# J. F. Hamilton.

## St. Engine Valve.

No. 29271. Patented July 24, 1860.

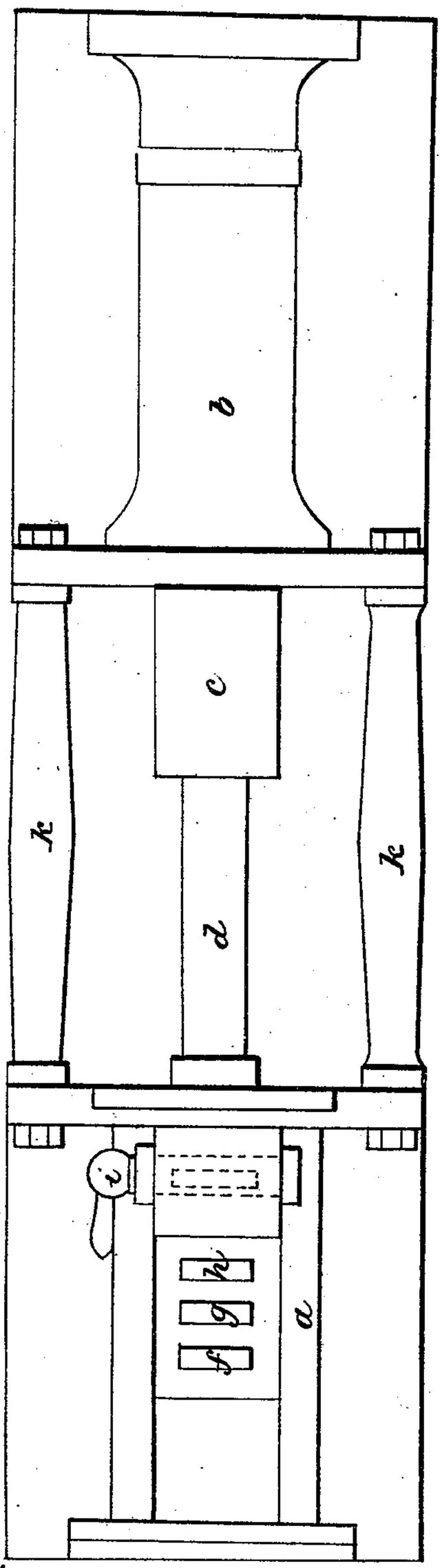


Fig: 1.

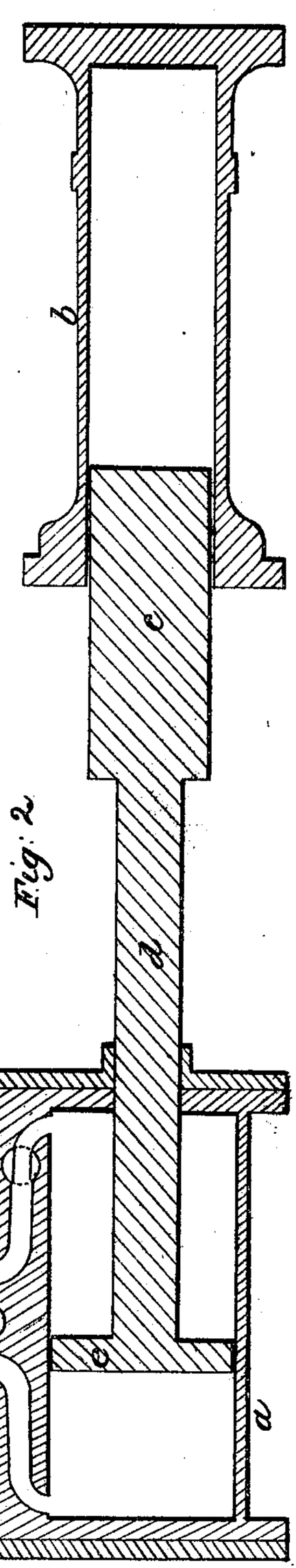


Fig: 2

Witnesses;
James J. Johnston
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# UNITED STATES PATENT OFFICE.

JOSEPH F. HAMILTON, OF PITTSBURG, PENNSYLVANIA.

## PUMP FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. 29,271, dated July 24, 1860; Reissued February 7, 1865, No. 1,864.

*To all whom it may concern:*

Be it known that I, JOSEPH F. HAMILTON, of Pittsburg, in the county of Allegheny, in the State of Pennsylvania, have invented a new and Improved Pump for Steam-Engines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in the use of a stopper or regulating valve placed in one of the receiving ports of the cylinder of the engine, arranged and operated as herein described, for the purpose of regulating the power used for lifting and forcing the plunger of the pump.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1, is a top view of the pump and steam cylinder. Fig. 2, is a cut or sectional view of the pump and steam cylinder.

The steam cylinder and pump are constructed in the usual manner and furnished with all that appertains to them, but, a stopper or regulating valve is placed in one of the receiving ports as represented in Figs. 1 and 2.

($a$) is the steam cylinder.
($b$) is the water pump.
($d$) is the piston rod.
($c$) is the forcing plunger of the pump.
($e$) is the piston head of the steam cylinder.
($i$) is the stopper or regulating valve which is furnished with an opening ($j$).
($f$ and $h$) are receiving ports.
($g$) is the exhaust opening.
($k$) are columns used for the purpose of uniting the pump ($b$) with the cylinder ($a$).

The operation of my improvement is as follows: The cylinder is furnished with steam, and the pump with water in the ordinary way. The steam entering the cylinder through port ($f$) will force the piston head ($e$) toward the pump, thereby forcing the plunger into it. The plunger is drawn out of the pump by the steam entering the cylinder through port ($h$). The stopper or valve ($i$) should be set so as to admit just enough steam to move the plunger and piston into their proper position with ease, and without jar to the machinery.

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention, and desire to secure by Letters Patent of the United States, is—

The use of the stopper or regulating valve ($i$) when placed in the receiving port ($h$) and used as herein described and for the purpose set forth.

JOSEPH F. HAMILTON.

Witnesses:

JAMES J. JOHNSTON,
M. MCBRIDE.