

Title (en)
COMPRESSED NATURAL GAS VEHICLE SAFETY SYSTEM AND METHOD

Title (de)
SICHERHEITSSYSTEM UND -VERFAHREN FÜR FAHRZEUG MIT KOMPRIMIERTEM ERDGAS

Title (fr)
SYSTÈME ET PROCÉDÉ DE SÉCURITÉ POUR VÉHICULE À GAZ NATUREL COMPRIMÉ

Publication
EP 3402690 A1 20181121 (EN)

Application
EP 17739115 A 20170114

Priority
• US 201614997502 A 20160116
• US 201715406223 A 20170113
• US 2017013600 W 20170114

Abstract (en)
[origin: WO2017124051A1] A multiply-redundant system that prevents a driver from starting and/or moving a vehicle if a compressed natural gas fill system is not correctly and completely disconnected from the vehicle. One or more sensors in combination with one or more optional microswitches combine to lock-out the vehicle's ignition or otherwise prevent it from starting and/or moving. For different levels of safety, different combinations of sensors can be used with the lowest level having a single proximity sensor sensing the presence or absence of a high-pressure fill hose. Also a multiply-redundant system that protects fueling of rockets, aircraft and other vehicles using Liquefied Natural Gas (LNG) along with an oxidizer such as Liquefied Oxygen. One or more sensors in combination with one or more optional microswitches combine to detect any leaks, fire or explosion hazards quickly locking out further fueling. For different levels of safety, different combinations of sensors can be used.

IPC 8 full level
B60K 28/00 (2006.01); **B64D 37/30** (2006.01); **B64D 37/32** (2006.01); **B67D 7/32** (2010.01)

CPC (source: EP KR US)
B60K 28/00 (2013.01 - EP); **B60K 28/10** (2013.01 - US); **B60K 28/12** (2013.01 - EP); **B64D 37/32** (2013.01 - EP); **F17C 5/02** (2013.01 - EP); **F17C 5/06** (2013.01 - EP); **F17C 13/123** (2013.01 - EP); **F17C 13/126** (2013.01 - EP KR); **B60K 2028/003** (2013.01 - EP KR); **F17C 2201/052** (2013.01 - EP KR); **F17C 2201/054** (2013.01 - EP); **F17C 2201/056** (2013.01 - EP KR); **F17C 2205/0326** (2013.01 - EP KR); **F17C 2205/0376** (2013.01 - EP KR); **F17C 2221/011** (2013.01 - EP KR); **F17C 2221/033** (2013.01 - EP KR); **F17C 2223/0123** (2013.01 - EP); **F17C 2223/0161** (2013.01 - EP KR); **F17C 2223/033** (2013.01 - EP KR); **F17C 2223/036** (2013.01 - EP); **F17C 2250/0452** (2013.01 - EP KR); **F17C 2250/0478** (2013.01 - EP KR); **F17C 2250/0486** (2013.01 - EP KR); **F17C 2260/038** (2013.01 - EP KR); **F17C 2260/042** (2013.01 - EP KR); **F17C 2265/065** (2013.01 - EP KR); **F17C 2270/011** (2013.01 - EP); **F17C 2270/0139** (2013.01 - KR); **F17C 2270/0168** (2013.01 - KR); **F17C 2270/0171** (2013.01 - EP); **F17C 2270/0173** (2013.01 - EP); **F17C 2270/0176** (2013.01 - EP); **F17C 2270/0178** (2013.01 - EP); **F17C 2270/0189** (2013.01 - EP KR); **F17C 2270/0194** (2013.01 - EP); **F17C 2270/0197** (2013.01 - EP KR); **F17C 2270/07** (2013.01 - EP KR)

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 2017124051 A1 20170720; AU 2017208021 A1 20180726; AU 2017208021 B2 20230112; BR 112018014350 A2 20181218; CA 3011475 A1 20170720; CN 108602433 A 20180928; CN 108602433 B 20220412; EP 3402690 A1 20181121; EP 3402690 A4 20200101; JP 2019509202 A 20190404; JP 6956726 B2 20211102; KR 20180104003 A 20180919

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US 2017013600 W 20170114; AU 2017208021 A 20170114; BR 112018014350 A 20170114; CA 3011475 A 20170114; CN 201780011098 A 20170114; EP 17739115 A 20170114; JP 2018536483 A 20170114; KR 20187023507 A 20170114