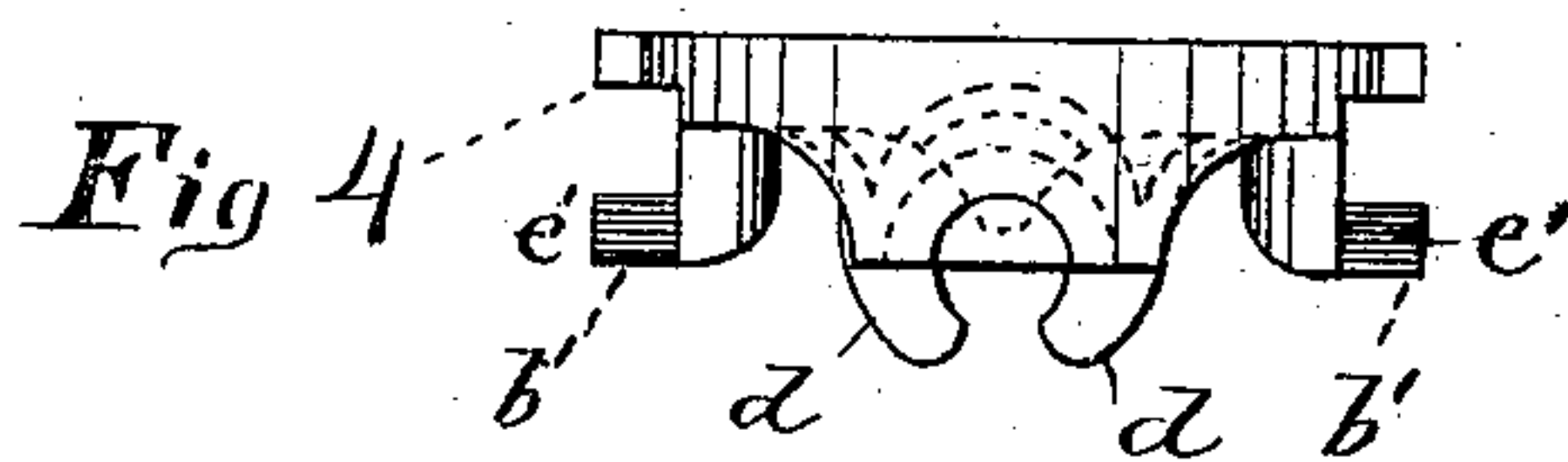
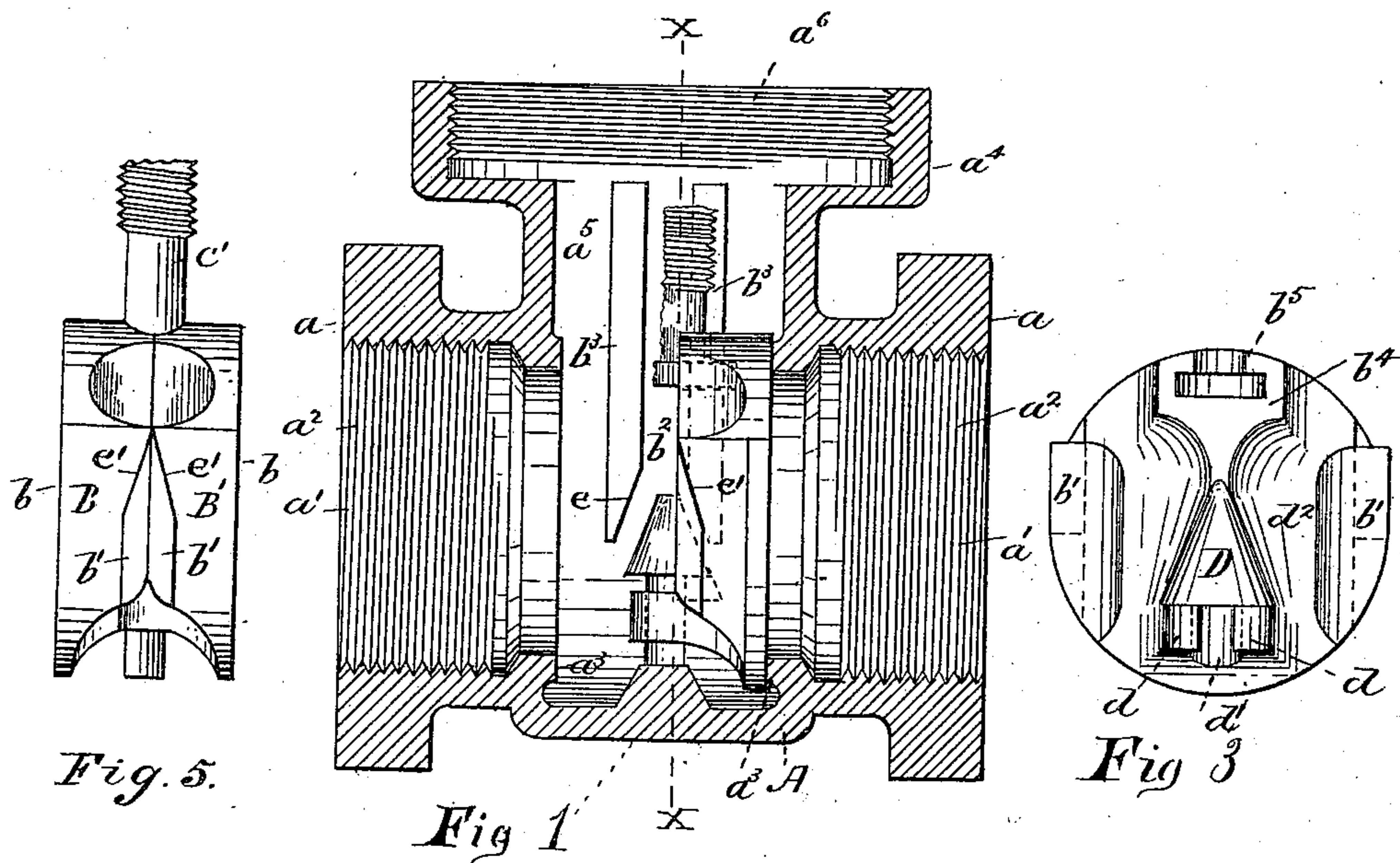
