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WIND TURBINE WITH VERTICAL AXIS

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Goal:

The invention relates to energy, namely to vertical axis wind turbines, and can be used to transform wind energy into electricity. The problem solved by the invention is to increase the reliability of the wind rotor and to simplify the construction.

Solution:

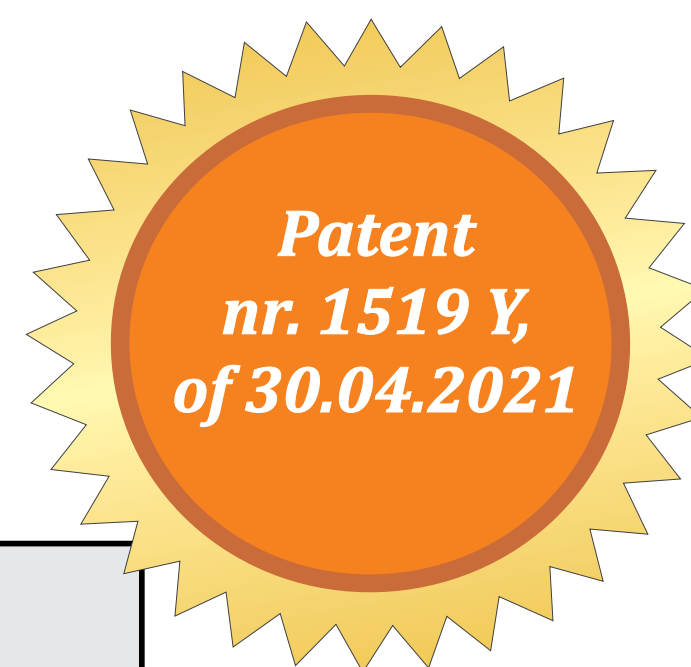
- ✓ The process of mechanical and aerodynamic braking;
- ✓ relatively simple constructive solutions;
- ✓ Securing the tower from overloads generated by high wind speeds.

Advantages:

- ✓ High reliability;
- ✓ Simple construction of the vertical axis wind turbine;
- ✓ Increased wind energy conversion efficiency
- ✓ Securing the tower from overloads generated by high wind speeds.

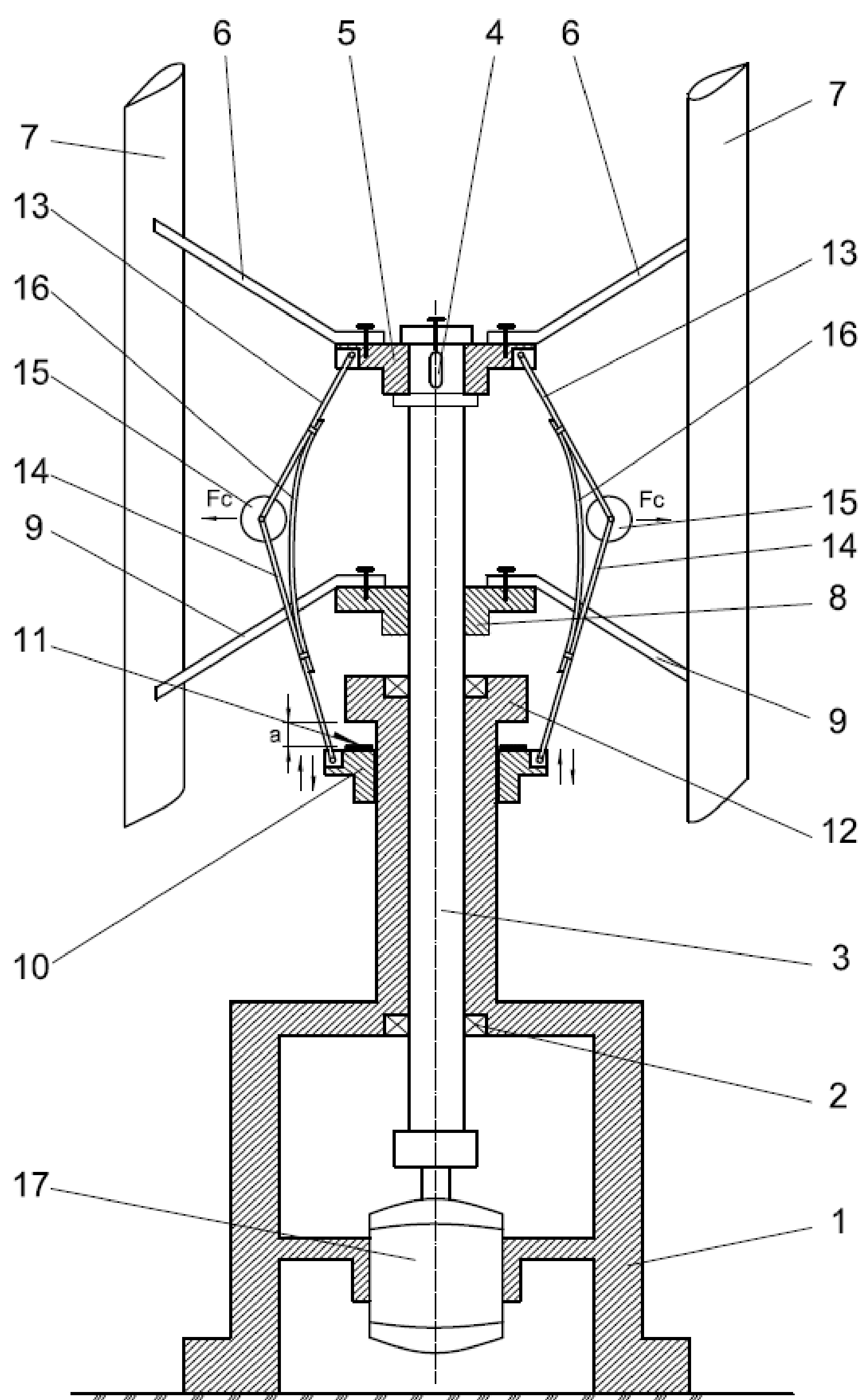
Stage:

