Claims

1. A hydraulic motor comprising

- a compressor; and
- a rotary vane motor;

wherein the rotary vane motor further comprises a plurality of radially movable vanes between an inlet and an outlet of the rotary vane motor, the plurality of radially movable vanes forming compartments having a substantially constant volume between the inlet and the outlet.

2. The hydraulic motor of Claim 1, wherein
the rotary vane motor comprises a constant gap between the inlet and the outlet.

3. The hydraulic motor of Claim 1 or 2, wherein
the inlet and the outlet that are connected to opposite ends of the constant gap.

4. The hydraulic motor of any of the preceding Claims, wherein
at least one of the plurality of radially movable vanes comprises a biasing means for extending the at least one of the movable vanes radially.

5. The hydraulic motor of Claim 4, wherein
the biasing means comprises a spring that is pushed against the at least one of the plurality of movable vanes.

6. The hydraulic motor of Claim 4 or 5, wherein
the at least one of the plurality of radially movable vanes comprises a recessed bottom for accommodating movement of the spring.

~~1.~~ 7. **An ambient heat engine comprising:**

- a high pressure heat exchanger for exchanging heat by using a fluid;

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– an expander connected to the high pressure heat exchanger for receiving the fluid and reducing temperature of the fluid and;

– ~~a~~the hydraulic motor according to any of the preceding claims;

~~–~~wherein the hydraulic motor~~further~~ is **connected to the expander for converting hydraulic pressure of the fluid to displacement;**

~~wherein~~ and

~~-~~the high pressure heat exchanger, the expander, and the hydraulic motor are connected together serially in forming a closed loop for circulating the fluid inside the ambient heat exchanger.

~~2~~8. ~~A~~The ambient heat engine of Claim ~~1~~7 further comprising:
a low pressure heat exchanger that is connected between the hydraulic motor and the expander for heating the fluid.

~~3~~9. The ~~A~~ambient heat engine of Claim ~~1~~7 or ~~2~~8, wherein
the fluid comprises carbon dioxide, ammonia or a combination of both.

~~4~~10. The ~~A~~ambient heat engine of any of the preceding C~~c~~laims 7 to 9, wherein
the expander comprises a Joule–Thomson device having at least one throttle.

~~5~~11. The ~~A~~ambient heat engine of any of the preceding ~~c~~Claims 7 to 10, wherein
the expander comprises a pressure regulator.

~~6. Ambient heat engine of any of the preceding claims, wherein~~
~~the hydraulic motor comprises an rotary vane motor having a constant gap of plurality of radially movable vanes between inlet to outlet.~~

~~7. Ambient heat engine of any of the preceding claims, wherein~~
~~The rotary vane motor comprises a constant volume in the compartments formed by the movable vanes between the inlet and outlet..~~

~~8. Ambient heat engine of claim 7, wherein~~

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~~the rotary vane motor further comprises an inlet and an outlet that are connected to opposite ends of the constant gap.~~

~~9. Ambient heat engine of any of the preceding Claim 6 to 8, wherein at least one of the movable vanes comprises a biasing means for extending the at least one of the movable vanes radially.~~

~~10. Ambient heat engine of Claim 9, wherein the biasing means comprises a spring that is pushed against the at least one of the movable vanes.~~

~~11. Ambient heat engine of Claim 10, wherein the at least one of the movable vanes comprises a recessed bottom for accommodating movement of the spring.~~

12. The ~~A~~a ambient heat engine of any of the preceding ~~c~~Claims 8 to 11, the low pressure heat exchanger is configured to operate the fluid substantially from 6 bar to 25 bar.

13. The ~~A~~a ambient heat engine of any of the preceding C~~c~~laims 8 to 12, the low pressure heat exchanger is configured to operate the fluid substantially from zero degree Celsius or lower.

14. The ambient heat engine of any preceding ~~c~~Claims 7 to 13, wherein the ambient heat engine is configured to provide freshwater by condensing, chilling or freezing.

15. The ~~A~~a ambient heat engine of any of the preceding ~~c~~Claims 7 to 14, the high pressure heat exchanger is configured to operate the fluid substantially from 50 bar or higher.

16. The ~~A~~a ambient heat engine of any of the preceding C~~c~~laims 7 to 15 comprising

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a non-return valve that is connected to the hydraulic motor for preventing backflow of the fluid.

