

Search history

Search step	Result(s)	Query
2	9800	..SIMILARITY REFINE SS 1 RANKED 1
1	61950	..SEMSEARCH "FUEL DISTRIBUTION" 100 "UPPER CANOPY" 100 "FUEL TANK" 85 "FUEL DISTRIBUTION INTERFACE" 79 "FUELING" 35 "OUTER SHELL" 32

36 Documents

Publication numbers	Title	Current assignees
NL8501388 A	Filling station structure	SHOTMEYER ALBERT
US4986446 A	Service station improvements	SOUTHWEST CANOPY
US8176931 B1	Mobile fuel distribution station	CAPAT
US20170225938 A1	Fuel distribution station	CAPAT
US20120318406 A1	Mobile fuel distribution station	CAPAT
WO201932492 A1	Fuel distribution station	CAPAT
WO2008151375 A1	Fuel dispensing	FUJI FUELS
WO200071464 A1	Windshield washer fluid dispensing system	CLEAN SHIELD
WO2012103498 A2	Self-sustained fueling station	FILLNER CONSTRUCTION
US5975371 A	Modular aboveground service station and method of assembly	U FUEL
US5526964 A	Prefabricated modular fuel dispensing system	ORANGE STATE STEEL, ...
CA2051307 A1	Method and storage tank system for aboveground storage of flammable liquids	ACE TANK & EQUIPMENT
US6109290 A	Fuel dispensing system	OSS
US5400924 A	Above-ground fuel tank system	BRODIE; RICHARD G.
FI9300982 A0	Fuel station and method for assembling of the same	SAVON KONEHITSAUS, ...
US5865346 A	Self-contained fueling system and method	DEL ZOTTO; WILLIAM M.
US5114046 A	Above ground fuel storage and dispensing apparatus	BRYANT BILLY O
US20070113921 A1	System for replenishing energy sources onboard different types of automotive vehicles	CAPIZZO PETER D, ...
US7721751 B1	Fuel dispensing system	PERRIEN TIMOTHY
US20040163731 A1	Self-contained mobile fueling station	AIR PRODUCTS & CHEMICALS
CA2808698 A1	Fuel station and method	SHELL
US20040187951 A1	Method and apparatus for dispensing motor vehicle fuel at unattended locations	HOLYSTONE
US5711456 A	Above ground fuel transfer module	BRYANT; BILLY O.
US20130175201 A1	Mobile fuel distribution system	CAPAT
WO9639353 A1	Automated refuelling system	SHELL
US6237647 B1	Automatic refueling station	FREDKIN EDWARD, ...
WO201918611 A1	Autonomous vehicle service station, systems and methods	U FUEL
WO9639351 A1	Method and apparatus for automated refuelling	SHELL
US5363093 A	Method and apparatus for continuous tank monitoring	TANKNOLOGY NDE, ...
US20180100622 A1	System and method for storing liquid and gaseous fuels	CAPAT

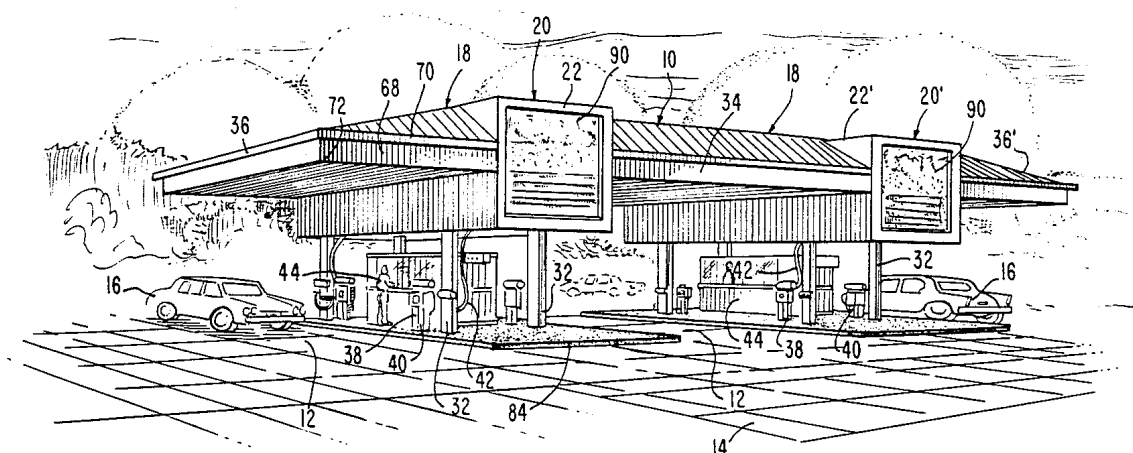
Publication numbers	Title	Current assignees
WO200759781 A1	System for an infrastructure for hydrogen refuelling of moving vehicles	SVENDSTORP NIELS JAKOB JACQUES
BR9404359 A1	Process and device for the quick filling of a pressure container with a gaseous fluid	GREENFIELD
CA2000681 A1	Portable fueling facility having fire-retardant material	U FUEL
US20190016312 A1	Control and coordination of driverless fuel replenishment for autonomous vehicles	NIO
WO201804361 A1	A vapour recovery system and method of operation	GALLAGHER
US20020079016 A1	Method for dispensing fuel	WEBB R. MICHAEL

Family 1/36 - FAMPAT - ©Questel

Title

(US4901748)

Filling station structure

Images**Publication data including kind & date**

NL8501388	A	1985-12-16	NL8501388
JPS6150855	A	1986-03-13	JP61050855
US4901748	A	1990-02-20	US4901748

**Abstract**

(US4901748)

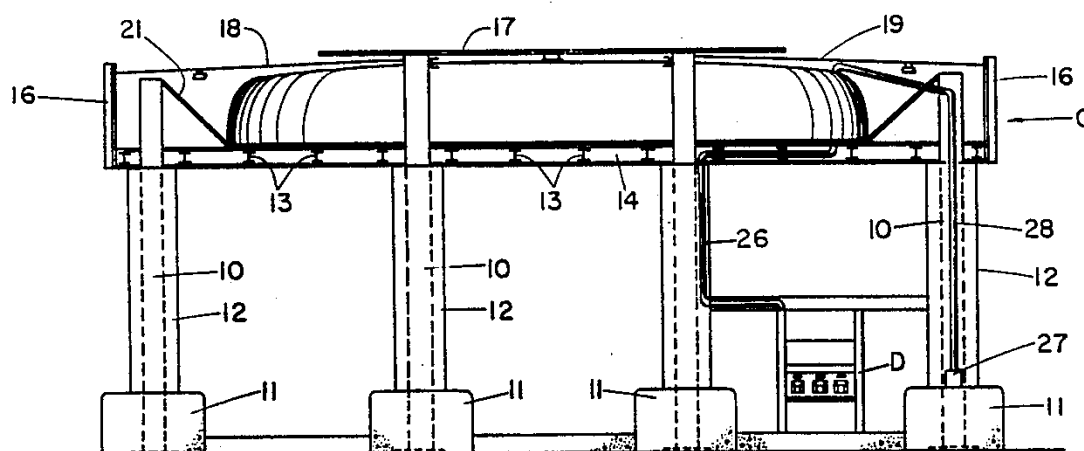
A filling station structure includes a canopy for covering a vehicle refueling area. A pair of fuel storage vessels are elevated above the ground and contain separate tanks for holding fuel to be dispensed to the vehicles. The fuel storage vessels are contiguous with the canopy to form an integrated, covered filling station with above-ground, elevated tanks.

Family 2/36 - FAMPAT - ©Questel

Title

(US4986446)

Service station improvements

Images**Publication data including kind & date**

US4986446	A	1991-01-22	US4986446
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**Abstract**

(US4986446)

Service station for dispensing fuel to vehicles from fuel dispensers connected by fluid conduits to one or more fuel storage tanks characterized in that the fuel storage tanks are self-contained, flexible and collapsible bladder type tanks supported in an elevated position above the fuel dispensers and the vehicles to which fuel is to be dispensed. An open top containment vessel may also be supported at an elevated position and into which the bladder type tanks may be preferably lowered for non-attached disposition therein.

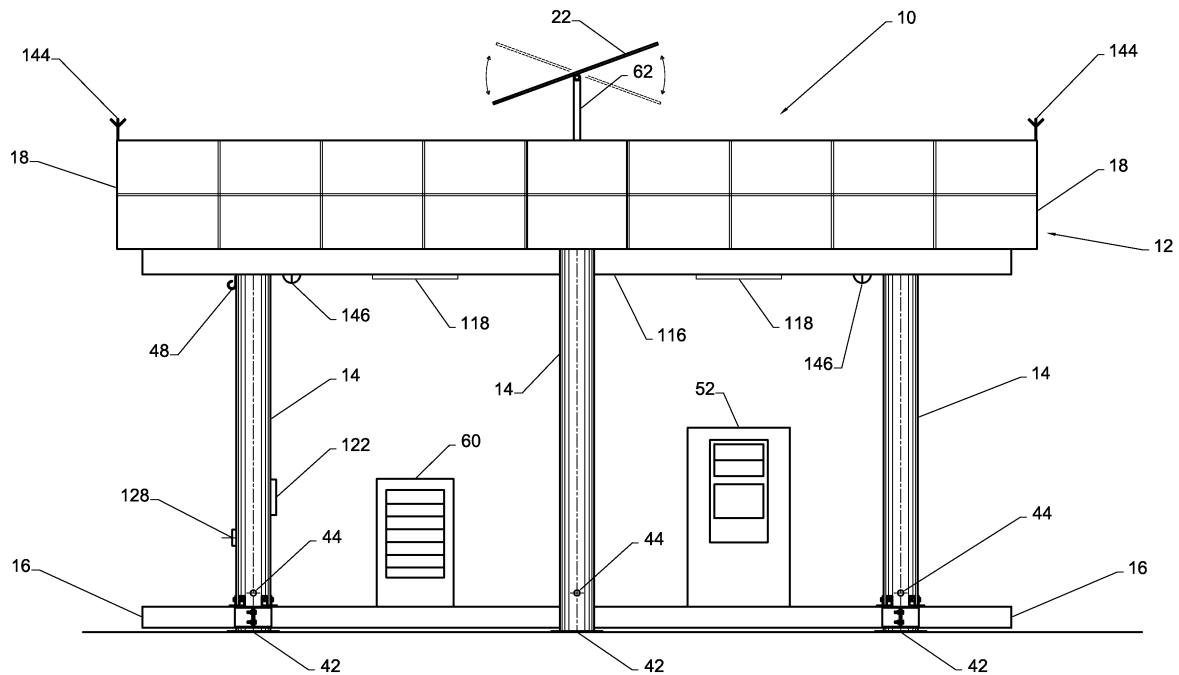
Family 3/36 - FAMPAT - ©Questel

Title

(EP2729330)

Mobile fuel distribution station

Images

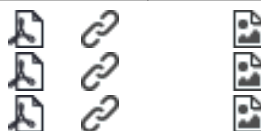


Publication data including kind & date

US8176931	B1	2012-05-15	US8176931
WO2013006249	A1	2013-01-10	WO201306249
WO2013006249	A4	2013-02-28	WO201306249
CN103687762	A	2014-03-26	CN103687762
BR112013033081	A1	2014-05-13	BR112013033081
EP2729330	A1	2014-05-14	EP2729330
AR088742	A1	2014-07-02	AR--88742
JP2014524865	A	2014-09-25	JP2014524865
IN0237/CHENP/2014	A	2014-09-26	IN2014CN00237
EP2729330	A4	2015-04-08	EP2729330
JP5793244	B2	2015-08-14	JP5793244
BR112013033081	A2	2017-11-28	BR112013033081
CN103687762	B	2018-07-31	CN103687762B
EP2729330	B1	2018-08-08	EP2729330
LT2729330	T	2018-11-26	LT2729330
DK2729330	T3	2018-11-26	DK2729330T
ES2694414	T3	2018-12-20	ES2694414
HRP20181724	T1	2018-12-28	HRP20181724
SI2729330	T1	2018-12-31	SI2729330T



RS57939	B1	2019-01-31	RS--57939
PL2729330	T3	2019-01-31	PL2729330
HUE041431	T2	2019-05-28	HUE041431

**Abstract**

(EP2729330)

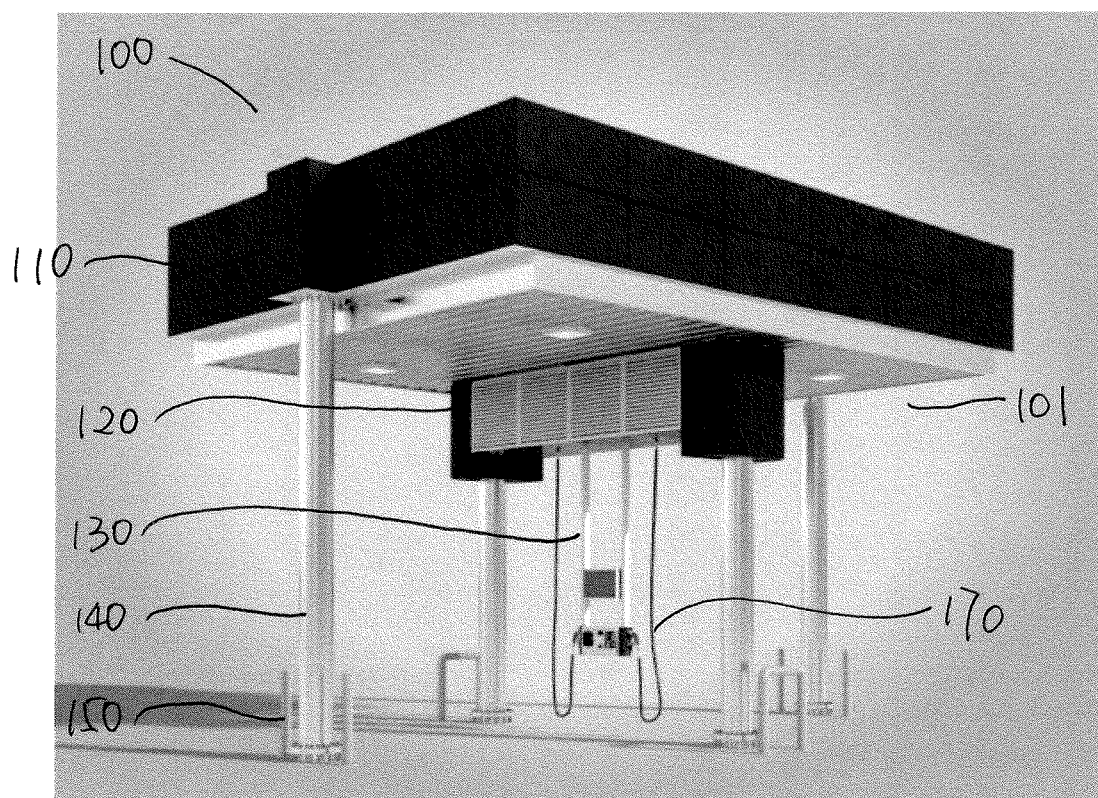
A modular, environmentally friendly mobile fuel distribution station includes a fuel tank, a support structure having a plurality of legs for supporting an operation platform in an elevated position a predetermined distance above ground, an alternative power generation device, the alternative power generation device being one of a solar power generator and a wind power generator for providing primary power to the mobile fuel distribution station and a central platform operatively connected to at least two of the legs, the at least two of the legs bearing the weight of the central platform, wherein the fuel tank and the alternative power generation device are disposed on the operation platform.

