





The Director

of the United States Patent and Trademark Office has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, Shis United States

grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Katherine Kelly Vidal

DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

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If the application for this patent was filed on or after December 12, 1980, maintenance fees are due three years and six months, seven years and six months, and eleven years and six months after the date of this grant, or within a grace period of six months thereafter upon payment of a surcharge as provided by law. The amount, number and timing of the maintenance fees required may be changed by law or regulation. Unless payment of the applicable maintenance fee is received in the United States Patent and Trademark Office on or before the date the fee is due or within a grace period of six months thereafter, the patent will expire as of the end of such grace period.

Patent Term Notice

If the application for this patent was filed on or after June 8, 1995, the term of this patent begins on the date on which this patent issues and ends twenty years from the filing date of the application or, if the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121, 365(c), or 386(c), twenty years from the filing date of the earliest such application ("the twenty-year term"), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b), and any extension as provided by 35 U.S.C. 154(b) or 156 or any disclaimer under 35 U.S.C. 253.

If this application was filed prior to June 8, 1995, the term of this patent begins on the date on which this patent issues and ends on the later of seventeen years from the date of the grant of this patent or the twenty-year term set forth above for patents resulting from applications filed on or after June 8, 1995, subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b) and any extension as provided by 35 U.S.C. 156 or any disclaimer under 35 U.S.C. 253.



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(12) United States Patent

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(54) POINT-OF-CARE GUIDANCE SYSTEM FOR DIAGNOSTIC AND THERAPEUTIC MEDICAL PROCEDURES

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(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 163 days.

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CPC A61B 8/462; A61B 8/4472; A61B 8/4427; A61B 2017/3413; A61B 2017/00221; H04N 7/183; G09B 23/286

See application file for complete search history.

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(57) ABSTRACT

A guidance apparatus is provided for use with a portable imaging apparatus and an image display device. The guidance apparatus includes a sleeve portion structured for receiving an imaging apparatus and a coupling mechanism. The coupling mechanism has a rotating portion and first and second connecting portions structured for coupling the image display device to the imaging apparatus. During use, the coupling mechanism facilitates orienting the image display device relative to the imaging apparatus to provide a direct line of sight of an area imaged by the imaging apparatus. The coupling mechanism may be adjustable for facilitating rotation of the image display device about a longitudinal axis of the imaging apparatus. Also, the coupling mechanism can be structured to allow the combination of the coupling mechanism, the image display device, and the imaging apparatus to be held in a single hand of a user during performance of a medical procedure.

14 Claims, 42 Drawing Sheets