17. The ~~A~~a ambient heat engine of any of the preceding claims 7 to 15 further comprising

a block housing with a plurality of non-return valves integrated in the block housing.

18. The ~~A~~a ambient heat engine of any of the preceding ~~c~~Claims 7 to 17 further comprising

at least one non-return valve that is connected to the low pressure heat exchanger, the high pressure heat exchanger, the expander or a combination of any of these for directing flow of the fluid.

19. The ~~A~~a ambient heat engine of any of the preceding ~~c~~Claims 7 to 18 further comprising

a ratchet and pawl device that is connected to the hydraulic motor for preventing backward rotation.

~~20. Method of using an ambient heat engine comprising:~~

- ~~reducing temperature of a heat transfer fluid to be lower than ambient temperature of the ambient heat engine;~~
- ~~absorbing heat by the heat transfer fluid from ambient environment of the ambient heat engine; and~~
- ~~converting at least a portion of absorbed ambient heat to displacement as output.~~

~~21. Method of Claim 20 further comprising:~~

~~increasing temperature of the heat transfer fluid after the converting the at least a portion of the absorbed heat to displacement as output.~~

~~22. Method of Claim 21, wherein~~

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~~the increasing temperature of the heat transfer fluid comprises absorbing thermal energy by the heat transfer fluid from the ambient environment.~~

~~23. Method of any of the preceding Claims 20 to 22 further comprising:~~
~~preventing backflow of the heat transfer fluid.~~

~~24. Method of any of the preceding Claims 20 to 23 further comprising~~
~~regulating pressure of the heat transfer fluid for controlling its temperature to be lower than the ambient temperature.~~

~~25. Ambient heat engine comprising:~~
~~– a motor receiving a liquid work medium and expands to perform work and exhaust to a cryogenic condenser where work medium is chilled back to higher density and deliver back to motor, and~~
~~– a compressor connects to the cryogenic condenser for receiving and compressing a working medium to higher pressure and delivers the working medium to the cryogenic condenser,~~
~~wherein the cryogenic working medium is configured to be circulated around the motor, cryogenic condenser and the compressor in forming a closed loop.~~

~~26. Ambient heat engine of Claim 25 further comprising~~
~~a working medium that comprises carbon dioxide, ammonia or a combination of both.~~

~~27. Ambient heat engine of Claim 25 or 26, wherein~~
~~the motor comprises a rotary device that is configured to produce mechanical movement.~~

~~28. Ambient heat engine of Claim 27 further comprising~~
~~An electric generator that is connected to the motor for converting the mechanical movement into electricity.~~

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~~29. Ambient heat engine of any of the preceding Claims 25 to 28, wherein the motor comprises an accumulator cylinder for collecting the working medium.~~

~~30. Ambient heat engine of any of the preceding Claims 25 to 29, wherein the motor further comprises a compressor, a reciprocate engine or both.~~

~~31. Ambient heat engine of Claim 30, wherein the reciprocate engine comprises a piston for achieving reciprocating movement with a chamber of the reciprocate engine.~~

~~32. Ambient heat engine of Claim 30 or 31, wherein the reciprocate engine comprises a control valve that is configured to cooperate with the piston for injecting or discharging the working medium into or from the chamber.~~

~~33. Ambient heat engine of Claim 31 or 32, wherein the reciprocate engine further comprises a cam connected to the piston for activating the control valve.~~

~~34. Ambient heat engine of any of the preceding Claims 25 to 33, wherein the at least one heat exchanger having direct contact with the motor comprises parts that are exposed to ambient for absorbing ambient heat.~~

~~35. Ambient heat engine of any of the preceding Claims 25 to 34, wherein the at least one heat exchanger comprises a reactor that is configured to disassociate feedstock into gases.~~

~~36. Ambient heat engine of Claim 35, wherein The reactor comprises electrodes for generating HHO gas.~~

~~37. Ambient heat engine of Claim 35 or 36, wherein the reactor comprises a burner of high refractory index, a high melting point or both.~~

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~~38. Ambient heat engine of Claim 37, wherein~~

~~The burner comprises spiral passages for conveying the feedstock in fluidic form.~~

~~39. Ambient heat engine of any of the preceding Claims 25 to 38, wherein~~

~~The at least one heat exchanger comprises a freezer module for chilling water or forming ice.~~

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