Family 4/36 - FAMPAT - ©Questel

Title

(EP3452342)

Fuel distribution station

Images**Publication data including kind & date**

US20170225938	A1	2017-08-10	US20170225938
CA3014291	A1	2017-08-17	CA3014291
WO2017/139312	A1	2017-08-17	WO2017139312
AU2017217389	A1	2018-08-30	AU2017217389
CO2018008868	A2	2018-08-31	CO2018008868
KR20180117633	A	2018-10-29	KR20180117633
CN108778861	A	2018-11-09	CN108778861
MX2018009698	A	2018-11-29	MX2018009698
IN201817030756	A	2018-12-07	IN201817030756



CL2013003642	A1	2014-07-11	CL3642201300				
ZA201309563	B	2014-09-25	ZA201309563				
JP2014525862	A	2014-10-02	JP2014525862				
PE18312014	A1	2014-11-29	PE201401831				
US20150013839	A1	2015-01-15	US20150013839				
US20150013840	A1	2015-01-15	US20150013840				
AU2012273285	B2	2015-07-23	AU2012273285				
RU2014101043	A	2015-07-27	RU2014101043				
JP5789048	B2	2015-08-07	JP5789048				
US9181078	B2	2015-11-10	US9181078				
MX336144	B	2016-01-08	MX-336144				
US20160023639	A1	2016-01-28	US20160023639				
RU2575764	C2	2016-02-20	RU2575764				
KR101599264	B1	2016-03-03	KR101599264				
EP2720974	A4	2016-03-30	EP2720974				
TH154121	A	2016-07-06	TH-154121				
US9403511	B2	2016-08-02	US9403511				
CN103648966	B	2016-12-21	CN103648966B				
BR112013032898	A2	2017-01-24	BR112013032898				
US9566953	B2	2017-02-14	US9566953				
CA2839502	C	2017-04-18	CA2839502				

Abstract

(EP2720974)

A modular, environmentally friendly mobile fuel distribution station includes a fuel tank, a support structure having a plurality of legs for supporting an operation platform in an elevated position a predetermined distance above ground, an alternative power generation device, the alternative power generation device being one of a solar power generator and a wind power generator for providing primary power to the mobile fuel distribution station and a central platform operatively connected to at least two of the legs, the at least two of the legs bearing the weight of the central platform, wherein the fuel tank and the alternative power generation device are disposed on the operation platform.

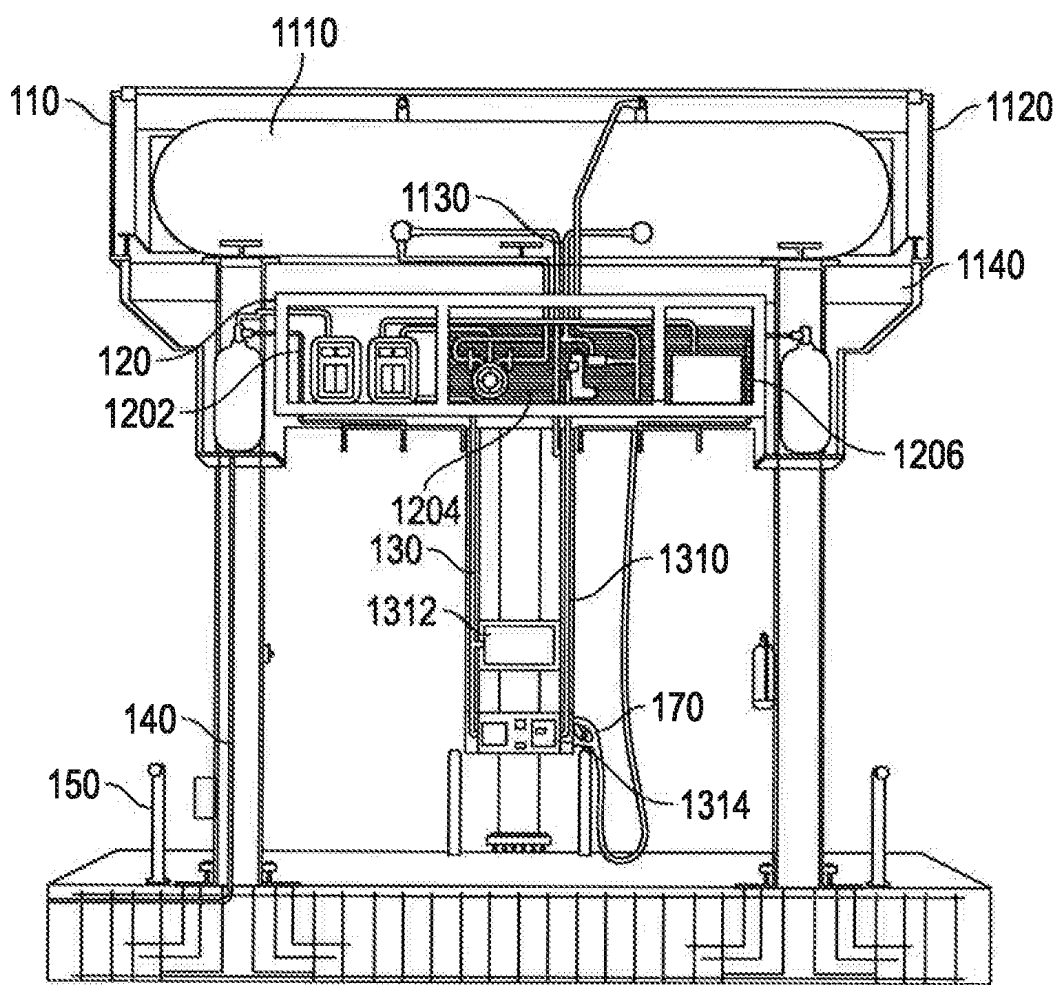
Family 6/36 - FAMPAT - ©Questel

Title

(WO201932492)

Fuel distribution station

Images



Publication data including kind & date

[WO2019/032492](#)

A1 2019-02-14

WO201932492

[US20190071301](#)

A1 2019-03-07

US20190071301



Abstract

(WO201932492)

An environmentally friendly fuel distribution station includes an upper canopy, said upper canopy including a fuel tank and an outer shell enclosing said fuel tank, a plurality of supporting columns supporting said upper canopy and said fuel tank, a fuel distribution interface suspended from said upper canopy, said fuel distribution interface selectively distributing fuel from said fuel tank during a fueling operation, and a convenience store suspended from at least one of the upper canopy and one or more of the plurality of supporting columns.

Family 7/36 - FAMPAT - ©Questel

Title

(EP2173654)

Fuel dispensing

Images

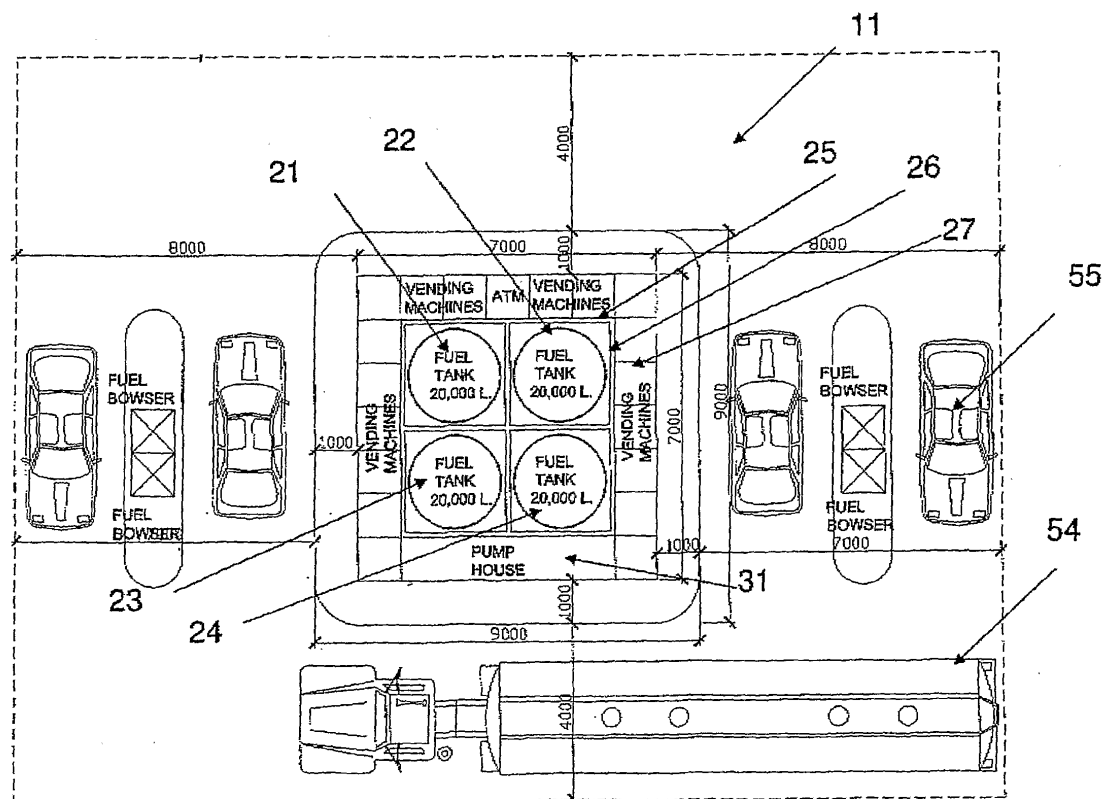


FIGURE 4

Publication data including kind & date

WO2008151375	A1	2008-12-18	WO2008151375
CA2702254	A1	2008-12-18	CA2702254
AU2008261615	A1	2008-12-18	AU2008261615
WO2008151375	A9	2009-02-26	WO2008151375
MX2009013734	A	2010-03-01	MX2009013734
EP2173654	A1	2010-04-14	EP2173654
CN101790489	A	2010-07-28	CN101790489
IN0072/MUMNP/2010	A	2010-08-06	IN2010MN00072
EP2173654	A4	2012-02-29	EP2173654
EP2173654	B1	2013-05-08	EP2173654
CN101790489	B	2015-02-11	CN101790489B



Abstract

(EP2173654)

A fuel dispensing system including a plurality of bowser for dispensing one of a plurality of different fuels, wherein at least one of the bowser is connected to fuel dispensing means leading from a plurality of fuel tanks for providing a metered mixture of two fuels including providing metering means for metering two separate fuels for combination in a mixing chamber, a mixing means for substantially homogenising the combined fuels and a dispensing means for dispensing the homogenised combined fuels through the bowser.

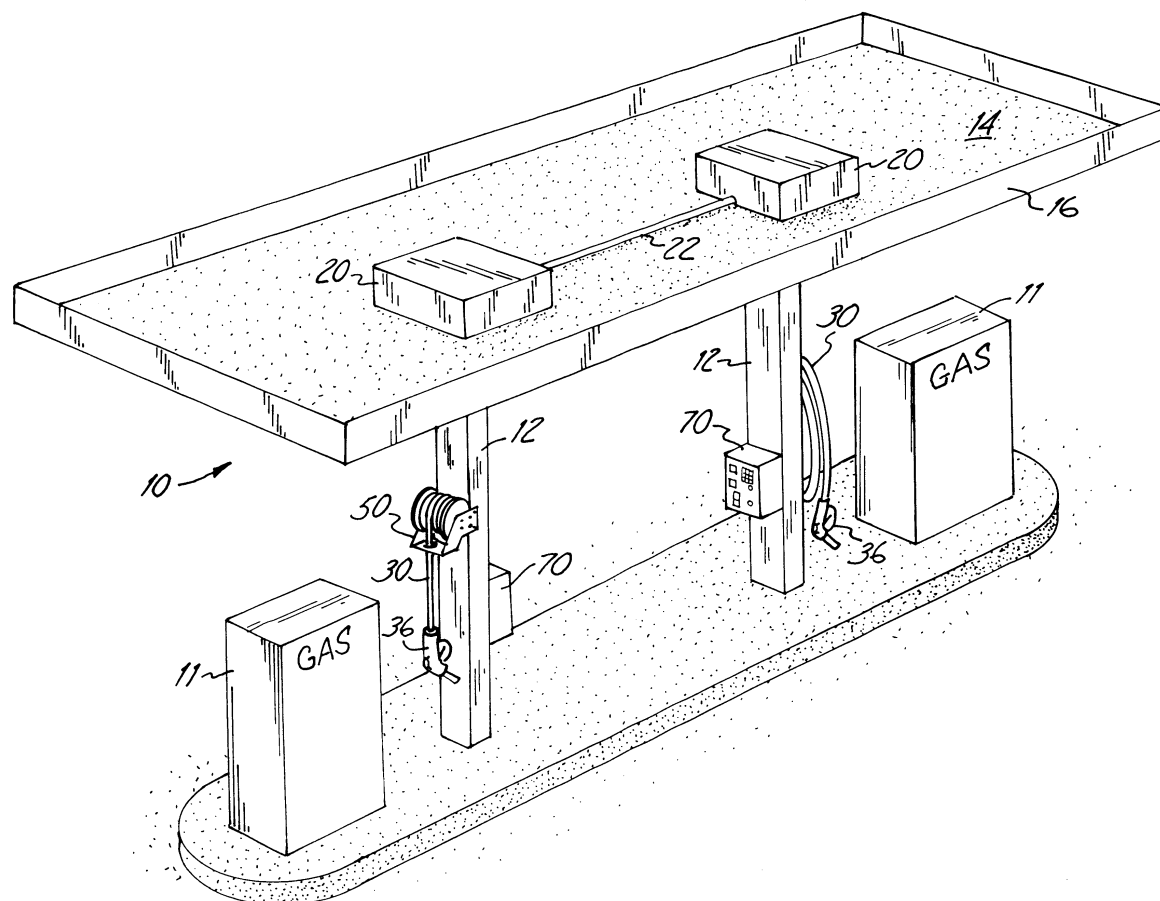
Family 8/36 - FAMPAT - ©Questel

Title

(WO200071464)

Windshield washer fluid dispensing system

Images



Publication data including kind & date

WO200071464	A1	2000-11-30	WO200071464
CA2374644	A1	2000-11-30	CA2374644
AU2593300	A	2000-12-12	AU200025933
US6230939	B1	2001-05-15	US6230939
US6311873	B1	2001-11-06	US6311873
CA2374644	C	2004-09-28	CA2374644



Abstract

(WO200071464)

A system for automated vending of windshield washer fluid from large volume tanks. The system includes two or more vending control units (70) and a fluid storage system that includes one or more fluid storage tanks (20) mounted to an overhead canopy (16). Where two or more fluid storage tanks are utilized, fluid equalization conduits (22) connect the storage tanks to each other so that the fluid levels in the storage tanks equalize. Two or more fluid dispensing hoses (30) are provided and each one is being associated with and controlled by one of the vending control units.

