



New connection on: : 07-07-2018 : 02:57:16 - Last disconnection on: : 07-07-2018 : 02:56:58

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

Welcome to EPOQUE Rebuild under the Production Environment

[EPODOC: SS 21] intraocular and pressure and sensor and magnet

Results in EPODOC **2**

[SS 22] tonometer

Results in EPODOC **1.174**

[SS 23] 22 and magnet and sensor

Results in EPODOC **0**

[SS 24] 22 and sensor

Results in EPODOC **194**

[SS 25] 24 and magnet

Results in EPODOC **0**

[SS 26] 22 and battery

Results in EPODOC **11**

[SS 27] ..v

[EPODOC: SS 27] ..li



1/11 © EPODOC / EPO

PN - [WO2017191612](#) A2 20171109

PNFP - WO2017191612 A3 20180111

PR - CO20160118031 20160506

AP - WO20171852635 20170505

DT - *; Rep

CT - |ES| ISR (A3)

[US2009131779](#) A1 20090521 [X] (SIEGENTHALER FRITZ [CH])

[X] 1-8

* paragraphs [1, 7, 9, 10, 39, 52, 84, 87]; figures *;

[US2015094560](#) A1 20150402 [A] (COHEN MICHAEL L [US])

[A] 1-8

*, paragraphs [2, 29-36, 44-54]; figures 1 - 6. *;

[US2002169390](#) A1 20021114 [A] (FRESCO BERNARD B [CA])

[A] 1-8

*, paragraphs [1, 10, 14-20]; *;

[US5165409](#) A 19921124 [A] (COAN WILLIAM M [US])

[A] 1-8

*, column 1, lines 8 - 9; column 4, line 64 column 5, line 66; figures 1 - 9. *;

[JPH0638930](#) A 19940215 [A] (KOWA CO)

[A] 1-8

*, abstract *

CUI - [A61B3/16](#)

PA - (A2 A3)
INSTITUCION UNIV SALAZAR Y HERRERA [CO]

TI - (A2 A3)
PORTABLE DEVICE FOR MEASURING INTRAOCULAR PRESSURE USING HALL EFFECT
SENSORS

AB - (A2 A3)
The present invention relates to a device for measuring intraocular pressure, commonly known as a glucometer or **tonometer**, comprising a series of sensors which, using the Hall effect, measure intraocular pressure and can determine if the value obtained and measured in mmHg (millimeters of mercury) exceeds a given threshold, thereby indicating if the patient has glaucoma and if immediate treatment is required. The device is advantageous in that it is completely portable, sealed, requires no calibration or maintenance, and includes a commercial **battery**. As a result, the device can be used by any individual without any medical training and can alert the user of a vision condition, thereby preventing loss of vision by giving the user time to consult a specialist.

2/11 © EPODOC / EPO

PN - [CN206505712U](#) U 20170919

PR - CN201621475365U 20161230

AP - CN201621475365U 20161230

DT - I

PA - UNIVANSHANNORMAL

TI - Portable vocal music case

AB - The utility model relates to a vocal music teaching apparatus especially relates to a portable vocal music case. Include box, drawer, walk road wheel, slide rail, locking device, **battery**, lighting device. The box is the box structure, and the box side is equipped with the slot, and the drawer passes through the slide rail to be installed in the slot, fixes on the box through locking device, walking the road wheel and installing in the bottom half, the box top is equipped with handle and pull rod, drawer inside divide into a plurality of grooves with baffle and baffle, and music stand, **tonometer**, metronome, baton, music book are placed respectively according to the space size in every groove. The utility model discloses it is convenient laborsaving to carry, get the happy instrument of raising one's voice to its utmost, the inslot at special design is placed to different vocal music instruments, makes the professional article of placing that the personnel that are engaged in vocal music teaching and vocal music performance can standardizes more, makes that the vocal music instrument is easily checked, difficult omission, it can charge for equipment

such as cell -phone, **tonometer** , metronomes to be equipped with the **battery** to provide the power for lighting device.

