

# High Efficiency Air Conditioner Condenser Twisted Fan Blades and Hub

10-25-2005

Danny Parker  
*University of Central Florida*

Bart Hibbs  
*AeroVironment, Inc.*

John Sherwin  
*University of Central Florida*

Find similar works at: <https://stars.library.ucf.edu/patents>

University of Central Florida Libraries <http://library.ucf.edu>

## Recommended Citation

Parker, Danny; Hibbs, Bart; and Sherwin, John, "High Efficiency Air Conditioner Condenser Twisted Fan Blades and Hub" (2005).  
*UCF Patents*. 219.  
<https://stars.library.ucf.edu/patents/219>

This Patent is brought to you for free and open access by the Technology Transfer at STARS. It has been accepted for inclusion in UCF Patents by an authorized administrator of STARS. For more information, please contact [lee.dotson@ucf.edu](mailto:lee.dotson@ucf.edu).



(12) **United States Design Patent**  
**Parker et al.**

(10) **Patent No.:** **US D510,998 S**  
(45) **Date of Patent:** **\*\* Oct. 25, 2005**

(54) **HIGH EFFICIENCY AIR CONDITIONER  
CONDENSER TWISTED FAN BLADES AND  
HUB**

D419,669 S \* 1/2000 Shinshi et al. .... D23/413  
6,129,528 A 10/2000 Bradbury ..... 417/423  
6,185,954 B1 2/2001 Smiley ..... 62/426

(75) Inventors: **Danny S. Parker**, Cocoa Beach, FL  
(US); **John Sherwin**, Cocoa Beach, FL  
(US); **Bart Hibbs**, Altadena, CA (US)

(73) Assignee: **Research Foundation of the  
University of Central Florida**,  
Orlando, FL (US)

(\*\*) Term: **14 Years**

(21) Appl. No.: **29/178,526**

(22) Filed: **Mar. 27, 2003**

(51) **LOC (8) Cl.** ..... **23-04**

(52) **U.S. Cl.** ..... **D23/411**

(58) **Field of Search** ..... D23/411, 413,  
D23/370, 378, 379; 416/223 R, 238, 244 R;  
D12/214; 62/426

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,638,757 A	5/1953	Borgerd	62/140
3,995,442 A	12/1976	Cavezza	62/259
4,470,271 A	9/1984	Draper	62/259.1
4,526,506 A	7/1985	Koger	415/98
4,971,143 A	11/1990	Hogan	165/122
4,971,520 A	11/1990	Van Houten	416/169
D316,700 S	* 5/1991	Morrison	D12/214
D324,364 S	* 3/1992	Hannon et al.	D12/214
5,320,493 A	6/1994	Shih	416/223
5,624,234 A	4/1997	Neely	416/238
5,809,800 A	9/1998	Deal	62/507

**OTHER PUBLICATIONS**

Kernstock, Slashing Through the Noise Barrier, *Defense Daily Network—Rotor & Wing's Cover Story*, Aug. 1999, p. 1-11.

\* cited by examiner

*Primary Examiner*—Lisa Lichtenstein

(74) *Attorney, Agent, or Firm*—Brian S. Steinberger; Law Offices of Brian S. Steinberger, P.A.

(57) **CLAIM**

The ornamental design for a high efficiency air conditioner condenser twisted fan blades and hub, as shown and described.

