

No. 743,744.

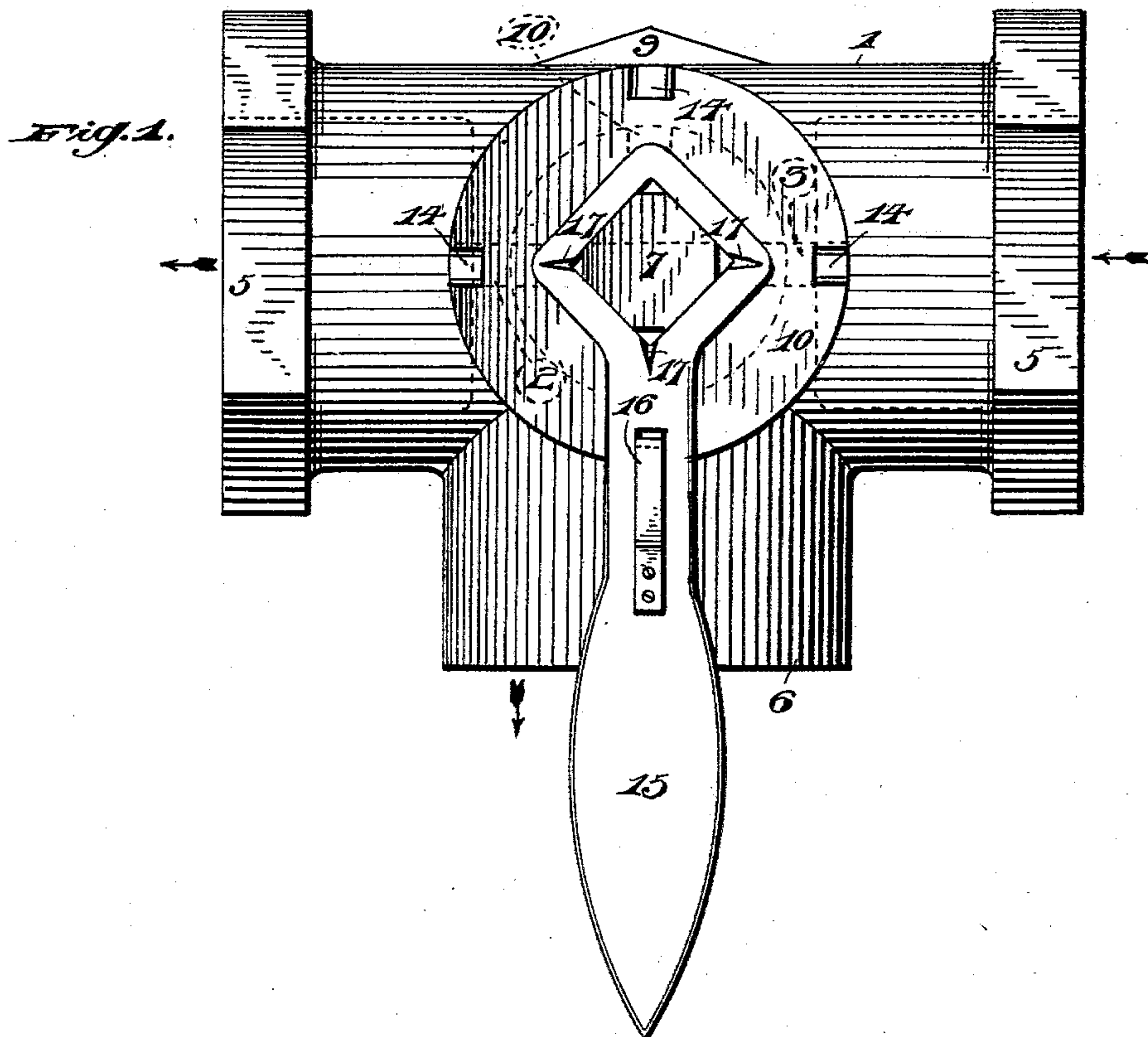
PATENTED NOV. 10, 1903.

