G. F. POTTLE.

Valve.

No. 215,478. Patented May 20, 1879.

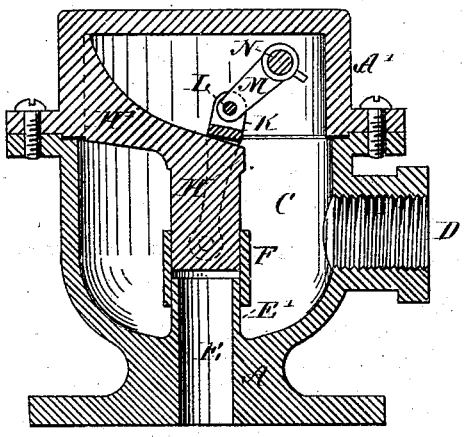

Fig. 1.

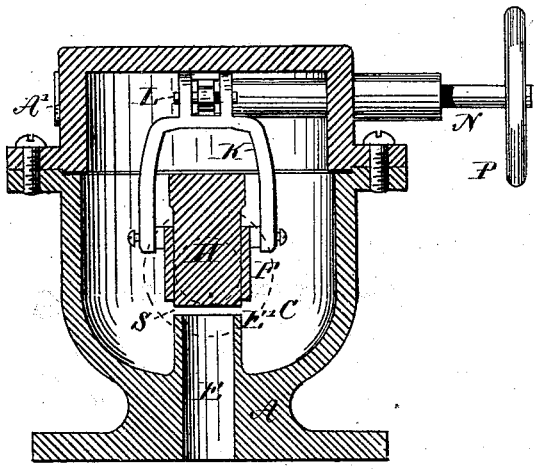

Fig. 2

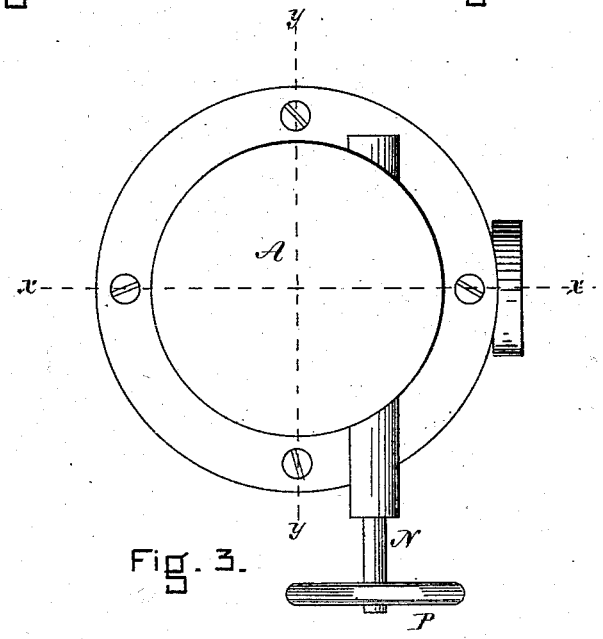

Fig. 3.

WITNESSES

Frank G. Parker

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UNITED STATES PATENT OFFICE.

GEORGE F. POTTLE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN VALVES.

Specification forming part of Letters Patent No. **215,478**, dated May 20, 1879; application filed April 9, 1879.

To all whom it may concern:

Be it known that I, GEORGE F. POTTLE, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented an Improved Valve, of which the following is a specification.

My invention relates to that class of valves in which the volume of steam, gas, or fluid which passes through them may be regulated in amount as well as cut off or turned on to the full capacity of the valve; and consists in combining within a suitable chamber an inlet pipe or orifice, also an outlet-pipe, the inner end of which projects into the chamber so far as to admit of an accurately-fitting sleeve or hollow cylinder passing over and onto it. I also place within the said chamber a solid cylinder of even diameter with the outside of the outlet-pipe and of the inside diameter of the sleeve, the axis of the solid cylinder being in line with the center of the outlet-pipe. The end of the solid cylinder is fixed at a short distance from the end of the outlet-pipe, so that there may be a free passage from the chamber into the outlet-pipe unless the space between the end of the solid cylinder and end of the outlet-pipe is inclosed by the above-mentioned sleeve, which is made to slide on both the cylinder and outlet-pipe, and thus to inclose the ends of both, and cut off any passage of steam, gas, or fluid.

In the accompanying drawings, Figure 1 is a vertical section of my invention, taken on line *x x* of Fig. 3. Fig. 2 is a vertical section of my invention, taken on the line *y y* of Fig. 3. Fig. 3 is a plan of my invention.

The chamber C is formed by the metallic shells A A′, which may be bolted or otherwise fastened together. D, Fig. 1, is an orifice through which steam, gas, or fluid is admitted.

E is an outlet-pipe, the end E′ of which projects inwardly, as shown in Figs. 1 and 2. H is a solid cylinder attached by the arm or bracket H′, Fig. 1, to the shell of the chamber. This cylinder H is of the same diameter as the outside of the outlet-pipe E, and is accurately adjusted in line with it, so that the sleeve F may slide and fit onto both the solid cylinder H and the pipe E.

The end of the solid cylinder H is placed at a short distance from the end of the pipe E, as shown, so that when the sleeve F is in the position shown in Fig. 2 there is a free passage from the chamber C to the outlet-pipe E.

When the sleeve F is moved downwardly, as shown in Fig. 1, it will embrace the end E′ of the outlet-pipe E and close the annular passage *s*, Fig. 2, and thus cut off communication between the chamber C and the outlet-pipe E.

The sleeve F is operated by a forked link, K, which is in turn pivoted to the arm M by a pin, L, the arm M being made fast to a shaft, N, which is operated by the hand-wheel P.

This form of a valve is particularly adapted for use in connection with governors, as the pressure upon it is so evenly balanced that it requires but the slightest force to operate it. With this form of valve the amount of opening—that is, the area of passage—may be regulated with the greatest accuracy.

In case this valve should be used for water or other fluid, an annular seat may be made around the outlet-pipe E′, so that when the sleeve F is at its lowest point the lower end of it will have a seat with which it may form a tight joint.

I claim—

In a valve-chamber, C, the combination of the solid cylinder H, the outlet-pipe E, and the sliding sleeve F, all operating together substantially as described, and for the purpose set forth.

GEORGE F. POTTLE.

Witnesses:

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