

G. N. Bowman, Hydrant.

Nº 92,696.

Patented Jul 20. 1869.

Fig. 1.

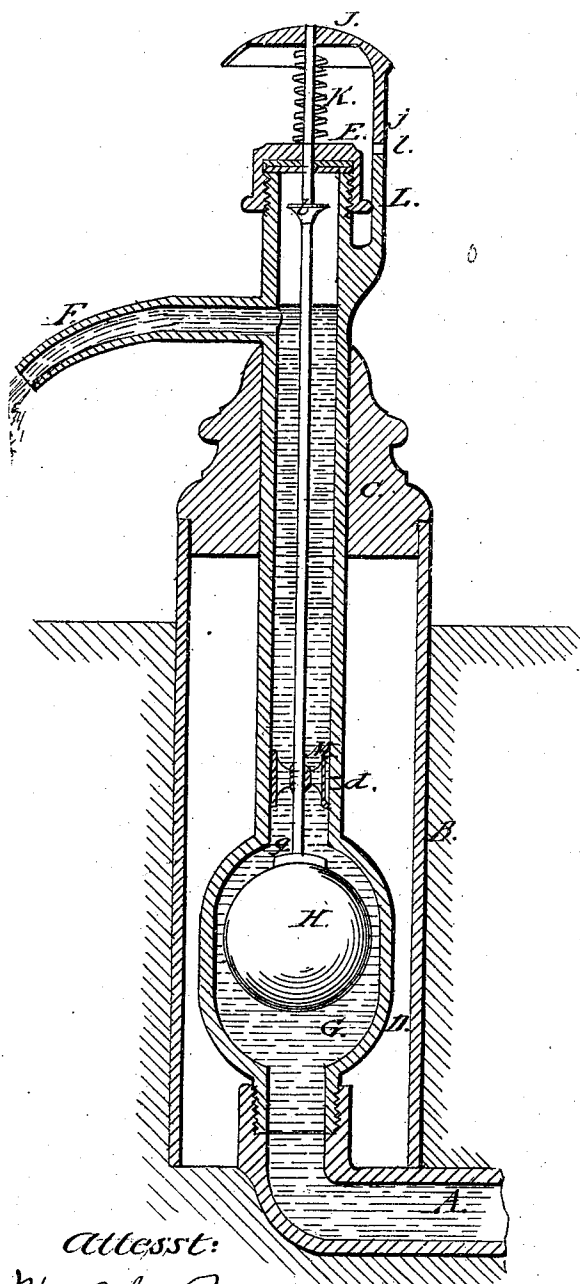
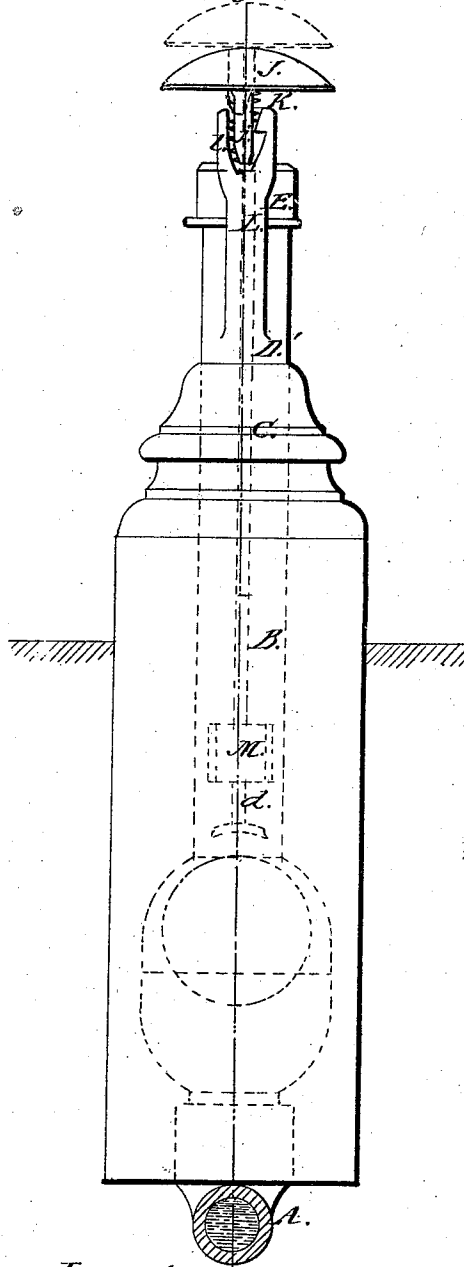


Fig. 2.



Attest:

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GEORGE N. BOWMAN, OF POTTSVILLE, PENNSYLVANIA.

Letters Patent No. 92,696, dated July 20, 1869.

IMPROVEMENT IN HYDRANTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE N. BOWMAN, of Pottsville, in the county of Schuylkill, and State of Pennsylvania, have invented a new and useful Improvement in Hydrants; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, which is made a part of this specification.