P. McDONALD.  
FOUR-WAY COCK.

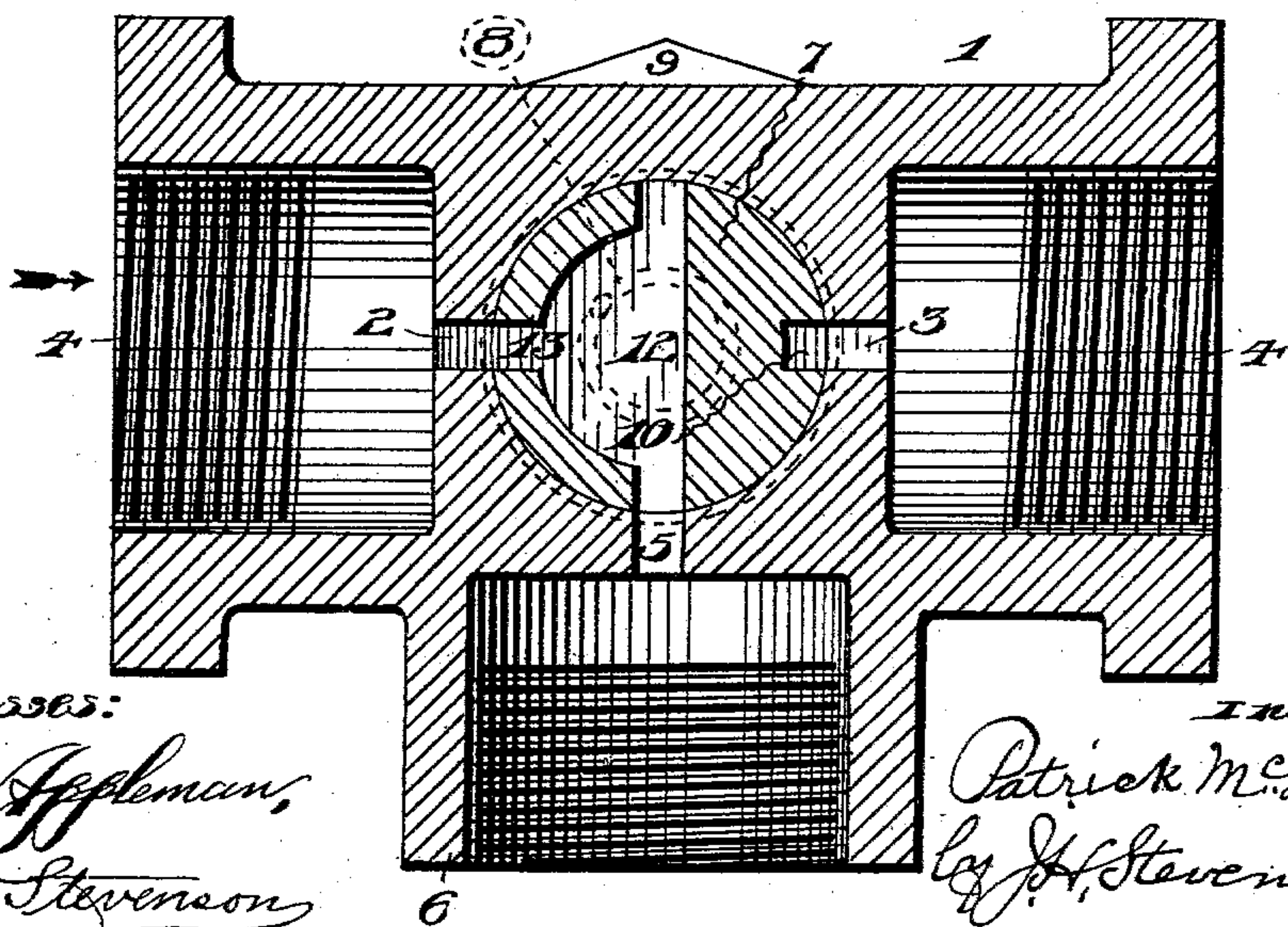
APPLICATION FILED APR. 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