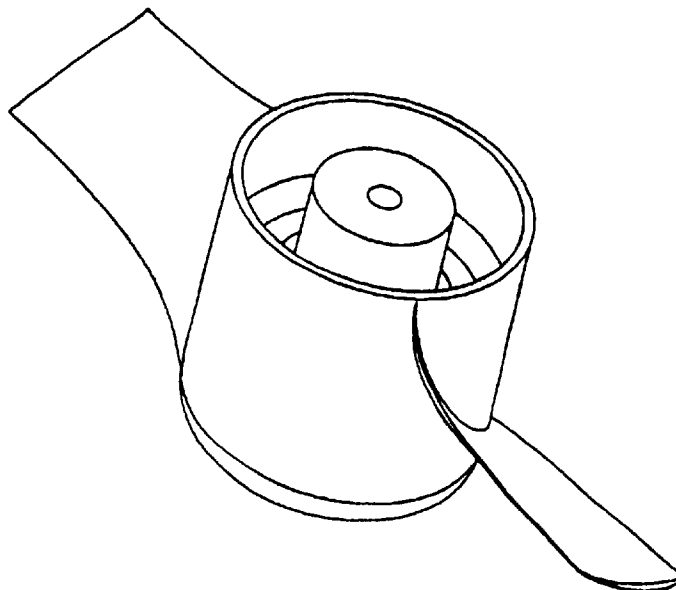
**DESCRIPTION**

FIG. 1 is a perspective view of a high efficiency air conditioner condenser twisted fan blades and hub.

FIG. 2 is a front side elevation view of the high efficiency air conditioner condenser twisted fan blades and hub of FIG. 1. FIG. 3 is a left side end view of the high efficiency air conditioner condenser twisted fan blades and hub of FIG. 1. FIG. 4 is a right side end view of the high efficiency air conditioner condenser twisted fan blades and hub of FIG. 1. FIG. 5 is a bottom elevation view of the high efficiency air conditioner condenser twisted fan blades and hub of FIG. 1; and,

FIG. 6 is a top elevation view of the high efficiency air conditioner condenser twisted fan blades and hub of FIG. 1.

