



US00D870254S

(12) **United States Design Patent**
Teramoto et al.(10) **Patent No.:** US D870,254 S
(45) **Date of Patent:** ** Dec. 17, 2019(54) **PROPELLER FAN**(71) Applicant: **Mitsubishi Electric Corporation**,
Tokyo (JP)(72) Inventors: **Takuya Teramoto**, Tokyo (JP); **Takashi Ikeda**, Tokyo (JP); **Yusuke Adachi**, Tokyo (JP); **Yuki Ugajin**, Tokyo (JP); **Shingo Hamada**, Tokyo (JP); **Hiroya Ito**, Tokyo (JP)(73) Assignee: **Mitsubishi Electric Corporation**,
Tokyo (JP)(**) Term: **15 Years**(21) Appl. No.: **29/635,501**(22) Filed: **Jan. 31, 2018**(30) **Foreign Application Priority Data**Aug. 9, 2017 (JP) 2017-017168
Aug. 9, 2017 (JP) 2017-017169(51) LOC (12) Cl. **23-04**

(52) U.S. Cl.

USPC **D23/354; D23/379; D23/411**(58) **Field of Classification Search**USPC D23/314, 317, 324, 328, 332–342, 351,
D23/352, 354, 355, 356, 359, 362, 364,
D23/370–389, 393, 397, 411–414;
D12/214, 317, 339, 344, 345
CPC F04D 25/08; F04D 29/38; F04D 29/384;
F04D 29/386; F04D 29/325; F04D 25/02;
F04D 29/682; F04D 29/684

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D366,935 S * 2/1996 Arthun D12/214
D419,669 S * 1/2000 Shinshi D23/411
D468,010 S * 12/2002 Ishijima D23/413D489,446 S * 5/2004 Hoshina D23/413
D570,470 S * 6/2008 Suzuki D23/413
D665,492 S * 8/2012 Romero Carreras D23/413
D725,251 S * 3/2015 Hamada D12/214
D725,252 S * 3/2015 Hamada D12/214
D727,490 S * 4/2015 Hatz D23/413
D787,035 S * 5/2017 Hamada D23/354
D803,378 S * 11/2017 Hamada D23/370
2003/0103846 A1 * 6/2003 Ohsuka F04D 29/384
416/223 R
2010/0272573 A1 * 10/2010 Bessho B29C 45/0005
416/223 R

(Continued)

