US00D821320S

(12) United States Design Patent

Noda

(10) Patent No.: US D821,320 S
(45) Date of Patent: ** Jun. 26, 2018

(54) **BLADE FOR A VERTICAL TURBINE ROTOR**

(71) Applicant: **NTN CORPORATION**, Osaka (JP)

(72) Inventor: **Hiroyuki Noda**, Kuwana (JP)

(73) Assignee: **NTN CORPORATION**, Osaka (JP)

(**) Term: **15 Years**

(21) Appl. No.: **29/574,371**

(22) Filed: **Aug. 15, 2016**

(30) **Foreign Application Priority Data**

Feb. 18, 2016 (JP) 2016-003457

(51) **LOC (11) Cl.** **13-02**

(52) **U.S. Cl.**
USPC **D13/118**

(58) **Field of Classification Search**
USPC D13/110, 115, 101, 118, 199; D15/1, D15/199; 452/64; 416/61
CPC F03C 11/0091; F03D 3/005; F03D 9/002
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

9,103,321	B1 *	8/2015	Bardia	F03D 9/002
2007/0224029	A1 *	9/2007	Yokoi	F03D 3/005 415/4.2
2008/0227378	A1 *	9/2008	Yokoi	F03D 3/005 452/64
2015/0240788	A1 *	8/2015	Kayama	F03D 11/0091 416/61

FOREIGN PATENT DOCUMENTS

EM	0001302798	*	11/2011
GB	4022954	*	3/2012
GB	4024872	*	5/2013
JP	D1376682	B	12/2009
JP	2011169267	*	9/2011
JP	2011169292	*	9/2011
JP	2016169711	*	9/2016
JP	2016205204	*	12/2016

OTHER PUBLICATIONS

Vertical Turbine Design posted by Renews posted date May 28, 2015, © ReNews, [online], http://renews.biz/89256/siemens-brings-new-turbine-design-to-life/ (Year: 2015).*

NTN Exhibit posted by NTN posted date Feb. 25, 2016, © NTN Global, [online], http://www.ntnglobal.com/en/news/event/event201600012.htm (Year: 2016).*

Aquilero Wind Turbine posted by Aquilero posted date unknown, © Aquilero, [online], http://www.aquilero.com/en/ (Year: 2017).*

Decision of Registration and Notice informing the examination materials dated May 24, 2016 for corresponding Japanese Application No. 2016-003457.

* cited by examiner

Primary Examiner — Cynthia Ramirez
Assistant Examiner — Laura H Yu

(57) **CLAIM**

The ornamental design for a blade for a vertical turbine rotor, as shown and described.

DESCRIPTION

FIG. **1** is a front elevational view of a blade for a vertical turbine rotor showing my new design;
FIG. **2** is a rear elevational view thereof;
FIG. **3** is a left side elevational view thereof;
FIG. **4** is a right side elevational view thereof;
FIG. **5** is a top plan view thereof, the bottom plan view being a mirror image of that shown;
FIG. **6** is a front right perspective view thereof; and,
FIG. **7** is a cross sectional view taken along line **7-7** in FIG. **1**.