3/11 © EPODOC / EPO

- PN - [CN107146596](#) A 20170908
- PR - CN20171336020 20170513
- AP - CN20171336020 20170513
- DT - I
- CNOI - [G10G7/00](#) ; [G09B15/00](#)
- PA - ZHANG ZHIYAN
- TI - Chinese Huqin 5-degree string **tonometer**
- AB - The invention discloses a Chinese Huqin 5-degree string **tonometer** which comprises a transparent hollow cylinder. Label paper is pasted on the external surface of the hollow cylinder. The label paper is divided into seven vertical areas through separating lines. A numbered musical notation scale is marked in each area, A finger sequence is marked below partial numbered musical notation scales. The hollow cylinder is internally provided with a lamp socket at a position which is next to the bottom. A plurality of LED beads are fixed at the hollow position in the hollow cylinder through a supporting column. The bottom of the supporting column is fixed to the lamp socket. After the plurality of LED beads are serially connected, the plurality of LED beads are connected with the anode of a lithium **battery** which is embedded into the lamp socket through wires. The cathode of the lithium **battery** is connected with a power button which is fixed on the hollow cylinder. The bottom of the hollow cylinder is connected with a bottom cover in threaded connection. The bottom cover is connected with a hold hoop. The Chinese Huqin 5-degree string **tonometer** can satisfy a requirement for playing different music scores and makes teenagers, children, middle-aged persons and old persons immediately find a required accurate phoneme, thereby finding a music rhythm feeling, greatly shortening teaching process and totally making more Huqin fans realize a music dream.

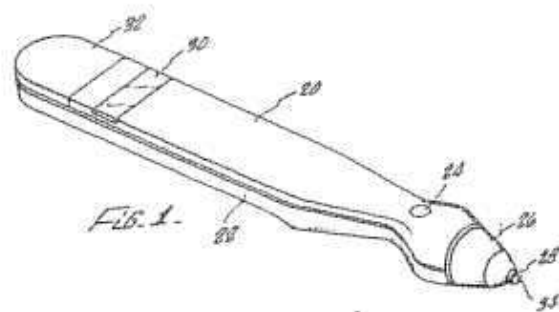
4/11 © EPODOC / EPO

- PN - [CN203677057U](#) U 20140702
- PR - CN2014231605U 20140120
- AP - CN2014231605U 20140120
- DT - I
- PA - CHEN YING
- TI - Safe and sanitary applanation **tonometer**
- AB - The utility model provides a safe and sanitary applanation **tonometer** which comprises a pressure measuring body and a base. A measuring displaying part is arranged at the upper end of the pressure measuring body, a holding part is arranged at the lower end of the pressure measuring body, a pressure measuring head is arranged at the front end of the measuring displaying part, a liquid adsorbing ring is arranged at the front end of the pressure measuring head, an annular light source is arranged at the back end of the pressure measuring head, a display screen is arranged at the back end of the measuring displaying part, an adjusting screw is arranged on one side of the measuring displaying part, a storage **battery** and a miniature processing storage device are arranged inside the holding part, an installation plug is arranged at the lower end of the holding part, and an installation socket is formed in the upper end of the base. By means of the

safe and sanitary applanation **tonometer**, the pressure measuring body and the base are connected and separated through the installation plug and the installation socket; the safe and sanitary applanation **tonometer** can be held with the hand to conduct intraocular pressure measurement on a patient lying on the bed and children, can be directly used in a vertical placement mode, and is easy to operate; the liquid adsorbing ring is additionally arranged, overmuch tears in the eyes can be adsorbed, and the accuracy of the measuring result is guaranteed.

5/11 © EPODOC / EPO

- PN - [US4747296](#) A 19880531
- PR - US19850781240 19850927
- AP - US19850781240 19850927
- DT - **
- CT - [US3266288](#) A []; [US3366948](#) A [];
[US3475600](#) A []; [US3641444](#) A [];
[US3748587](#) A []; [US3781869](#) A [];
[US3810031](#) A []; [US3884079](#) A [];
[US3889518](#) A []; [US3924612](#) A [];
[US3926056](#) A []; [US4003370](#) A [];
[US4086804](#) A []; [US4088009](#) A [];
[US4263918](#) A []; [US4322977](#) A [];
[US4532809](#) A []; [FR1549197](#) A [];
[JPS5236077](#) A [
]; [JPS5544943](#) A [];
[JPS55135724](#) A []
- CTNP - [] Carrier Amplifier Has Zero Drift ; Electronics, vol. 25, No. 12, pp. 131 133; Dec. 1952; Angelo Perone
- CCI - [A61B3/16](#)
- PA - DESIGN TEAM PARTNERS [US]
- TI - Electronic **tonometer** with baseline nulling system
- AB - Disclosed is a **battery** powered, hand-held self-contained electronic **tonometer** with a digital readout for displaying pressure in millimeters of mercury. The **tonometer** includes a transducer which is a solid state pressure