Primary Examiner — Cathron C Brooks

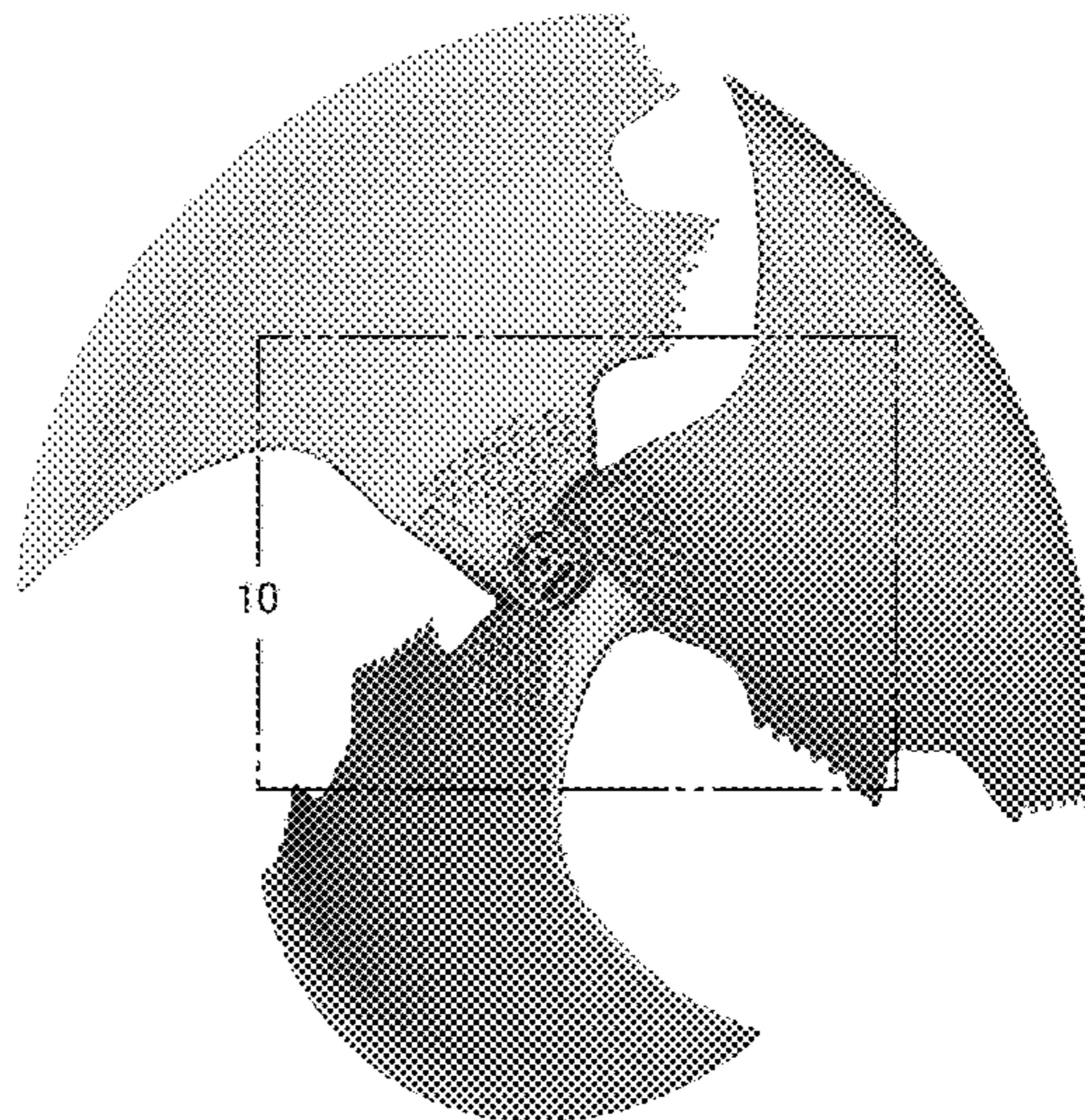
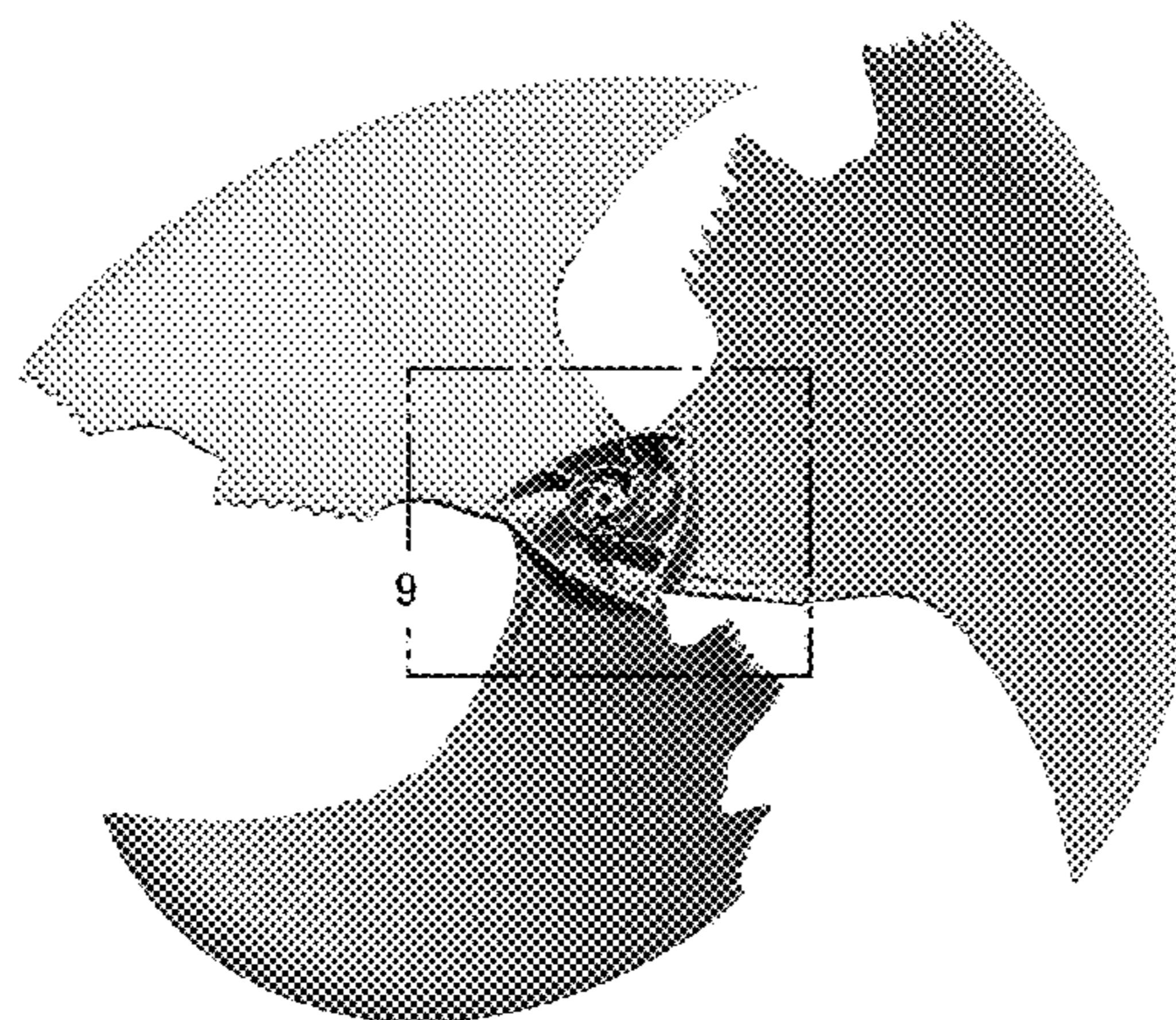
Assistant Examiner — Sharon S Oum

(74) Attorney, Agent, or Firm — Studebaker & Brackett
PC

(57)

CLAIM

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

DESCRIPTIONFIG. 1 is a front, bottom, and right side perspective view of a propeller fan showing our new design;
FIG. 2 is a rear and left perspective view thereof;
FIG. 3 is a front view thereof;
FIG. 4 is a rear view thereof;
FIG. 5 is a top view thereof;
FIG. 6 is a bottom view thereof;
FIG. 7 is a left view thereof;
FIG. 8 is a right view thereof;
FIG. 9 is an enlarged partial view of the area indicated in FIG. 1;
FIG. 10 is an enlarged partial view of the area indicated in FIG. 2;
FIG. 11 is an enlarged partial view of the area indicated in FIG. 3; and,
FIG. 12 is an enlarged partial view of the area indicated in FIG. 4.**1 Claim, 10 Drawing Sheets**

(56)

References Cited

U.S. PATENT DOCUMENTS

- 2014/0338388 A1* 11/2014 Kim F04D 29/384
62/426
2014/0341748 A1* 11/2014 Kojima F04D 29/023
416/234
2015/0044058 A1* 2/2015 Hamada F04D 29/384
416/242
2018/0003190 A1* 1/2018 Hamada F04D 29/34
2018/0080468 A1* 3/2018 Kim F04D 29/329
2018/0087784 A1* 3/2018 Sawada F04D 29/181

