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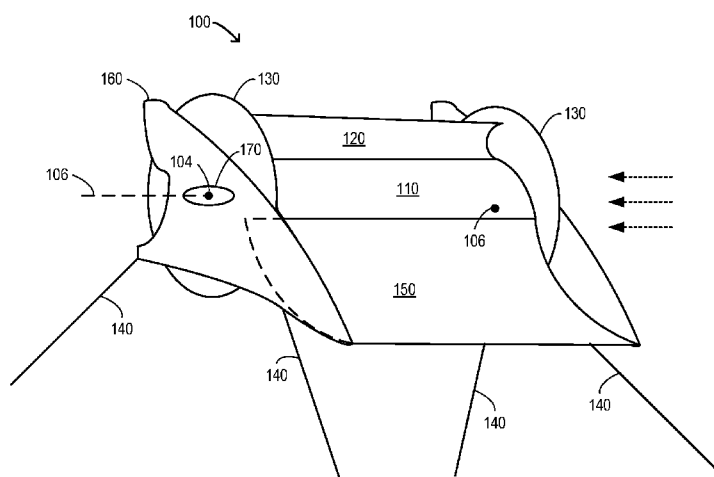


FIG. 1A

(57) Abstract: According to some embodiments, a drum may be submerged in water and extend horizontally along a center axis between a first point on a first side of the drum and a second point on a second side of the drum opposite the first side. Three curved vanes may be attached to the drum such that the vanes, when acted upon by a water flow perpendicular to the axis, are operable to cause rotation about the axis, wherein an edge portion of each vane, located substantially opposite the drum, defines a plane substantially parallel to a plane defined by a surface of the drum located between the edge portion and the axis. An electrical generator coupled to the drum may convert rotational energy produced by the rotation about the axis into electrical energy.