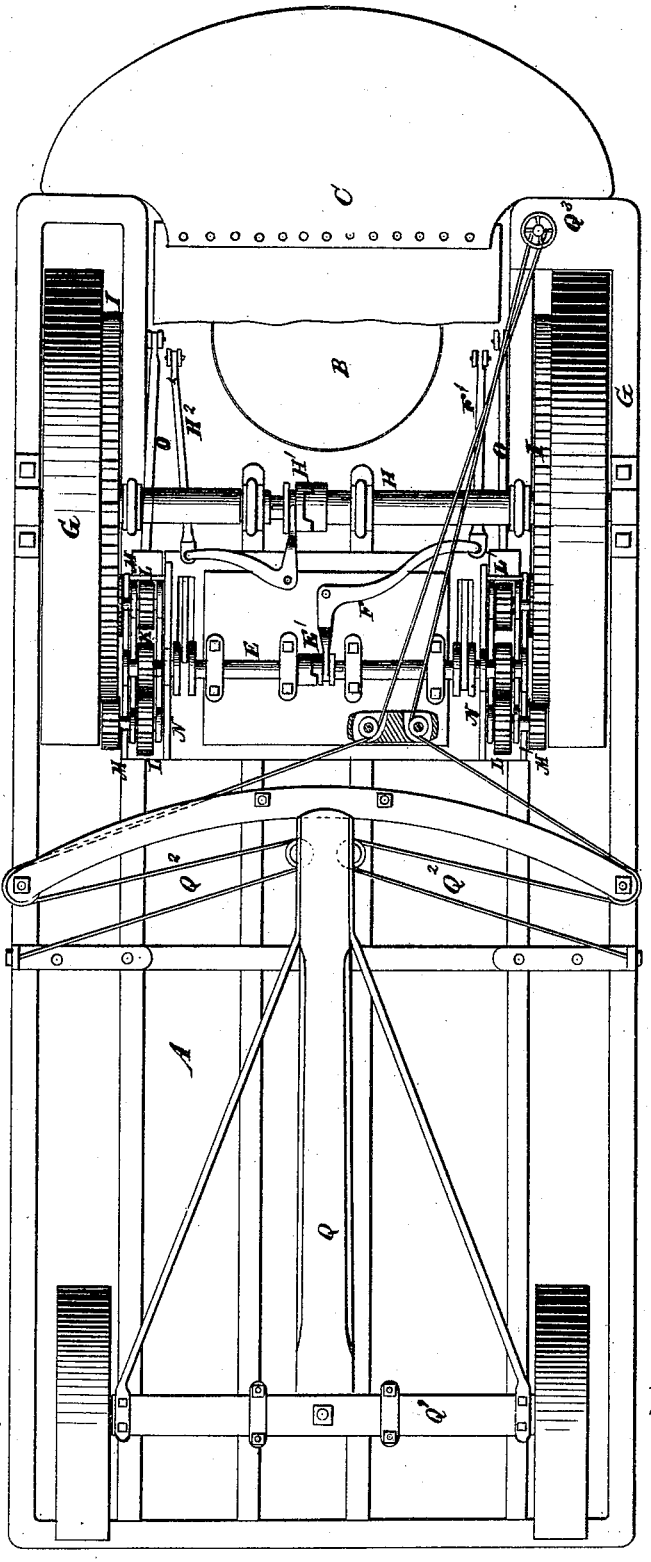
2 Sheets—Sheet 1.

S. B. STONE.

STEAM WAGON.

No. 181,220. Patented Aug. 15, 1876.

Fig. 1.



Witnesses:
A. Ruppert.

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D. P. Holloway & Co
Attys

2 Sheets—Sheet 2.

S. B. STONE.

STEAM WAGON.

No. 181,220. Patented Aug. 15, 1876.

Fig. 3.

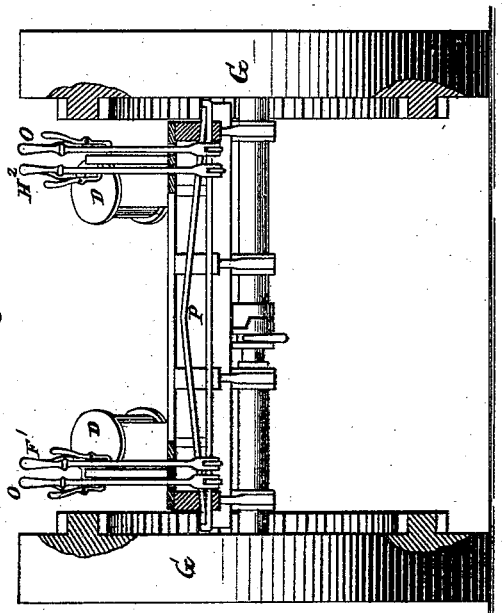


Fig. 4.

