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

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(54) **PROPELLER FAN**

(56) **References Cited**

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Tokyo (JP)
- (**) Term: **14 Years**
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- (30) **Foreign Application Priority Data**

U.S. PATENT DOCUMENTS

D340,974	S	*	11/1993	Davis, Jr.	D23/377
D419,669	S	*	1/2000	Shinshi et al.	D23/413
D452,205	S	*	12/2001	Eisenbraun	D12/162
D562,215	S	*	2/2008	Schulze	D12/214
D564,653	S	*	3/2008	Iwase et al.	D23/413

(Continued)

FOREIGN PATENT DOCUMENTS

JP	1 01 21 66001	S	6/1998
JP	1012166	S	6/1998

(Continued)

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(57) **CLAIM**

The ornamental design for a propeller fan, as shown and described.

DESCRIPTION

- Aug. 5, 2013 (JP) 2013-017798
- (51) **LOC (10) Cl.** **23-04**
- (52) **U.S. Cl.**
USPC **D23/354**; D23/379; D23/413; D12/214
- (58) **Field of Classification Search**
CPC F02K 1/64; F02K 1/66; F02K 3/06;
F02K 3/062; F02K 3/072; F24F 1/0018;
F24F 1/0022; F24F 1/0029; F24F 13/14;
F24F 13/1413; F24F 13/142
USPC D23/314, 317, 324, 328, 329, 330, 332,
D23/333, 335, 341, 342, 351, 353, 354, 355,
D23/356, 359, 364, 365, 370, 377, 379, 385,
D23/386, 388, 393, 411, 412, 413;
62/259.1, 259.4, 262, 263, 304;
312/236; 416/228, 235, 236 R, 237,
416/238, 242; 454/330, 331, 349, 350;
D12/214; D13/179

See application file for complete search history.

FIG. 1 is a front perspective view of the front, right, and top side of a propeller fan showing our new design;
FIG. 2 is a rear perspective view of the rear, right, and top side of a propeller fan showing our new design;
FIG. 3 is a front view thereof;
FIG. 4 is a rear view thereof;
FIG. 5 is a left side view thereof;
FIG. 6 is a right side view thereof;
FIG. 7 is a top plan view thereof;
FIG. 8 is a bottom view thereof; and,
FIG. 9 is another perspective view of the propeller fan in a position of use.
The broken lines in FIG. 9, which show an equipment housing, represent the environment for use. All other broken lines in the drawing illustrate portions of the propeller fan. The broken lines form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D570,471 S * 6/2008 Iwase et al. D23/413
 D576,538 S * 9/2008 Schulze D12/214
 D677,611 S * 3/2013 Janecke D12/214
 D677,612 S * 3/2013 Janecke D12/214
 2003/0103846 A1* 6/2003 Ohsuka 416/223 R
 2010/0266428 A1* 10/2010 Nakagawa et al. 416/223 R
 2010/0322779 A1* 12/2010 Nakagawa et al. 416/241 R
 2011/0200445 A1* 8/2011 Takeda et al. 416/223 R
 2012/0171042 A1* 7/2012 Takeda 416/223 R
 2014/0086754 A1* 3/2014 Seiji et al. 416/237
 2014/0119938 A1* 5/2014 Jang et al. 416/223 R
 2014/0338388 A1* 11/2014 Kim et al. 416/228

FOREIGN PATENT DOCUMENTS

JP 2002257088 A 9/2002
 JP 1177369 S 6/2003

JP 1177719 S 6/2003
 JP 1177720 S 6/2003
 JP 4003541 B2 11/2007
 JP 4132826 B2 8/2008
 JP 4152158 B2 9/2008
 JP 1373289 S 11/2009
 JP 1373291 S 11/2009
 JP 1373916 S 11/2009
 JP 4388992 B1 12/2009
 JP 4467952 B2 5/2010
 JP 1392955 S 7/2010
 JP 2010144702 A 7/2010
 JP 4689262 B2 5/2011
 JP 2011117407 A 6/2011
 JP 2011179330 A 9/2011
 JP 201212942 A 1/2012
 JP 1466309 S 4/2013
 WO 2010047001 A1 4/2010

