



(43) International Publication Date
10 April 2014 (10.04.2014)

- (51) International Patent Classification:
G01N 21/87 (2006.01) *G01N 21/17* (2006.01)
- (21) International Application Number:
PCT/SG2013/000430
- (22) International Filing Date:
3 October 2013 (03.10.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/709,310 3 October 2012 (03.10.2012) US
- (71) Applicant: **PRESIDIUM INSTRUMENTS PTE LTD**
[SG/SG]; 6 Penjuru Lane, Singapore 609187 (SG).
- (72) Inventors: **SIM, Hwa San**; Block 446 Yishun Avenue 11,
#13-58, Singapore 760446 (SG). **JOANNE, Yeo**; c/o
PRESIDIUM INSTRUMENTS PTE LTD, 6 Penjuru Lane,
Singapore 609187 (SG).
- (74) Agent: **DONALDSON & BURKINSHAW**; P.O. Box No.
3667, Robinson Road Post Office, Singapore 905667 (SG).
- (81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,
SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM,
ZW.

- (84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

(54) Title: A GEMSTONE TESTER AND A METHOD OF CHARACTERISING A GEMSTONE

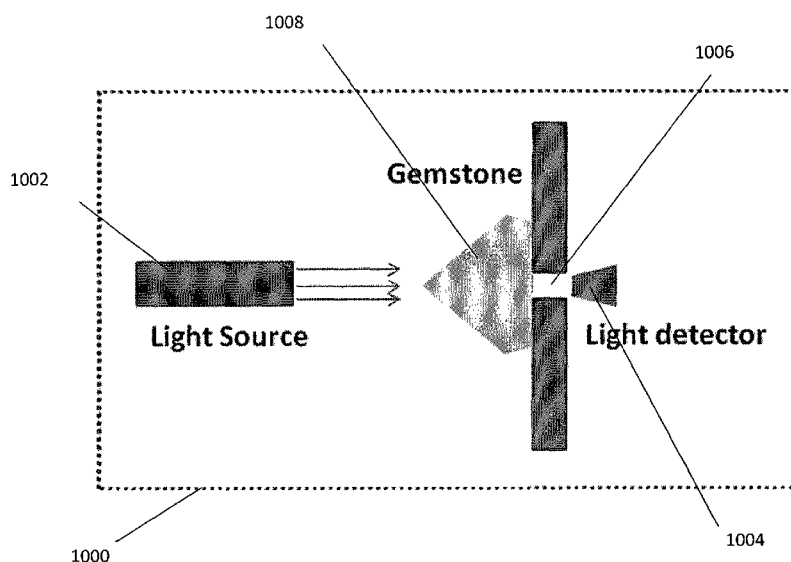


Figure 10

(57) Abstract: A gemstone tester for characterising a gemstone and a method of characterising a gemstone are provided, the gemstone tester comprising a detector unit for detecting one or more transmittances of the gemstone; and a processing unit for determining a first parameter based on one or more of the transmittances of light; and for characterising the gemstone based on the first parameter; wherein each transmittance of the gemstone is a fraction of light of a specific wavelength that is passed through the gemstone.