CLAIMS

1. A fan hub assembly comprising:

a. a top plate, wherein the top plate is flexible;

b. a bottom plate, wherein the bottom plate is flexible, and wherein the top plate and bottom plate are coupled together and include a central hub there between, the central hub defining a longitudinal axis of the top plate and the bottom plate;

c. a plurality of outer spars, wherein the outer spars are coupled to and extend generally outwardly from the top plate and the bottom plate; and

d. a plurality of fan blades, wherein each of the outer spars of the plurality of outer spars is disposed within a fan blade;

wherein the outer spars are positioned between the top plate and the bottom plate, and wherein the outer spars are positioned to provide a flexible gap between the outer spar and an exterior of the central hub; and

wherein the plurality of spars extends tangentially from a common central circle.

2. The fan hub assembly of claim 1, wherein the central hub is configured to provide a rigid support for coupling of the fan hub assembly to a motor assembly.

3. The fan hub assembly of claim 1, wherein the top plate and bottom plate are generally disc-shaped.

4. The fan hub assembly of claim 1, wherein the top plate and the bottom plate each comprise a plurality of cutouts arranged in an angular array about the common longitudinal axis of the top plate and the bottom plate.

5. The fan hub assembly of claim 4, wherein the cutouts of the top plate and of the bottom plate are positioned between outer spars.

6. The fan hub assembly of claim 4, wherein the cutouts of the top plate and of the bottom plate are positioned within alternating gaps of successive outer spars.

7. The fan hub assembly of claim 1, wherein the top plate and the bottom plate each comprise a first plurality of cutouts arranged in an angular array at a first radial distance from the common longitudinal axis of the top plate and the bottom plate, and at least a second plurality of cutouts arranged in an angular array at a second radial distance from the common longitudinal axis of the top plate and bottom plate.

8. The fan hub assembly of claim 1, wherein the top plate comprises a plurality of cutouts arranged in an angular array about the common longitudinal axis of the top plate and the bottom plate.

9. The fan hub assembly of claim 1, wherein the bottom plate comprises a plurality of cutouts arranged in an angular array about the common longitudinal axis of the top plate and the bottom plate.

10. The fan hub assembly of claim 1, wherein each of the fan blades of the plurality of fan blades comprises slot configured to receive one of the outer spars of the plurality of outer spars.

11. The hub assembly of claim 10, wherein each of the fan blades of the plurality of fan blades and each of the outer spars of the plurality of outer spars comprises a plurality of mounting holes.

12. A fan hub assembly comprising:

a. a flexible top plate;

b. a flexible bottom plate, wherein the top plate and bottom plate are coupled together and are thereby configured to form a hub, including a rigid central hub;

c. a plurality of arms, wherein the arms are coupled with and extend generally outwardly from the top plate and the bottom plate, and wherein the top plate and the bottom plate each comprise a plurality of cutouts positioned between gaps of successive arms; and

d. a plurality of fan blades, wherein each of the arms of the plurality of arms is disposed within a fan blade;

wherein the arms are positioned between the top plate and the bottom plate, and wherein the arms are positioned to allow for a flexible gap between the rigid central hub and the arm.

13. A fan assembly comprising:

a. a top plate;

b. a bottom plate, wherein the top plate and bottom plate are coupled together and are configured to form a central hub;

c. a plurality of outer spars, wherein the outer spars are coupled between and extending generally outwardly from the top plate and the bottom plate, and wherein the top plate and the bottom plate each comprise a plurality of cutouts positioned between gaps of successive outer spars; and

d. a plurality of fan blades, wherein each fan blade of the plurality of fan blades, corresponds to and is coupled with an outer spar of the plurality of outer spars;

wherein the central hub is coupled to a motor assembly; and

wherein the motor assembly is integrated with a climate control system.