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(54) **A railway system, a railway carriage and a railway siding**

Gleisnetz, Eisenbahnwagen und Gleisanschluss

Système de voie ferrée, chariot de voie ferrée et voie d'évitement

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Description

[0001] The invention relates to a railway system, a railway carriage and a flat car.

[0002] Known railway systems include a plurality of sidings linked by track, and also include carriages and trucks to be pulled by locomotives on the track.

[0003] A known carriage has a plurality of seats for passengers and may have a toilet for their use. The toilet comprises a partitioned room in the carriage with a WC and basin within it. Such carriages are illustrated in prior art document EP-A2-0 360 585 for instance.

[0004] The British Royal family has a train consisting of a plurality of carriages. The Queen's carriage has a bedroom, bathroom and a sitting room with an entrance which opens onto the platform of a railway station.

[0005] According to one aspect of the invention there is provided a railway system as claimed in claim 8.

[0006] By means of the system of the invention, a person or group of people, such as a family, can live on board a special carriage whilst the carriage is stationary at a special siding and can be on the carriage while it is moving between sidings. The special carriage is self sufficient. Thus, a family may board their special carriage at a special siding close to their home, and the special carriage may be collected by a locomotive going to the required destination. Travelling is achieved without the need for one member of the family to drive and in a spacious comfortable environment with all required possessions on board. Once at the destination, the family can live in the special carriage in the special siding, as they have all they require.

[0007] At least one special carriage in the system may include a space to receive a vehicle. The vehicle may be any desired type of vehicle, such as a bicycle or motorcycle, and in one preferred embodiment is a car. In this way, the occupant or occupants of the special carriage have a means of road transport with them.

[0008] The living facilities of the special siding may include a power source. In this way, power is available to a special carriage in the special siding. Preferably means is provided to connect the siding power source to an input of the special carriage.

[0009] The common coupling device may be arranged to be operated on docking of the special carriage at a special siding.

[0010] The system may include at least one special area including capacity for a plurality of special carriages to be parked on one or more special sidings in the area, the space for each special carriage in the special area including the said living facilities. Each special area may be in a desirable destination such as in a city or at a non-urban tourist destination, such as the seaside.

[0011] At least one special carriage may comprise a flat car and at least one freight container thereon, the freight container or freight containers on the flat car defining the living area, bathroom, sleeping area and kitchen area. In this way one or more standard freight con-

tainers can be used in implementation of the invention, which may be less expensive.

[0012] The bathroom of the special carriage preferably includes a shower and/or a bath. The kitchen of the special carriage preferably includes at least two means of cooking, and may include three means of cooking. The means of cooking may include one or more of a hob, oven, microwave oven and steam oven.

[0013] A resource unit may be provided on the special siding for connection to the special carriage by the common coupling.

[0014] The siding preferably includes a buffer and the carriage and resource unit are preferably arranged to be aligned for connection by the common coupling when the carriage abuts the buffer. Means is preferably provided to allow for limited movement of at least one part of the coupling to allow for minor misalignment.

[0015] The coupling may take any suitable form and may comprise a male part and a female part. The female part is preferably on the siding and may include a cover above it.

[0016] According to a further aspect of the invention there is provided a railway carriage to be transported on a railway system, the railway carriage including a living area, a bathroom, a sleeping area and a kitchen area, appliances in the bathroom and kitchen area being connected to a common potable water supply system, the railway carriage including a potable water connector to releasably connect the potable water supply system of the carriage to an external water supply, the appliances in the bathroom and kitchen area being connected to a common waste water system, and the railway carriage including a waste water connector to releasably connect the waste water system of the carriage to an external waste system, such as a drain, wherein the potable water connector and the waste water connector are provided on a common mounting, the common mounting being arranged to be moved into place to make the connection so that the potable water connector and waste water connector are simultaneously connected to the external water supply and external waste system respectively.

[0017] According to another aspect of the invention there is provided a flat car including a plurality of first connectors on a common mounting for simultaneous connection to complementary connectors beside a railway track, the first connectors including a connector for potable water and a connector for waste, the flat car further including transmission means, such as pipes, linking the first connectors to second connectors for connection to external systems including a potable water supply system and a waste system of a freight container or freight containers to be carried on the deck of the flat car.

[0018] The coupling device may be arranged to be moved in any suitable manner and may be arranged to be moved by pivoting.

[0019] Embodiments of the invention will now be described by way of example and with reference to the accompanying drawings, in which:

Fig. 1 is a plan view in cross section of a carriage in an embodiment of the invention;

Fig. 2 is a side elevation of the carriage of Fig. 1;

Fig. 3 is a plan view of a siding in the embodiment of Fig. 1;

Fig. 4 is an elevation of the siding of Fig. 3 viewed perpendicularly to the track;

Fig. 5 is an elevation of the siding Fig. 3 viewed parallel to the track;

Fig. 6 is a front elevation of the siding connection;

Fig. 7 is a front elevation of the connection on the carriage; and

Fig. 8 is a side elevation of the connection on the carriage.

Fig. 9 is a plan view of the carriage of Fig. 1 showing the water, waste and electrical circuits.

[0020] The system 10 of the embodiment comprises a plurality of special carriages 12 and a plurality of special sidings 14.

[0021] Figs. 1 and 2 show a special carriage 12. The special carriage 12 comprises a standard UK freight container 8 of dimensions 40ft/12.19m long and 8ft/2.44m wide, on a flat car 6.

[0022] At the right hand end of the special carriage 12 as seen in Fig. 1, a room 20 is defined by a partition 22.

[0023] The room 20 has a sliding door 24 in the side of the carriage 12 over the full length of the room 20 for optimum access. The room 20 may be used for storage or to park a car (not shown) to be taken with the occupants on their journey. A Smart (registered trade mark) car is short enough to drive straight into the room 20 which therefore serves as a garage. Bicycles or motorbikes could also be stored in the room 20, which could simply be a general area for storage.

[0024] The next room 26 can serve as a double bedroom. A king size double bed 28 is shown in the room 26. A door 30 in the partition 22 leads from the garage 20 into the double bedroom 26. Opposite the partition 22 is a partition 32 with a doorway 34 to an en suite bathroom 36 defined between the partition 32 and another transverse partition 38. The en suite bathroom 36 includes a toilet 40 and a shower cubicle 42 with shower head 43 as well as a basin (not shown). The en suite bathroom 36 to the double bedroom 26 is back to back with another en suite bathroom 44 defined between the partition 38 and another transverse partition 46. The second en suite bathroom 36 also includes a toilet 48, shower cubicle 50 with shower head 51 and a basin (not shown).

