

GNL Regasification for vehicles



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PATENT STATUS: Granted

PRIORITY NUMBER: 102017000117283

PUBLICATION: 5 february 2020

PUBLISHED AS: WO; US; EP

Invention



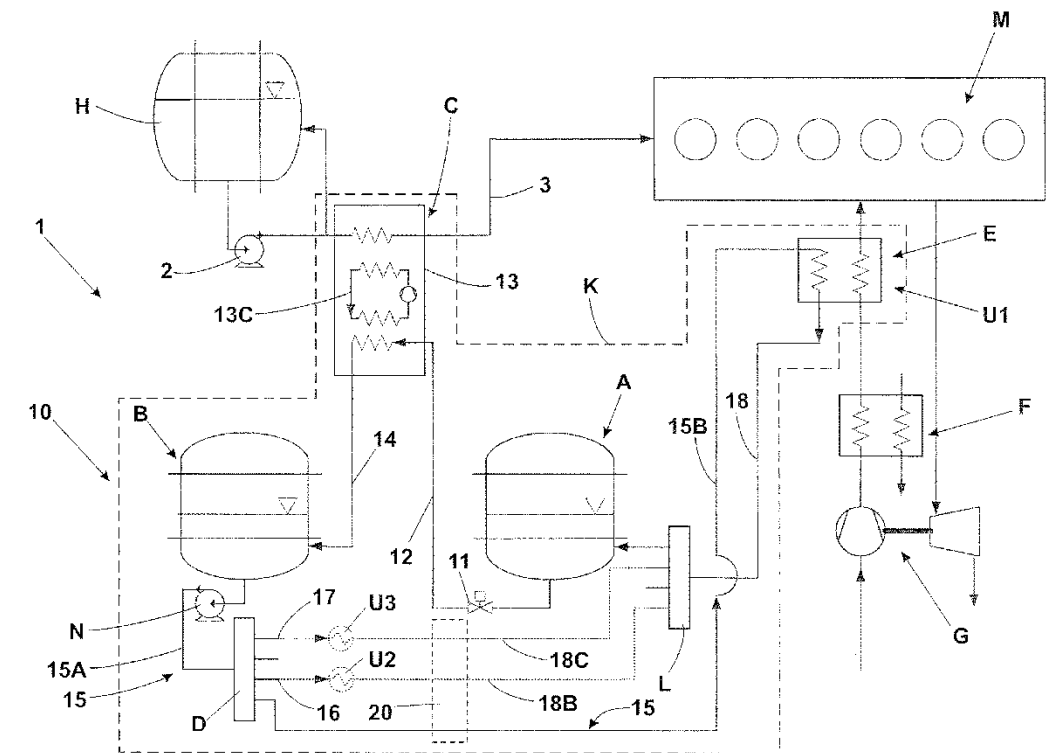
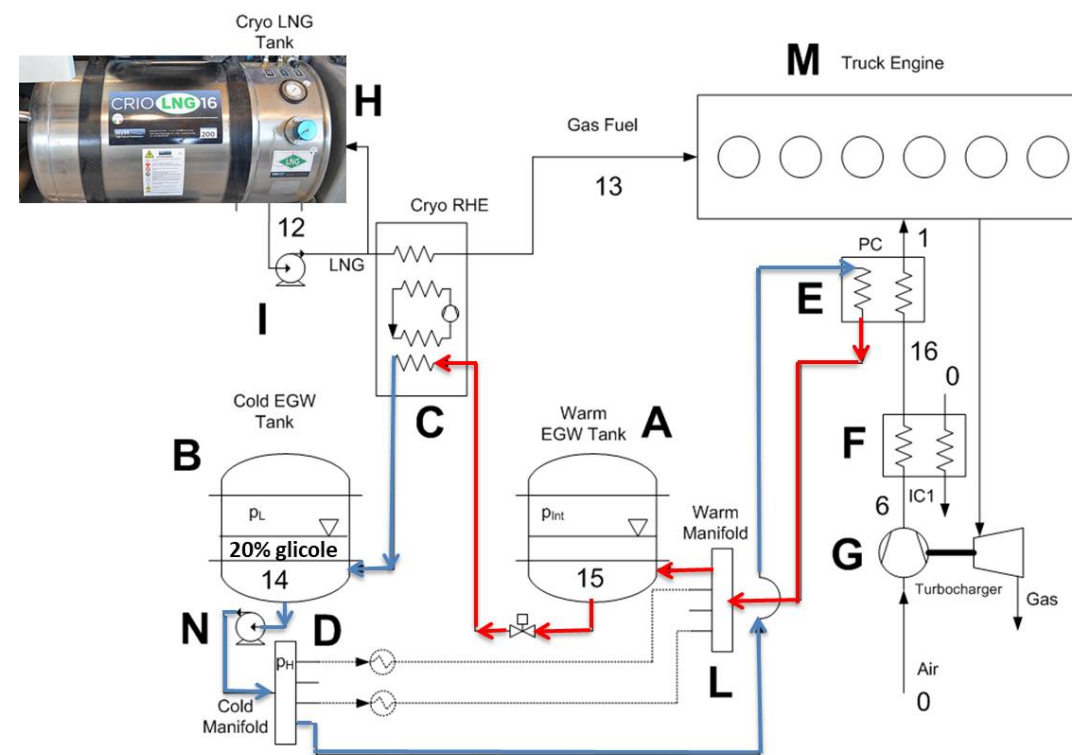
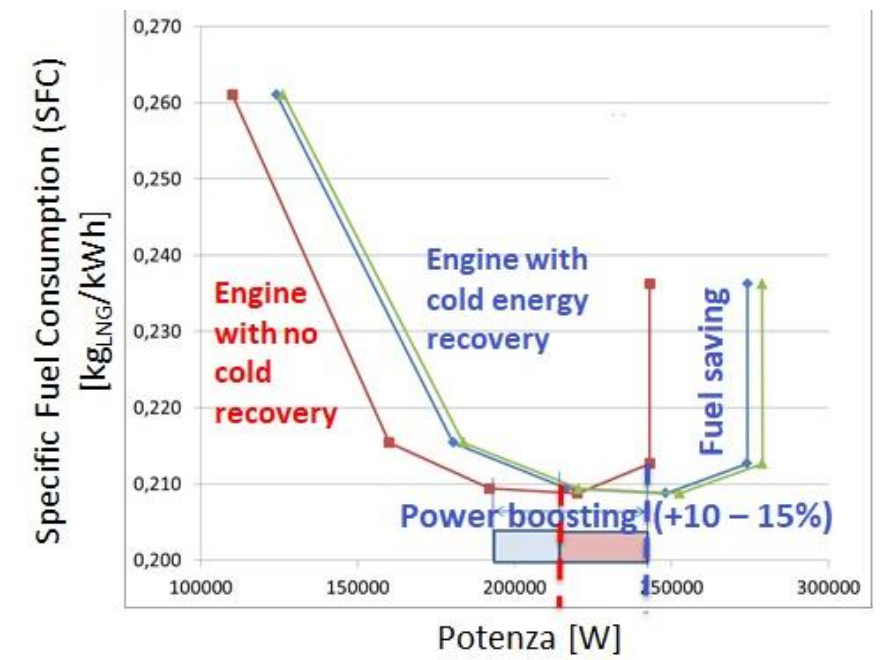
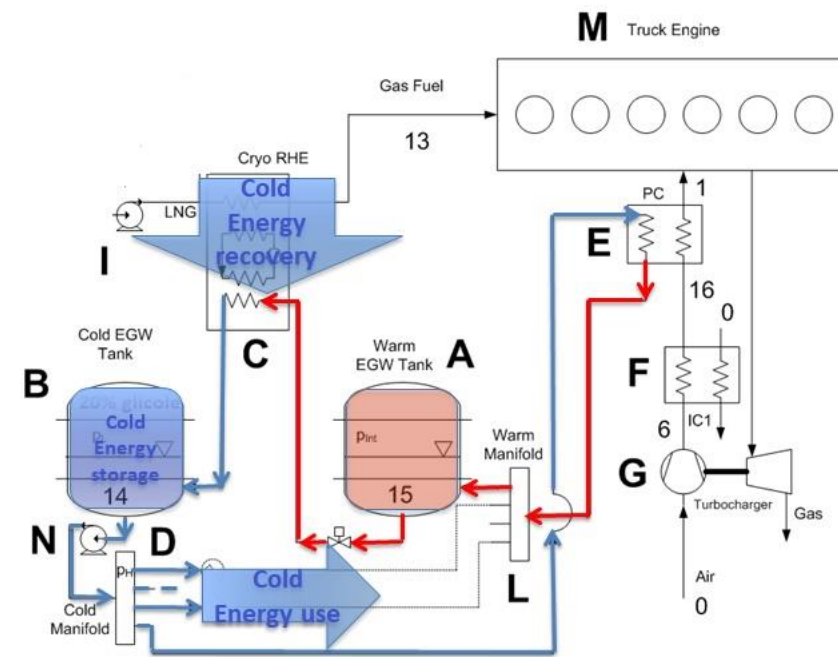
The energy efficiency of road transport vehicles is an expensive and constantly evolving process; the land transport sector is still very far from being replaced with completely different technologies (eg. widespread rail transport) or rapidly innovated by the spread of completely alternative propulsion methods.

