

No. 687,041.

Patented Nov, 19, 1901.

W. L. LOGAN.
VALVE.

(Application filed July 1, 1901.)

(No Model.)

Fig. 1.

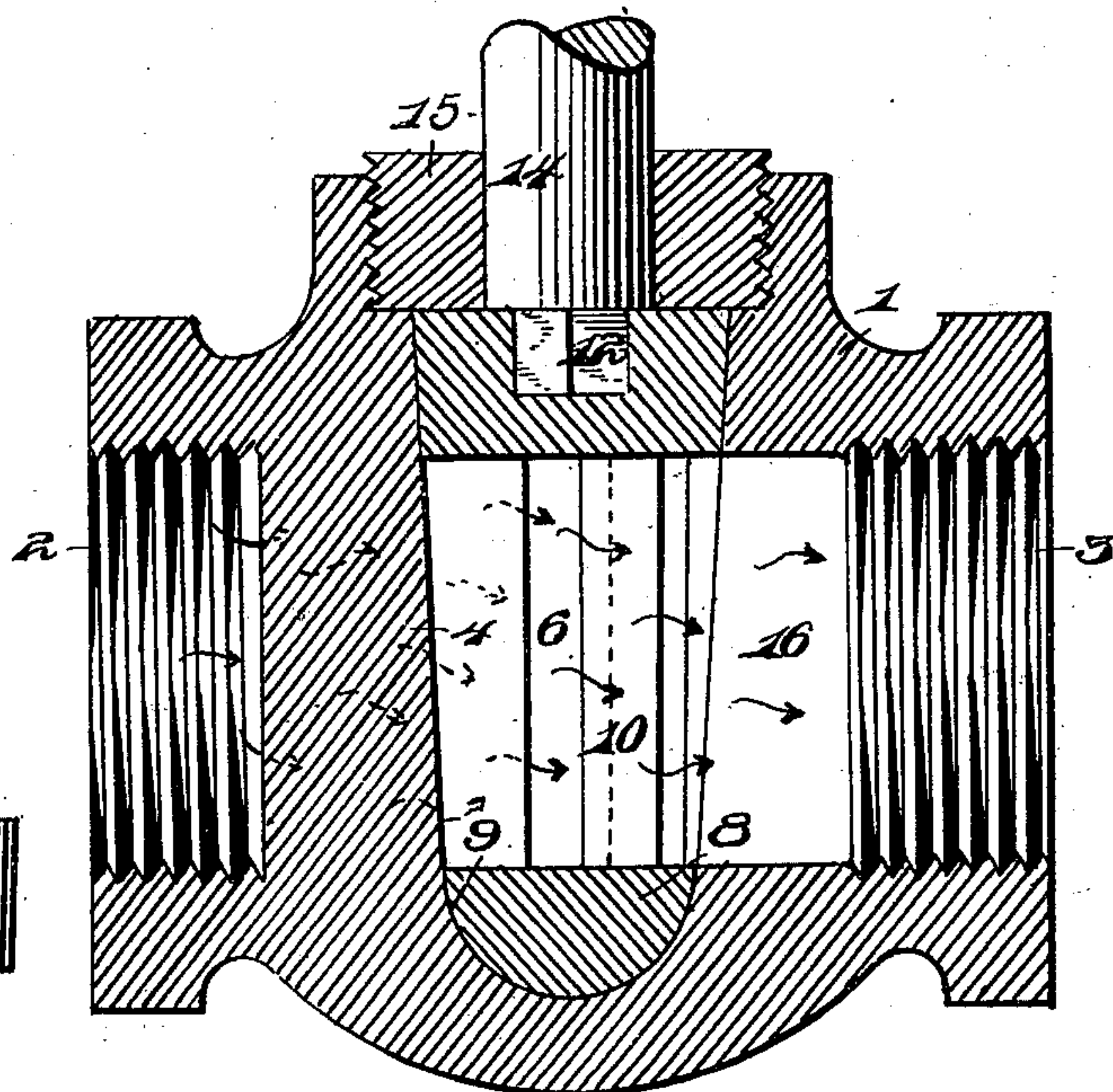


Fig. 4.

