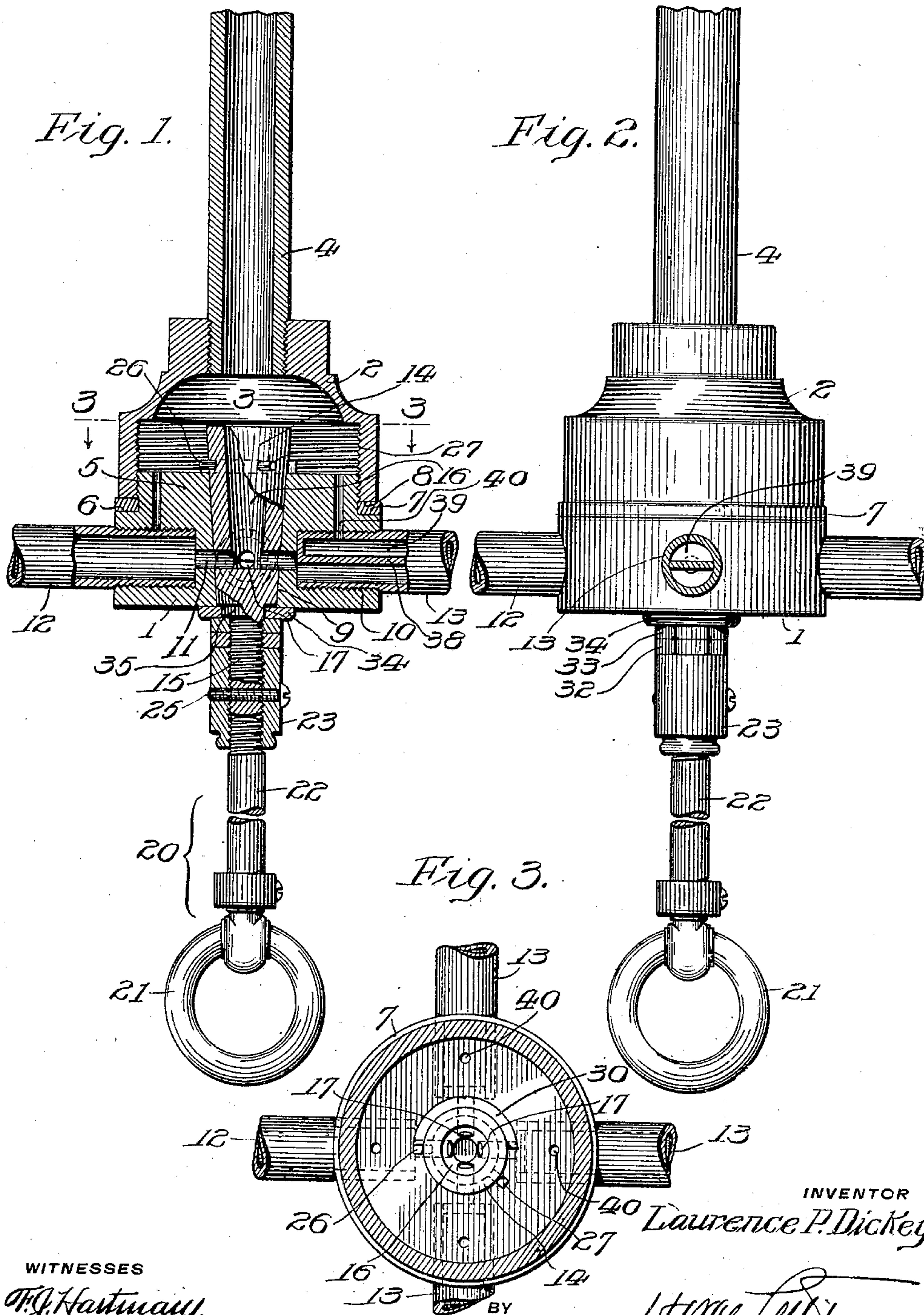


L. P. DICKEY.
PILOT LIGHT VALVE.
APPLICATION FILED NOV. 17, 1909.

995,666.