In this perspective, the patented technology allows an immediate improvement of the energy efficiency of the means of transport currently on the market and powered (also) by LNG, so as to constitute a reasonable bridge between the short and long-term objectives in terms of energy improvement implement green transport still anchored to traditional methods.

The invention consists of a closed-circuit LNG regasification plant used by land vehicles capable of recovering energy convertible into work from the cold resource, corresponding to 8-10% of the heating power of the fuel. The patented system practices the accumulation of cold that characterizes the physical state of the LNG to be regasified. The accumulated cold can be used by the various utilities present on a commercial vehicle, such as cold rooms, air conditioning systems, engine performance improvement devices (e.g. postcooler). Since this is a system connected with information relating to the vehicle's load, its route and traffic conditions, the management of the cold resource is established by the system autonomously and with the possibility of self-learning.

This green technology therefore allows the best use of the fuels currently used by numerous land transport fleets of people and things, immediately implementing energy improvement phenomena far from coming in the expectation of fully industrialized and scalable new technologies.

Drawings & pictures



Industrial applications



The invention can find application in the automotive sector, for vehicle or component manufacturers, in particular in the market for vehicles for transporting goods or people, or intended for use in fleets. The technology implements IoT techniques applied to the sector, with useful use, for example, in commercial road transport.

The advantages of the invention lie in the energy efficiency of the vehicle, in the reduced fuel consumption and in the implementation of a better use of the cold energy resource.

Possible developments



The patent is available for definitive assignment, as well as for an exclusive and non-exclusive license. The licenses are available for the entire remaining term of the patent titles.

The research group is available for new research activities in collaboration and on behalf of third parties, technical insights, scientific advice, also aimed at raising the TRL of technology.

The TRL of the invention is 4/5.

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