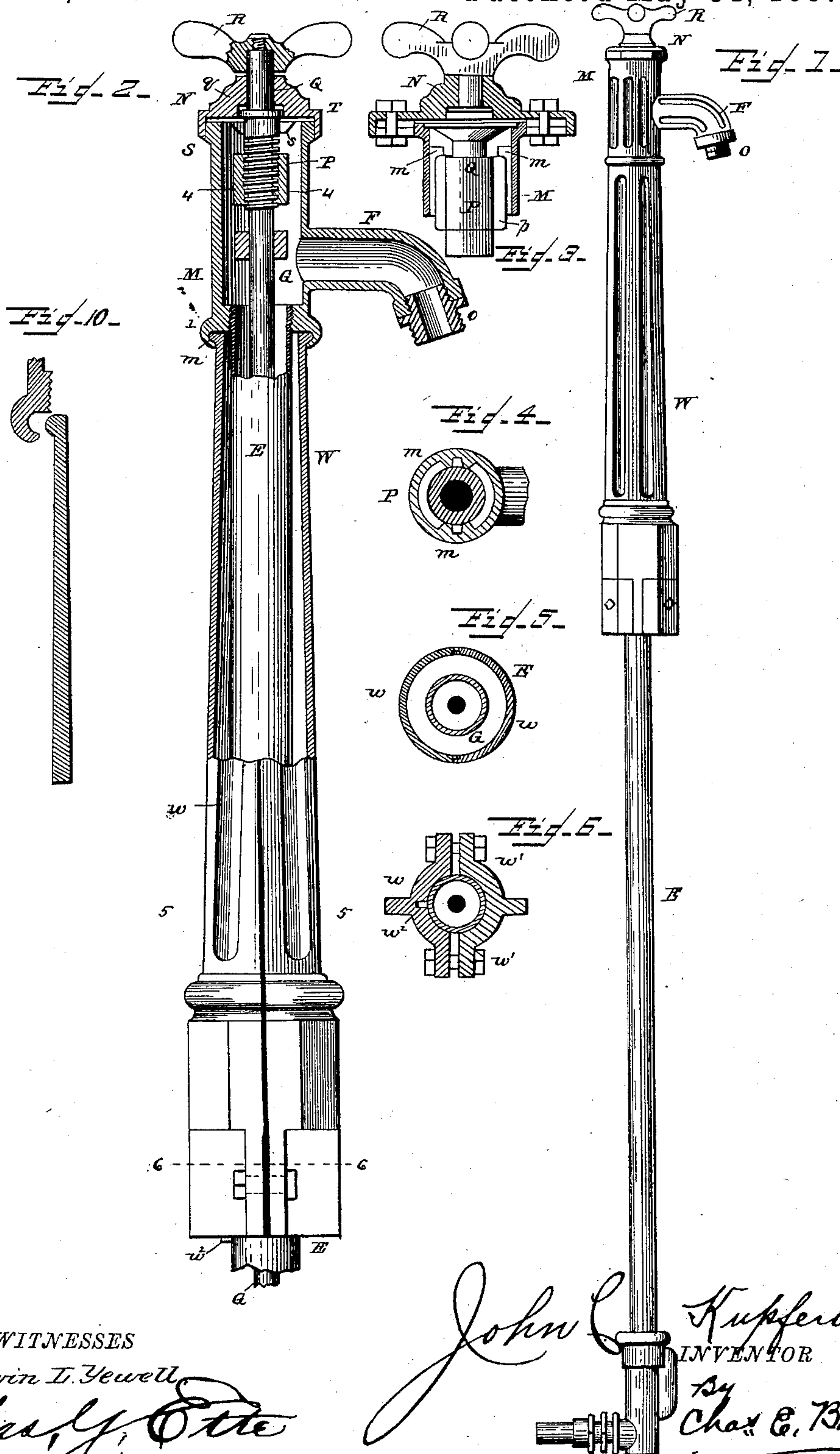


J. C. KUPFERLE.

HYDRANT.

No. 364,180.

Patented May 31, 1887.



WITNESSES

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Chas. E. Otte

John C. Kupferle

INVENTOR

By Chas. E. Barber

His Attorney in fact.

(No Model.)

