



US00D776166S

(12) **United States Design Patent** (10) **Patent No.:** **US D776,166 S**
Obuchi et al. (45) **Date of Patent:** **** Jan. 10, 2017**

(54) **IMPELLER FOR A PUMP**
(71) Applicant: **EBARA CORPORATION**, Tokyo (JP)
(72) Inventors: **Masashi Obuchi**, Tokyo (JP); **So Kuroiwa**, Tokyo (JP); **Dai Sakihama**, Tokyo (JP); **Renato Groppo**, Cles (IT); **Fabio Balbo**, Cles (IT); **Mariano Matteazzi**, Cles (IT); **Lucio Cardillo**, Rome (IT); **Alessandro Corsini**, Rome (IT); **Giovanni Delibra**, Rome (IT); **Franco Rispoli**, Rome (IT)
(73) Assignee: **EBARA CORPORATION**, Tokyo (JP)
(**) Term: **14 Years**
(21) Appl. No.: **29/525,928**
(22) Filed: **May 5, 2015**
(30) **Foreign Application Priority Data**

Nov. 7, 2014 (JP) 2014-24921
Nov. 7, 2014 (JP) 2014-24922
Nov. 7, 2014 (JP) 2014-24923

(51) **LOC (10) Cl.** **15-02**
(52) **U.S. Cl.**
USPC **D15/7**
(58) **Field of Classification Search**
USPC ... D15/7-9, 28; D23/231, 232, 225; 417/60, 417/235, 265, 321, 355, 358, 363, 359, 417/410.1, 415-416, 405, 900; 60/408, 60/412; 184/26-37; 415/140-147; 416/180, 183
CPC F02M 37/04; F02M 37/14; F04D 7/04; F04D 29/284
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D27,078 S * 5/1897 Cahill et al. D12/206
3,953,150 A * 4/1976 Onal F04D 1/006
416/175
D258,589 S * 3/1981 Sugiura D15/7
(Continued)

Primary Examiner — Ralf Seifert
(74) *Attorney, Agent, or Firm* — Pearne & Gordon LLP

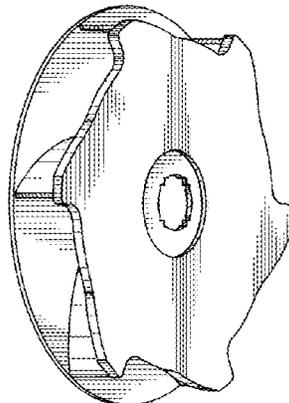
(57) **CLAIM**

The ornamental design for an impeller for a pump, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of an impeller for a pump showing our new design;
FIG. 2 is a front view;
FIG. 3 is a rear view;
FIG. 4 is a top view;
FIG. 5 is a bottom view;
FIG. 6 is a right side view;
FIG. 7 is a left side view;
FIG. 8 is a cross-section view taken along the line 8-8 of FIG. 6;
FIG. 9 is a cross-section view taken along the line 9-9 of FIG. 2;
FIG. 10 is a perspective view of an impeller for a pump showing a second embodiment of our new design;
FIG. 11 is a front view of FIG. 10;
FIG. 12 is a rear view of FIG. 10;
FIG. 13 is a top view of FIG. 10;
FIG. 14 is a bottom view of FIG. 10;
FIG. 15 is a right side view of FIG. 10;
FIG. 16 is a left side view of FIG. 10;
FIG. 17 is a cross-section view taken along the line 17-17 of FIG. 15; and,
FIG. 18 is a cross-section view taken along the line 18-18 of FIG. 11.
The particular cross-hatching patterns in FIGS. 8, 9, 17 and 18 do not represent any particular materials.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,002,461 A * 3/1991 Young F04D 29/284
416/183
6,508,626 B1 * 1/2003 Sakurai F04D 29/284
416/180
D586,826 S * 2/2009 Cantrill D15/7
D607,472 S * 1/2010 Nishi D15/7
D617,815 S * 6/2010 Tarui D15/7
D629,095 S * 12/2010 Liu D23/411
D631,065 S * 1/2011 Burgess D15/9
8,439,642 B2 * 5/2013 Scott F04D 7/045
415/206
8,511,998 B2 * 8/2013 Burgess F04D 29/2288
29/402.08
8,545,091 B1 * 10/2013 Arribau B01F 5/22
366/167.2
D694,266 S * 11/2013 Haddad D15/7
D712,434 S * 9/2014 Hastings D15/7
D732,581 S * 6/2015 Swiatek D15/7
D761,881 S * 7/2016 Small D15/28

