2 Sheets—Sheet 1.

G. C. MORGAN.
Street-Hydrant.

No. 212,486. Patented Feb. 18, 1879.

Fig. 1.

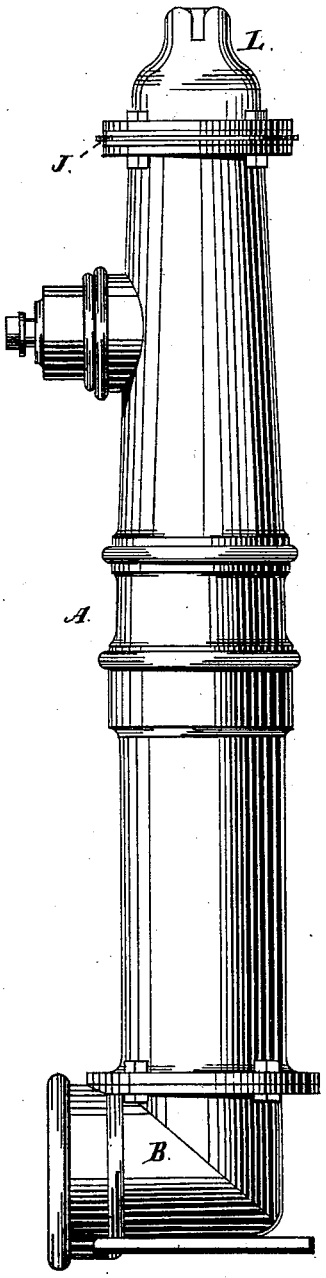
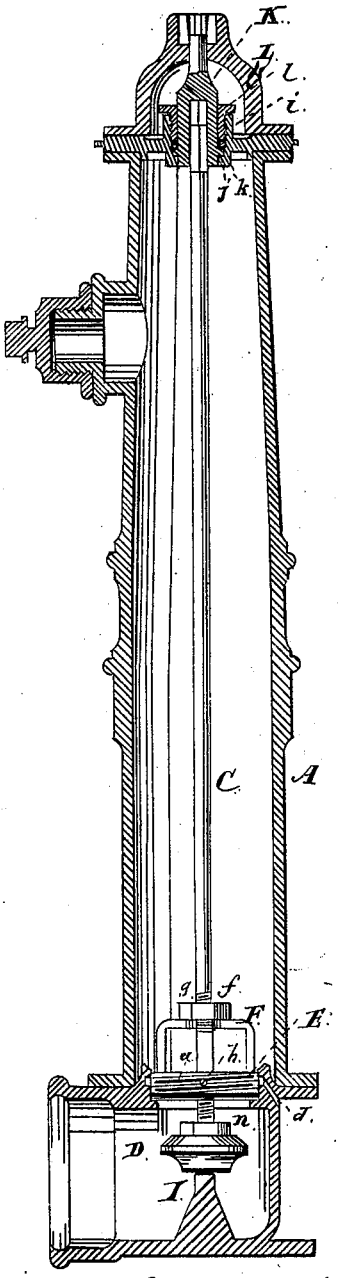


Fig. 2.



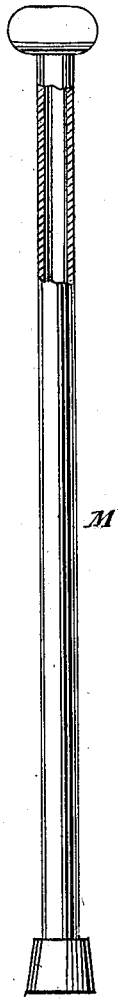


Fig. 3.

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H. L. Bruns.

Inventor:
George C Morgan

2 Sheets—Sheet 2.

G. C. MORGAN.
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Fig. 4.

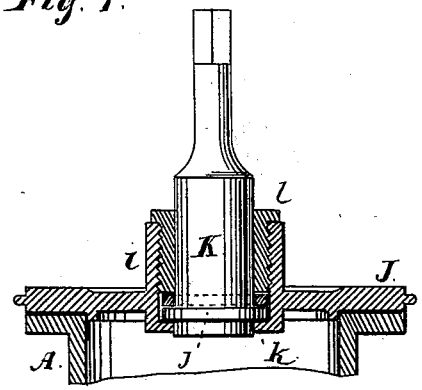
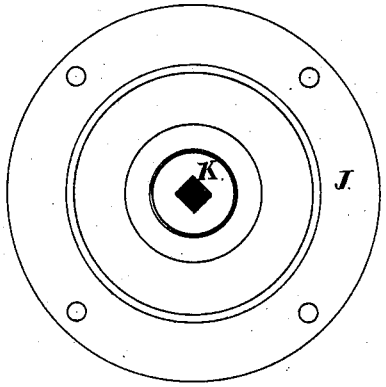
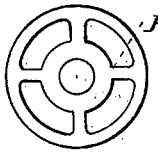


Fig. 5.





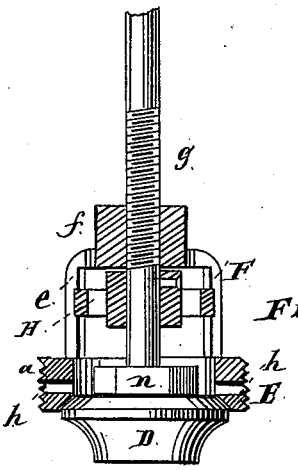


Fig. 6.