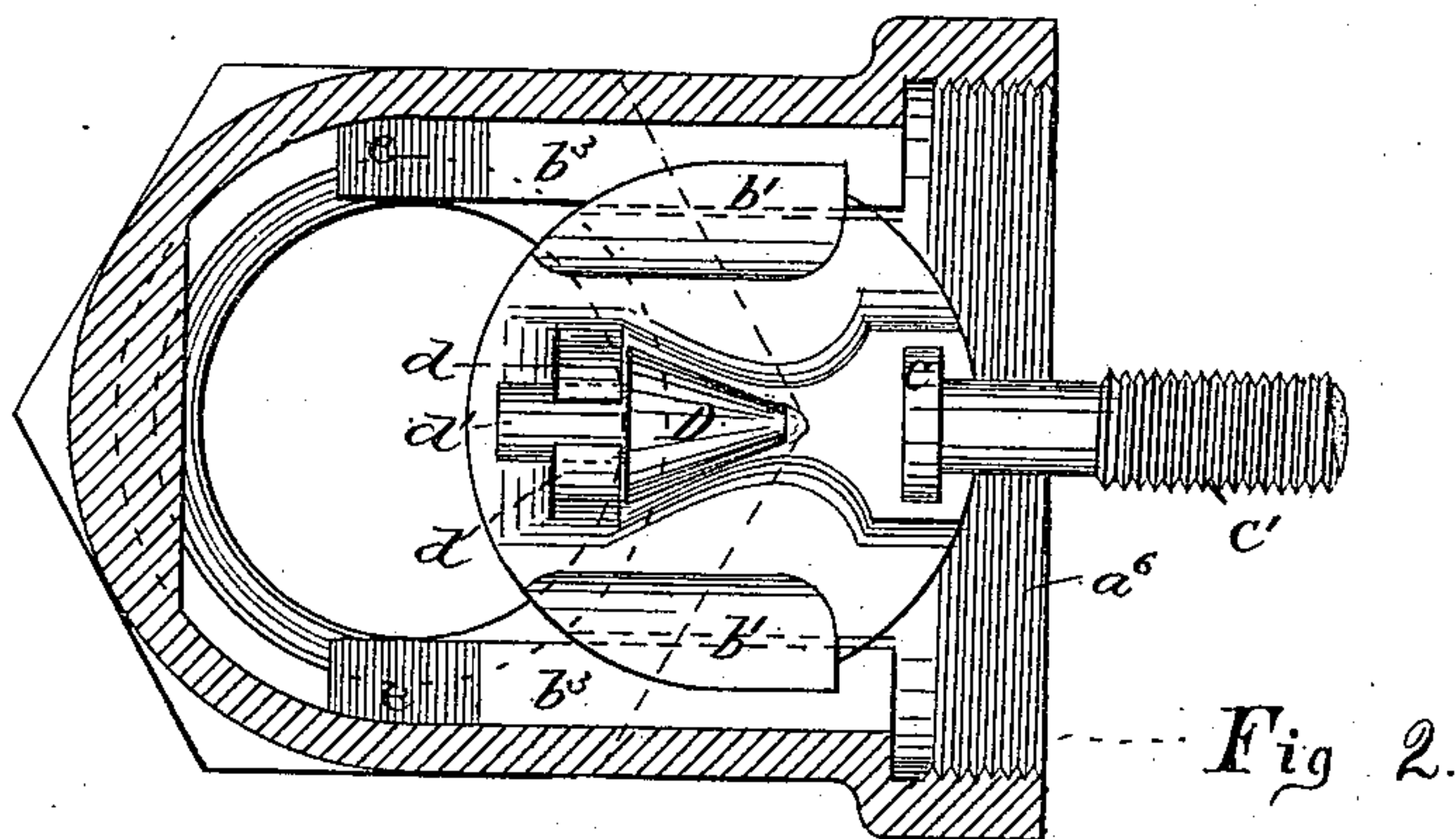