[0025] The partition 46 has a doorway 52 to a single

bedroom 54 defined between the partition 46 and another transverse partition 56. The single bedroom 54 includes a single bed 58 or bunk beds.

[0026] The bedrooms 26, 54 constitute the aforesaid "sleeping area".

[0027] Between the partition 56 and the end 60 of the carriage 12 is defined a combined kitchen area 62 and living area 64.

[0028] The kitchen area 62 includes a work surface 66 with cupboards underneath (not shown) and two means of cooking 70, 72 which may be an oven and a hob. A refrigerator (not shown) is provided under the work surface 66. A sink 73 with a tap 75 is provided in the work surface 66. A table 74 is shown in the living area 64 and chairs (not shown) are also in this area. A sliding door 76 leads into the living area 64.

[0029] The partitions 56, 46, 38 and 32 do not extend right across the carriage 12 so that a corridor 77 is defined down one side of the carriage 12 leading to a door 78 to the double bedroom 26. The single bedroom 54 is delineated by a longitudinal partition 80 with a sliding door 82.

[0030] The en suite bathrooms 36, 44 are delineated by longitudinal partitions 84, 86 which lie before the ends of the partitions 46, 38, 32 so that a storage area 88 is defined between the double bedroom's en suite 36 and the corridor 77, and so that a guest toilet 90 with a sliding door 92 is arranged between the single bedroom en suite 44 and the corridor 77.

[0031] The rooms are lit by electric lights 160 in the ceiling 162 of the carriage 12. Electrical sockets 164 are provided so that appliances, including the oven 70, hob 72 and refrigerator, may be plugged in, see Fig. 9.

[0032] Figures 3, 4 and 5 show a siding 14. The siding 14 as shown in the Figures includes track 98 having rails 100 on sleepers 102 leading to buffers 104 on a concrete end wall 106. A platform 108 lies alongside the track and mounts a female part 110 of a coupling 112, the female part 110 forming the front of a resource unit. The female part 110 is mounted on the vertical side wall 114 of the platform 108 facing the rails 100.

[0033] The female part 110 has a generally square front face 116 from which guide plates 118 flare at an obtuse angle to the front face 116. The guide plates 118 are provided to either side and below the front face 116. Above the front face 116 is a cover 120 which protrudes above the front face 116. The front face 116 is flush with the side wall 114 of the platform 108. The front face 116 defines three apertures. Two smaller apertures 122, 124 are provided above a larger aperture 126. One small aperture 122 is an electricity socket wired to the mains or another electrical source. The other small aperture 124 is connected to the mains water supply or another supply of potable water. The large aperture 126 is connected to the main drain or another waste water outflow. The female part 110 forms the aforesaid "resource unit".

[0034] The male part 130 of the coupling 112 is shown in Figs. 2, 7 and 8. The male part 130 is provided on the carriage 12 and comprises a generally rectangular front

plate 132 through which three connectors 134, 136, 138 extend in complementary positions to the apertures 122, 124, 126 in the female part 110. Each connector 134, 136, 138 is tapered at its end to help guide it into the respective aperture 122, 124, 126. Thus, one smaller connector 134 is an electrical plug to enter the socket 122. The other smaller connector 136 is a pipe to receive potable water from aperture 124, whilst the large connector 138 is a pipe through which waste can pass into the drains through large aperture 126. The electrical plug connector 134 is connected through a flexible cable 180 to the electrical systems 166, 168 of the carriage 12 to supply the electric lights 160 and sockets 164, respectively. The flexible cable 180 includes a releasable connection 182 to allow the freight container 8 to be removed from the flat car 6. The potable water connector 136 is connected through a flexible hose 184 to the potable water supply system 170 of the carriage 12 for the taps 75, showers 43, 51 and toilets 40, 48 of the carriage 12. The waste connector 138 is connected through a flexible hose 186 to the waste water pipe system 172 of the carriage 12 which connects to the toilets 40, 48 and to the drains of the sink 73 and en suite basins of the carriage 12. Each flexible hose 184, 186 includes a releasable connection 188, 190 to allow the freight container 8 to be removed from the flat car 6.

[0035] The front plate 132 carries a sleeve 152 on either side which receives a rod 142. Each rod 142 is connected through a perpendicular element 140 at its upper end to one of a pair of depending struts 144. Each strut 144 includes an aperture 146 to receive a horizontal spindle 148 so that the male part 130 can pivot on the spindle 148. The position of the front plate 132 with respect to the length of the spindle 148 can be adjusted by means of sleeves 150 on the spindle 148. The height of the front plate 132 with respect to the spindle 148 can be adjusted by means of the sleeves 152.

[0036] In use, the occupants of the carriage, say a family, drive to a special siding 14 where their special carriage 12 is located in the system 10. They then board the carriage 12 with their luggage and wait to be collected by a locomotive. The locomotive might make a dedicated trip with the carriage 12, but it is more likely that the carriage 12 will be added to a train being pulled by the locomotive to go to the desired destination. The destination might be a city or a rural tourist destination, such as the seaside. At the destination, the special carriage 12 is shunted into a special siding 14 until buffers 4 on the carriage 12 engage the buffers 104. An occupant can then descend from the carriage 12 on to the platform 108 and pivot the male part 130 of the coupling 112 about the spindle 148 so that the connectors 134, 136, 138 are received in the apertures 122, 124, 126 of the female part 110. The guide plates 118 help to guide the male part 130 into position, as do the tapered ends of the connectors 134, 136, 138. If there should be misalignment between the male and female parts 130, 132, the position of the male part 130 on the carriage 12 can be adjusted by means of the

sleeves 150, 152. Once the connection is made, the carriage then has working plumbing and an operational electrical system. The family can live in the carriage 12 and treat it as their home for the duration of their stay.

[0037] When it is time to depart, the male part 130 of the coupling 112 is simply pivoted back underneath the carriage 12 and the carriage 12 is then ready to be collected by a locomotive and returned home or to the next destination.

[0038] The finish and fittings inside the carriage 12 and the length of the carriage 12 can be dependent upon the specifications of the designer. Thus shorter or longer carriages are envisaged within the scope of the invention, and different internal layouts will also be possible. The carriage 12 can have as many windows and doors as determined by the design.

[0039] The carriage 12 can be fitted with smoke alarms and a fire detection/sprinkler system, as required.

[0040] The carriage 12 provides all the domestic needs of the occupants whilst at the same time being fully self sufficient whilst moving between special sidings offering the required facilities.