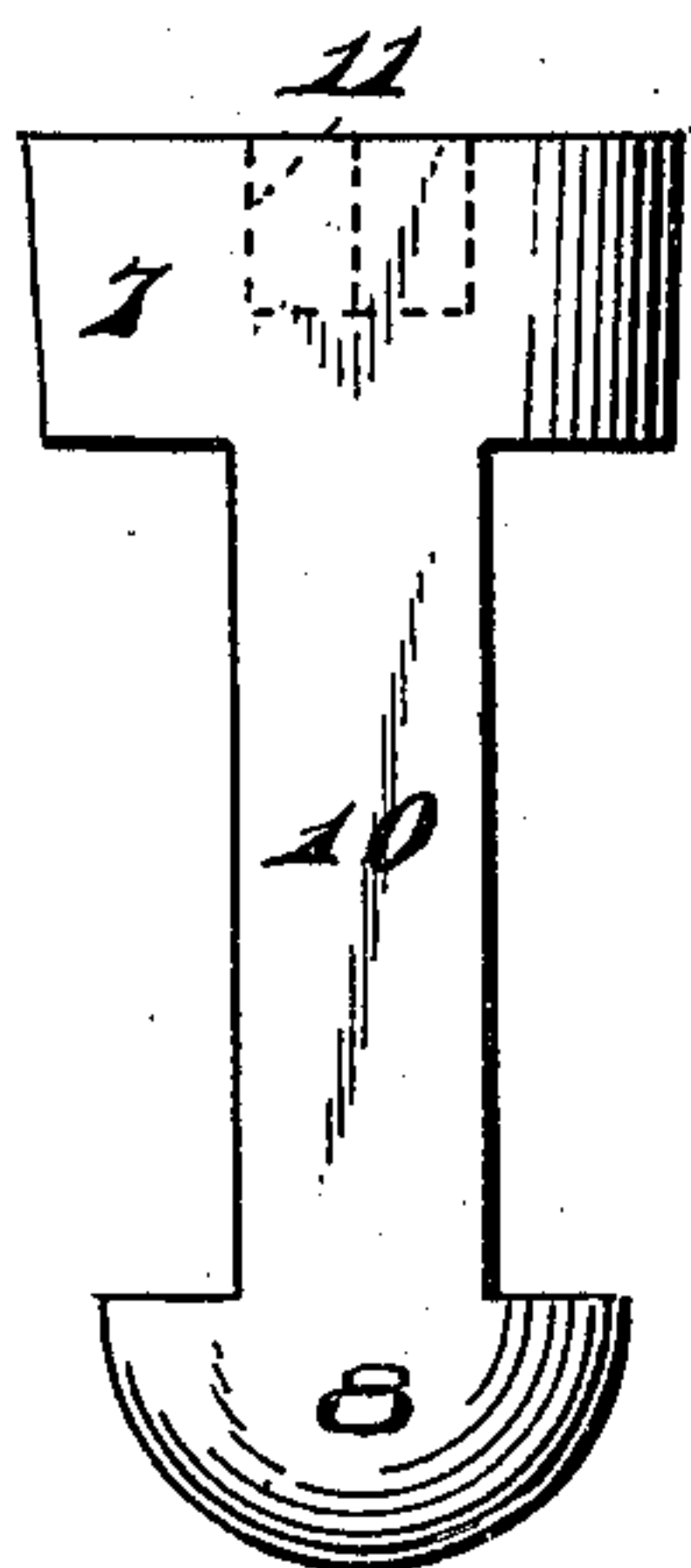


Fig. 5.

