

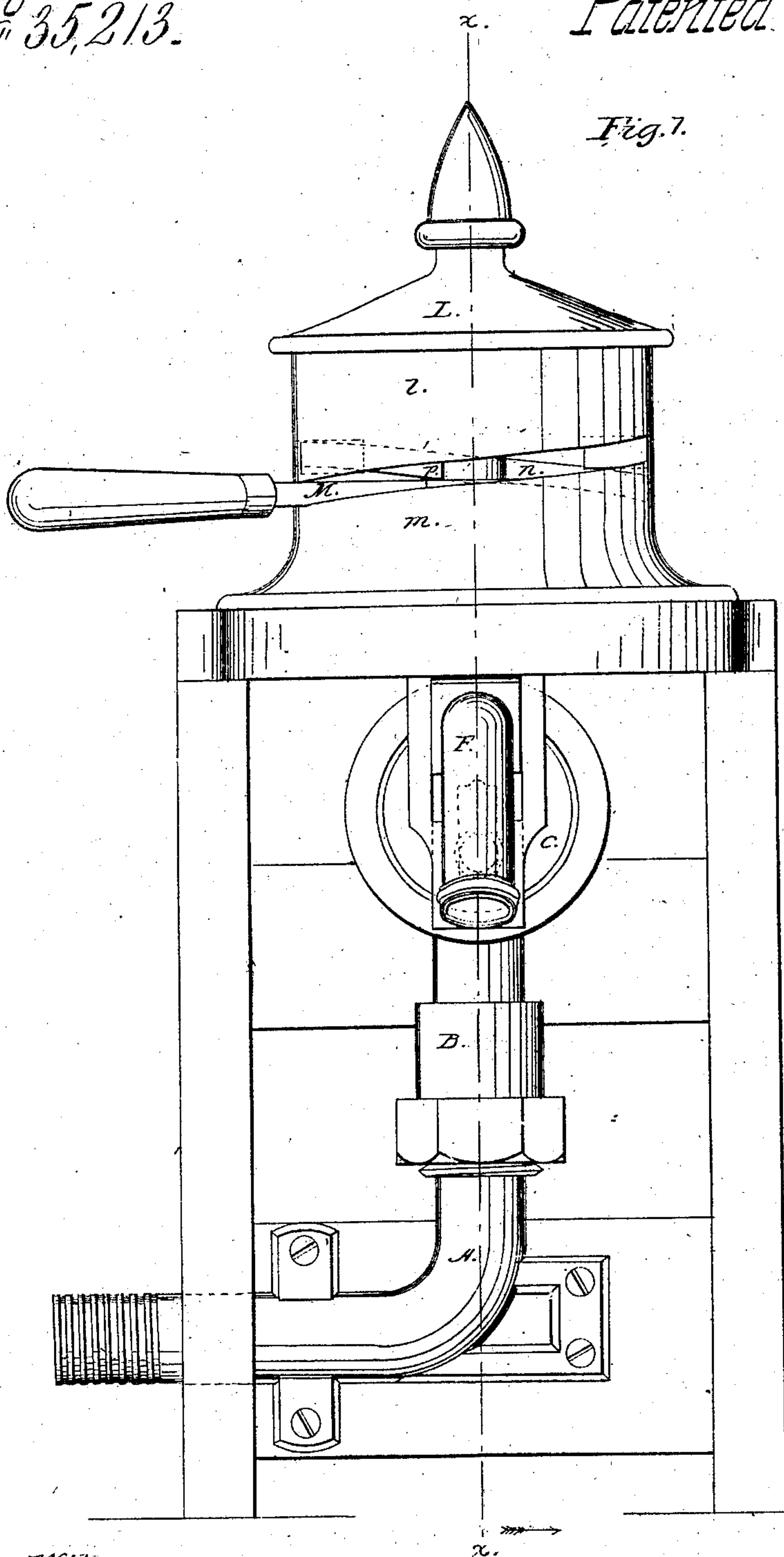
S. H. Brown,

Hydrant,

Patented May 13, 1862.

N<sup>o</sup> 35,213.

Fig. 7.



Witnesses:

G. H. C. Smith.  
C. W. Brinkerhoff.

Inventor:

Silas H. Brown.  
By his attorney  
C. L. Sillie.

S. H. Brown,

Hydrant,

N<sup>o</sup> 35,213.

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Fig. 2.