[0041] The freight container 8 may be transferred from the flat car 6 using existing container handling systems on to other means of transport, for example a truck or boat, for transport to other destinations, for example overseas, where it may be deposited or transferred onto another flat car of the appropriate gauge for the local railway system for further travel.

[0042] A special area for special carriages may include a plurality of the special sidings 14, each able to take one special carriage 12. Alternatively or additionally, one or more special sidings 14 may be arranged to receive more than one special carriage 12. In that case, there may be a resource unit such as the female part 110, for each special carriage 112 at suitable spacings along the siding 14. Alternatively, there may be a single resource unit at the end of the special siding 14, and the special carriage 12 may have a coupling at each end, which may be an equivalent of the coupling 112, so that another special carriage 12 behind it in the siding 14 can be connected to the water, waste and electrical systems of the carriage 12 in front, which in turn is connected to the resource unit of the special siding 14. In this way a number of carriages 12 can be linked together to take advantage of a single resource unit.

[0043] Sidings to form the required special sidings 14 may already exist in city centres where existing track is under-used, and dedicated parks could be constructed in tourist destinations such as at the seaside or other scenic places.

[0044] In a further embodiment, the carriage 12 may incorporate a wood burning stove.

[0045] In another embodiment, the carriage 12 may include solar panels which may reduce or obviate the need for supply of electrical power to the carriage. Alternatively or additionally, the carriage 12 may include batteries to be charged by an alternator to form an electrical

supply.

[0046] In another embodiment, the carriage may be composed of more than one freight container on a flat car. The rooms will thus be defined in the freight containers and adjacent containers may be linked through a communicating door.

[0047] In another embodiment, the special carriage, instead of being a freight container 8 on a flat car 6, may be a dedicated integrated unit. In that case the special carriage may be an adaptation of an existing passenger carriage.

Claims

1. A railway carriage to be transported on a railway system, the railway carriage including a living area (164), a bathroom (36), a sleeping area (26) and a kitchen area (62), appliances (40, 42, 75) in the bathroom (36) and kitchen area (62) being connected to a common potable water supply system (170), the railway carriage including a potable water connector (136) to releasably connect the potable water supply system (170) of the carriage to an external water supply, the appliances (40, 42, 73) in the bathroom (36) and kitchen area (62) being connected to a common waste water system (172), and the railway carriage including a waste water connector (138) to releasably connect the waste water system (172) of the carriage to an external waste system, such as a drain, wherein the potable water connector (136) and the waste water connector (138) are provided on a common mounting (132), **characterized in that** the common mounting (132) is arranged to be moved into place to make the connection, so that the potable water connector (136) and waste water connector (138) are simultaneously connected to the external water supply and external waste system respectively.
2. A railway carriage as claimed in claim 1, wherein the carriage includes an electrical system (166; 168) and the carriage includes an electrical connector (134) to connect the electrical system (166; 168) of the carriage to an external power supply, and preferably the electrical connector (134) is provided on the common mounting (132).
3. A railway carriage as claimed in claim 1 or claim 2, wherein the common mounting (132) is arranged to be moved by pivoting to make the connection, and preferably means (148, 150, 142, 152) is provided to allow for movement of the common mounting (132) with respect to the body of the carriage to allow for misalignment.
4. A railway carriage as claimed in claim 1, 2 or 3, wherein the carriage defines a space (20) to receive

a vehicle such as a car.

5. A railway carriage as claimed in any preceding claim, wherein the carriage comprises a flat car (6) and at least one freight container (8) thereon, the freight container (8) or freight containers on the flat car (6) defining the living area (64), bathroom (36), sleeping area (26) and kitchen area (62), and optionally the common mounting (132) is on the flat car (6).
6. A railway carriage as claimed in any preceding claim, wherein the kitchen (62) of the carriage includes at least two means of cooking, preferably three means of cooking and preferably the means of cooking includes one or more of a hob (72), oven (70), microwave oven and steam oven.
7. A flat car including a plurality of first connectors (136, 138) on a common mounting (132) for simultaneous connection to complementary connectors beside a railway track, the first connectors (136, 138) including a connector (136) for potable water and a connector (138) for waste, the flat car further including transmission means, such as pipes (184, 186), linking the first connectors (136, 138) to second connectors (188, 190) for connection to external systems including a potable water supply system and a waste system of a freight container or freight containers to be carried on the deck of the flat car, **characterized in that** the common mounting (132) is arranged to be moved into place to make the connection.
8. A railway system including a plurality of special carriages (12) and a plurality of special sidings (14), the special sidings (14) being in a plurality of different geographical locations, each special carriage (12) including a living area (64), a bathroom (36), a sleeping area (26) and a kitchen area (62), each special siding (14) including living facilities including a source of potable water and a waste deposit resource, wherein the system further includes a common coupling device (112), the common coupling device (112) comprising both a coupling (124) to releasably couple the source of potable water at a special siding to an inlet (136) of a special carriage (12) for supply of potable water in the special carriage (12), and a coupling (126) to releasably couple the waste deposit resource at a special siding (14) to a waste outlet (138) of a special carriage (12), so that the special carriages (12) can be moved around the railway system and on arrival at any of the special sidings (14) a special carriage (12) can be releasably connected to a supply of potable water and to a waste deposit resource through the common coupling device (112), **characterized in that** the coupling device (112) includes in operation a common mounting (132) carried by each special carriage (12) and the common mounting (132) is arranged to be moved

into place to connect the resources simultaneously.

9. A railway system as claimed in claim 8, wherein the living facilities of each special siding (14) include a power source which may be an electrical power source, and preferably wherein a coupling (122) is provided to releasably connect the siding power source to an input (134) of the special carriage (12), and preferably the said common coupling device (112) also includes the power coupling (122).
10. A railway system as claimed in claim 8 or claim 9, wherein the coupling device (112) is arranged to be operated on docking of a special carriage (12) at a special siding (14).
11. A railway system as claimed in claim 8, 9 or 10, wherein a resource unit is provided on the special siding (14) for connection to the special carriage (12) by the common coupling (112), and preferably the siding (14) includes a buffer (104) and the carriage (12) and resource unit are arranged to be aligned for connection by the common coupling (112) when the carriage (12) abuts the buffer (104).
12. A railway system as claimed in any of claims 8 to 11, wherein the common coupling (112) comprises a male part (130) and a female part (110), and preferably the female part (110) is on the siding (14).
13. A railway system as claimed in any of claims 8 to 12, wherein the railway system includes a railway carriage as claimed in any of claims 1 to 6 or a flat car as claimed in claim 7.

