

(No Model.)

J. JONES.
HYDRANT.

No. 316,042.

Patented Apr. 21, 1885.

Fig. 1.

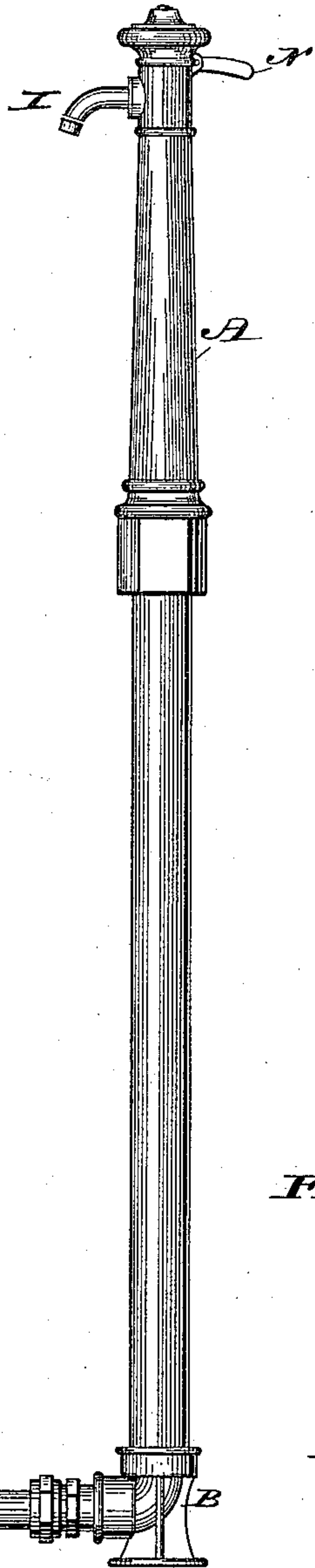


Fig. 2.