* cited by examiner

Fig. 1



Fig. 2

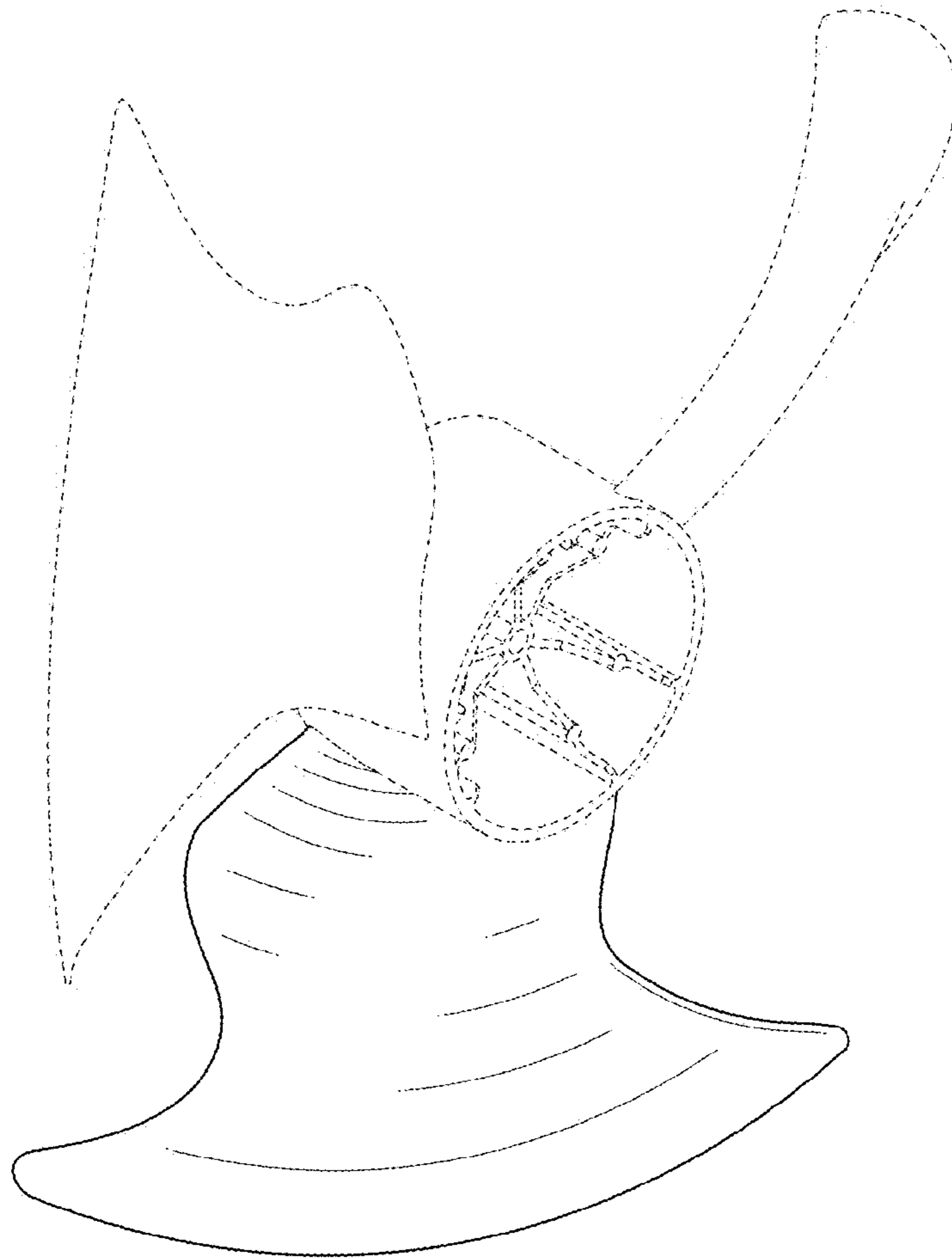