*Fig. 2.*



*Witnesses:*

*J. B. Appleman,*  
*H. W. Stevenson*

*Inventor*

*Patrick McDonald*  
*by J. H. Stevenson*

*Atty.*

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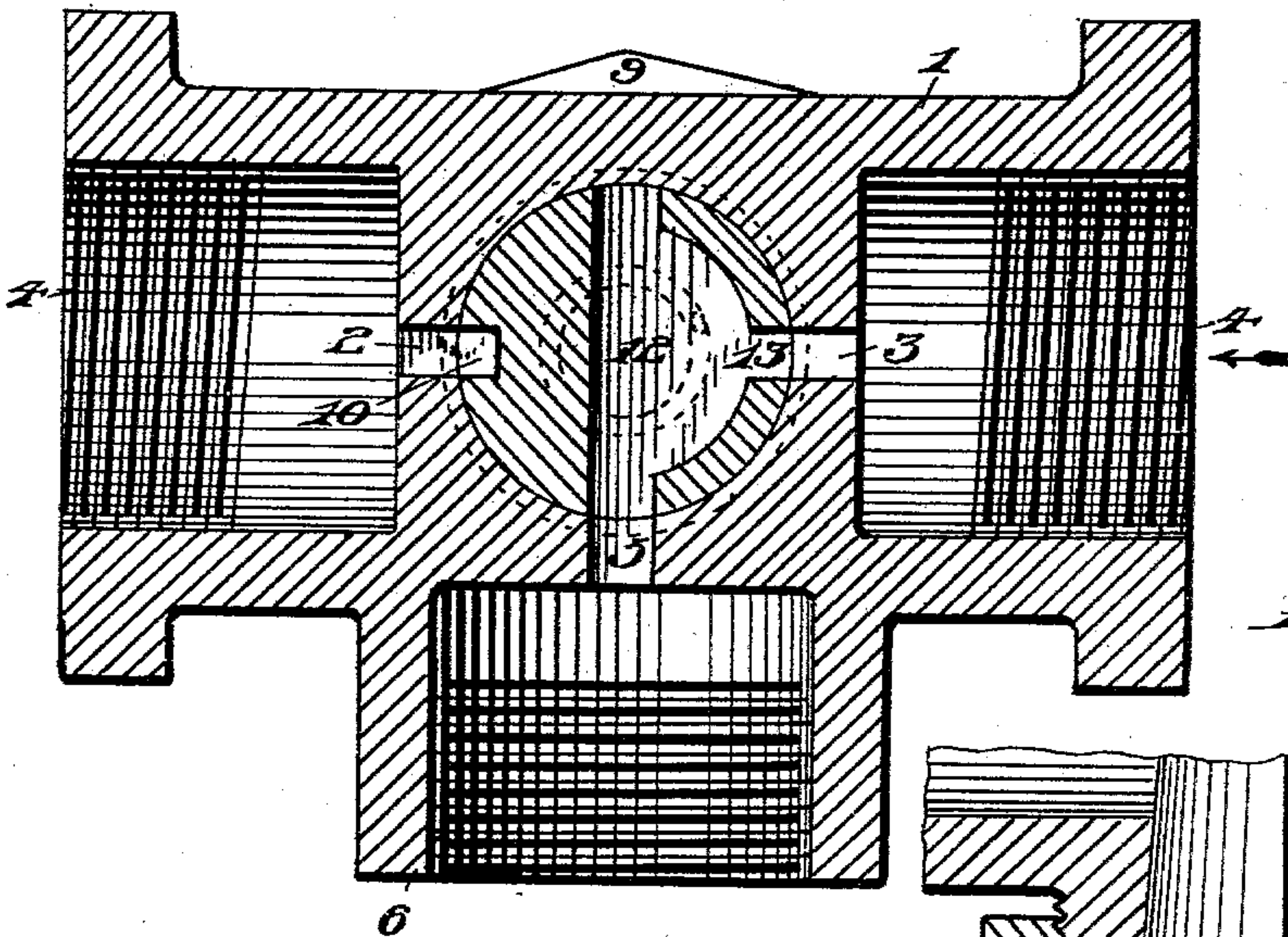
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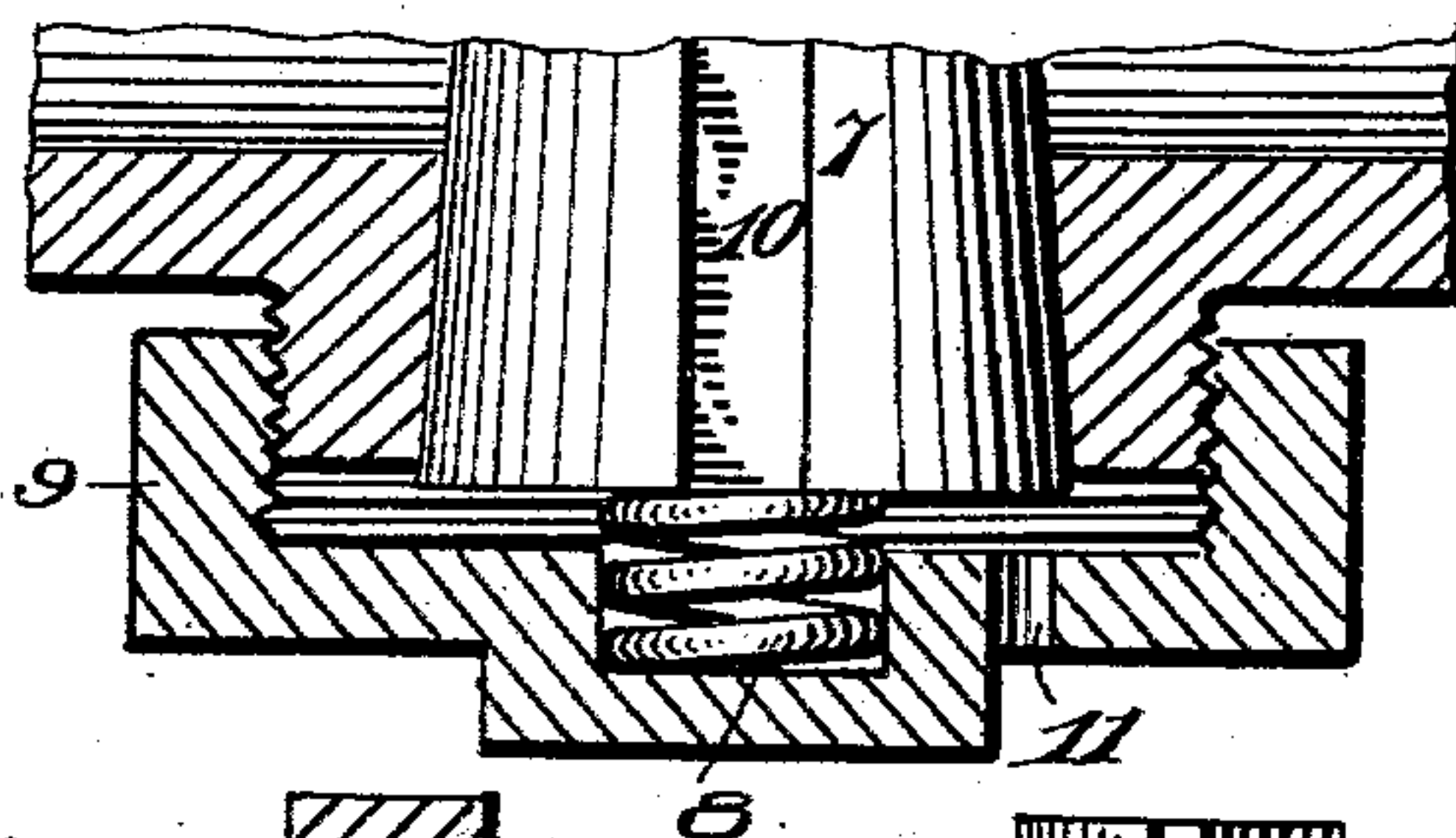
NO MODEL.