(No Model.)

J. T. PAGET.
STRAIGHT WAY VALVE.

No. 334,184.

Patented Jan. 12, 1886.



Witnesses
J. M. Dolan.
Fred. B. Dolan.

Inventor
Joseph T. Paget
by his atty
Clark & Raymond.

UNITED STATES PATENT OFFICE.

JOSEPH T. PAGET, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE PEET VALVE COMPANY, OF SAME PLACE.

STRAIGHT-WAY VALVE.

SPECIFICATION forming part of Letters Patent No. 334,184, dated January 12, 1886.

Application filed May 27, 1885. Serial No. 166,815. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. PAGET, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Straight-Way Valves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification in explaining its nature.

The invention is an improvement upon the straight-way valve described in the patent to Benjamin Radford and Daniel Sawyer, dated February 2, 1869, No. 86,447; and it consists in a construction whereby the valves or valve-disks are caused to be withdrawn from their seats toward each other, or on a line parallel with the steam or water way, and before the lifting movement has been communicated to them.

It is well known that in all straight-way valves in which the disks forming the valves are forced to their seats by a wedge or other mechanical device during the downward movement of said valves or disks, and from which they are removed by the upward movement of the operating-spindle, there is a considerable grinding action of the valves or disks upon their seats, caused by a continuance of the vertical movement of said valves or disks while they are being seated, by the said wedging or separating action of the cone or wedge, and also that this grinding action occurs upon the unseating of the disks as they are moved upward to open the valve, as the pressure in a straight-way valve employing two valve-disks will force upon the beginning of the opening movement one of the valve-disks against its seat, so that it is held against the same during a portion of its upward movement; and this wearing action is of so serious a character that it often causes the valves to leak after they have been but a short time in use. My invention overcomes this objection, as hereinafter stated.

The invention further relates to the method or means of coupling or connecting the separating wedge or cone to one of the valves or valve-disks.

