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CHASSIS LAYOUT

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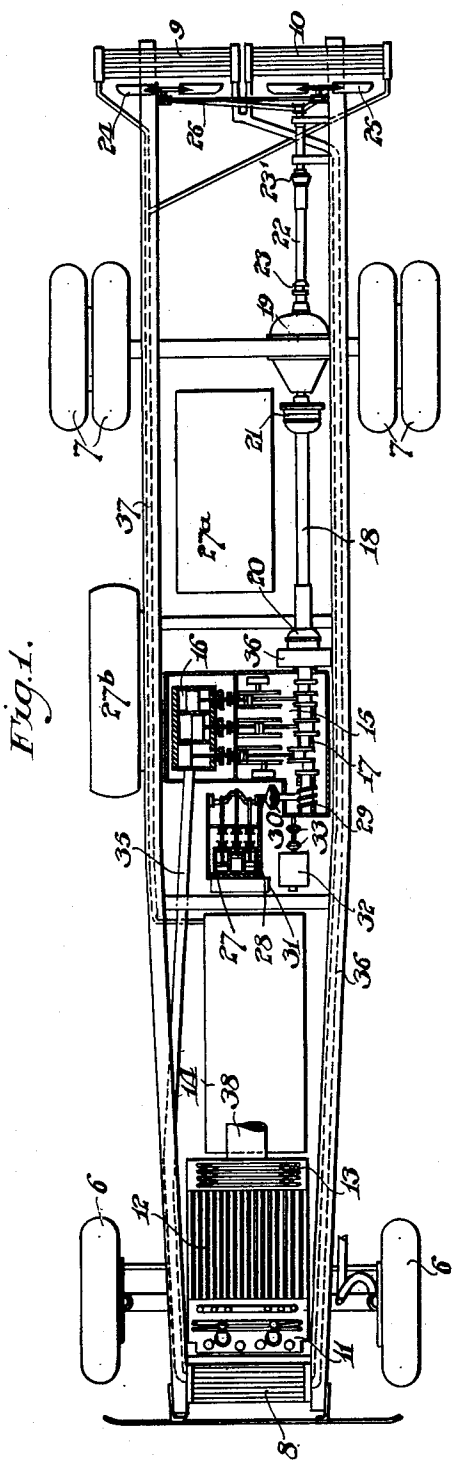


Fig. 1.

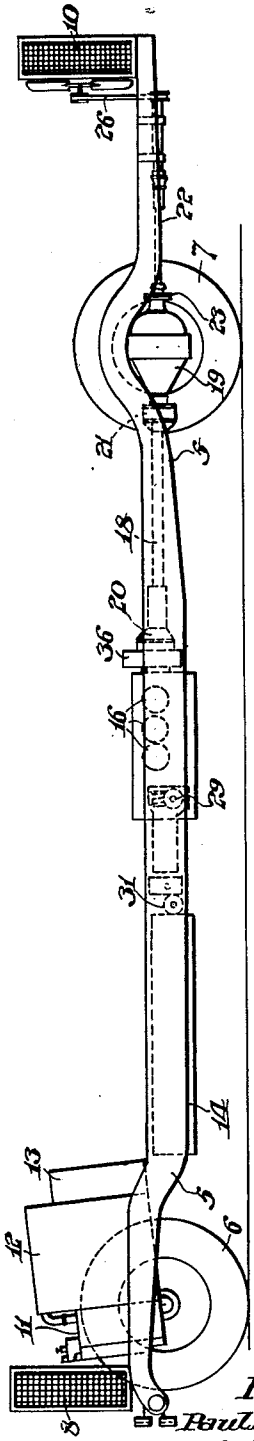


Fig. 2.

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CHASSIS LAYOUT

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The invention relates to chassis construction and the arrangement and disposition of the various elements carried by the chassis in the operation and control of a steam coach.

The invention relates especially to the arrangement and disposition of the several elements cooperating in the operation and control of the vehicle, such as the steam generator, the water tank, the engine, the fuel tank, the condensers and the transmission, so as to secure a proper support and distribution of the weight and the most convenient and effective cooperation of the several elements.

Referring to the drawings which illustrate by way of example a suitable embodiment of our invention:

Fig. 1 is a plan view of the chassis and the assembled elements supported therein, the body being removed.

Fig. 2 is a side elevation of same.

Similar numerals refer to similar parts throughout the several views.