Family 9/36 - FAMPAT - ©Questel

Title

(WO2012103498)

Self-sustained fueling station

Images

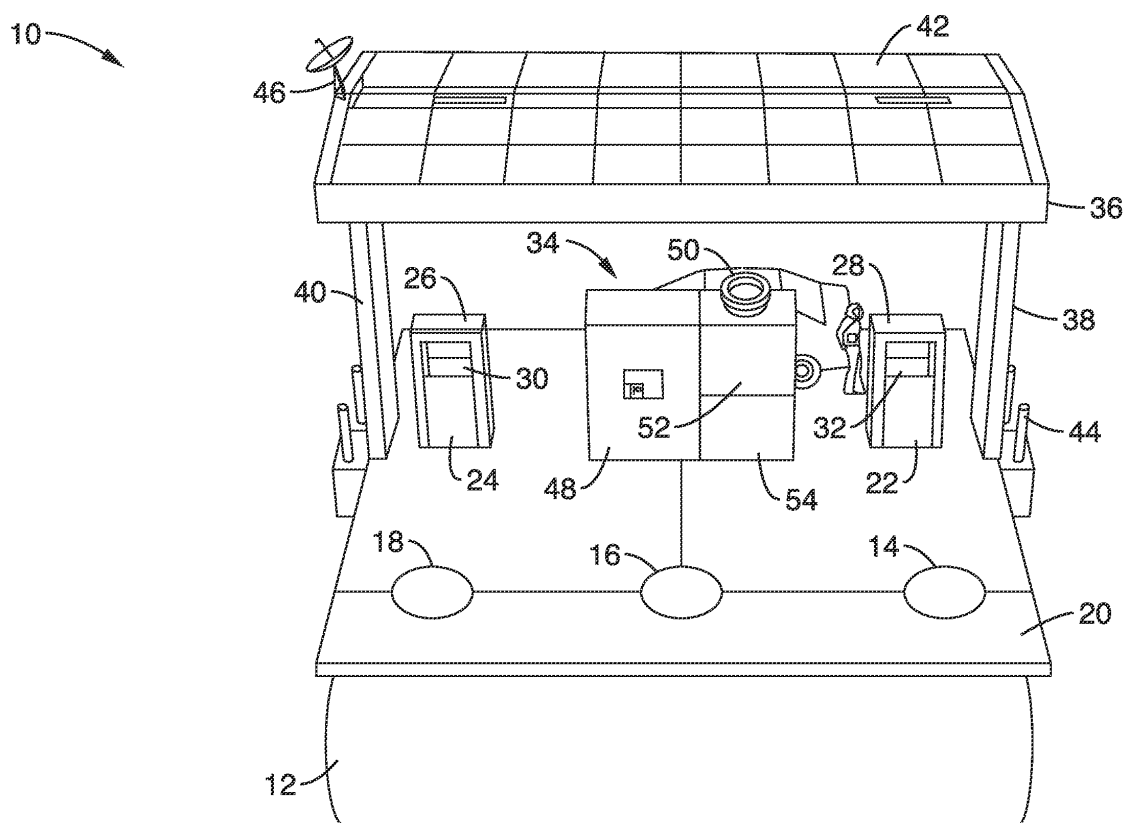


FIG. 1

Publication data including kind & date

WO2012103498	A2	2012-08-02	WO2012103498
WO2012103498	A3	2012-11-01	WO2012103498

**Abstract**

(WO2012103498)

An unmanned, self-sustained fuel dispensing station and system that provides for the retail or commercial sale of fuels in geographically remote locations. The station can be independent of public power and communication utilities and can operate by remote control without an on-site attendant. The preferred system has a central command center with a control computer in communication with a station control computer located at one or more satellite stations through a communications link. The station control computer can be controlled remotely by the command center. The station control computer programming has control over the activities of the station through an electrical generation subsystem with a solar array, battery bank, battery charger and standby generator; a retail transaction subsystem; a fuel dispensing subsystem; a security subsystem with video cameras; a communications link and a status sensor subsystem.

Family 10/36 - FAMPAT - ©Questel

Title

(WO9967170)

Modular aboveground service station and method of assembly

Images

and 18) that is supported on the ground, and that is fabricated from a material that is heat resistant and that is resistant to exposure to petroleum products. A portable aboveground fuel tank (12) is supported on the pad member (16 and 18), and at least one pumping station (34) is included for dispensing fuel from the tank to a customer. A free standing structure (80) is secured to the fuel tank and the pad, and the structure is designed to give an aesthetic effect of a more substantial, permanent facility than would be given by the aboveground fuel tank (12) standing alone. The components of the assembly are generally designed so as to be conveniently portable and so as to be simple to assemble and disassemble in the field. The assembly serves a need for inexpensive and environmentally friendly service stations, particularly in rural areas and underdeveloped countries.

Family 11/36 - FAMPAT - ©Questel

Title

(EP-810937)

Prefabricated modular fuel dispensing system

Images

EE9700196	A	1998-02-16	EE9700196				
EA199700171	A1	1998-02-26	EA199700171				
CN1181042	A	1998-05-06	CN1181042				
CZ273397	A3	1998-05-13	CZ9702733				
BG101882	A	1998-06-30	BG-101882				
BR9607815	A	1998-07-07	BR9607815				
BRPI9607815	A1	1998-07-07	BRPI9607815				
AR005448	A1	1999-06-23	AR---5448				
VN2780	A	1999-06-25	VN---2780				
US5954085	A	1999-09-21	US5954085				
PL179752	B1	2000-10-31	PL-179752				
BRPI9607815	B1	2001-08-21	BR9607815				
EP0810937	A4	2002-07-24	EP-810937				
RO118763	B1	2003-10-30	RO-118763				

Abstract

(EP-810937)

A prefabricated modular fuel dispensing system (10) comprising a foundation module (12) including an underground fuel reservoir (18) having a plurality of separate fuel storage compartments (32, 34, 36). A conduit containment trough (20) is attached to the underground fuel reservoir (18) to operatively house a corresponding plurality of fuel supply conduits (42) and fuel dispensing conduits (50) therein to feed fuel to and from the underground fuel reservoir. A fuel dispensing module (14) includes a pump island (22) to operatively support a plurality of fuel dispensing devices (24) thereon coupled to the plurality of fuel dispensing conduits (50). A canopy module (16) includes an upper canopy member (26) held in fixed spaced relationship above the fuel dispensing module (14) by a plurality of canopy support columns (28) secured to the underground fuel reservoir (18).

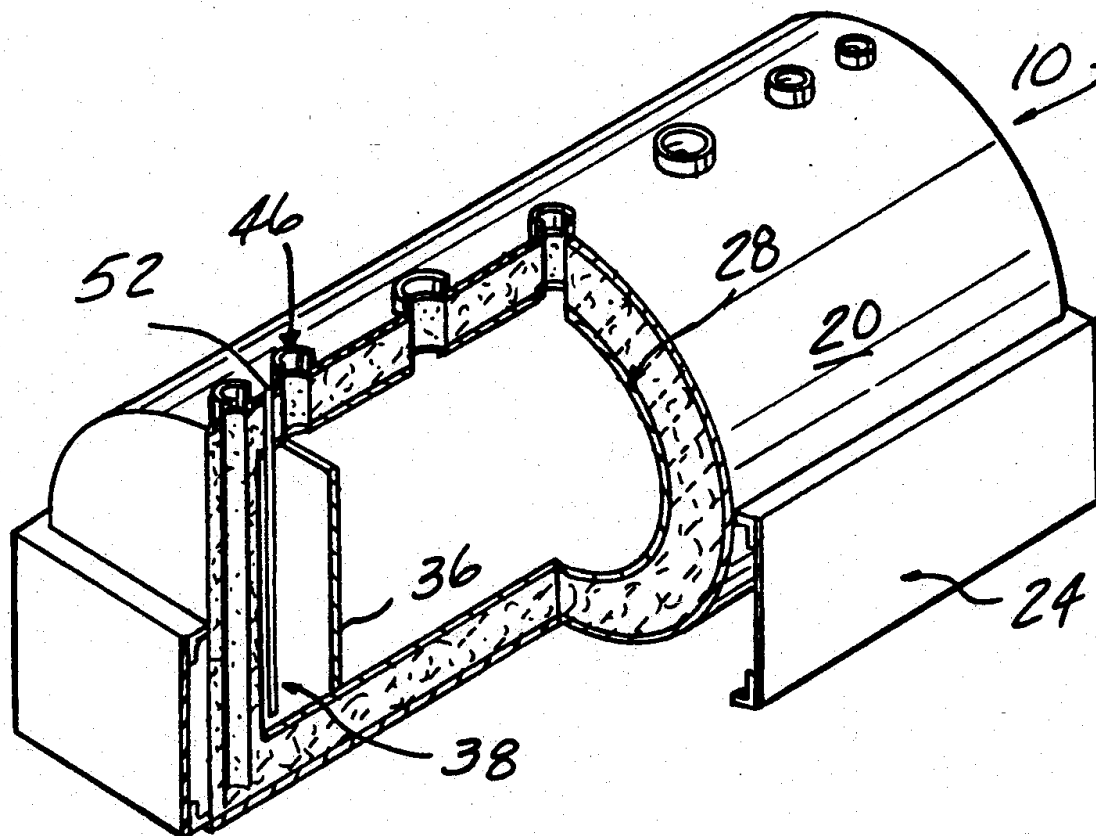
Family 12/36 - FAMPAT - ©Questel

Title

(US5564588)

Method and storage tank system for aboveground storage of flammable liquids

Images



Publication data including kind & date

CA2051307	A1	1992-03-22	CA2051307
US5251473	A	1993-10-12	US5251473
US5564588	A	1996-10-15	US5564588



Abstract

(US5564588)

Inner and outer welded steel protective tanks are separated by a space containing a granular insulating material such as perlite preventing excessive heating of fuel in a storage space in the inner tank, even when there is a fire at the site. The inner tank may be subdivided into portions by a partition defining a storage space and an overflow containment space receiving overflow from the storage space portion, with a sensor detecting overflow. The overflow containment space is also arranged to collect separated fuel when the tank system is used with a vapor recovery system. The granular insulating material acts as an explosion suppressant by dissipating heat and fuel vapors which may be present in the insulation space as a result of leakage from the inner tank. A triple walled tank of increased reliability against spills and penetration resistance is provided by a two closely spaced inner tanks within the insulation. Insulated tank saddles provide fire protection for the tank support.

Family 13/36 - FAMPAT - ©Questel

Title

(US6109290)

Fuel dispensing system

Images

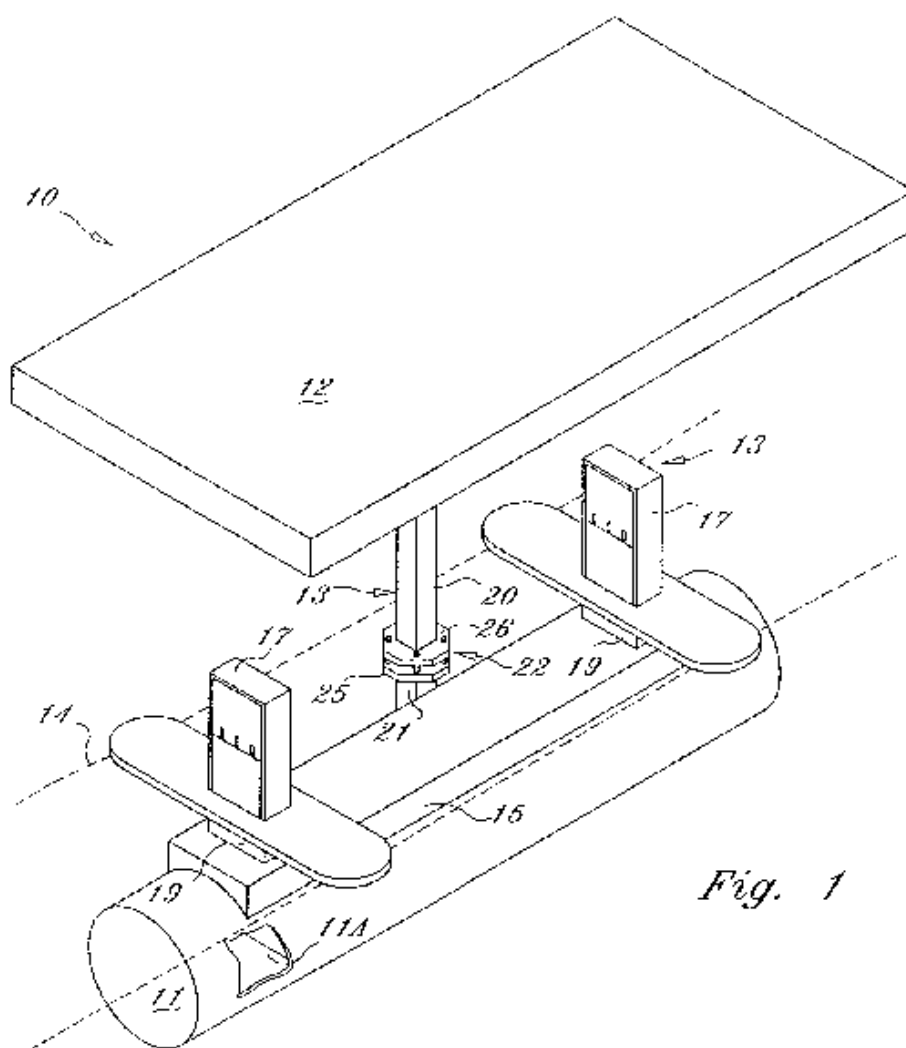


Fig. 1

Publication data including kind & date

US6109290

A 2000-08-29 US6109290

**Abstract**

(US6109290)

A prefabricated modular fuel dispensing system comprising a foundation, including a longitudinally extending tubular underground fuel tank, having a fuel storage compartment and a conduit containment trough along its upper surface, and a canopy supported above said tank when it is in place, the support being characterized by two sections, one connected to the tank side, and an upper section being attached to the canopy. The two sections are interconnected with horizontal impact relief structure arranged to fail when subjected to lateral impact of sufficient magnitude to otherwise bend the lower column portion or damage the tank.

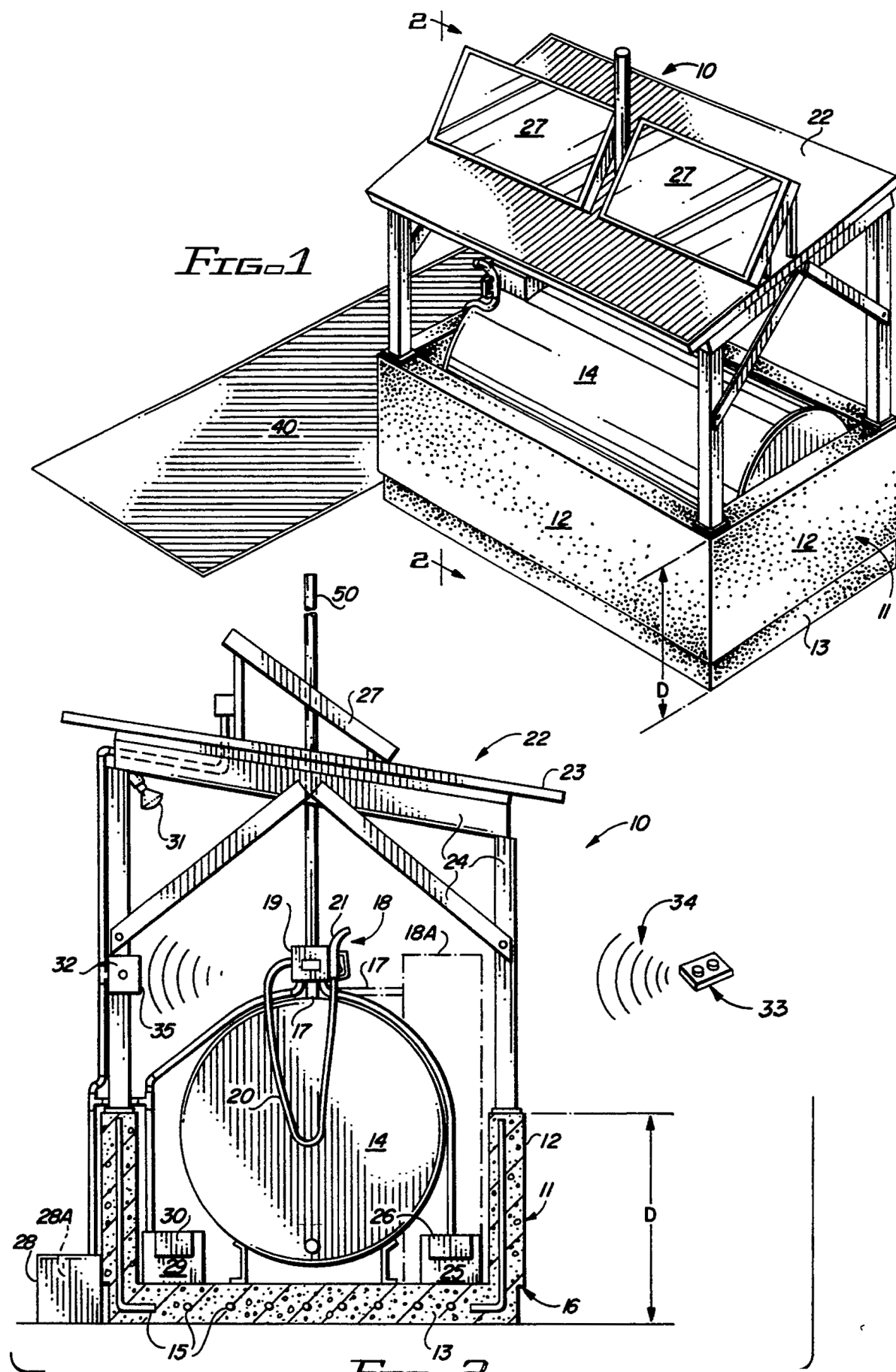
Family 14/36 - FAMPAT - ©Questel

Title

(US5400924)

Above-ground fuel tank system

Images



Publication data including kind & date

[US5400924](#) A 1995-03-28 US5400924

**Abstract**

(US5400924)

In an above ground fuel storage system, a containment vessel is selected to resist impact shock, as well as deformation from fire's heat and internal hydraulic pressures in the presence of such heat. The fuel delivery input port, the fuel tank, all fuel lines and dispensing equipment are mounted fully enclosed within the confines of the containment vessel. The containment vessel may be transportable or be permanently emplaced on use site. Solar energy is utilized to allow operation in undeveloped areas. A remote control device permits system shut down to be initiated from a distance.