Patentansprüche

1. Eisenbahnwagen für den Transport auf einem Gleisnetz, wobei der Eisenbahnwagen einen Wohnbereich (164), ein Badezimmer (36), einen Schlafbereich (26) und einen Küchenbereich (62) hat, wobei Einrichtungen (40, 42, 75) in dem Badezimmer (36) und in dem Küchenbereich (62) an ein gemeinsames Trinkwasserversorgungssystem (170) angeschlossen sind, wobei der Eisenbahnwagen einen Trinkwasseranschluss (136) für den lösbaren Anschluss des Trinkwasserversorgungssystems (170) des Wagens an eine externe Wasserversorgung hat, wobei die Einrichtungen (40, 42, 73) in dem Badezimmer (36) und in dem Küchenbereich (62) an ein gemeinsames Abwassersystem (172) angeschlossen sind und der Eisenbahnwagen einen Abwasseranschluss (138) für den lösbaren Anschluss des Abwassersystems (172) des Wagens an ein externes Abwassersystem wie beispielsweise einen Ablaufkanal hat, wobei der Trinkwasseranschluss (136) und der Abwasseranschluss (138) an einer gemein-

samen Halterung (132) vorgesehen sind, **dadurch gekennzeichnet, dass** die gemeinsame Halterung (132) derart angeordnet ist, dass diese in ihre Lage für die Herstellung der Verbindung bewegt werden kann, so dass der Trinkwasseranschluss (136) und der Abwasseranschluss (138) jeweils gleichzeitig and die externe Wasserversorgung und das externe Abwassersystem angeschlossen werden.

2. Eisenbahnwagen nach Anspruch 1, wobei der Wagen ein elektrisches System (166; 168) und einen elektrischen Verbinder (134) für die Verbindung des elektrischen Systems (166; 168) mit einer externen Stromversorgung aufweist und der elektrische Verbinder (134) bevorzugt an der gemeinsamen Halterung (132) vorgesehen ist.
3. Eisenbahnwagen nach Anspruch 1 oder Anspruch 2, wobei die gemeinsame Halterung (132) derart angeordnet ist, dass diese für die Herstellung der Verbindung geschwenkt werden kann, und wobei vorzugsweise ein Mittel (148, 150, 142, 152) vorgesehen ist, das eine Bewegung der gemeinsamen Halterung (132) relativ zu dem Körper des Wagens ermöglicht, um eine Fehlausrichtung auszugleichen.
4. Eisenbahnwagen nach Anspruch 1, 2 oder 3, wobei der Wagen einen Raum (20) für die Aufnahme eines Fahrzeugs wie beispielsweise eines Autos definiert.
5. Eisenbahnwagen nach einem der vorhergehenden Ansprüche, wobei der Wagen einen Tiefladewagen (6) und auf demselben mindestens einen Frachtcontainer (8) umfasst, wobei der Frachtcontainer (8) oder die Frachtcontainer auf dem Tiefladewagen (6) einen Wohnbereich (64), ein Badezimmer (36), einen Schlafbereich (26) und einen Küchenbereich (62) abgrenzen und die gemeinsame Halterung (132) sich optional an dem Tiefladewagen (6) befindet.
6. Eisenbahnwagen nach einem der vorhergehenden Ansprüche, wobei die Küche (62) des Wagens mindestens zwei Kochgelegenheiten, vorzugsweise drei Kochgelegenheiten aufweist und die Kochgelegenheiten vorzugsweise eine Kochmulde (72) und/oder einen Backofen (70) und/oder einen Mikrowellenofen und/oder einen Dampfgarer umfassen.
7. Tiefladewagen mit einer Vielzahl von ersten Anschlüssen (136, 138) an einer gemeinsamen Halterung (132) für einen gleichzeitigen Anschluss an komplementäre Anschlüsse neben einer Bahnstrecke, wobei die ersten Anschlüsse (136, 138) einen Anschluss (136) für Trinkwasser und einen Anschluss (138) für Abwasser umfassen, wobei der Tiefladewagen ferner Transporteinrichtungen wie Leitungen (184, 186) umfasst, die die ersten An-

schlüsse (136, 138) mit den zweiten Anschlüssen (188, 190) verbinden für den Anschluss an externe Systeme, die ein Trinkwasserversorgungssystem und ein Entsorgungssystem eines Frachtcontainers oder von Frachtcontainern umfassen, die auf dem Deck des Tiefladewagens mitgeführt werden, **dadurch gekennzeichnet, dass** die gemeinsame Halterung (132) derart angeordnet ist, dass diese in ihre Lage für die Herstellung des Anschlusses bewegt werden kann.

8. Gleisnetz, umfassend eine Vielzahl von speziellen Wagen (12) und eine Vielzahl von speziellen Abstellgleisen (14), wobei sich die speziellen Abstellgleise (14) an einer Vielzahl von verschiedenen geographischen Orten befinden, wobei jeder spezielle Wagen (12) einen Wohnbereich (64), ein Badezimmer (36), einen Schlafbereich (26) und einen Küchenbereich (62) umfasst, wobei jedes spezielle Abstellgleis (14) Wohneinrichtungen mit einer Trinkwasserquelle und mit einer Abfallentsorgung aufweist, wobei das System ferner eine gemeinsame Verbindungsvorrichtung (112) aufweist, die für die Trinkwasserversorgung in einem speziellen Wagen sowohl eine Kupplung (124) zum lösbaren Verbinden einer Trinkwasserquelle an einem bestimmten Abstellgleis mit einem Einlass (136) eines speziellen Wagens (12) als auch eine Kupplung (126) zum lösbaren Verbinden der Abfallentsorgung an einem speziellen Abstellgleis (14) mit einem Abfallauslass (138) eines speziellen Wagens (12), so dass die speziellen Wagen auf dem Gleisnetz fortbewegt werden können und bei Ankunft an einem speziellen Abstellgleis (14) ein spezieller Wagen (12) durch die gemeinsame Verbindungsvorrichtung (112) lösbar an die Trinkwasserversorgung und an die Abfallentsorgung angeschlossen werden kann, **dadurch gekennzeichnet, dass** die Verbindungsvorrichtung (112) bei Benutzung eine gemeinsame Halterung (132) umfasst, die von jedem speziellen Wagen mitgeführt wird, und dass die gemeinsame Halterung (132) derart angeordnet ist, dass diese in ihre Lage für den gleichzeitigen Anschluss der Ressourcen bewegt werden kann.
9. Gleisnetz nach Anspruch 8, wobei die Wohneinrichtungen jedes speziellen Abstellgleises (14) eine Energiequelle aufweisen, die eine Stromquelle sein kann, und wobei vorzugsweise eine Kupplung (122) vorgesehen ist für die lösbare Verbindung der Energiequelle des Abstellgleises mit einem Einlass (134) des speziellen Wagens (12) und wobei die gemeinsame Verbindungsvorrichtung (112) bevorzugt auch die Energiekupplung (122) umfasst.
10. Gleisnetz nach Anspruch 8 oder Anspruch 9, wobei die Verbindungsvorrichtung (112) ausgebildet ist für eine Betätigung bei dem Andocken eines speziellen

Wagens (12) auf einem speziellen Abstellgleis (14).

