Title (en)
   COOLING METHOD FOR LIQUEFYING A FEED GAS

Title (de)
   KÜHLVERFAHREN ZUR VERFLÜSSIGUNG EINES EINSATZGASES

Title (fr)
   PROCÉDÉ DE REFROIDISSEMENT PERMETTANT DE LIQUÉFIER UN GAZ D'ALIMENTATION

Publication
   EP 3918260 A1 20211208 (EN)

Application
   EP 20701394 A 20200114

Priority
   • GB 201901247 A 20190130
   • EP 2020025011 W 20200114

Abstract (en)
   [origin: WO2020156754A1] The present invention pertains to a cooling method for liquefying a feed gas, comprising the steps of providing a cooling cycle (20) with a refrigerant stream (28; dividing the refrigerant stream (28) into a first partial stream (32) and a second partial stream (36); expanding the first partial stream (32) in a first expansion device (40); and transferring cooling energy from the expanded first partial stream (42) to a feed gas stream (12) to be cooled, particularly comprising hydrogen and/or helium. Further the method comprises the steps of guiding the expanded first partial stream (42) to a suction inlet of an ejector (48); and guiding the second partial stream (36) to a propellant inlet of the ejector (48) such that, upon expanding the second partial stream (36) in the ejector (48), the expanded first partial stream (42) is compressed and merged with the expanded second partial stream.

IPC 8 full level
   F25J 1/00 (2006.01)

CPC (source: EP GB US)
   F25J 1/0007 (2013.01 - US); **F25J 1/001** (2013.01 - EP GB US); **F25J 1/005** (2013.01 - EP US); **F25J 1/0052** (2013.01 - EP);
   F25J 1/0067 (2013.01 - EP); **F25J 1/0072** (2013.01 - EP US); **F25J 1/02** (2013.01 - GB); **F25J 1/0204** (2013.01 - EP);
   F25J 1/0205 (2013.01 - EP); **F25J 1/0221** (2013.01 - EP); **F25J 1/025** (2013.01 - EP US); **F25J 1/0259** (2013.01 - EP US);
   F25J 2210/62 (2013.01 - EP); F25J 2240/40 (2013.01 - EP); F25J 2240/60 (2013.01 - EP GB US); F25J 2245/90 (2013.01 - EP);
   F25J 2270/06 (2013.01 - GB); F25J 2270/16 (2013.01 - EP); F25J 2290/34 (2013.01 - EP)

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)
   WO 2020156754 A1 20200806; AU 2020213611 A1 20210722; CA 3127832 A1 20200806; CN 113286977 A 20210820;
   CN 113286977 B 20240130; EP 3918260 A1 20211208; GB 201901247 D0 20190320; GB 2581135 A 20200812; US 2021381756 A1 20211209

DOCDB simple family (application)
   EP 2020025011 W 20200114; AU 2020213611 A 20200114; CA 3127832 A 20200114; CN 202080008930 A 20200114;
   EP 20701394 A 20200114; GB 201901247 A 20190130; US 202017310345 A 20200114