Patented June 20, 1911.

2 SHEETS-SHEET 1.



WITNESSES
W. J. Hartmann.
Clifton C. Halliwell

INVENTOR
Laurence P. Dickey.

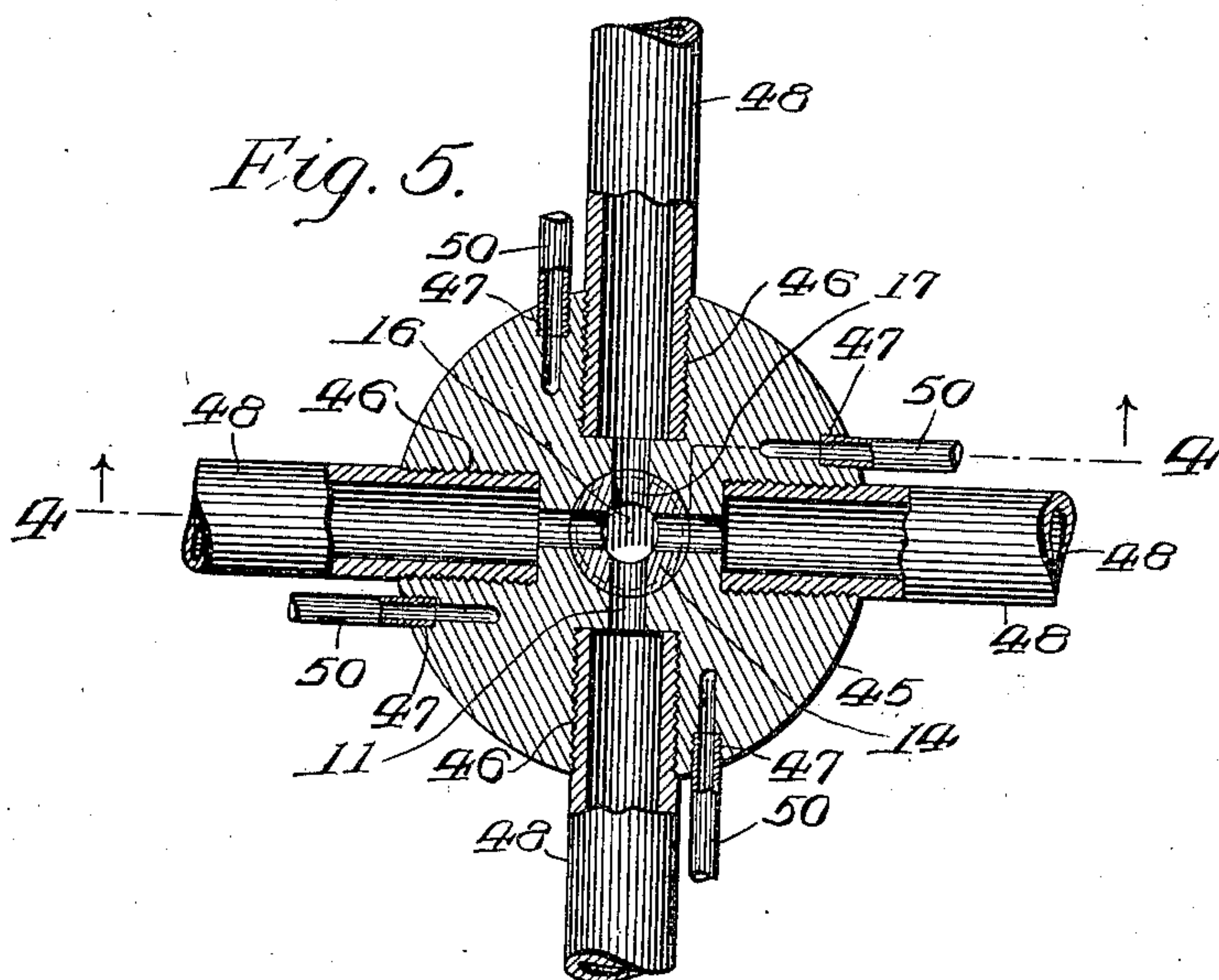
