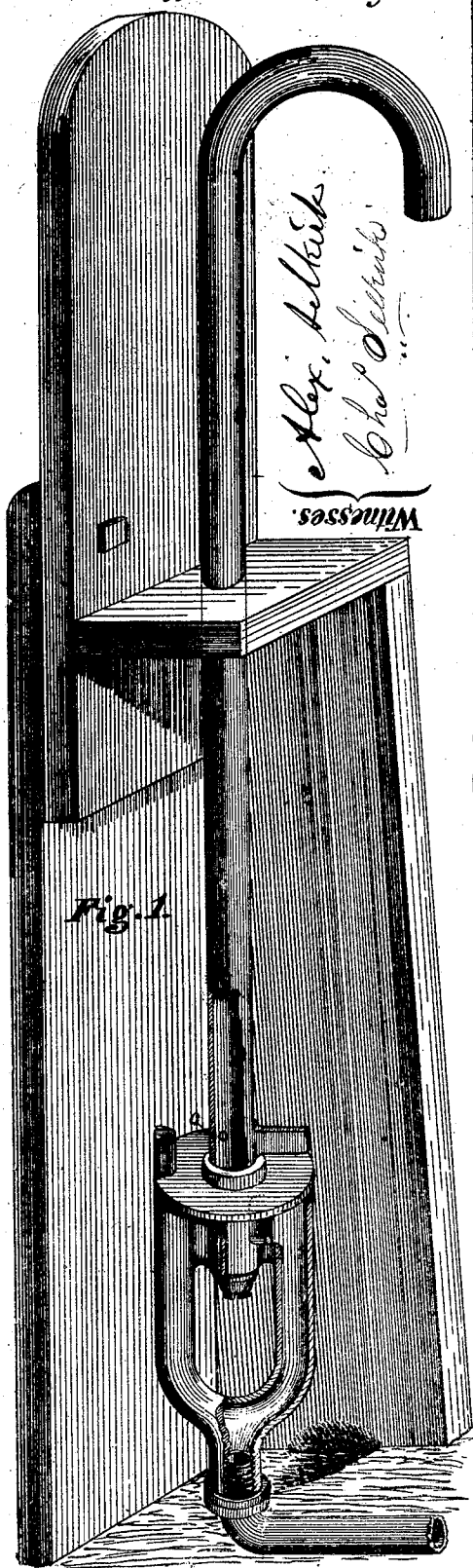
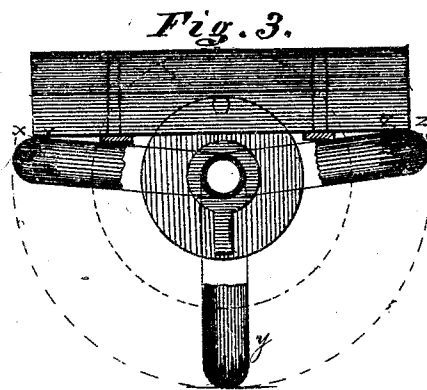
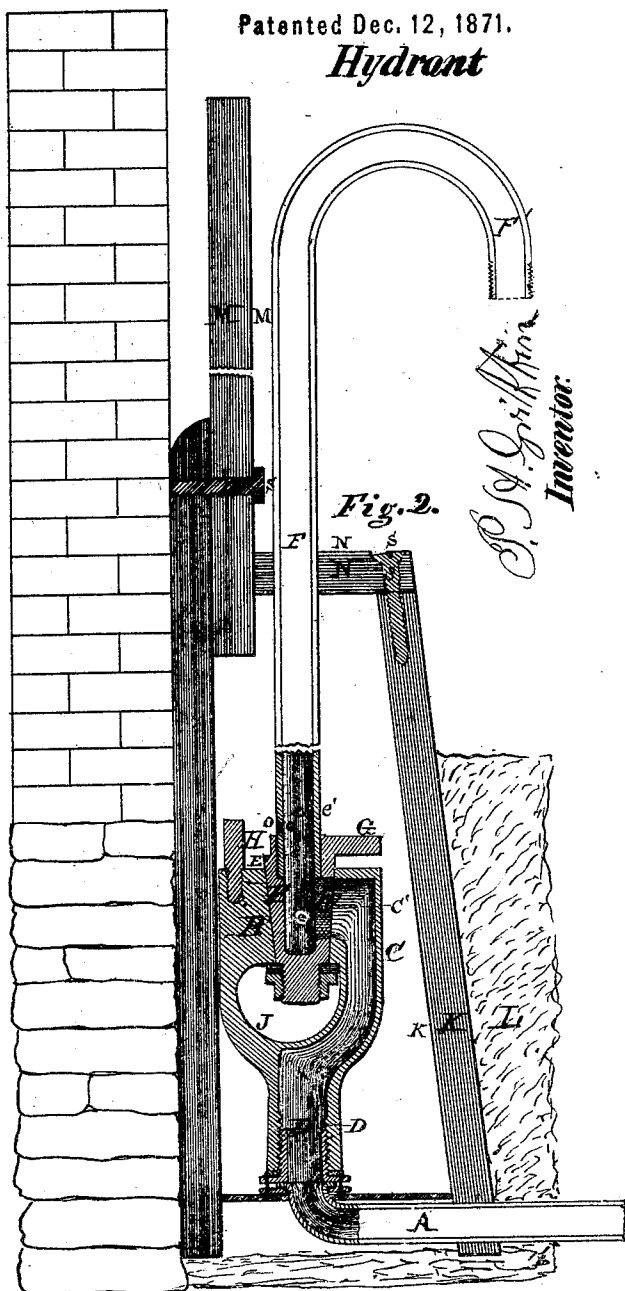