Family 15/36 - FAMPAT - ©Questel

Title

(EP-686105)

Fuel station and method for assembling of the same

Images

CZ225895	A3	1996-01-17	CZ9502258			
LT3636	B	1996-01-25	LT---3636			
HUT72774	A	1996-05-28	HU-T72774			
PL171963	B1	1997-07-31	PL-171963			
CZ282980	B6	1997-12-17	CZ-282980			
RU2106269	C1	1998-03-10	RU2106269			
EP0686105	B1	1998-05-20	EP-686105			
AT166296	T	1998-06-15	ATE166296			
DE69318730	D1	1998-06-25	DE69318730			
ES2118375	T3	1998-09-16	ES2118375			
EE03151	B1	1999-02-15	EE---3151			
DK0686105	T3	1999-03-08	DK-686105T			
DE69318730	T2	2000-01-13	DE69318730			
US6105602	A	2000-08-22	US6105602			
HU218992	B	2001-01-29	HU-218992			

Abstract

(EP-686105)

The invention relates to a fuel dispensing station, comprising at least one underground fuel tank (1), a pump island (2) including at least one fuel pump (3) for dispensing the fuel contained in said tank, as well as a pump roofing (4). The fuel dispensing station is provided with a common foundation (5) whereupon - directly or indirectly - said fuel tank or tanks (1) and other necessary tanks, the pump island (2) and pump roofing (4) are connected to each other as an integral unit. The dispensing station is adapted to be transported to an installation site as readily erectable blocks.

Family 16/36 - FAMPAT - ©Questel

Title

(US5865346)

Self-contained fueling system and method

Images

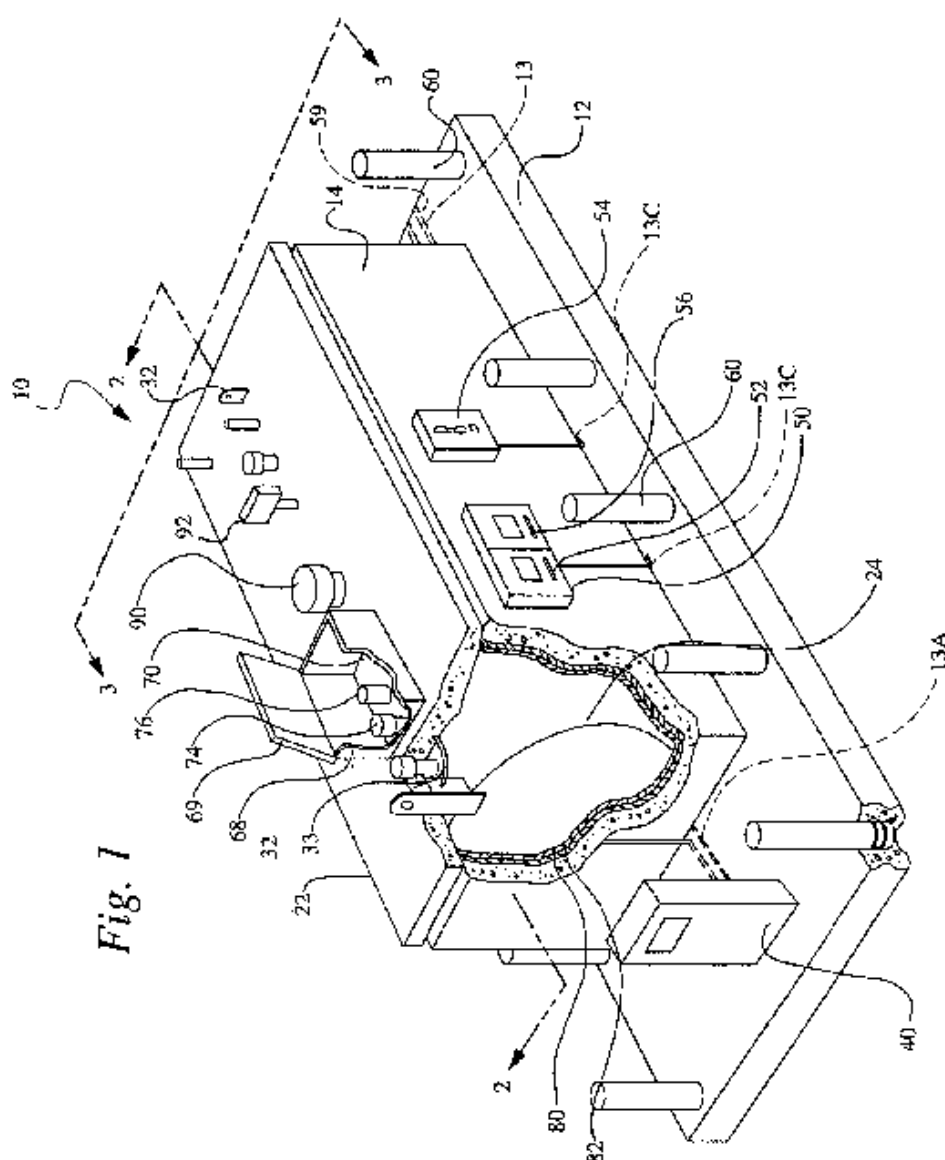


Fig. 1

Publication data including kind & date

US5865346

A 1999-02-02 US5865346

**Abstract**

(US5865346)

An above-ground or below-ground, self-contained, fully-enclosed, unattended fueling apparatus for dispensing fuel in return for payment and accepting payment by credit-card or cash and providing primary and secondary fuel containment to protect the environment against overfills and spills consists of a reinforced concrete slab base, a concrete secondary containment vessel anchored to the slab base, a removable reinforced concrete cover closing the secondary containment vessel, a primary containment tank suspended from the cover, a fuel pump, and a credit-card reader. The containment vessel and slab with suspended tank being formed remote from the site of installation.

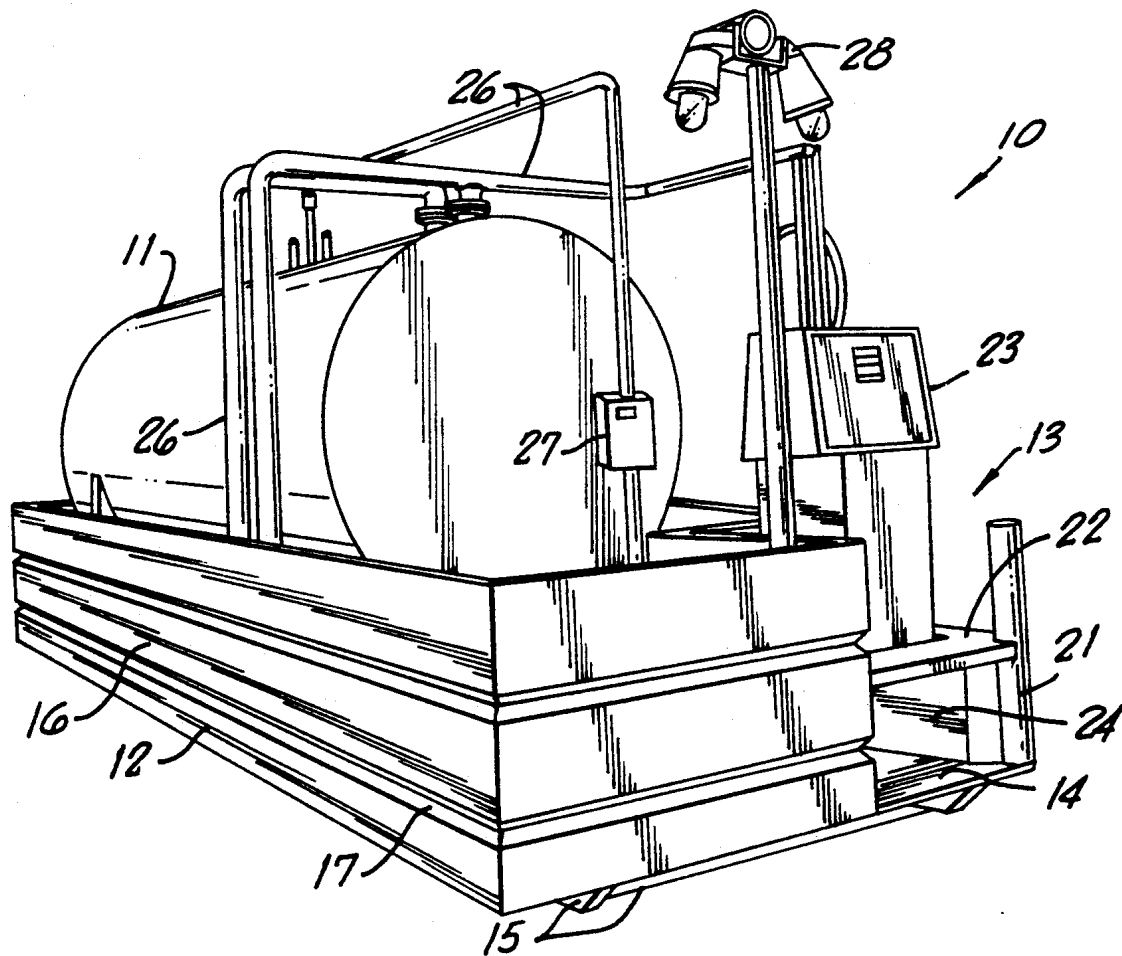
Family 17/36 - FAMPAT - ©Questel

Title

(US5114046)

Above ground fuel storage and dispensing apparatus

Images



Publication data including kind & date

US5114046

A	1992-05-19	US5114046
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Abstract

(US5114046)

An above ground fuel storage and dispensing apparatus that is self contained and includes a support frame on which a fuel storage tank is mounted and surrounded by a fuel containment vessel formed by side walls and a bottom of the support frame for containing any fuel that may leak from the tank or fittings and pipe extending from the tank. One corner of the support frame has the vertical side walls recessed to form a recessed compartment for the fuel dispensing pump and electrical equipment which are thereby protected by the frame and side walls from being damaged by vehicles or the like operated in the vicinity.

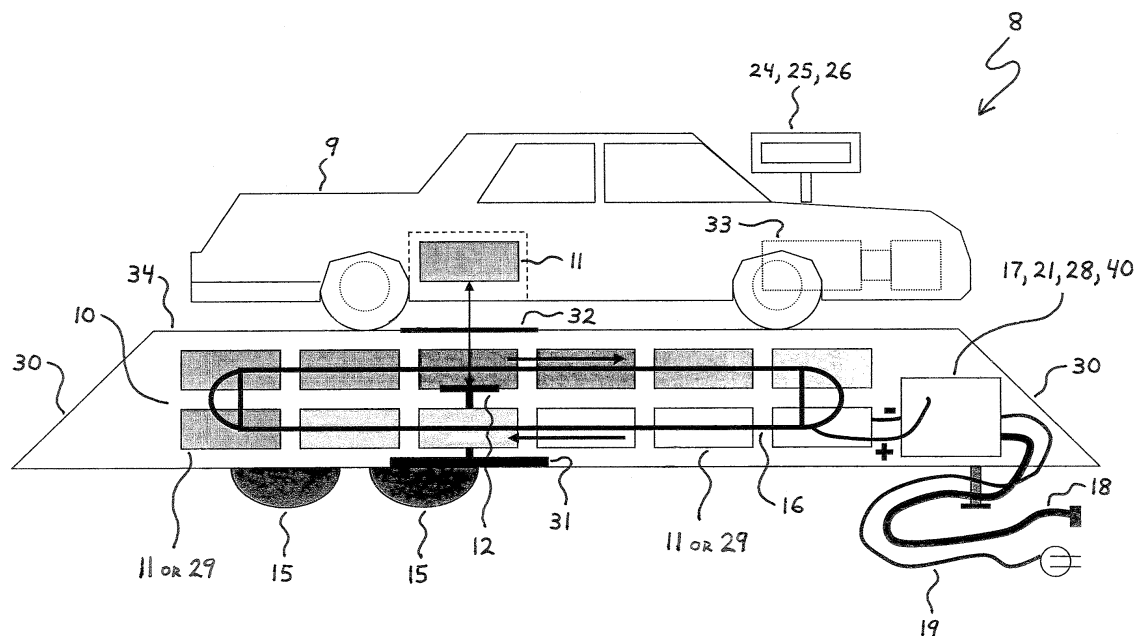
Family 18/36 - FAMPAT - ©Questel

Title

(WO200858094)

System for replenishing energy sources onboard different types of automotive vehicles

Images



Publication data including kind & date

US20070113921	A1	2007-05-24	US20070113921
WO2008058094	A2	2008-05-15	WO200858094
WO2008058094	A3	2008-06-26	WO200858094
WO2008058094	A9	2008-08-21	WO200858094
US7602143	B2	2009-10-13	US7602143
US20090314382	A1	2009-12-24	US20090314382
US8164302	B2	2012-04-24	US8164302
US8461804	B1	2013-06-11	US8461804



Abstract

(WO200858094)

A service station facility for replenishing various motivational energy sources onboard different types of automotive vehicles is disclosed herein. In one embodiment, the service station facility includes a rack, replaceable fuel tanks, a service module, and an electronic computer control system. The replaceable fuel tanks are stocked on the rack and substantially filled with various fluids, such as hydrogen, which are utile as motivational energy sources within fuel-operated automotive vehicles. The service module is mounted on the rack, and the electronic computer control system is connected in electrical communication with the service module. In this configuration, the service module is controllably operable to receive a depleted replaceable fuel tank from a fuel-operated automotive vehicle and also selectively deliver one of the filled replaceable fuel tanks onboard the automotive vehicle. In another embodiment, the service station facility may also stock replaceable batteries for selective delivery onboard battery-operated automotive vehicles.