11. Gleisnetz nach einem der Ansprüche 8, 9 oder 10, wobei an dem speziellen Abstellgleis (14) eine Ressourceneinheit für die Verbindung mit dem speziellen Wagen (12) durch die gemeinsame Verbindungsvorrichtung (112) vorgesehen ist, wobei vorzugsweise das Abstellgleis (14) einen Prellbock (104) aufweist und der Wagen (12) und die Ressourceneinheit derart angeordnet sind, dass diese für eine Verbindung durch die gemeinsame Verbindungsvorrichtung (112) aufeinander ausgerichtet werden, wenn der Wagen (12) an den Prellbock (104) stößt.
12. Gleisnetz nach einem der Ansprüche 8 bis 11, wobei die gemeinsame Verbindungsvorrichtung (112) ein Steckteil (130) und ein Buchsenteil (110) umfasst und das Buchsenteil (110) sich vorzugsweise an dem Abstellgleis (14) befindet.
13. Gleisnetz nach einem der Ansprüche 8 bis 12, wobei das Gleisnetz einen Eisenbahnwagen gemäß einem der Ansprüche 1 bis 6 oder einen Tiefladewagen gemäß Anspruch 7 umfasst.

Revendications

1. Wagon de chemin de fer destiné à être transporté sur un système de voie ferrée, ce wagon comprenant une zone de séjour (164), une salle de bains (36), une zone de sommeil (26) et une zone de cuisine (62), des appareils (40, 42, 75) situés dans la salle de bains (36) et la zone de cuisine (62) étant reliés à un système d'alimentation en eau potable commun (170), le wagon comprenant un connecteur d'eau potable (136) permettant de relier de façon amovible le système d'alimentation en eau potable (170) du wagon à une alimentation en eau potable externe, les appareils (40, 42, 73) situés dans la salle de bains (36) et dans la zone de cuisine (62) étant reliée à un système d'eaux usées (172) commun, et le wagon comprenant un connecteur d'eaux usées (138) permettant de relier de manière amovible le système d'eaux usées (172) du wagon à un système d'eaux usées externe tel qu'un égout, le connecteur d'eau potable (136) et le connecteur d'eaux usées (138) étant installés sur un bâti (132) commun, **caractérisé en ce que,** le bâti commun (132) est réalisé pour pouvoir être déplacé en place de façon à effectuer la connexion de sorte que le connecteur d'eau potable (136) et le connecteur d'eaux usées (138) soient respectivement simultanément reliés à l'alimentation en eau potable externe et au système d'eaux usées externe.
2. Wagon conforme à la revendication 1, comprenant un système électrique (166, 168) et un

connecteur électrique (134) permettant de relier le système électrique (166, 168) à une alimentation en énergie externe, et de préférence le connecteur électrique (134) est monté sur le bâti commun (132).

3. Wagon conforme à la revendication 1 ou 2, dans lequel le bâti commun (132) est réalisé pour pouvoir être déplacé par pivotement pour effectuer la liaison, et de préférence il est prévu des moyens (148, 150, 142, 152) pour tenir compte d'un déplacement du bâti commun (132) par rapport au corps du wagon pour tenir compte d'un décentrage. 5
4. Wagon conforme à la revendication 1, 2 ou 3, définissant un espace (20) permettant de recevoir un véhicule tel qu'un chariot. 10
5. Wagon conforme à l'une quelconque des revendications précédentes, comprenant un chariot plat (6) et au moins un conteneur de fret (8) positionné sur celui-ci, le ou les conteneur(s) de fret (8) positionnés sur le chariot plat (6) définissant la zone de séjour (64), la salle de bains (36), la zone de sommeil (26) et la zone de cuisine (62) et le cas échéant le bâti commun (132) étant situé sur le chariot plat (6). 20
6. Wagon conforme à l'une quelconque des revendications précédentes, dans lequel la cuisine (62) comprend au moins deux moyens de cuisson, de préférence trois moyens de cuisson et de préférence les moyens de cuisson comprennent une plaque chauffante (72) et/ou un four (70) et/ou un four à microondes et/ou un four de cuisson à la vapeur. 25
7. Chariot plat comprenant un ensemble de premiers connecteurs (136, 138) situés sur un bâti commun (132) pour permettre une liaison simultanée avec des connecteurs complémentaires situés à côté d'un tracé de voie ferrée, les premiers connecteurs (136, 138) comprenant un connecteur (136) d'eau potable et un connecteur (138) d'eaux usées, le chariot plat comprenant en outre des moyens de transmission tels que des tuyaux (184, 186) reliant les premiers connecteurs (136, 138) à des seconds connecteurs (188, 190) pour permettre la connexion avec des systèmes externes comprenant un système d'alimentation en eau potable et un système d'évacuation d'eaux usées d'un ou de plusieurs conteneurs de fret destinés à être montés sur le chariot plat, **caractérisé en ce que** 30
le bâti commun (132) est réalisé pour pouvoir être déplacé sur place pour permettre la connexion. 35
8. Système ferroviaire comprenant un ensemble de wagons particuliers (12) et un ensemble de voies de garage particulières (14), les voies de garage particulières (14) étant situées dans un ensemble de positions géographiques différentes, chaque wagon 40

particulier (12) comprenant une zone de séjour (64), une salle de bains (36), une zone de sommeil (26) et une zone de cuisine (62), chaque voie de garage particulière (14) comprenant des installations de vie, comportant une source d'eau potable et des moyens de dépôt de déchets, le système comprenant en outre un dispositif de couplage (112) commun, ce dispositif de couplage commun (112) comprenant un élément d'accouplement (124) permettant de coupler de manière amovible la source d'eau potable d'une voie de garage particulière à une entrée (136) d'un wagon particulier (12) pour permettre l'alimentation de ce wagon particulier (12) en eau potable et un élément d'accouplement (126) permettant de coupler de manière amovible des moyens de dépôt de déchets d'une voie de garage particulière (14) à une sortie de déchets (138) du wagon particulier (12) de sorte que les wagons particuliers (12) puissent être déplacés sur le système de voie ferrée, et que, à son arrivée sur l'une quelconque des voies de garage particulière (14), un wagon particulier (12) puisse être relié de façon amovible à une alimentation en eau potable et à un des moyens de dépôt de déchets par le dispositif d'accouplement (112) commun, 45

caractérisé en ce que

le dispositif d'accouplement (112) comprend, en cours de fonctionnement, un bâti commun (132), porté par chacun des wagons particuliers (12) et le bâti commun (132) est réalisé pour pouvoir être déplacé sur place de façon à permettre de connecter simultanément les moyens. 50

