G. G. Hunt,

Steam Balanced Valve.

No. 60,378. Patented Dec. 11, 1866.

Fig. 2.

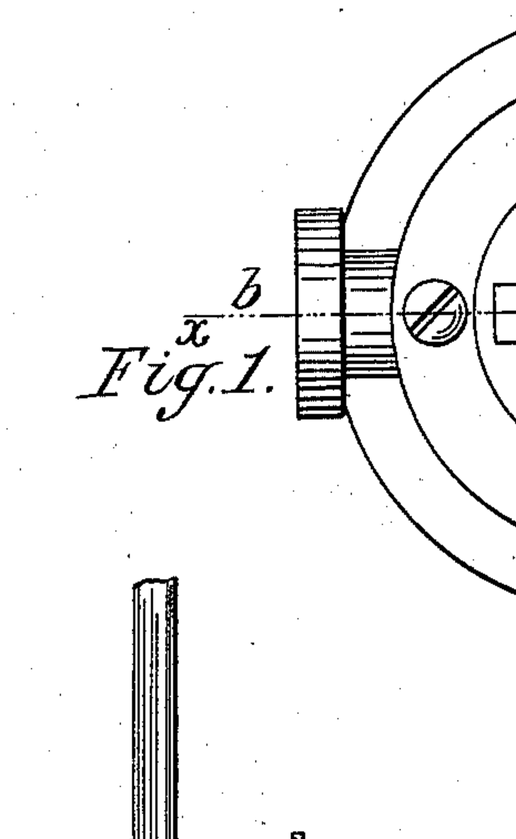
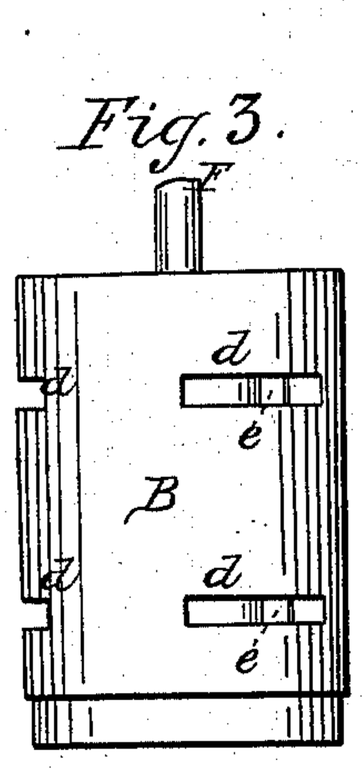


Fig. 1.

Fig. 3.



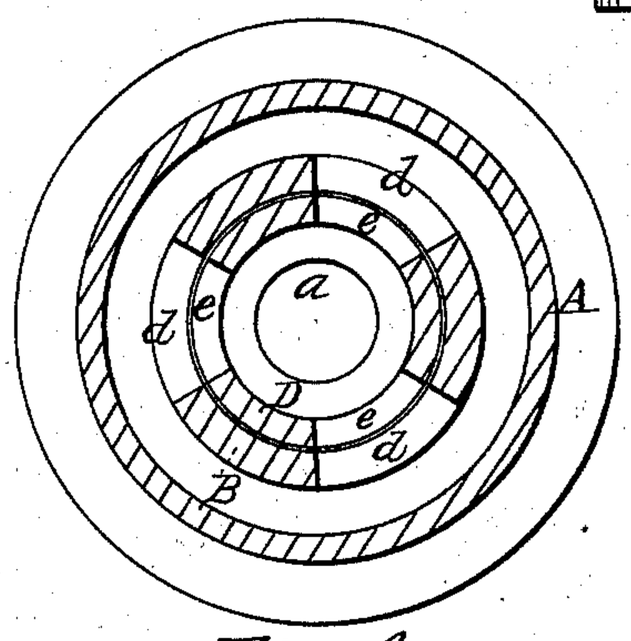


Fig. 4.

Witnesses.
Jas. A. Service.
J. H. Bloomfield

Inventor.
G. G. Hunt
per Munn & Co
Attorneys

United States Patent Office.

IMPROVEMENT IN STEAM VALVES.

G. G. HUNT, BRIDGEPORT, CONNECTICUT.

Letters Patent No. 60,378, *dated December* 11, 1866.

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, G. G. HUNT, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and improved Steam Valve; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, fig. 2.

Figure 2, a plan or top view of the same.

Figure 3, a detached external view of the valve.

Figure 4, a horizontal section of the device complete, taken in the line *y y* fig. 1.

Similar letters of reference indicate corresponding parts.

This invention has for its object the construction of a valve in such a manner that it will serve as a perfect regulator as regards the admission of steam to the cylinder of an engine, and admit of the governor operating perfectly to regulate the admission of steam when applied to an engine of any size and power.

A represents a shell in which the valve is placed. This shell may be of cylindrical form, and it is secured on the steam chest of an engine, communicating with it by means of an opening, *a*, in its bottom. The steam is admitted into the shell at its side, as shown at *b*, figs. 1 and 2. The valve is composed of two hollow cylinders, B D, fitted one within the other, the outer one, B, at its upper end fitting over a circular flange, *c*, at the under side of the cap, E, of the shell, A, and its lower end fitted in a circular recess in the bottom of the shell, the cylinder, B, being fixed or stationary, and having a series of oblong slots, *d*, made circumferentially in it. The inner cylinder, D, is fitted loosely in B, so that it may be turned therein, and also moved up and down; and said cylinder, D, is also provided with slots, *e*, similar to the slots *d* in B. The cylinder D has a rod, F, attached to its upper end, and said rod passes up through a stuffiing-box, *f*, on the cap E of the shell A, the rod having a horizontal arm, G, secured to it above the stuffing-box, *f*, by a set-screw, *g*, which arm passes through a slotted plate, *h*, attached to the stuffing-box. This arm and slotted plate prevent the inner cylinder, D, from turning casually. The rod F is connected with an ordinary ball governor, which regulates the admission of steam into the steam-chest by raising and lowering the inner cylinder, D, so that the slots *e* in D may register in a greater or less degree with the slots *d* in B, the steam passing from the shell through those slots into D, and through the lower end of D into the steam-chest through the opening, *d*, in the bottom of the shell. When the governor adjusts the cylinder D so that its slots, *e*, will register perfectly with the slots *d* in B, the full amount of steam will pass through the valve into the steam-chest that the valve is capable of having pass through it; that is, if the slots *e d* are in line with each other, both vertically and horizontally; and in cases where a less supply of steam is required, the slots *e d* are virtually contracted by turning the inner cylinder, D, the set-screw *g* of arm G being loosened for that purpose, and the slots *e* will be cut off in a greater or less degree from the slots *d*. (See fig. 4.) By this simple arrangement the capacity of the valve may be varied as circumstances may require, and the valve adapted to engines of various sizes and powers; and the valve is an extremely sensitive one, owing to the steam being admitted through a plurality of openings, a very slight movement of the inner cylinder causing a great variation in the amount of steam admitted.

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

The arm G, applied to the valve-rod F and secured thereto by means of a set-screw, *g*, in connection with the slotted plate *h*, attached to the stuffing-box *f*, substantially as and for the purpose specified.

G. G. HUNT.

Witnesses:

WM. K. SEELEY,

S. L. MOORE.