2 Sheets—Sheet 2.

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Fig - 7 -

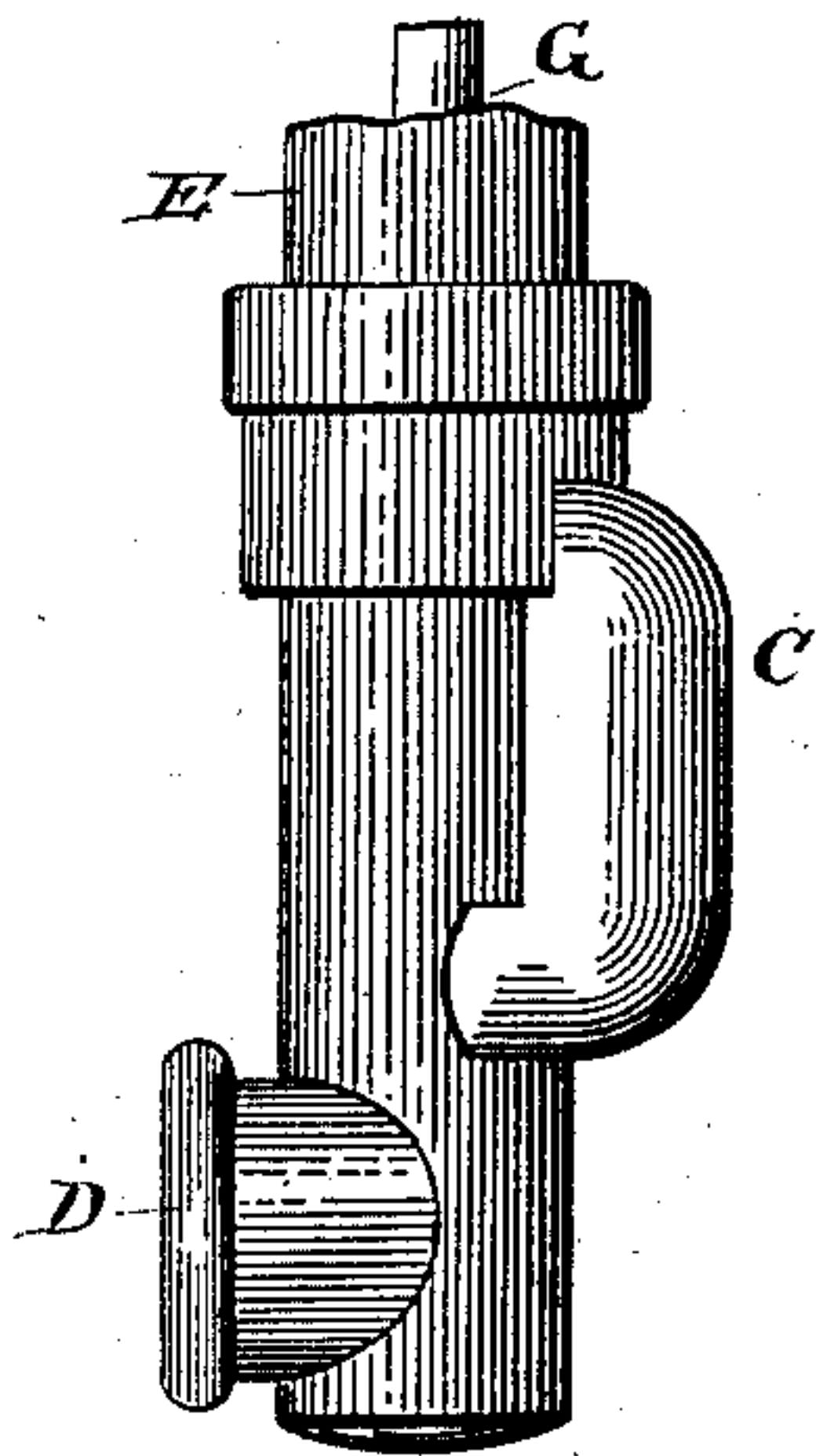
