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(54) Title: BLOOD FLOW RATE MEASUREMENT SYSTEM

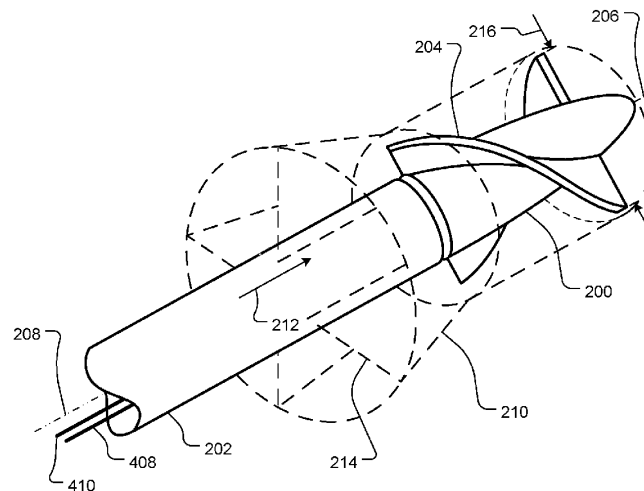


Fig. 2

(57) Abstract: A blood flow rate measurement system measures fluid flow rate in a blood vessel (106) having a catheter-based heart pump (100) inserted therein, without relying on measurements of electric current drawn by a motor that drives the heart pump (100). A turbine (200) is disposed at or near a distal end of the heart pump catheter (202). Blood or other fluid flowing through the blood vessel (106) urges blades (204) of the turbine (200) to rotate. The turbine (200) is mechanically coupled to a signal generator (400), which generates a signal (404) indicative of a rotational speed of the turbine (200), which is dependent, at least in part, on speed of the fluid flowing through the blood vessel (106). A tachometer (412), external to the body of the patient, calculates the blood flow rate from the rotational speed of the turbine (200). In some cases, the blades (204) are collapsible, to reduce diameter of the turbine (200), thereby facilitating insertion of the system into the blood vessel (106).

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