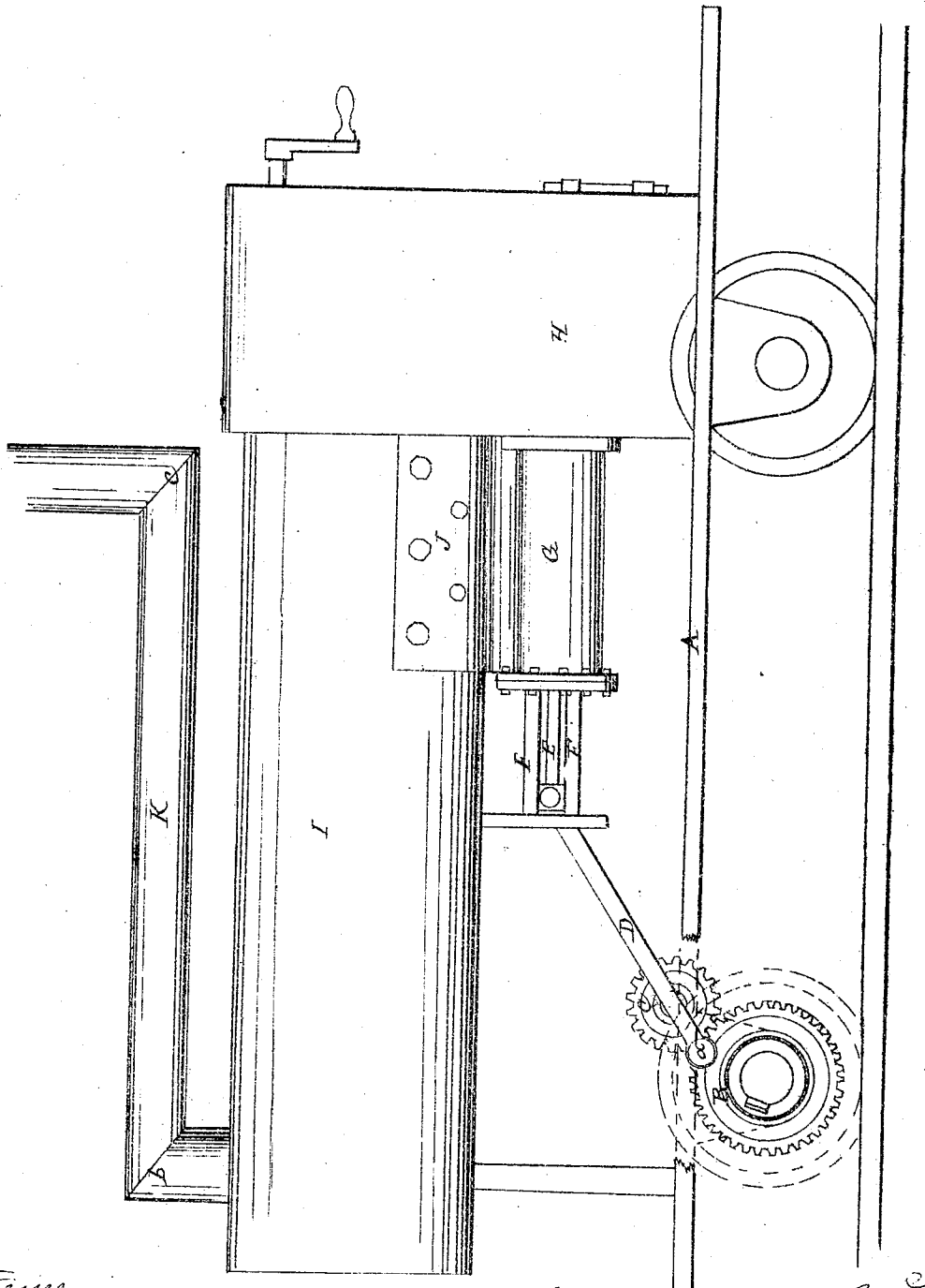
S. L. Langdon.

Locomotive-Engine

No. 75280 Patented Mar. 10, 1868.



Witnesses

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SYLVESTER LARNED LANGDON, OF NEW ORLEANS, LOUISIANA.

Letters Patent No. 75,280, *dated March* 10, 1868; *antedated February* 28, 1868.

IMPROVEMENT IN LOCOMOTIVE-ENGINES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, SYLVESTER LARNED LANGDON, of New Orleans, in the parish of Orleans, and State of Louisiana, have invented a new and useful Improvement in Street-Railroad Locomotive-Engines; and I do hereby declare the following to be a full and exact description of the same, sufficient to enable others skilled in the art to which my invention appertains to understand and construct the same, reference being had to the accompanying drawings, which make part of this specification, and which represent a side elevation of my improved engine.

The nature of my invention consists in the arranging of the cylinder below the boiler, the cylindrical portion of one head being attached to the fire-box, and the cylinder fastened to the boiler by plates or other suitable means. Also, in leading the smoke-pipe, through which the steam is exhausted, backwards, and then upwards, to prevent the noise of the exhausting steam.

The great objection to the employment of locomotive-cars on street-railroads is, that the noise made by the engine frightens the horses and other animals, whereby the lives of the persons in the carriages would be greatly endangered. The cause of this is, that the greater part of the machinery is visible, and the noise made by the exhausting steam, which rushes with great force into the open air. By my improvement these obstacles are removed.

A, in the drawings, may represent the bottom of a street-railroad locomotive-car, which runs on four wheels, the axle of the forward pair of wheels being provided with a gear-wheel, B, which gears with smaller gear-wheel C, the shaft of which has a crank-arm, *a*, to which an arm, D, is loosely attached, which arm is jointed to the piston-rod E moving in suitable bearings F. G is the cylinder, the rear head of which is rigidly attached to the fire-box H, and the body of the cylinder is secured to the boiler I, by means of plates J, which are formed on the cylinder G, and riveted to the boiler-plates. K is the smoke-pipe or stack, which is, as usual, situated at the front end of the boiler, provided with an elbow, *b*, carried back, parallel to the boiler, to near the top of the fire-box, and then led upward and outward, as shown at *c*.

It will be seen that, by these means, all the working machinery of the locomotive-engine can be placed inside of the engine-car, so that the moving of the machinery cannot frighten animals, nor the noise of the exhausting steam, as the force of the same is broken by the elbows in the pipe K.

It will also be understood that, by these means, an engine can be constructed in a very compact shape, and that part of the boiler to which the cylinder is attached, will be strengthened by the plates J, the principal strain of the cylinder coming on the fire-box, to which its head is rigidly secured.

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

The arrangement of the cylinder of a street-railroad locomotive-engine on the under side of the cylindrical portion of the boiler by means of plates J, or their equivalents, formed on the cylinder, one head of which is rigidly secured to the fire-box, substantially as and for the purposes set forth.

SYLVESTER LARNED LANGDON.

Witnesses:

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