

No. 820,178.

PATENTED MAY 8, 1906.

A. BUERKLE.
VALVE.

APPLICATION FILED NOV. 5, 1904.

Fig. 1.

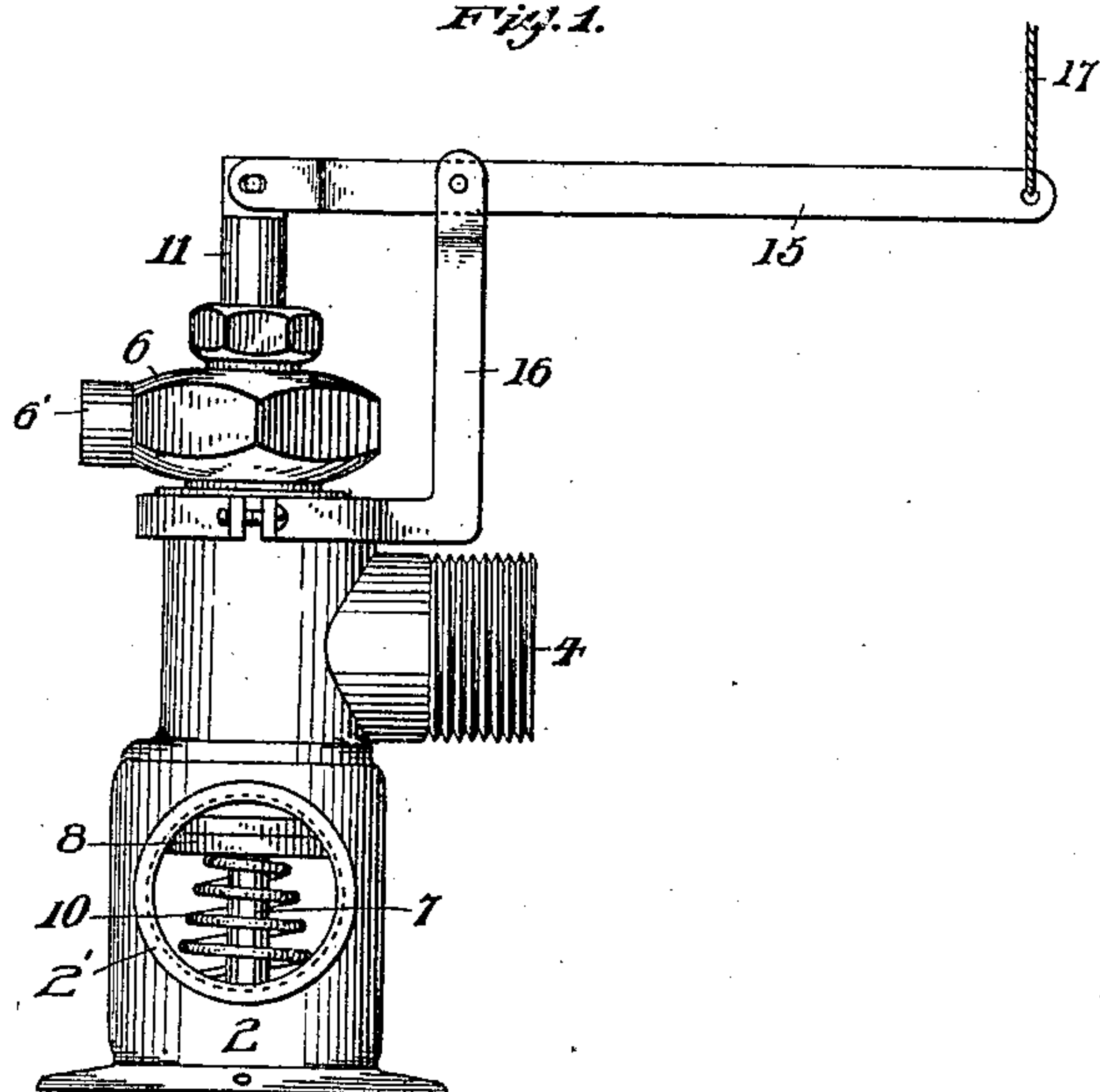


Fig. 2.