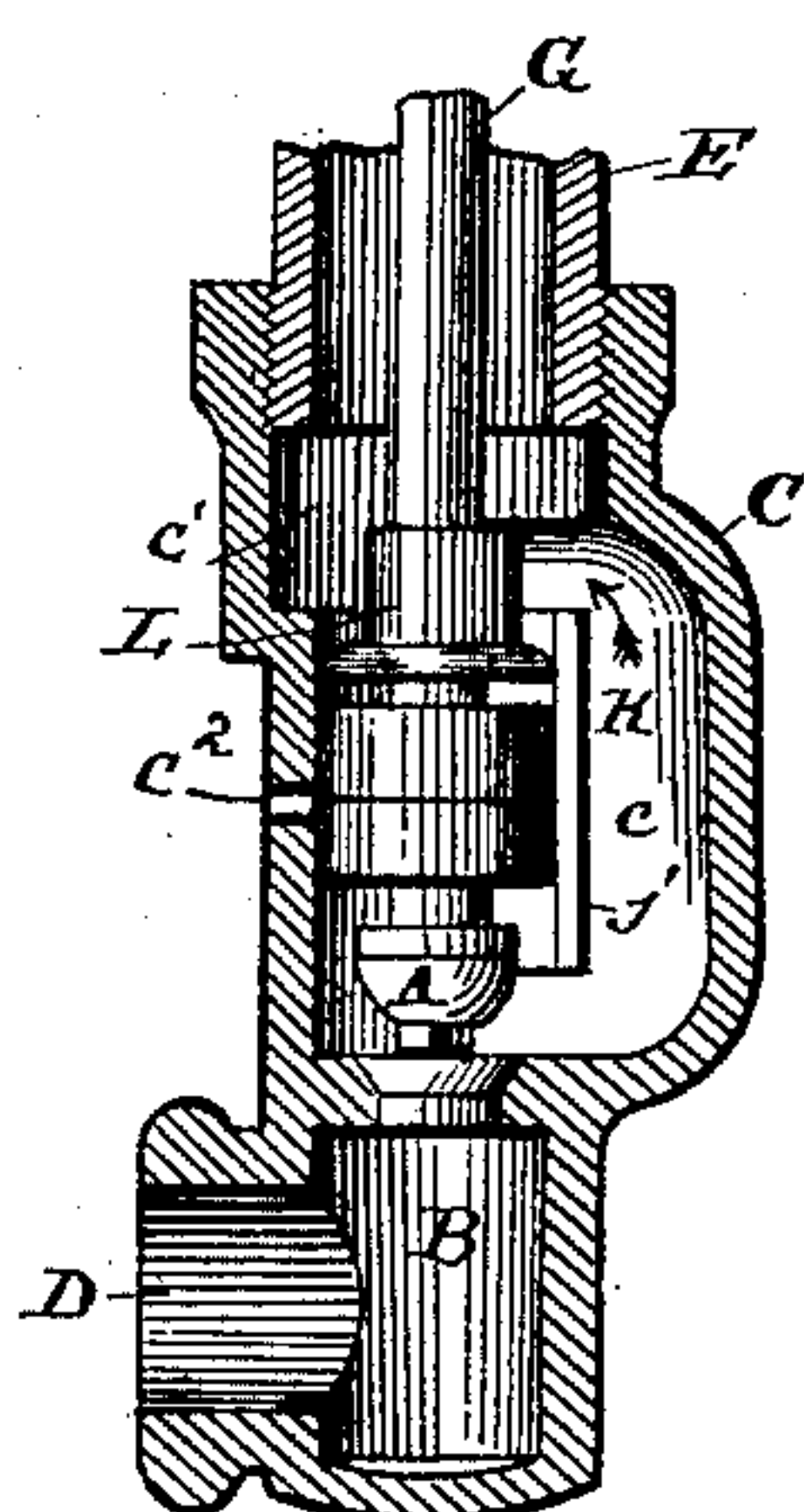
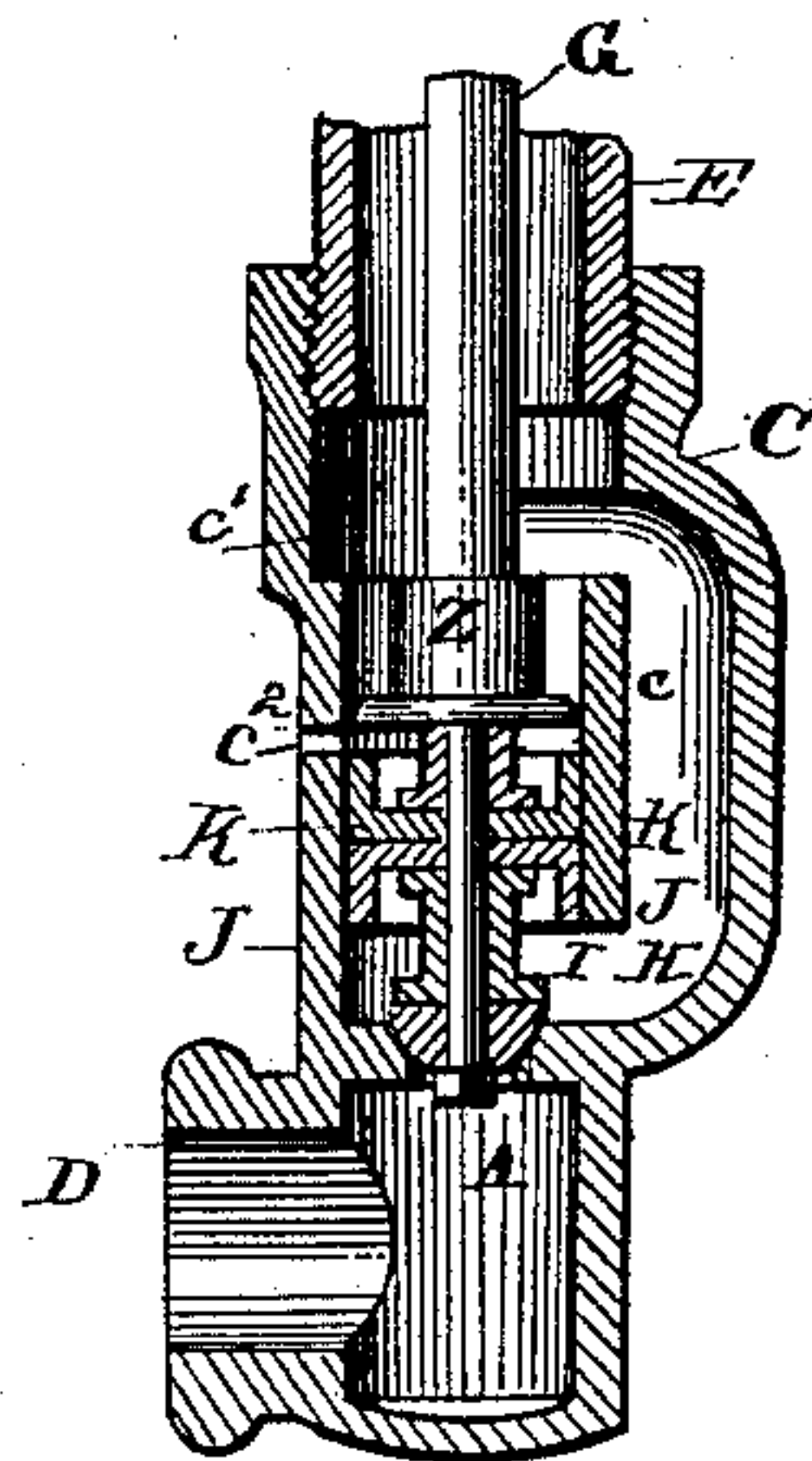