* cited by examiner

Fig. 1

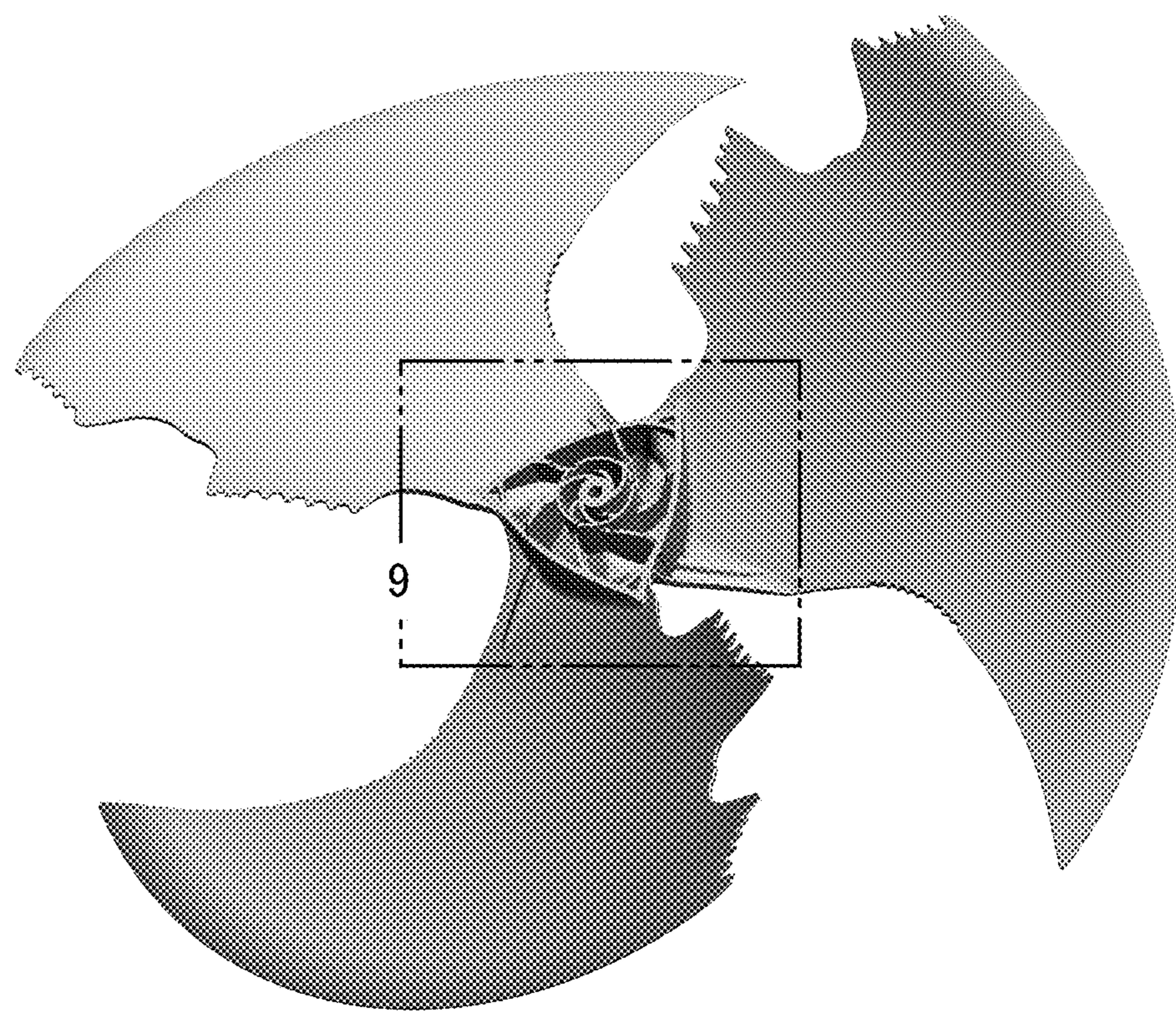


Fig. 2

