

P. L. Weimer,

Governor.

N^o 27,752.

Patented Apr. 3, 1860.

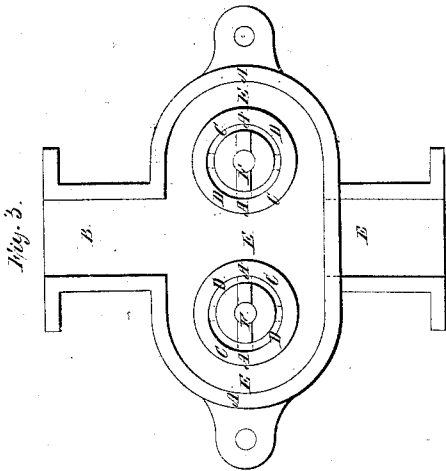


Fig. 3.

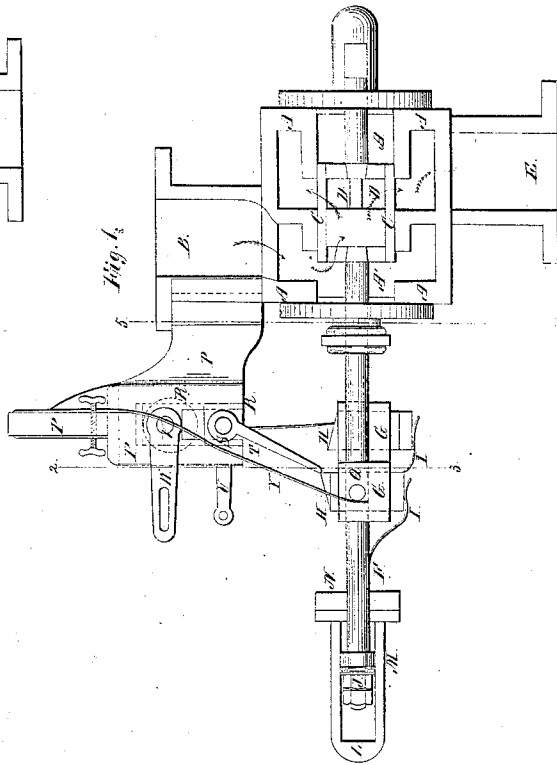


Fig. 5.

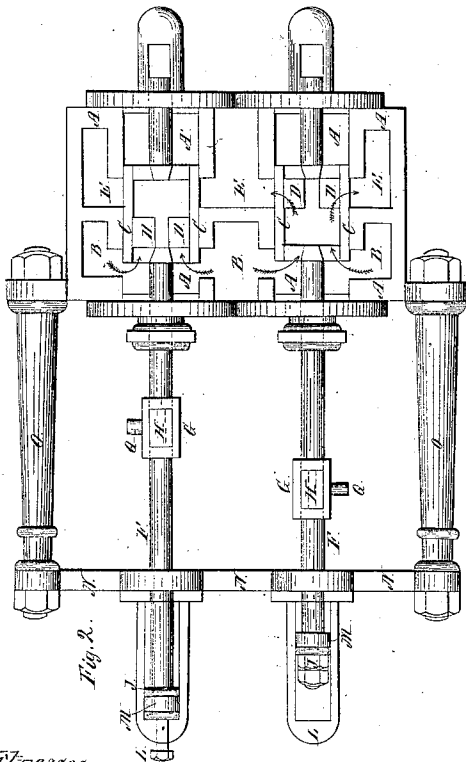


Fig. 2.

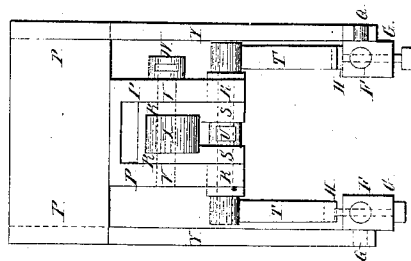


Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

PETER L. WEIMER, OF LEBANON, PENNSYLVANIA.

