P. L. Meimer.

Governor.

No. 27,939. Patented Apr. 17, 1860.

Fig. 5.

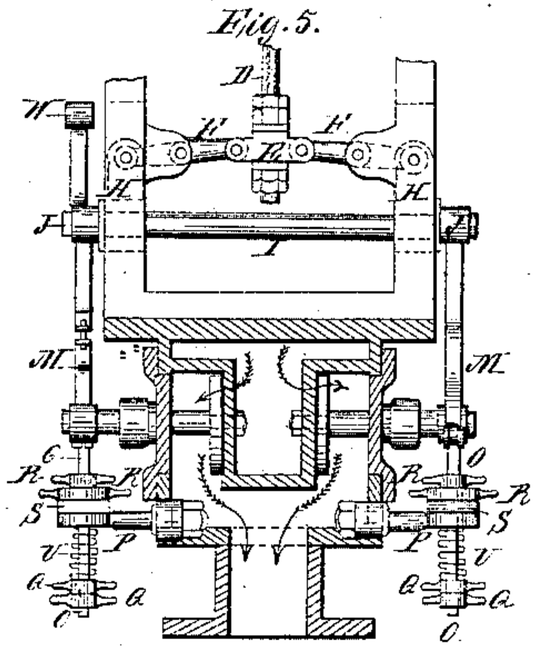


Fig. 6.

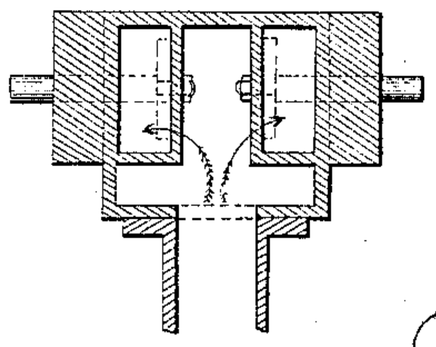


Fig. 7.

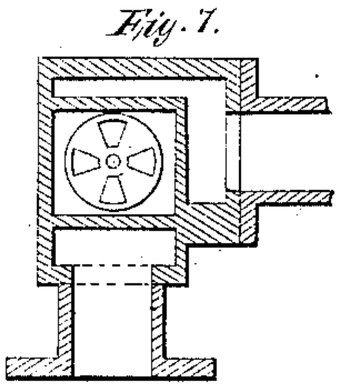


Fig. 4.

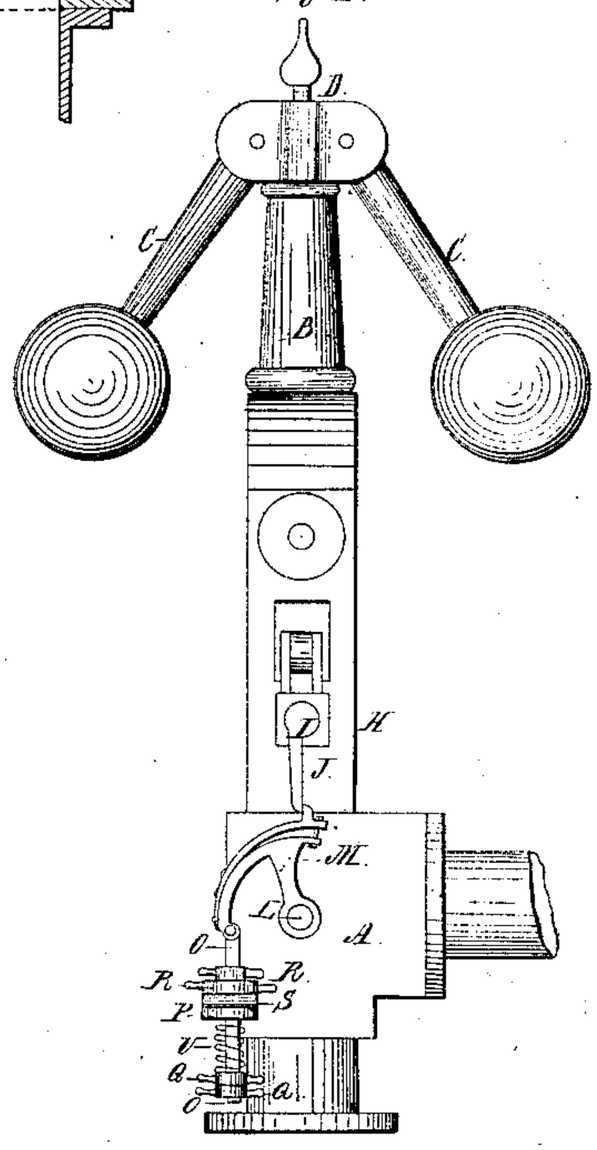


Fig. 1.