Fig. 3

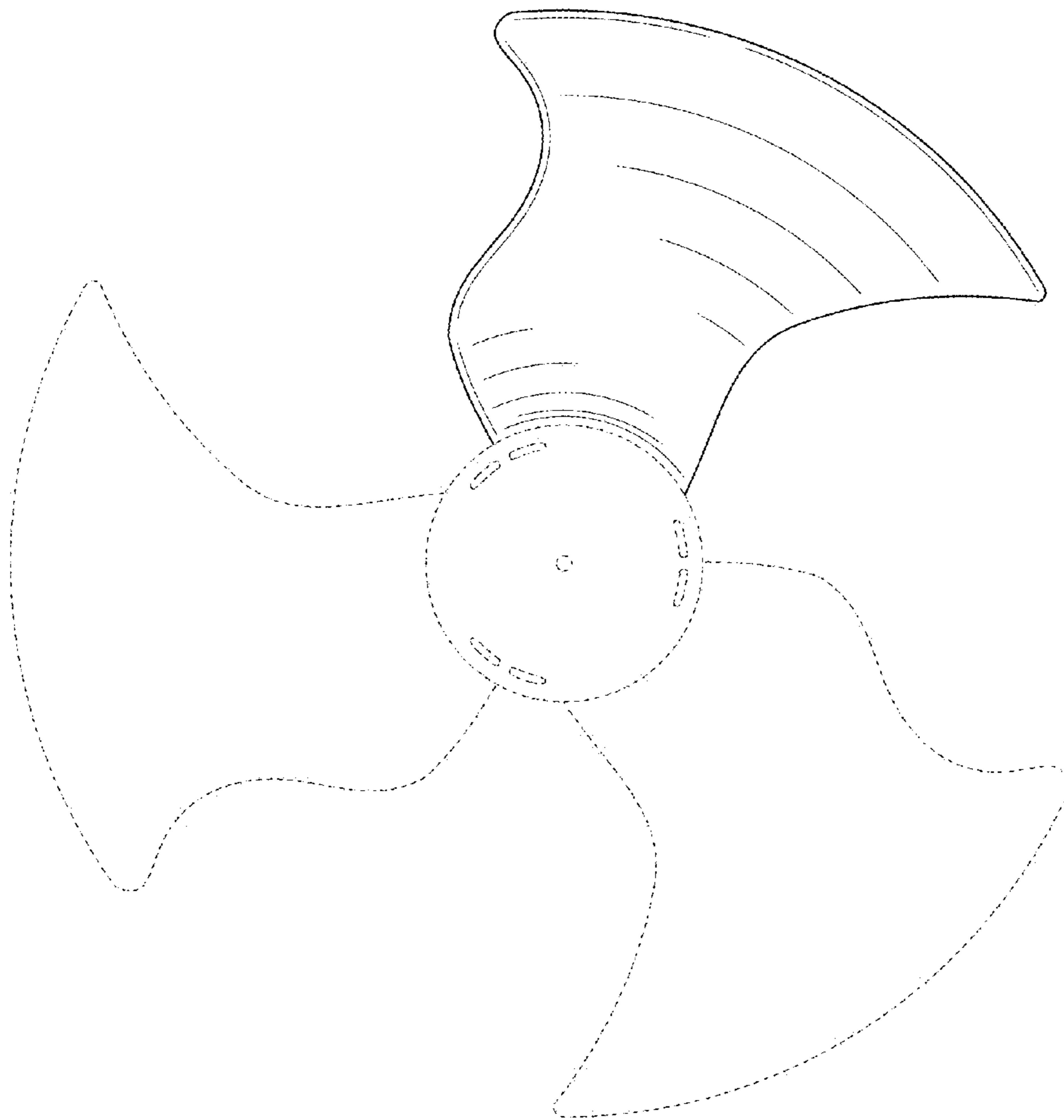


Fig. 4