1 Claim, 7 Drawing Sheets

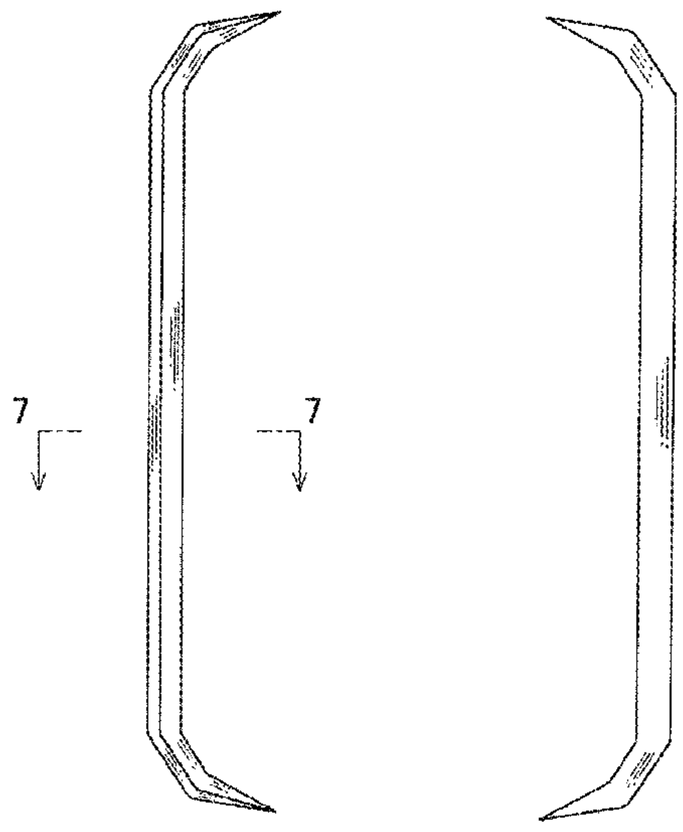

Fig. 1

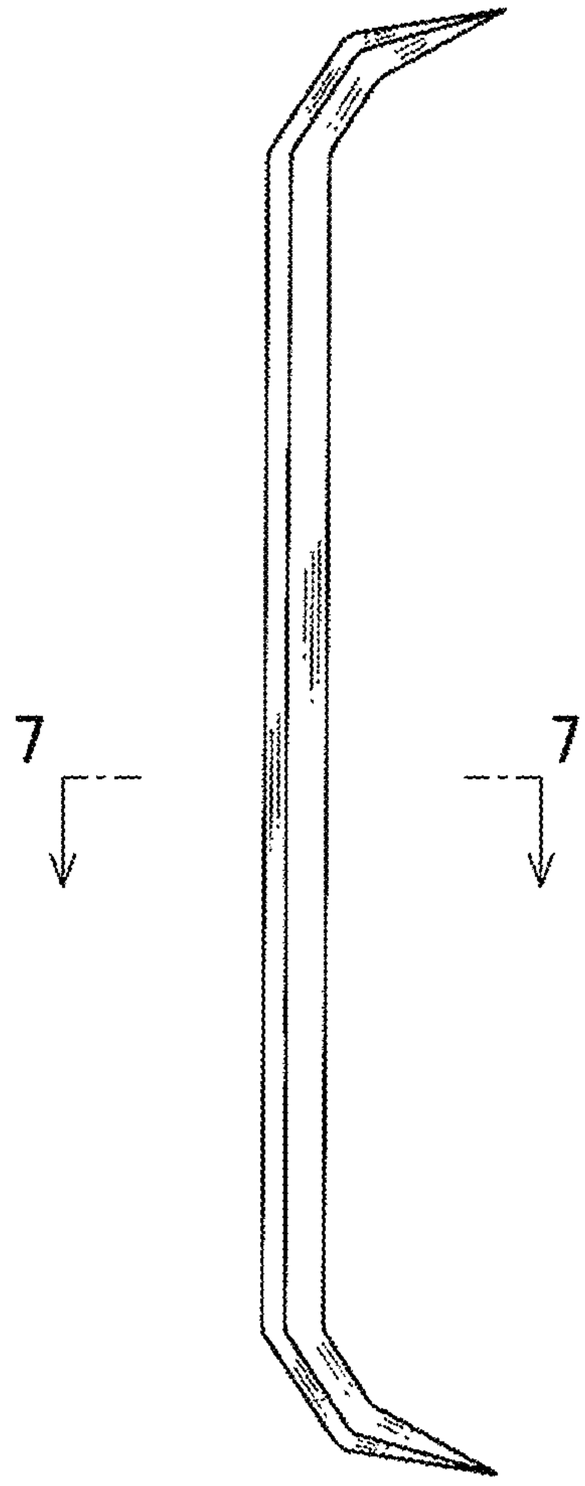

Fig. 2

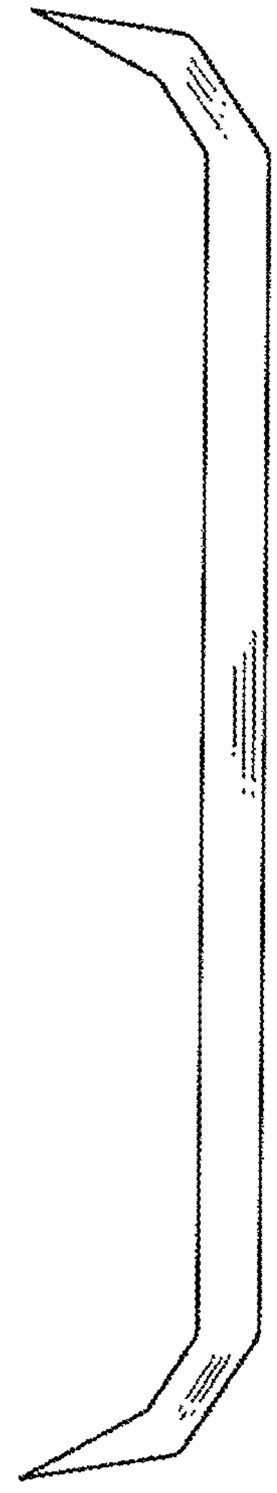

Fig. 3