**1 Claim, 3 Drawing Sheets**



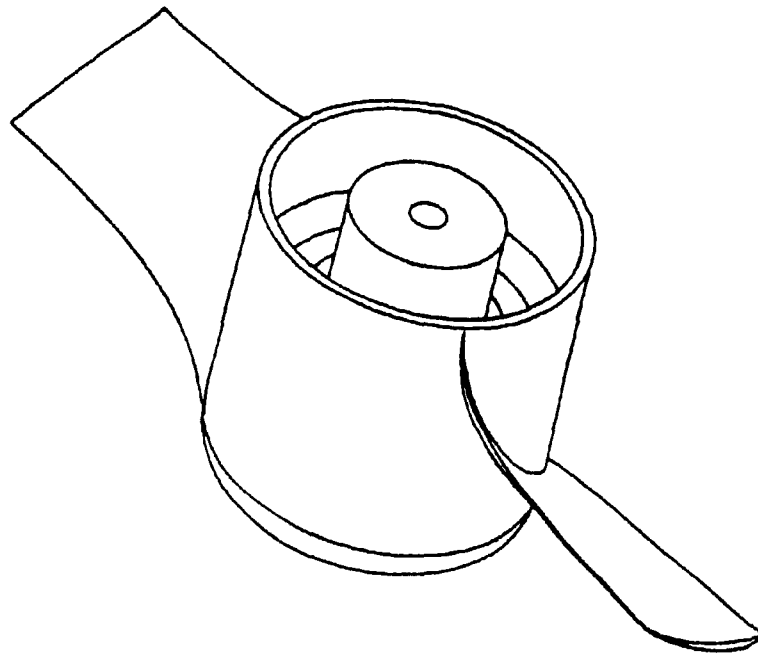


FIG. 1

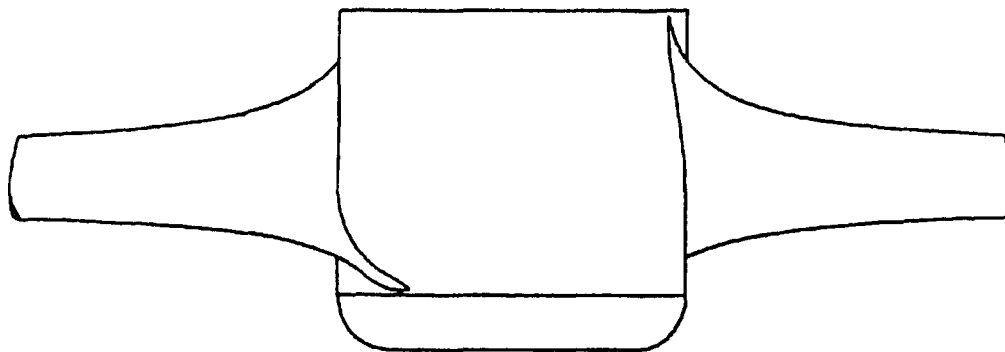


FIG. 2

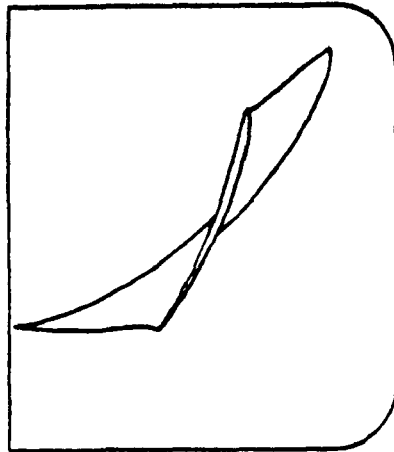


FIG. 4

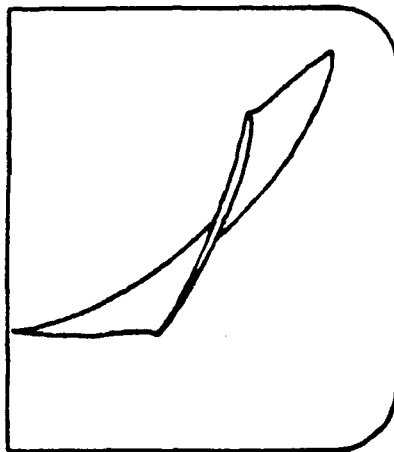


FIG. 3

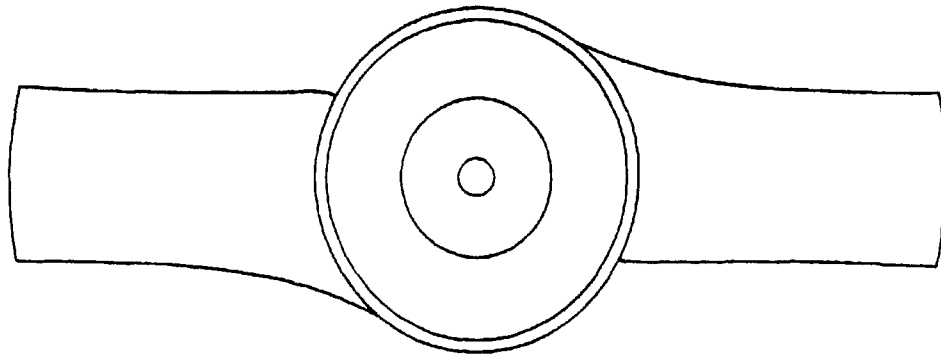


FIG. 5

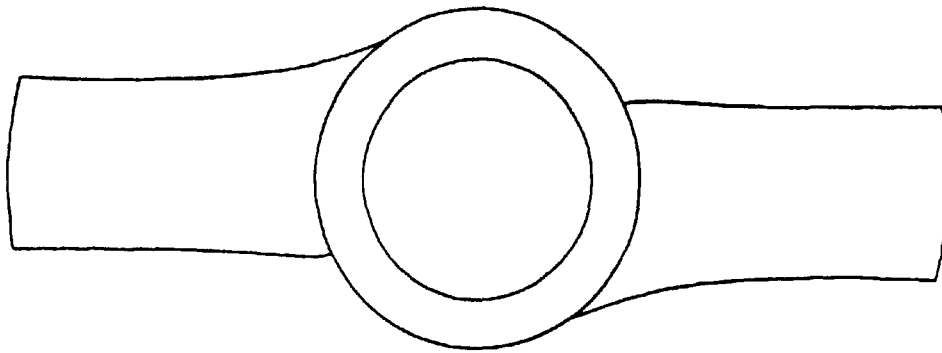


FIG. 6