sensitive element and which produces a voltage proportional to intraocular pressure. An electrical waveform is produced by gently bringing the transducer in contact with the cornea. The waveform is converted to a digital signal and processed by a single chip microprocessor. The baseline of a reference signal is nulled by equalizing the charges on two capacitors on the inputs of two differential amplifiers. Equalizing the differential inputs of the two amplifier stages results in a gain of zero and removes any carrier signal. Microprocessor software detects the baseline condition established by equalizing the differential inputs. The microprocessor then looks for a series of valid measurements and calculates the average intraocular pressure along with an estimate of reliability. This average value and the reliability indicator are displayed on a liquid crystal display.

6/11 © EPODOC / EPO

PN - [US6394968](#) B1 20020528

PR - US20000611566 20000707

AP - US20000611566 20000707

DT - *

CT - [US5174292](#) A []

CCI - [A61B3/16](#)

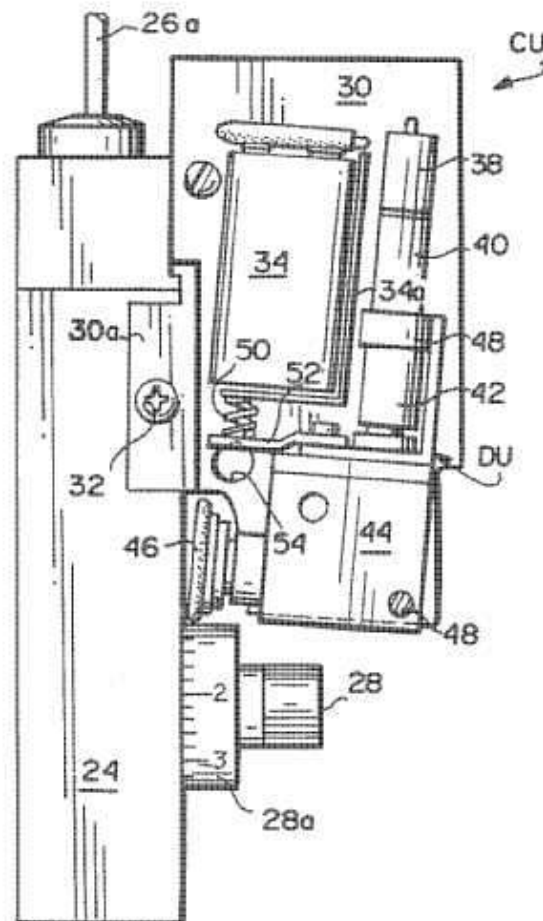
TI - Trans-scleral method and apparatus for measuring intraocular pressure

AB - An instrument and method of the present invention facilitates accurate IOP determination, both before and after any laser eye treatment. A **tonometer** according to the present invention is specially designed to measure IOP by contacting the sclera instead of the cornea. To ensure accurate pressure measurement, the programmable logic of the **tonometer** assumes and compensates for normal sclera thickness, normal sclera radius of curvature, and normal sclera tissue modulus of elasticity. The **tonometer** preferably comprises a housing that is contoured such that it is easily grasped, in a manner of a writing pen. The functioning components of the instrument include an activation button, located on

the anterior dorsal surface in close approximation to the index fingertip of the user, a liquid crystal display, a reset button, and a removable **battery** cover. The tip of the instrument is a solid state pressure transducer element that produces a change in voltage with a change in intraocular pressure. The electrical waveform produced by gently bringing the transducer in contact with the sclera is converted to a digital signal and processed by a microprocessor. An average pressure value and the reliability are then read out on a liquid crystal display.