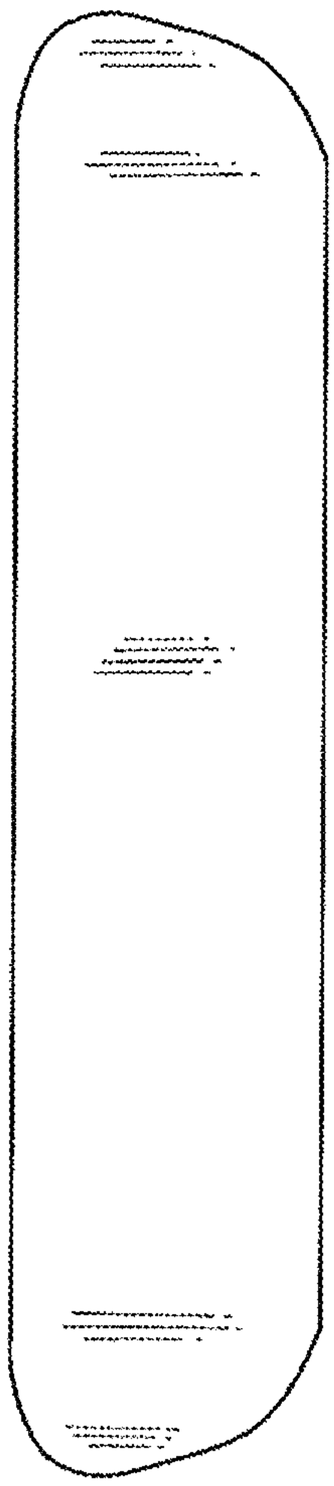

Fig. 4

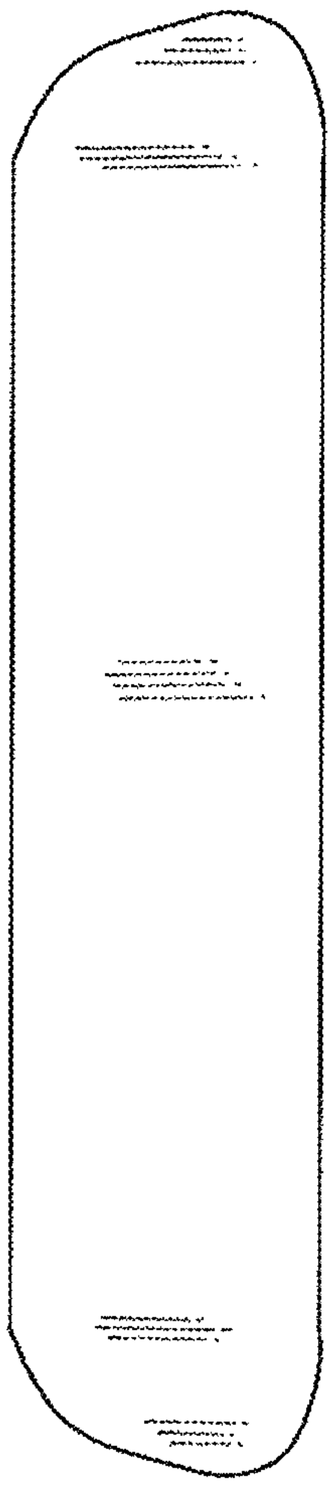

Fig. 5

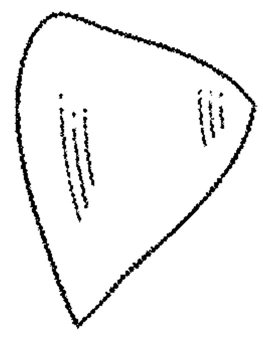

Fig. 6

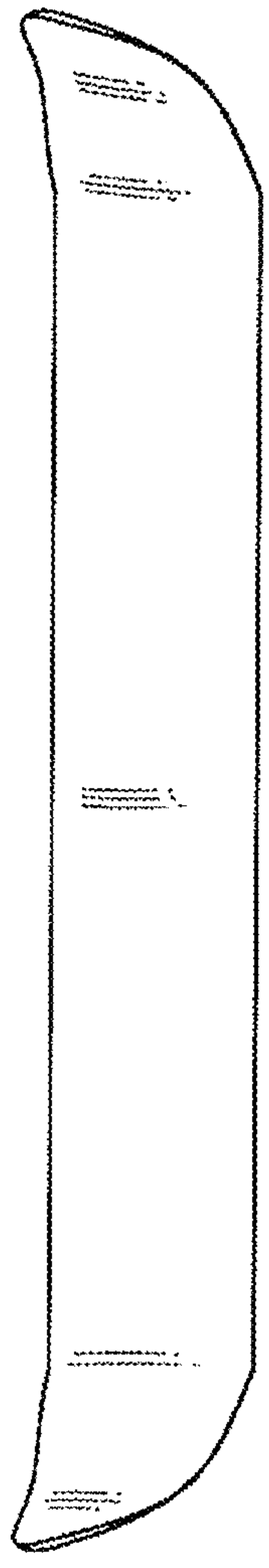

Fig. 7