

What is claimed is:

1. A wind turbine comprising:

a wind turbine wheel having a hub, a rim and a cable extending between the hub and the rim;

a set of airfoils rotatably carried by the cable and disposed between the hub and the rim;

a cinch attached to the cable and disposed between adjacent airfoils; and,

said airfoils having symmetrical convex top and bottom surfaces with said top surface transitioning into an upturned section included in at least one airfoil in the set of airfoils defined by an upward slope of a surface contour along a trailing edge portion of said top surface of said airfoils relative to a horizontal plane extending from a leading edge to said trailing edge, wherein each airfoil has a different angle of attack relative to an adjacent airfoil.

2. The wind turbine of claim 1 including:

an inner cable extending between a proximal end of the hub and the rim; and,
a set of inner airfoils carried by the inner cable.

3. The wind turbine of claim 2 including:

an outer cable extending between a distal end of the hub and the rim; and,
a set of outer airfoils carried by the outer cable.

4. The wind turbine of claim 1 including:

a first airfoil adjacent to the hub having a first length;
a second airfoil adjacent to the rim having a second length; and,
wherein the first length is less than the second length.

5. The wind turbine of claim 4 including an intermediate airfoil having a length between the first length and the second length.
6. The wind turbine of claim 1 including a spacer assembly disposed between adjacent airfoils.
7. The wind turbine of claim 6 including a resilient member included in the spacer assembly.
8. The wind turbine of claim 6 including a washer included in the spacer assembly.
9. The wind turbine of claim 1 wherein an airfoil in the set of airfoils has a length in a range of 2 feet to 12 feet.
10. The wind turbine of claim 1 including saillets attached to the rim extending from an exterior of the rim.
11. The wind turbine of claim 10 wherein the saillets can include a variable pitch.
12. The wind turbine of claim 1 including a vane attached to at least one airfoil in the set of airfoils.
13. The wind turbine of claim 1 wherein the airfoil can include material selected from the group consisting of high performance vinyl ester resin, 40% unidirectional fiberglass reinforcement, 17% continuous fiberglass mat, resin mixture, UV inhibitors, pigments, surfacing coatings and any combination.
14. The wind turbine of claim 1 including a cable opening defined in each airfoil in the set of airfoils for receiving the cable.
15. The wind turbine of claim 1 including a generator having a generator wheel configured to engage the rim and disposed below the rim.

16. A wind turbine comprising:

- a wind turbine wheel having a rim;
- a hub included in the wind turbine wheel having a proximal end and a distal end;
- an inner set of cables extending between the proximal end of the hub and the rim;
- a set of inner airfoils rotatably attached to the inner set of cables;
- an outer set of cables extending between the distal end of the hub and the rim;
- a set of outer airfoils rotatably attached to the outer set of cables; and

said airfoils having symmetrical convex top and bottom surfaces with said top surface transitioning into an upturned section included in at least one airfoil in the set of airfoils defined by an upward slope of a surface contour along a trailing edge portion of said top surface of said airfoils relative to a horizontal plane extending from a leading edge to said trailing edge.

17. The wind turbine of claim 16 including a spacer assembly disposed between two adjacent airfoils on the outer set of cables.

18. The wind turbine of claim 17 including a cinch included in the spacer assembly.

19. A wind turbine comprising:

- a wind turbine wheel having a rim and a hub;
- a set of cables extending between the hub and the rim;
- a set of airfoils independently rotatably attached to the set of cables and extending between the rim and the hub; and,

said airfoils having symmetrical convex top and bottom surfaces with said top surface transitioning into an upturned section included in at least one airfoil in the set of

airfoils defined by an upward slope of a surface contour along a trailing edge portion of said top surface of said airfoils relative to a horizontal plane extending from a leading edge to said trailing edge.