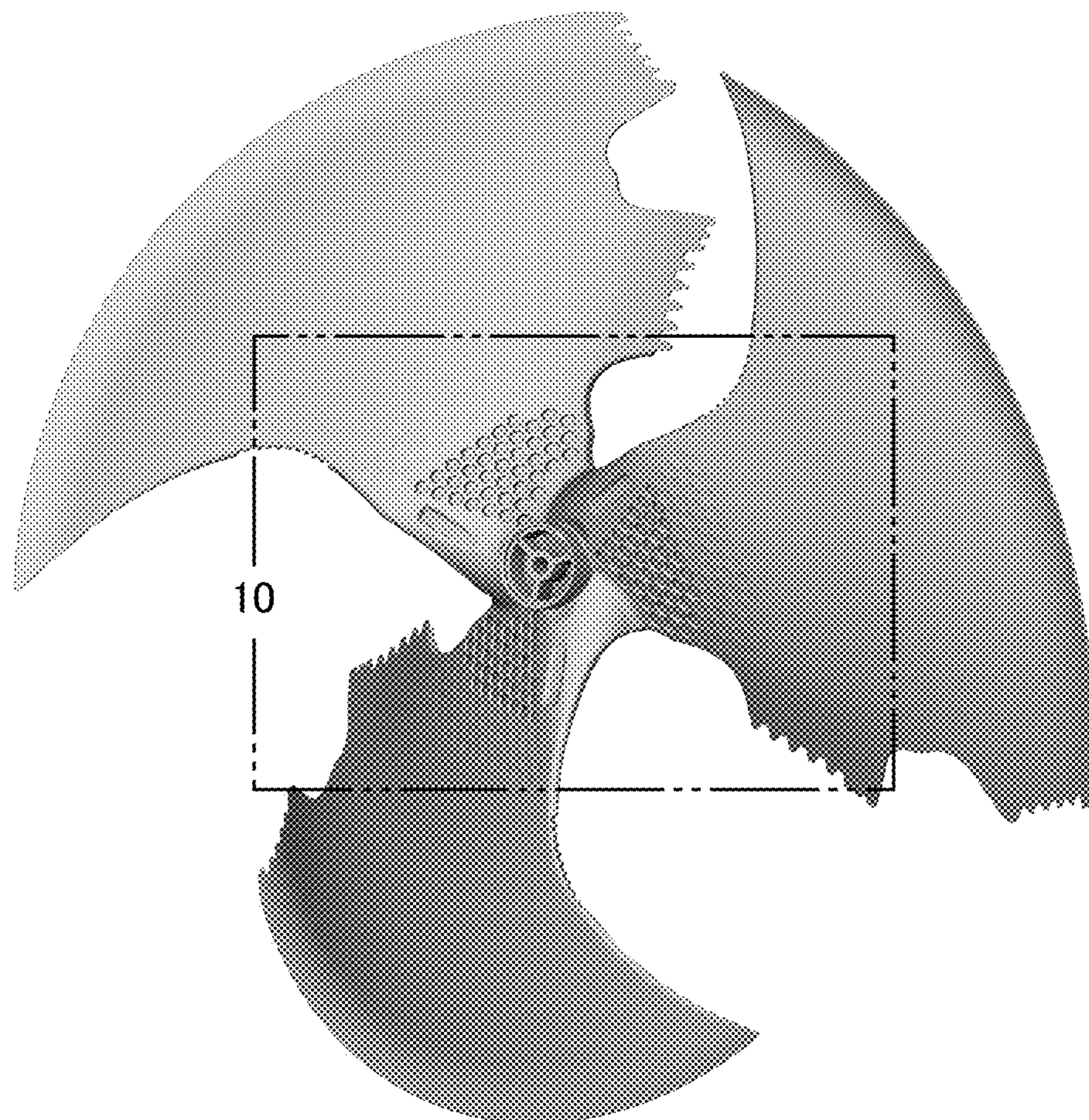


Fig. 3

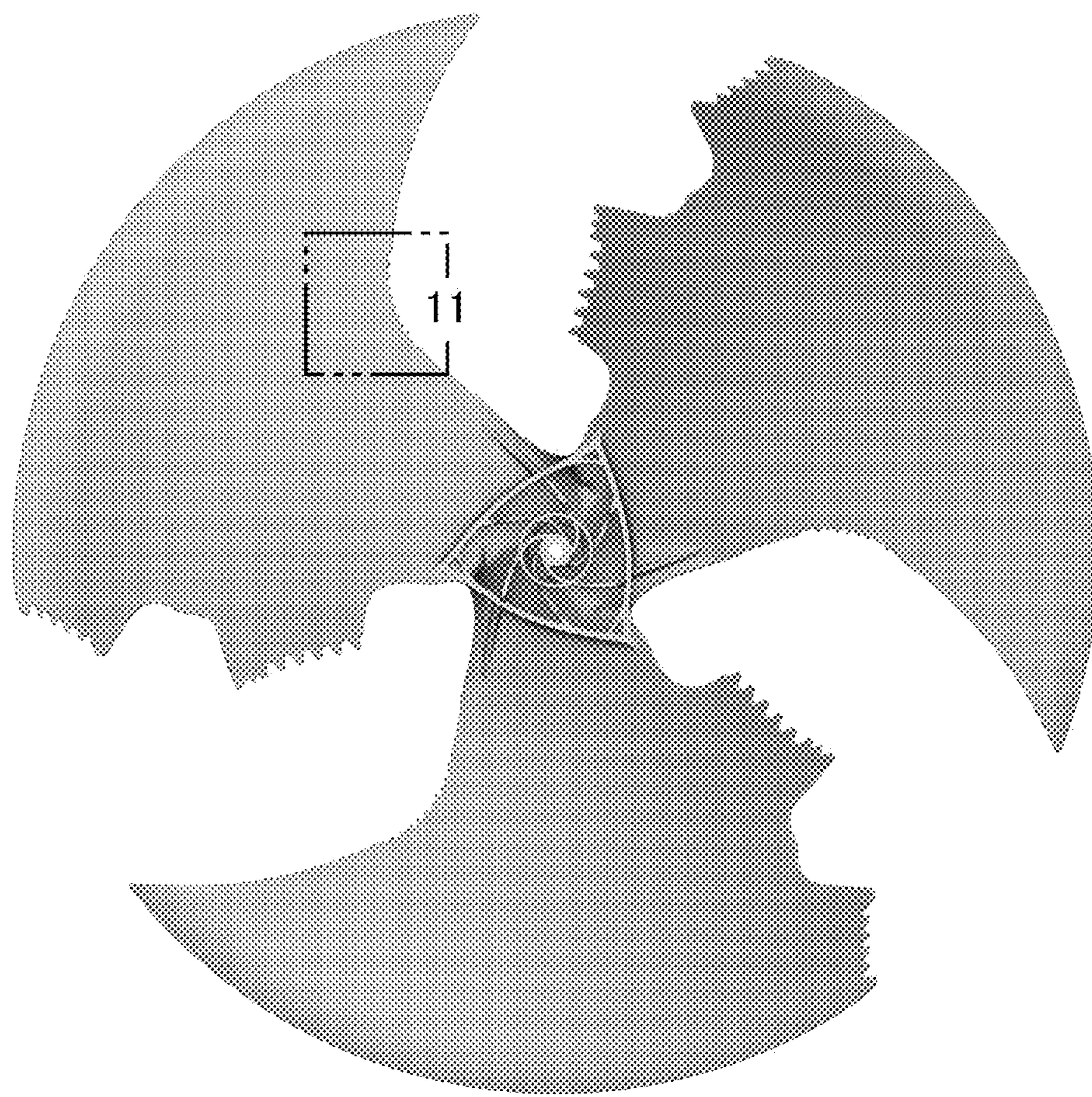


Fig. 4

