(No Model.)

F. C. VINEY.

STOP VALVE FOR WATER AND GAS.

No. 266,664. Patented Oct. 31, 1882.

Fig: 1

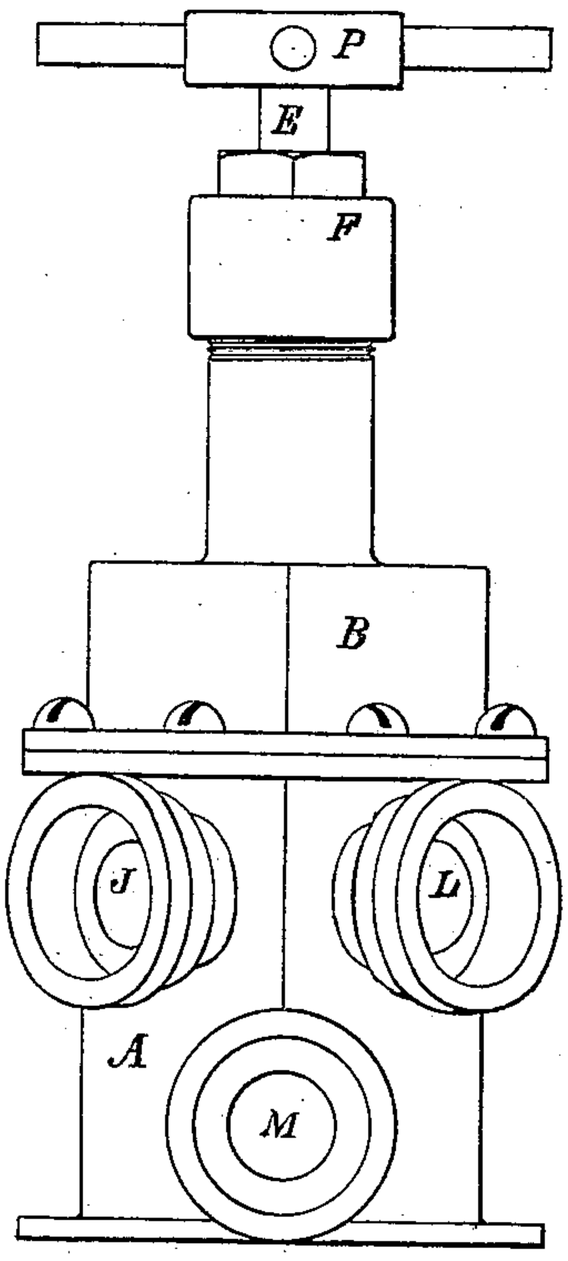


Fig: 2

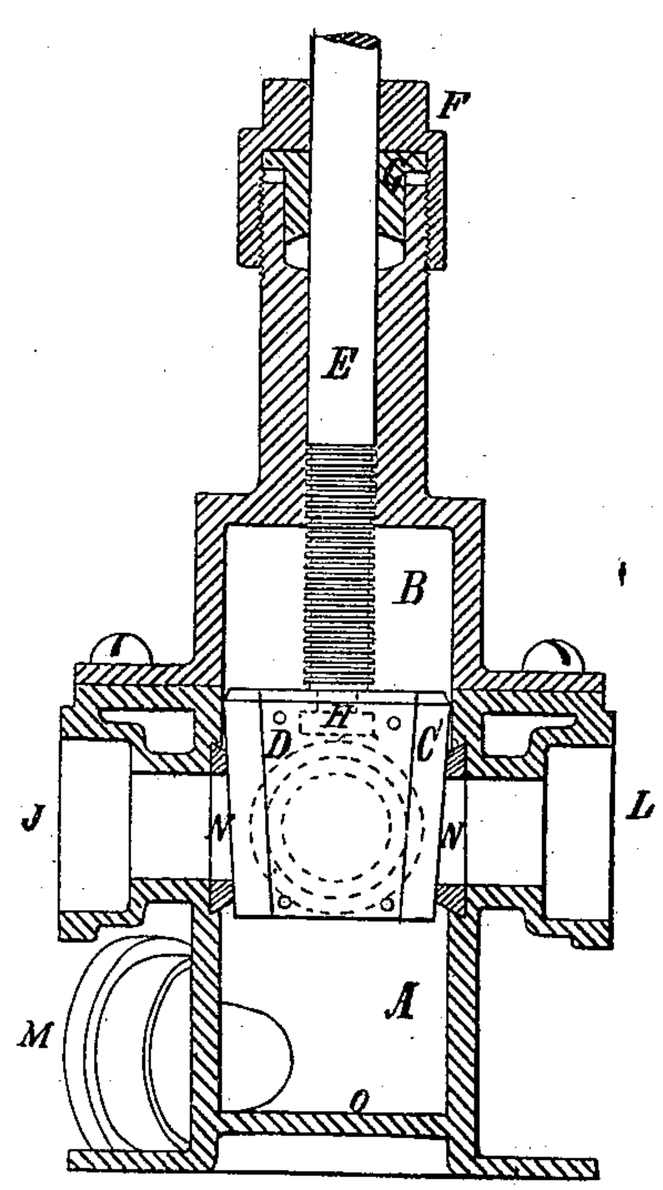


Fig: 3

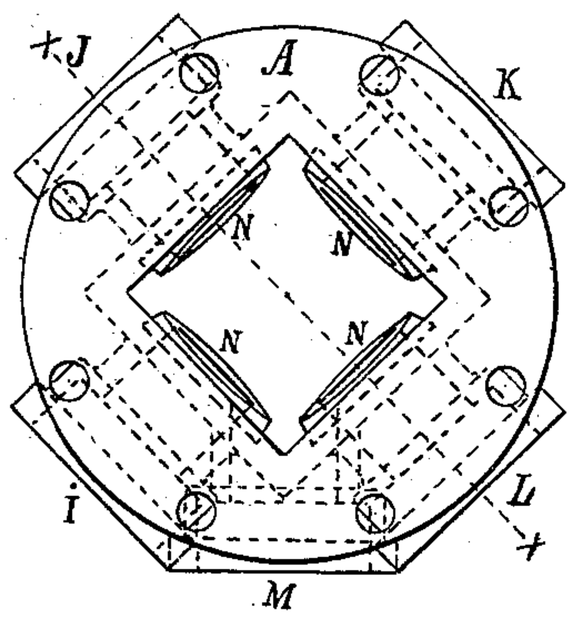
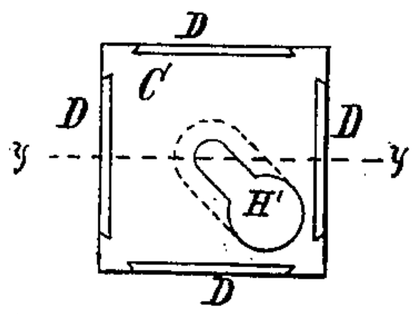


Fig: 4



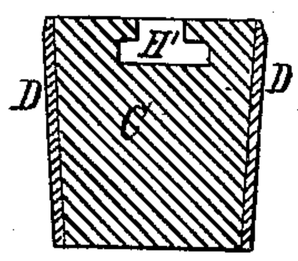


Fig: 5

Witnesses:
Richard B. Lemon
Chas. Haupman Jr.

Inventor:
F. C. Viney

UNITED STATES PATENT OFFICE.

FREDERICK C. VINEY, OF PHILADELPHIA, PENNSYLVANIA.

STOP-VALVE FOR WATER AND GAS.

SPECIFICATION forming part of Letters Patent No. 266,664, dated October 31, 1882.

Application filed January 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. VINEY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Plug Stop-Valve for Water and Gas Mains, of which the following is a specification.

My invention relates to improvements in four-way plug stop-valves for water and gas mains, the distinguishing features of which are that the plug is square, slightly tapering toward its lower end. The sides are provided with adjustable hard metal plates that come in contact with the soft-metal or wood seats around the several openings of bell-nozzles; and the objects of my invention are, first, to provide a square plug, slightly tapering toward its lower end, which forms its own seat and avoids the necessity of fitting, grinding, and scraping; secondly, to provide each side with adjustable hard-metal plates that may be removed for repairs, thus making a simple, durable, and cheap valve. The small amount of valve-seat surface exposed to the sides of the plug and its taper prevents the plug from getting fast. It is always free, and starts without trouble. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a vertical longitudinal section at line *x x*, Fig. 3, embodying my invention. Fig. 3 is a plan of valve with cup removed. Fig. 4 is a plan of square plug. Fig. 5 is a central section of plug at *y y*, Fig. 4.

Similar letters refer to similar parts throughout the several views.

The case A has four bell-nozzles, I J K L, and a fire-plug connection, M, below. The cover B is secured to case A at the top with the necessary bolts, and is provided with stuffing-box F and G, necessary to prevent leakage. Valve-stem E passes through stuffing-box and nut, and is attached to square plug by means of a head or stem, E, which fits slot H′ in the upper large end of plug C. Thus it will be seen that, the nut being part of the cover B, the stem E moves vertically with plug C, enabling me to