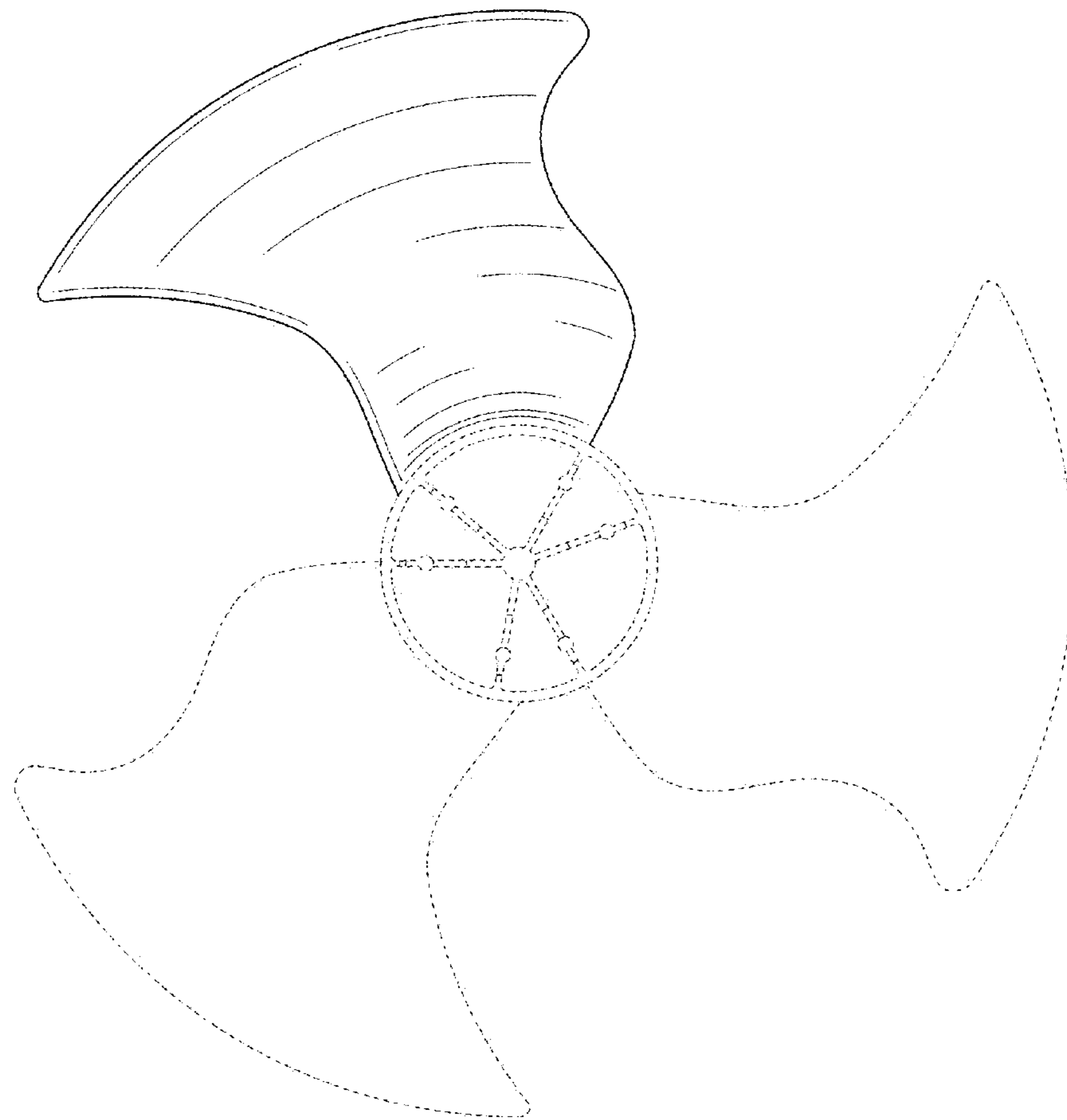


Fig. 5

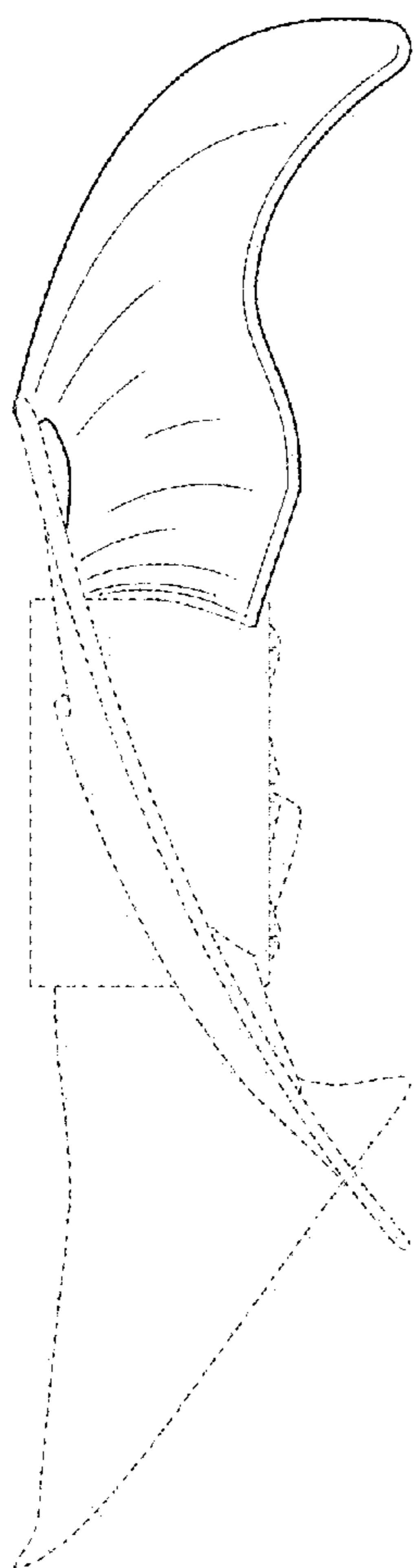