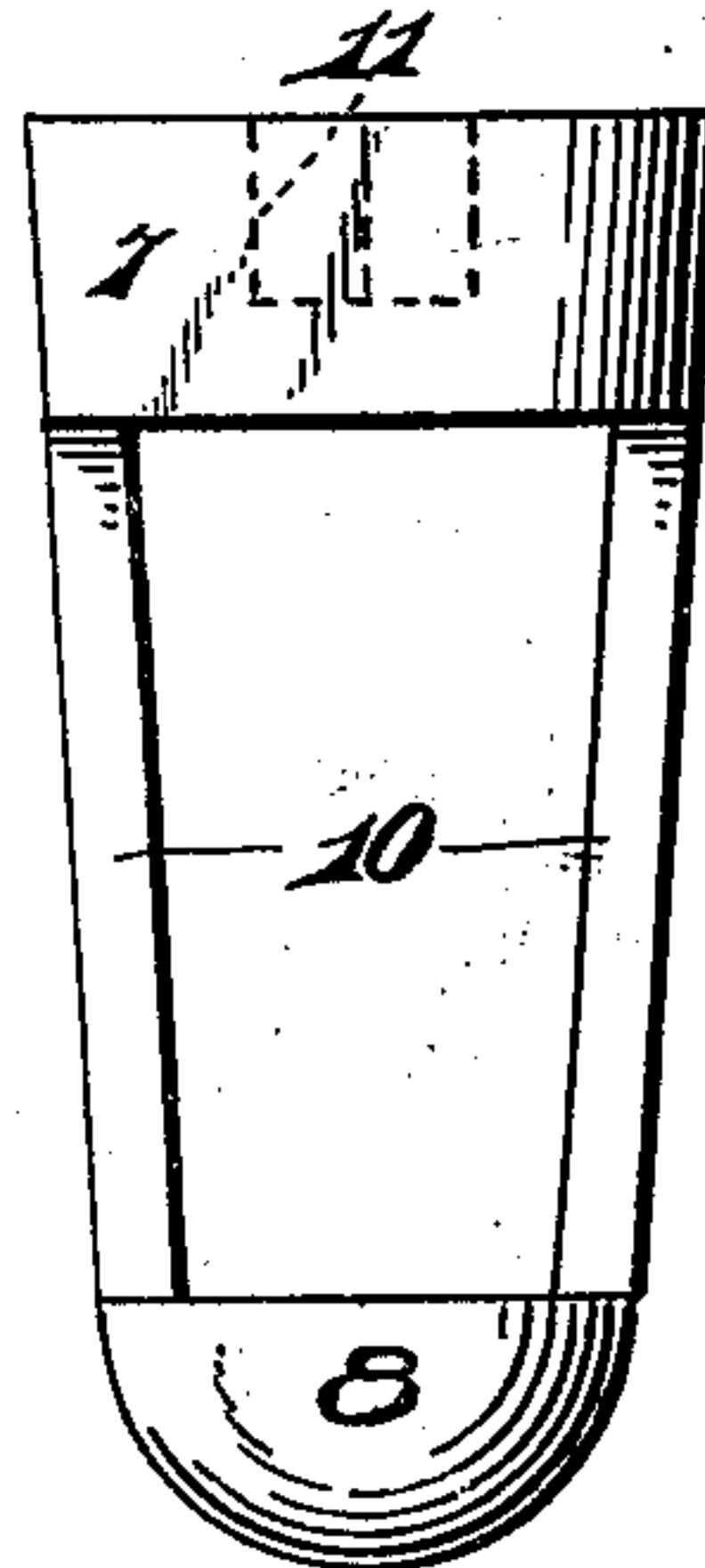


Fig. 2.

