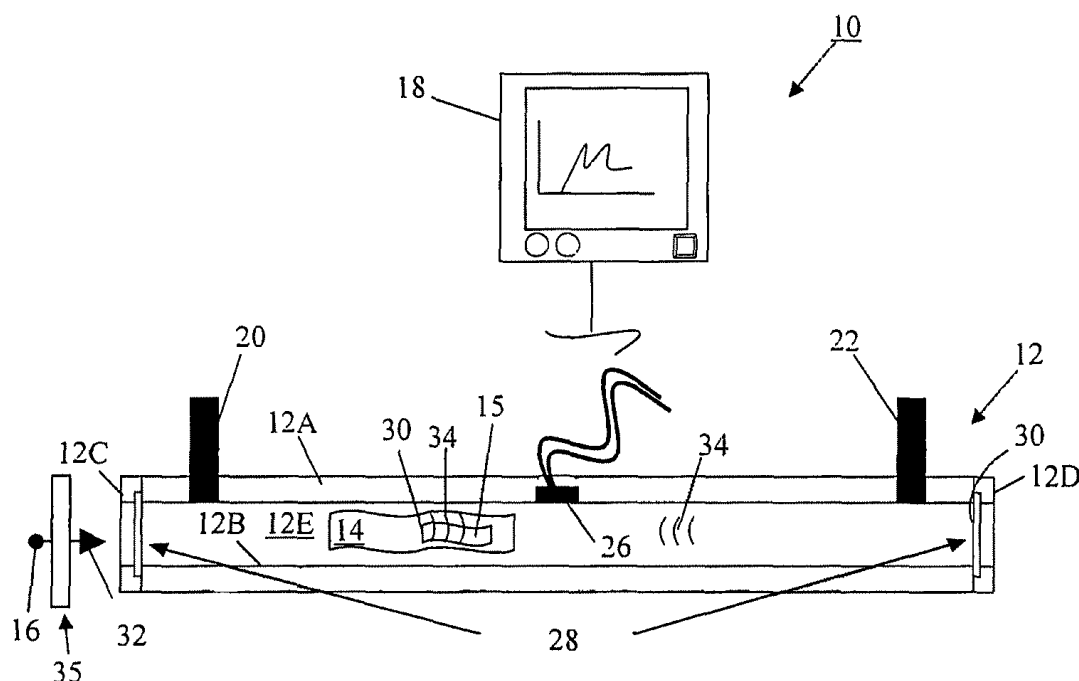
NATIONAL HERBERT BLUM DR

Family 9/16 - FAMPAT - ©Questel

Title

(EP1797478)

Thermal selectivity multivariate optical computing

Images**Publication numbers with kind code & date**

US9523637

B2

2016-12-20

US9523637

JP5452867

B2

2014-01-10

JP5452867

US20120279281

A1

2012-11-08

US20120279281

US8240189

B2

2012-08-14

US8240189

EP1797478

A4

2009-07-15

EP1797478

US20080276687

A1

2008-11-13

US20080276687

JP2008517252

A

2008-05-22

JP2008517252

WO2006/137902

A3

2007-12-06

WO2006137902



EP1797478

A2 2007-06-20

EP1797478



WO2006/137902

A2 2006-12-28

WO2006137902

Abstract

(EP1797478)

A method of using photoacoustic spectroscopy to determine chemical information about an analyte includes the steps of emitting a light ray for interaction with a sample of an analyte; transmitting the light ray through a fill fluid disposed in a detection cell, the fill fluid having molecules substantially similar to molecules of the analyte to absorb the light ray; producing a thermal wave and oscillation in the fill fluid proportional to an intensity of the light ray; including a pressure oscillation in the fill fluid by the thermal wave; and detecting the pressure oscillation by a microphone to determine information about the analyte sample