Fig. 6

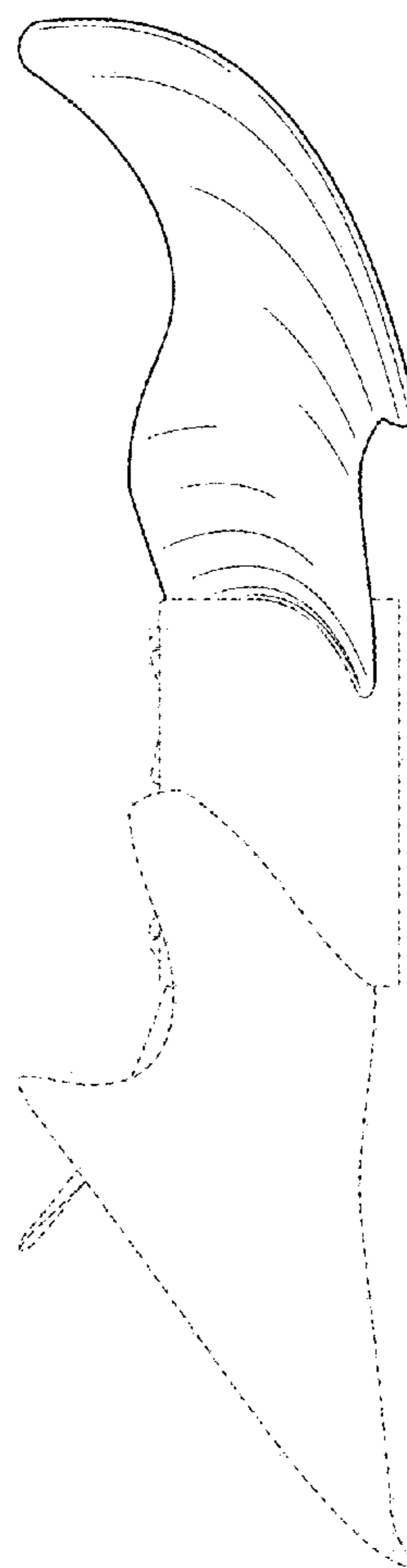


Fig. 7

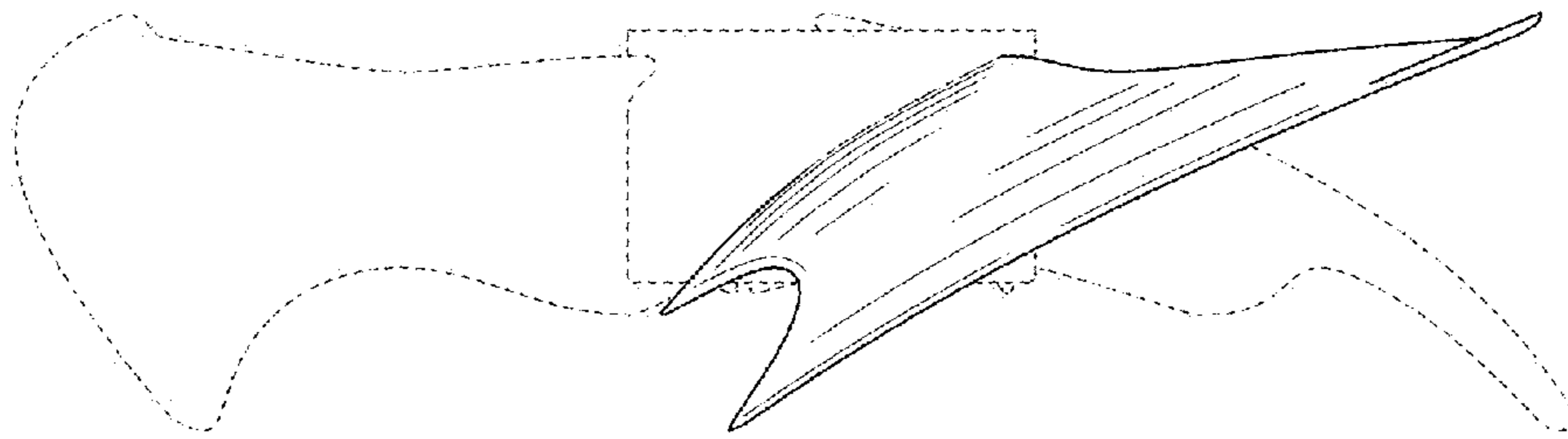