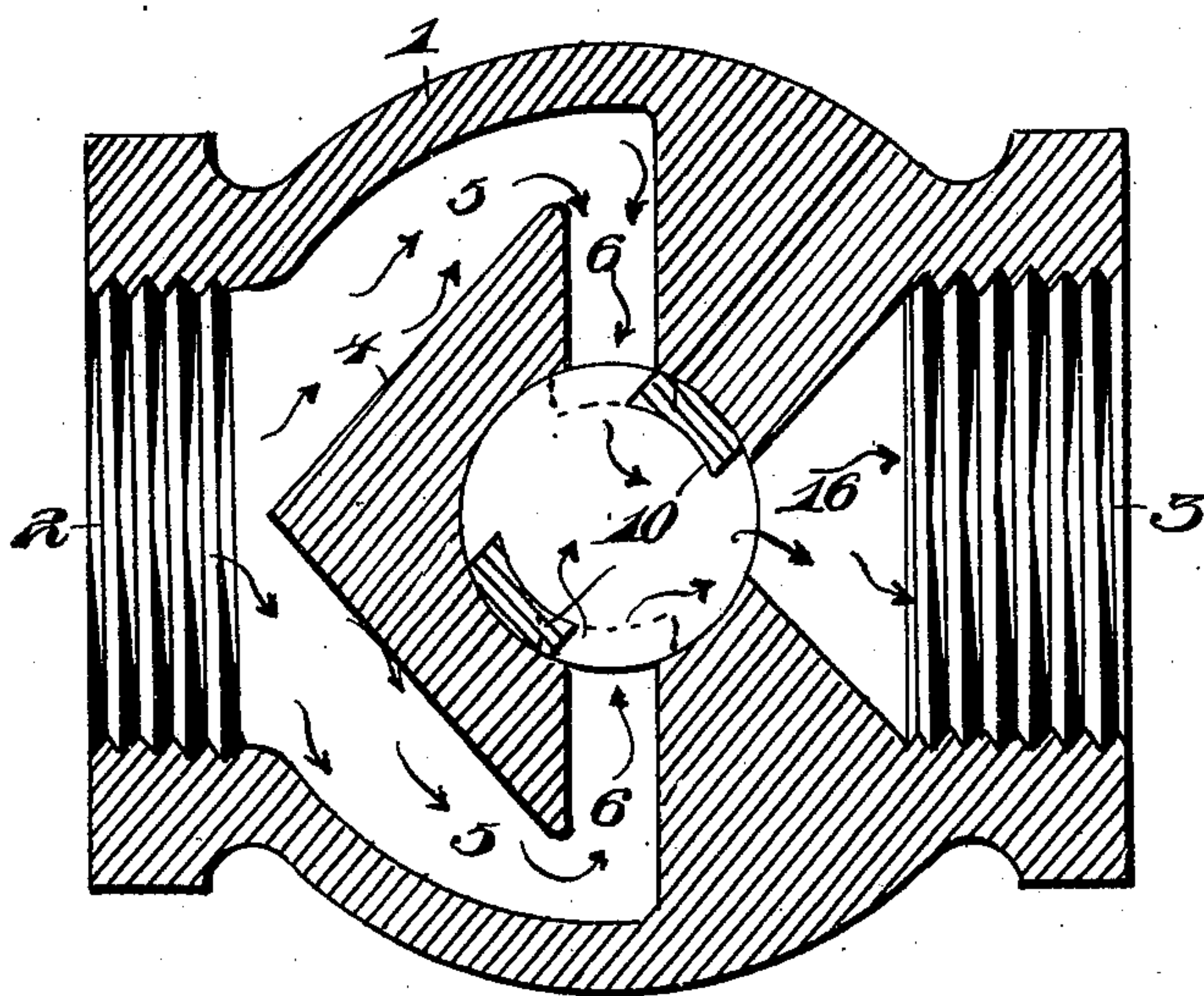
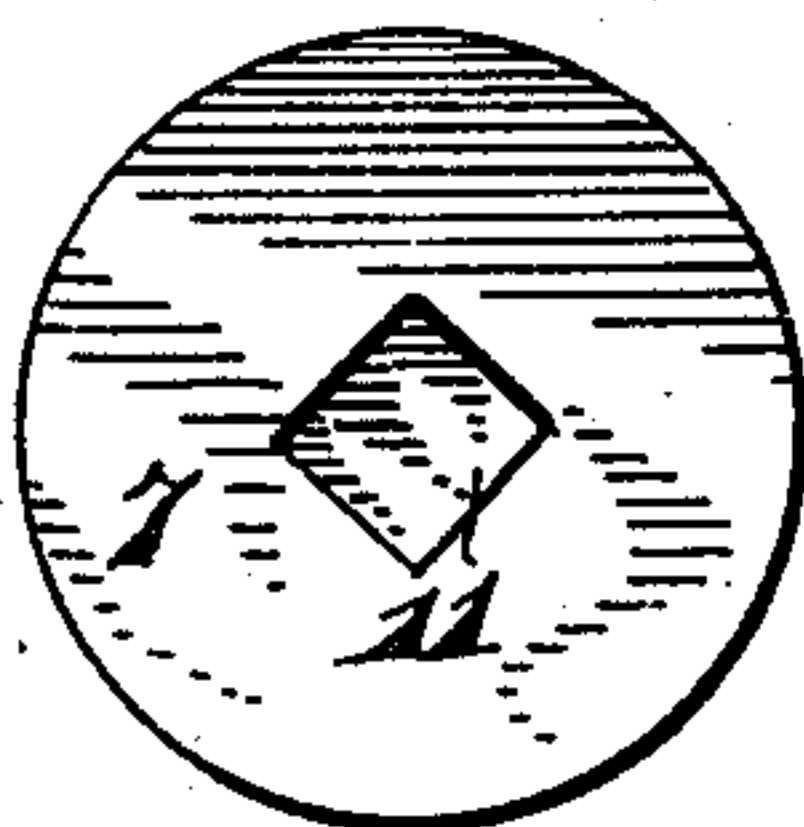


