

S. H. Davies,
Fire Plug,
No. 1,702, *Patented July 18, 1840.*

Fig: 1

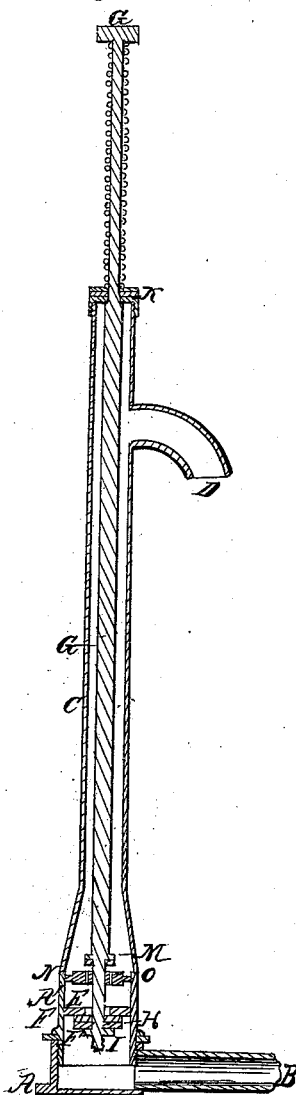
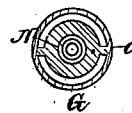


Fig: 2



UNITED STATES PATENT OFFICE.

S. H. DAVIES, OF CINCINNATI, OHIO.

HYDRANT AND FIRE-PLUG.

Specification forming part of Letters Patent No. 1,702, dated July 18, 1840; Reissued February 4, 1843, No. 49.

To all whom it may concern:

Be it known that I, S. H. DAVIES, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Hydraulics, and that the following is a full and exact description of the construction and operation of said improvement as invented by me.

It consists of a brass valve seat of two parts (A A) which screw together three feet below the surface of the ground, the bottom part of which A, has a branch (B) attached to it, connected with the water pipes in the street. The upper part of the seat (A) (which is of a circular form) is soldered to an upright copper pipe (C) extending above the ground about two feet, from the side of which sufficiently high to receive a common size tube, is an outlet (D) for the water. Around the inside of the upper part of the seat (A) is a projection (E) about midway of its height. The under surface of the projection is turned smooth, against which a valve (F) bears. An iron rod (G) passes through the copper pipe from about five inches above the upper end of it, to the under side of the projection in the seat, so as to receive a valve against the under side of the projection, the valve being merely a piece of common sole leather of circular form large enough to give a sufficient bearing on the seat. A thread is cut on the lower end of the rod which is reduced in size, (previous to its being cut) to allow a shoulder at the upper part of the thread. The valve is slipped over the thread preceded by a small washer which rests against the shoulder and which must be a little less in diameter than the opening through the projection in the upper part of the seat. The valve is followed on the end of the rod by an iron washer (H) of the same diameter with the leather valve. The valve and washer are then secured on the rod by a nut (I) which screws on below them. The upper end of the copper pipe is closed by a brass stuffing box (K) of two parts which screw together the lower part of which is soldered to the copper pipe. The upper part of the stuffing box has an opening through it corresponding so nearly to the size of the rod as to allow it to pass freely over it. The lower part is equal in diameter to the copper pipe which allows the rod to be taken out at the top (after the valves and washers are re-

moved from below) by unscrewing the upper part of the stuffing box. The upper surface of the stuffing box is slightly concave in which a ring packing yarn is placed around the rod, upon which an iron washer rests which is pressed upon the packing by the spiral spring (L) which works around the rod extending to the under side of a nut which is screwed on the upper end of the rod. Above the projection in the seat there is forged on the rod a collar (M) half an inch larger in diameter than the rod, under which collar a leather washer is secured, which when the spring is pressed downward closes on to a trap guard (N) extending across the upper end of the valve seat, leaving a space on each side the guard equal in area to the area of the copper pipe. Through the center of this guard the rod passes, on one side the opening through the guard where the rod works, and on its upper surface there is an outlet (O) for the waste water extending downward through half the thickness of the guard and then horizontally to the outside casting. The hydrant or plug operates by pressing on the spiral spring (L) (either with a lever or a screw) which opens the valve (F) and at the same time presses the collar (M) on to the outlet (O). The water will flow up each side the guard (N) and pass out at (D) being prevented passing out at the top by the pressure of the spring upon the washer and packing on the stuffing box. By removing the pressure from the spring its own resistance will raise the rod, close the valve (F) and open the outlet (O) when the waste water will pass out and prevent the possibility of freezing.

The hydrant or plug should be inclosed in a box of suitable dimensions on the bottom of which the lower part of the brass seat should be firmly fastened and connected through the side of the box with the pipes in the street. The box should be made in two parts, joined together above ground so that by removing the upper part of it the hydrant or plug can be unscrewed and taken out without the use of a key or spanner or without breaking the ground. For the use of private families the box should be closed tight at top and the hydrant worked by a lever or wooden handle through the side of the box. For a public plug the top of the box should be as fire plug boxes usually are.

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

Placing the valve seat in a separate chamber (A) which is adapted to and made to screw on a chamber (A) connected with and opening into the main pipes, and fitting to the valve seats in said chamber, valves placed on a vertical stem passing through a

tube connected with the upper part of the chamber, said stem being operated by 10 springs in the manner and for the purpose herein set forth.

S. H. DAVIES.

Witnesses:

B. H. TAYLOR,

EDW. P. CRANCH.

[FIRST PRINTED 1913.]