2 SHEETS—SHEET 2.

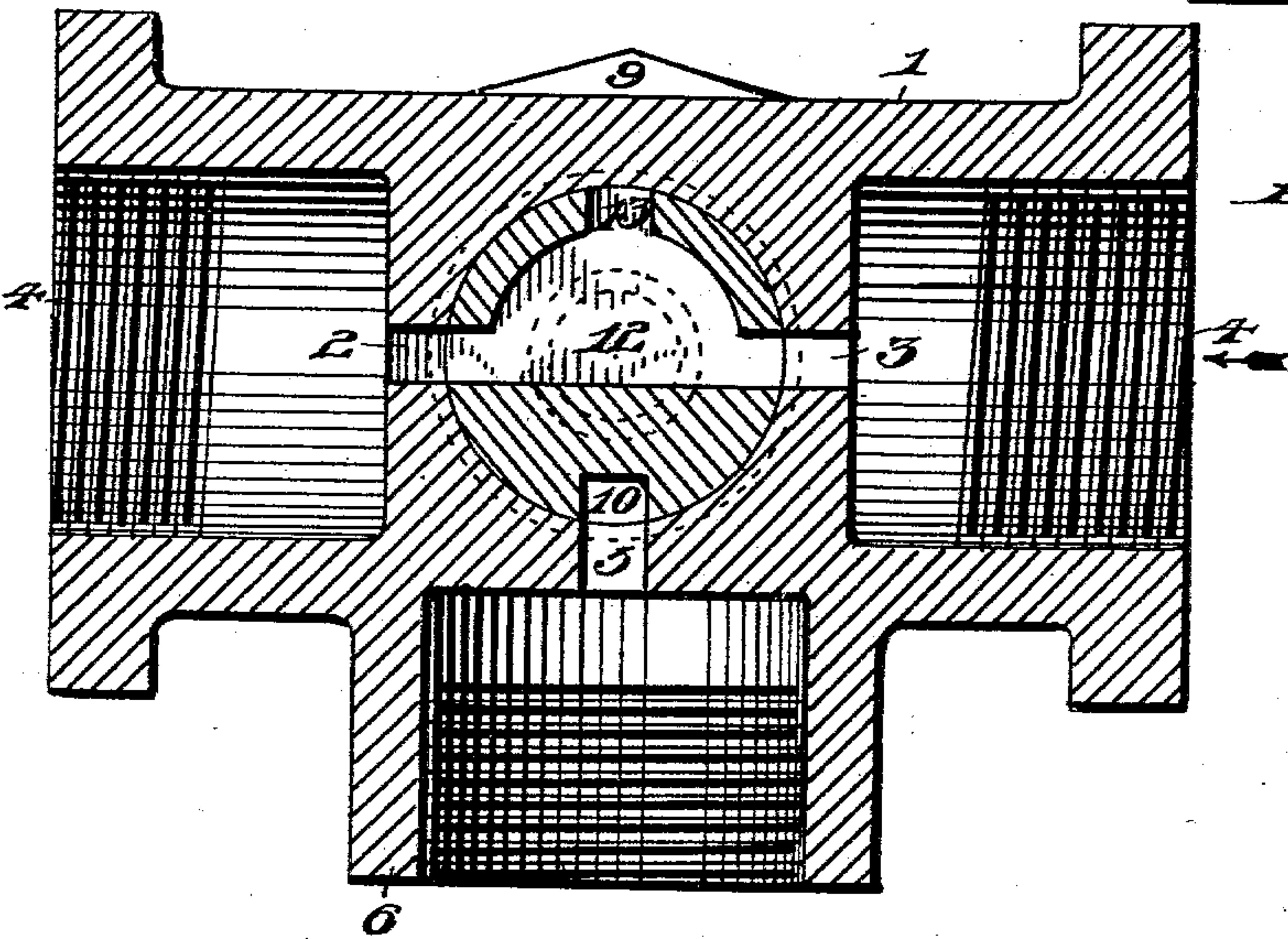
*Fig. 3.*



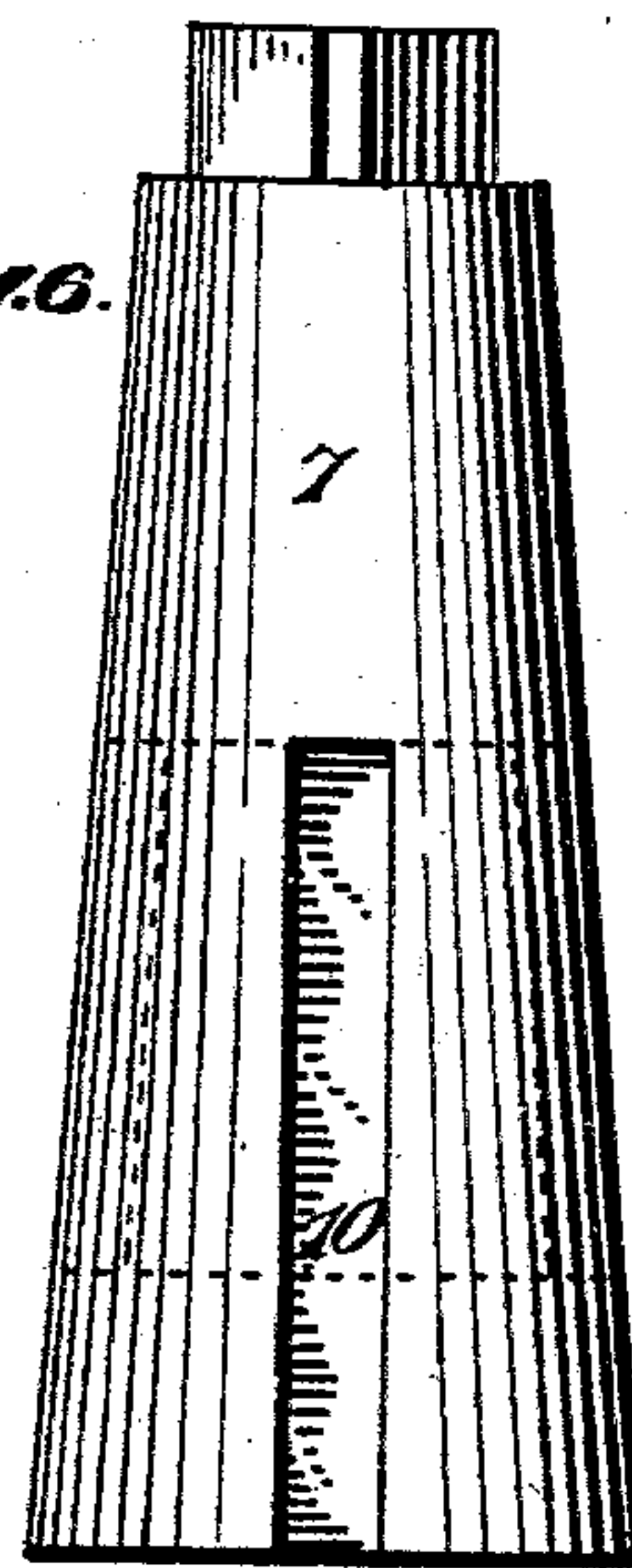
*Fig. 5.*



*Fig. 4.*



*Fig. 6.*



Witnesses:

*J. D. Appleman,*  
*H. W. Stevenson*

*Patrick McDonald,*

*by J. H. Stevenson,*

*att'y.*



# UNITED STATES PATENT OFFICE.

PATRICK McDONALD, OF LARIMER, PENNSYLVANIA.

