(No Model.)

P. N. BARDO & T. FORD.

HYDRANT.

No. 352,288. Patented Nov. 9, 1886.

Fig. 1.

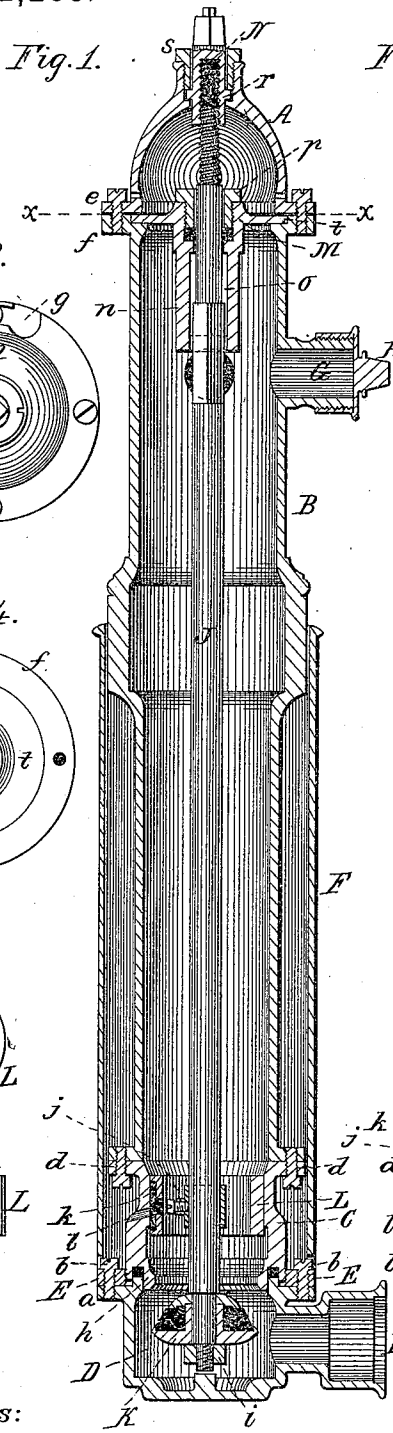


Fig. 2.

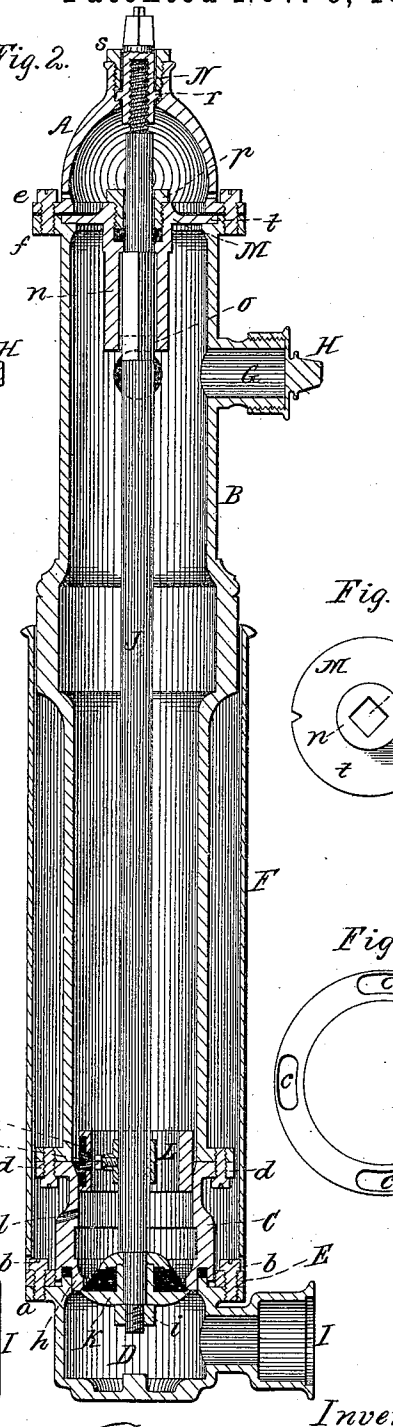


Fig. 3.

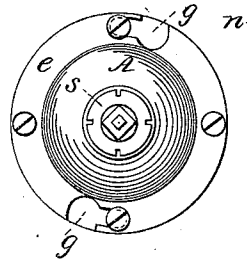


Fig. 4.

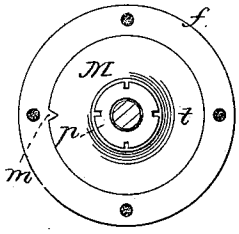


Fig. 5.

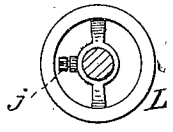


Fig. 6.

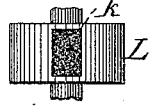


Fig. 7.

Fig. 8.

Witnesses:
W. C. Jirdinston.
E. W. Rector

Inventor
Peter N. Bardo
Thomas Ford
by Stewart & Scott
Attorneys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

PETER N. BARDO AND THOMAS FORD, OF NEWPORT, KENTUCKY.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 352,288, dated November 9, 1886.

Application filed July 24, 1886. Serial No. 208,908. (No model.)

To all whom it may concern:

Be it known that we, PETER N. BARDO and THOMAS FORD, citizens of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Hydrants, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

Our invention relates to that class of hydrants generally known as "fire-plugs" or "street-washers," and has for its object the improvement in construction and efficiency of operation of this class of hydrants.