Fig. 8

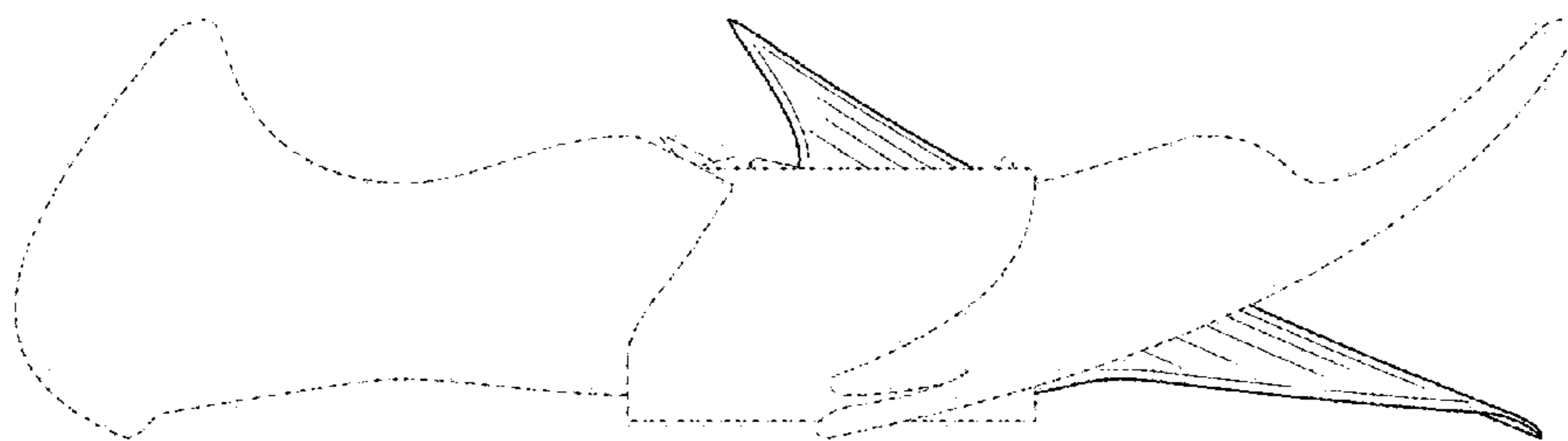


Fig. 9