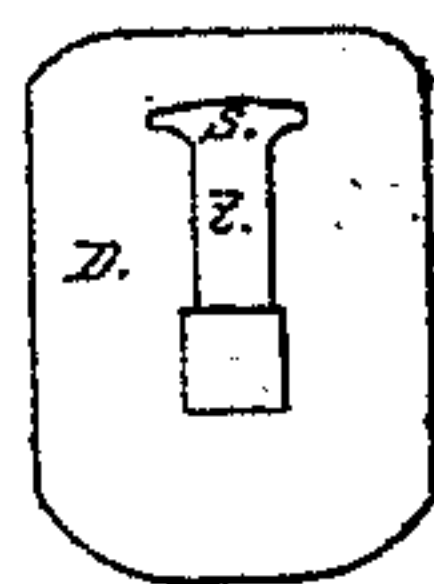
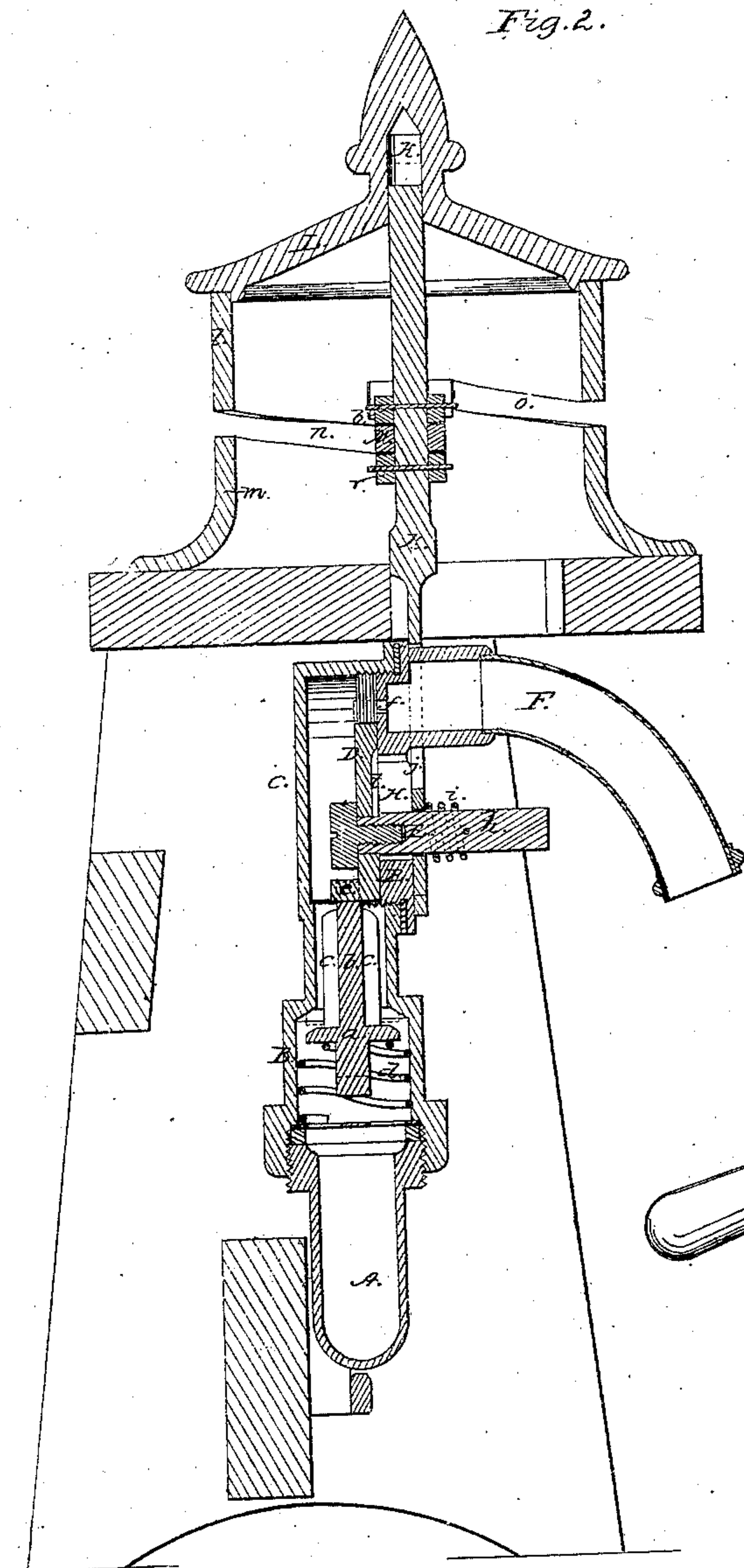
