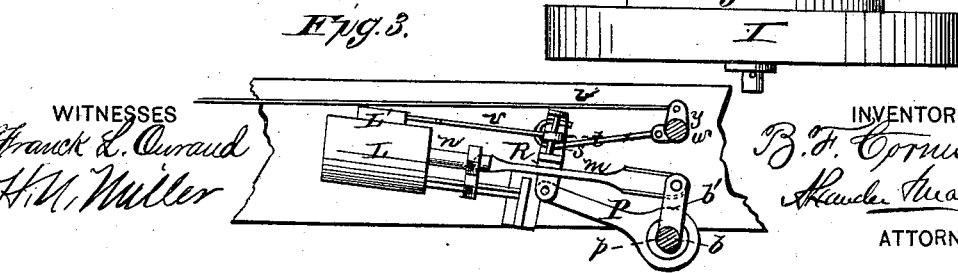
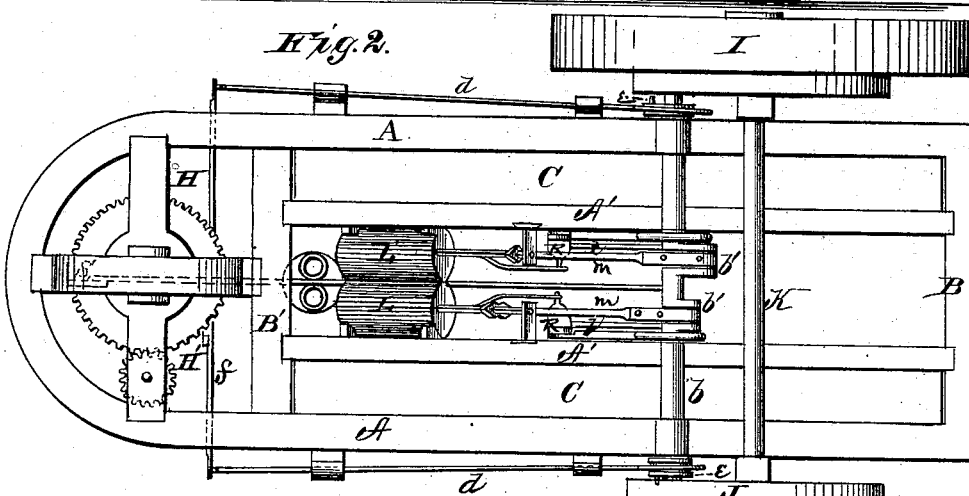
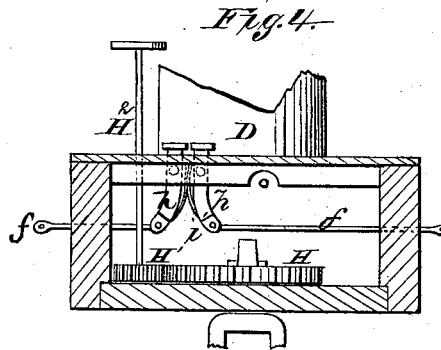
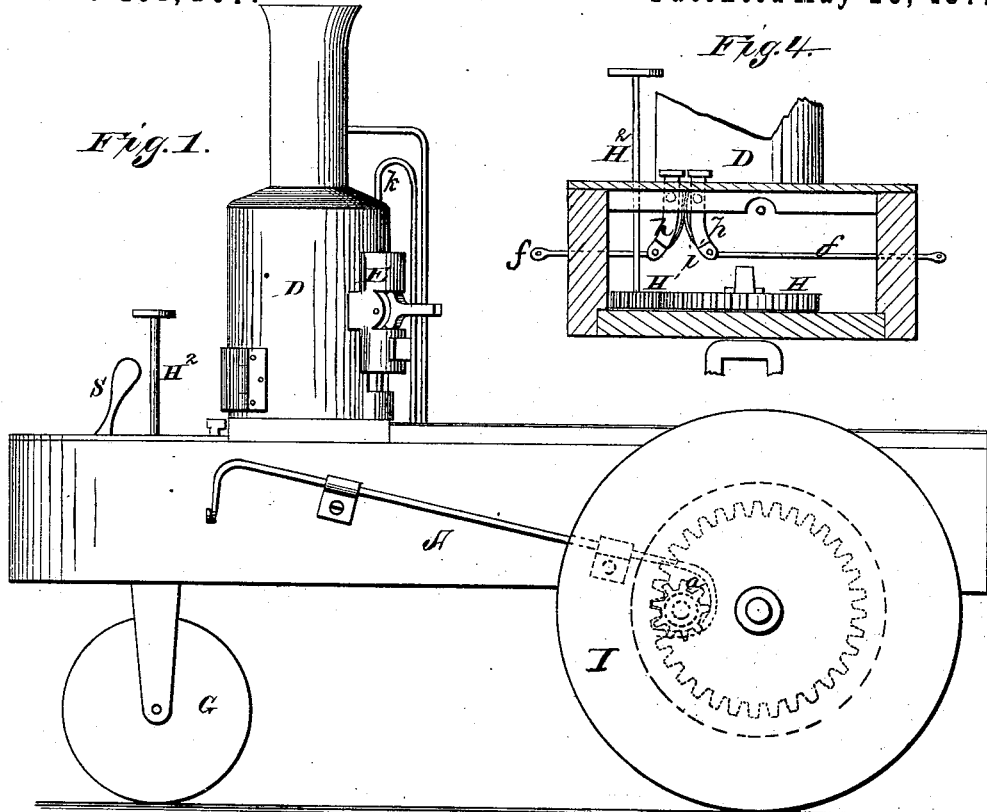