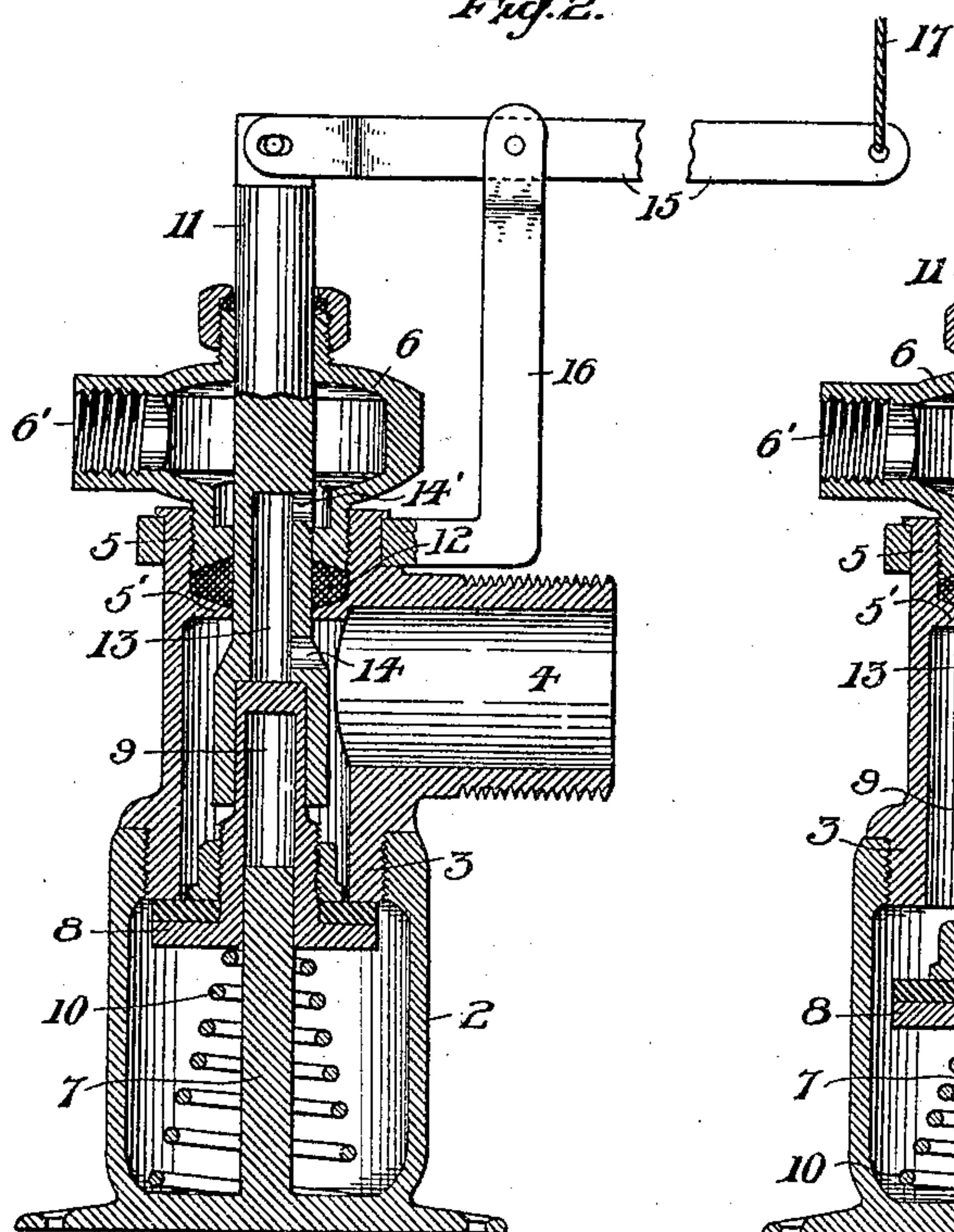
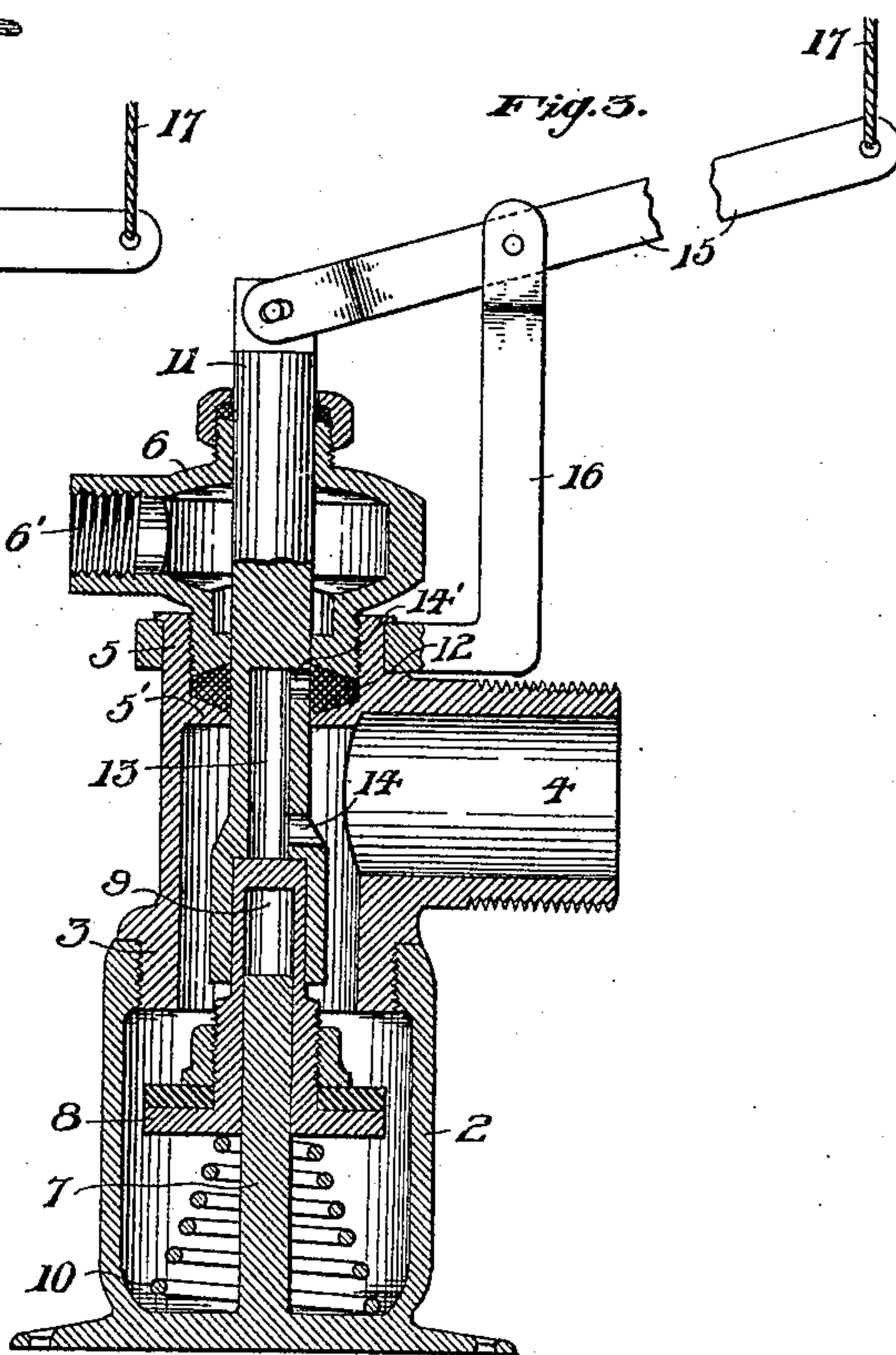