make a solid plug. In the present instance I show a spider, P, on valve-stem E; but in practice, when the valve is under ground, I square the end and have a socket-wrench to turn the valve-stem for raising and lowering the valve for the purpose of opening or shutting off the supply. The valve-seats of the several bell-connections I J K L of casing A, Fig. 3, are formed by making dovetailed circular cavities N as much larger than the bore of the bell-connections to allow sufficient surface to prevent leakage. These cavities N are filled with soft metal or wood to correspond with the taper of the square plug C. The manner of constructing the square plug-valve C is shown in Figs. 2, 4, and 5. The oblong slot H′ is cored in top of the large end of plug C to admit freely the head of valve-stem E, and tapering dovetailed slots cored in each side of the plug, in which hard-metal plates D are forced and pinned. It is then put on a planer or shaping-machine, and trued up the desired taper, when it is ready to be placed in the casing.

I place this valve at the street-crossing where two lines of water or gas mains intersect each other, and connect nozzle M to one or more fire-plugs placed at the corners of the street when used on water-mains, and blanked off when used for gas. It will be seen that the bottom O of valve-body A is on line with the bottom of bell-opening M, so that all sediment which collects in receptacle beneath plug-valve C may be blown off through fire-plug nozzle M, keeping valve always free from dirt.

I am aware that valves have been made taper or wedge shape operating against flat surfaces. I therefore do not claim a valve for surface cocks and faucets; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. A tapering valve-plug having several sides, and the vertically-movable valve-stem fitted to the head of said valve-plug, in combination with valve-seats N, formed of circular cavities filled with soft metal to correspond with the tapered sides of said plug, and outlets or passages covered by said valve-

plug and corresponding in number and location with the sides thereof, substantially as set forth.

2. A vertically-movable valve-stem and the tapering valve-plug having several sides, each side covering a separate passage or outlet, in combination with removable hard-metal plates fitted to said sides, and valve-seats N, constructed to fit the tapering shape of the sides of said valve-plug, substantially as set forth.

FREDERICK CHARLES VINEY.

Witnesses:
LINN SLAYMAKER,
RICHARD J. LEMON.