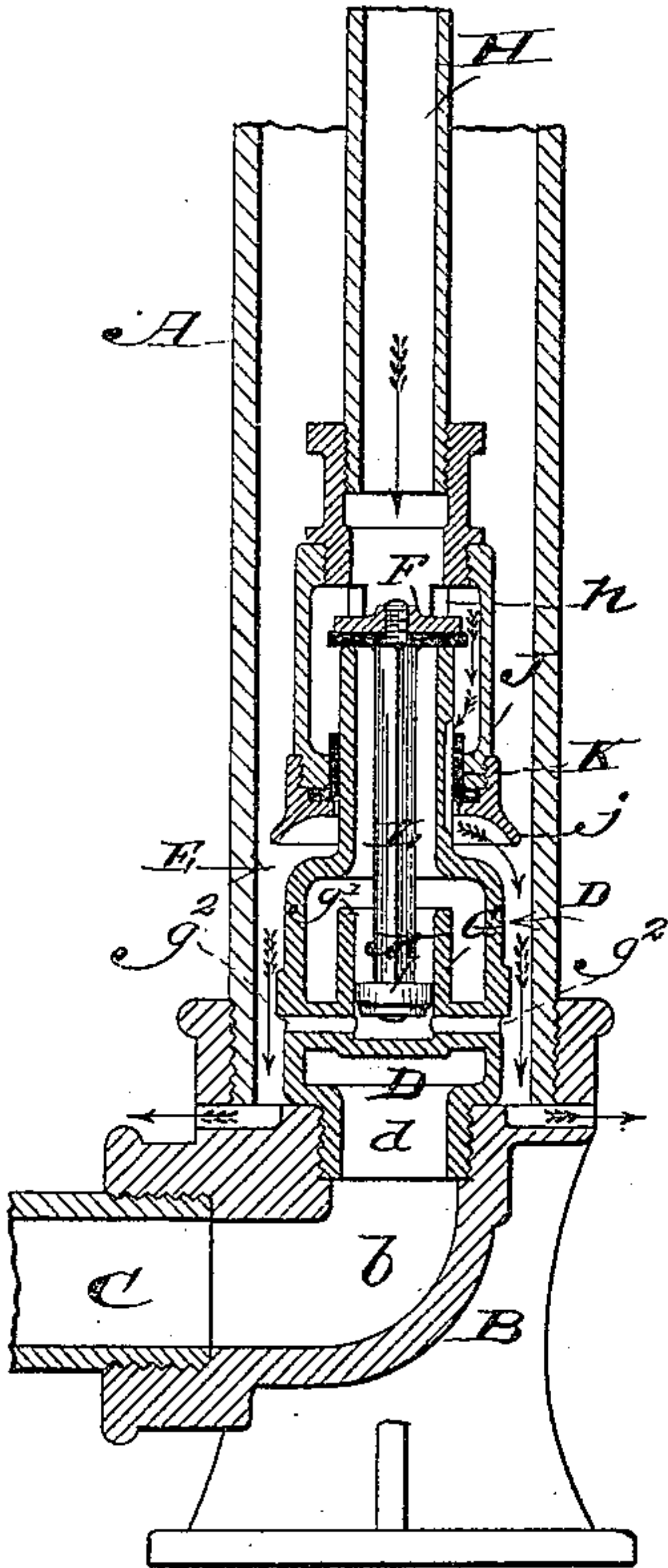


Fig. 3.

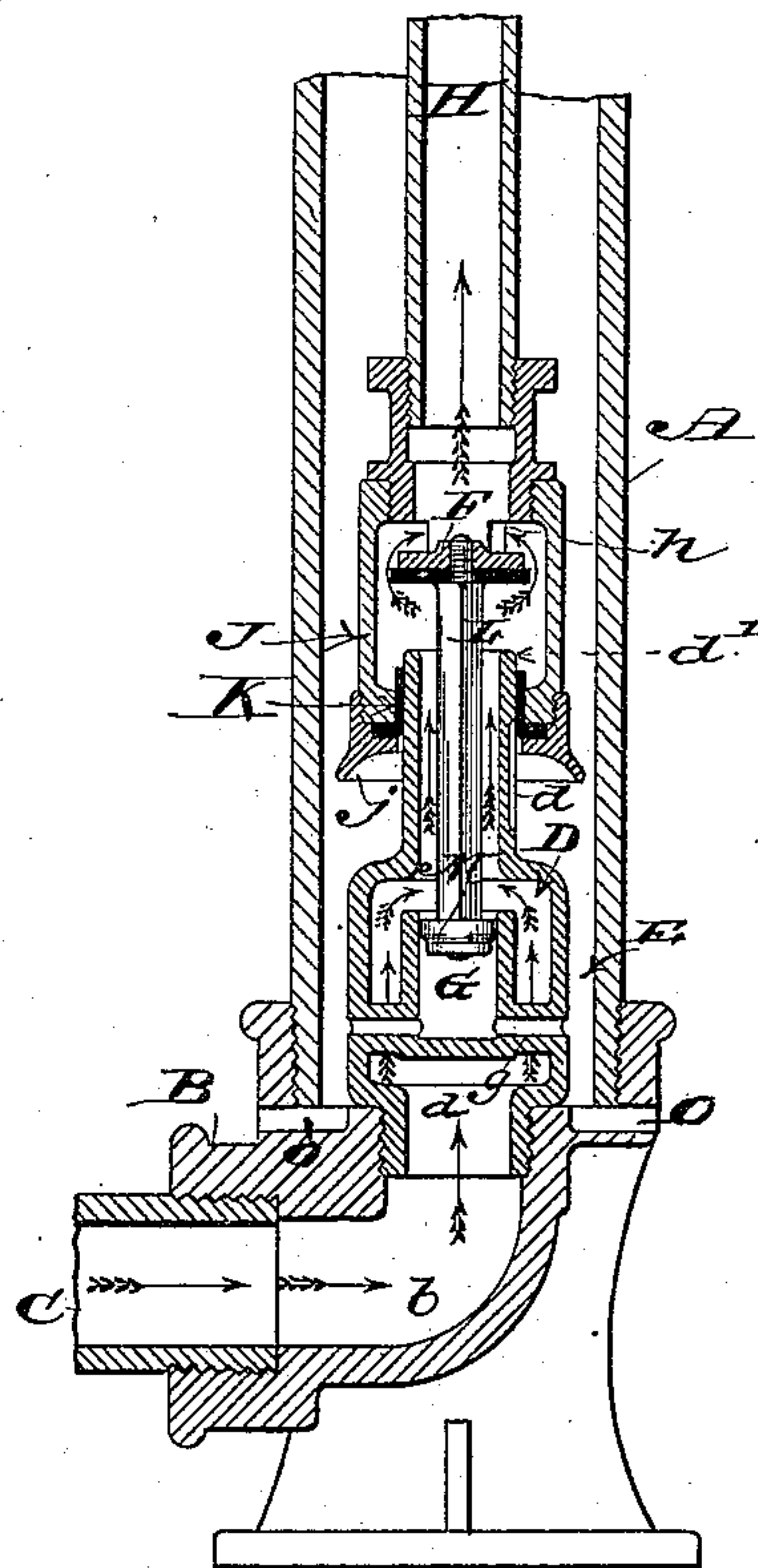


Fig. 4.

