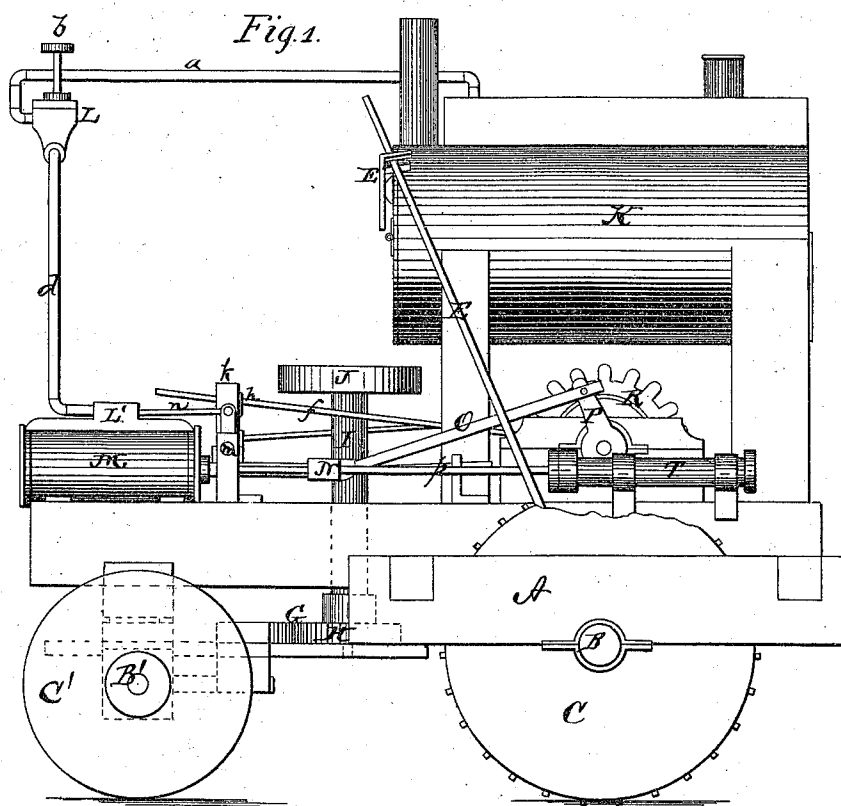


JOHN H. SMITH.

Improvement in Traction-Engines.

No. 126,842.

Patented May 14, 1872.



Witnesses:

Henry N. Miller
C. L. Evers

Inventor:

Inventor,
John H. Smith
per Alexander Mann
Attorneys.

Attorneys

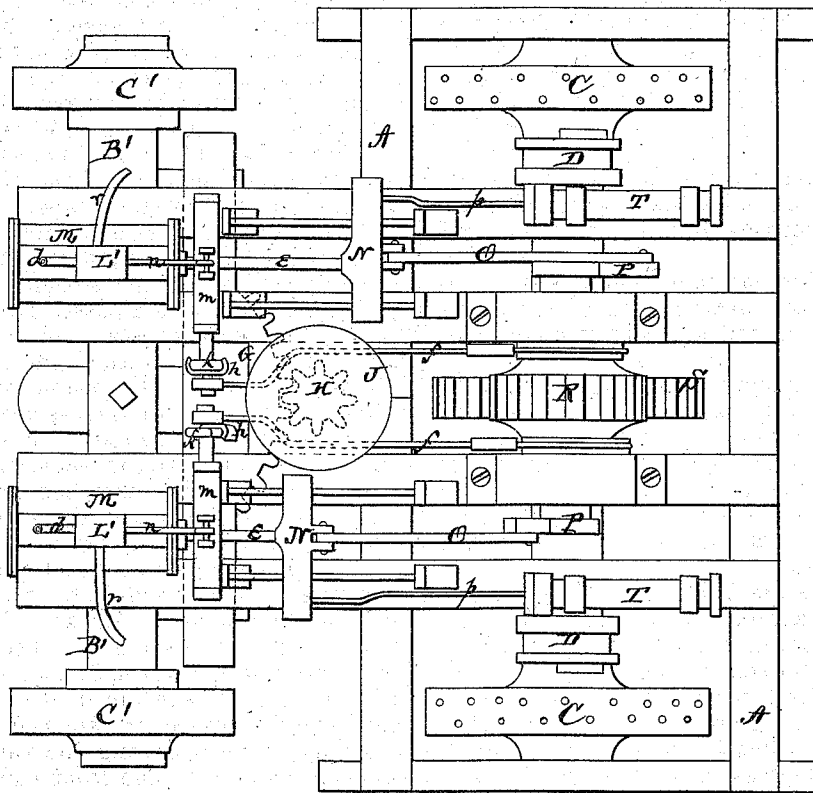
JOHN H. SMITH.