The novelty of our invention will be herein set forth, and distinctly pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal central section in elevation of a hydrant containing our invention and with the valve opened. Fig. 2 is a corresponding view with the valve closed. Fig. 3 is a plan view of the cap. Fig. 4 is a sectional plan through the line *x x* of Fig. 1. Fig. 5 is a plan view of the cut-off ring for the waste. Fig. 6 is a side elevation of the same. Fig. 7 is a bottom plan view of the valve-rod guide. Fig. 8 is a plan view of the adjusting-ring.

The same letters of reference indicate identical parts in all the figures.

The stock of the hydrant may be said to be composed of the cap A, body B, waste-chamber C, and valve-chamber D. These parts are connected together as follows: The upper end of the valve-chamber D is provided with a flange, *a*, onto which is bolted a ring, E, whose inner surface is threaded. The bolts or screws *b*, which secure this ring to the flange *a*, pass through segmental slots *c*, Fig. 8, in the ring. The waste-chamber C is flanged at its upper end, and is bolted by screws *d* to a corresponding flange upon the lower end of the body B. The body B has a central enlargement, around which snugly fits the upper end of an ordinary frost-jacket, F, whose lower end rests upon the ring E, notches being cut in it to accommodate the head of the screws *b*. The flanges by which the waste-chamber C and body B are connected together serve also as guides to hold the frost-jacket concentric with the stock. As many vents or nozzles G are provided as desired, and these may be covered by ordinary screw-caps, H, in the usual or any suitable manner. The cap A has a flange, *e*, at its lower end, by which it is bolted to a corresponding flange, *f*, upon the upper end of the body B. For speedily removing this cap without removing more than two of the screws, the flange *e* may be provided with the slots *g*, Fig. 3, as will be readily understood. The lower end of the waste-chamber C is threaded and screws into the ring E. This lower end, as seen in Figs. 1 and 2, is formed with an annular recess, which receives any suitable packing and fits over a boss upon the flange *a*. Its interior portion, *h*, enters the valve-chamber, and is beveled, as shown, to form the valve-seat.

I is the usual inlet-coupling opening into the valve-chamber.

The above constitutes the stock or shell of our improved hydrant, the advantages of which, without reference to the valve-rod and valve mechanism, may be stated as follows:

By connecting the body B and waste-chamber C with flange-joints, instead of having them integral, as is the general custom, not only is a guide provided for the frost-jacket, but in case of raising the grades of streets it enables a new member to be bolted in between the body B and waste-chamber C, to give sufficient length to the stock and meet the requirements of the new grade; and this can be done with very little trouble, and it prevents the necessity of replacing the entire hydrant with a new one. Of course, in such case the valve-rod would have to be lengthened; but this could be easily done by either screwing or welding in a new piece. Again, by means of the slotted ring E and the screw-joint between the valve-chamber and waste-chamber, the stock can be adjusted nicely on its axis to bring the nozzles in proper position over the gutters, for it is desirable to have the screw-joint as tight as possible, and in screwing it all the way down the nozzles might not be in proper position. It would not be desirable to unscrew the joint any to get the adjustment; but by loosening the nuts that hold the ring E it could be turned with the stock to effect the desired adjustment and be again bolted down tight.

The valve-rod J is entirely solid, and is not drilled or perforated at any point. The valve K, of usual construction, is secured to its lower

end by a nut, *i*. Above the valve K, within the waste-chamber, is a ring, L, which snugly fits the bore of said chamber, and is secured to the valve-rod by a set-screw, *j*, passed through its hub. This ring has a chamber on one side, in which is placed any suitable packing, *k*, arranged to cover a waste-aperture, *l*, and the adjustment of the ring is such that when the valve K is opened the aperture *l* will be closed by the packing *k* of the ring, and when the valve is closed the waste-aperture *l*, as seen in Fig. 2, will be opened to permit the escape of water from the stock, and thereby prevent the freezing of the hydrant in winter. To properly guide the valve-rod, and to prevent it from turning, we provide the guide-piece M, Figs. 1, 2, 4, and 7, which has at its upper side a flange, *t*, that rests in a recess in the flange *f*, and is prevented from turning by a detent, *m*, entering a notch in the flange of the guide, as shown in Fig. 4. The flange of the guide M is clamped between the flanges *e* and *f*. The guide has a pendent shank, *n*, with a square socket, *o*, into which the valve-rod, also made square in cross-section at this point, fits. The upper part of the guide is chambered out to contain packing and receive a stuffing-box, *p*. The valve-rod, after passing through the stuffing-box into the cap A, is threaded at its upper end and screws into a revoluble nut, N, which passes through the head of the cap, and is held from displacement by a collar, *r*, and nut *s*, as shown. By turning the nut N the valve-rod is raised or lowered to close or open the valve. By thus making the valve-rod solid, without perforations, it can be made comparatively light and still have all the strength requisite or necessary.

Having thus fully described our invention, we claim—

1. The combination, with the valve-chamber D, having the flange *a*, of the ring E, bolted through segmental slots to said flange and threaded on its inner periphery, and the waste-chamber threaded at its lower end to engage with said ring, substantially as and for the purpose specified.

2. In a hydrant, the combination, with flanged cap A and body B, the latter having a recessed flange, *f*, provided with detent *m*, of guide-piece M, having at its lower end a shank, *n*, with a square socket, and at its upper end a flange, *t*, fitting the recess in flange *f*, and having a notch for engagement with detent *m*, and valve-rod J, inserted through guide-piece M, and made square to conform to the socket of the guide, substantially as described.

PETER N. BARDO.
THOMAS FORD.

Witnesses:
EDWARD W. RECTOR,
GEORGE F. HEIDMAN.