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(54) **Apparatus and methods for analyzing body fluid samples**

(57) An apparatus is provided for monitoring a pre-determined parameter of a patient's body fluid while infusing an infusion fluid into the patient (6011). The apparatus comprises an infusion line (6017) and a catheter (6021) configured for insertion into a blood vessel of the patient, and a reversible infusion pump (6013) connected between a source (6015) of an infusion fluid and the infusion line and catheter. The apparatus further comprises a body fluid sensor assembly (6019) mounted in fluid communication with the infusion line and which includes a first sensor and a sample cell. The first sensor provides a signal indicative of a predetermined parameter of any fluid present in the infusion line. The apparatus further comprises a controller (6023) that is configured to operate the infusion pump in a forward direction so as to pump the infusion fluid through the infusion line and catheter for infusion into the patient. The controller is configured to intermittently interrupt its operating of the infusion pump in the forward direction to operate the infusion

pump in a rearward direction so as to draw a body fluid sample from the patient through the catheter and infusion line. The controller, in response to detecting the arrival of the body fluid sample at the first sensor, is configured to cease its operating of the infusion pump in the rearward direction.

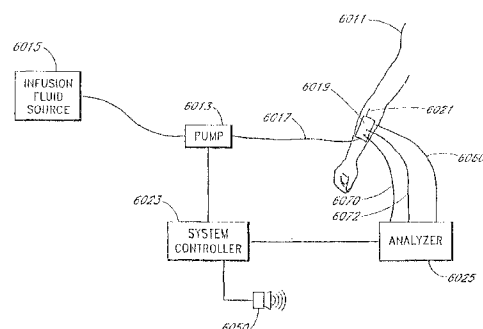


FIG. 49



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EP 09 16 9910

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The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 18 May 2010	Examiner Schultz, Ottmar
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专利名称(译)	用于分析体液样本的装置和方法		
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摘要(译)

提供了一种用于监测患者体液的预定参数同时将输注流体输注到患者体内的装置（6011）。该装置包括输注管线（6017）和导管（6021），其配置用于插入患者的血管中，以及可逆输注泵（6013），其连接在输注流体的源（6015）和输注管线之间。导管。该装置还包括体液传感器组件（6019），其安装成与输注管线流体连通，并且包括第一传感器和样品池。第一传感器提供指示输注管线中存在的任何流体的预定参数的信号。该装置还包括控制器（6023），该控制器被配置成在向前方向上操作输注泵，以便将输注流体泵送通过输注管线和导管以输注到患者体内。控制器被配置成在向前方向上间歇地中断其输注泵的操作以沿向后方向操作输注泵，以便通过导管和输注线从患者抽取体液样本。响应于检测到体液样本到达第一传感器，控制器被配置成停止其在向后方向上操作输注泵。

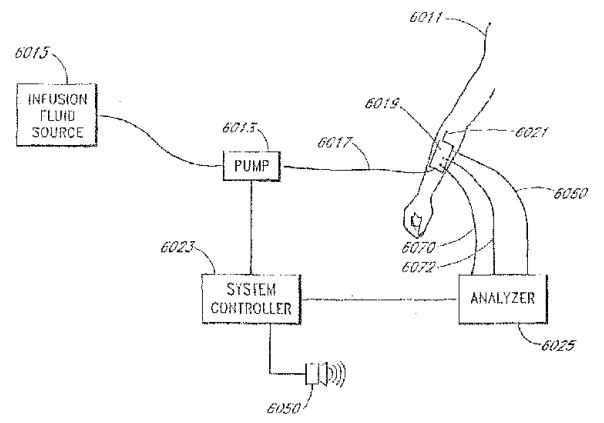


FIG. 49