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(54) Title: SYSTEM AND METHOD FOR DETERMINING NATIVE CARDIAC OUTPUT WHILE CONTINUING SUPPORT TO THE HEART WITH A CATHETER-MOUNTED INTRACARDIAC BLOOD PUMP HAVING AN IMBEDDED THERMISTOR

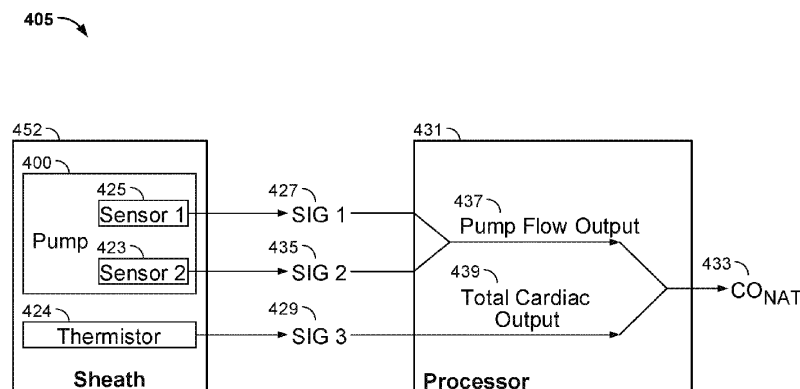


FIG. 3

(57) Abstract: A system and method for determining native cardiac output of a heart while maintaining operation of an intracardiac blood pump includes determining a current drawn by the pump motor, a blood pressure within the ascending aorta, and a change in the blood temperature based on a thermodilution technique. An intracardiac blood pump positioned in the aorta includes at least one sensor for determining a motor current and blood pressure and a thermistor for determining the change in blood temperature after a precise fluid bolus has been introduced into the vasculature. A processor receives current, pressure, and temperature measurements, and calculates a pump flow output and a total cardiac output from which the native cardiac output is calculated. The native cardiac output and other clinically relevant variables derived from the measurements inform decisions related to continued therapeutic care, including increasing or decreasing cardiac assistance provided by the intracardiac pump.

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