Fig. 3.



Witnesses:

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AUGUST BUERKLE, OF ALLEGHENY, PENNSYLVANIA.

VALVE.

No. 820,178.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed November 5, 1904. Serial No. 231,530.

To all whom it may concern:

Be it known that I, AUGUST BUERKLE, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a valve mechanism designed primarily for controlling the supply of water to buildings and for draining the distributing-pipes when the supply is shut off. With the pipes drained the danger
15 of freezing is avoided, and, furthermore, in case of a broken or burst pipe or connection at any point in the house the pipes are drained rapidly as soon as the water is turned off, thereby materially lessening the waste discharge that would otherwise occur at the
20 break.

The object of the invention, generally stated, is to simplify, improve, and render more efficient this type of valve apparatus.
25 A particular object is to so construct the same that the parts thereof may be conveniently assembled and disconnected, so that the valve may be readily and conveniently mounted whenever required with the internal parts accessible without disturbing the
30 normally closed main valve.

In the accompanying drawings, Figure 1 is a side elevation of the valve apparatus. Fig. 2 is a vertical sectional view of the same, showing the position of the parts with the water
35 shut off and the drain connection open; and Fig. 3 is a similar view showing the main valve open and the drain connection closed.

Referring to the drawings, 2 designates a
40 chambered inlet-fitting having connection 2' for the inlet-pipe. The upper open end of fitting 2 is threaded to receive the lower open branch 3 of the service-fitting 4, the latter being here shown of T form with its upper
45 branch 5 alining with lower branch 3 and open and threaded to receive the threaded lower end of the chambered drain-fitting 6, the latter having discharge connection 6'.

Within the chamber of fitting 2 is stud 7, and insertible through the upper end of the fitting is valve 8, which is apertured centrally and also provided with the recessed upward
50 projection 9, whereby the valve is adapted to move vertically on the stud. Projection 9
55 also provides means for detachably connect-

ing the valve-actuating stem, as will presently appear. A spring 10 holds the valve normally raised against the extremity of lower branch 3, the latter forming the valve-seat. With the valve thus normally raised
60 communication between the inlet and service fittings is closed.