Inventors

PERKINS DAVID L

MYRICK MICHAEL L

PRIORE RYAN J

Latest standardized assignees - inventors removed

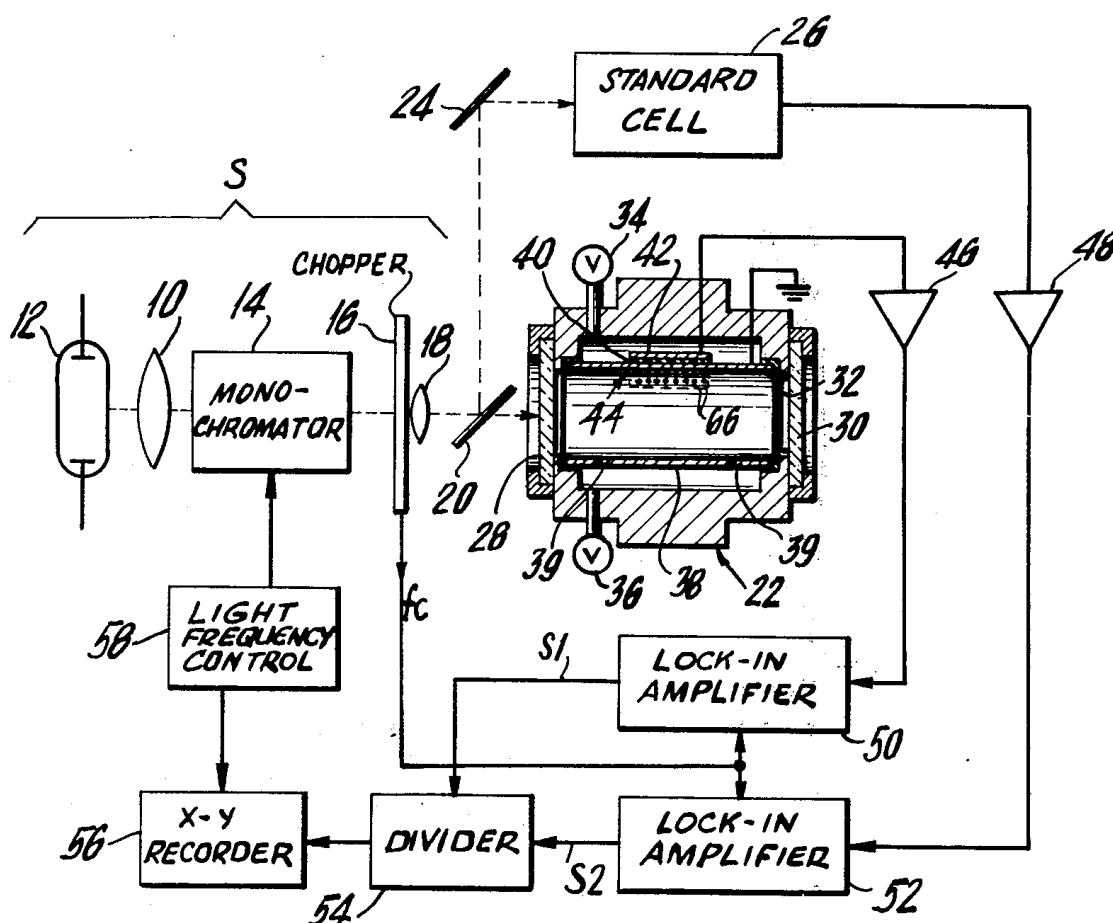
HALLIBURTON ENERGY SERVICES

Family 10/16 - FAMPAT - ©Questel

Title

(US3948345)

Methods and means for analyzing substances

Images**Publication numbers with kind code & date**

CA1036383

A 1978-08-15

CA1036383



GB1479316

A 1977-07-13

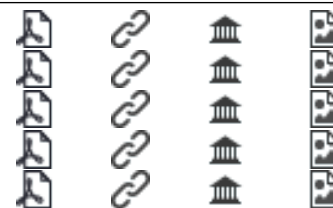
GB1479316

US4028932

A 1977-06-14

US4028932

US4028932	A	1977-06-14	US4028932
CH582881	A5	1976-12-15	CH-582881
US3948345	A	1976-04-06	US3948345
JPS5071388	A	1975-06-13	JP50071388
DE2428884	A1	1975-02-06	DE2428884

**Abstract**

(US3948345)

In the method and means disclosed, an energy source applies energy of varying magnitude, to a substance being tested, and in a sufficient amount to produce detectable variations in a surrounding fluid. The frequency of the energy is varied. A pickup in the vicinity of the sample responds to the detectable variations and produces electrical signals corresponding to the detected variations. A display indicates the intensity of the electrical signals at the different energy frequencies.