Fig - 8 -

Fig - 9 -



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His Attorney in fact.



# UNITED STATES PATENT OFFICE.

JOHN C. KUPFERLE, OF ST. LOUIS, MISSOURI.

## HYDRANT.

SPECIFICATION forming part of Letters Patent No. 364,180, dated May 31, 1887.

Application filed March 18, 1887. Serial No. 231,447. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. KUPFERLE, of St. Louis, Missouri, have made a new and useful Improvement in Hydrants, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a side elevation of the improved hydrant; Fig. 2, a sectional elevation, upon an enlarged scale, of the upper portion of the hydrant; Fig. 3, a view showing the extreme upper portion of the hydrant-casing in vertical section and the valve-rod and the parts immediately therewith connected in side elevation; Fig. 4, a horizontal section on the line 4 4 of Fig. 2; Fig. 5, a horizontal section on the line 5 5 of Fig. 2; Fig. 6, a horizontal section on the line 6 6 of Fig. 2; Fig. 7, a side elevation, upon an enlarged scale, of the lower end of the hydrant; Fig. 8, a vertical section of the lower end of the hydrant, the valve being seated; and Fig. 9, a view similar to that of Fig. 8, but showing the valve unseated. Fig. 10 is a sectional view.

The same letters of reference denote the same parts.

This invention relates, mainly, to the combination of parts hereinafter described and claimed.

A, Figs. 8 and 9, represents the main valve of the hydrant. It seats at B in the valve-chamber C. The water enters the valve-chamber at D, and, after passing the valve, enters the side passage, *c*, in the valve-chamber C, and from the side passage the water passes upward through the tube E, and thence is discharged through the hydrant-nozzle F, Figs. 1 and 2.

G represents the valve-rod. The valve is secured thereto by means of the bolt H, the valve being attached to the lower end of the bolt, and the upper end of the bolt being secured to the valve-rod.

Between the valve A and the valve-rod G there are attached to the bolt H the following parts: The washer or ring I, which is made, preferably, of brass, and which bears at its lower end upon the upper side of the valve A; the cup-leather J, which bears upon the upper end of the ring I, and whose flange *j* is turned downward; the cup-leather K, which bears upon the upper side of the cup-leather

J, and whose flange *k* is turned upward, and the washer or ring L, also preferably of brass, which bears at its lower end upon the cup-leather K and at its upper end against the valve-rod G, all substantially as shown in Figs. 8 and 9.