## FOUR-WAY COCK.

SPECIFICATION forming part of Letters Patent No. 743,744, dated November 10, 1903.

Application filed April 29, 1903. Serial No. 154,738. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK McDONALD, a citizen of the United States of America, residing at Larimer, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Four-Way Cocks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in four-way cocks adapted for use in connection with an air-brake train-line.

In the accompanying drawings, forming a part of this specification, I have illustrated my improved four-way cock, in which drawings—

Figure 1 is a top plan view of my invention. Fig. 2 is a horizontal sectional view of my invention, showing one position of the valve with reference to the air-brake train-line. Fig. 3 is a similar view showing a second position of the valve. Fig. 4 is another view showing a third position of the valve. Fig. 5 is a detailed sectional view of the cap and spring used to cover and hold in position the valve. Fig. 6 is a side elevation or view of the valve, showing the cut-out portion, which acts as a dead-air passage leading from the different sections.

In the drawings, the numeral 1 designates the shell or casing, having a tapered opening therethrough and air passages or ports 2 and 3, communicating with the said tapered opening, and train-line connections or ends 4, and a similar port 5, communicating with said opening and triple-valve end 6. A tapered plug-valve 7 is fitted into the tapered opening of the casing and is held in position by a spring 8 and cap 9. This plug-valve is provided with a cut-out portion 10, straightway port 12, and port 13, branching from said straightway port, which ports are adapted to register with the ports in the casing. The cut-out portion 10 in the plug-valve 7 permits the dead air remaining in the train-line to escape out through an opening 11 in the cap 9.

In my former patent, No. 717,899, issued January 6, 1903, I had a side port cut out of the plug-valve, which permitted the dead air remaining in the train-line to escape out through small ports at the back of the casing. In ac-

tual use I have since found that it will be more practicable to adopt the means of escapement of dead air as described and shown in this application.

Having a slotted cut-out in the plug-valve that is adapted to register with the ports in the casing will give more surface bearing and a much more satisfactory result.

At the upper end of the casing are found four stop-notches 14, and to the top of the plug-valve is attached a lever 15, which is provided with a spring-catch 16 to engage said stop-notches. This spring and notches serve to hold the plug-valve securely in position, and the notches 17 in the lever serve to indicate the different positions of the plug-valve in relation to the air-brake train-line.

In practice the train-line is connected to the ends 4 and the pipe leading to the triple valve to the ends 6. If it be desired to let air from the train-line of both cars to the triple valve, the cock is turned as seen in Fig. 1, the notches 17 in the lever indicating the direction of the air. To let air from the train-line on the left to the triple valve, the cock is turned into position shown at Fig. 2. To let air from the train-line on the right to triple valve, the cock is turned into position shown in Fig. 3, and if it is desired to cut out the triple-valve connection and have a straightway passage the cock is turned as shown at Fig. 4.

This device does away with several independent cocks on the train-lines, and the dead air remaining in the ports escapes through the slot 10 in the plug-valve and out at the vent 11 in the cap 9.

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

In a four-way cock, the combination of the shell 1 having a tapered opening or valve-seat therein; the plug-valve 7, having the cut-out portion or dead-air passage 10; the spring 8; and the cap 9 having the vent or opening 11, for the escapement of dead air; substantially as described and shown.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

PATRICK McDONALD.

Witnesses:

P. L. DAVIS,  
THOMAS KEENAN.