3D CAD model, CFD simulation.

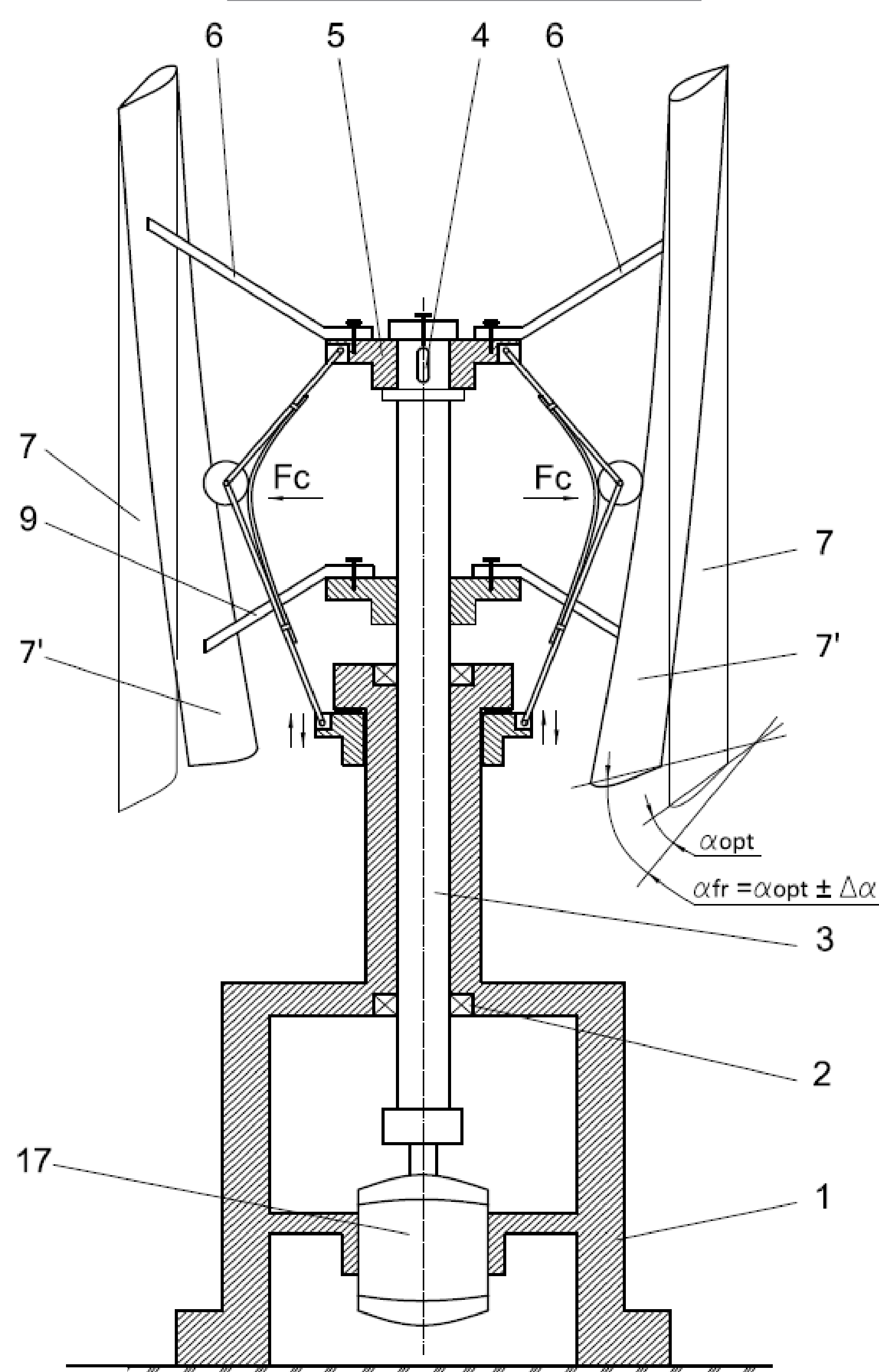


Computerized model of vertical