Claims

1. A watercraft comprising:

a body for carrying a load, and

a drive system mounted into the body for propelling the watercraft, the drive system comprising

at least one propeller; and

a drive train coupled to the at least one propeller operable to drive the at least one propeller; and

an energy storage module for powering to the at least one propeller;

wherein the energy storage module is operable to be capable of being connected to, detached from, and further reconnected to the body, drive train, or both the body and drive train,

wherein the energy storage module comprises multiple battery swap modules configured to be detachably coupled to the body, and

wherein each of the multiple battery swap modules comprises a watertight casing, the watertight casing adapted to accommodate multiple swap batteries inside the watertight casing.

2. The watercraft of claim 1, wherein

the body comprises a holder that is operable to receive and connect the energy storage module with the body tightly.

3. The watercraft of claim 2, wherein

the holder comprises a compartment for capturing the energy storage module securely and a connector configured to detachably connect the energy storage module to the drive train.

4. The watercraft of claim 2, wherein

the holder comprises a guiding mechanism for receiving the energy storage module into the compartment smoothly.

5. The watercraft of any of the preceding claims, wherein

the energy storage module is configured to float on water and keep its connectors off water surface when floating on water.

6. The watercraft of claim 1, wherein each of the multiple swap batteries is configured to be charged directly and automatically by a plurality of solar panels.

7. The watercraft of claim 1, wherein the watertight casing comprises an access for receiving each of the multiple swap batteries inside the watertight casing.

8. The watercraft of claim 1, wherein each of the multiple swap batteries is configured to float on the water and maintain an upright orientation while floating on the water.

9. The watercraft of claim 1, wherein the energy storage module comprises a master battery tank configured to automatically charge the multiple swap batteries, in absence of solar charging.

10. The watercraft of claim 1, wherein the energy storage module comprises a plurality of solar charge controllers configured to be installed adjacent to the plurality of solar panels, to provide direct charging to the multiple swap batteries.

11. A method for swapping batteries in a watercraft to collect vegetation and other raw wastes floating in water bodies, the method comprising the steps of:

- pulling out depleted batteries of the multiple swap batteries from the watercraft;
- moving at least one new swap battery of the multiple swap batteries in place of the depleted batteries; and
- inserting the at least one new swap battery into compartment of the watercraft, wherein the at least one new swap battery selected from the multiple swap batteries is configured to float on the water and maintain an upright orientation while floating on the water,
  - wherein the multiple swap batteries are accommodated inside a watertight casing of multiple battery swap modules, each configured to be detachably coupled to a body of the watercraft.

12. The method of claim 11, wherein step of moving the at least one new swap battery of the multiple swap batteries in place of the depleted batteries comprises:

- moving the depleted batteries to a solar charging station for charging; and
- positioning the depleted batteries in the solar charging station by connecting the depleted batteries to the solar charging station.

13. The method of claim 11, wherein the depleted batteries are configured to be charged directly and automatically by the plurality of solar panels.