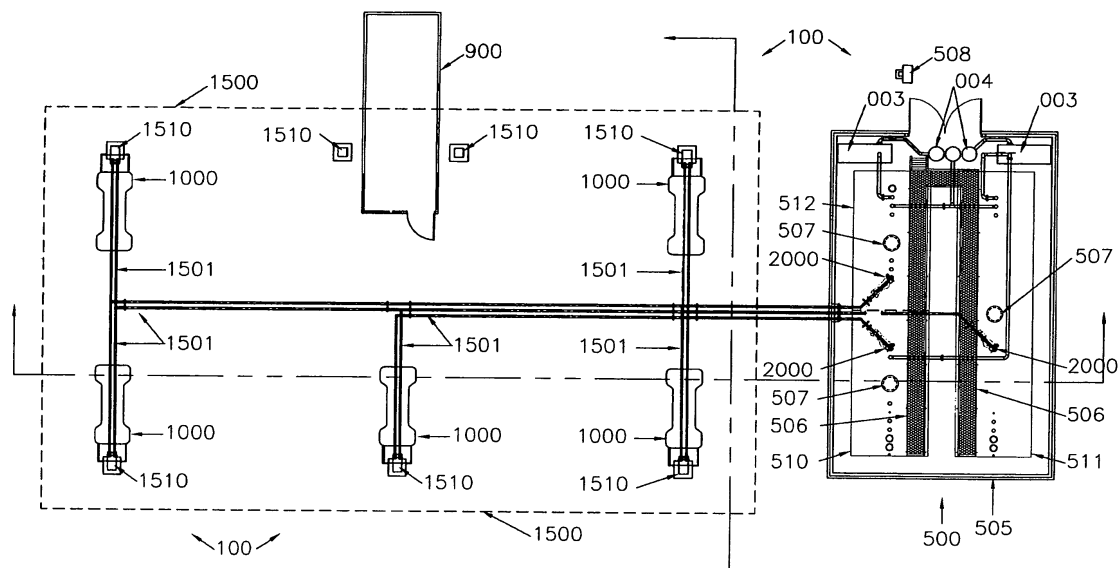
Family 19/36 - FAMPAT - ©Questel

Title

(US8402990)

Fuel dispensing system

Images

**Publication data including kind & date**[US7721751](#)

B1 2010-05-25 US7721751

[US8402990](#)

B1 2013-03-26 US8402990

**Abstract**

(US8402990)

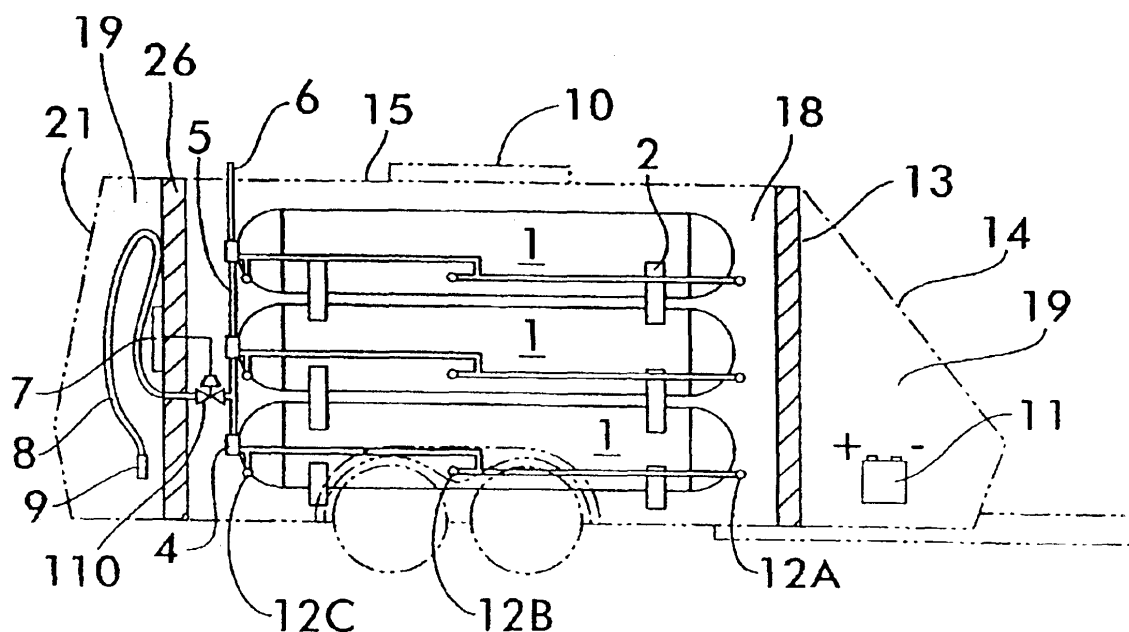
A fueling station comprising an above-ground tank, above-ground piping, and above-ground fuel pump modules adapted for easy construction, installation, and maintenance.

Family 20/36 - FAMPAT - ©Questel

Title

(EP2354625)

Self-contained mobile fueling station

Images**Publication data including kind & date**[US20040163731](#)

A1 2004-08-26 US20040163731

[EP1452794](#)

A2 2004-09-01 EP1452794

[US6786245](#)

B1 2004-09-07 US6786245



[US20050103400](#)

A1 2005-05-19 US20050103400

[US7178565](#)

B2 2007-02-20 US7178565

[EP1452794](#)

A3 2011-04-20 EP1452794

[EP2354625](#)

A1 2011-08-10 EP2354625

[EP2354625](#)

B1 2012-12-19 EP2354625

[DK2354625](#)

T3 2013-01-28 DK2354625T

[ES2398207](#)

T3 2013-03-14 ES2398207

[PT2354625](#)

E 2013-03-25 PT2354625

Abstract

(EP2354625)

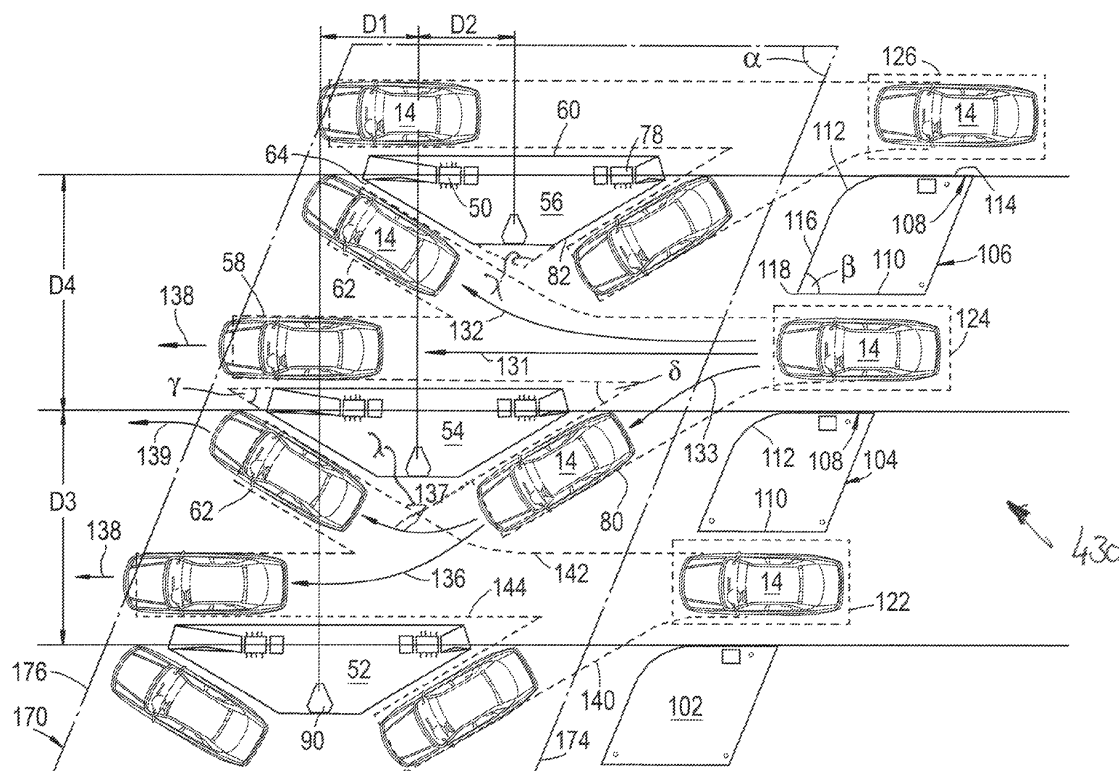
A mobile self-contained self-powered station having a plurality of vessels delivers a pressurized fluid to a receiving tank (e.g., a fuel tank of a hydrogen-powered vehicle) without using mechanical compression, external electric power, or other external utilities. The station includes first and second vessels, a conduit in fluid communication with the receiving tank and each of the first and second vessels, means for transferring at least a portion of a quantity of the pressurized fluid from the first vessel to the receiving tank, means for measuring continuously a pressure differential between the increasing pressure in the receiving tank and the decreasing pressure in the first vessel, means for discontinuing the transfer from the first vessel when a predetermined limit value is reached, and means for transferring at least a portion of a quantity of the pressurized fluid from the second vessel to the receiving tank.

Family 21/36 - FAMPAT - ©Questel

Title

(EP2613981)

Fuel station and method

Images**Publication data including kind & date**[CA2808698](#)

A1 2012-03-15 CA2808698

[WO2012032166](#)

A1 2012-03-15 WO201232166

[AU2011301202](#)

	A1	2013-03-14	AU2011301202				
SG187911	A1	2013-04-30	SG-187911				
CN103097212	A	2013-05-08	CN103097212				
EP2613981	A1	2013-07-17	EP2613981				
JP2013537153	A	2013-09-30	JP2013537153				
TH128115	A	2013-10-15	TH-128115				
US20130299042	A1	2013-11-14	US20130299042				
CL2013000653	A1	2013-12-06	CL0653201300				
BR112013004963	A1	2013-12-31	BR112013004963				
RU2013115776	A	2014-10-20	RU2013115776				
AU2011301202	B2	2014-12-04	AU2011301202				
EP2613981	B1	2015-05-20	EP2613981				
JP5805199	B2	2015-09-11	JP5805199				
US9227829	B2	2016-01-05	US9227829				
CN103097212	B	2016-01-13	CN103097212B				
RU2574485	C2	2016-02-10	RU2574485				
HK1186711	A1	2016-04-01	HK1186711				
BR112013004963	A2	2016-08-16	BR112013004963				
MY163915	A	2017-11-15	MY-163915				
CA2808698	C	2019-02-19	CA2808698				

Abstract

(EP2613981)

The present invention provides a fuel station and a method of refueling a vehicle using said fuel station. The fuel station (430) comprises at least two adjacent base structures (52, 54), each base structure being arranged on a ground surface. Each base structure is provided with a first fuel dispensing device (50) arranged on the respective base structure and defining a first refueling position (58) on a first side (60) of the base structure, and a second refueling position (62) on a second side (64) of the base structure, the second side being opposite to the first side. Each base structure is also provided with a second fuel dispensing device (78) arranged on the respective base structure and defining a third refueling position (78). The fuel station comprises at least one queuing position (122, 124) in front of one of the base structures. Guide means (102, 104) link each queuing position to the first refueling position and to the third refueling position of said one of the base structures, and to the second refueling position on an adjacent base structure.

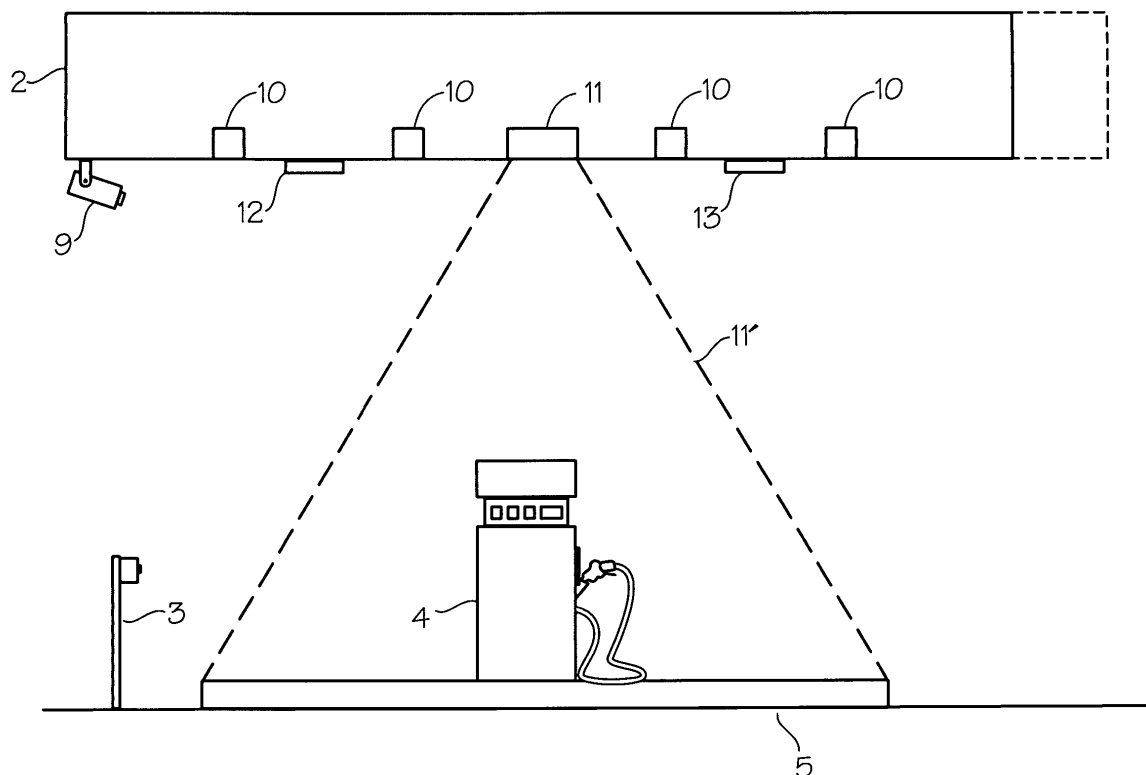
Family 22/36 - FAMPAT - ©Questel

Title

(US7096895)

Method and apparatus for dispensing motor vehicle fuel at unattended locations

Images

**Publication data including kind & date**

[US20040187951](#) A1 2004-09-30 US20040187951
[US7096895](#) B2 2006-08-29 US7096895

**Abstract**

(US7096895)

An unattended gas station is disclosed having lockable pumps usable by a control group of purchasers who are provided with unlocking keys or cards, said pumps having flame and heat detectors and fire suppressants associated therewith and being monitored from a remote location by a security company through cameras and the detectors who can activate said fire suppressants and contact necessary fire, medical, and law enforcement personnel if needed.

