(No Model.)

A. H. MELLERT.

HYDRANT.

No. 430,081. Patented June 10, 1890.

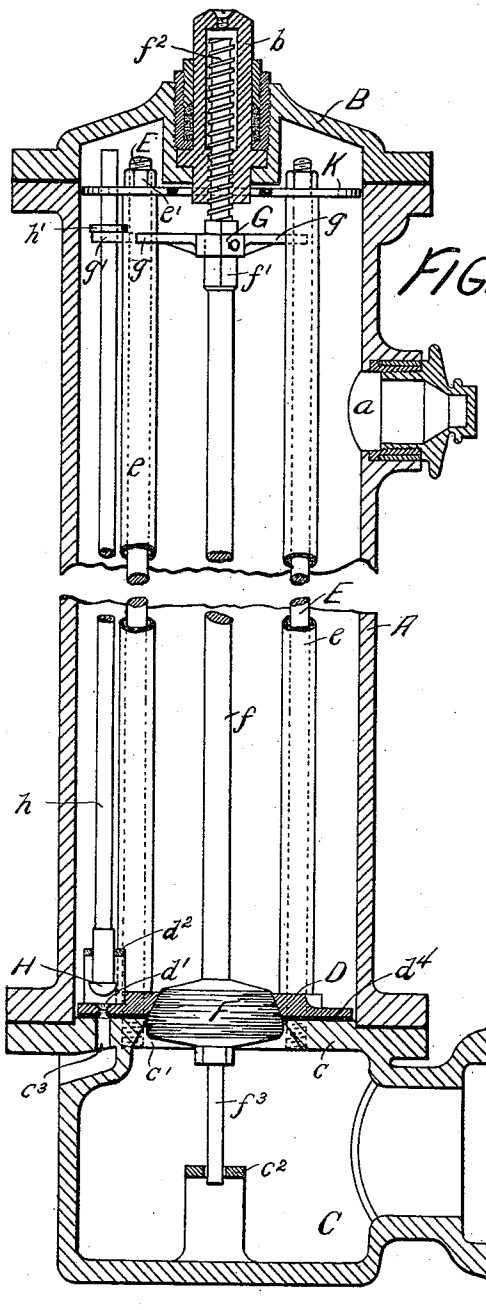


FIG. 1.

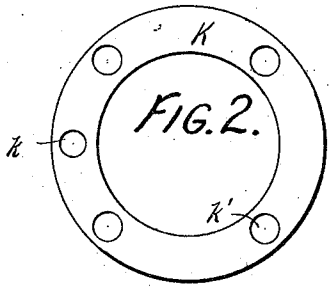


FIG. 2.

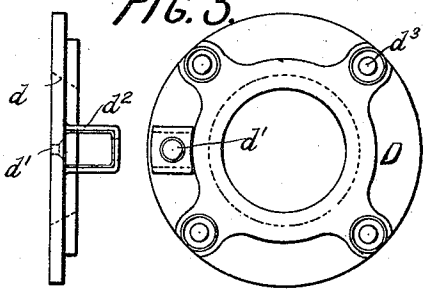


FIG. 3.

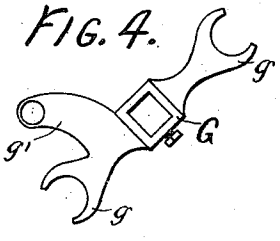


FIG. 4.

Witnesses
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ALBERT HENRY MELLERT, OF READING, PENNSYLVANIA, ASSIGNOR TO THE MELLERT FOUNDRY AND MACHINE COMPANY, (LIMITED,) OF SAME PLACE.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 430,081, dated June 10, 1890.

Application filed January 17, 1890. Serial No. 337,176. (No model.)

To all whom it may concern:

Be it known that I, ALBERT HENRY MELLERT, a citizen of the United States, residing at Reading, in the county of Berks, State of Pennsylvania, have invented certain Improvements in Fire-Hydrants, of which the following is a specification.

This invention relates more particularly to that class of hydrants which are adapted to be used in the streets of cities for fire or other similar purposes.

The main objects of the invention are to provide an improved hydrant of simple and economical construction in which all the working-points are readily accessible for inspection or repairs without interfering with the stand-pipe, and in which the stand-pipe is entirely free from any strain due to the water-pressure upon the closed valve.

Heretofore hydrants have been made which permitted the removal of the inclosed valve and its seat and also of the drip-valve; but in these cases the construction has been such that the pressure of the water upon the closed valve brings a strain upon the stand-pipe, thus preventing any inspection whatever of the interior of the hydrant without shutting off the water and causing the release of the water if the stand-pipe be broken. In my improved hydrant these disadvantages are overcome, the working parts being inspected and often put in order without shutting off the water, and, in addition, all the working parts, including both the main and drip valves and their seats and gasket, are easily removed and replaced in proper position without disturbing the stand-pipe.

The invention consists, mainly, in the peculiar form of valve-seat and in the means employed to removably secure it to the base-piece of the hydrant. These features and others of the invention are fully described, and specifically pointed out in the claims.

The drawings represent a preferred construction embodying my invention.