9. Système ferroviaire conforme à la revendication 8, **caractérisé en ce que** 35
les installations de vie de chacune des voies de garage particulières (14) comprennent une source d'énergie pouvant être une source d'énergie électrique et de préférence un élément d'accouplement (122) est prévu pour permettre de connecter de manière amovible la source d'énergie de la voie de garage à une entrée (134) du wagon particulier (12), et de préférence le dispositif d'accouplement commun (112) comprend également l'élément d'accouplement d'énergie (122). 40
10. Système ferroviaire conforme à la revendication 8 ou 9, dans lequel le dispositif d'accouplement (112) est réalisé pour pouvoir être actionné en amarrant un wagon particulier (12) sur une voie de garage particulière (14). 45
11. Système ferroviaire conforme à la revendication 8, 9 ou 10, dans lequel une unité d'exploitation est montée sur la voie de garage particulière (14) pour permettre une connexion avec le wagon particulier (12) par 50

l'élément d'accouplement commun (112), et de préférence, la voie de garage (14) comprend un tampon (104) et le wagon (12) et l'unité d'exploitation sont réalisés pour pouvoir être alignés pour permettre leur connexion par l'élément d'accouplement commun (112) lorsque le wagon (12) vient en butée contre le tampon (104). 5

12. Système ferroviaire conforme à l'une quelconque des revendications 8 à 11, 10
dans lequel l'élément d'accouplement commun (112) comprend une partie mâle (130) et une partie femelle (110), et, de préférence, la partie femelle (110) est située sur la voie de garage (14). 15

13. Système ferroviaire conforme à l'une quelconque des revendications 8 à 12, 20
comprenant un wagon conforme à l'une quelconque des revendications 1 à 6 ou un chariot plat conforme à la revendication 7. 25

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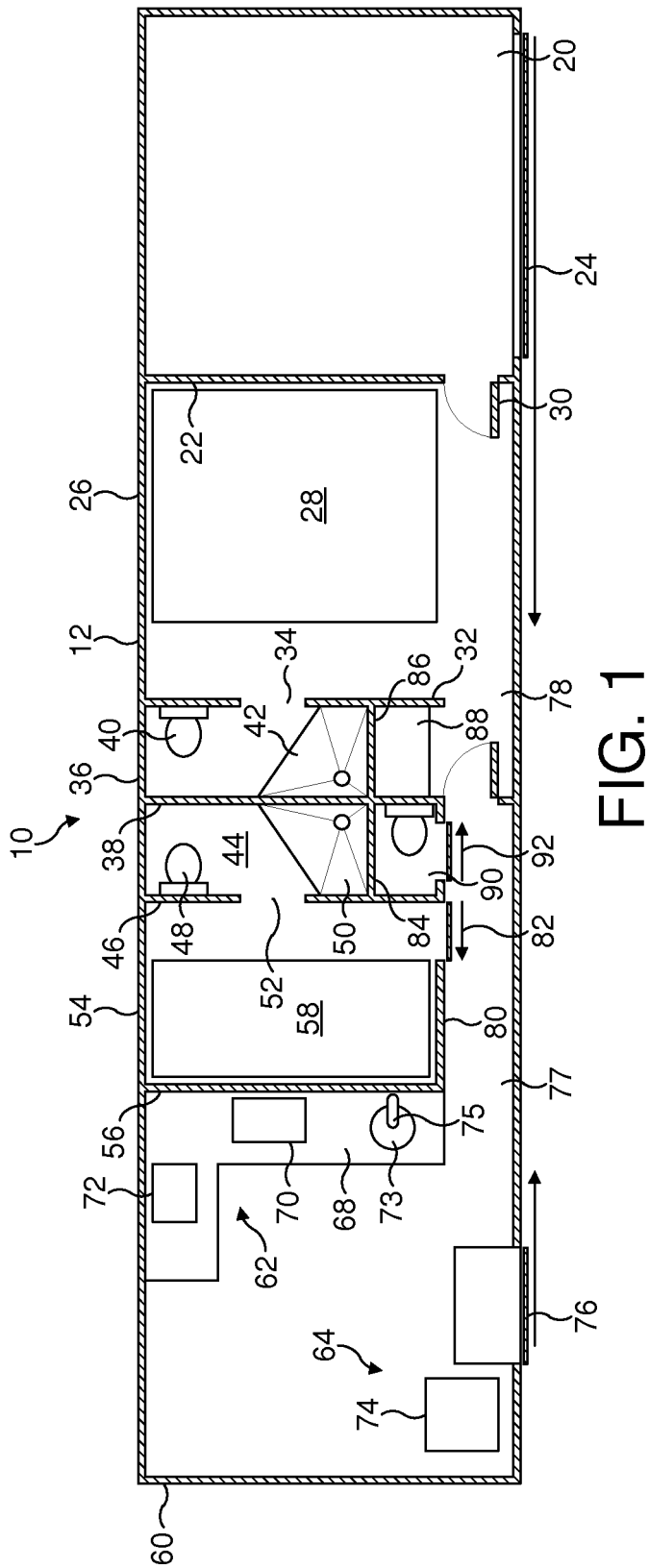


