(No Model.)

S. H. ORWIG.

HYDRANT.

No. 448,727. Patented Mar. 24, 1891.

FIG. 1.

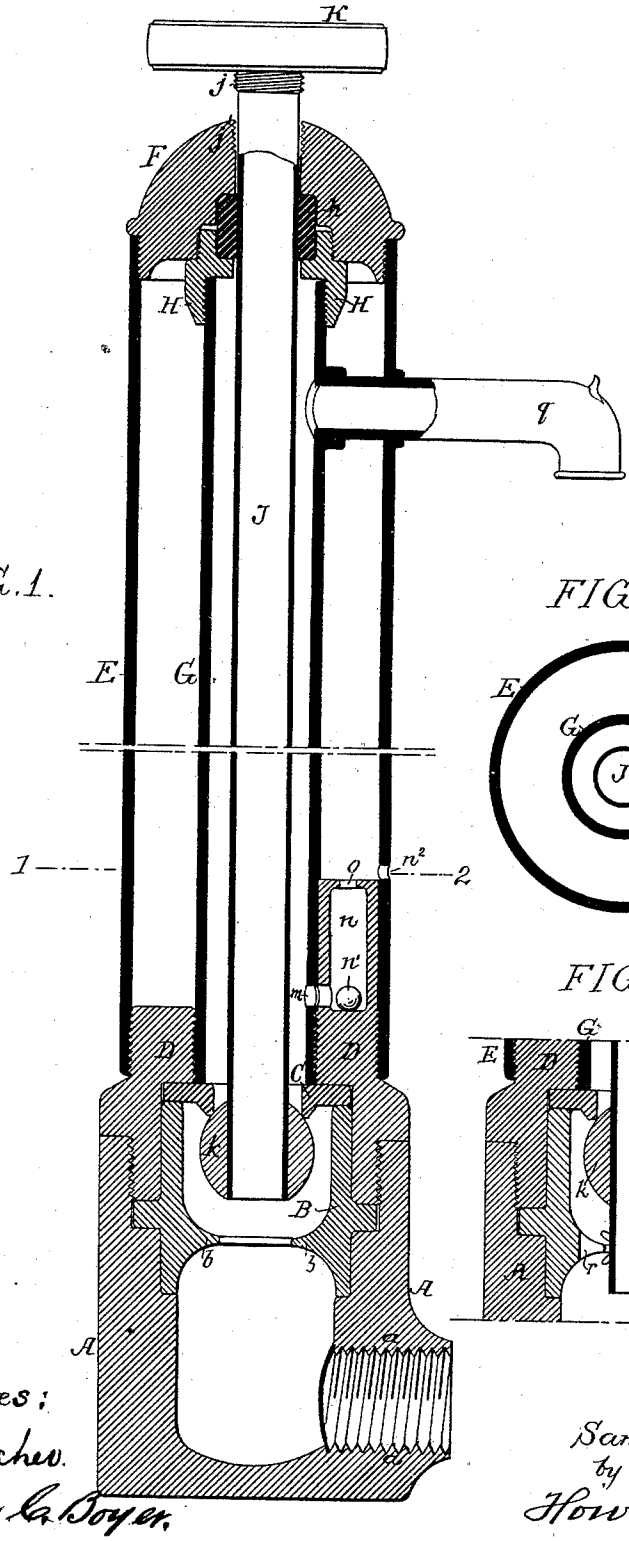


FIG. 3.

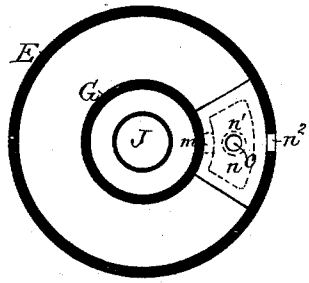
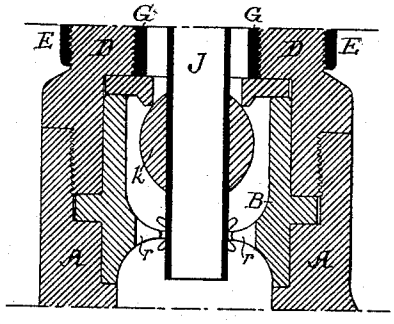


FIG. 2.



Witnesses:
R. Schleicher.
Murray & Boyer.