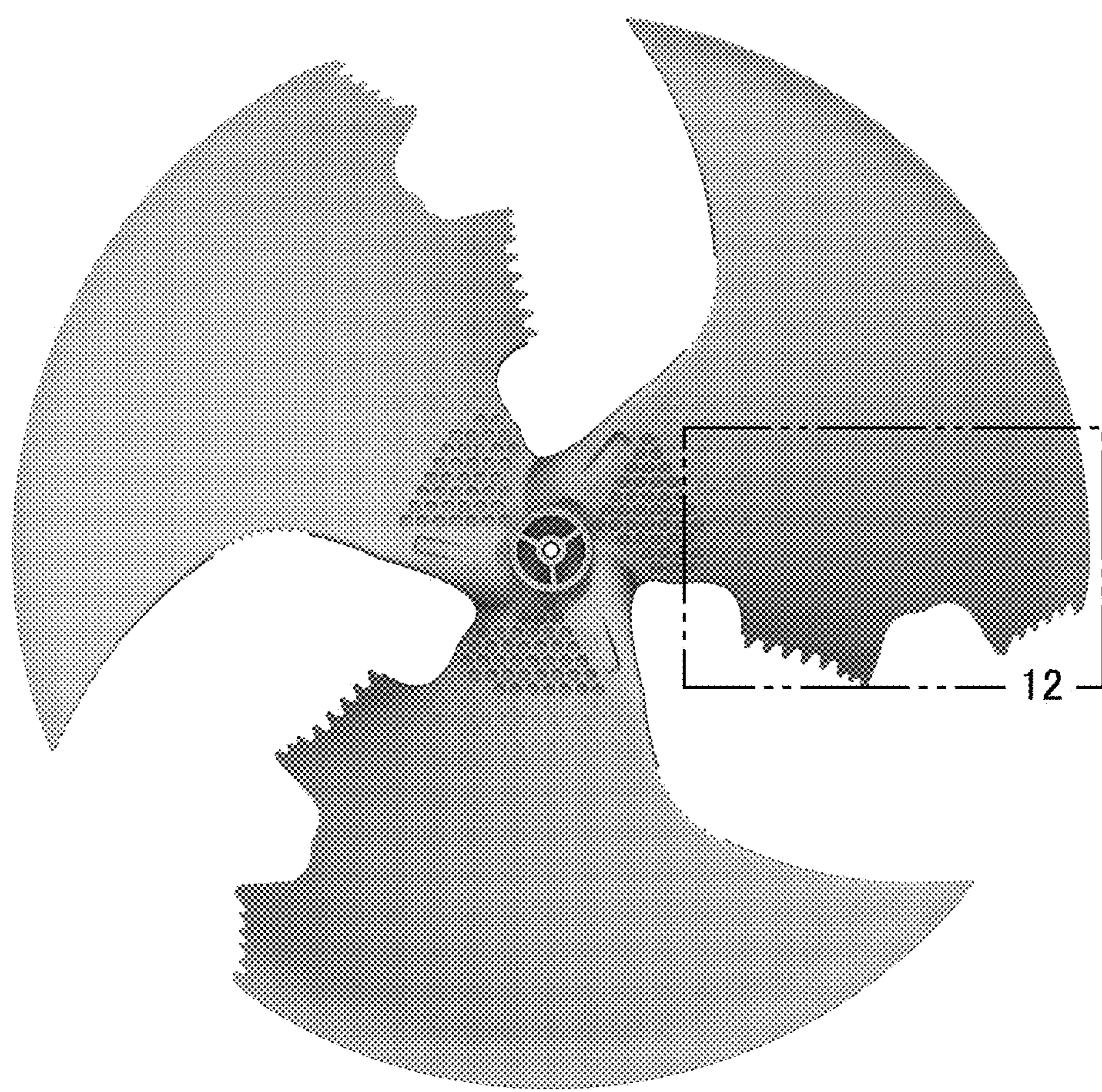


Fig. 5

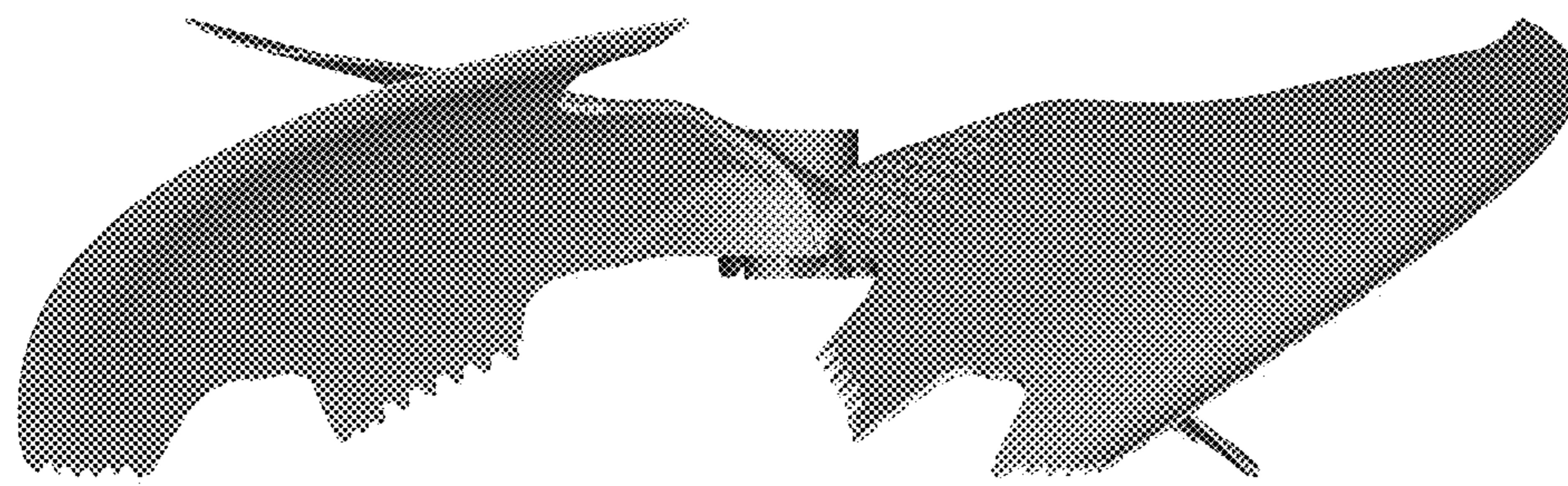


Fig. 6