* cited by examiner

FIG. 1

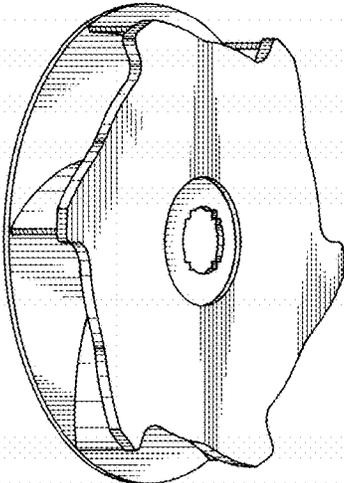


FIG. 2

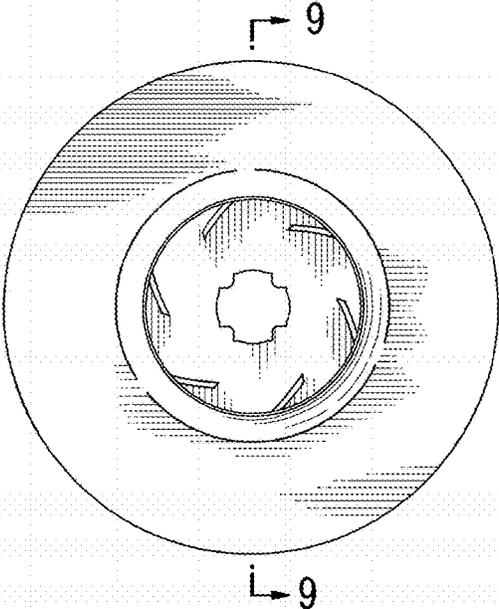


FIG. 3

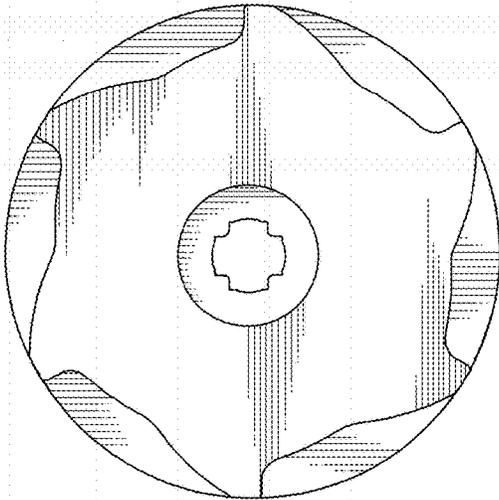


FIG. 4

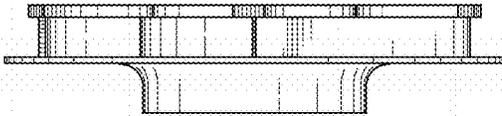


FIG. 5

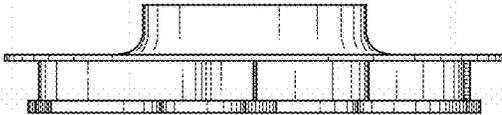


FIG. 7

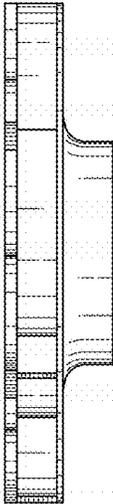


FIG. 6

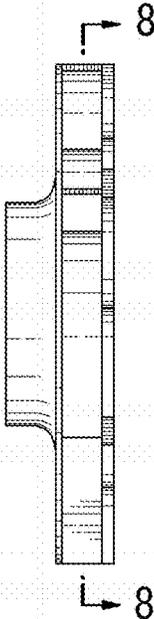


FIG. 8