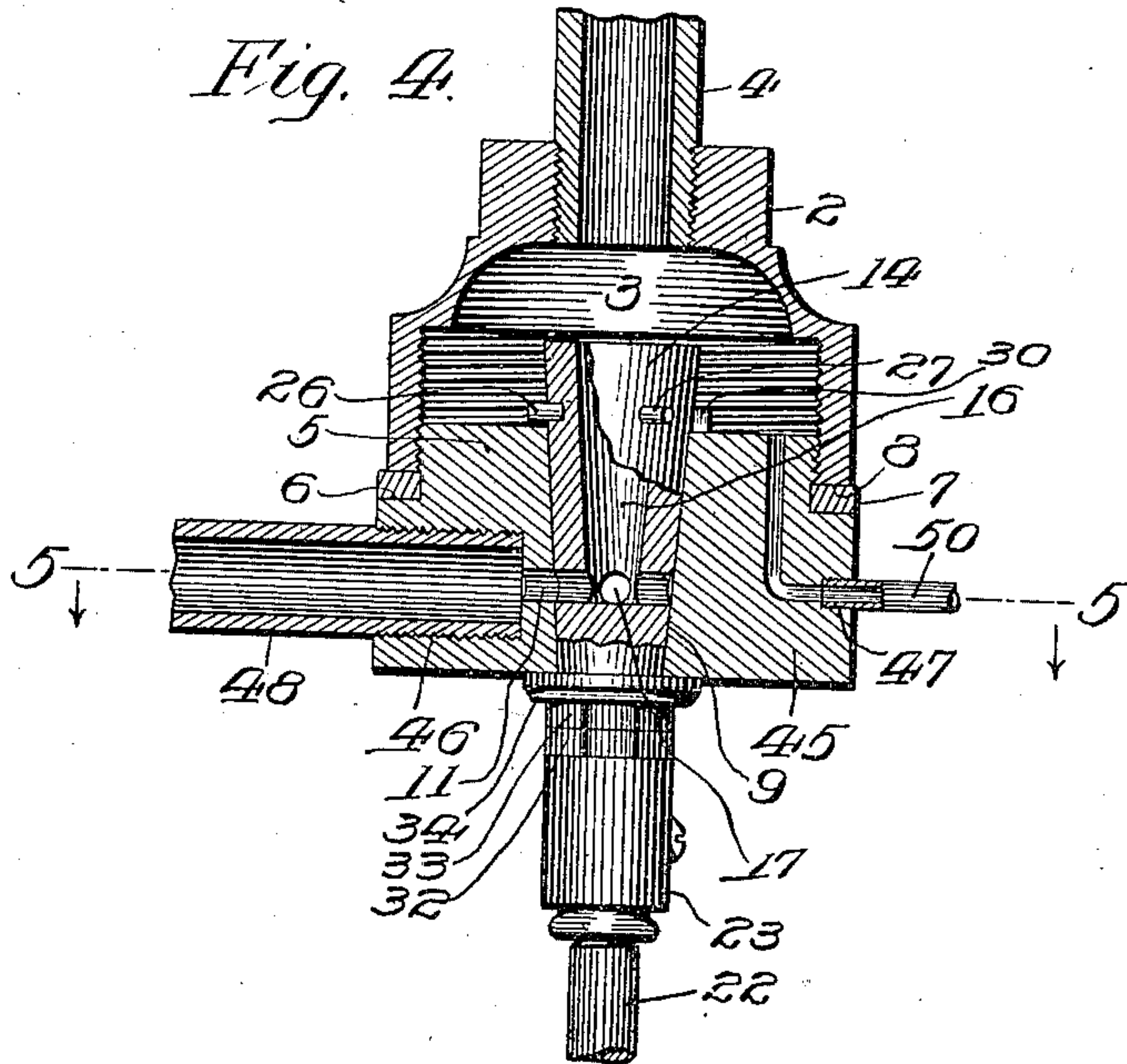
BY *Home*
ATTORNEY

L. P. DICKEY.
PILOT LIGHT VALVE.
APPLICATION FILED NOV. 17, 1909.

995,666.

