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(71) Applicant: **Biosense Webster, Inc.**
Diamond Bar, CA 91765 (US)

(72) Inventors:
- **Altmann, Andres Claudio**
  Haifa 34614 (IL)
- **Govari, Assaf**
  Haifa 34400 (IL)

(74) Representative: **Mercer, Christopher Paul et al**
Carpmaels & Ransford
43-45 Bloomsbury Square
London WC1A 2RA (GB)

(54) **Display of catheter tip with beam direction for ultrasound system**

(57) A medical imaging system for imaging a patient's body includes a catheter (28) having a position sensor (32) and an ultrasonic imaging sensor (40) wherein the position sensor transmits electrical signals indicative of positional information of a portion of the catheter in a patient's body and the ultrasonic imaging sensor transmits ultrasonic energy at a target in the patient's body, receives ultrasonic echoes reflected from the target in the patient's body and transmits signals relating to the ultrasonic echoes reflected from the target in the patient's body. A positioning processor is operatively connected to the catheter for determining positional information of the portion of the catheter based on the electrical signals transmitted by the position sensor. The system also includes a display and an image processor operatively connected to the catheter, the positioning processor and the display. The image processor displays on the display a catheter icon (99) in a same orientation as an orientation of the portion of the catheter in the patient's body based on positional information derived from the position sensor. The image processor also generates an ultrasonic image of the target based on the signals transmitted by the ultrasonic sensor and depicts in real-time the generated ultrasound image on a display (44) in a same orientation as the orientation of the portion of the catheter in the patient's body based on positional information derived from the position sensor.

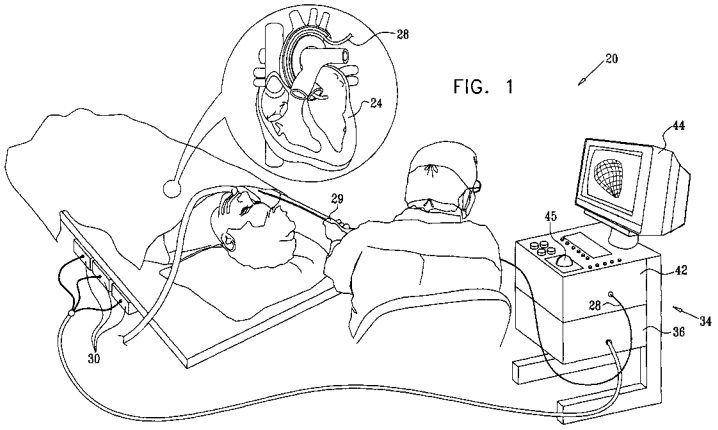

FIG. 1

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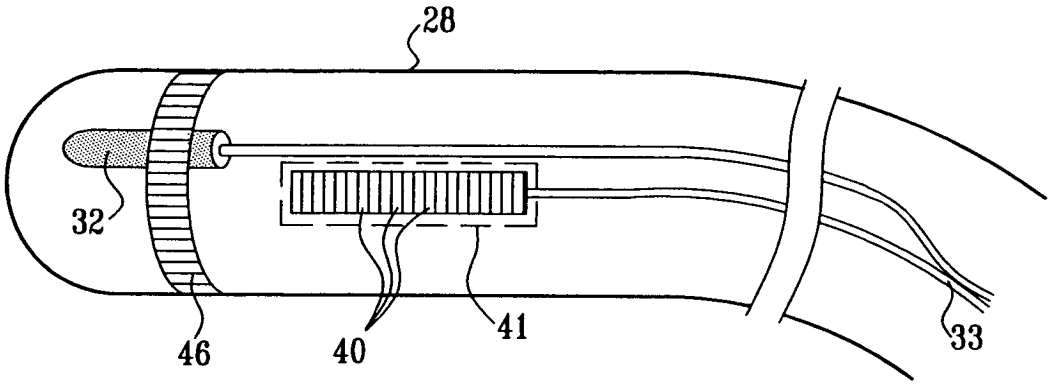
FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 06 25 2217

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	17 December 2007	Anscombe, Marcel

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	用于超声系统的具有射束方向的导管尖端的显示		
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[标]申请(专利权)人(译)	韦伯斯特生物官能公司		
申请(专利权)人(译)	生物传感韦伯斯特，INC.		
当前申请(专利权)人(译)	生物传感韦伯斯特，INC.		
[标]发明人	ALTMANN ANDRES CLAUDIO GOVARI ASSAF		
发明人	ALTMANN, ANDRES CLAUDIO GOVARI, ASSAF		
IPC分类号	G01S15/89 G01S7/52 G06T17/00 A61B8/12 A61B5/06 A61M25/00 A61B19/00 A61N7/00 A61B5/04 A61B5/042 A61B17/22		
CPC分类号	G06T19/00 A61B5/0035 A61B5/0037 A61B5/042 A61B5/06 A61B5/062 A61B5/7285 A61B5/743 A61B6/488 A61B6/503 A61B6/504 A61B6/5247 A61B6/541 A61B8/06 A61B8/0883 A61B8/0891 A61B8/12 A61B8/4416 A61B8/4483 A61B8/483 A61B18/1492 G06T17/00 G06T2210/41		
代理机构(译)	MERCER，CHRISTOPHER PAUL		
优先权	11/115013 2005-04-26 US 11/114801 2005-04-26 US		
其他公开文献	EP1717601B1 EP1717601A2		
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摘要(译)

用于对患者身体成像的医学成像系统包括具有位置传感器（32）和超声成像传感器（40）的导管（28），其中位置传感器发送指示患者的导管的一部分的位置信息的电信号。主体和超声成像传感器在患者体内的目标上发射超声能量，接收从患者体内的目标反射的超声回波，并发送与从患者体内的目标反射的超声回波有关的信号。定位处理器可操作地连接到导管，用于基于由位置传感器发送的电信号确定导管的该部分的位置信息。该系统还包括显示器和可操作地连接到导管，定位处理器和显示器的图像处理器。图像处理器在显示器上显示导管图标（99），其基于从位置传感器导出的位置信息，与患者体内导管部分的取向相同。图像处理器还基于由超声波传感器发送的信号生成目标的超声图像，并且在显示器（44）上以与导管部分的取向相同的取向实时描绘所生成的超声图像。基于来自位置传感器的位置信息，患者的身体。