The bottom or floor 5' of upper branch 5 is apertured to form a passage-way for cylindrical stem 11, which extends from service-fitting 4 upward through drain-fitting 6, and
65 with the packing 12 interposed between the lower extremity of the waste-fitting and floor 5' passage of water from one fitting to the other around stem 11 is prevented. Stem 11
70 is recessed upwardly from its lower end, as indicated at 13, the lower portion of this recess being enlarged and forming a socket which loosely embraces valve projection 9. The upper portion of recess 13 forms an elongated
75 port having lateral outlet 14 at its lower end which registers with service-fitting 4 and a similar outlet 14' at its upper end which normally registers with drain-fitting 6, being held in this position by the normally
80 raised and closed valve. With valve projection 9 embraced by the socket-forming recess in the lower end of stem 11 a swivel-like connection is provided which affords sufficient
85 play to permit the valve to firmly close against the valve-seat at all points and at the same time permits of the valve being turned with relation to the stem-seat, whereby any
90 tendency of the cooperating faces of the seat and valve to wear unevenly may be counteracted by turning the valve from time to time. Furthermore, with the stem recessed from its lower end, as described, the upper or
95 port portion 13 thereof may be readily formed. A lever 15 is fulcrumed between its ends to standard 16, rising from the service-fitting with one end pivotally connected to stem 11, while a line 17 extends from its opposite end to any convenient point.

When the valve apparatus is used for controlling the water-supply of a building, it is
100 usually located in the basement or at some other point where it is not subjected to freezing. As the device is made up of several parts or fittings, it may be readily mounted
105 without disturbing or replacing the main inlet-pipe.

In assembling the parts stem 11 is inserted in service-fitting 4, and then, with valve 8 in position within the inlet-fitting, the latter
110

and the service-fitting are connected. Packing 12 may then be inserted and finally drain-fitting 6 applied. The parts being thus connected, it will be understood that with line 17 released the valve mechanism will assume the normal position, (indicated in Fig. 2,) with valve 8 closed, and the supply and drain fittings in communication through the ported stem, when all water in the pipes connected to service-fitting 4 will drain through fitting 6. With line 17 raised stem 11 and the valve are depressed, opening the latter for the passage of water from the inlet to the service-fitting and at the same time depressing port-outlet 14' beneath and out of register with the cavity of drain-fitting 6, so that no water can pass to the drain-outlet.

In addition to the advantages in installing the apparatus arising from having the same in readily-attachable parts or sections such construction affords a further and very material advantage when for any reason the parts must be disconnected. With the valve closed drain-fitting 6 may be removed for repairs or for repacking stem 11 without disturbing the other parts.

I claim—

1. The combination of an inlet-fitting open at its upper end, a service-fitting open at its lower end and at said end uniting with the open upper end of the inlet-fitting, a drain-fitting uniting with the service-fitting, a downwardly-opening spring-held valve in the inlet-fitting and adapted normally to close the lower end of the service-fitting, a stem extending through the service and drain fittings and at its lower end connected to the valve, a passage at the juncture of the service and drain fittings which the stem closely fits, the stem being formed with an elongated port having its lower end in communication with the service-fitting and its upper end normally in register with the drain-fitting, and means for depressing the stem for the purpose of opening the valve and simultaneously plac-

ing the upper end of the stem-port out of register with the drain-fitting.

2. The combination of an inlet-fitting open at its upper end, a service-fitting open at its lower end with said end uniting with the open end of the inlet-fitting, a downwardly-opening spring-held valve within the inlet-fitting and normally closing communication between the inlet and service fittings, an upward projection on the valve extending into the service-fitting, a drain-outlet for the service-fitting, a stem extending vertically through the service-fitting and drain-outlet and at its lower end formed with a socket which loosely embraces said valve projection, the stem being formed with an elongated port having its lower end in register with the drain-fitting, a passage connecting the service-fitting and drain-outlet which said stem closely fits, and means for depressing the stem and thereby opening said valve and moving the upper end of the stem-port out of register with the drain-outlet.

3. The combination of an inlet-fitting, a downwardly-opening spring-held valve therein, the valve having an upward projection, a service-fitting uniting with the inlet-fitting, a drain connection having a passage-way communicating with the service-fitting, a stem extending through the service-fitting and drain connection and closely fitting said connecting passage, the stem being recessed upwardly from its lower end to embrace said valve projection, the upper portion of said recess forming an elongated port having lateral outlets, the lower of which registers with the service-fitting and the upper outlet normally with the drain connection, and means for depressing the stem.

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

AUGUST BUERKLE.

Witnesses:

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K. H. BUTLER.