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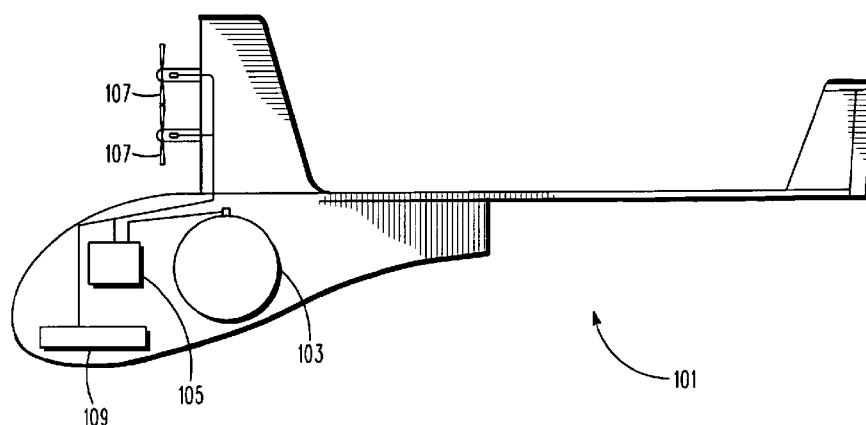


FIG. 1

(57) Abstract: A hydrogen storage tank for a hydrogen fueled aircraft. The tank has a wall made of layers of aerogel sections around a hard shell layer, sealed within a flexible outer layer, and having the air removed to form a vacuum. The periphery of each layer section abuts other sections of that layer, but only overlies the periphery of the sections of other layers at individual points. The wall is characterized by a thermal conductivity that is lower near its gravitational top than its gravitational bottom. The tank has two exit passageways, one being direct, and the other passing through a vapor shield that extends through the wall between two layers of aerogel. A control system controls the relative flow through the two passages to regulate the boil-off rate of the tank.