Inventors

ROSENCWAIG ALLAN

Latest standardized assignees - inventors removed

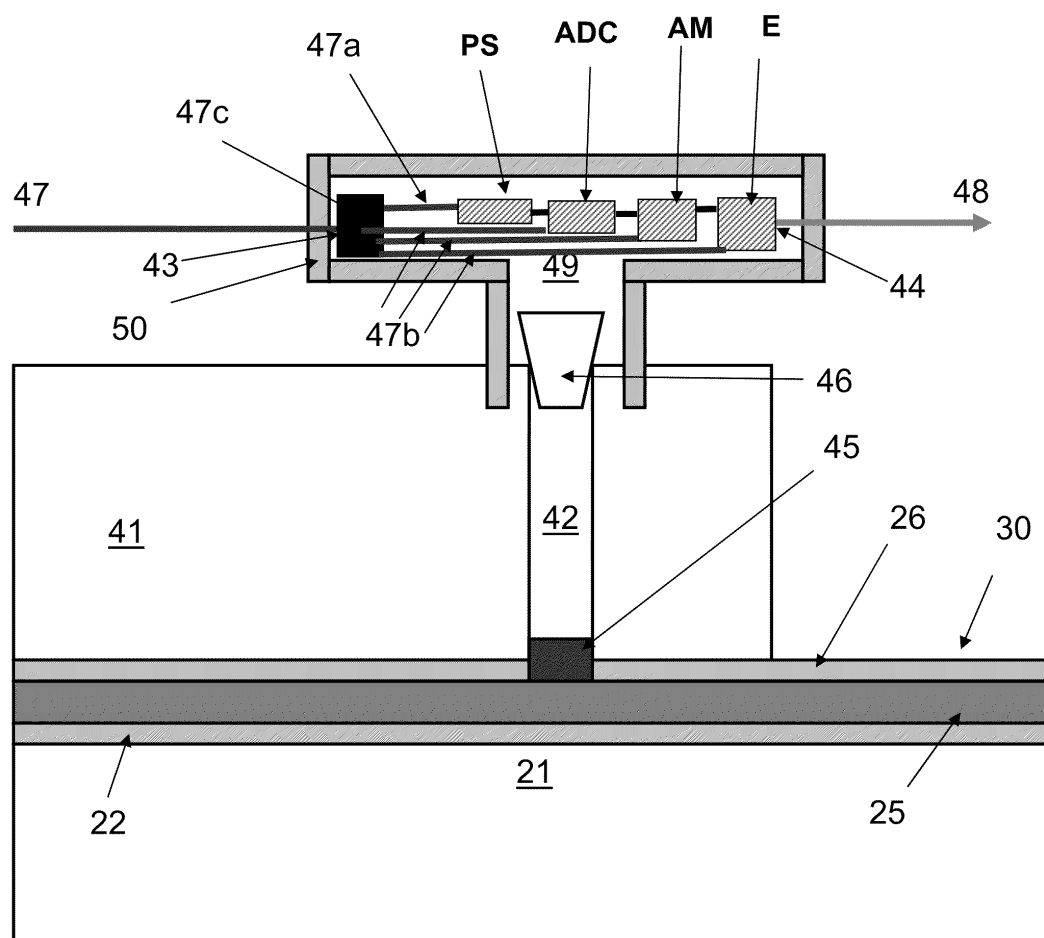
HOFFMANN LA ROCHE

Family 11/16 - FAMPAT - ©Questel

Title

(EP2286201)

A pipe system, a gas sensing system for a pipe system, and a method of determining a gas component in a cavity of a pipe

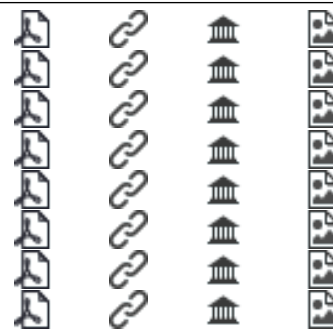
Images**Publication numbers with kind code & date**[BRPI0913413](#)

A2 2015-11-24

BR200913413



AU2009254329	B2	2014-03-20	AU2009254329
US8590365	B2	2013-11-26	US8590365
US20110154884	A1	2011-06-30	US20110154884
EP2286201	A1	2011-02-23	EP2286201
DK201001077	A	2010-11-26	DKPA201001077
AU2009254329	A1	2009-12-10	AU2009254329
CA2725624	A1	2009-12-10	CA2725624
WO2009/146710	A1	2009-12-10	WO2009146710