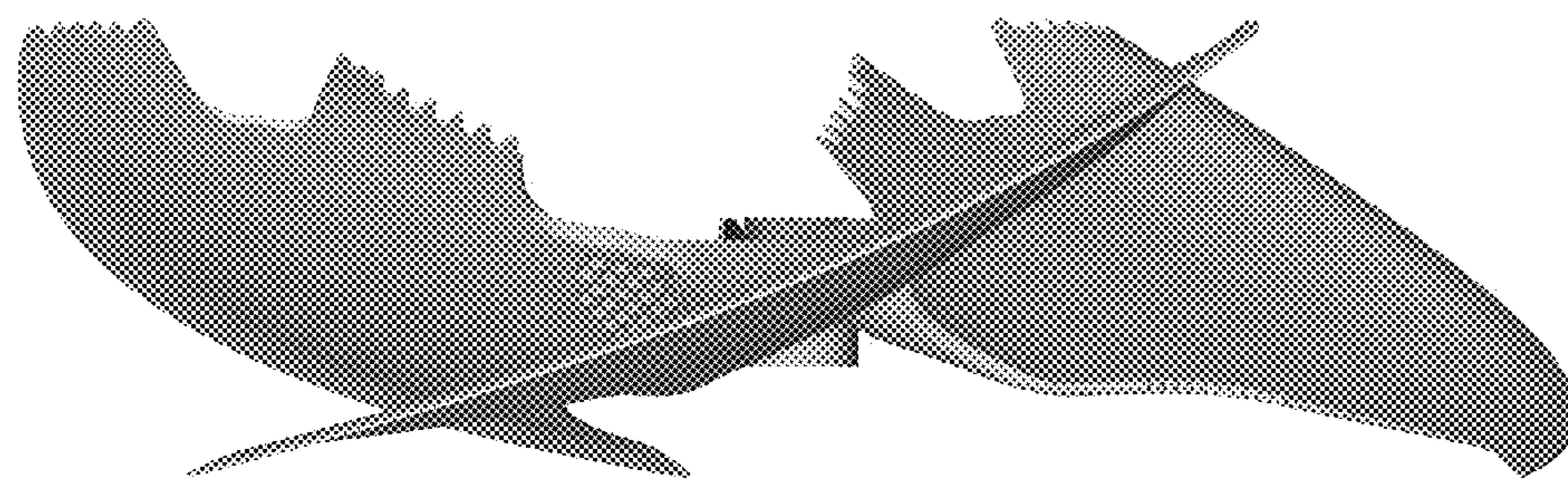


Fig. 7

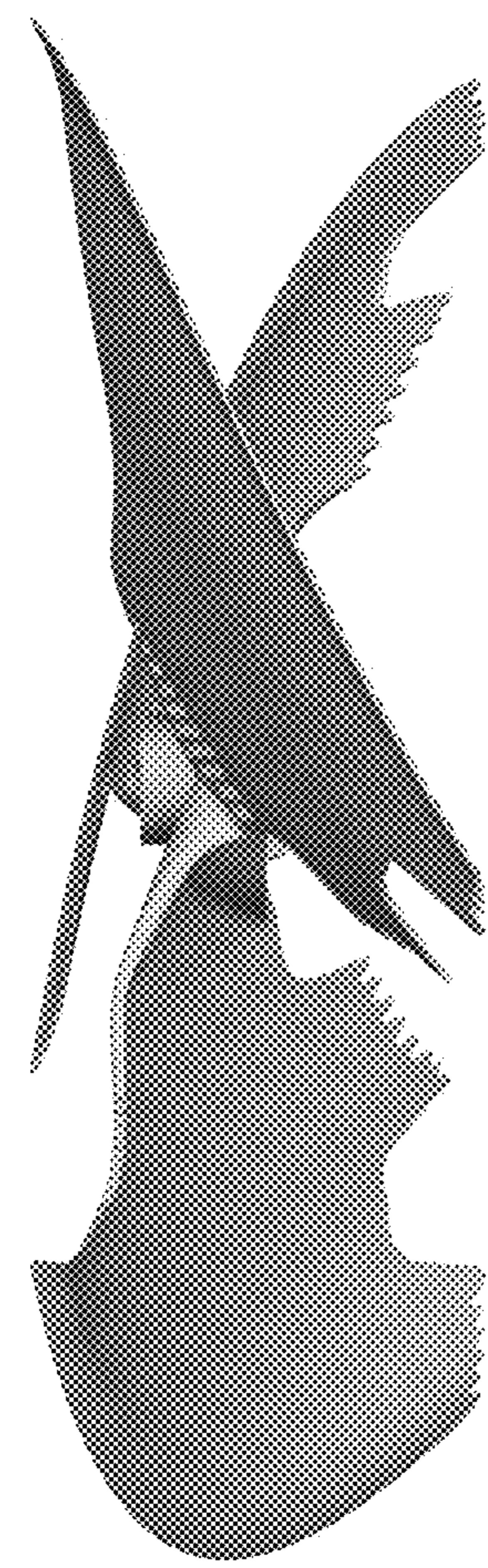


Fig. 8