axis wind turbine

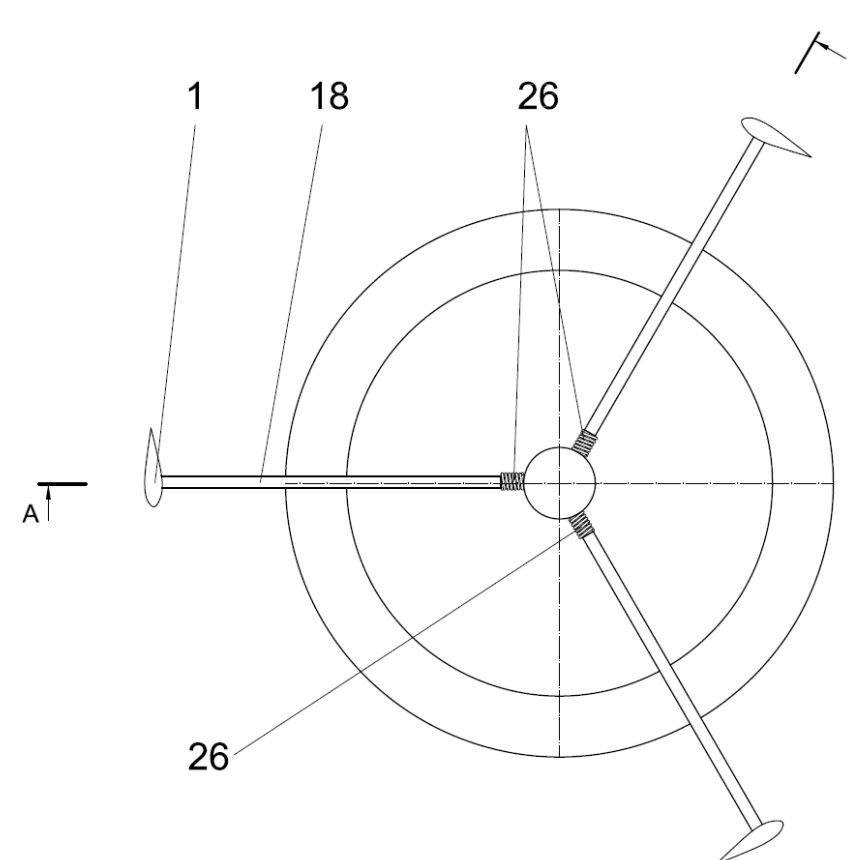
Overview of the vertical axis wind turbine



