G. C. BAILEY.

Hydrant.

No. 168,599. Patented Oct. 11, 1875.

Fig. 1.

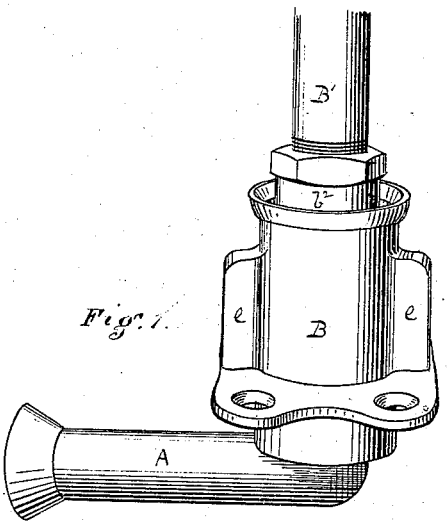


Fig. 2.

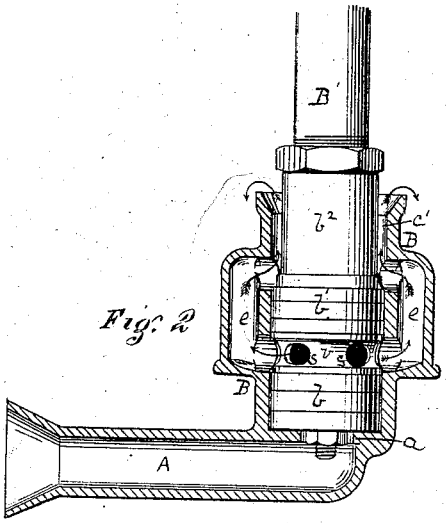


Fig. 3.

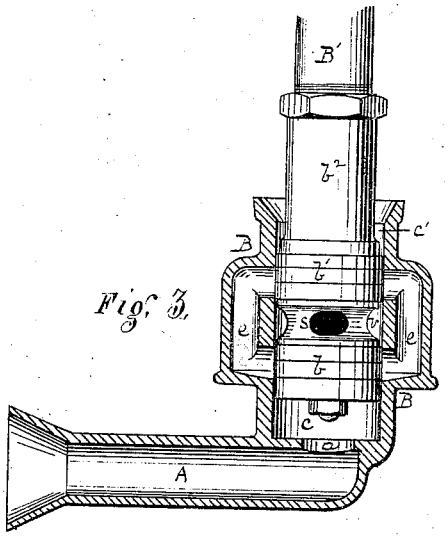
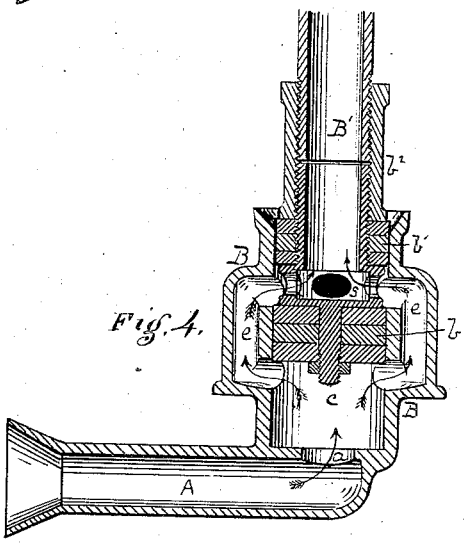


Fig. 4.



Witnesses { Claudius L. Parker
J. E. Boggs.

Inventor George C. Bailey
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his Atty

UNITED STATES PATENT OFFICE.

GEORGE C. BAILEY, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. **168,599**, dated October 11, 1875; application filed August 26, 1875.

CASE B.

To all whom it may concern:

Be it known that I, GEORGE C. BAILEY, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Hydrants; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which like letters indicate like parts.

Figure 1 is a perspective view, in elevation, of the valve-case and connections. Fig. 2 is a vertical section of the valve-case with the valve in elevation, showing the valve closed and the waste open. Fig. 3 is a like view, showing the valve partly raised, but with the waste and supply both closed; and Fig. 4, by a sectional elevation, shows the waste closed and the supply open.

My improvement relates to the construction of a valve and valve-case particularly designed for hydrant use, wherein, by the features of construction and combination hereinafter described and claimed, the waste is closed before or in advance of the opening of the supply, and the supply is closed in advance of the opening of the waste.

The supply-pipe A has a suitable supply-port and valve-seat at *a*. The valve-case B contains a cylindrical barrel or chamber, *c*, in which the valves *b* b^1 are moved up and down. These valves are attached to and operated by a moving water-way, B′, which leads up to the place or point of discharge. They are made of leather or other suitable material, and their cylindrical faces play closely in the barrel *c* of the case B, like ordinary piston-valves. In the valve-case B I make one, two, or more lateral ports, *e*, which connect the lower part of the chamber *c*, at a point a little above its lower end, with the upper part of the same chamber at a point a little below its upper end. The stem b^2 of the hollow water-way is made a little smaller than the chamber *c*, in which it plays, and the bore or tubular opening of the moving water-way is continued down to a point intermediate between the piston-valves *b* b^1, where, by suitable ports *s*, communication is effected with its exterior. A groove, *v*, is preferably made between the valves, as shown.

The sizes of the ports *e* and the distances between their ends, and also the length of the piston-faces of the valves *b* b^1 and their distance apart, are relatively so made and arranged that, first, when the moving water-way is down, as in Fig. 2, the lower piston-valve, *b*, will occupy the lower end of the chamber *c*, and cut off the supply, and the upper piston-valve, b^1, will occupy a position intermediate between the upper and lower ends of the ports *e*, so that the water already in the moving water-way above the level of the upper end of case B may have an uninterrupted waste-passage through the ports *s* and *e*, and the annular or other shaped passage *c′* between the stem b^2 and the case B, and out over the upper end of B; second, as the moving water-way is raised the upper piston-valve b^1 covers the upper ends of the ports *e*, as shown in Fig. 3, so as to close or cut off the waste before the lower piston-valve *b* uncovers the lower ends of said ports *e*, so as thereby to open the supply; third, when the moving water-way is still further raised for the discharge of water the waste continues to be cut off by means of the upper piston-valve b^1, as shown in Fig. 4, both ends of the ports *e* are uncovered, the upper ends are brought into communication with the ports *s*, and the lower ends with the supply-port *a;* the water is then free to flow; and, fourth, in giving a down-stroke to the valves the devices come first into the relationship shown in Fig. 3, in which the supply is cut off by the lower piston-valve *b* before the waste is opened by the upper one. By continuing the down-stroke the waste is reopened, as illustrated in Fig. 2.

While I am aware that lateral ports somewhat similar to those shown at *e* are not new as waste-ports, I am not aware that such ports have ever before been combined with any construction of valve which enabled them to perform alternately the function of waste and supply ports.

I claim as my invention—

1. In a hydrant valve-case, one or more lateral ports, *e*, opening at both ends into the