FIG. 1

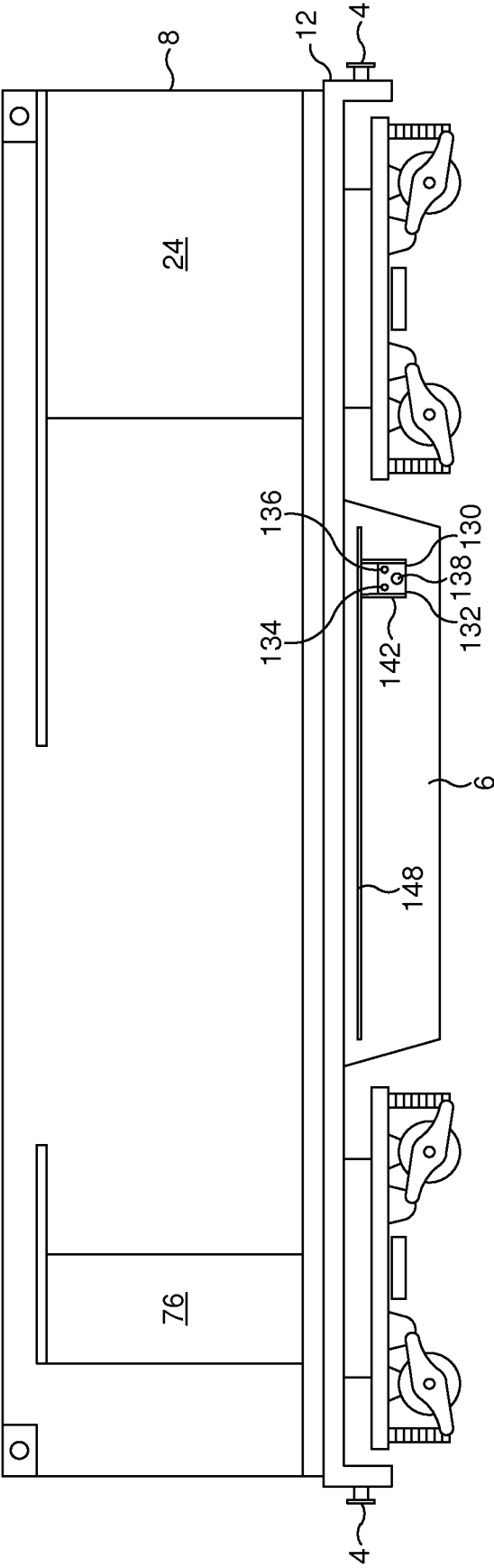
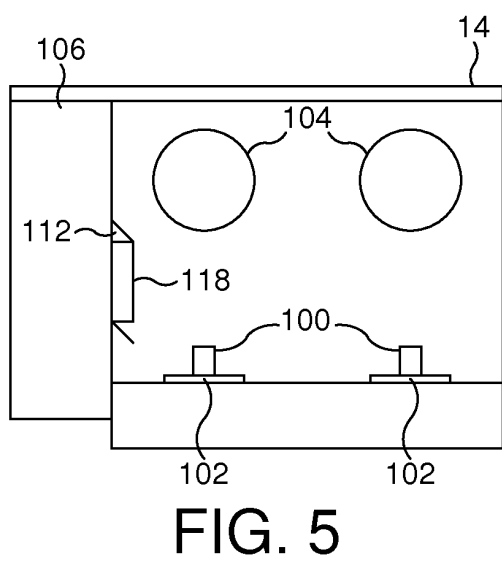
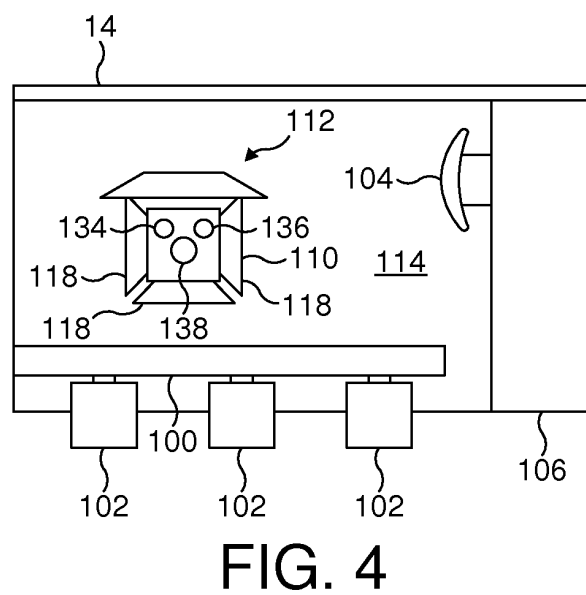
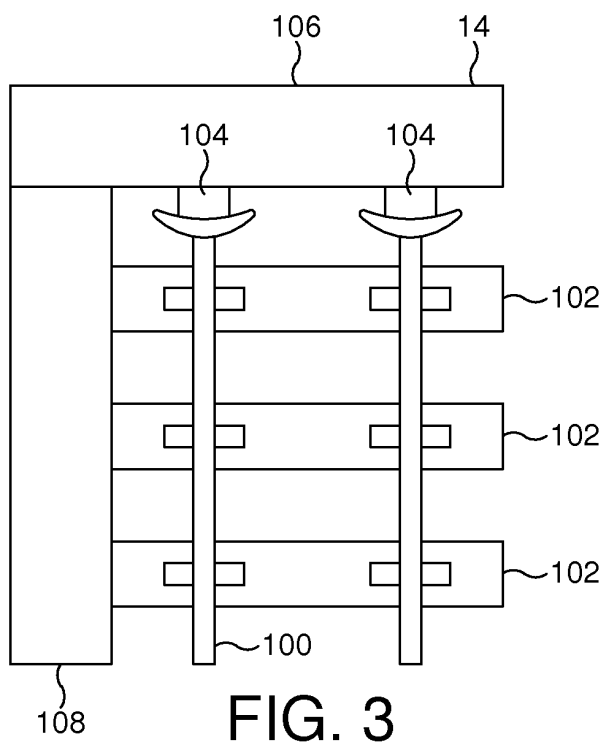