Inventor:
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by his Attorneys
Howson & Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL H. ORWIG, OF LEWISBURG, PENNSYLVANIA.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 448,727, dated March 24, 1891.

Application filed May 24, 1890. Serial No. 353,039. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. ORWIG, a citizen of the United States, and a resident of Lewisburg, Union county, Pennsylvania, have invented certain Improvements in Hydrants, of which the following is a specification.

The object of my invention is to so construct a hydrant that the valve will be automatically closed by the pressure of water or other liquid, a further object being to improve and simplify the construction as a matter of economy, as more fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a sectional elevation of a hydrant constructed in accordance with my invention. Fig. 2 is a similar view illustrating a modification; and Fig. 3 is a sectional plan on the line 1 2, Fig. 1.

In the drawings the parts are made of full size, the height of the hydrant being reduced in order that its construction may be more clearly shown.

The base portion A is provided with an internal screw-thread *a*, adapted to be connected to a source of water-supply, and supported in this base is a valve-chamber B, of the peculiar form shown, the upper end of the portion B supporting the valve-seat in the form of a ring C, which is securely clamped in position by means of a nut D, which also acts to hold the casing of the valve-chamber in position; or, if desired, the valve-chamber B may be cast in one piece with the base A, although the construction shown is preferable, as the parts may be more readily cleaned.

On the periphery of the upper portion of the nut D is screwed the outer casing of the hydrant, consisting in the present instance of a pipe E, into the upper end of which is screwed the top piece F. Within this outer casing E is a water-conducting pipe G, screwed at its lower end into the nut D and at its upper end to a ring H, screwing into the top piece F and forming with the top piece a pocket for the reception of packing *h*.

The valve-rod consists of a tube J, open at its lower end and provided with a ball-valve *k*, its upper end terminating in an operating-handle K.

In the nut D is formed a chamber *n*, containing a ball-valve *n'* and communicating with the water-pipe G by means of an orifice *m*, its upper end opening into the space between the pipe G and the outer casing E.

In using the hydrant the water entering the base-chamber A will pass up into the valve-chamber, and entering the tube J will compress the air therein to a certain extent, dependent upon the pressure of the incoming water, which is sufficient to hold the valve *k* tightly to its seat. When it is desired to open the valve, a sufficient amount of pressure is exerted upon the handle K to overcome the resistance of the water and will open the valve, permitting the water to pass up the pipe G and out through the nozzle *q*. When the pressure upon the handle K is removed, the body of air in the tube J, which was compressed by the opening of the valve, will expand and close the valve against its seat. If, however, it is desired to maintain a constant flow of water for any period of time, the handle K, being depressed to open the valve, is turned, and the screw-thread *j* upon the upper portion of the valve-rod J will engage with the thread *j'* in the upper end of the top piece F. When the valve is open, a portion of the water will pass from the pipe G through the opening *m* into the chamber *n*, and will press the valve *n'* closely to its seat *o*, preventing any escape of water from the chamber while the valve is opened and the pressure of water continues. When the valve *k* is closed, however, the water in the pipe G will gradually sink from the lever of the nozzle *q* down to the opening *o*, gradually passing from the pipe G through the chamber *n* and the orifice n^2 into the ground, the pressure of water not being sufficient to hold the valve *n'* to its seat.

As a further precaution in guiding the valve *k* to its seat, I may extend the tube J down below the level of the curved portion *b* of the casing B, as shown in Fig. 2, in which case the orifice through which the water passes from the base A to the valve-chamber will be enlarged, preferably in the manner shown in the modification in Fig. 2, in which a series of serrations or grooves *r* are formed in the portion B to permit of the passage of the water around the tube J.

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

1. The combination, in a hydrant, of the base A, the valve-chamber B, valve-seat C, clamping-nut D, water-pipe G, threaded top piece F, the tube J within said water-pipe, a valve *k*, carried thereby, an operating-handle on said tube, said tube being threaded at or near its upper end and adapted to engage with the threaded top piece F, substantially as specified.

2. The combination, in a hydrant, of the base A, the chamber N therein, having at its upper end an escape-port, the water-pipe G, a passage from said pipe to the chamber N, said passage being above the main valve, and a floating valve in the said chamber, adapted to close the escape-outlet when the hydrant is open, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL H. ORWIG.

Witnesses:
SAMUEL SLIFER,
P. L. CLINGAN.