

ABSTRACT

AQUATIC-BASED MICROALGAE PRODUCTION APPARATUS

An aquatic-based algae production apparatus employing a microalgae production support assembly and a cluster of six floating, closed loop, flatbed, CO₂/O₂ gas-permeable, photobioreactors for microalgae industrial production are disclosed. The apparatus's bioreactors are submerged in the proximity of the water surface mark for maximum light exposure and for CO₂/O₂ continual diffusion. A microalgae processing and control assembly monitors the algae growth for each photo-bioreactor in the cluster, and cyclically harvests the microalgae. The microalgae are transferred into a submerged variable-volume storage tank. Solar photovoltaic panels supply the energy required for the operation of the apparatus. Swivel electrical propellers attached to the bottom of the apparatus protective outer barrier control the apparatus's water deployment.

Fig. 1b, 1a

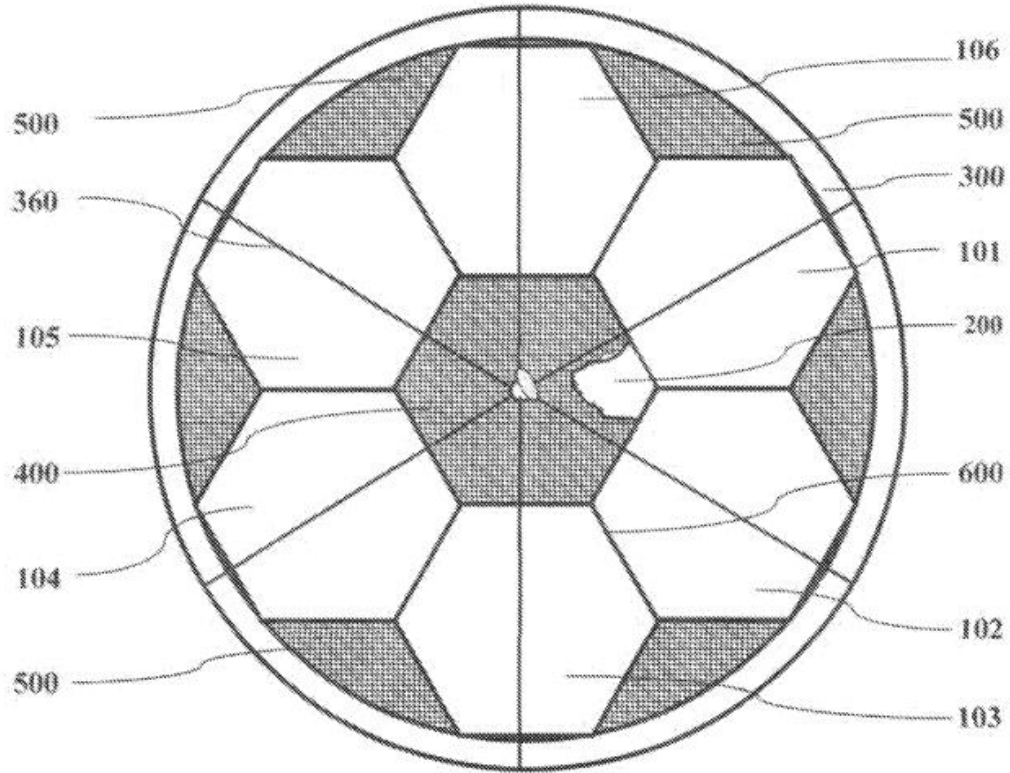


FIG. 1b

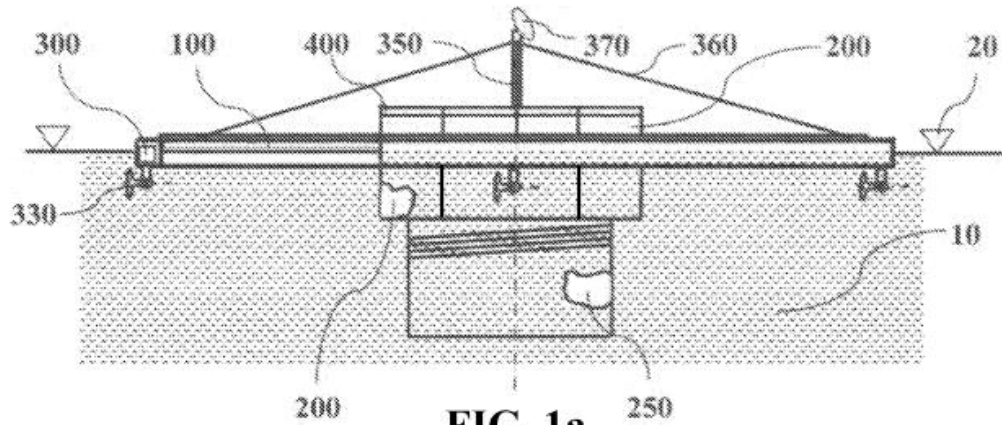


FIG. 1a

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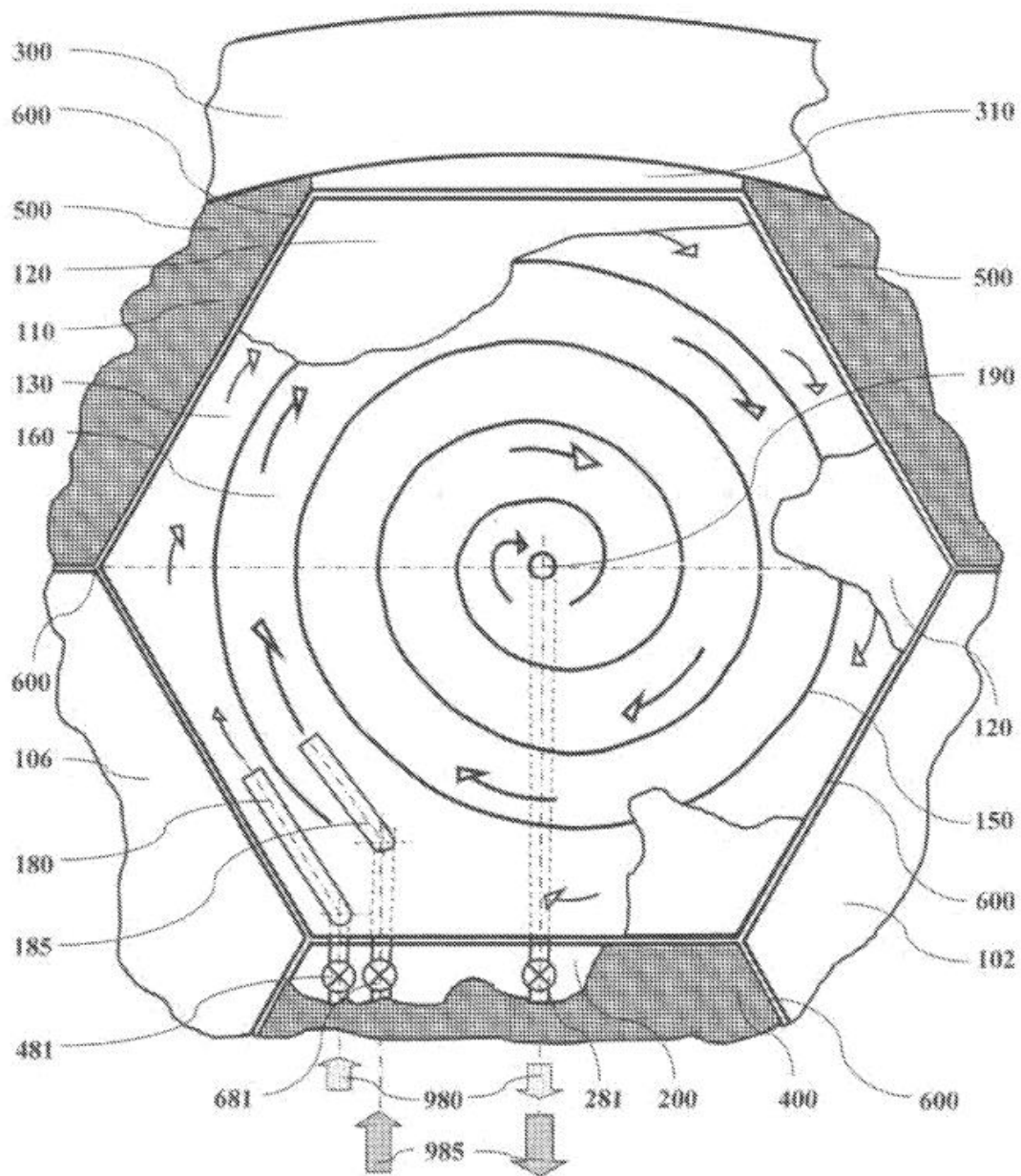