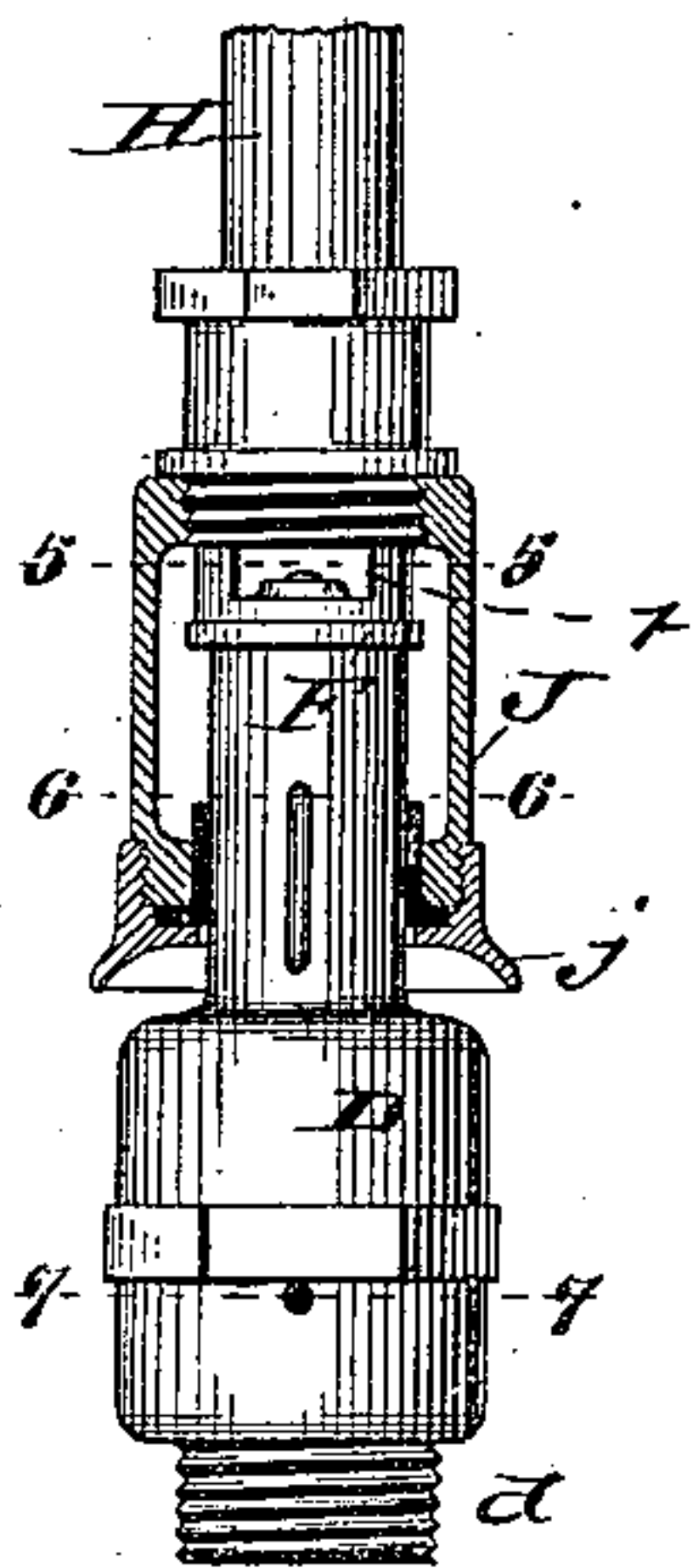


Fig. 5.