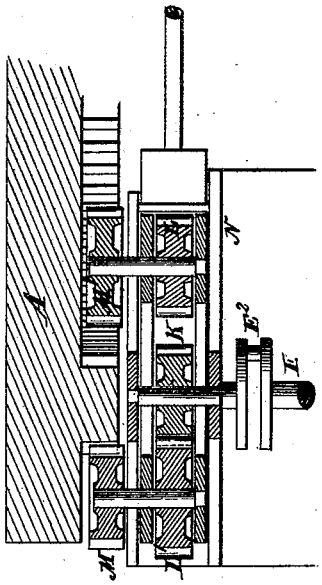
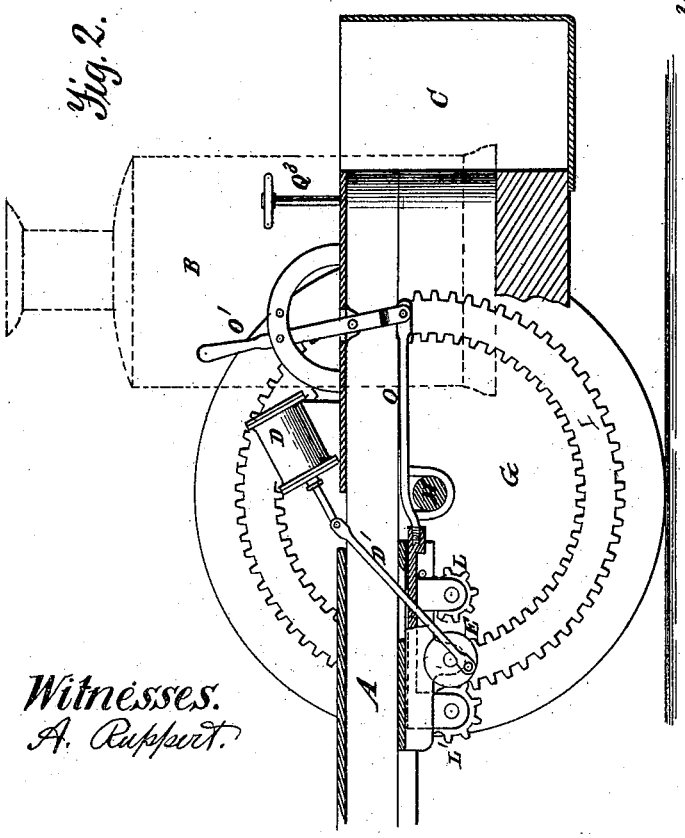


Fig. 2.



Witnesses.
A. Ruppert.

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Attys

UNITED STATES PATENT OFFICE.

SILAS B. STONE, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN STEAM-WAGONS.

Specification forming part of Letters Patent No. **181,220**, dated August 15, 1876; application filed April 12, 1876.

To all whom it may concern:

Be it known that I, SILAS B. STONE, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Steam-Wagons for Common Roads, of which the following is a specification:

This invention has for its object a wagon for carrying freight on common roads; and my improvements consist in the use of sectional axles, with clutches for regulating the application of power to one or both wheels, and also in the use of two sets of pinions for communicating motion to the wheels, whereby the speed of the wagon may be increased or diminished without altering the action of the piston, the diminution of speed in such case being accompanied by a corresponding increase in power.

In the annexed drawings, which are made part of this specification, Figure 1 is a plan view as seen from below, looking upward. Fig. 2 is a sectional elevation, showing the mode of communicating motion from the piston to the drivers. Fig. 3 is a transverse sectional elevation, and Fig. 4 is a section showing the arrangement of pinions used for communicating motion.

The same letters are employed in all the figures in the indication of identical parts.

A is the frame or body of the wagon, all the space in the front of the driving mechanism being free to receive freight. B is the boiler, and C the foot-board.

The steam enters the cylinders D, of which one is placed on each side, the connecting-rods extending to the cranks E^2 on the shaft E. This crank-shaft is made in two parts, connected by a clutch, E^1, which may be shifted by the lever and rods F′ F, for the purpose of applying the power to one or both wheels, as may be most expedient.

The drivers G are broad tread, and hung upon the sectional shaft H, which may be connected by the clutch H^1, actuated by the lever H^2; or the wheels may be revolved independently, as preferred. This prevents the strain upon the axle incident to running two wheels connected by a rigid shaft around corners.

On the inner face of each driver is a ring, I, having teeth cut upon both the inner and exterior edges.

On the outer ends of the crank-shaft are spur-pinions K, intended to engage either the spur-pinions L or L′, running on counter-shafts carrying other spur-pinions, M′ or M, which are intended to mesh into the external or internal gearing on the rings I. To this end these counter-shafts have their bearings on sliding boxes N, actuated by the lever and connecting-rod O, by means of which they may be moved to bring either the pinions L or L′ into gear with the pinions K on the crank-shaft, and the corresponding pinions M′ or M into gear with the drivers.

The corresponding sets of gears are of different sizes, relatively, so that, by merely bringing into action one or the other counter-shaft, the speed of rotation of the drivers may be changed without involving a change in the speed of the strokes of the piston. This produces a corresponding change in power, and may be made useful in turning curves or ascending or descending grades, &c.

The axle is supported and strengthened by an arched brace, P.

The steering is controlled by means of a tongue, Q, attached to the axle Q^1 of the front wheels, and turned by cords, wires, or chains Q^2, passing over a system of sheaves, and attached to the shaft Q^3 of a hand-wheel within ready reach of the engineer.

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

1. In combination with the engine and drivers of a steam-wagon, the crank-shaft E, made in two sections, and clutch E^1, substantially as set forth.

2. In combination with the crank-shaft and drivers, propelled by force applied to the double-geared ring I, the driving-pinions L L′ and sliding boxes N, whereby the driving power may be applied to the external or internal gears, substantially as set forth.

3. In combination with the pinions K on the crank-axle, the pinions L L′ and M M′, hung on counter-shafts and in sliding boxes, whereby said pinions are of different sizes, so as to permit the speed of the wagon to be changed by shifting the pinions engaging the external or internal gearing of the ring I without changing the speed of the pistons, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SILAS B. STONE.

Witnesses:
CHAS. C. EMMONS,
T. J. BURK.