Family 23/36 - FAMPAT - ©Questel

Title

(US5711456)

Above ground fuel transfer module

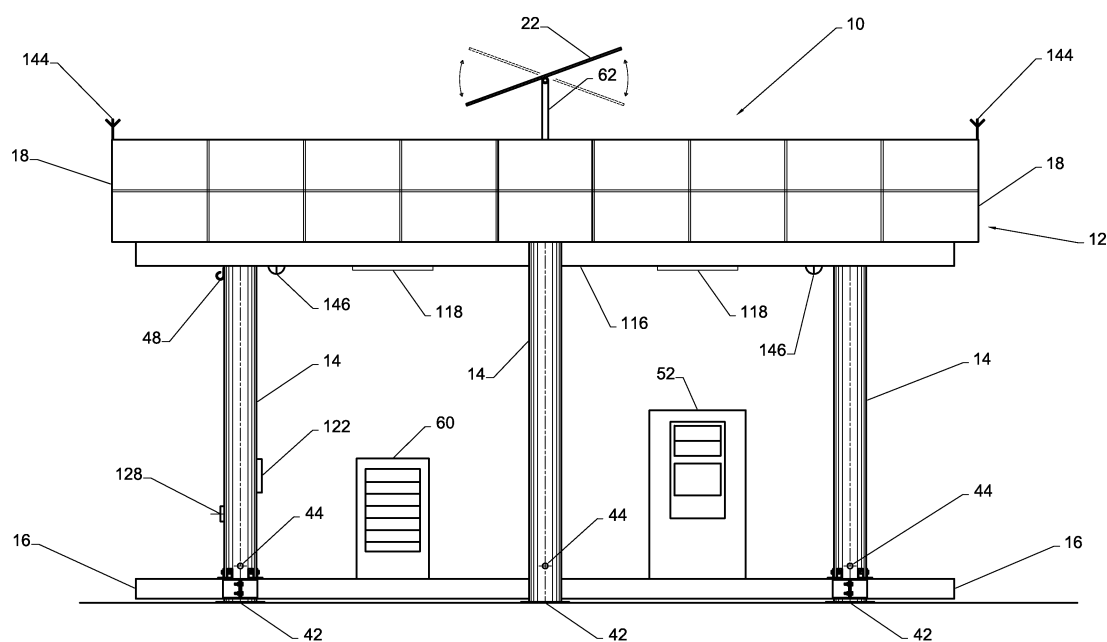
Images



Title

(US8573242)

Mobile fuel distribution system

Images**Publication data including kind & date**

US20130175201	A1	2013-07-11	US20130175201
US8573242	B2	2013-11-05	US8573242

**Abstract**

(US8573242)

A modular, environmentally friendly mobile fuel distribution station includes a fuel tank, a support structure having a plurality of legs for supporting an operation platform in an elevated position a predetermined distance above ground, an alternative power generation device, the alternative power generation device being one of a solar power generator and a wind power generator for providing primary power to the mobile fuel distribution station and a central platform operatively connected to at least two of the legs, the at least two of the legs bearing the weight of the central platform, wherein the fuel tank and the alternative power generation device are disposed on the operation platform.

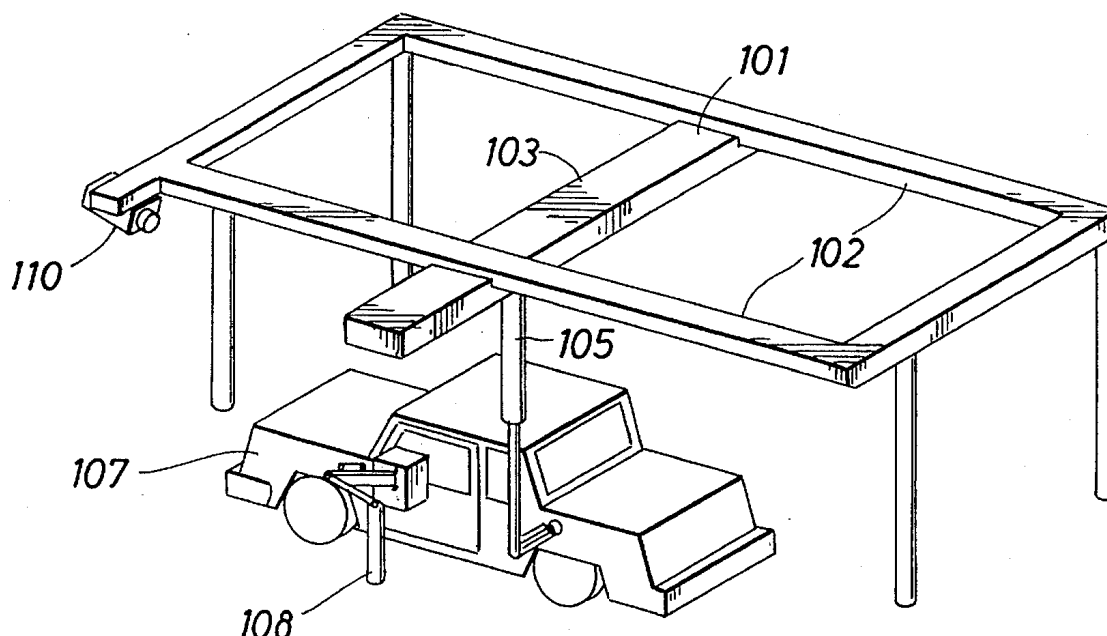
Family 25/36 - FAMPAT - ©Questel

Title

(EP-830308)

Automated refuelling system

Images



Publication data including kind & date

WO9639353	A1	1996-12-12	WO9639353
AU5882396	A	1996-12-24	AU9658823
US5609190	A	1997-03-11	US5609190
CA2223437	A1	1997-12-12	CA2223437
EP0830308	A1	1998-03-25	EP-830308
AU698196	B2	1998-10-29	AU-698196
EP0830308	B1	1999-11-10	EP-830308
AT186522	T	1999-11-15	ATE186522
DE69605112	D1	1999-12-16	DE69605112
ES2140866	T3	2000-03-01	ES2140866
DK830308	T3	2000-05-08	DK-830308T
GR3032540	T3	2000-05-31	GR3032540
DE69605112	T2	2000-05-31	DE69605112
JP2001517181	A	2001-10-02	JP2001517181



Abstract

(EP-830308)

A refuelling system is provided, the system comprising: a seal cylinder (603) defining the outside surface of an axial vapor recovery volume within the seal cylinder having a first end and a second end; a first flexible conduit (501) to supply fuel to within the seal cylinder through the first end; a movable seal piston (601) within the seal cylinder connected to the first flexible conduit, the seal piston effective to isolate a vapor recovery volume within the seal cylinder from the atmosphere surrounding the flexible fuel conduit; a fuel insert tube (613) connected to the seal piston (601) and extending through at least a portion of the vapor recovery volume; a boot seal (619) attached to the seal cylinder at the second end of the axial vapor recovery volume, the boot seal effective to seal with a fuel tank inlet nozzle; and a means (502-515) to move the seal piston laterally through the seal cylinder and thereby extending the second flexible conduit through the second end of the axial vapor recovery volume and into a fuel tank inlet nozzle when the boot seal is mated to the fuel tank inlet nozzle.

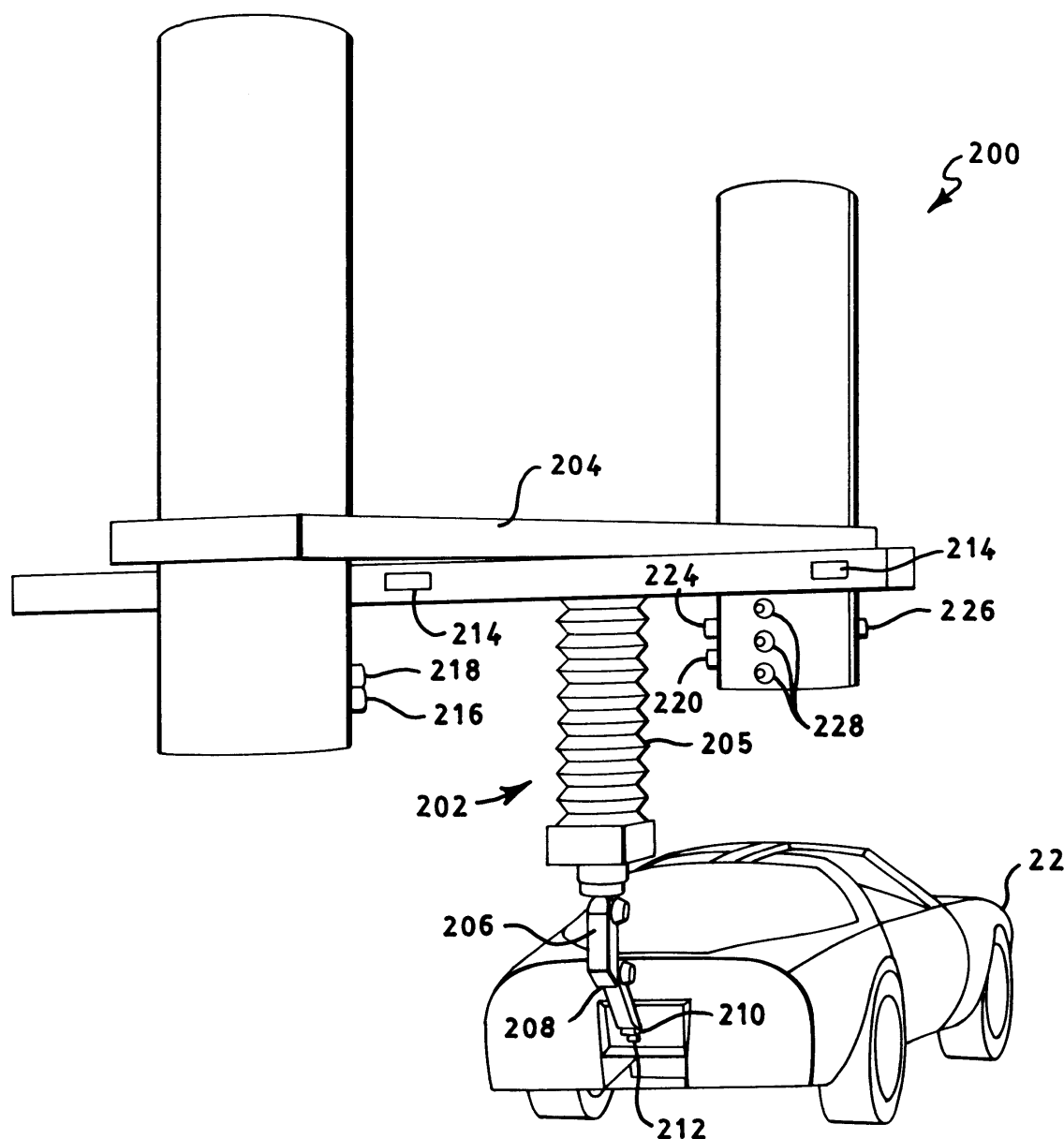
Family 26/36 - FAMPAT - ©Questel

Title

(US6237647)

Automatic refueling station

Images



Publication data including kind & date

US6237647

B1 2001-05-29 US6237647



Abstract

(US6237647)

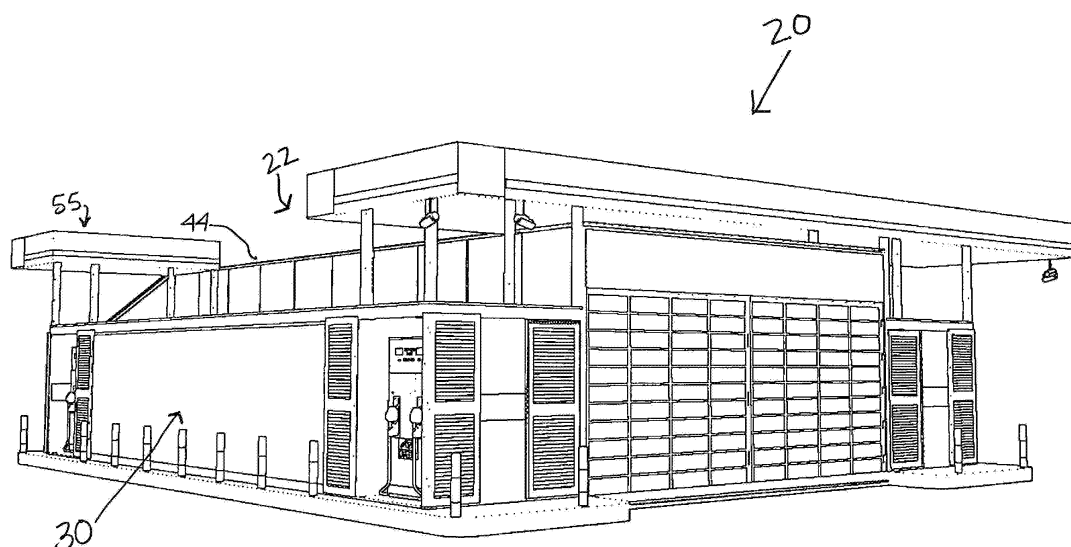
An automatic refueling station and method detects the arrival of a vehicle to be refueled at the refueling station. Upon detection of the vehicle, the vehicle is polled by the station to obtain information from the vehicle which identifies the vehicle and the customer associated with the vehicle. The information is stored on an identification transponder or tag affixed to the vehicle windshield. The system uses the identifying information to access a vehicle database and a customer database. The vehicle database can provide information about the vehicle such as the location of the vehicle's fuel filler opening, the size of the vehicle and other information related to a recommended fuel filling rate for the vehicle. The customer identifying information is used to access the customer database to obtain information such as customer billing information and the amount of fuel being purchased. Using the data retrieved from the databases, a refueling module can locate the fuel filler opening and refuel the vehicle at a optimum fuel rate. A network of sensors deployed in the refueling area facilitate the refueling procedure. A vision system aides in locating the fuel filler opening and guiding the fuel filler nozzle to the opening. Other sensors such as force, torque, infrared, sonar, magnetic and hall effect sensors aide in guiding the nozzle into a docking position with the vehicle. Other sensors in the area provide monitoring of the area to prevent hazards such as collisions between vehicles and persons and criminal activity in the area.

Family 27/36 - FAMPAT - ©Questel

Title

(WO201918611)

Autonomous vehicle service station, systems and methods

Images**Publication data including kind & date**

WO2019/018611	A1	2019-01-24	WO201918611
US20190023236	A1	2019-01-24	US20190023236
WO2019/018611	A9	2019-04-11	WO201918611

**Abstract**

(WO201918611)

A portable facility and corresponding methods and systems for servicing autonomous vehicles, the facility having at least a first enclosure containing a fuel tank and defining a service space between a wall of the enclosure and a second enclosure containing a fuel tank, a roof positioned between the enclosures, a floor positioned between the enclosures, and large automatic doors positioned on opposite ends of the facility to accommodate entry/exit of autonomous vehicles which are guided to and/or by the facility for servicing.