The cup-leathers J K, and that portion of the construction to which they are immediately attached, are adapted to work upward and downward within and in connection with the tubular portion *c'* of the valve-chamber C. This tubular portion, at its upper and lower ends, communicates with the interior of the valve-chamber, and it is perforated at *c''* to provide an opening through which the water can waste from the hydrant. When the valve A is seated, the upper cup-leather, K, comes below the waste opening *c''*, and the water can drain through the opening, as shown in Fig. 8.

When the valve A is unseated, as in Fig. 9, the upper cup-leather is lifted far enough to close the waste-opening. At the same time the lower cup-leather, J, prevents the escape of water directly upward through the tubular portion *c'* to the waste-opening.

The tube E, which leads from the valve-chamber C upward, is ordinary tubing, such as used by steam and gas fitters. At its lower end it is screwed into the valve-chamber C, and at its upper end it is similarly attached to a chamber, M. This last-named chamber is provided with the cap N and the nozzle F.

The valve-rod G at its upper end is attached to the nut P, Figs. 2, 3, and 4. The nut at its sides is furnished with projections *p*, which are each adapted to work upward and downward between lugs *m m* upon the inner side of the shell of the chamber M. A screw, Q, passes downward through the cap N, and within the chamber M engages with the nut P. A handle, R, is attached to the screw upon the outer side of the cap N, to enable the screw to be rotated, and by rotating the screw in its bearing in the cap N the nut, the valve-rod, and valve are raised and lowered accordingly. The screw has a collar, *q*, which bears upward against a leather washer, *n*, in the cap. A metallic washer, S, depressed at *s*, where it surrounds the screw, is, with a cup-leather washer, T, held between the upper end of the chamber M and the cap N, substantially as shown in Figs. 2,



3. The washer T is perforated to admit the screw Q, and at its inner edge is adapted to bear upward against the under side of the collar *g* of the screw Q. In this manner the joints at the upper end of the hydrant between the chamber M and the cap N and around the screw Q are packed to prevent the escape of water.

To give a finish to the construction, the hydrant is provided with casing W, Figs. 1 and 2. This casing at its upper end is adapted to be held within a downwardly-projecting flange, *m'*, of the chamber M, and at its lower end the casing is adapted to be clamped to the tube E. For this purpose the casing is made in two similar parts, *w w*, Figs. 2, 5, 6, which are placed around the tube E and confined in position by means of the bolts *w'*, which, when drawn up tight, cause the parts *w w* at their lower ends to bind upon the tube E. A key, *w''*, can be inserted between the casing and tube to aid in upholding the casing. The nozzle F at its outer end is provided with a coupling, O.

It has been customary heretofore to make the entire nozzle removable; but in the present instance the nozzle is a fixture, and the coupling which constitutes the tip of the nozzle is the only removable part.

At the original date of filing of this application—namely, on the 22d day of July, 1884—my attorney failed to make mention of the fact that the lower part of the top of the casing is provided with a groove, and that the upper end of each section has a corresponding projection which extends into and fits snugly within the said groove when the parts are put together. I therefore explain that these sections should be put together with their lower ends somewhat away from the line of the pipe or casing, and then brought together at the bottom and securely bolted to the central pipe, as above explained.

Having now described my invention, what I desire to secure by Letters Patent, and what I therefore claim, is—

1. A hydrant of the character described, consisting of the main upper portion and the lower portion formed in two pieces, in combination with the valve-pipe, which is of greater diameter than the inner diameter of the outer casing, which is formed by the sections, and bolts or clamps for securing the sections to the valve-pipe, substantially as and for the purposes specified.

2. In a hydrant of the character described, the combination of the main upper portion provided with a groove the bottom of which is provided with a circular depression, in combination with two sections which form the outer casing, said sections having circular ribs on their outer upper portion which correspond with the circular depressions in the grooves in the upper casing, all constructed and combined to operate substantially as described, whereby the two sections are inserted in the collar at an angle to the line of the valve-pipe and then forced together at their bottom and secured in place in such a manner that they will be held in position on the valve-pipe by the ribs on the top impinging with the depressions in the grooves and by the impingement of the lower portion of the sections against the valve-pipe, substantially as specified.

In testimony that I claim the above as my invention I hereunto set my hand in the presence of two witnesses.

JOHN C. KUPFERLE.

Witnesses:

JOHN D. HENGER,  
F. W. PETERS.