No. 121,716.
P. H. Griffin. Albany N.Y.



Patented Dec. 12, 1871.

Hydromet



UNITED STATES PATENT OFFICE.

PATRICK H. GRIFFIN, OF ALBANY, NEW YORK.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 121,716, dated December 12, 1871.

To all whom it may concern:

Be it known that I, PATRICK H. GRIFFIN, of the city of Albany, State of New York, have invented certain new and useful Improvements in Hydrants; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a perspective view of the hydrant embodying my invention. Fig. 2 is a sectional elevation of the same. Fig. 3 is a vertical view of the same from above.

My invention consists in certain arrangements of elements with a hydrant, whereby the operating parts of the same may be taken up from the ground without the ground being dug up, as is now required with hydrants in general use.

To enable others skilled in the art to make and use my invention, I will proceed to describe it in reference to the drawing and the letters of reference marked thereon, the same letters indicating like parts.

In the drawing, A represents the usual feed-pipe leading from the street main to the hydrant, which feed-pipe is buried in the earth below the frost line in a proper manner. The terminating end of the said feed-pipe is turned up vertically, and is provided with a proper coupling piece, D, as shown in Figs. 1 and 2. B is the cock, placed above the feed-pipe A and connected with the duct C, which duct I denominate the crank-duct. The lower end of the said crank-duct C is provided with a screw-thread corresponding with the screw-thread on the coupling D, with which it connects. The axis of the said screw-cut end of the crank-duct C is made to line with the axis of the cock B so as to throw the said crank-duct outside the line of the axis of both the coupling D below and the cock B above, and cause it to intersect with the cock at one of its sides, as in Fig. 2. By this arrangement of the crank-duct C outside of the line of the axis of the cock B and coupling D the operating parts of the hydrant above the coupling can be readily attached to or detached from the said coupling by revolving the said operating parts in the proper direction. E is the key or valve operating with the cock B to cut off or let on the flow of the water from the crank-duct C, which key is provided with the central vertical chamber *e* and discharge-port *e'* above and receiving-port *e''* on one side, all of which