FIG. 2



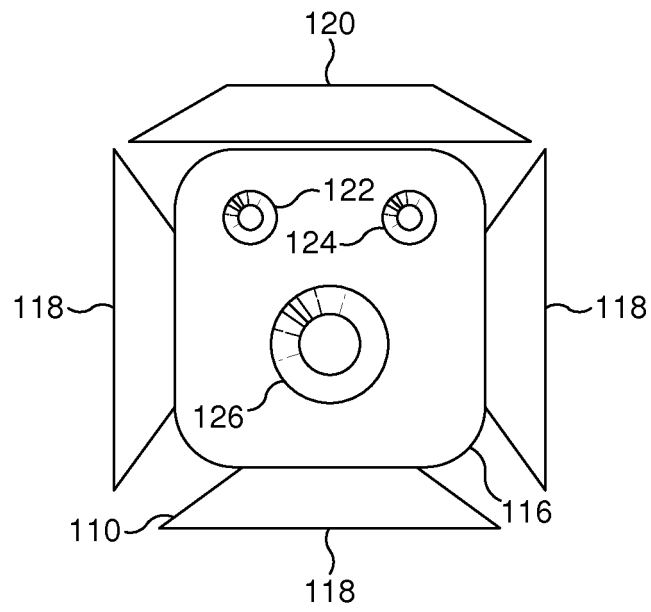


FIG. 6

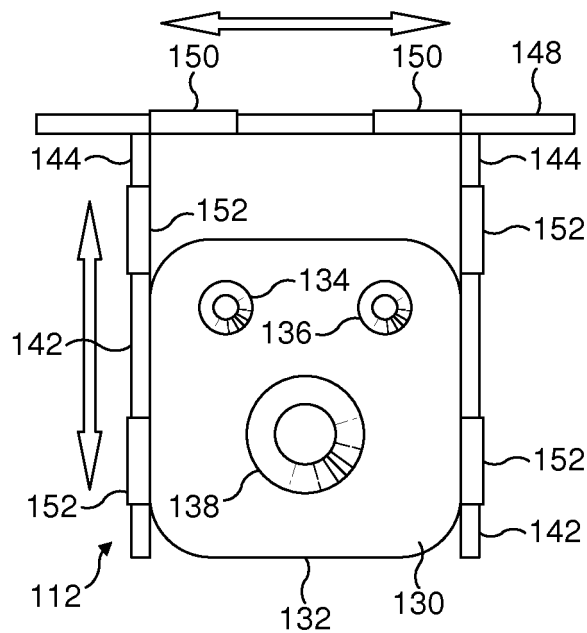


FIG. 7

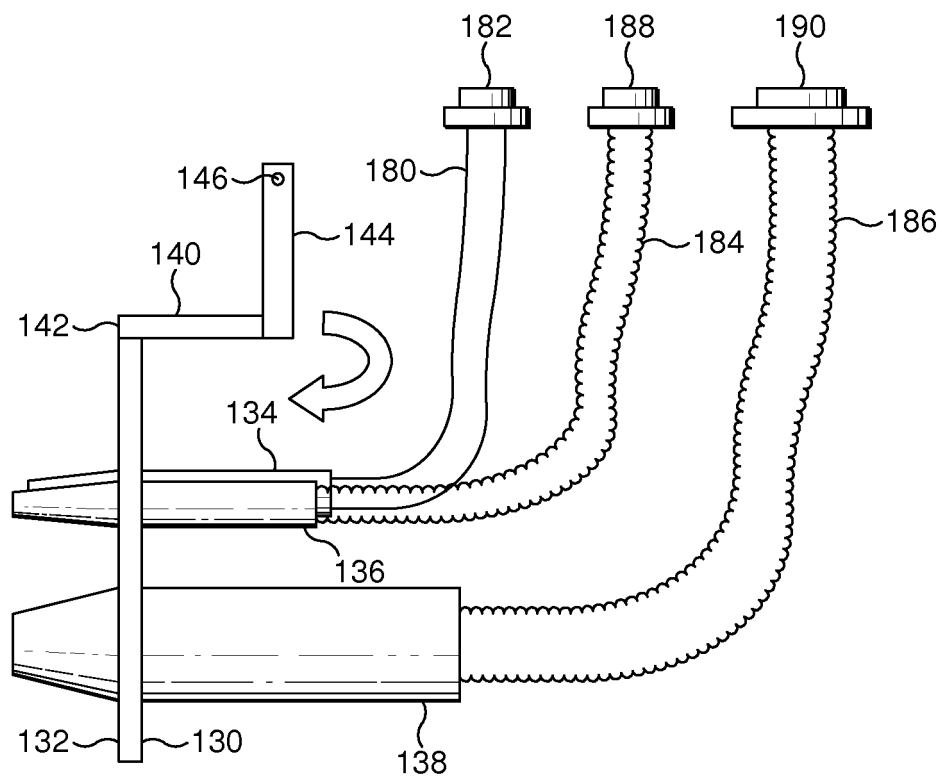


FIG. 8

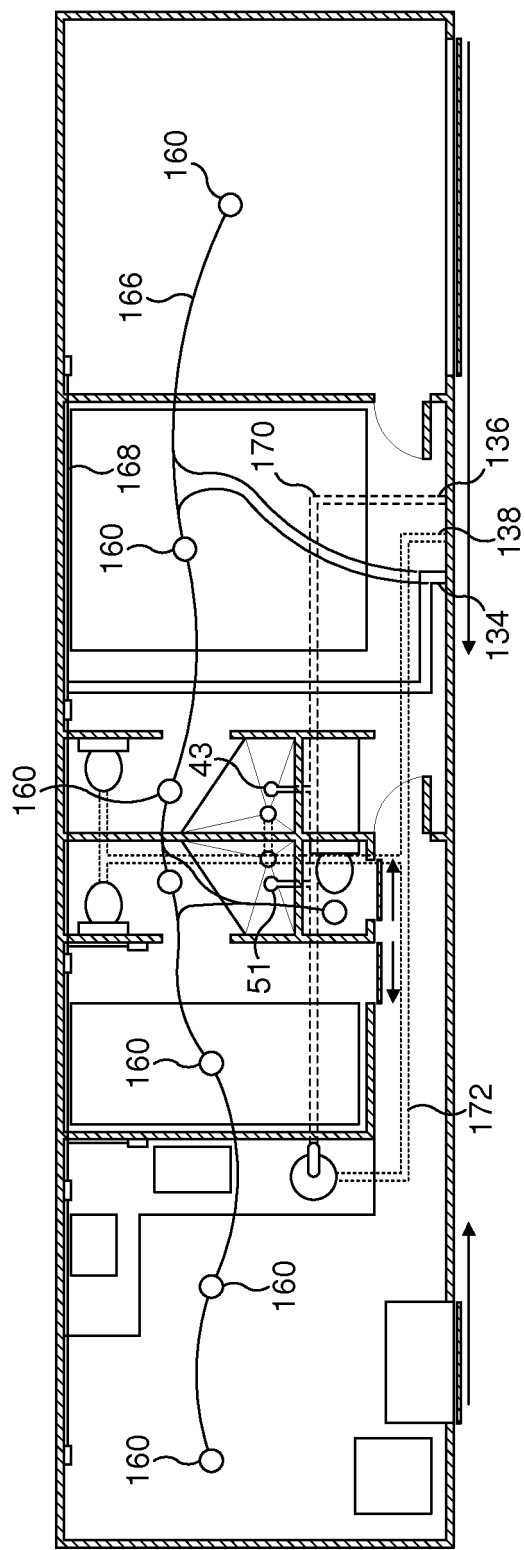


FIG. 9

REFERENCES CITED IN THE DESCRIPTION

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