No. 111,761. PATENTED FEB. 14, 1871.

J. B. McKINLEY.

STEAM LAND CARRIAGE.

2 SHEETS—SHEET 1.

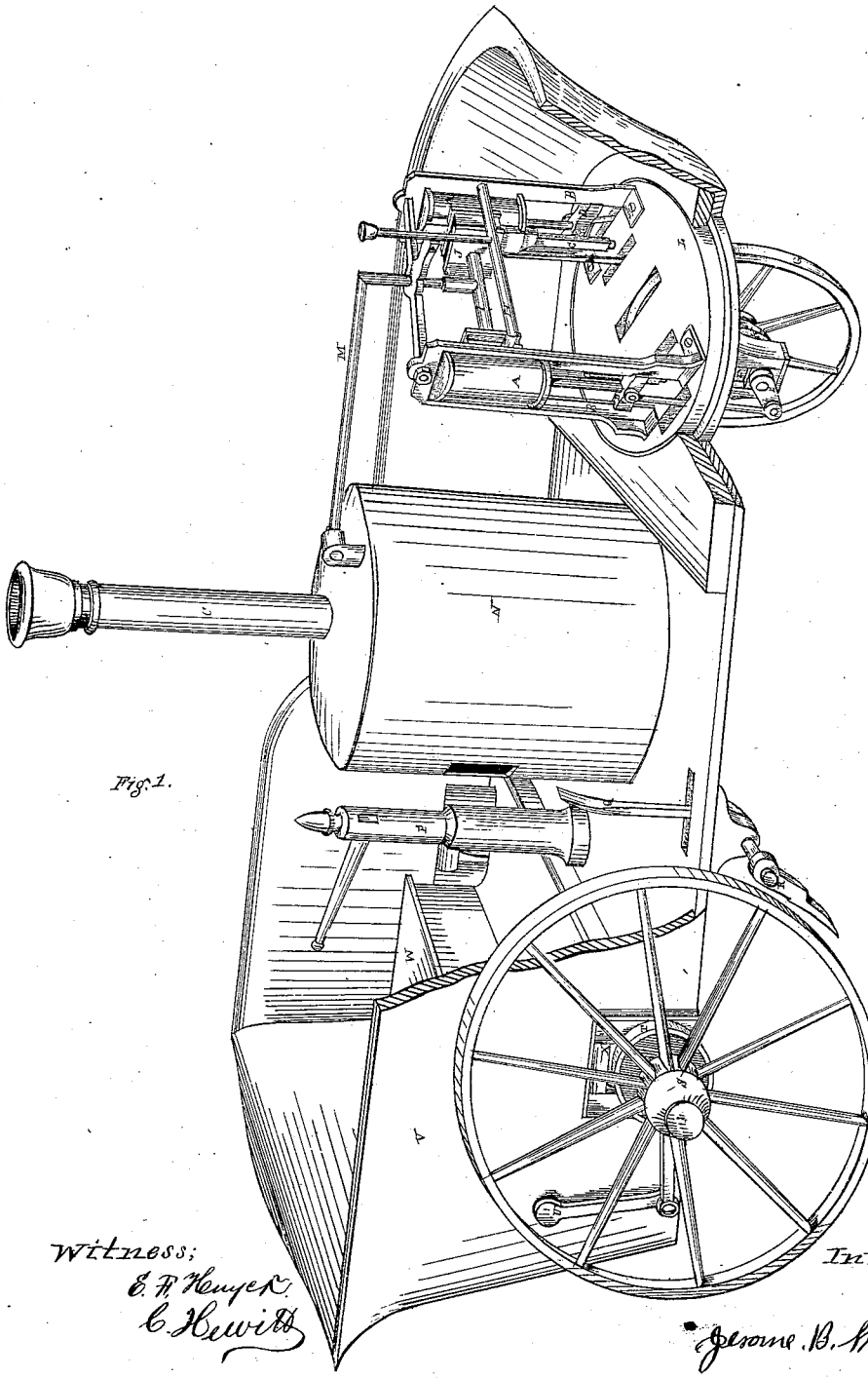

Fig. 1.

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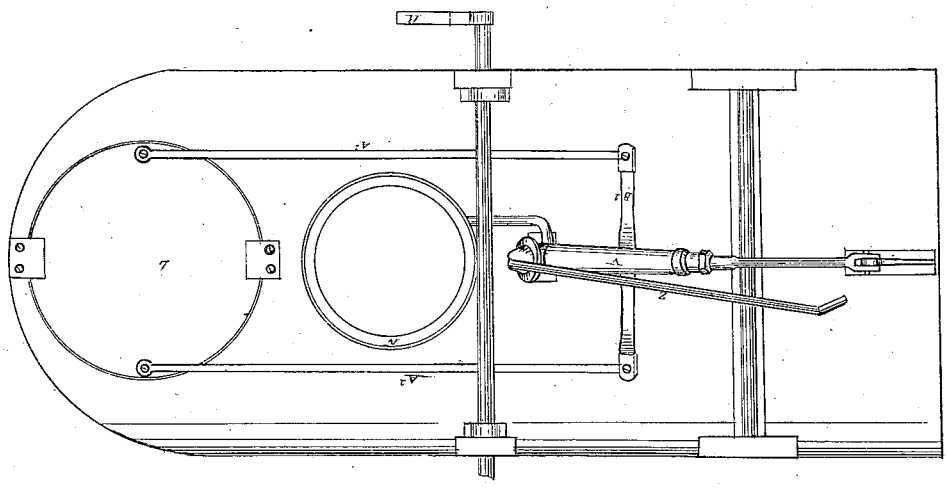
2 SHEETS—SHEET 2.

