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# United States Patent [19]

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**Lundquist**

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[54] **WIND TURBINE**

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[58] Field of Search ..... **416/14, 106, 135, 137, 416/140, 147, 159, 162, 206, DIG. 4, DIG. 6, 9**

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[57] **ABSTRACT**

A wind turbine assembly including a rotor body having mounted thereon a plurality of rotor blades. Each of the rotor blades may be joined at an inner extremity to a blade stem projection extending interiorly into the rotor body and secured to the rotor body by a torsional-spaced and axial-shock damping connection. The blade stem projection may also be secured within the rotor body in a manner allowing limited rotation of the blade stem projection relative to the rotor body, corresponding to a selective range of pitch of the associated rotor blade, with a system for rotating a blade stem projections of each of the rotor blades by corresponding degrees of rotation to provide a predetermined pitch of the rotor blades. Also disclosed are pitch-damping tower designs, and an integrated design wherein the tower is pitch- and yaw-damped.

**15 Claims, 11 Drawing Sheets**