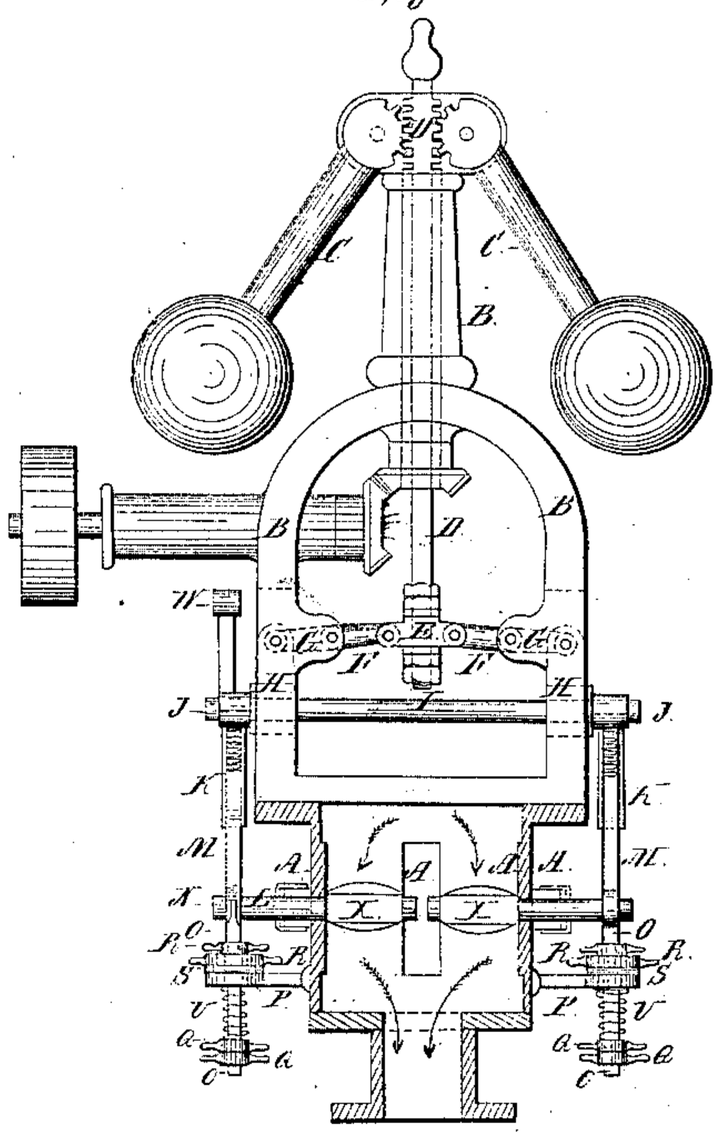


Fig. 2.

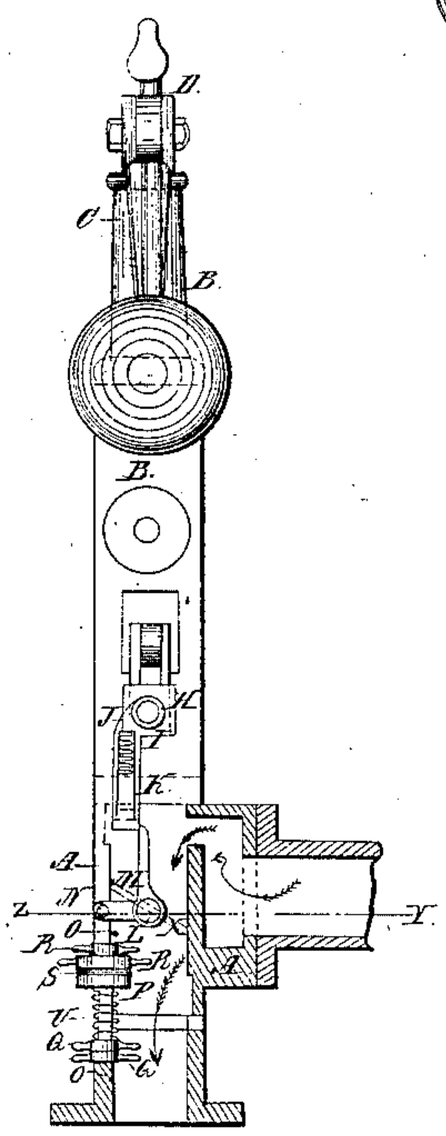
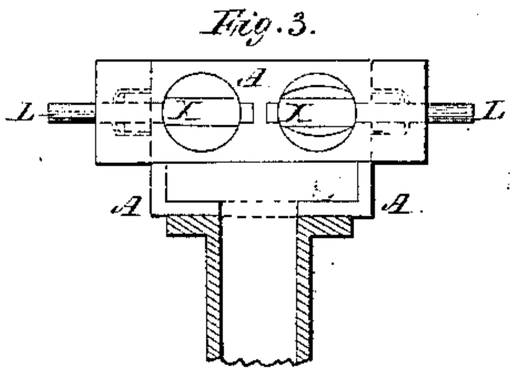


Fig. 3.