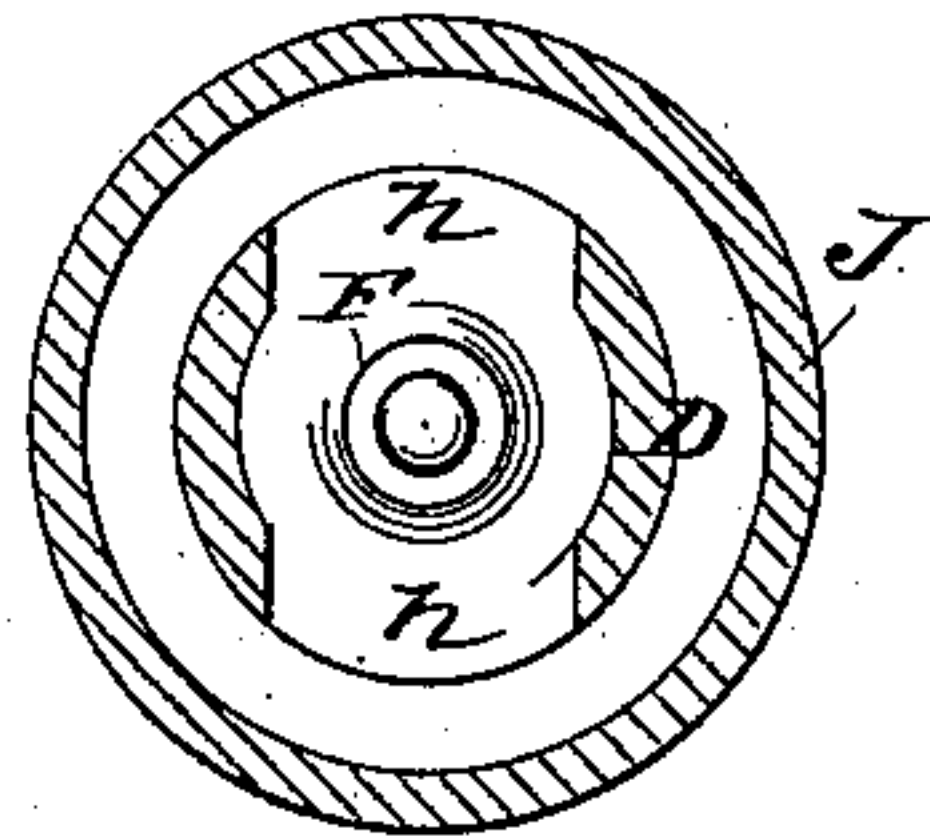


Fig. 6.