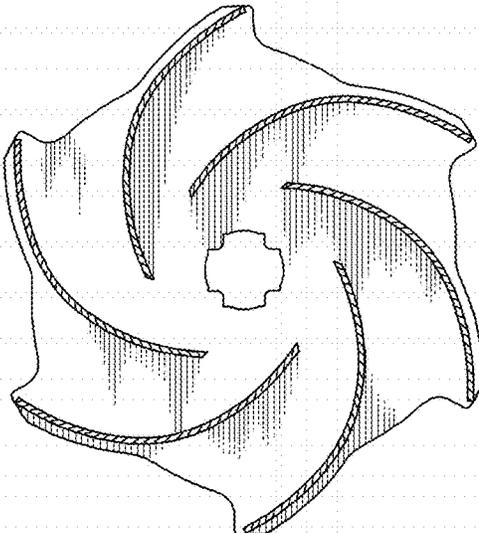


FIG. 9

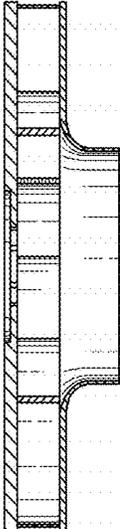


FIG. 10

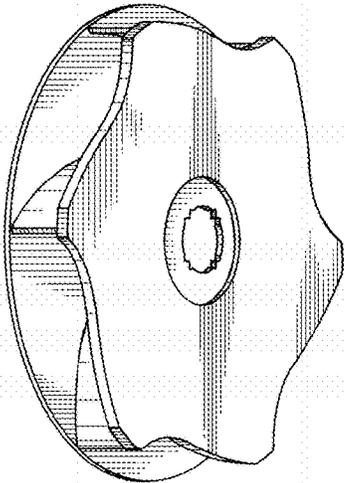


FIG. 11

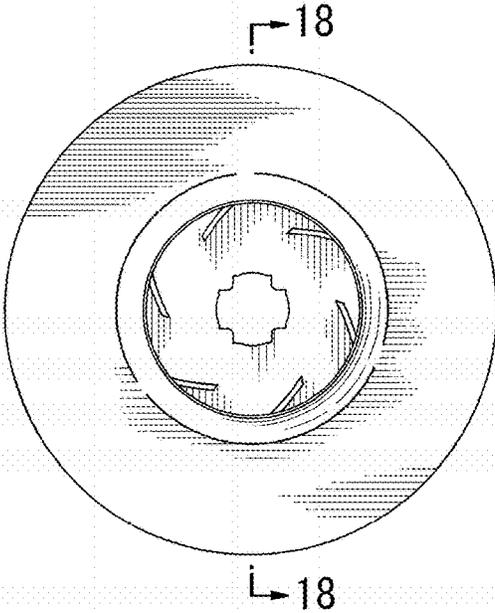


FIG. 12

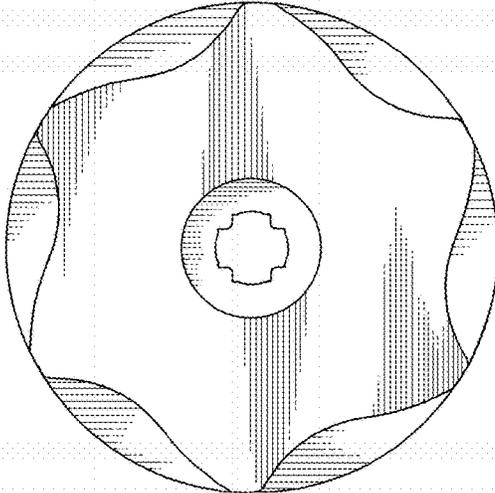


FIG. 13



FIG. 14



FIG. 16



FIG. 15

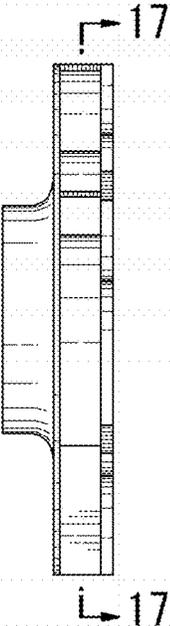


FIG. 17

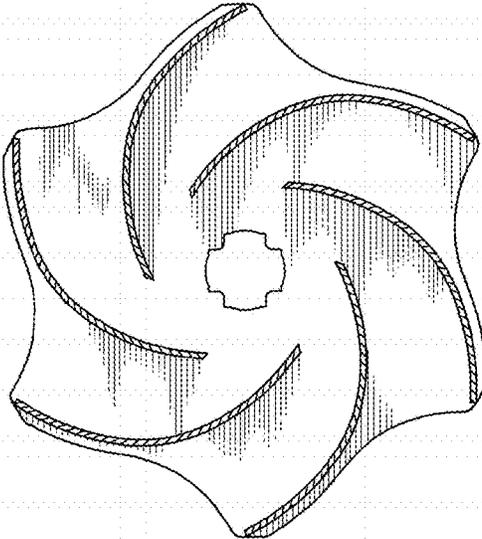


FIG. 18