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George Strickler

Inventor:
Peter L. Meimer.

UNITED STATES PATENT OFFICE.

PETER L. WEIMER, OF LEBANON, PENNSYLVANIA.

MODE OF ACTUATING GOVERNOR-VALVES OF STEAM-ENGINES.

Specification of Letters Patent No. 27,939, dated April 17, 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 Mode of Actuating the Governor-Valve of a Steam-Engine; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure is a front view part elevation part section. Fig. 2 is a side view also part in section. Fig. 3 is a view on the line *y*, *z* the letters of reference in all the figures corresponding.

A is the valve chest being in this case two simple wing throttle valves, or it may be made as shown in the modification Figs. 4, 5, 6, 7.

B is the governor frame bolted to the top of the valve chest A and forming its cover. On this frame is secured the governor C, with a hollow spindle through which works the racked rod D, the lower end of which has a screw thread cut on it and carries the small cross-head E secured between jam nuts.

F are two small levers hung on their centers G one end of which levers is fastened to the cross-head E the other end to the lugs on the sliding rock-shaft boxes H.

I is a rock-shaft rocking in the boxes H and having fastened at its ends the arms J, in which arms are placed the spring latches K, or these arms may be made without latches, as shown in the modification Fig. 4.

L are the spindles of the throttle valves working through packing boxes in the valve chest A and have fastened on their ends the arms M.

N is a small arm projecting from the arm M to the end of which is jointed the screw threaded rod O, working through a hole in the plate P, said plate being securely fastened to the body of the valve chest A.

R are jam nuts on the rod O and between which and the plate P is placed the circular pieces of india rubber S to act as a buffer.

Q are also jam nuts on the rod O and between which and the plate P is the spiral spring U.

The arms M may be made as in the modification Fig. 4 which dispenses with the smaller arms N and with the spring latches in the arms J as above mentioned.

The manner of operation is as follows. A rocking motion is communicated to the shaft I (by means of an eccentric and rod on the engine shaft) fastened to the arm W the eccentric being set so as to slightly lead the main crank of the engine so that one of the throttle valves will be partly open at the commencement of the stroke of the engine. The rocking of the shaft I operating on the arms M alternately open the throttle valves and admit the steam to the steam chest of the engine where it is distributed to the respective ends of the cylinder by the main valve or valves.

To fully illustrate the mode of operation we will suppose the engine to be running and it is desired to cut off the steam at half stroke. The small cross head E is lowered on the spindle D (which raises the sliding boxes H of the rock-shaft I to which it is connected by the levers F) until the arms J detach themselves from the arms M when the engine is on half stroke. The moment the arms M are detached the spiral spring U acting on the arm N through the rod O suddenly closes the valve, the jam nuts R with the pieces of india rubbers S between them and the plate P are so adjusted that the valve is closed at the same time that the india rubber S strikes the plate P which prevents the valve being destroyed by its sudden closing. The jam nuts Q below the spiral spring U can be raised or lowered so as to increase or decrease the power required to close the valve. It will thus be seen that the rod O thus performs the double function of closing the valve and arresting its motion at the proper point. It will also be seen that should the engine from known causes change its speed slightly so as to effect the governor balls that the shaft I will be raised or lowered which will leave the arms M and U in contact with each other a greater or less length of time consequently admitting more or less steam into the cylinder as the case may require.

The advantage of this the herein described arrangement being that of compactness and less power being required to open and close the valves, which power being expended on the latches they will consequently last much longer without renewal.

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

1. I claim the movable rock shaft I operated in the manner set forth by means of the levers F attached to the governor spindle D and sliding boxes H as herein described and specified.

2. I also claim actuating the rock-shaft I by means of an eccentric on the engine shaft when used in combination with the sliding boxes H and levers F attached to the governor spindle D as herein described and specified.

3. I also claim the rods O working through the plate P with the jam nuts R india rubber buffer S and spiral spring U with the adjusting jam nuts Q in combination with the arm N on the valve rod L for the purpose as herein more fully described and specified.

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