

Title (en)

METHOD FOR PRODUCING A FRAME FOR AN ENGINE COOLING FAN OF A MOTOR VEHICLE

Title (de)

VERFAHREN ZUM HERSTELLEN EINER ZARGE FÜR EIN MOTORKÜHLGEBLÄSE EINES KRAFTFAHRZEUGS

Title (fr)

PROCÉDÉ DE PRODUCTION D'UN CADRE POUR UN VENTILATEUR DE REFROIDISSEMENT DE MOTEUR D'UN VÉHICULE À MOTEUR

Publication

EP 2766168 A1 20140820 (DE)

Application

EP 12768800 A 20121002

Priority

- DE 102011084498 A 20111014
- EP 2012069398 W 20121002

Abstract (en)

[origin: WO2013053615A1] Equipping engine cooling fans with flaps, in particular ram-air flaps, which are opened by the relative wind and can close again by means of gravity at a vehicle standstill, is known. Until now, it has been common to install such ram-air flaps manually on a frame of the engine cooling fan. However, all of said embodiment concepts require complex motion guidance during the installation in/on the frame. The invention relates to a method for producing a frame (1) for an engine cooling fan of a motor vehicle in order to provide economical automation, the frame being equipped with a flap (5), in particular ram-air flap, and produced by means of injection molding in a tool (16), wherein an articulated connection of the flap (5) to the frame (1) is provided in a joint production step for the frame (1), in which the flap (5) is first prepositioned in the tool (16) for the production of the frame (1) and then provided cavities (10) of the flap (5) are also filled during the production of the frame (1), which cavities form corresponding bearing points (11) for the flap (5) on the frame (1) after the solidification of the plastic and thus enable a movable connection of the flap (5) to the frame (1). The invention is intended for frames having ram-air flaps for engine cooling fans of motor vehicles.

IPC 8 full level

B29C 45/00 (2006.01); **B29C 45/16** (2006.01); **B60K 11/08** (2006.01)

CPC (source: CN EP US)

B29C 45/0017 (2013.01 - CN EP US); **B29C 45/14467** (2013.01 - US); **B29C 45/14754** (2013.01 - CN EP US);
B29C 45/1671 (2013.01 - CN EP US); **B29C 45/1418** (2013.01 - CN EP US); **B29C 45/1676** (2013.01 - CN EP US);
B29C 2045/14327 (2013.01 - CN EP US); **B29L 2031/08** (2013.01 - CN EP US)

Citation (search report)

See references of WO 2013053615A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2013053615 A1 20130418; CN 103857512 A 20140611; DE 102011084498 A1 20130418; EP 2766168 A1 20140820;
JP 2014528373 A 20141027; JP 5774233 B2 20150909; US 2014246803 A1 20140904

DOCDB simple family (application)

EP 2012069398 W 20121002; CN 201280050187 A 20121002; DE 102011084498 A 20111014; EP 12768800 A 20121002;
JP 2014535003 A 20121002; US 201214351600 A 20121002