GOVERNOR-VALVE OF STEAM-ENGINES.

Specification of Letters Patent No. 27,752, dated April 3, 1860.

To all whom it may concern:

Be it known that I, PETER L. WEIMER, of Lebanon, in the county of Lebanon, in the State of Pennsylvania, have invented a new and Improved Governor-Valve and Mode of Actuating It for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, and to the letters of reference marked thereon.

The nature of my invention consists in a self adjustable cut-off for a steam engine, the point of cut off being determined by the governor and is varied as there is labor put on or thrown off the engine therefore giving the engine a regular motion.

I am aware that a number of devices have been patented for producing the same effect but in manner of operation construction and application they are different from my invention.

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 drawing Figure 1 is a side view showing parts in section. Fig. 2 is a top view also partly in section. Fig. 3 is a front section on the line 5, 6. Fig. 4 is also a front section on the line 2, 3, the letter of reference corresponding.

Two cylinders A' are cast in the body of the valve A. These cylinders are communicated at one end with the pipe B and have about the middle of their length an opening that communicates with the pipe E. The hollow pistons C slide in the cylinders and have the four openings D which openings are same size as the openings in the cylinder A'. The openings are so arranged that in one piston it is forward of the center while in the other it is behind as shown at Fig. 2. The steam is admitted at B and passes in the direction of the arrows to E when the valves are in such a position that the opening in the piston corresponds with the opening in the cylinder, where it is delivered to the steam chest of the engine. To these piston valves are cast the stems F on which stem is fastened the block G, in a slot in this block works the latch H which is held in position by the spring I. On the outer end of F is fastened a small piston J moving loosely in the cylinder L. A circular piece of gum M is placed between this piston and the end of the cylinder on which the piston strikes and

arrests its motion. The cylinders L are fastened to the cross piece N which piece is held by the two columns O.

On the front part of the valve body is fastened the bracket P in this bracket slides vertically the frame and boxes R through this frame passes the shaft S having on each end an arm T also a third arm U through the bracket P above the boxes R passes the shaft V having on one end the arm W and on its middle the eccentric X.

Y are springs fastened to the bracket P and pressing on the pins Q on the blocks G on the valve stems F.

The manner of operation is as follows: The arm U is connected to the engine by means of an eccentric and rod so as to give the arms T a rocking motion in such time that one of the piston valves will be partly open at the commencement of the stroke of the engine and still continue to open as the piston advances. The arm W is attached to the governor and as the governor changes speed it moves with it and causes the eccentric X to change position consequently changing the position of the center of the shaft S. Now say that the arms T are so positioned that they detach themselves from the latches H when the engine has made one half of its stroke; as soon as the latch H is free the spring Y drives the piston valve back and shuts off the steam from further entrance into the cylinder; so long as the same resistance remains on the engine this operation will continue but should more work be thrown on the engine so as to slightly check her speed the governor balls will fall carrying with them the arm W and drop the shaft S with its arms farther into gear with the latches H and consequently leaving the steam on the piston during a longer part of its stroke. Should the burden on the engine be decreased the governor balls in raising will carry the arms farther from the latches and not leave so much steam into the cylinder and they will be detached so much the sooner. In this manner it will be observed that as the engine slightly changes speed so as to affect the governor's position the arms T are moved away from or toward the latches H by means of the eccentric turning in the frame carrying the shaft S and arms T.

The object of the two cylinders is to have one for each end of the cylinder of the engine.

Having thus fully described my invention and its manner of operation what I claim and desire to secure by Letters Patent is—

The combination and arrangement of a self adjustable cut-off valve by means of a shaft S and arm T latching into the latches H and adjusted by the governor attached to the arm W operating the shaft by means of an eccentric X working in the frame R

in such a manner that when the engine 10 slightly changes its speed the shaft S with its arms T will be moved from or toward the latches H substantially as more fully herein described and specified.

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