FIG. 2

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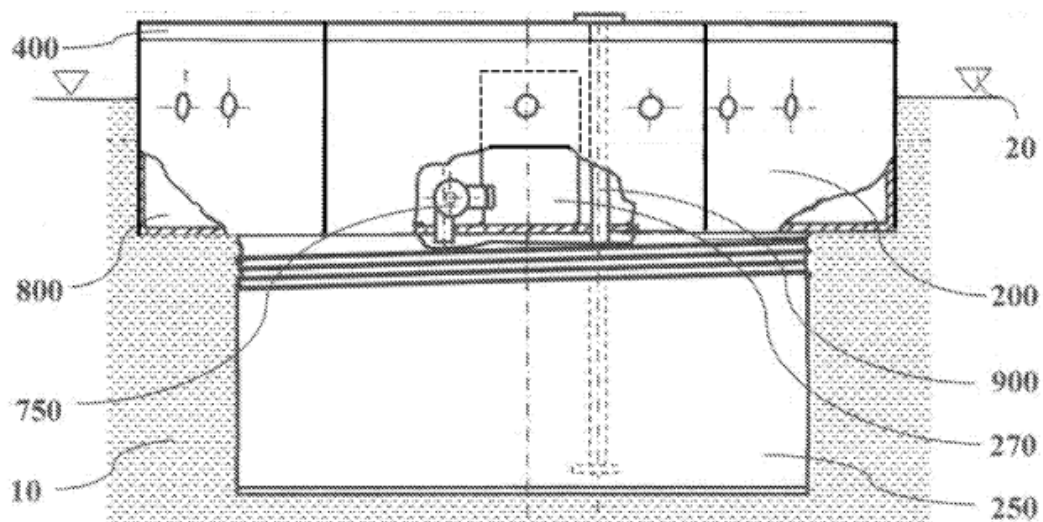


FIG. 3

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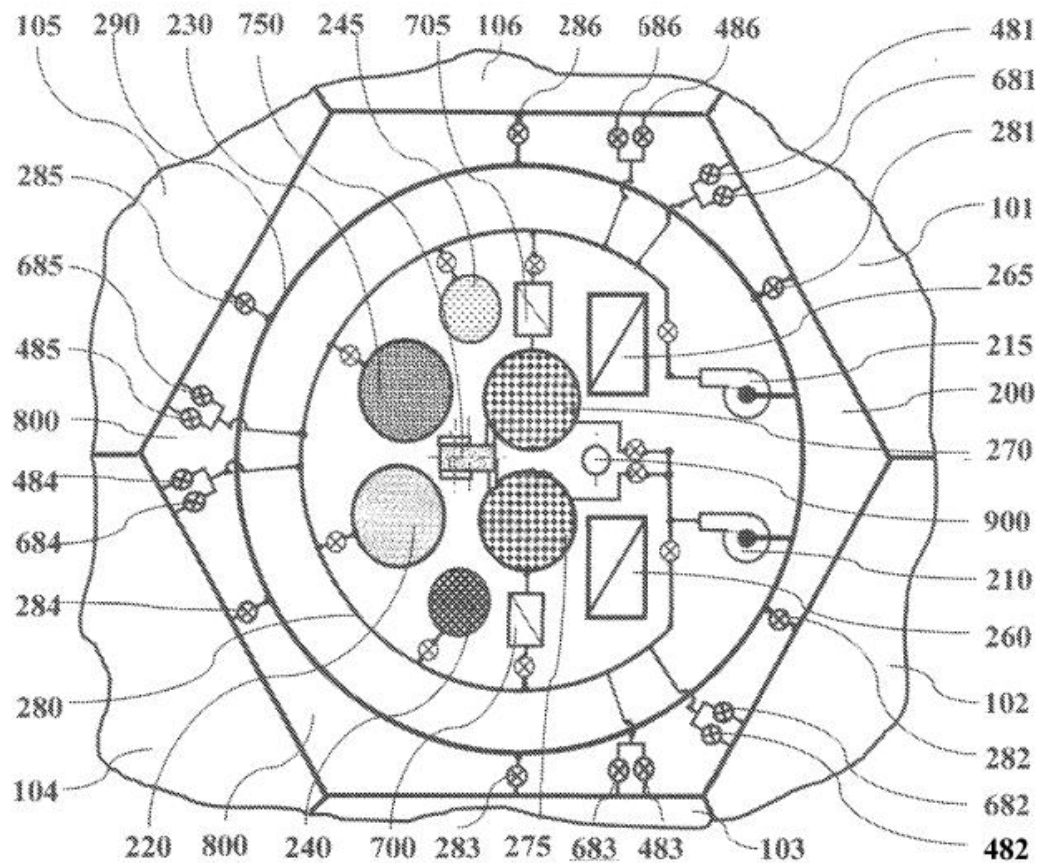


FIG. 4

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