Abstract

(EP2286201)

The invention relates to a pipe system comprising a pipe, a gas sensing station and a remote output system. The pipe comprises a pipe gas cavity, such as an annulus, extending lengthwise in part or all of the length of the pipe; the gas sensing station comprises a sensing gas cavity which is in gas communication with the pipe gas cavity. The sensing gas cavity comprises a photoacoustic spectroscope. The pipe system comprises at least one optical feeding fiber for feeding light to the photoacoustic spectroscope and a transmission path for transferring a signal from the photoacoustic spectroscope to the remote output system, the transmission path from the gas sensing station to the remote output system is an optical transmission path. The pipe may for example be a flexible pipe e.g. an umbilical or a pipe for the transportation of crude oil from a well to an off shore or on shore station, for example a ship or a platform. The gas sensing station may be integrated in the pipe, e.g. in an end fitting or it may be an external gas sensing station. According to a high security embodiment of the invention it is desired that all energy transported between the remote output system and the gas sensing station is in the form of optical energy e.g. transported in one or more optical fibers. This embodiment provides a very safe and simultaneously well functioning system, with reduced risk of igniting burnable fluids and simultaneously with a high signal-to-noise quality.

Inventors

WEPPENAAR NICKY

KRISTIANSEN MIKAEL

Latest standardized assignees - inventors removed

NATIONAL OILWELL VARCO

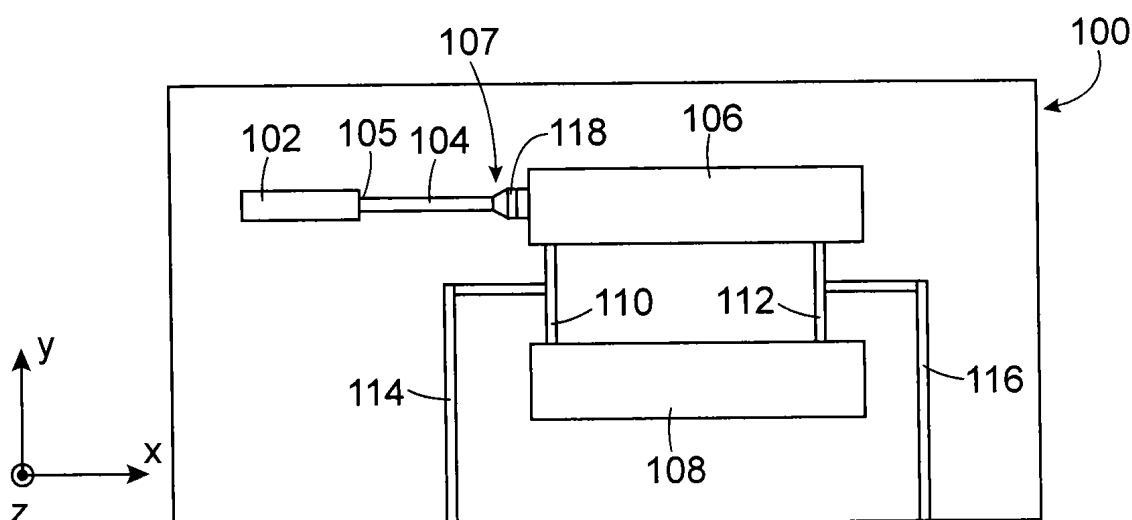
Family 12/16 - FAMPAT - ©Questel

Title

(EP2930506)

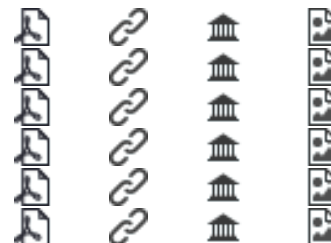
Detection device with helmholtz differential acoustic resonator

Images



Publication numbers with kind code & date

EP2930506	B1	2019-05-08	EP2930506
FR3019653	B1	2016-05-13	FR3019653
US9335259	B2	2016-05-10	US9335259
EP2930506	A1	2015-10-14	EP2930506
FR3019653	A1	2015-10-09	FR3019653
US20150285737	A1	2015-10-08	US20150285737

**Abstract**

(EP2930506)

Microelectronic photoacoustic detection device comprising: a substrate comprising cavities forming a Helmholtz differential acoustic resonator; acoustic detectors coupled to the chambers of the resonator; a light source; a waveguide comprising a first end coupled to the light source and a second end coupled to a first chamber; in which the second end comprises, at the interface with the first chamber, a width greater than that of the first end and that of the given wavelength, and/or in which the device comprises a diffraction grating arranged in the second end and capable of diffracting a first part of the beam towards a lower reflective layer arranged under the second end and a second part of the beam towards an upper reflective layer arranged at an upper wall of the first chamber.

