

(No Model.)

F. H. RICHARDS.
VALVE ROD GUIDE FOR HYDRANTS.

No. 495,431.

Patented Apr. 11, 1893.

Fig. 1

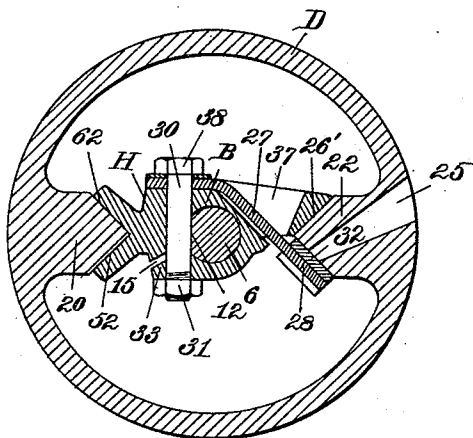


Fig. 2

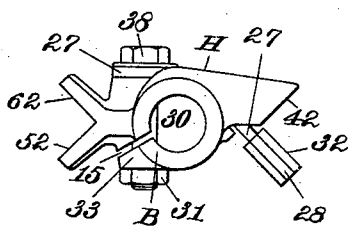


Fig. 4

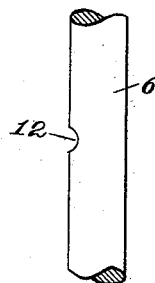
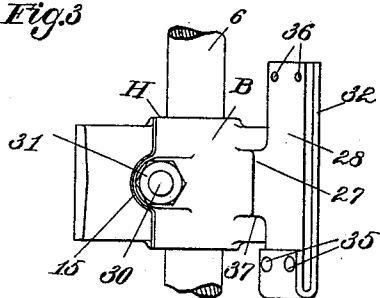


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANCIS H. RICHARDS, OF HARTFORD, CONNECTICUT.

VALVE-ROD GUIDE FOR HYDRANTS.

SPECIFICATION forming part of Letters Patent No. 495,431, dated April 11, 1893.

Application filed January 23, 1893. Serial No. 459,503. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. RICHARDS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Valve-Rod Guides for Hydrants, of which the following is a specification.

This invention relates to cross-heads, or guides, for the valve-rods of fire-hydrants; the object of the invention being to provide a cross-head or guide and fastening therefor whereby the head may be held in place against both longitudinal and circumferential movement on the rod, by combined clamping and keying, by means of a single fastening device.

In the drawings accompanying and forming a part of this specification, Figure 1 is a cross-sectional view of a fire-hydrant having a valve-rod furnished with a cross-head constructed according to my present invention. Fig. 2 is a plan view of the cross-head, with the valve-rod removed. Fig. 3 is a side elevation of the cross-head shown fastened to the valve-rod. Fig. 4 is a side view of a portion of the valve-rod.

Similar characters designate like parts in all the figures.

This invention is in the nature of an improvement on the cross-head, or valve-rod guide shown and described in my prior Letters Patent, No. 490,601, dated January 24, 1893.

In Fig. 1 is shown a cross-sectional view of the usual stock, or barrel, D, of a hydrant, from the opposite sides of which stock the guides 20—22 project inwardly for engaging the cross-head. The usual valve-rod, 6, is shown centrally located in the stock D, and, as shown in the detail view Fig. 4, has, according to my present improvements, a notch, or key-way, 12, formed transversely in one side thereof for receiving a combined key and compression-bolt hereinafter described.

The cross-head, which is designated in a general way by H, is or may be of the general description shown and described in my aforesaid prior application. Said head is shown having the central hub B, and having oppositely-projecting arms, of which the one at the left-hand in Figs. 1, 2 and 3 is shown

of V-shaped form, having the bearing-faces 52—62 for engaging the guide 20. The opposite arm is shown having the face 42 for engaging against the side 26' of the guide 22 and mortised at 37 for the passage through it of the spring-valve arm 27, whose outer end, 28, constitutes a waste-valve for covering the discharge-outlet, 25, for draining the hydrant. The valve 28 is shown elongated vertically and furnished with a valve-face, 32, usually of leather and suitably screwed to the valve, as, for instance, by the rivets 35 and 36.

The particular construction and function of these several minor details are not material to my present invention, but are fully set forth in my aforesaid application.

The arm 27, at the end thereof opposite to the waste-valve, is fixed to one side of the cross-head by means of the bolt 30, which passes through the cross-head and extends into the bore for the valve-rod 6, and, when this rod is in place, fits into the aforesaid transverse key-way 12. By this means the valve-rod 6 is keyed in place against both longitudinal and circumferential movement. The hub of the cross-head is slotted at 15 adjacent to one of the bearing-arms thereof, said dividing cut 15 extending entirely across the hole for the bolt 30, (as will be understood by comparison of Figs. 1 and 2,) so that the nut 31 of said bolt, when screwed firmly thereon, operates to clamp the free end 33 of the hub firmly on the rod 6, with a pressure which is transmitted, by reaction through the bolt-head 38, to the arm 27 for holding this rigidly in place. Thus by a single fastening the arm of the spring waste-valve is held in place, and the cross-head keyed to the valve-rod and also clamped firmly thereon.

Having thus described my invention, I claim—

1. In a guide and fastening of the class specified, the combination with the valve-rod having a transverse key-way, of the guide bored to receive said rod, and having transversely to the rod-bore a bolt-hole intersecting with said rod-bore and corresponding to said key-way, and having adjacent to one of the guide-arms thereof the slot through the hub of the cross-head and intersecting said bolt-hole, and a combined clamp-bolt and key extending through the cross-head and engag-

ing the valve-rod, whereby the cross-head and rod are simultaneously clamped and keyed, substantially as described.

2. In a guide and fastening for hydrant
5 valve-rods, the combination with the rod 6 having the transverse key-way 12 in one side thereof, of the cross-head H bored and slotted substantially as shown and described, the

waste-valve arm, and a bolt extending through said arm and the cross-head and engaging in the key-way of the valve-rod, substantially as set forth.

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Witnesses:

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