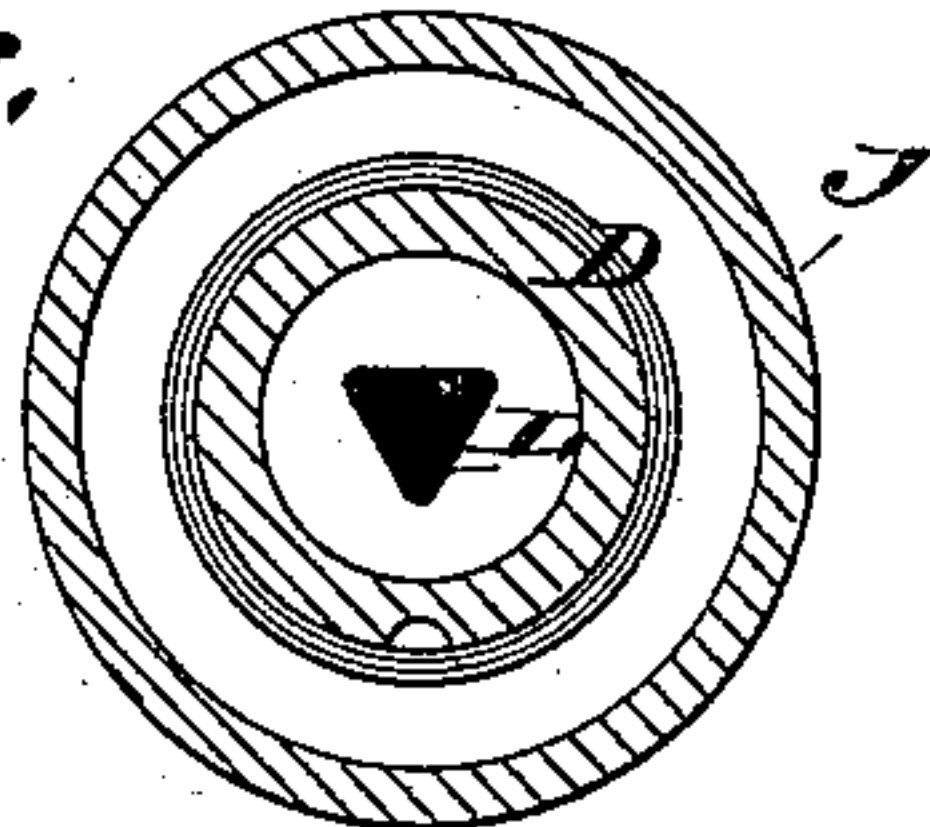
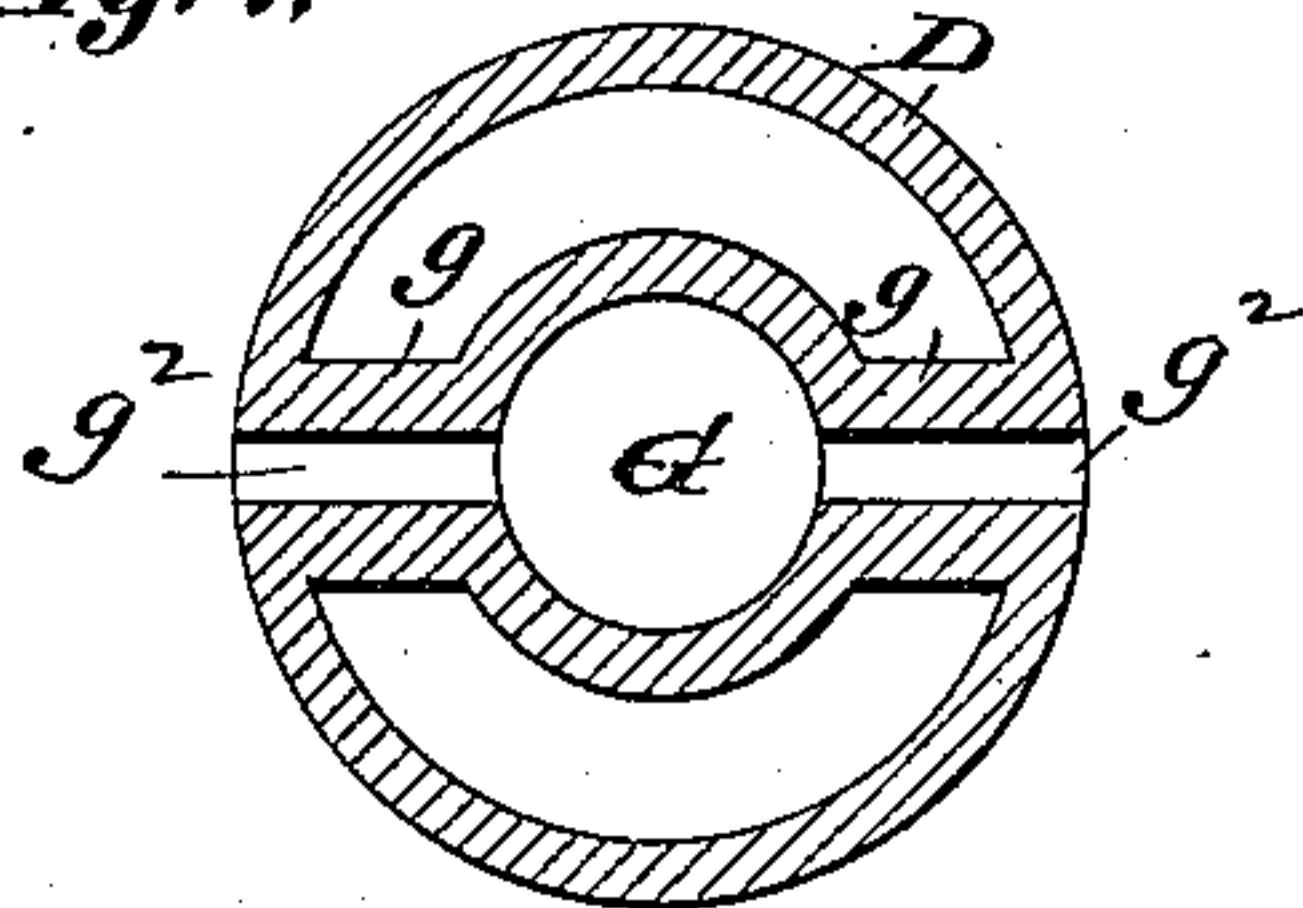


Fig. 7.



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JAMES JONES, OF ST. LOUIS, MISSOURI.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 316,042, dated April 21, 1885.

Application filed October 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES JONES, of St. Louis, Missouri, have made a new and useful Improvement in Hydrants, of which the following is a full, clear, and exact description.