(From US9335259 B2)

Inventors

GLIERE ALAIN

BOUTAMI SALIM

BRUN MICKAËL

LABEYE PIERRE

NICOLETTI SERGIO

ROUXEL JUSTIN

Latest standardized assignees - inventors removed

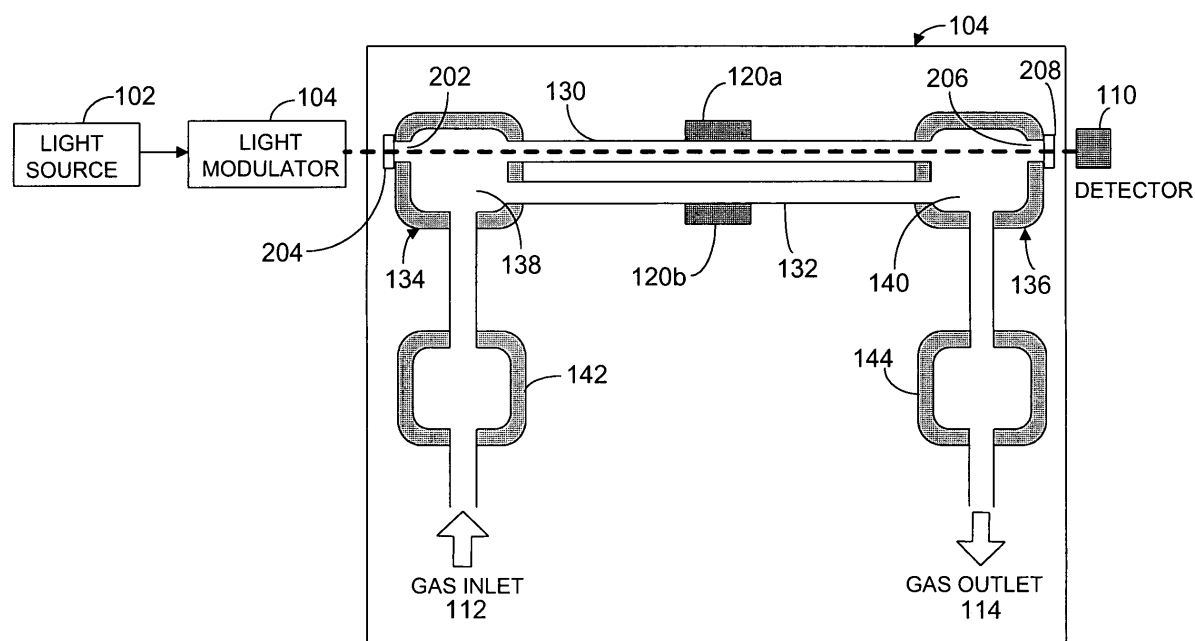
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Title

(US7069769)

Ultraviolet photoacoustic ozone detection

Images

Publication numbers with kind code & date

TWI265288	B	2006-11-01	TWI265288
US7069769	B2	2006-07-04	US7069769
TW200525139	A	2005-08-01	TW200525139
US20050160791	A1	2005-07-28	US20050160791

**Abstract**

(US20050160791)

A photoacoustic ozone detector includes an acoustic chamber, an ultraviolet light source, and a detector to detect audio signals. The acoustic chamber has an inlet for receiving a gas mixture containing ozone and an outlet for removing the gas mixture from the chamber. The ultraviolet light source generates ultraviolet light having wavelengths shorter than 400 nm, and the ultraviolet light is modulated at a modulation frequency substantially equal to a resonant frequency of the acoustic chamber. The ultraviolet light source is positioned relative to the acoustic chamber so that the ultraviolet light passes through the gas mixture in the acoustic chamber. The detector detects an audio signal in the acoustic chamber having a frequency substantially equal to the modulation frequency of the ultraviolet light. A signal processor generates an output indicative of a concentration of the ozone in the gas mixture based on the detected audio signal.

