



Summary

The Infinity Fan (U.S. patent no. 6,213,715) was designed and fabricated by Stacy L. Dees, John S. Ketchel and Dr. Pierre M. Larochele with the support of a Research Experiences for Undergraduates supplement to grant #DMI9612062 from the National Science Foundation. The Infinity Fan is designed to be either a desktop or standing fan with motion in both the vertical and horizontal directions. The motion that the spherical mechanism produces makes the fan face move in an “infinity” or sideways figure-eight pattern upon a spherical surface. The fan head spans 80 degrees in the horizontal plane and 40 degrees in the vertical plane. This path was developed to circulate the air in a room with the fan placed in a corner. The Infinity Fan provides both back-and-forth and up-and-down movement in a continuous sweeping motion—all powered by only one motor.

The Technology

At the heart of the Infinity Fan is a unique spherical four-bar mechanism that generates the infinity motion of the fan head. An idealized rendering of the mechanism is shown below. The fan head traces out the yellow infinity curve on the sphere as the mechanism moves.



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