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM L. LOGAN, OF OXFORD, WEST VIRGINIA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 687,041, dated November 19, 1901.

Application filed July 1, 1901. Serial No. 66,671. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. LOGAN, a citizen of the United States of America, residing at Oxford, in the county of Doddridge and State of West Virginia, have invented certain new and useful Improvements in Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in valves, and is particularly applicable for gas, water, steam, and the like where a high pressure is constantly maintained in the pipes.

The present invention has for its object the provision of novel means whereby the pressure against the valve is entirely relieved; furthermore, to produce a perfect balance-valve that may be easily turned to open or close the ports.

The invention has for its still further object to construct a valve of the above-described character that will be extremely simple in construction, strong, durable, and comparatively inexpensive to manufacture; furthermore, one that will be highly efficient in its operation.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a vertical sectional view of my improved valve. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a top plan view of the valve. Fig. 4 is a side view of the valve. Fig. 5 is a front view thereof.

In the drawings the reference-numeral 1 indicates a valve-casing having an inlet-port 2 and an outlet-port 3. Arranged in the valve-casing is a triangular-shaped wall 4, forming passage-ways 5 5, communicating with ports 6 6, registering with the valve.

The reference-numeral 7 indicates the valve, having a semispherical seat 8, adapted to be arranged in the seat 9, formed in the valve-

casing. The said valve 7 is further provided with upwardly-extending walls 10, which are adapted to open and close the ports 6. In the upper portion of the valve is formed a square recess 11 to receive the square end 12 of the valve-stem 14, the latter extending through the screw-threaded collar 15, arranged in the valve-casing. The reference-numeral 16 indicates a contracted outlet communicating with the outlet 3, leading from the interior of the valve.

The operation of my improved valve is as follows: The high pressure which is usually against the valve will be normally against the triangular wall 4, which will divide the pressure into the passage-ways 5 5 and the two ports 6. These ports being on each side of the valve will tend to equalize the pressure and will assure a perfect balance of the valve that will make it very easy to turn in one direction or the other. As the valve is turned as shown in dotted lines in Fig. 2 the ports will be closed, and when turned in the reverse direction, as shown in full lines, the ports will be open. A stop may be arranged in the interior of the valve to limit the movement thereof, if desired, although this does not constitute a part of my invention.

The many advantages obtained by the use of my improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a valve, a valve-casing having an inlet-port and a contracted outlet-port located opposite to each other in the valve-casing, a valve seated for rotation in the casing, said valve cut away on both sides and having a central opening, a triangular wall arranged within the casing in front of the inlet forming two passage-ways communicating with inlet-ports leading to opposite sides of the valve, and means for operating the valve, substantially as described.

2. In a valve, the combination of a valve-casing, a triangular wall arranged therein, a

suitable inlet and outlet port, a valve arranged in said casing, a semispherical valve-seat, and a valve-stem, substantially as described.

3. In a valve, the combination of a casing
5 having arranged therein two passage-ways communicating with the inlet-port, and a contracted outlet-port, a valve having two upwardly-extending walls, a semispherical seat, and a stem arranged to said valve, substantially as described.
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4. In a valve, the combination with a valve-casing, a wall arranged in said casing form-

ing two passage-ways communicating with the inlet-port, an outlet-port arranged in said casing, a valve, two walls arranged in said valve, and a semispherical seat and stem, all parts being arranged and operating substantially as described, and for the purpose set forth. 15

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

WILLIAM L. LOGAN.

Witnesses:

H. M. ALLENDES,
THOMAS P. ZIRM.