Inventors

KUNG ANDY

Latest standardized assignees - inventors removed

ACADEMIA SINICA

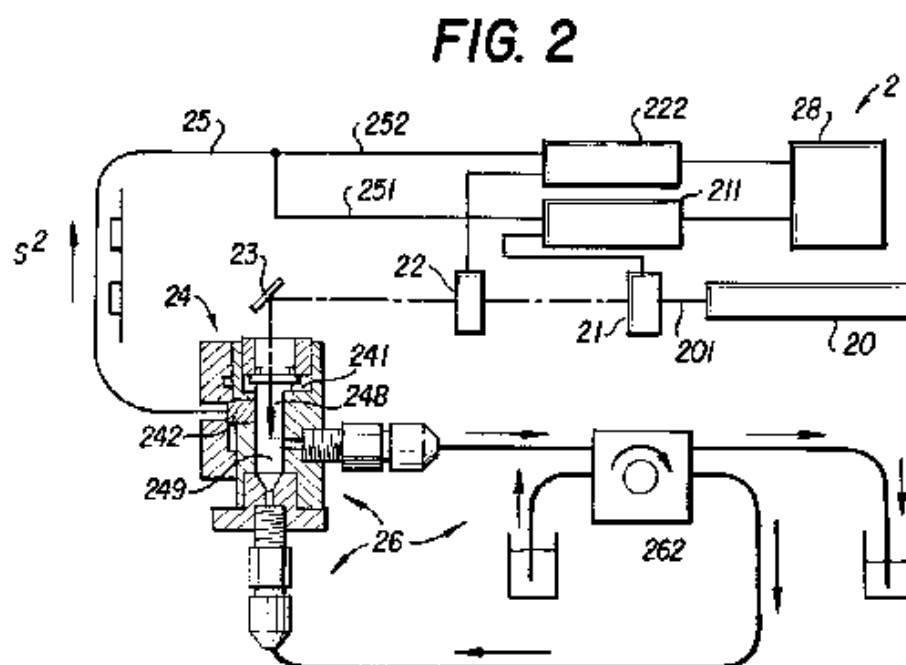
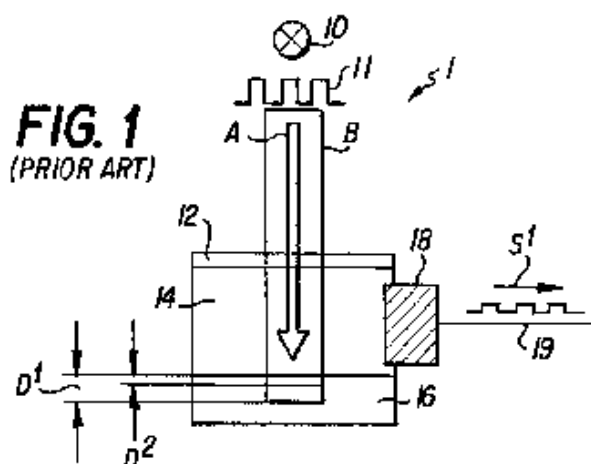
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Title

(EP-840105)

Spectroscopic method and apparatus

Images



Publication numbers with kind code & date

US5913234	A	1999-06-15	US5913234
JPH10148629	A	1998-06-02	JP10148629
EP0840105	A1	1998-05-06	EP-840105



Abstract

(EP0840105)

A method and apparatus for determining the concentration of a substance of interest in a flowing liquid (26) by gas-coupled photo acoustic spectroscopy (GC-PAS) with an essentially monochromatic beam of radiation (201) in an optical portion of the electromagnetic spectrum; the radiation is selected so as to be absorbed by the substance of interest and said beam is modulated (21) at a sonic frequency which is sufficiently high for generating a primary signal that depends upon the absorption coefficient of the substance of interest as well as upon parameters of operating the method; in order to

compensate for these operating parameters, the beam is additionally modulated (22) at a sonic frequency which is sufficiently low for generating a secondary signal which does not depend upon absorption coefficient of the substance of interest but depends only upon parameters of operating the method; after phase-locked detection (221,222) a ratio of first (251) and the second (252) signal is obtained at device (2) to generate a compensated signal for determining the concentration of the substance of interest.

