**Abstract**

A turbine system has an apparatus for raising a turbine relative to a support. The motion of the turbine as it is raised takes the form of an arc. The turbine support is a three-hulled variant in some cases. Also described is a turret mooring system for anchoring the turbine system in place at sea. The turret is attachable to the turbine assembly while the assembly is on land. The turbine assembly can then be towed to the anchoring site where the anchoring lines are attached to the turret. This simplifies the anchoring process, particularly in rough seas where attaching the turret to the assembly may be difficult or impossible. An alternate anchoring system comprising an upstream buoy anchored to an upstream anchoring point and a downstream buoy anchored to a downstream anchoring point is also described. This buoyant mooring system reduces the vertical component of the tension in the anchoring cables, and reduces the effect of pitching forces generated by the turbines.

(Fig. 1A)