

Title (en)
Axial-flow fan

Title (de)
Axiallüfter

Title (fr)
Ventilateur axial

Publication
EP 1422425 A3 20050119 (EN)

Application
EP 03016732 A 20030722

Priority
KR 20020071993 A 20021119

Abstract (en)
[origin: EP1422425A2] Disclosed is an axial-flow fan comprising a hub (52) and a plurality of blades (54) located on an outer circumference of the hub so as to axially blow air. Each blade (54) includes a positive pressure side (54d) to which high pressure of the air is applied, a negative pressure side (54e) to which low pressure of the air is applied, and a protuberance (56) formed on the positive pressure side (54d) so as to reduce the difference of pressure between the positive and negative pressure sides. The axial-flow fan reduces the amount of an airflow flowing along the positive pressure sides (54d) at blade tips (54c), and causes air to effectively flow at the blade tips (54c), thereby reducing the difference of pressure between the positive pressure sides (54d) and the negative pressure sides (54e) at the blade tips (54c) and preventing the occurrence of a vortex generated at the blade tips (54c). Further, the axial-flow fan slows down the restoration to the static pressure of air flowing between the positive pressure sides to the negative pressure sides at the blade tips of blades, thereby reducing the noise generated by the operation of the fan. <IMAGE>

IPC 1-7
F04D 29/38; **F04D 29/66**

IPC 8 full level
F04D 29/38 (2006.01); **F04D 29/66** (2006.01)

CPC (source: EP KR)
F04D 29/38 (2013.01 - KR); **F04D 29/384** (2013.01 - EP); **F04D 29/667** (2013.01 - EP)

Citation (search report)
• [A] EP 0992693 A1 20000412 - GATE SPA [IT]
• [A] EP 0955469 A2 19991110 - MATSUSHITA ELECTRIC IND CO LTD [JP]
• [A] GB 401625 A 19331116 - BRITISH THOMSON HOUSTON CO LTD
• [A] US 6447251 B1 20020910 - ZENG LING-ZHONG [US]

Cited by
CN110431311A; EP1512918A3; US8235672B2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1422425 A2 20040526; **EP 1422425 A3 20050119**; **EP 1422425 B1 20081203**; ES 2316676 T3 20090416; JP 2004169682 A 20040617; KR 100484824 B1 20050422; KR 20040043623 A 20040524

DOCDB simple family (application)
EP 03016732 A 20030722; ES 03016732 T 20030722; JP 2003193719 A 20030708; KR 20020071993 A 20021119