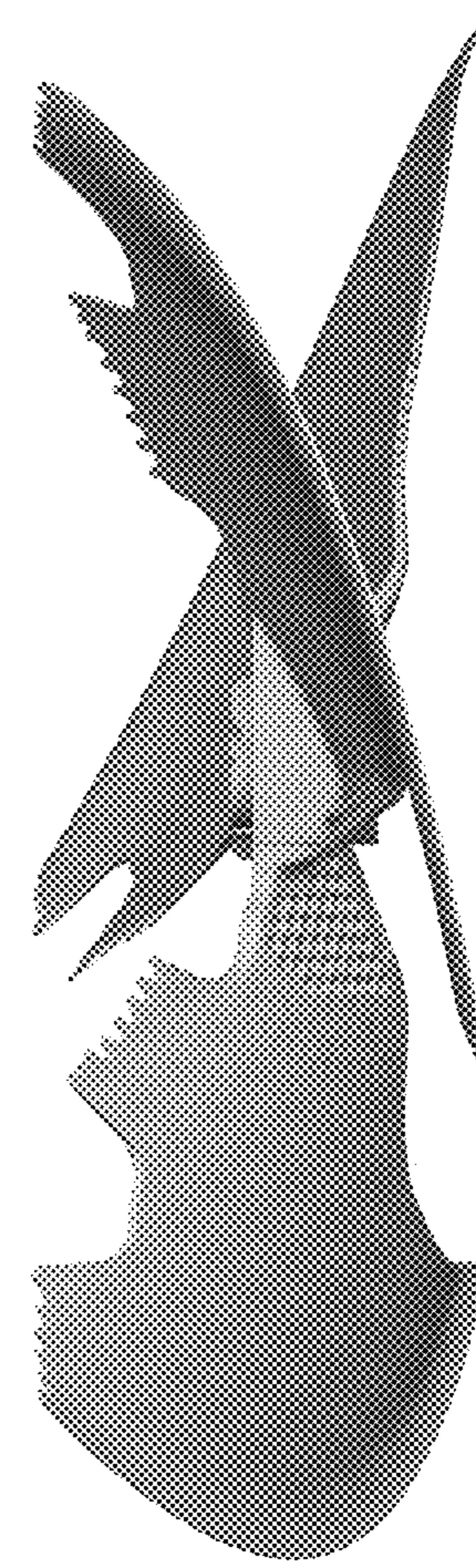


Fig. 9

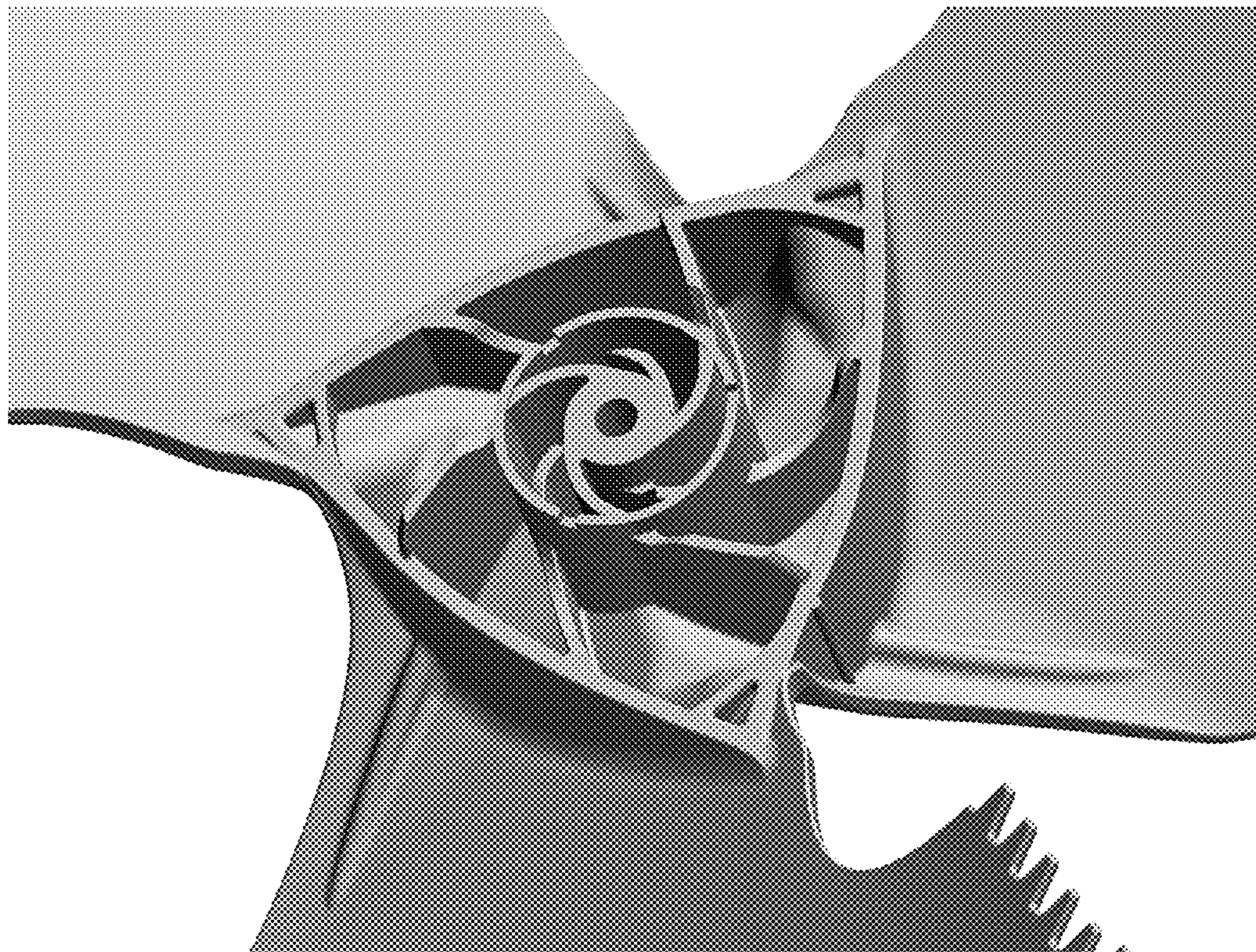


Fig. 10

