

Title (en)
Counter-rotating axial-flow fan

Title (de)
Gegenläufiger Axiallüfter

Title (fr)
Ventilateur contrarotatif à flux axial

Publication
EP 1983198 B1 20180808 (EN)

Application
EP 08251444 A 20080417

Priority
JP 2007109606 A 20070418

Abstract (en)
[origin: EP1983198A2] A counter-rotating axial-flow fan includes a housing that is constituted from a first divided housing unit and a second divided housing unit. Engaging members and first stopper portions are integrally formed with a first flange portion of the first divided housing unit. The first stopper portions are arranged adjacent to the engaging members. Engaged members and second stopper portions are integrally formed with a second flange portion of the second divided housing unit. The second stopper portions are arranged adjacent to the engaged members. The second stopper portions have leading ends that are abutted onto leading ends of the first stopper portions when the engaging members are completely engaged with the engaged members. Thus, damage of the first and second divided housing units is prevented when the first and second divided housing units are coupled.

IPC 8 full level
F04D 19/00 (2006.01); **F04D 19/02** (2006.01); **F04D 25/06** (2006.01); **F04D 29/42** (2006.01); **F04D 29/64** (2006.01)

CPC (source: EP US)
F04D 19/007 (2013.01 - EP US); **F04D 19/024** (2013.01 - EP US); **F04D 25/0613** (2013.01 - EP US); **F04D 29/4226** (2013.01 - US); **F04D 29/522** (2013.01 - EP); **F04D 29/646** (2013.01 - EP US)

Citation (examination)
US 2010033041 A1 20100211 - WATANABE JIRO [JP], et al

Cited by
CN103244442A; EP3460248A1

Designated contracting state (EPC)
DE FI FR GB

DOCDB simple family (publication)
EP 1983198 A2 20081022; **EP 1983198 A3 20140625**; **EP 1983198 B1 20180808**; CN 101311552 A 20081126; CN 101311552 B 20111019; JP 2008267229 A 20081106; JP 4076570 B1 20080416; TW 200918761 A 20090501; TW I460353 B 20141111; US 2008260526 A1 20081023

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EP 08251444 A 20080417; CN 200810092259 A 20080417; JP 2007109606 A 20070418; TW 97114300 A 20080418; US 10486108 A 20080417