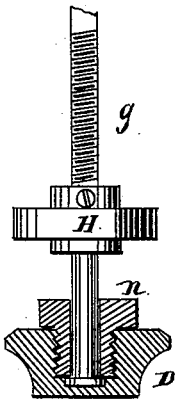
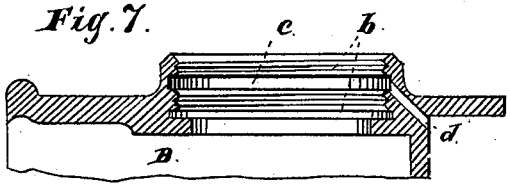


Fig. 8.

Fig. 7.



Witnesses:

E. A. West.
F. F. Burns.

Inventor:

George C Morgan

UNITED STATES PATENT OFFICE.

GEORGE C. MORGAN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN STREET-HYDRANTS.

Specification forming part of Letters Patent No. **212,486**, dated February 18, 1879; application filed August 27, 1878.

To all whom it may concern:

Be it known that I, GEORGE C. MORGAN, of Chicago, Cook county, State of Illinois, have invented a new and useful Improvement in Street-Hydrants, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation; Fig. 2, a vertical section. Fig. 3 shows the wrench used to remove the valve-seat. Figs. 4, 5, 6, 7, and 8 are enlarged details, Fig. 4 being a section of the upper end with the cap removed; Fig. 5 an under-side view of the plate J; Fig. 6 a view of the valve and seat and parts connected therewith. Fig. 7 is a vertical section of the casting connecting the hydrant with the branch main, Fig. 8 showing how the valve is secured to the stem and the drip-wheel on the valve-stem. In Fig. 2 the valve, seat, cage, and rod are in elevation.

My improvements consist in devices for the escape of the drip or waste water and in the peculiar construction of the valve-seat and some parts connected therewith, so that the same can be easily removed without taking the shell of the hydrant apart, as set forth.

In the drawings, A is the case or shell of the hydrant, with which the water-pipe is connected to B. C is the valve-rod. D is the valve, so connected with the lower end of the valve-rod that it can rotate thereon easily, so that the valve will not always come in contact with the seat in the same position. The mode of connecting the valve to the rod is shown in Fig. 8.

E is the valve-seat. Its outer edge is provided with a screw-thread, *a*, which engages with a corresponding thread, *b*, in the wall of the hydrant. (Shown at Figs. 2 and 7.) *c* is an annular chamber in the wall surrounding the valve-seat, and *d* is a small passage from this chamber to the outside of the hydrant.

F is a cage, consisting, as shown, of four arms, *e*, to the lower ends of which the valve-seat is permanently secured. The upper ends of these arms are permanently connected to a nut, *f*, through which the rod C passes, being provided with a screw-thread, *g*, to engage with the nut *f*. In the wall of the valve-seat are a number of transverse holes, *h*, which open into the chamber *c*, permitting the drip to flow from the inside of the hydrant into the annular chamber *c*, from which it can escape through *d*.

H is a disk of some thickness, having openings through it. It is permanently secured to the valve-rod C. It accurately fits into the opening through E, and is so arranged that when the valve is open it will be within E, closing the holes *h* and preventing the escape of water through such holes; but when the valve is closed this disk or drip-wheel H will be above E, as shown in Fig. 6, permitting water to flow through holes *h*.

I is a projection on the inside of the base B, located beneath the valve D. When the valve is open it comes in contact with I, and will be held in a central position and prevented from being displaced by the flow of the water. Another advantage of I is that it serves the purpose of a stop, and the operator can always know when the valve is fully open.

J is a removable plate, resting on a flange on the top of the case A. *i* is a sleeve on said plate, having a screw-thread on the inside.

K is an extension of the valve rod or stem C. *j* is a collar on K, which collar rests on a shoulder, *k*, upon the lower end of the sleeve *i*. The lower end of K passes through the plate J, and is provided with a square or angular opening to receive the upper end of the rod or stem C, the upper end of which extends a little above the top of the case A. (See Fig. 2.) K is held in the sleeve by the screw *l*, and K can be easily rotated, and its upper end is adapted to receive a wrench.

L is a cap having a hole in the top to receive the upper end of K. This cap L and the plate J are both bolted to the flange on the top of the case A.

M, Fig. 3, represents a long hollow wrench adapted to pass over the valve-rod C and engage with the nut *f* at the top of the cage F. In Fig. 2 the valve is open. In Fig. 6 it is closed.

In use the valve is opened by means of a wrench applied to the upper end of K, the lower end of which engages with the upper end of the rod C, which rod descends as it rotates in the nut *f* on the cage F. When fully open the valve rests on the projection or stop I, as shown in Fig. 2. In this position the

drip-wheel H will be within the valve-seat E, closing the openings *h* and preventing the outflow of water through them. When the valve is closed the drip-wheel will be up in the cage, as shown in Fig. 6, and then the water remaining in the hydrant can escape through the holes *h* into the annular chamber *c*, thence out through *d*.

It is sometimes necessary to remove the valve-seat and valve for repairs. As hydrants have heretofore been constructed this is attended with considerable difficulty; but it is easily done when constructed as described, in the following manner: First remove the cap L, plate J, and parts connected therewith; then the long hollow wrench can be placed over the valve-rod C and made to engage with the nut *f*, which is connected to the cage, to which the valve-seat is secured, and by turning this nut *f* the valve-seat E can be removed with the valve without removing the case A from the base.

I have described the piece E as the valve-seat. The actual seat of the valve is at the lower part of the opening through E, as shown in Fig. 6.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The valve-seat E, having holes *h*, in combination with the annular chamber *c* in the wall of the base B and the drip-wheel H, secured to the valve-rod C, substantially as and for the purpose set forth.

2. The removable valve-seat E, cage F, and nut *f*, in combination with the valve-rod C, valve D, and drip-wheel H, all constructed and operating substantially as and for the purpose set forth.

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Witnesses:
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H. F. BRUNS.