The chassis frame 5 is mounted on the front wheels 6 and the rear wheels 7. At the front of the chassis frame is mounted the condenser 8, at the rear of the chassis are mounted other condensers 9 and 10. In some cases the front condenser may be dispensed with. Near the front of the chassis is also mounted the steam generating plant comprising the fuel burning system 11, the boiler 12 and the feed water heater 13. To the rear of the steam plant is mounted the water tank 14. To the rear of the water tank is mounted the engine plant 15, showing in the present example three horizontal cylinders 16. This engine plant, including cylinders and connecting rods, extends transversely substantially across the width of the chassis.

By this arrangement of the engine plant, as shown, it will be noted that the engine will lie flat beneath the floor of the coach, while the crank shaft 17 will lie to one side of the middle line of the chassis and the propeller shaft 18 will be directly coupled to the crank shaft 17 and differential 19 by the flexible couplings or universal joints 20 and 21. A second shaft 22 is mounted to the rear of the differential 19 and connected through a flexible coupling 23 to a pinion driven by the large gear of the differential. This shaft 22 extends to the rear of the chassis and drives, through the flexible coupling 23', the condenser fans 24 and 25 by the belt and pulley assembly 26.

Between the engine plant 15 and the water tank 14, are located the horizontally arranged fuel pump 27 and the feed water pump 28, both driven through worm drive 29 and flexible coupling 30 from the engine crank shaft 17. The fuel pump 27 delivers fuel from the fuel supply tank 27^a to the fuel pressure tank 27^b which in turn delivers to the fuel burning system 11. Between the fuel and feed water pumps and water tank is also positioned the cylinder lubricator 31, and between the engine crank shaft and the water tank, is also positioned the generator 32 driven through flexible couplings 33 from the engine crank shaft 17 through suitable pinion gears.

The crank shaft 17 is provided with the usual fly-wheel 36. An exhaust steam pipe 35 delivers exhaust from the engine cylinders to the front condenser 8, and an exhaust steam pipe 36 leads from the front to the rear condensers. The water return pipe 37 leads from the rear condensers to the water tank 14. A chimney or flue 38 leads from the feed water heater 13 to the roof of the coach.

As above stated the front condenser may be dispensed with, in which case the exhaust pipe 35 may lead directly from the engine cylinders 16 to the rear condensers 9 and 10, and the exhaust steam pipe 36 may be dispensed with.

What we claim is:—

1. In a chassis layout for steam driven vehicles, the combination of a steam generating plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, and an engine crank shaft offset from and parallel with the longitudinal middle line of the chassis.

2. In a chassis layout for steam driven vehicles, the combination of a steam generating

plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, an engine crankshaft offset from and parallel with the longitudinal middle line of the chassis, and a propeller shaft in alinement with the crank shaft and directly coupled thereto.

3. In a chassis layout for steam driven vehicles, the combination of a steam generating plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, an engine crank shaft offset from and parallel with the longitudinal middle line of the chassis, a propeller shaft in alinement with the crank shaft and directly coupled thereto, and a fan driving shaft in alinement with the propeller shaft and operatively connected therewith.

4. In a chassis layout for steam driven vehicles, the combination of a steam generating plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, an engine crank shaft offset from and parallel with the longitudinal middle line of the chassis, a propeller shaft in alinement with the crank shaft and directly coupled thereto, a fan driving shaft in alinement with the propeller shaft and operatively connected therewith, a condenser at the rear end of the chassis and a cooling fan therefor operatively connected with the fan driving shaft.

5. In a chassis layout for steam driven vehicles, the combination of a steam generating plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, an engine crank shaft offset from and parallel with the longitudinal middle line of the chassis, fuel and water pumps between the engine and the steam generating plant, and an operating shaft therefor geared to the engine crank shaft and extending at right angles thereto.

6. In a chassis layout for steam driven vehicles, the combination of a steam generating plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, a water tank positioned between the steam generating plant and the engine, and an engine crank shaft offset from and parallel with the longitudinal middle line of the chassis.

7. In a chassis layout for steam driven vehicles, the combination of a steam generating plant comprising a combustion system at the front end of the chassis and a boiler in horizontal alinement and immediately to the rear of the combustion system, a steam engine having horizontal cylinders located midway and transversely the longitudinal extension of the chassis, a fuel tank positioned between the steam engine and the rear end of the chassis, and an engine crank shaft offset from and parallel with the longitudinal middle line of the chassis.

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