Figure 1 is a sectional elevation of the complete hydrant. Fig. 2 is a plan view of the ring K. Fig. 3 shows the valve-seat plate in detail. Fig. 4 is a plan view of the cross-arm G.

A represents the stand-pipe, which is formed with one or more hose-nozzles *a*, and is secured to a base-piece or "goose-neck" C. The latter is connected with the water-pipe, and is formed with a chamber into which the valve F descends when opened, and with a top plate *c*, provided with a central perforation or opening *c'* large enough to permit the passage of said valve. Upon the upper surface of this top *c* is jointed a valve-seat plate D, having a central opening *d* tapering upward to correspond with the conical valve F. Bolts or studs E, screwed into the base, extend upward through holes d^3 in the valve-seat plate to about the top of the stand-pipe, and pieces of pipe *e*, which serve as distance-pieces, are strung upon these bolts between the plate D and a ring K, near the top, the latter serving to maintain the proper position of the upper ends of the bolts with relation to each other and the stand-pipe, the plate D being pressed down upon the base C and securely held thereto by means of the nuts *e'*.

The valve F is provided with a main stem *f* and a downward extension f^3, which is guided by a yoke c^2, located in the chamber of the base C. The stem *f* extends upward above the top of the stand-pipe and its screw-threaded end f^2 engages a nut *b*, secured in any suitable manner in the stand-pipe cap B.

Below the threaded end f^2 a cross-arm G is secured to the valve-stem *f*, the latter being preferably square at *f'*, and the bar secured to it by means of a set-screw, as shown. The semicircular ends *g* of this cross-bar span opposite distance-pieces *e*, which thus serve to prevent the turning of the arm G, and the valve F, when the latter is raised and lowered by means of the nut *b*. The arm being in close proximity to the latter, the stem *f* is not twisted in operating it.

To provide for the escape of water remaining in the stand-pipe after the main valve has been closed, a drip-outlet c^3 is provided in the base, which outlet is controlled by means of a drip-valve H, fitted to a seat *d'*, formed in the plate D to one side of the main valve, which seat coincides with the outlet c^3. The stem *h* of this drip-valve is guided in a yoke d^2, attached to or forming part of the

plate D, and is extended upward through opening k in the ring K. The collar h' near its top rests upon an arm g' of the cross-bar G when the main valve is closed, as shown in the drawings, thus keeping the drip-outlet open. When the main valve is lowered, the drip-valve is dropped into the seat and the outlet closed. It will be noticed that by means of this construction the water-pressure upon the closed valve is transferred directly to the base, no strain whatever being brought upon the stand-pipe, and yet by removing the cap B and the nuts e', at the top of the stand-pipe, the main and drip valve-seats, (plate D,) together with the gasket d^4, which is suitably secured to it, and the respective valves can be readily withdrawn from the stand-pipe, and when inspected and repaired can be returned to exactly the same position without any trouble. By merely removing the nut and cap the drip-valve can be handled and adjusted by means of the extended stem h, the arm G being loosened and reset, if desired, without shutting off the water. The valve-seat being secured to the base independently of the stand-pipe, the water would not be released even if the latter were broken. When the valve is open, the flow of water is entirely free and unobstructed, and when closed the last drop of water will escape through the drip, which is not the case when the drip-outlet is through the side of the stand-pipe instead of through the base.

My invention being thus clearly set forth in connection with the preferred form of construction illustrated, it is not intended to limit it to such construction merely, it being evident that the details and their arrangement may be considerably modified without departing from the spirit of the invention.

What I claim is—

1. A hydrant consisting of a stand-pipe, a base-piece, a valve-seat plate secured to said base independently of the stand-pipe by means of bolts extended to about the top of the stand-pipe, and distance-pieces and a top ring arranged substantially as described, a valve closing against the under side of said plate and having a stem connected to operating mechanism at the top of the stand-pipe, and a drip-valve seated and guided in said plate and having an extended stem passed through said ring and engaged by a cross-bar secured to the main valve, said cross-bar being guided by said distance-pieces, substantially as set forth.

2. In a hydrant, the combination, with the stand-pipe, the base with perforated top, and the valve and operating mechanism, all substantially as described, of bolts screwed into said top and extended upward to about the top of the stand-pipe, and a valve-seat plate, distance-pieces, and ring, all strung upon said bolts and arranged substantially as and for the purpose set forth.

3. In a hydrant, the combination, with the stand-pipe, the base, the bolts screwed into said base and extended upward to about the top of the stand-pipe, and the valve-seat plate, distance-pieces, and ring strung upon said bolts, of a valve having a stem connected with an operating mechanism screwed to the top of the stand-pipe and a cross-arm attached to said stem and guided upon said distance-pieces, substantially as and for the purpose set forth.

4. In a hydrant, the combination, with the stand-pipe, the base, the bolts screwed into said base and extended upward to about the top of the stand-pipe, and the valve-seat plate, distance-pieces, and ring strung upon said bolts, of a valve having a stem connected with an operating mechanism secured to the top of the stand-pipe, a cross-arm attached to said stem and guided upon said distance-pieces, and a drip-valve seated and guided in said valve-seat plate and having an upwardly-extended arm engaged and operated by said cross-bar, substantially as and for the reasons set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT HENRY MELLERT.

Witnesses:
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