7/11 © EPODOC / EPO

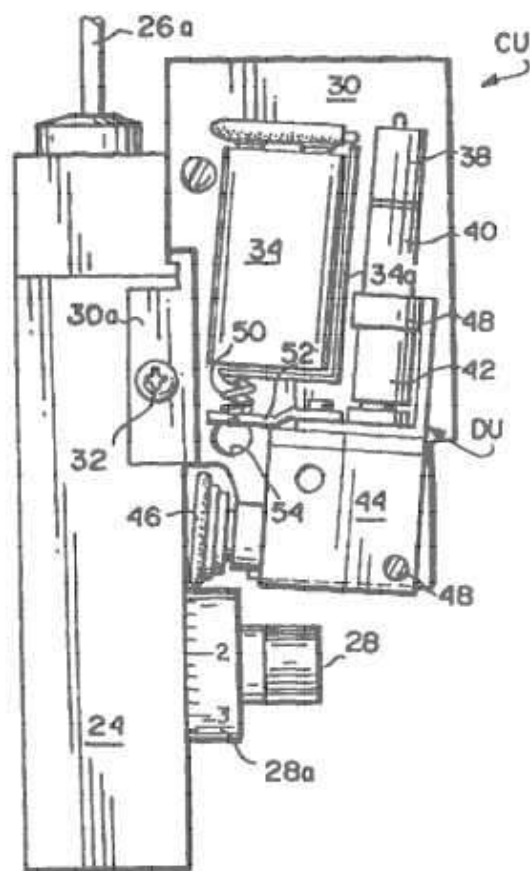
- PN - [US5638149](#) A 19970610
 PR - US19950531330 19950920
 AP - US19950531330 19950920
 DT - **
 CT - [US3934462](#) A []; [US4660465](#) A [];
[US4874236](#) A []; [US4987899](#) A [];
[US5203331](#) A []; [US5363155](#) A []
 CCI - [A61B3/16](#)
 PA - UNIV DUKE [US]
 TI - Motorized
 applanation **tonometer**
 AB - A control unit may be mounted in operative relationship to a conventional **tonometer** adjustment wheel to allow for motorized adjustment thereof. The unit includes a **battery** which powers a DC motor. The motor provides driven input to a right-angle gear drive, the output of which drives a friction wheel. The friction wheel is positioned so as to be in frictional engagement with the outer circumferential surface of the **tonometer** adjustment wheel. Actuation of a remote-mounted switch therefore allows the attending ophthalmologist to selectively drive the **tonometer** adjustment wheel in clockwise and counterclockwise directions so as to thereby adjust **tonometer** settings. The gear drive is mounted for pivotal movements about an



axis transverse to the rotational axis of the **tonometer** adjustment wheel so that the friction wheel may be moved between engaged and disengaged positions relative to the **tonometer** adjustment wheel. A spring normally biases the friction wheel into its engaged position with the **tonometer** adjustment wheel.

8/11 © EPODOC / EPO

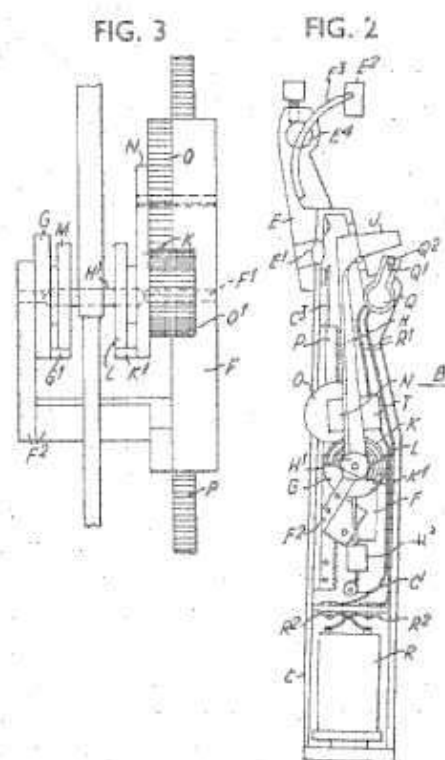
- PN - [WO9710744](#) A1 19970327
- PR - US19950531330 19950920
- AP - WO1996US14924 19960917
- DT - *; Rep
- CT - |US| ISR (A1)
[US5363155](#) A 19941108
 [Y] (URINOWSKI EHUD [IL], et al);
[US4660465](#) A 19870428
 [Y] (JENTZSCH HORST [DE], et al)
- CCI - [A61B3/16](#)
- PA - UNIV DUKE [US]
- TI - MOTORIZED
 APPLANATION **TONOMETER**
- AB - A control unit may be mounted in operation relationship to a conventional **tonometer** adjustment to allow for motorized adjustment thereof. The unit includes a **battery** (34) which powers a DC motor (38). The motor (38) provides driven input to a right-angle gear drive (44), the output of which drives a friction wheel (46). The friction wheel (46) is positioned so as to be in frictional engagement with the outer circumferential surface of the **tonometer** adjustment wheel (28). Actuation of a remote-mounted switch (36) therefore allows the attending