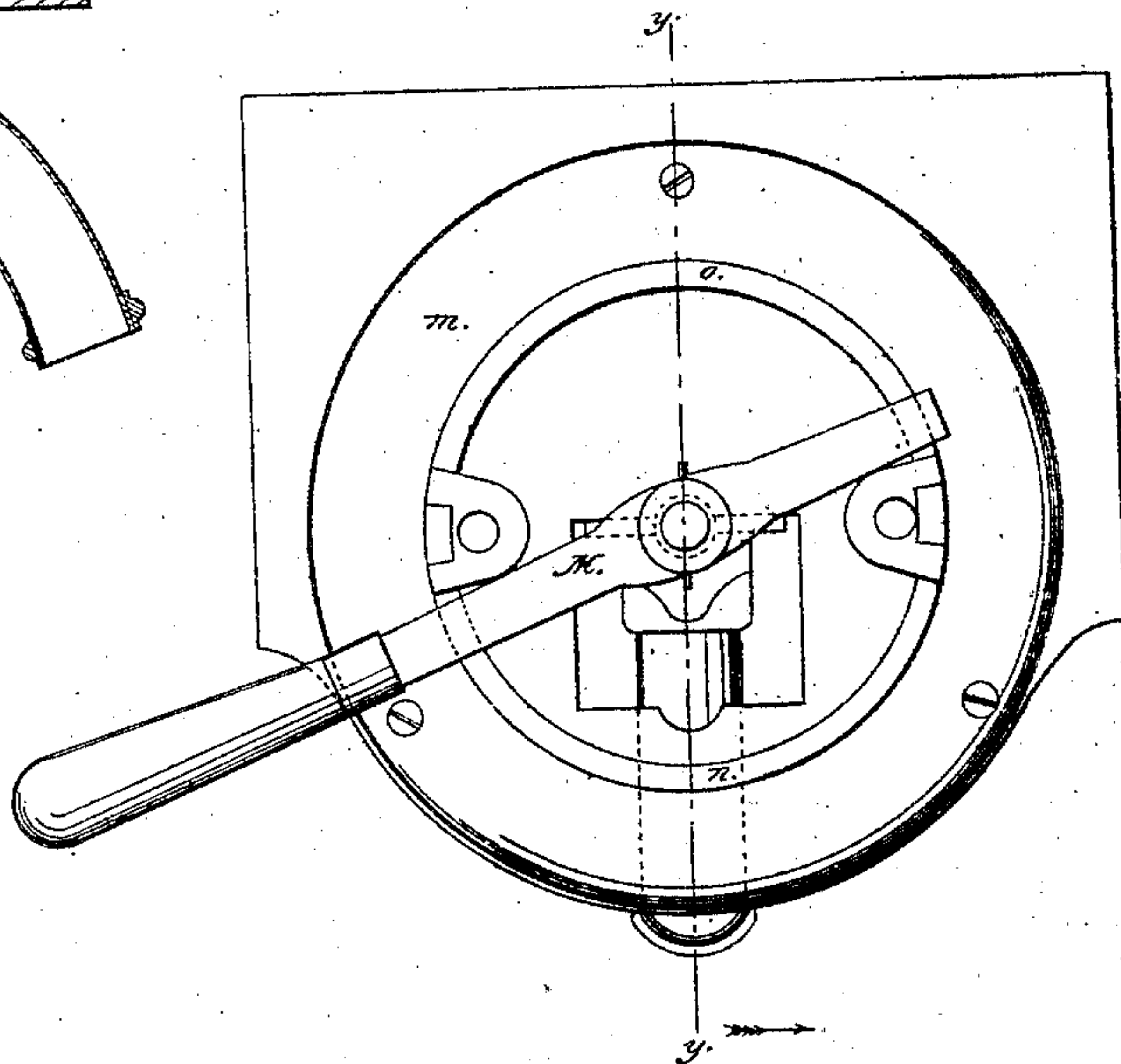