Inventors

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PELLAUX JEAN-PAUL

Latest standardized assignees - inventors removed

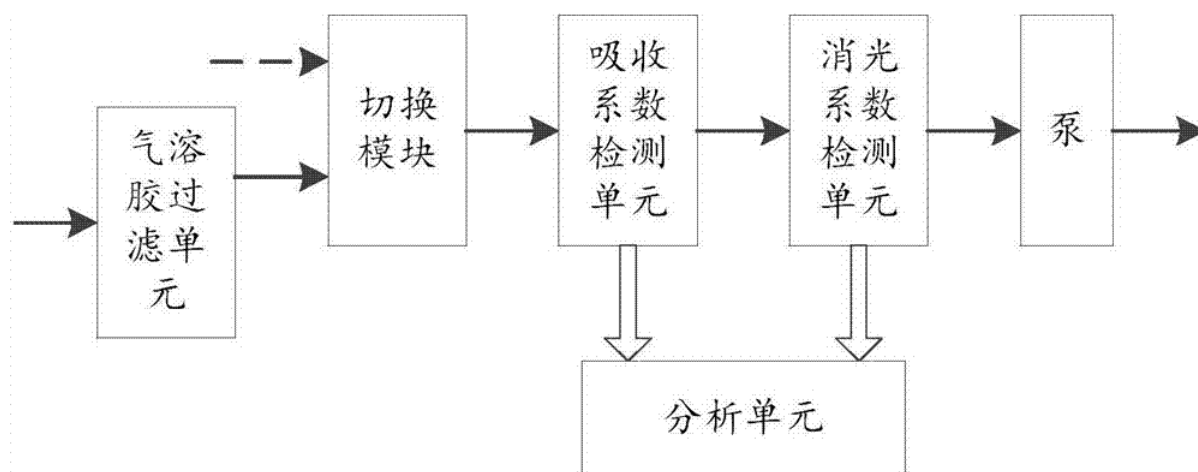
ORBISPHERE LABORATORIES NEUCHATEL

Family 15/16 - FAMPAT - ©Questel

Title

(CN206772812U)

Atmosphere albedo monitoring devices based on spectral technique

Images**Publication numbers with kind code & date**[CN206772812](#)

U

2017-12-19

CN206772812U

**Abstract**

(CN206772812)

The utility model discloses an atmosphere albedo monitoring devices based on spectral technique, albedo monitoring devices includes extinction coefficient detecting element, absorptance detecting element and analytic unit, further include: aerosol filter unit, aerosol filter unit's import intercommunication atmosphere, export connect switch module, switch the module, it is used for making aerosol filter unit's export, the measuring pond in the atmosphere optionally intercommunication absorptance detecting element to switch over the module. The utility model has the advantages of the precision is high, low -cost.

Inventors

GUO JIE

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Latest standardized assignees - inventors removed