ophthalmologist to selectively drive the **tonometer** adjustment wheel (28) in clockwise and counterclockwise directions so as to thereby adjust **tonometer** settings. The gear drive (44) is mounted for pivotal movements about an axis transverse to the rotational axis of the **tonometer** adjustment wheel (28) so that the friction wheel (46) may be moved between engaged and disengaged positions relative to the **tonometer** adjustment wheel. A spring (50) normally biases the friction wheel (46) into its engaged position with the **tonometer** adjustment wheel (28).

9/11 © EPODOC / EPO

PN - [GB1360603](#) A 19740717
 PR - GB19700032010 19700701
 AP - GB19700032010 19700701
 DT - *
 CCI - [A61B3/16](#)
 PA - CLARKE LTD CLEMENT
 TI - APPLANATION TONOMETERS
 AB - 1360603
 Applanation **tonometer**
 CLEMENT CLARKE Ltd 1 July
 1971 [1 July 1970] 32010/ 70
 Heading A5K An
 applanation **tonometer**
 comprises an adjustable
 main spring L, Fig. 2, for
 controlling the applanating
 pressure applied to the
 patient's eye, at least one
 compensating spring M, Fig.
 3, and an indicating, member
 P actuated by a finger wheel
 O for giving an indication
 P<SP>1</SP> of the
 applanating pressure. The
 compensating spring M has
 such characteristics in
 relation to those of the main



spring L that the total pressure bears an approximately linear relationship to the indicating movement of the member P. The **tonometer** includes a pivot member H¹ carrying lever H, one arm of which supports an applanating member J, the other arm a counterweight H², anchorages G¹, K¹ for the free ends of the springs, M, L, and a fitting E incorporating an inspection eyepiece E¹ and a head-rest member E². The member J is made of a transparent material so that the size of the flattened area of the patient's cornea may be viewed through the eyepiece E¹ and the applanating member itself. H comprises a block (J²), Fig. 6 (not shown) of transparent material with a plane face (J³), two opposing prisms (J⁴) which split the field of view into two equally, laterally displaced halves, and a transparent plate-like member (J¹). Illumination is provided in the form of an electric light bulb Q tipped with a lens Q¹ and a light filter Q², energized through wires R¹, R² from a **battery** R in the base C. A further embodiment utilizes a flexible light transmitting rod (S), Fig. 8 (not shown), or preferably a bundle of such rods, provided with a lens (S¹) and ultra-violet filter (S²). Automatic control of the illuminating

means is achieved by using a microswitch T disposed adjacent the finger wheel.