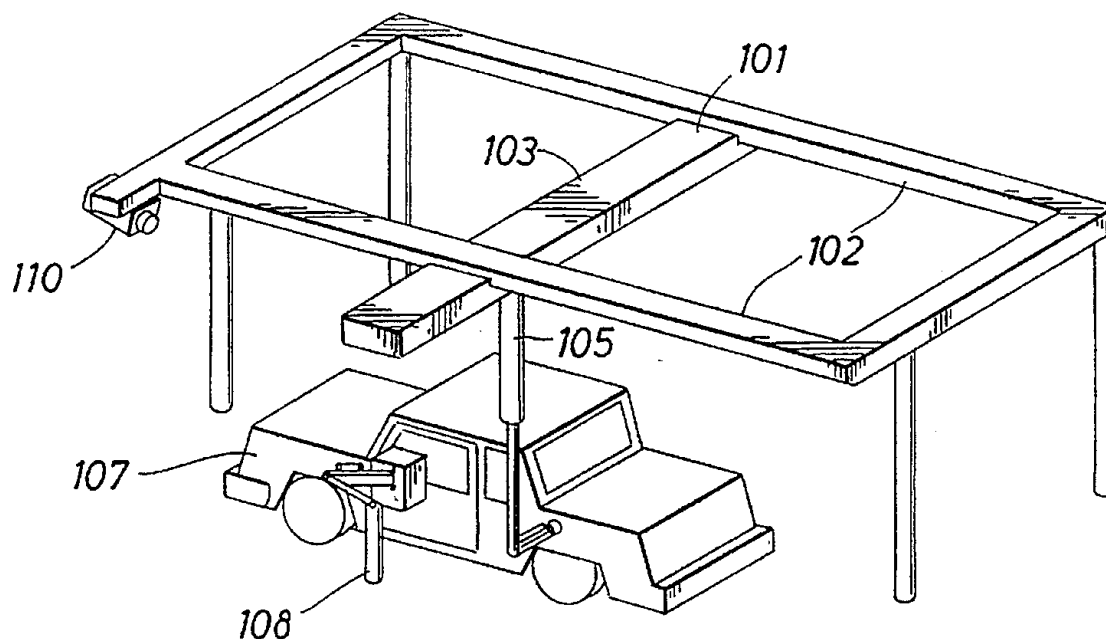
Family 28/36 - FAMPAT - ©Questel

Title

(EP-830306)

Method and apparatus for automated refuelling

Images



Publication data including kind & date

WO9639351	A1	1996-12-12	WO9639351
CA2223386	A1	1996-12-12	CA2223386
AU5937696	A	1996-12-24	AU9659376
US5628351	A	1997-05-13	US5628351
EP0830306	A1	1998-03-25	EP-830306
AU698599	B2	1998-11-05	AU-698599
JPH11506715	A	1999-06-15	JP11506715
EP0830306	B1	1999-08-18	EP-830306
AT183481	T	1999-09-15	ATE183481
DE69603855	D1	1999-09-23	DE69603855
DK0830306	T3	1999-12-06	DK-830306T
ES2137698	T3	1999-12-16	ES2137698
GR3031651	T3	2000-02-29	GR3031651
DE69603855	T2	2000-03-16	DE69603855



Abstract

(EP-830306)

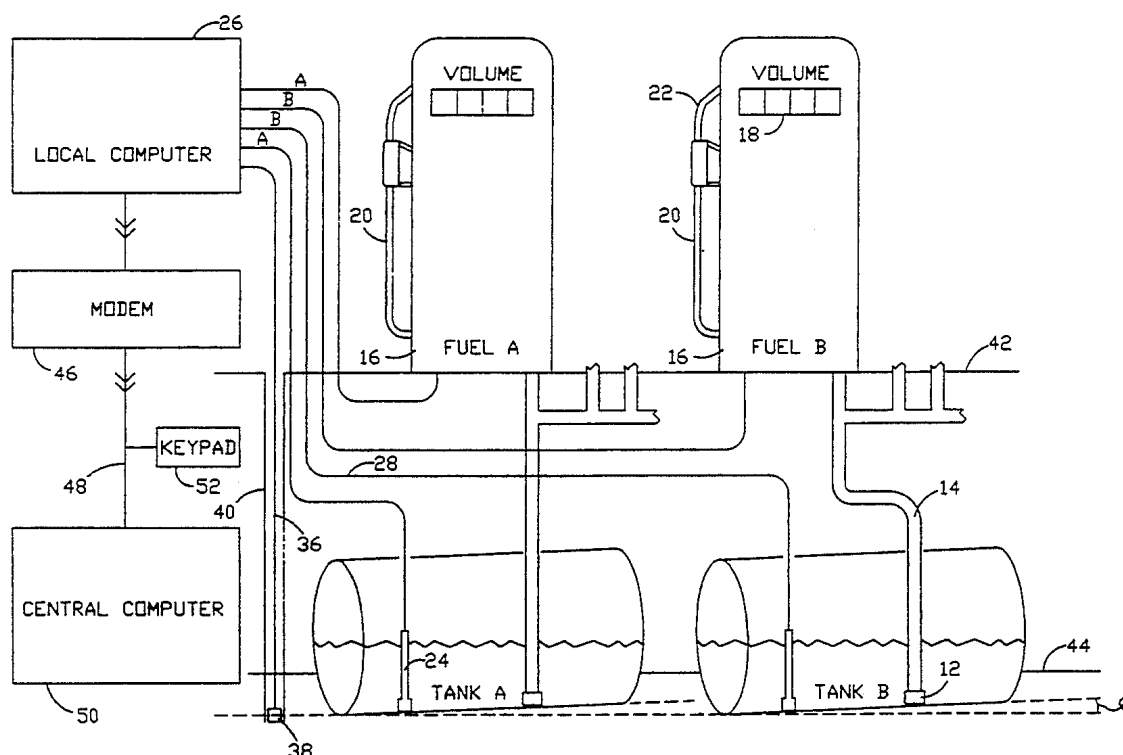
A method for automated refuelling is provided, the method comprising the steps of: providing the vehicle with a radio frequency transponder effective to communicate information sufficient to establish a position of a fuel inlet on the vehicle; receiving the communicated information at location where the vehicle is to be refuelled when the vehicle is located at the location where the vehicle is to be refuelled; when the vehicle is located at the location where the vehicle is to be refuelled, determining the position and orientation of the vehicle within the location; determining from the position and orientation of the vehicle and the communicated information, an expected location of the fuel inlet; after the vehicle is driven to an automated refuelling apparatus, initiating refuelling by moving a fuel dispenser to adjacent the expected location of the fuel inlet; providing a sensor on the fuel dispenser to determine the location of the fuel inlet relative to the fuel dispenser; repositioning the fuel dispenser based on a signal from the sensor on the fuel dispenser to a position from which the vehicle can be refuelled from the dispenser; and refuelling the vehicle from the repositioned fuel dispenser. This method, and the apparatus useful in the practice of this method, do not require accurate initial positioning of the vehicle by the driver, or extensive modifications to the vehicle. The refuelling operation is not commenced until engine operation of the vehicle is discontinued, and the refuelling operation can be discontinued when the vehicle engine is restarted.

Family 29/36 - FAMPAT - ©Questel

Title

(US5363093)

Method and apparatus for continuous tank monitoring

Images**Publication data including kind & date**[US5363093](#)

A 1994-11-08 US5363093

**Abstract**

(US5363093)

Method and apparatus for continuously monitoring the volume of liquid in an underground storage tank and producing data for reconciling volume with throughput. This invention provides a set of algorithms and hardware which allows the loss of product caused by equipment failure or pilferage to be determined in one day or less. In order to accomplish this task this system requires a mechanism in each tank which is capable of indicating liquid depth and temperature to a very high degree of accuracy, a water table indicator, data collection equipment for the dispenser metering system, a local computer system for calculating several algorithms and a second computer, either local or remote, which calculates the daily reconciliation and finds the source of any indicated errors. This second computer also provides reports to the tank operator and activates an alarm system in case there is a loss due to a leak in any part of the tank system.

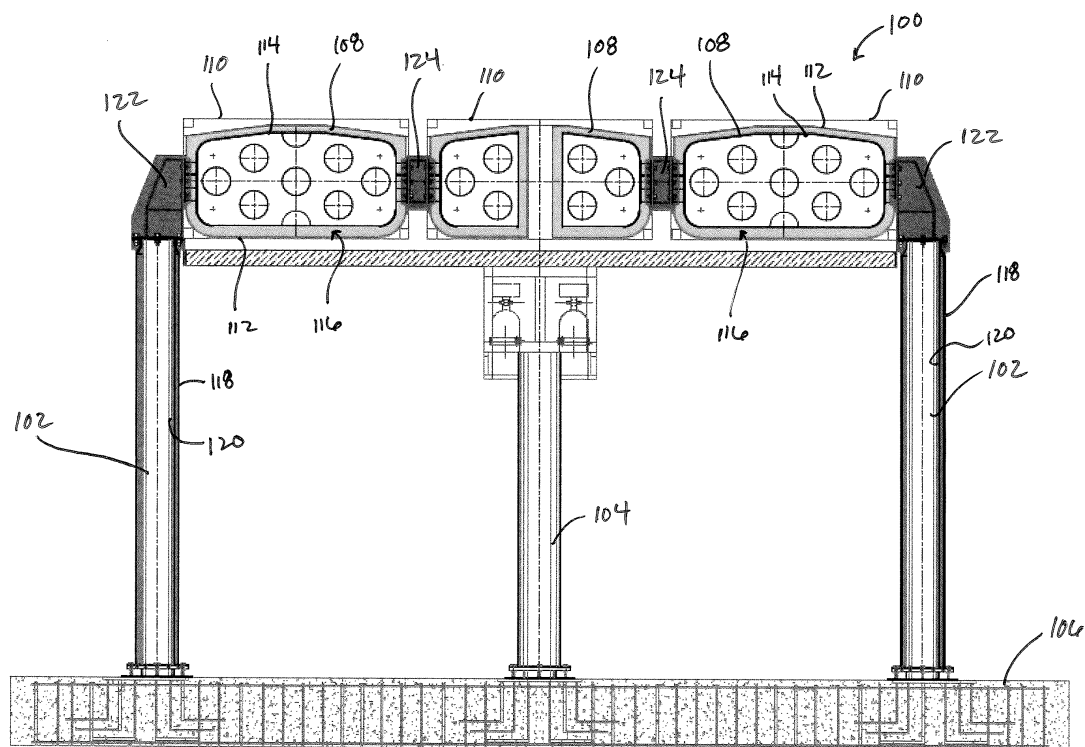
Family 30/36 - FAMPAT - ©Questel

Title

(WO201871515)

System and method for storing liquid and gaseous fuels

Images



Publication data including kind & date

US20180100622	A1	2018-04-12	US20180100622
WO2018/071515	A1	2018-04-19	WO201871515
BR112019007387	A1	2019-04-24	BR112019007387



Abstract

(WO201871515)

A system for storing fuel includes a support structure supporting at least one fuel tank a predetermined distance above ground. The fuel tank includes an inner tank configured to contain a gaseous fuel, an intermediate tank encompassing the inner tank and defining a first annular space therebetween, and an outer tank encompassing the intermediate tank and defining a second annular space therebetween. The first annular space is filled with a shock-absorbing resin for absorbing structural stresses, while the second annular space is filled with an insulating material providing for fire and ballistic resistance. The intermediate tank is connected to the support structure and to at least one adjacent fuel tank, and prevents the transfer of load to the inner tank.

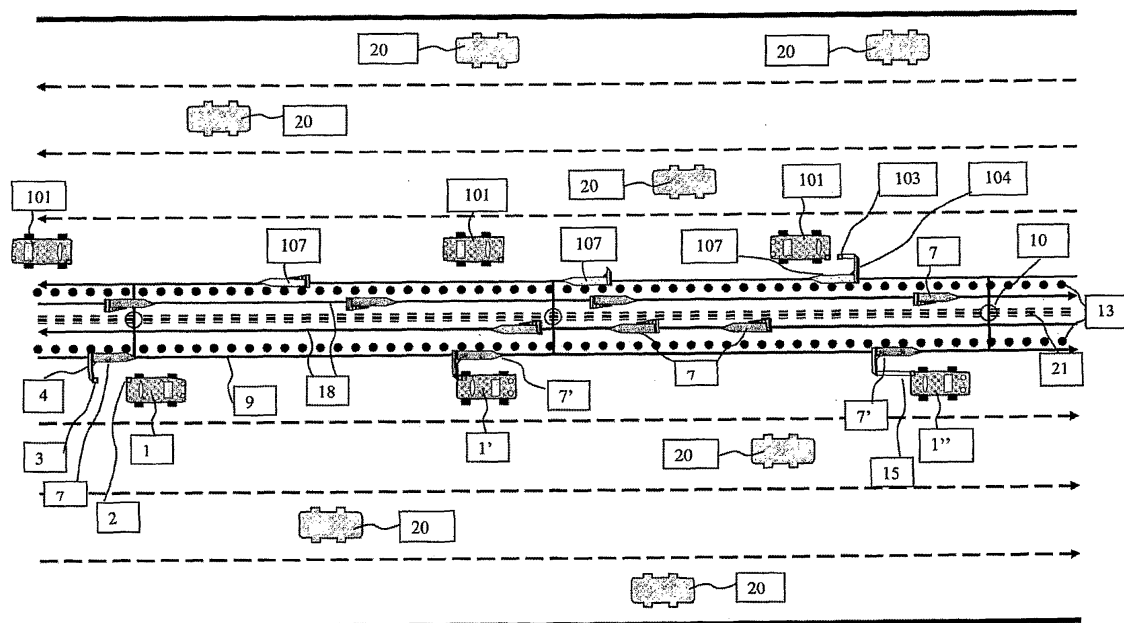
Family 31/36 - FAMPAT - ©Questel

Title

(WO200759781)

System for an infrastructure for hydrogen refuelling of moving vehicles

Images



Publication data including kind & date

WO2007/059781

A1 2007-05-31 WO200759781



Abstract

(WO200759781)

A system for automated refuelling of moving vehicles (1) on a drive track comprising at least one mobile unit with a fuel storage tank (7,7') for refuelling a vehicle during motion on the drive track and a transport system along the vehicle drive track for transport of the mobile unit along the vehicle drive track with a speed and position matching the speed and position of the moving vehicle. The system is primarily intended for hydrogen refuelling of automobiles .

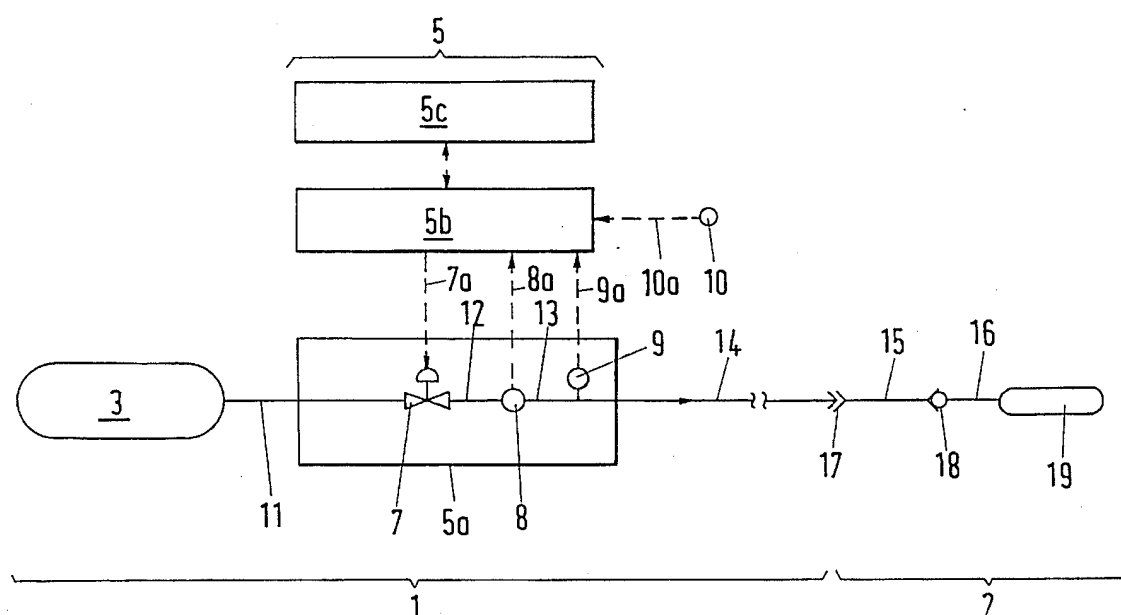
Family 32/36 - FAMPAT - ©Questel

Title

(EP-653585)

Process and device for the quick filling of a pressure container with a gaseous fluid

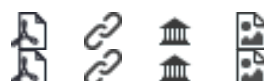
Images



Publication data including kind & date

BRPI9404359

A1 1995-01-17 BR9404359



CA2135109	A1	1995-05-09	CA2135109				
EP0653585	A1	1995-05-17	EP-653585				
AU7764794	A	1995-05-18	AU9477647				
KR19950014657	A	1995-06-16	KR19950014657				
BR9404359	A	1995-07-04	BR9404359				
JP07186904	A	1995-07-25	JP07186904				
US5570729	A	1996-11-05	US5570729				
AU677438	B2	1997-04-24	AU-677438				
NZ264820	A	1997-10-24	NZ-264820				
EP0653585	B1	1997-10-29	EP-653585				
AT159803	T	1997-11-15	ATE159803				
DE59404467	D1	1997-12-04	DE59404467				
CA2135109	C	1998-04-07	CA2135109				
BRPI9404359	B1	1999-08-10	BR9404359				
KR100338885	B1	2002-11-29	KR100338885				
JP3507148	B2	2004-03-15	JP3507148				

Abstract

(EP-653585)

The invention comprises a process for the filling of motor vehicles with natural gas as well as a device for carrying out the process according to the invention. The motor vehicle contains a tank device (2) with a pressure container (19). A filling system (1) comprises a storage unit (3) for natural gas, a delivery device (5) and also a connecting line (14) which can be attached to the tank device (2). The delivery device (5) comprises a control and measuring device (5a), a regulating device (5b), and an input and output device (5c). The control and measuring device (5a) has a regulating valve (7), a mass-flow measuring device (8), and a pressure sensor (9), these three components being activated by the superior regulating device (5b) in such a way that the pressure container (19) is filled with natural gas in a short time.