In my improved hydrant, the stock is connected with the supply-pipe by a screw-joint, and is sunk in a chamber or well formed by a jacket or casing to admit of its ready removal when desired, and is constructed in separable sections, and provided with a removable cap, to adapt the waste-slide and main valve to be separately withdrawn for renewal and repair.

The valve consists of a hollow elastic ball closing by flotation, assisted by the pressure of the water, and adapted to be opened and held in an open position by a novel construction of operating-device; and the waste-slide is so constructed and arranged as to form the lower guide of the valve-opening rod, which also serves to operate it.

In the drawing—

Figure 1 represents a vertical section of my improved hydrant on the line *x-x*, fig. 2.

Figure 2 is a rear elevation thereof.

A represents the supply-pipe.

B is a metallic casing, preferably of cylindrical form; sunk in the ground for a portion of its length, to "below the frost," over the end of the pipe A, so as to form a chamber for the reception of the hydrant proper, and provided with a cap or cover, C, of wood or other suitable material, as shown.

D D' represent the respective sections (which may be multiplied, if preferred,) constituting the stock or barrel, said sections being united by a screw-joint, and the lower end of the former screwed into the end of the pipe A, the latter projecting through the cap C of the casing B, where it is closed by means of a suitably-packed screw-cap, E, and provided with a discharge-spout, F.

The sections D D', at the point where connected, are made, by enlargement or otherwise, to form a chamber, G, for the reception of the valve H, which is thus adapted to be removed and replaced when necessary.

The valve H is preferably of about the relative proportion shown, and consists of a hollow elastic or semi-elastic ball, of India rubber, or other suitable material, adapted, in addition to the pressure of the water, by its buoyancy to automatically rise and close the outlet-opening *g* of its chamber, the edges of which form its seat, unless held down by mechanical means.

For this purpose, a rod, I, is employed, arranged centrally within the upper portion of the stock, and provided at its lower end with a concave enlargement or disk, *i*, to form its bearing-surface.

It is further provided at its upper end with a knob or button, J, by which to apply power to it, to depress the valve and allow the water to flow, and is elevated by means of a spring, K, arranged between said button and the cap E of the stock, through which it passes, its upward movement being limited by means of a stop, *l*, with which the rod I is provided below said cap.

To enable the valve H to be held in its open position when desired, the button J, on the upper end of the rod I, is provided with a hook-catch, *j*, adapted to engage with a corresponding recess, *l*, in the top of an arm, L, projecting from the stock, as shown in fig. 1, and in black in fig. 2, the red lines in the latter figure representing the normal position of the parts.

d represents the customary waste-aperture, which is formed in the stock a little above the valve-chamber G, and is covered and uncovered at the proper moments by means of a valve or slide, M, of suitable construction, to afford the necessary surface for closing said aperture, and opening for the passage of the water through the stock.

The slide M is attached to the rod I, of which it forms the lower bearing or guide, and moves with it.

When said rod is depressed to open the main valve H, the slide M passes over and closes the aperture *h*, and when said rod is released, so as to allow said main valve H to close, said slide M passing from over said aperture, the water remaining in the stock above the valve is allowed to escape through into the well formed by the casing B, to be absorbed by the ground.

By removing the cap E, the rod I and its appurtenances may be readily removed for repairs, &c.

By providing for the discharge of water remaining in the stock above the valve when the flow is cut off, the liability to freeze under ordinary circumstances is removed, and in case, from unusual cold, the water in the lower part of the stock should become frozen, the valve H, by its elasticity, serves to greatly lessen the liability of the stock or supply-pipe to be burst by the expansion incident thereto, its compressibility adapting it to afford additional space for the occupation of the expanded contents.

This elasticity of the valve further effectually prevents the bursting of the stock or pipe by suddenly shutting off the flow of the water, as the strain is, without injury to itself or any of the parts, received and taken up by said valve.

Said construction of valve is further believed to be, in all other respects, far superior to any other form of valve for the purpose for which employed, owing to its cheapness, its superior packing ability, and its automatic action in closing the water-passage when released.

The construction of the stock and casing is simple and compact, and adapts all the parts to be readily gotten at for repairs, &c., when desired.

The devices for opening the valve and operating the waste-device are strong and simple, and easy and accurate in their operation, effectually preventing strain on any of the parts.

Having thus described my invention,

The following is what I claim as new therein, and desire to secure by Letters Patent:

1. I claim a hydrant, consisting of a casing, B C; a stock, D D', constructed in separable sections, and provided with a screw-thread, for connection with the supply-pipe or main; a valve-chamber, G, at the point of connection of its sections; a screw-cap E, a discharge-nozzle F, and a waste-aperture, *d*, a buoyant

elastic main valve, H, a waste-slide M, and a rod I, for opening the main valve and operating the waste-slide; all constructed and arranged substantially as herein described, for the purposes set forth.

2. I claim, in combination with the buoyant valve H, the rod I, constructed with the disk *i* and stop *i'*, the button J, spring K, and catch *j l*, all constructed and arranged to operate substantially as and for the purpose described.

GEO. N. BOWMAN.

Witnesses:

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HOWELL FISHER.