Referring to the drawings, Figure 1 illustrates in vertical central section the valve-casing, and

in side elevation one of the valves with the wedge or cone attached thereto, as hereinafter specified, and also the guiding device and a portion of the lifting-spindle. Fig. 2 is a view in section upon the line $x x$ of Fig. 1, showing in elevation one of the valves and the operating wedge or plug. Fig. 3 is a view in elevation of one of the valves or disks removed from the valve, with the wedge or plug attached thereto, as hereinafter described. Fig. 4 is a plan view of the same inverted and without the plug. Fig. 5 is an end elevation of the valve-disk and a portion of the operating-spindle.

A is the valve-casing. It has the extensions a , which have the screw-threads a' , and form the steam or water passage a^2 , the valve-seats a^3 , and the upward-extending section a^4 , which has the spaces a^5 , into which the valves or disks are lifted to open the valve, and the screw-thread a^6 for receiving the valve-cap. Thus far the construction is like that of the ordinary Peet valve. The valves or disks B B' are substantially counterparts of each other, with one exception, which will be hereinafter noted. Each has the flat surface b , which is adapted to be brought in contact with a valve-seat, and each has the outward-extending guiding-projections b' on each side, which are adapted to enter the side guiding-recesses, b^2 , formed between the two projecting arms b^3 on each side of the valve-casing. They each have the rounded cavity b^4 , of semi-cylindrical shape, and the opening b^5 therefrom. Each of these two cavities or recesses receives the end c of the spindle c' , by which the valve is operated. One of the disks is adapted, however, to support the wedge or plug D in preference to the other, in order that it may be permanently attached to some part of the valve, and so that it cannot be easily lost if the valve is taken apart for any purpose. This result is attained by forming ears or projections d upon the inner side of one of the disks, and bending them so that they inclose or partially inclose the spindle d' , extending downward from the wedge or cone, and in such a manner as to hold the same securely thereto, so that upon the tipping thereof it will not drop from it. Each of the valves or disks has the wedge or inclined surface d^2 opposite to each other when they are together,

against which the cone or wedge comes in contact in spreading the valves, as hereinafter described.

In order that the disks may be closed upon
 5 the seats and moved from the seats without dragging thereon, I have formed the inner lower edges, *e*, of the guides inclined, as shown in Fig. 1, and I have also formed upon the lugs *b'* the inclines *e'*; and I have so shaped the
 10 ears and arranged the inclines in relation to each other and to the valve-seats that the disks are not separated to close upon the valve-seats until the extreme end of their downward movement, and so that immediately upon re-
 15 volving the operating-screw *c'*, to open the valve, the inclined surfaces *e'* upon the ears immediately come in contact with the inclined surfaces *e* upon the guides or ribs *b³*, thereby causing the lifting or moving action of the
 20 screw to draw the valves from their seats with a straight movement instead of a sliding movement, and relieve the seats and disks from the wear caused by a sliding movement of one in relation to the other. Of course these guiding
 25 or inclined surfaces must be so arranged as to permit the perfect closing of the valves or disks upon the valve-seat, and yet not permit either of the valves or disks to come in contact with the respective seats until they can do
 30 so simultaneously by the horizontal movement imparted to them by the cone when its spindle comes in contact with the stop.

While I have shown this invention as ap-

plied to the valve known as the "Peet valve," yet I do not confine myself to its use in con- 35
 nection therewith, as it may be employed in any straight-way valve where it is necessary or desirable to remove the valve disk or disks from the seat or seats by a lateral or horizontal movement in relation thereto before it or 40
 they are lifted, and for the purpose of preventing a dragging action of the valve disk or disks upon the seat or seats.

Having thus fully described my invention, I claim and desire to secure by Letters Patent 45
 of the United States—

1. In a straight-way valve, the combination of the casing A, having the guides *b³ b³*, and the inclines *e*, shaped as described, with the disks B B', having the ears *b' b'*, the spreading device 50
 D, and the operating-spindle *c'*, all substantially as and for the purposes described.

2. The combination of the disks B B', the spreading device therefor, located between the said disks at their ends adjacent to the seats, consisting of a conical head or plug, D, and attached spindle *d'*, and the curved arms *d* at-
 55 tached to one of the said disks, and partially surrounding the spindle *d'*, thereby retaining the spreading device in position, all substantially 60
 as and for the purpose described.

JOSEPH T. PAGET.

Witnesses:

F. F. RAYMOND, 2d,
 J. M. DOLAN.