B. F. CORNISH.  
ROAD ENGINE.

No. 191,407.

Patented May 29, 1877.



WITNESSES  
Frank L. Curand  
H. M. Miller

INVENTOR  
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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

BENJAMIN F. CORNISH, OF FRENCH CAMP, MISSISSIPPI, ASSIGNOR OF ONE-HALF HIS RIGHT TO J. L. POWER, OF SAME PLACE.

## IMPROVEMENT IN ROAD-ENGINES.

Specification forming part of Letters Patent No. 191,407, dated May 29, 1877; application filed March 26, 1877.

### To all whom it may concern:

Be it known that I, BENJAMIN F. CORNISH, of French Camp, in the county of Choctaw, and in the State of Mississippi, have invented certain new and useful Improvements in Steam-Wagons; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, 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, and Fig. 2 a bottom view, of my improved steam road-wagon. Figs. 3 and 4 are detailed views of parts thereof.

The frame of my wagon is composed of a single piece of timber, A, bent in the center in U form, and its ends connected by a cross-bar, B. Near the front or bent end is another cross-bar, B', and two longitudinal bars, A' A', connect the two cross-bars B B', forming at each side an elongated chamber to receive the water-tank C. These tanks are to be suitably connected, and connected to the pump E, and from that to the boiler D, said boiler and pump being erected on a platform on the frame.

The frame is supported at its front end on a single guiding or steering wheel, G, operated by means of gearing H H' and shaft H<sup>2</sup>, as shown.

I I represent the main wheels, placed loosely upon a stationary axle, K, and provided on their inner sides with internal cog-gears J J, into which mesh pinions a a, placed loosely upon the ends of a shaft, b, having two cranks, b b', set ninety degrees apart, as shown.

Each pinion a is thrown in and out of gear with the crank-shaft b by means of a movable clutch, e, operated by an oscillating crank-rod, d, one end of which embraces the clutch, and the other is connected by a rod, f, with a pivoted treadle, h, as shown in Fig. 4. By pressing down on the treadle the

clutch is thrown out of gear with the pinion, and as soon as the pressure is removed from the treadle a spring, i, acting on said treadle, throws it in gear again.

From the boiler D a U-pipe, k, passes upward and then downward, and by a T-connection conducts steam to the steam-chests L' L' of the steam-cylinders L L, which are secured to the inner sides of the partition-bars A' of the frame. l is the pipe conveying the exhaust steam to the smoke-stack.

The piston-rods n n of the two cylinders are by pitmen m m connected with the two cranks b' b' of the shaft b, whereby said shaft obtains the required rotating motion.

On the shaft b are also two eccentrics, p, each of which is by a strap and rod, P, connected with a pivoted bracket, R, and in said bracket is a rod, s, with a slide, t, thereon. This slide is by a jointed rod, v, connected with the slide-valve in the valve-chest L', whereby said slide-valve obtains the required movement at the end of each stroke of the piston in the cylinder.

The slide t is adjusted up and down on the rod s, to change its position above or below the pivot-point of the bracket R, for the purpose of reversing the engine, by means of a rod, x, attached to a rocking-shaft, w, and an arm, y, on this shaft is by a rod, z, connected with a lever, S, at the front end of the wagon, so that by simply moving said lever the engine may be reversed at will, or stopped altogether, as desired.

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

1. In a steam road-wagon, the combination of the bent frame A, with partitions A' A', forming chambers for the tanks C C, the pump E, boiler D, steering-wheel G, and main wheels I, substantially as herein set forth.

2. The treadles h h, with springs i i, connecting-rods f f, and oscillating crank-rods d d, combined and arranged substantially as described, for throwing the clutches e e in and out of gear, as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of August, 1876.

B. F. CORNISH.

Witnesses:

FRANK GALT,  
GEO. W. WHISENANT.