

Title (en)  
APPARATUS FOR MAKING ARTIFICIAL SNOW

Title (de)  
VORRICHTUNG ZUR HERSTELLUNG VON KUNSTSCHNEE

Title (fr)  
DISPOSITIF POUR LA PRODUCTION DE NEIGE ARTIFICIELLE

Publication  
**EP 3040657 A1 20160706 (EN)**

Application  
**EP 15003474 A 20151207**

Previously filed application  
201400440 20141209 SI

Priority  
SI 201400440 A 20141209

Abstract (en)  
The proposed invention is a new product, designed as an apparatus for making artificial snow - snow cannon, comprised of a certain quantity of assembled parts and assemblies, installed inside the snow cannon housing (1), inside the central part of which there is installed a special snow cannon electric motor 3, behind which as observed in the direction of air flow a nucleator 6 is positioned in the centre, immediately behind the tip of the electric motor stator's 3 aerodynamic shape, and at the air flow exit A there is a round tube with one or several annular segments 5.0.2 with water nozzles 5. The nucleator 6 ejects into the atomizing space small quantities of water under high pressure to create a water mist 6.2, that is a narrowly focused jet, which then mixes with the water droplets 5.1 coming from the water nozzles 5 at a minimum distance of a #¥ 1,3 m. The mixing is made possible because the fan blades 2 create a strong enough vortex air flow 4.1.1, which mixes with the water 5.1 from the nozzles 5 and the icy water mist 6.2 from the nucleator no sooner than in point 4.1.1.1, and so in point 4.1.1.1 the icy mantle formed around supercooled water droplets 6.2 coming from the nucleator 6 is mixed with water 5.1, and in the continuation of the air flow A the mixture is converted into artificial snow 7.

IPC 8 full level  
**F25C 3/04** (2006.01)

CPC (source: EP)  
**F25C 3/04** (2013.01); **F25C 2303/046** (2013.01); **F25C 2303/048** (2013.01)

Citation (applicant)  
• US 3761020 A 19730925 - TROPEANO J, et al  
• US 3010660 A 19611128 - FRANCIS BARRETT  
• US 8535168 B2 20130917 - VISSER DARREN [AU]  
• WO 2010025501 A1 20100311 - VISSER DARREN [AU]  
• EP 0977968 B1 20021127 - RATNIK IND INC [US]  
• CH 682694 A5 19931029 - HERMAN K DUPRE [US]  
• US 5004151 A 19910402 - DUPRE HERMAN K [US]  
• DE 4033310 A1 19910523 - DUPRE HERMAN K [US]  
• EP 01129558 A 20011211  
• CA 2847320 A1 20140922 - NIKKANEN JOHN PENTTI [US]

Citation (search report)  
• [XYI] EP 0787960 A2 19970806 - MARCANTONI LUCIANO [IT], et al  
• [X] JP H04295574 A 19921020 - SHIYOOSHIN KK  
• [X] EP 2244042 A2 20101027 - WIESMEIER HANS [AT]  
• [Y] JP 2003278696 A 20031002 - FUJI ELECTRIC CO LTD  
• [Y] US 5810249 A 19980922 - NILSSON LENNART [SE]  
• [Y] US 4682729 A 19870728 - DOMAN D MARK [US], et al  
• [Y] WO 2012016550 A2 20120209 - VORACKOVA ADELA [CZ]  
• [A] US 2005006493 A1 20050113 - STOFNER WILHELM [IT]  
• [A] US 4828175 A 19890509 - HEUFLER SIEGFRIED [AT], et al  
• [A] FR 2742851 A1 19970627 - GUILLAUME GIL [FR]  
• [A] WO 2009125359 A1 20091015 - WEISSER WOLF S R L [IT], et al  
• [A] AT 10810 U1 20091015 - SCHLEMMER STEPHAN ING [AT]  
• [A] DE 3015020 A1 19811029 - ZEMEL BROTHERS INC [US]

Cited by  
CN110169293A; CN114111144A

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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3040657 A1 20160706**; SI 24517 A 20150430

DOCDB simple family (application)  
**EP 15003474 A 20151207**; SI 201400440 A 20141209