10/11 © EPODOC / EPO

PN - [GB867128](#) A 19610503

PR - DE19580005969 19580120

AP - GB19590002151 19590120

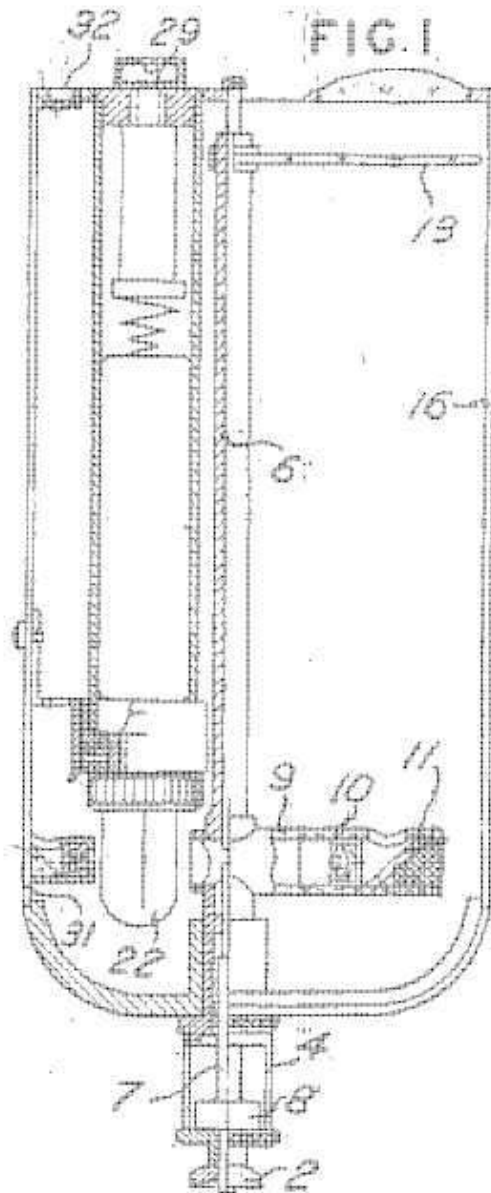
DT - *

CCI - [A61B3/16](#)

PA - OCULUS OPTIKGERAETE G M B H

TI - Improvements in or relating to tonometers

AB - 867,128. Tonometers. OCULUS OPTIKGERATE G.m.b.H. Jan. 20, 1959 [Jan. 20, 1958], No. 2151/59. Class 81 (2). [Also in Group XIX] In a **tonometer**, in which a pressure member 7 is loaded with weights to apply pressure to the eye and the depth of penetration of the pressure member into the eye is measured, the upper edge of the pressure member is reproduced optically on a scale 13 by a beam of light. The pressure member 7 has a flange 8 for receiving weights and is slidable in a guide comprising a cupshaped portion 2, which in use is held against the eye, connecting pieces 4 and a tube 6 extending into a casing 16. The casing is slidable on the guide and serves as a handle. A **battery**-operated lamp 22 having a single long filament parallel to the tube 6 is supported by the casing and serves with a lens 10 and reflector 11 in a tube 9 to produce an image of the upper edge of the pressure member on a luminous scale 13 supported by the tube 6. A spirit level 29 at the top of the casing is used to arrange the apparatus with the pressure



member and guide vertical, light from the lamp 22 then being directed by a prism 31 and a lens 32 to a spot on the ceiling vertically above the apparatus. The apparatus is used with the patient looking at this spot of light.

11/11 © EPODOC / EPO

PN - [CA1291796](#) C 199111105

PR - CA19860522025 19861103

AP - CA19860522025 19861103

DT - I

PA - DESIGN TEAM PARTNERS [US]

TI - HAND-HELDSelf-CONTAINED ELECTRONIC **TONOMETER**

AB - S P E C I F I C A T I O N HAND-HELD SELF-CONTAINED ELECTRONIC **TONOMETER**

Disclosed is a **battery** powered, hand-held self-contained electronic **tonometer** with a digital readout for displaying pressure in millimeters of mercury. The **tonometer** includes a transducer which is a solid state pressure sensitive element and which produces a voltage proportional to intraocular pressure. An electrical waveform is produced by gently bringing the transducer in contact with the cornea. The waveform is converted to a digital signal and processed by a single chip microprocessor. The baseline of a reference signal is nulled by equalizing the charges on two capacitors on the inputs of two differential amplifiers. Equalizing the differential inputs of the two amplifier stages results in a gain of zero and removes any carrier signal. Microprocessor software detects the baseline condition established by equalizing the differential inputs. The microprocessor then looks for a series of valid measurements and calculates the average intraocular pressure along with an estimate of reliability. This average value and the reliability indicator are displayed on a liquid crystal display.