**Claim rejection under 35 USC 112**

**The following is a quotation of the first paragraph of 35 U.S.C. 112(a):**

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilledin the art to which it pertains,or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplatedby the inventor or joint inventor of carrying out the invention.

**The following is a quotation of 35 U.S.C. 112(b):**

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctlyclaiming the subject matter which the inventor or a joint inventor regards as the invention.  
The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA),second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

**Claim rejection under 35 USC 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(a)(1) the claimed invention was patented, described in a printed publication, orin public use, on sale or otherwise available to the public before the effectivefiling date of the claimed invention.

**Claims 1-19 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by XXXXX et al (US )**

Claim rejection under 35 USC 103

**The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:**

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this titleif the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimedinvention to a person having ordinary skill in the art to which the claimed invention pertains.Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103 as being unpatentable over XXXXXXX (US 20160142003) in view of XXXXXXX. (US ).

**Regarding claim 1**. An apparatus for starting operation of a motor of an implantable blood pump, comprising:  
a memory storing one or more default parameters for at least one of controlling and monitoring the startup operation; and a processor operatively coupled to the motor, the processor being configured to:  
commence the startup operation based on the one or more default parameters;  
detect an error during the startup operation, the error including a failure to start the motor based on a plurality of pulses associated with a physiological state of a patient;  
update at least one of the one or more default parameters to an updated parameter different than the one or more default parameters in response to the detected error;  
store the at least one updated parameter in the memory; and  
commence subsequent startup operations based at least in part on the at least one updated parameter.   
   
**Regarding claim 2**. The apparatus of claim 1, wherein storing the at least one updated parameter in the memory occurs when commencing subsequent startup of the motor is successful.   
   
**Regarding claim 3**. The apparatus of claim 1, wherein the error detected during the startup operation is indicative that the motor is operating as a result of the startup but not in a desired manner.   
   
**Regarding claim 4**. The apparatus of claim 1, wherein the error detected during the startup operation is indicative that the motor is operating as a result of the startup but at least one of an undesirable operational error and a condition occurred during the startup.   
   
**Regarding claim 5**. The apparatus of claim 1, wherein the memory stores parameter adjustment data indicating an association between at least one error type of the detected error and at least one associated parameter, and wherein the processor is configured to identify at least one default parameter associated with the detected error based on the parameter adjustment data and to adjust the at least one default parameter in response to the detected error.   
   
**Regarding claim 6**. The apparatus of claim 5, wherein the parameter adjustment data further indicates whether to at least one of increase and decrease the associated parameter in response to the at least one error type to reduce the likelihood of a recurrence of the at least one error type, and wherein the processor is configured to at least one of increase and decrease the at least one default parameter based on the parameter adjustment data.   
   
**Regarding claim 7**. The apparatus of claim 1, wherein the processor is configured to ramp a speed of the motor based on at least one of the one or more default parameters, and phase lock the motor based on at least one of the one or more default parameters.   
   
**Regarding claim 8**. The apparatus of claim 1, wherein the processor is configured to detect an error during the startup operation based on at least one of a determined speed of the motor, current supplied to the motor, flow rate of blood through the pump, and pressure head exerted by the pump.   
   
**Regarding claim 9**. The apparatus of claim 1, wherein the one or more default parameters includes a value indicating a threshold number of errors, and wherein the processor is further configured to cease operation of the motor in response to registering the threshold number of errors during consecutive startup operation attempts.   
   
**Regarding claim 10**. The apparatus of claim 1, wherein the one or more default parameters includes at least one parameter related to a rate at which speed of the motor is ramped, and wherein the processor is configured to identify a suction condition at the implantable blood pump, and to adjust the at least one parameter related to a rate at which speed of the motor is ramped in response to the suction condition.   
   
**Regarding claim 11**. The apparatus of claim 1, wherein the one or more default parameters includes at least one parameter related to a rate at which speed of the motor is ramped, and wherein the processor is configured to identify a high pressure condition at the implantable blood pump, and to adjust the at least one parameter related to a rate at which speed of the motor is ramped in response to the high pressure condition.   
   
**Regarding claim 12**. The apparatus of claim 1, wherein the one or more default parameters includes at least one parameter related to motor phase control, and wherein the processor is configured to identify a commutation error at a rotor of the implantable blood pump, and to adjust the at least one parameter related to motor phase control in response to the commutation error.   
   
**Regarding claim 13**. A method of adaptively adjusting operational parameters of a motor of an implanted medical device, comprising:  
commencing a startup operation based on one or more preset operational parameters; detecting an error during the startup operation, the error including a failure to start the motor based on a plurality of pulses associated with a physiological state of a patient; updating at least one of the one or more preset operational parameters with an updated parameter different than one or more preset operation parameter in response to the detected error; replacing at least one of the one or more preset operational parameters with the at least one updated parameter as a default parameter in the memory; and commencing subsequent startup operations based at least in part on the at least one updated parameter.   
   
**Regarding claim 14**. The method of claim 13, wherein the detecting and updating are repeatedly performed until the startup operation is successfully completed.   
   
**Regarding claim 15**. The method of claim 14, further comprising associating the detected error with at least one of the one or more present operational parameters based upon preset association data, and wherein adjusting at least one of the one or more preset operational parameters is based on the association.   
   
**Regarding claim 16**. The method of claim 15, wherein the association further comprises an indication whether to at least one of increase and decrease the at least one of the one or more preset operational parameters, and wherein updating at least one of the one or more preset operational parameters comprises at least one of an increase and a decrease of the at least one of the one or more preset operational parameters based on the indication.   
   
**Regarding claim 17**. The method of claim 16, wherein commencing a startup operation comprises ramping a speed of the motor based on at least one of the one or more preset operational parameters, and phase-locking the motor based on at least one of the one or more preset operational parameters.   
   
**Regarding claim 18**. The method of claim 17, wherein when the motor is in an idle state, commencing a startup operation comprises aligning one or more stators of the motor with a predetermined position, and ramping a speed of the motor commences with the stators in the predetermined position.   
   
**Regarding claim 19**. The method of claim 18, wherein detecting an error during the startup operation is based on at least one of a determined speed of the motor and current supplied to the motor.   
   
**Regarding claim 20**. The method of claim 19, wherein the implanted medical device is a blood pump, and wherein detecting an error during the startup operation is based on at least one of a flow rate of blood through the pump, and pressure head exerted by the pump.