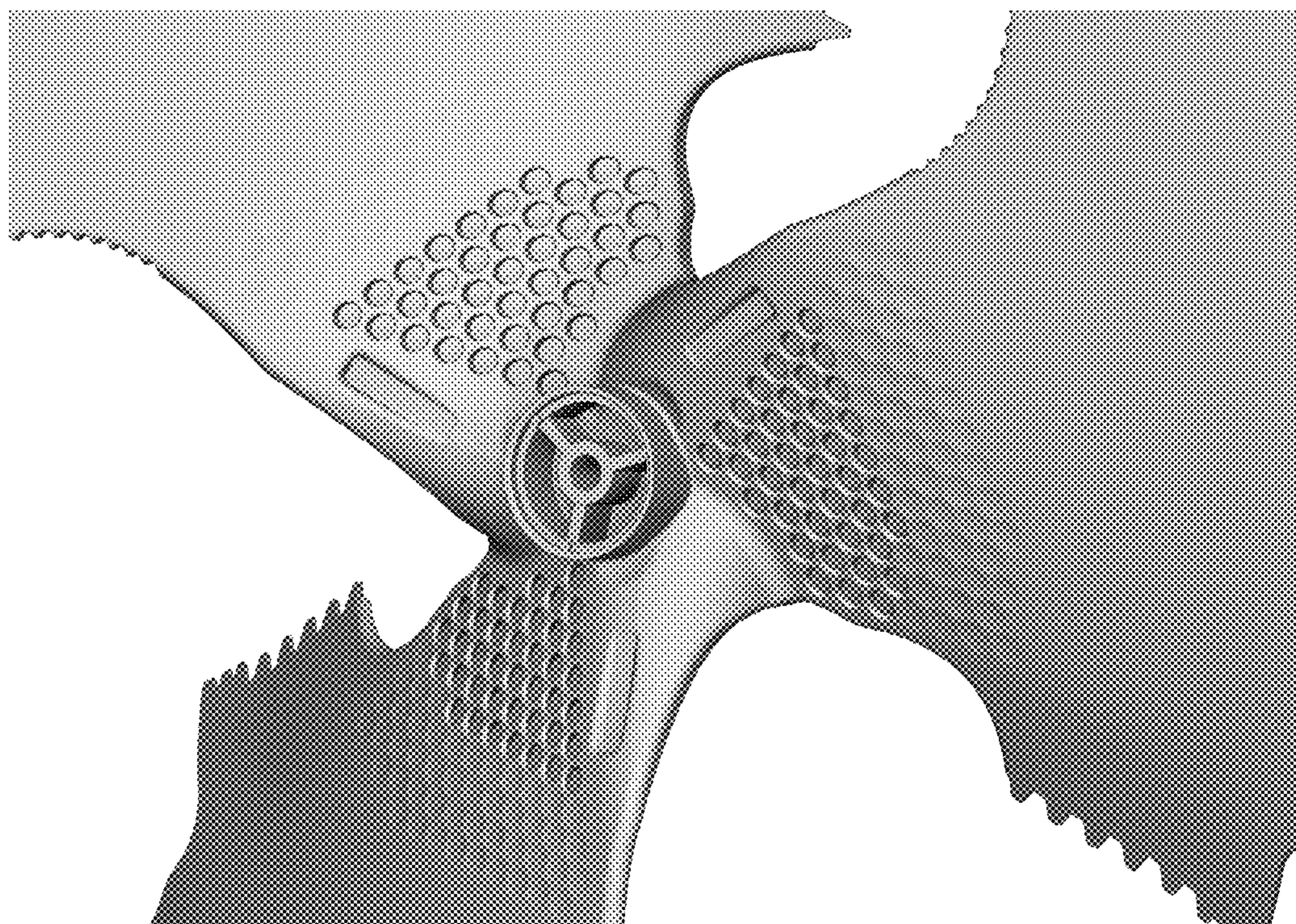


Fig. 11

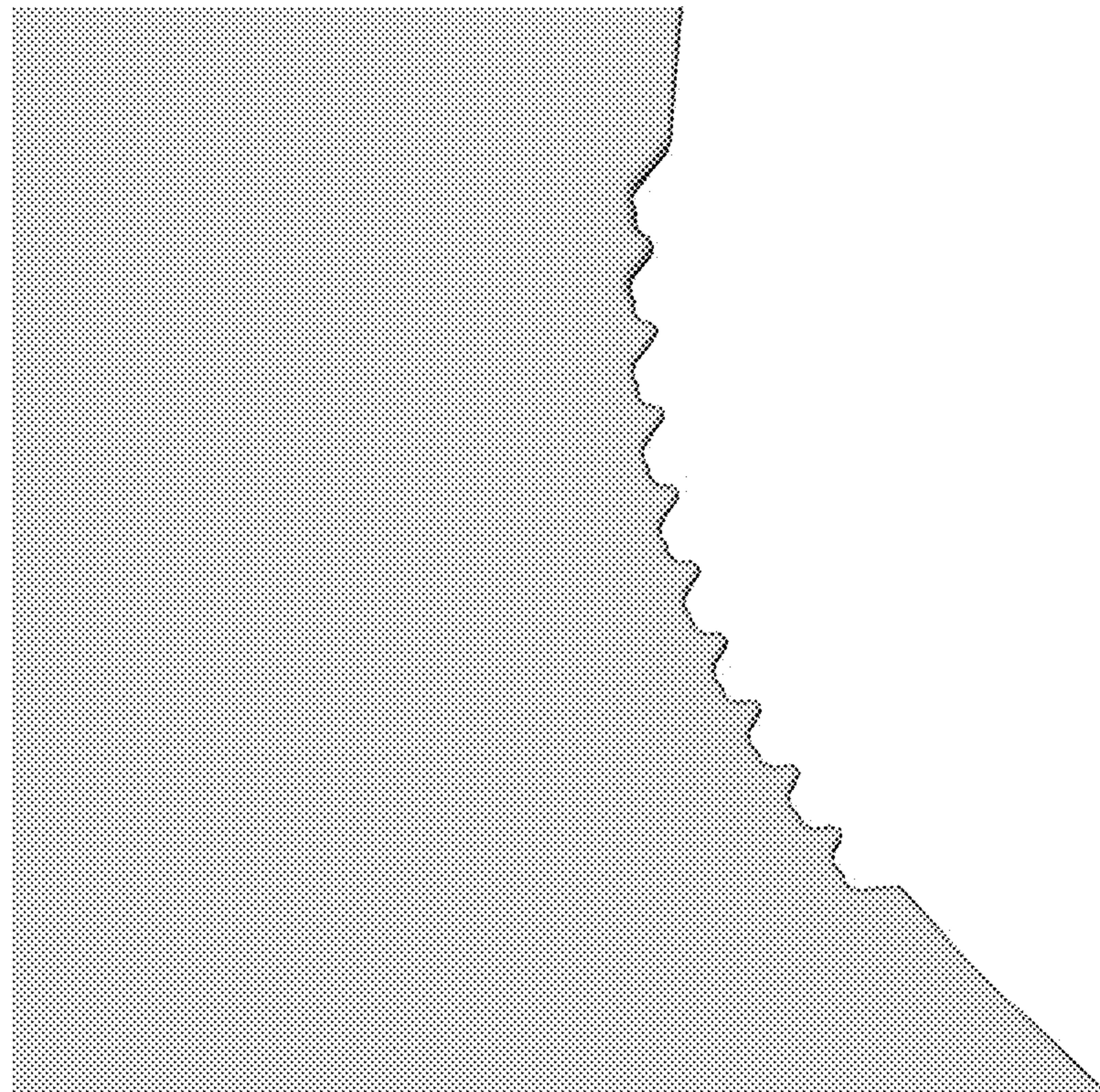


Fig. 12