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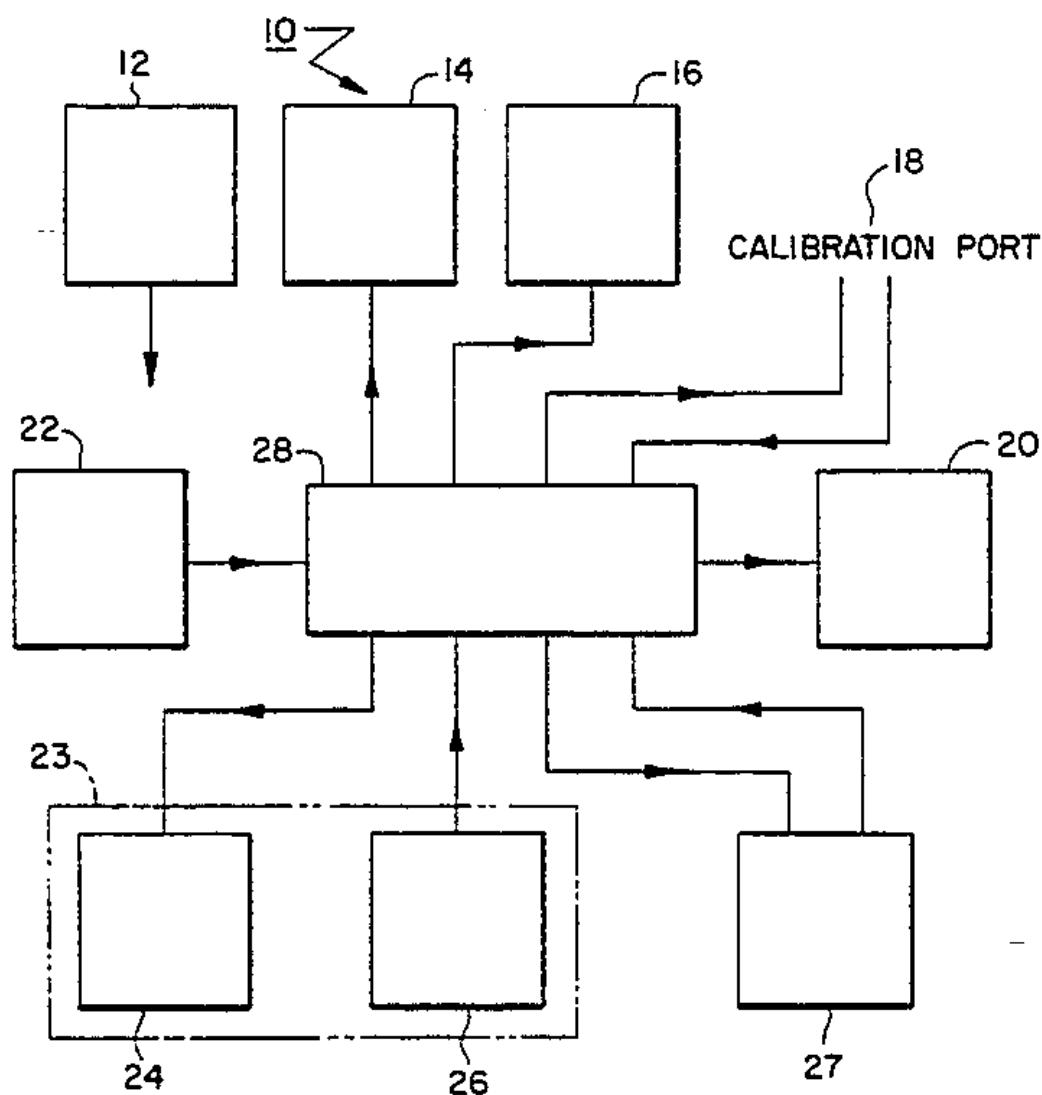
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Title

(EP-752085)

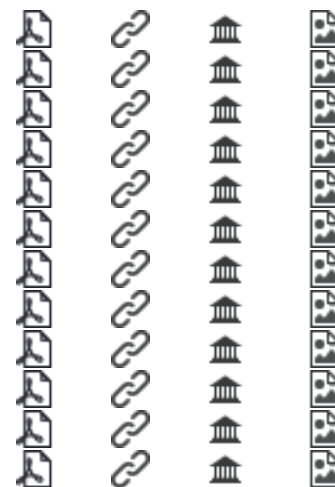
Indoor air quality sensor and method

Images



Publication numbers with kind code & date

DE69511385	T2	1999-12-30	DE69511385
DE69511385	D1	1999-09-16	DE69511385
EP0752085	B1	1999-08-11	EP-752085
CA2187777	C	1999-08-03	CA2187777
AU697611	B2	1998-10-15	AU-697611
JPH09512629	A	1997-12-16	JP09512629
BR9507309	A	1997-10-07	BR9507309
EP0752085	A1	1997-01-08	EP-752085
AU2382495	A	1995-11-10	AU9523824
CA2187777	A1	1995-10-26	CA2187777
WO95/28606	A1	1995-10-26	WO9528606
US5394934	A	1995-03-07	US5394934



Abstract

(EP0752085)

An indoor air quality sensor designed to be utilized in a zone of a building to control the ventilation of the zone and the method of effecting such control. The sensor (10) comprises a first sensor (10) for sensing a selected leading indicator of contamination in the zone and providing an output signal representative thereof and at least one additional sensor (10) for

sensing at least one selected secondary indicator of contamination in the zone and providing an output signal representative thereof. A processor, utilized for generating an output signal representative of the indoor air quality in the zone, receives the output signals from the first sensor (10) and the least one additional sensor (10) and generates the output signal representative of the indoor air quality in the zone by influencing the output of the first sensor (10) by an amount that is a function of the output signal of the least one additional sensor (10).

Inventors

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Latest standardized assignees - inventors removed

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