

H. & F. J. L. Blandy,
Steam-Engine Valve-Gear.
N^o 43,471. Patented July 12, 1864

Fig. 1.

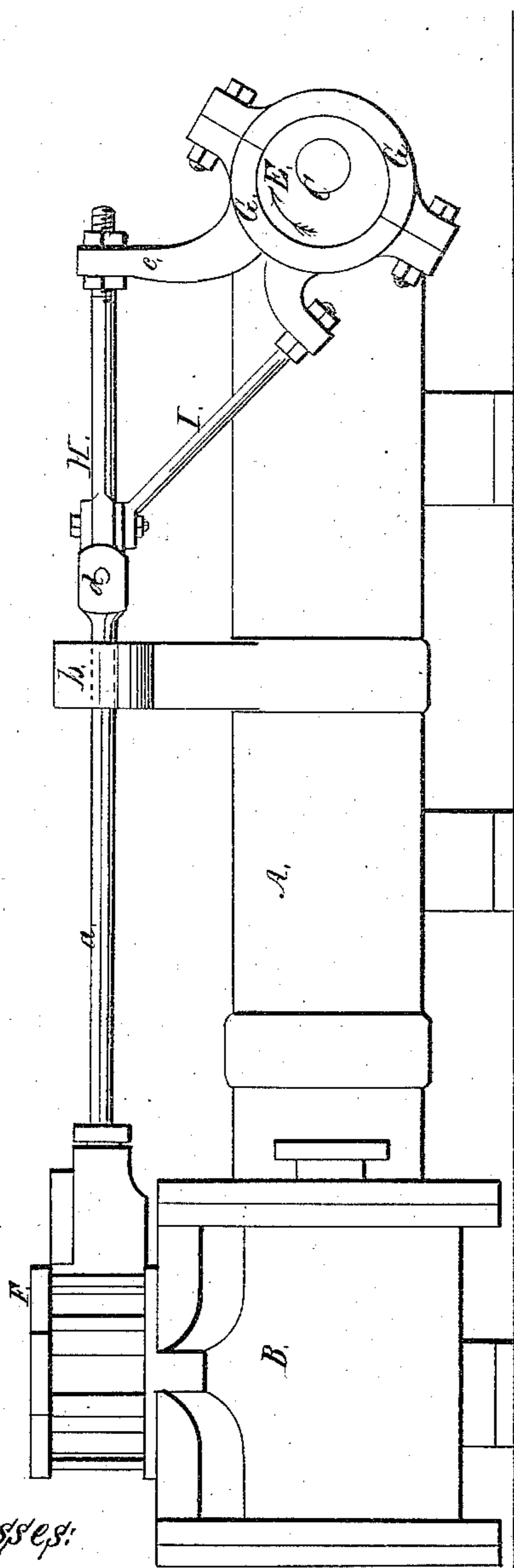
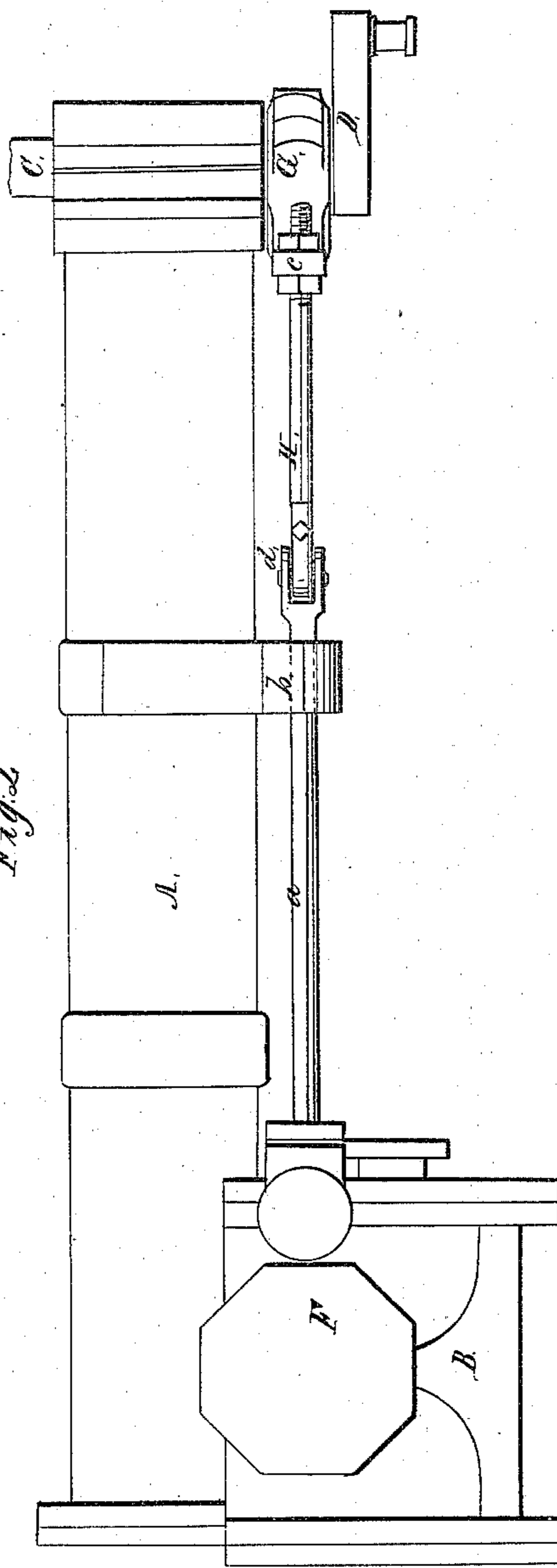