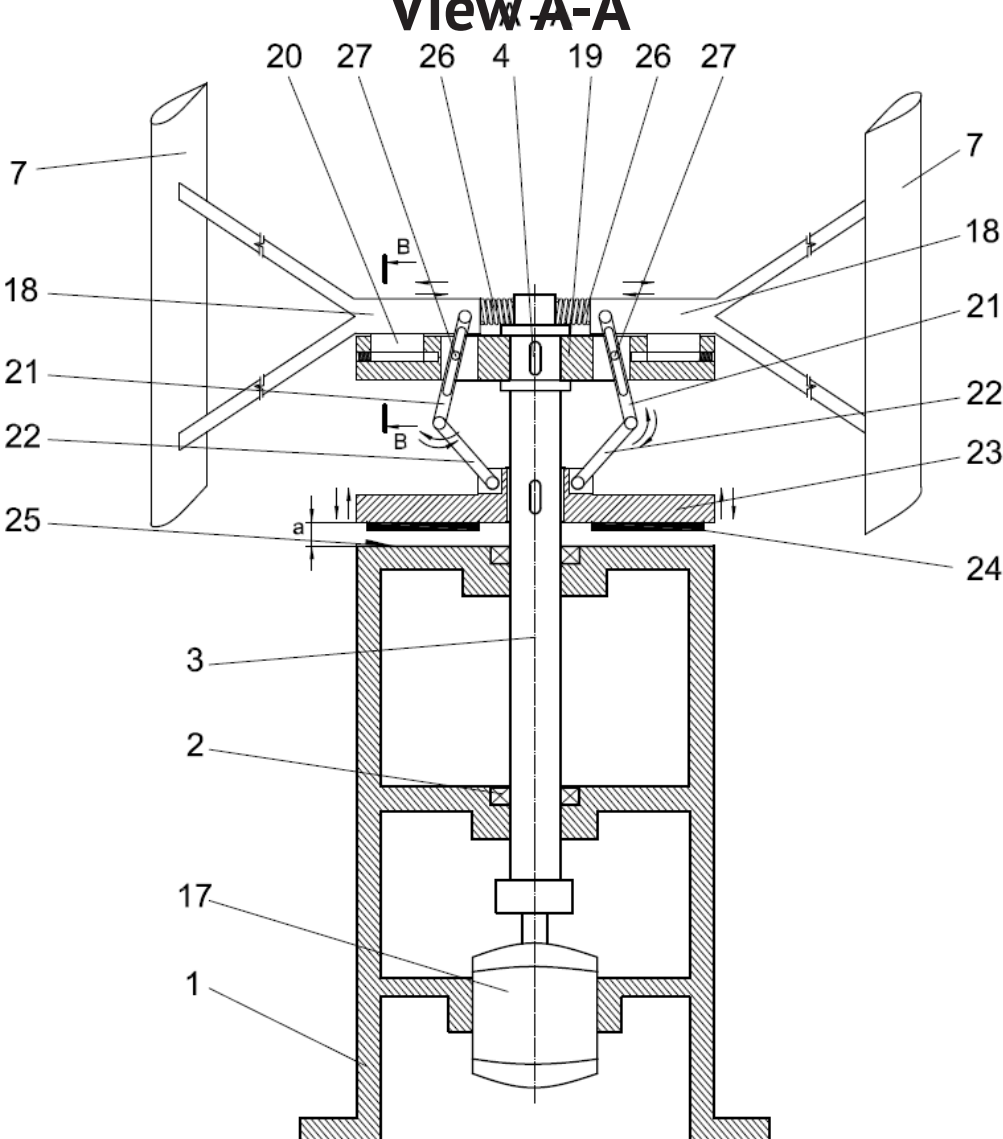
View of the turbine with the modified angle of attack



Top view of the vertical axis wind turbine in variant II



View A-A



The proposed technical solutions ensure the process of mechanical and aerodynamic braking through relatively simple construction solutions and the securing of the overload tower generated by high wind speeds.