

From the above construction it will be seen that I produce a locomotive having the capability of accommodating itself to the inequalities of the road and of climbing steep grades and passing around curves of exceedingly small radius without danger of accident or a practical lessening of the power of the engine. The floating sections of the driving-shaft, together with the arrangement of the driving mechanism on the extreme axles, are important features in this construction, as before set forth, while the mounting of the driving-engines in the manner described is another important feature. The bed of the locomotive can be made comparatively light and at the same time exceedingly stiff and rigid, and the engine-frame with its saddle fitting the boiler and its body being securely united to the back frame and the addition of the strut to the engine-frame and its direct support by the truss all conduce to the proper and accurate support of the driving-engines. Being arranged at an angle slightly less than ninety degrees, space is economized, they being allowed to hug the sides of the boiler and at the same time they are properly balanced and in a position to exert their power upon the driving-shaft in an economical manner.

While I have described and illustrated what I consider to be the best embodiment of my invention, it will be understood that the details of construction and arrangement can be varied by those skilled in the art without departing from the general principles thereof, and it is further evident that parts of my invention may be used together or separately and in combination with other equivalent parts.

What I claim is—

1. In a locomotive-engine mounted upon trucks and having a centrally-located longitudinal shaft connecting the trucks, the combination, with the boiler, of an engine-frame located, essentially, beneath the boiler and secured thereto, engines mounted thereon and arranged with their center lines at an angle to each other, and the boiler within the angle and passing the plane of the angle with its axis perpendicular to said plane, substantially as described.

2. In a locomotive-engine mounted upon trucks and having a centrally-located longitudinal shaft connecting the trucks, the combination of two engines arranged at an angle to each other and connected to the crank-shaft and having the eccentrics of both engines located at one side of the crank, substantially as described.

3. In a locomotive-engine mounted upon trucks and having a centrally-located longitudinal shaft connecting the trucks, the combination of the engines arranged at an angle to each other and connected to the shaft and tumbling-shaft common to both engines, arranged within the angle formed by the engines, substantially as described.

4. In a locomotive-engine mounted upon

trucks and having a centrally-located longitudinal shaft connecting the trucks, the combination, with the engines arranged at an angle to each other and connected to the shaft, of the eccentrics connected to the shaft at one side of the crank and the tumbling-shaft common to both engines, arranged within the angle formed by the engines, substantially as described.

5. In a locomotive-engine mounted upon trucks and having a centrally-located longitudinal shaft connecting the trucks, the combination, with the engines arranged at an angle to each other and connected to the longitudinal centrally-located crank-shaft, of struts secured to the engine-frames and truss-rods bearing on the struts and connected to the frame of the locomotive, substantially as described. Geared Steam Locomotive Works

6. In a locomotive mounted upon two pivoted trucks, the combination of the driving-engines for propelling the locomotive, a central driving-shaft which is independent of the inner driving-axles, but geared to the extreme or outside driving-axles, and connections between the outside driving-axles and the inner driving-axles, substantially as described.

7. In a locomotive-engine, the combination, with the main frame supporting the driving-engines, of two pivoted trucks supporting the same, gears connected with the outside axles of the trucks, a shaft-section connected to said gears and mounted on the truck, and connections between said shaft-sections and the driving-engines, substantially as described. www.gearedsteam.com

8. In a locomotive-engine, the combination with the main frame and driving-engines mounted thereon, of the main shaft-section supported thereby, pivoted trucks supporting the engine, gear connections for the outside axles of the truck, a shaft-section mounted on the truck, and a floating shaft-section connecting the fixed section of the shaft with the section on the truck, substantially as described.

9. The combination, with the main frame and driving-engines carried thereby, of a fixed section of the main shaft connected thereto, a pivoted truck having gears connected with the outside axle, a shaft-section mounted on the truck, a floating shaft-section interposed between the fixed shaft-section and the section on the truck, and knuckle-joints connecting the shaft-sections, substantially as described.

10. In a locomotive-engine, the combination, with the pivoted truck, of a section of the driving-shaft mounted on the truck and connected by gearing to the outside axle, and a spring support mounted on the truck for supporting said shaft-section, substantially as described.

11. In a locomotive having a pivoted truck, the combination, with the outside axle, of gears connected thereto, a section of the main driving-shaft connecting said gears, a yoke-