Fig. 2.



Witnesses:

C. S. Topliff

Henry Morris

Inventor:

H. & F. J. L. Blandy

By Munn & Co.

Attys

UNITED STATES PATENT OFFICE.

HENRY BLANDY AND FREDERICK J. L. BLANDY, OF ZANESVILLE, OHIO.

IMPROVEMENT IN VALVE-GEAR FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. 43,471, dated July 12, 1864.

To all whom it may concern:

Be it known that we, HENRY BLANDY and FREDERICK J. L. BLANDY, both of Zanesville, in the county of Muskingum and State of Ohio, have invented a new and useful Improvement in the Valve-Gears of Steam-Engines; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and apply the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a horizontal steam-engine with our invention applied. Fig. 2 is a plan of the same.

Similar letters of reference indicate like parts.

This invention consists in an improved arrangement of the valve-chest and valve and of the connections between the valve-rod and eccentric, whereby the power to drive the valve is transmitted in a more direct manner.

The invention is applicable with more especial advantage to horizontal engines, in which the valve chest and valve are on the top of the cylinder, in which case it dispenses with the rock-shaft commonly used in such engines.

A is the bed-plate of the engine; B, the cylinder; C, the crank-shaft, and D the crank.

E is the valve-eccentric, secured on the main shaft behind the crank, and unavoidably at some distance out of a plane passing through the center of the cylinder perpendicularly to the main shaft.

To bring the valve-rod *a* and the center of the valve in the same plane with the eccentric, the valve chest F, situated on the top of the cylinder, is set some distance off to one side of the cylinder, as shown in the plan

view, Fig. 2. The said rod *a* works in a fixed guide, *b*, secured to the bed-plate to keep it in line.

G is the eccentric-strap, and H the eccentric-rod. The said strap is made with a rigid offset-arm, *c*, for the connection of the rod H, in such a manner that when the eccentric is on the center, as shown in Fig. 1—or, in other words, when the valve is at either end of its stroke—the eccentric rod may be in line with the valve-rod. The connection of the eccentric-rod with the arm *c* is rigid, and its connections with the valve-rod made by a pin-joint, *d*.

In order to hold the arm *c* up to the above-mentioned position, the strap G is also rigidly connected with the rod H near the joint *d* by means of a diagonal brace, I. By this arrangement of the valve-chest and valve and mode of connecting the valve-rod *a* with the eccentric it will be seen that the power is transmitted from the eccentric to the rod in the most direct manner possible.

This invention, though applicable with more especial advantage to a horizontal engine, is not limited in its application to that kind of engine.

We claim as our invention and desire to secure by Letters Patent—

The method of connecting the valve-rod *a* with the eccentric-strap G by means of the offset-arm *c*, diagonal brace I, and rod H, forming a frame which is jointed to the end of the valve-rod, substantially as described and represented.

HENRY BLANDY.

FREDK. J. L. BLANDY.

Witnesses:

THOS. M. CARY,

BENJAMIN A. BLANDY.