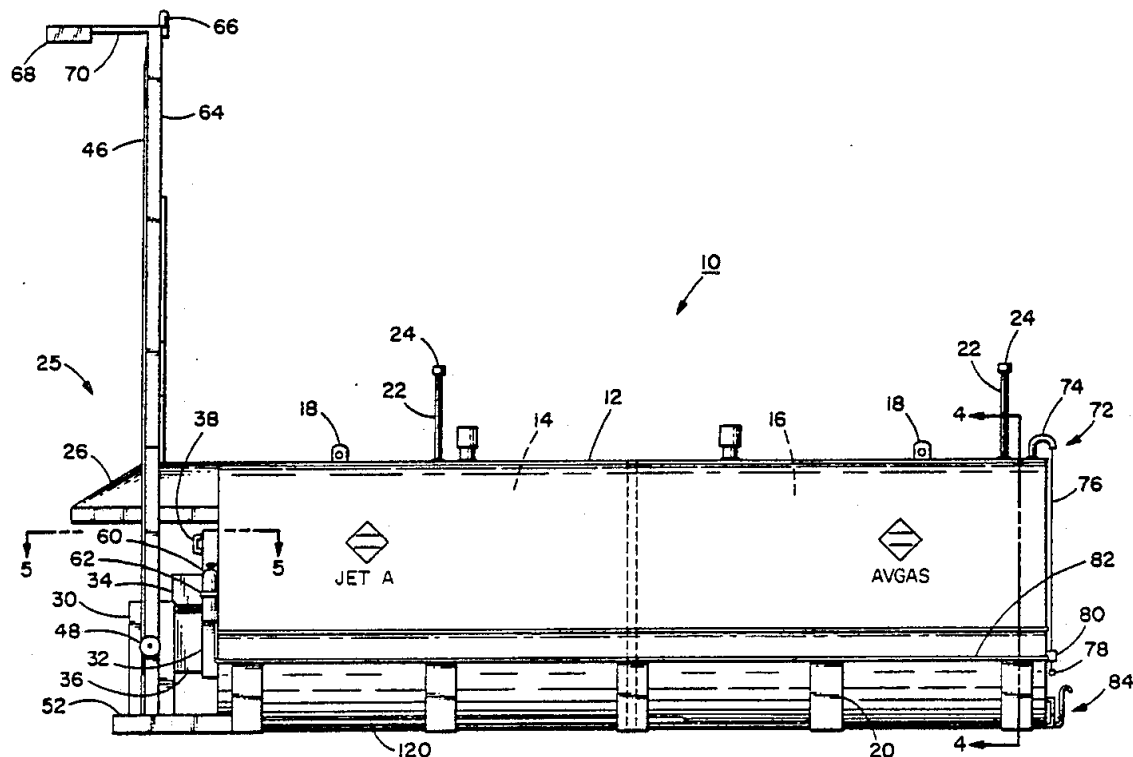
Family 33/36 - FAMPAT - ©Questel

Title

(US5305926)

Portable fueling facility having fire-retardant material

Images



Publication data including kind & date

CA2000681	A1	1990-09-30	CA2000681
US4988020	A	1991-01-29	US4988020
US5305926	A	1994-04-26	US5305926
CA2000681	C	1998-08-11	CA2000681



Abstract

(US5305926)

An improved portable fueling facility for aircraft or ground vehicles includes at least one storage tank, an outer tank for providing secondary containment about the storage tanks, a number of saddle members for supporting the outer tank on a flat horizontal surface and a pump for dispensing fuel. A deck compartment may be provided beneath the pumps for providing secondary containment about the supply pipes which are used to supply the pumps and the refueling tubes which are used to refuel the storage tanks. The entire facility is portable, so that it may be redeployed at different locations or airports as needed. Fire retardant material may also be provided between the storage tank and the outer tank to prevent flames from reaching the storage tank during an emergency.

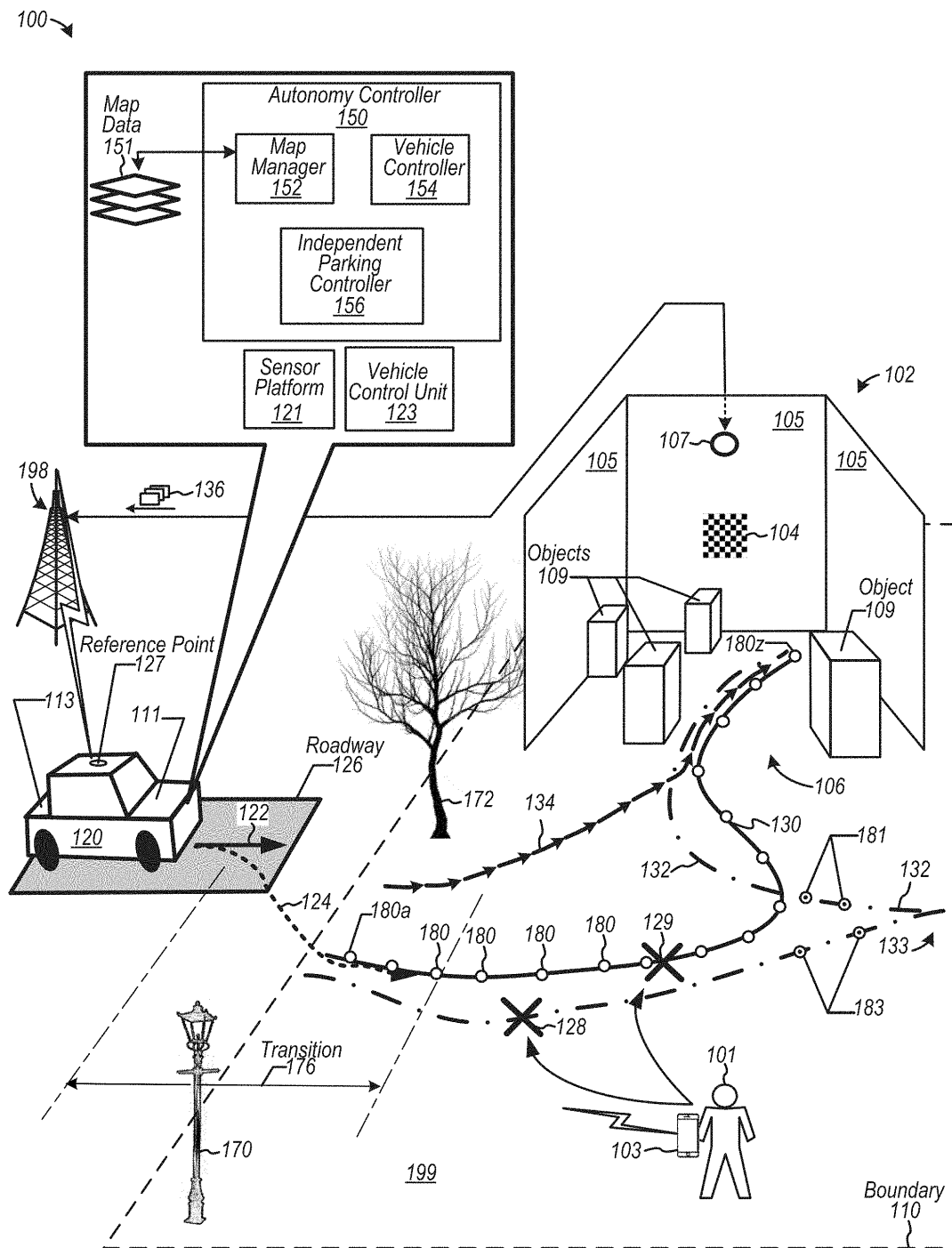
Family 34/36 - FAMPAT - ©Questel

Title

(US20190016312)

Control and coordination of driverless fuel replenishment for autonomous vehicles

Images



Publication data including kind & date

US20190016312

A1 2019-01-17

US20190016312



Abstract

(US20190016312)

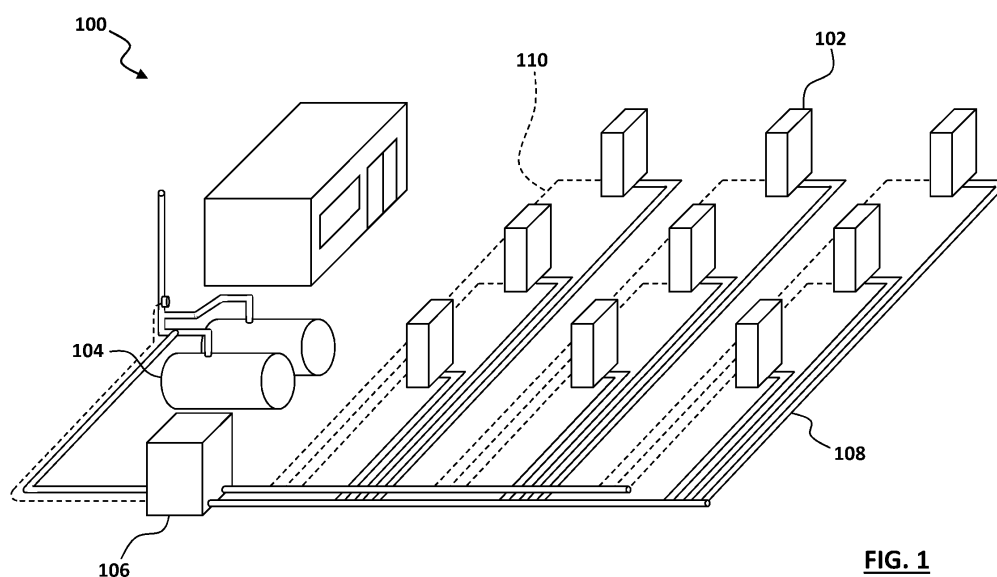
Various embodiments relate generally to autonomous vehicles and associated mechanical, electrical and electronic hardware, computing software, including autonomy applications, image processing applications, etc., computing systems, and wired and wireless network communications to facilitate autonomous control of vehicles, and, more specifically, to systems, devices, and methods configured to control driverless vehicles to facilitate coordination of driverless fuel replenishment. In some examples, a method may include monitoring an amount of fuel relative to a threshold, predicting fuel expenditure of an autonomous vehicle, identifying a candidate time frame, transmitting electronic messages from the autonomous vehicle to reserve a replenishment station, and activating the autonomous vehicle to drive autonomously to receive fuel replenishment.

Family 35/36 - FAMPAT - ©Questel

Title

(WO201804361)

A vapour recovery system and method of operation

Images**Publication data including kind & date**

WO2018004361	A1	2018-01-04	WO201804361
AU2017287793	A1	2019-02-21	AU2017287793

**Abstract**

(WO201804361)

A vapour recovery system is disclosed, configured to be retrofitted to a liquid fuel dispensing facility having at least one liquid fuel dispensing unit and at least one dispenser liquid fuel volume sensing device for measuring the volume of fuel dispensed. At least one dispensing unit nozzle and hose is provided, each including a liquid fuel dispensing conduit and a fuel vapour recovery conduit. A fuel vapour delivery conduit connects to the fuel vapour recovery conduit for delivery of fuel vapour to a storage tank. A vapour recovery pump unit is located remotely from the dispensing unit to provide a vacuum to the fuel vapour delivery conduit for transport of recovered vapour to the storage tank. A vapour recovery liquid fuel volume sensing device is galvanically isolated from the dispenser liquid fuel volume sensing device, and configured to output a signal indicative of the volume of liquid fuel being dispensed.

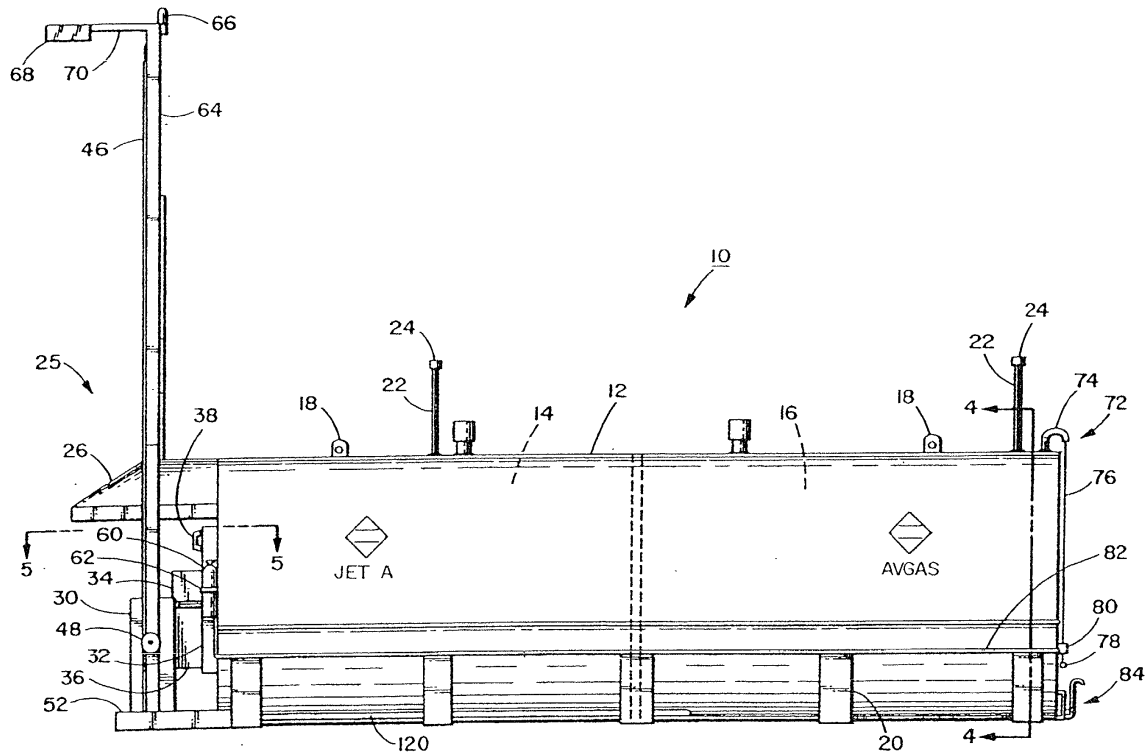
Family 36/36 - FAMPAT - ©Questel

Title

(US20020079016)

Method for dispensing fuel

Images



Publication data including kind & date

[US20020079016](#)

A1 2002-06-27

US20020079016



Abstract

(US20020079016)

An improved aboveground system for storing a combustible fluid such as gasoline includes a storage tank that is constructed and arranged to store a combustible fluid such as gasoline and an outer tank to provide secondary containment. An interstitial space is defined between the outer tank and the storage tank. A pipe for communicating with the storage tank extends through the wall of the storage tank, into the interstitial space and through the interstitial space for a distance so as to extend substantially parallel to at least one of the walls of the outer tank and the storage tank, and then through the wall of the outer tank, whereby fluid may be supplied to or withdrawn from the storage tank. Advantageously, access structure is provided for gaining access through the wall of the outer tank to the portion of the pipe that extends through the interstitial space for a distance so as to extend substantially parallel to at least one of the walls of the outer tank and the storage tank.