Improvement in Traction-Engines.

No. 126,842.

Patented May 14, 1872.

Fig. 2.



Witnesses:

Henry N. Miller

C. L. Ewert.

Inventor,

John H. Smith

per Alexander M. Mason

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN H. SMITH, OF SHELL MOUND, MISSISSIPPI.

IMPROVEMENT IN TRACTION-ENGINES.

Specification forming part of Letters Patent No. 126,842, dated May 14, 1872.

To all whom it may concern:

Be it known that I, JOHN H. SMITH, of Shell Mound, in the county of Sunflower and in the State of Mississippi, have invented certain new and useful Improvements in Steam Road-Wagons; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification:

The nature of my invention consists in the construction and arrangement of a "Steam Road-Wagon," as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of my machine, and Fig. 2 is a plan view of the same with the boiler removed.

A represents the frame-work of my wagon, and B is the rear axle in the rear part of the frame. Upon each end of this axle, inside of the frame, is loosely placed a wheel, C, provided on its rim with teeth or projections to take hold in the ground. The inner end of the hub of each wheel C is provided with suitable teeth or depressions for a clutch, D, which is feathered on the axle, to fit in, so that when the axle is revolved the wheels will turn with it, and thus move the wagon forward. The clutches D D may be moved out or in at will, so as to throw them in and out of gear with the wheels by means of a forked lever, E, to each clutch. These levers are pivoted on the frame, their forked ends fitting in circumferential grooves on the clutches, and their upper ends are placed in the forked ends of other levers, E', pivoted to a bar attached to the front end of the boiler, so that the operator can readily throw either or both of the clutches in and out of gear. The front end of the frame A is supported on an axle, B', with a wheel, C', on each end, said axle being pivoted by a king-bolt through the center. On the rear side of this axle B' is attached a bar with a cogged segment, G, in the center. Into this segment gears a pinion, H, on an up-

right shaft, I, which shaft is, at its upper end, provided with a hand-wheel, J, by means of which device the wagon may be turned in either direction and steered. K represents the furnace and boiler, of any suitable construction, placed lengthwise in the center above the rear end of the frame, and supported in any convenient manner. From the boiler K the steam passes through a pipe, a, to a steam-chest, L, elevated above the front end of the frame, and provided with a throttle-valve, b, to let on or shut off the steam. When this valve is open the steam passes through pipes d d into the steam-chests L' on the cylinders M M, arranged one on each side at the front end of the frame. The piston-rod e of each cylinder connects with a cross-head, N, moving on suitable guide-rods, and each cross-head is by a pitman, O, connected with a crank, P, said cranks being attached one at each end of a short shaft placed above and parallel with the rear axle B. The two cranks P P are placed at right angles with each other, so that when one is on the dead-center the other will be at the middle of the stroke. On the center of this shaft is a small cog-wheel, R, which gears with a larger wheel, S, upon the axle B, and thus the same is revolved. Upon the same shaft are also placed or attached eccentrics with rods f f for operating the valves in the steam-chests L' L'. The front ends of these rods have boxes upon them attached to sliding collars or stirrups h h placed upon bars k k, which are attached to rocking shafts m m, and each of said rocking shafts is by a rod, n, connected with the valve in the steam-chest L' corresponding with it. By this means said valves are operated, and the person running the wagon can, by raising or lowering the slides h h on the bars k k, reverse the direction, as the case may be. T T represent the pumps, arranged one on each side of the frame, and operated from the cross-heads N N by the rods p p. One of these pumps is intended to pump water into the tanks, and the other to force the water from the tanks into the boiler. A water-tank is to be placed over the wheels C C—one on each side of the boiler—and the two tanks connected by a pipe, so as keep the water on a level in the same. The escape steam from the engines passes through pipes

r r into said tanks to heat the water, and also to do away with the annoyance of steam escaping at the sides of the wagon.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination and arrangement of the boiler *K*, engines *L' M*, piston-rods *e*, cross-heads *N*, pitman *O*, crank *P*, cog-wheels *R S*, eccentric-rods *f*, slides *h*, bar *k*, rock-shaft *m*

and *n*, with the frame mounted upon wheels, all substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of March, 1872.

JOHN H. SMITH.

Witnesses:

C. L. EVERT,

A. N. MARR.