

Title (en)
METHOD, FUELING SYSTEM AND SUBCOOLING AND CONDENSING UNIT FOR FILLING TANKS WITH A FUEL SUCH AS LNG

Title (de)
VERFAHREN, BRENNSTOFFSYSTEM SOWIE UNTERKÜHLUNGS- UND KONDENSATIONSEINHEIT ZUM BEFÜLLEN VON BEHÄLTERN MIT BRENNSTOFF WIE Z.B. FLÜSSIGERDAS

Title (fr)
PROCÉDÉ, SYSTÈME DE RAVITAILLEMENT EN CARBURANT ET UNITÉ DE CONDENSATION ET DE SOUS-REFROIDISSEMENT POUR LE REMPLISSAGE DE RÉSERVOIRS AVEC UN COMBUSTIBLE TEL QUE DU GAZ NATUREL LIQUIDE

Publication
EP 3196534 A1 20170726 (EN)

Application
EP 16152437 A 20160122

Priority
EP 16152437 A 20160122

Abstract (en)
Subcooling and condensing unit (4) for a fueling system (1) for a fuel having methane as its primary component, wherein the subcooling and condensing unit (4) comprises a temperature controller (24) for controlling the temperature of fuel inside the subcooling and condensing unit (4), a first section (5), a second section (6), a separating plate (19) between the first section (5) and the second section (6), and a tube (20) having a first opening (21) in the first section (5) and a second opening (22) in the second section (6) of the subcooling and condensing unit (4), wherein the first section (5), the second section (6), the separation plate (19) and the tube (20) are arranged in such a way that a separation layer (45) and a thermal isolation layer (38) can be generated, wherein the separation layer (45) comprises gaseous fuel for thermally isolating liquid fuel being evaporated in the first section (5) from subcooled liquid fuel in the second section (6), and wherein the thermal isolation layer (38) comprises liquid fuel for thermally isolating the gaseous fuel forming the separation layer (45) from the subcooled liquid fuel in the second section (6). A fueling system is proposed, wherein only one single device can be used for both subcooling and condensing fuel, while no specialized fuel storage tank or additional pump is required.

IPC 8 full level
F17C 5/04 (2006.01); **F17C 7/02** (2006.01)

CPC (source: EP)
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Citation (applicant)
• EP 2617587 A1 20130724 - LINDE AG [DE]
• EP 2569176 B1 20140903 - L AIR LIQUIDE SOCIÉTÉ ANONYME POUR L ETUDE ET L EXPL DES PROCÉDÉS GEORGES CLAUDE [FR], et al

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• [XAI] EP 2565514 A1 20130306 - AIR LIQUIDE DEUTSCHLAND GMBH [DE], et al
• [A] DE 102010020476 A1 20111117 - AIR LIQUIDE DEUTSCHLAND GMBH [DE]
• [A] WO 2014170583 A1 20141023 - AIR LIQUIDE [FR]
• [AD] EP 2617587 A1 20130724 - LINDE AG [DE]

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CN108105584A; US2018245740A1; US10663115B2; EP3875836A1; SE2150509A1; US11906111B2

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