are so arranged that when the said key E is turned so as to bring the port *e''* facing the crank-duct C the water will flow into the central vertical chamber *e* to escape from the discharge-port *e'* into the discharge-pipe inserted in or connected with the said key E; and when the said port *e''* is turned away from the said crank-duct all flow of the water will be cut off. By this part of my invention the operating parts are rendered capable of being removed by simply revolving the whole in a direction which will cause the coupling to unscrew from the lower vertical end of the crank-duct. F is the discharge-pipe connecting with the key E in a secure and water-tight manner, as shown in Fig. 2. The said discharge-pipe is made of a length sufficient to reach from the cock B, below, up through the ground to any desirable height above the same. The upper end of the said discharge-pipe is curved or bent down so as to form a spout or nozzle, F', from which the water may be discharged downward. The said discharge-pipe is intended not only to act for the discharge of the water, but is also intended to operate as a shaft or stem to the key E of the cock, with which it is connected or attached; and when the said discharge-pipe nozzle F' is turned from point *x* or *z* to the position of *y*, Fig. 3, the port *e''* of the key E will face the duct C and permit the flow of the water upward; a reverse movement will cut off the flow. G is an arm attached to the key *e* or to the discharge-pipe F at the top of the cock B, as shown in Figs. 1 and 2. The said arm G will, when the discharge-pipe and key is turned or revolved around, be made to describe the circle shown by dotted lines in Fig. 3, (the smaller circle shown.) H is a catch attached to one side of the upper end of the cock B, as shown in the several figures, which catch is placed within the radius of the arm G attached to the key or discharge-pipe, and is intended to engage with the said arm when the arm is turned in either direction a single turn. By this arrangement of the said arm attached to the key or discharge-pipe with the stop or catch attached to the cock provided with the crank-duct, connecting, by screw-threads, with the coupling of the feed-pipe, the operating parts of the hydrant can be unscrewed and detached from the coupling, or be firmly screwed and attached thereto, by simply revolving the discharge-pipe, acting as the stem of the key, in a proper direction. Hydrants,

as heretofore constructed, have not possessed these elements for attaching and detaching the operating parts from the fixed or buried portions of the same without digging up the earth and uncovering the coupling connecting with the feed-pipe. To strengthen and give firm support to the cock above the coupling D I use one or more supporting brackets, J, formed solid with the duct C and the cock B, as shown, which bracket or brackets can have given them any desired form. The key E is secured from being drawn out of the cock B by the usual washer and screw placed on the under side, as shown in Figs. 1 and 2. K is the incasing-box, which is intended to surround and protect the operating parts of the hydrant. The lower ends of the said box are inserted into the earth to a depth equal to the depth of the feed-pipe from the surface of the ground. M is a detachable piece, which I denominate the guard, which guard is placed back of the discharge-pipe F and attached to the back portion of the box J by the screws *s s*; and it may be made of wood or metal, either plain or ornamental, and is intended to remain fixed or stationary with the said box J when the operating parts of the hydrant are in order, to prevent the nozzle-end F' of the discharge-pipe from being turned past the points *x* or *z* in Fig. 3; but when it is desired to detach and remove the operating parts of the hydrant from the feed-pipe the said guard M is to be removed to allow the nozzle-end F' to be swung or revolved around so that the arm G will engage with the catch H and carry the whole lower part of the apparatus around to unscrew or screw on the same with the coupling D of the feed-pipe, as may be required. N is the supporting cover placed on the top *k* of the box, which cover is provided with a central hole, through which the dis-

charge-pipe passes and acts the same as a bearing, in which the said pipe may turn. The said cover is to be detachable, and may be secured temporarily by screws *s*, or by hooks and staples, or any other equivalent device which can be readily operated to attach or detach the same to or from the box to allow the insertion of the body of the hydrant into the box, or its withdrawal from the same.

The several parts of this invention are simple, and render the hydrant easy of attachment or detachment with the feed-pipe, which is to remain buried in the ground, and render the hydrant capable of being taken up for repairs without digging down into the couplings or connection with the feed-pipe.

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

1. The combination of the cock B and intermediate crank-duct C with the coupling D, when all are constructed and arranged substantially as and for the purpose set forth.

2. The arm G attached to the key E or discharge-pipe F, and the catch H attached to the upper side of the cock B, in combination with the crank-duct C and coupling D, substantially as and for the purpose set forth.

3. The combination of the detachable guard M, detachable cover N, and box K with the discharge-pipe F provided with the arm G, cock B provided with the catch H, and the crank-duct C placed between the said cock and coupling D, substantially as and for the purpose set forth.

PATRICK H. GRIFFIN.

Witnesses:

ALEX. SELKIRK,
CHAS. SELKIRK.

(167)