Fig. 2.



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JEROME B. McKINLEY, OF SPENCER COUNTY, KENTUCKY.

Letters Patent No. 111,761, dated February 14, 1871.

IMPROVEMENT IN STEAM LAND-CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JEROME B. MCKINLEY, of the county of Spencer and State of Kentucky, have invented a certain new and useful Improvement in a Steam Land-Carriage, of which the following is a specification.

The first part of my invention consists in a carriage mounted on three wheels, somewhat similar to that of the common steam fire-engine, except that the body may be made in any suitable form, having long slot openings in each side, in order to receive the bearing-boxes of the hind axle, with gum springs over them; their boxes are all neatly fitted in the lower end of these openings, so as to slide up and down, as the spring yields, in passing over rough roads; the back end of this body is provided with a convenient seat for the operator, the lower part of which is made to answer as a water-tank, with the force-pump that supplies the boiler with water immediately under it. This pump is operated by an eccentric on the hub of the main wheel by means of a rock-shaft, and arms connecting with the pump. And immediately in front of the driver's seat within the carriage is the arrangement for steering the machine, consisting of a small shaft working down through a pipe-shaped stand secured to the floor of the car, the upper end of this shaft being provided with a lever, in order to operate it, while the lever end has a double crank connected with the revolving platform of the front wheel, by means of iron rods, by which the machine is guided; but in order to regulate the speed of the machine it is provided with brakes similar to those now in use, with a lever extending up through the bottom of the car so as to be operated by the foot of the driver.

The second part of my invention consists in the general arrangement of the front wheel. This front wheel is made somewhat similar to that of a common wheelbarrow, except that the shaft projects beyond the bearings, and is provided with cranks on each end set at right angles, the bearing-boxes of this shaft being neatly fitted into slot openings in the lower end of long horns secured to the under side of the revolving platform, so as to slide up and down in the openings as the gum spring over them yields to the shock in passing over rough roads, there being openings in the above platform for the connecting rods of the engines to pass through.

The third part of my invention relates more especially to the peculiar arrangement of the engines on the revolving platform of the front wheel, they being what is commonly called double engines, constructed and arranged much similar to those now in common use, except that they are inverted so that the piston-rod works out below, the pitmen of which connect with the cranks of the wheel-shaft below, the bearing-boxes of the shaft and cylinders being permanently connected by means of an iron bar passing up through the spring connecting with the head of the cylinders, which cylinders are made to slide in fixed stands on top of the platform by means of grooves cut in the head-flanges, so as to enable them to yield to the working of the springs below; and as the springs do not always work together, consequently the steam-pipe connection between them must be made of gum, so as to accommodate itself to the irregularity. The steam-pipe connecting the engine with the boiler can be made of any suitable material, but with a packing-box at each end, the end over the cylinder forming a swivel-joint in order to permit the wheel to turn entirely round so as to back the machine, when desirable to so arrange it for that purpose.

The boiler for generating the steam is placed in the car immediately behind the engine.

One may be constructed in any of the known forms suitable for the purpose.

Having thus fully described the nature of my invention, a more complete understanding of which may be had by reference to the drawing,

Figure 1 is a view of the machine complete, with one side cut out in order to show the interior arrangement of the machinery therein.

Figure 2 is a view of the bottom, showing the force-pump and the machinery for guiding the car.

A A are the engine cylinders.

B B are the stands or slides to which they are attached.

C C are the connections between the cylinders and journal-boxes of the shaft.

D D are the cross-heads, to which the piston-rods and pitmen are attached.

E is the cranks of the wheel-shaft.

F is the gum springs and journal-boxes of the same.

G is the front wheel.

K is the eccentrics that work the valve of the engines.

H is the exhaust.

I is the connecting steam-pipe between the cylinders.

M is the steam-pipe connecting with the boiler.

N is the boiler.

O is the chimney.

P is the stand-post by which the machine is guided.

Q is the foot-lever of the brake.

R is the rubber of the brake.

S is the main wheels of the machine.

T is the eccentrics for working the force-pumps.

U is the shaft by which motion is transmitted to work the pumps.

V is the body of the car.

W is the driver's seat and water-box.

X is the gum springs over the main axle-boxes.

Y is the force-pump.

Z Z are the pipes connecting it with the water-box and boiler.

B′ is the double crank of the steering-post.

A′ A′ are the links connecting it with the revolving platform L by which the machine is guided.

Having thus fully described the drawing,

What I claim as new, and desire to secure by Letters Patent, is—

1. The sliding steam-cylinders A A, and stands B B in which they work; also the connections C C between the lower end of the cylinders and journal-boxes, in combination with the cross-heads D D, the eccentrics K, cranks E, gum springs F, wheel G, and platform L; also the pipes H, I, and M, the boiler N, and chimney O; also the force-pump Y with its pipe Z Z, the shaft U, and eccentrics T, by which the pump is operated, when arranged, constructed, and operated, substantially as and for the purpose hereinbefore set forth.

2. The combination of the steering-post P with its cranks B′, and links A′ A′ which connect it with the platform L, when arranged, constructed, and operated, substantially as and for the purpose hereinbefore set forth.

3. The combination of the wheel S, the gum spring X, the brakes R, with their foot-lever Q, and body V, with its seat and water-box W, when arranged, constructed, and operated, substantially as and for the purpose hereinbefore set forth.

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Witnesses:

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