The improvement relates more especially to the means employed to balance the valve and secure its gradual seating, and thereby prevent the concussion which results from an instantaneous or too sudden stoppage of the flow of water from the hydrant.

The mechanism employed in carrying out the improvement is illustrated in the drawings hereto annexed and made a part of this specification, in which—

Figure 1 is a side elevation of a hydrant having the improvement; Fig. 2, a vertical section, on an enlarged scale, of the valve and of the parts connected therewith, the valve being seated; Fig. 3, a vertical section similar to that of Fig. 2, the valve being unseated; Fig. 4, a side elevation, partly in section, of the valve and parts therewith connected; and Figs. 5, 6, and 7, horizontal sections on the lines, respectively, 5 5, 6 6, and 7 7 of Fig. 4.

The same letters of reference denote the same parts.

A, Figs. 1, 2, and 3, represents the housing of the hydrant. It rests in the foot B. The inlet is at C, the water passing through the passage *b* in the foot B into the chamber D. This chamber is secured in the top of the foot, and it extends upward into the housing. It is smaller in diameter than the housing, so that there is an annular space, E, between the chamber and housing. The chamber is open both at its lower and at its upper ends—at its lower end, *d*, to establish communication with the passage *b*, and at its upper end, *d'*, to form the seat for the main valve F. The chamber D contains an inner chamber, G, which is supported by the arms *g g*, which extend from the shell of the chamber G to the shell of the chamber D. The chamber G at its top *g'* communicates with the interior of the chamber D, and at its lower end, by means of the passage *g²* in the arms *g*, communication is established between the interior of the chamber G and the space E without the chamber D. The main valve F is attached to the rod H, which is made tubular to conduct the water passing the valve to the nozzle I. The rod H

has a tubular extension, J, which extends downward past the main valve F, and sufficiently to lap upon the upper end of the chamber D when the main valve is unseated, and at its lower end the extension J is fitted to, and by means of the cup-leather K has a water-tight connection with, the exterior of the chamber D, so that the extension can be slipped upward and downward upon the chamber D and in all of its positions be, saving at the waste-opening hereinafter described, tightly fitted thereto. The extension J also at its lower end is furnished with a flaring flange, *j*, which may be slightly larger in diameter than the chamber D. The flange serves as a guide in fitting the movable parts of the hydrant in place and as a guard to more efficiently prevent dirt from getting onto the upper part of the chamber D. There is a suitable opening or openings, *h*, above the main valve, through which the water can pass from the interior of the extension J into the tube H. Beneath the main valve the tube H is extended to form, or is provided with, the stem L, which extends downward through the upper part of the chamber D, and is provided with a cup-leather valve, M, adapted to work in the chamber G.

The operation of the mechanism is as follows: When the main valve F is unseated, which can be effected by the ordinary means—such as the handle N, Fig. 1, assisted by the customary spring, (not shown,)—the water within the chamber D escapes upward into the extension J, and thence into the tube H, as indicated by the arrows in Fig. 3, and past the tube H the water is discharged in the customary manner. As the main valve is unseated, the valve M is drawn upward within the chamber G. Atmospheric air then enters through the passages *g²* into the chamber G beneath the valve M, allowing the main valve to be readily lifted. The valve M is of the same diameter or slightly larger than the seat *d'*, causing the main valve to be balanced. When the main valve closes, as shown in Fig. 2, the valve M moves downward in the chamber G. This causes the air to be expelled from the chamber G through the passages *g²*; but as this requires time, and as the main valve is balanced, the too sudden closing of the main valve is prevented.

When the main valve is unseated, the water

cannot waste from the extension J; but when it is seated the water can waste from the extension, and as follows: In the outer surface of the shell of the upper portion of the chamber D is a groove, *d*, opposite which the cup-leather K comes when the main valve is seated. The water then wastes through the groove into the space E, and thence to without the housing through any suitable passage, such as at *o o*.

10 I claim—

1. The combination of the foot B, the chamber D, the tube H, the extension J, the valve F, the stem L, the valve M, the chamber G,

and the hollow arms *g g*, as and for the purpose described. 15

2. The combination of the chamber D, the tube H, the extension J, the stem L, the valves F M, and the chamber G, said chamber above the valve M, communicating with the interior of the chamber D and below the valve M communicating with the space without the chamber D. 20

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Witnesses:

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J. W. HOKE.