Fig. 3.



Witnesses:

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Inventor:

Silas H. Brown.  
By his attorney.  
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# UNITED STATES PATENT OFFICE.

SILAS H. BROWN, OF TROY, NEW YORK.

## IMPROVED HYDRANT.

Specification forming part of Letters Patent No. 35,213, dated May 13, 1862.

*To all whom it may concern:*

Be it known that I, SILAS H. BROWN, of Troy, in the county of Rensselaer and State of New York, have made certain new and useful Improvements in Hydrants; and I hereby declare that the following is a description of the same in terms which I now think sufficiently full, clear, and exact, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view; Fig. 2, a vertical section in the line *x x* of Fig. 1 or line *y y* of Fig. 3, and Fig. 3 a top view with the cap and upper section of inclined planes removed.

The nature of my invention consists, first, in providing the hydrant with two valves so arranged that if one becomes defective or inoperative the other will suffice to arrest the flow of the fluid; second, in the means provided for operating the valves, whereby stuffing-boxes are dispensed with; third, in the application and arrangement of grooves on the front face of the slide-valve, whereby the leakage from the discharge-pipe is accommodated, and, fourth, in the method of opening and closing the valves, so that they cannot be operated independently of the operating-lever.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Connected with the supply-pipe A is a valve-box, B, in which I arrange a puppet-valve, *a*, whose stem *b* extends upwardly and is surrounded with guide-wings *c*. It is held up onto its seat by the joint action of the pressure of the fluid and the coiled spring *d*, and when in that position its stem *b* projects a short distance into the valve-box C, which surmounts the valve-box B. Within the valve-box C, I also place the slide-valve D, which has upon its lower end a rearward projection or toe, *e*, and upon its front face a groove, *s*, corresponding with the port *f* in the discharge-pipe F, from which proceeds the groove *t*. The valve-stem E projects through a slot H, formed through the cap I of the valve-box C, and is received within a hole made through the lower end of the yoke or valve-rod K, where it is retained and the sliding valve D pressed upon its seat by means of the pin *h* and coiled spring *i*. The valve-rod K has a mortise cut through it at *j* of a sufficient length, the

discharge-pipe F projecting through it, to allow of the requisite motion to open and close the valves, and extends upwardly into a hole, *k*, in the cap I, which serve as guides to keep the valve-rod K in its vertical position. The cap I is formed in three sections, between the two lower, *l* and *m*, of which are formed the double-inclined slots or planes *n o*, in which works the double-armed operating-lever M, secured to the valve-rod K by the collars *p* and *r*.

The operation of my hydrant, which may be applied also to the drawing of all liquids as well as to steam-engines, is as follows: Suppose the fluid to be shut off. The puppet-valve *a* rests upon its seat, and the sliding valve D covers its port *f*, as represented in red lines. Now by moving the double-armed lever M to the left the inclined planes *n* and *o* force down the valve-rod K, carrying with it the sliding valve D and the puppet-valve *a*, the projection or toe *e* coming in contact with the head of the stem *b*. In this position both valves are open and the fluid has an uninterrupted flow. On reversing the action of the lever M the sliding valve D is elevated over its port *f*, and the pressure of the water and the coiled spring *d* raise the puppet-valve *a* to its seat, and the flow is cut off.

By thus arranging two valves and operating them in the manner described I am enabled still to use my hydrant although one of the valves becomes injured or inoperative. In the construction and arrangement of my sliding valve D, and in operating it by means of its stem projecting through the slot H in the cap I of the valve-box C and through the hole in the lower end of the valve-rod K, I am enabled to do without stuffing-boxes, which are always liable to get out of order.

The grooves on the front face of the valve D are another feature of importance when the hydrant is used in the yard or street, where the valve-stem E and its connections are below the ground and out of the way of the frost, for by these the waste water in the discharge-pipe F, which is above the ground and subject to the frost, passes freely off through the slot H and the mortise *j*, and, finally, by operating the valves by means of the double-armed lever M and inclined slots or planes *n* and *o*, I secure a regular and



gradual action of the valves, which will tend to prevent reaction and the bursting of the pipes, while the valves are in reality locked in any defined position.

I do not confine myself to the use of the puppet-valve in connection with the sliding valve, as any other may be employed which is operated in the manner set forth.

Having thus described my invention and the mode of its operation, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The valve *a*, in combination with the sliding valve *D*, when constructed and arranged so as to operate substantially as described.

2. The sliding valve *D*, with its adjuncts *K*, *E*, and *i*, whereby it and the valve *a* may be operated without the use of stuffing-boxes, substantially as described.

3. The grooves in the face of the sliding valve *D*, whereby the waste water in the discharge-pipe is allowed to pass off, for the purpose and substantially as above set forth.

4. The inclined planes *n* and *o*, in combination with the double-armed lever *M*, as and for the purposes described.

SILAS H. BROWN.

Witnesses:

ANSON ATWOOD,  
WILLARD GAY.