Patented June 20, 1911.

2 SHEETS—SHEET 2.



WITNESSES

H. J. Hartman.
Clifton C. Hallenell

INVENTOR

Laurence P. Dickey.

BY

1 + Mae Kelly.

ATTORNEY

UNITED STATES PATENT OFFICE.

LAURENCE P. DICKEY, OF PHILADELPHIA, PENNSYLVANIA.

PILOT-LIGHT VALVE.

995,666.

Specification of Letters Patent. Patented June 20, 1911.

Application filed November 17, 1909. Serial No. 528,490.

To all whom it may concern:

Be it known that I, LAURENCE P. DICKEY, a citizen of the United States, and a resident of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Pilot-Light Valves, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to valves having a by-pass for the passage of a minimum supply of illuminant to maintain a small jet burning while the illuminating burner valve is turned off, for the purpose of igniting the
15 supply of illuminant ejected from said burner when the burner valve is opened.

The principal objects of this invention are, to provide a valve arranged to insure the ignition of illuminant when turned on, with an enlarged equalizing chamber from which the illuminant is distributed through the conduits to the burners; to provide a tapering rotary controlling valve plug, normally maintained seated by gravity and
25 opening into said enlarged chamber in the valve casing; to provide said casing with means arranged to support a plurality of conduits contemporaneously controlled by said valve plug, and provided with passage-
30 ways in communication with said chamber independent of said valve plug; to provide means whereby said communication may be readily effected; and to provide a valve structure readily taken apart to afford access to the parts closed by the valve casing, and to the passageways extending through said casing.

This invention is further advantageous in that it provides means arranged to close
40 communication through said passageways by shifting said conduit, or by substituting a conduit having an imperforate wall.

The form of this invention, hereinafter described, provides a valve casing comprising a body portion, and a cap therefor in threaded engagement therewith and affording an enlarged equalizing chamber for the convenient distribution of illuminant, said cap being supported by threaded engagement with the supply pipe and suspending the body portion of said valve, which provides a downwardly tapering seat for the valve plug, a plurality of radially extending threaded sockets for the gas conduits
55 communicating with said chamber through said tapering valve seat, a hollow valve plug

having ports arranged to register with said conduits, said conduits being provided with separate passages extending longitudinally therethrough, and connected with said chamber by passageways extending through said valve body to convey illuminant independent of the valve plug, a stem for said valve plug, a sleeve threaded on said stem and secured thereto, a key threaded in said sleeve in jammed relation with said stem, and means within said casing arranged to limit the movement of said valve.

This invention further includes the various novel features of construction and arrangement as hereinafter more definitely specified.

In the drawings, Figure 1 is a central vertical sectional view of a convenient form of this invention, certain of the parts being shown in elevation for convenience of illustration; Fig. 2 is a side elevation of said valve; Fig. 3 is a horizontal sectional view of said valve taken on the line 3—3 in Fig. 1; Fig. 4 is a central vertical sectional view of a modified form of valve taken on the line 4—4 in Fig. 5; and Fig. 5 is a horizontal sectional view of the valve shown in Fig. 4 taken on the line 5—5 in said figure.

In the form of this invention shown in Figs. 1 to 3, inclusive, the valve body 1 has the removable cap 2, forming the enlarged chamber 3, suspended in screw-threaded engagement with the supply pipe 4. Said body 1 provides the threaded boss 5 forming the annular shoulder 6, arranged to support the gasket 7, against which the edge 8 of the cap 2 bears when assembled in engagement with the threads of the boss 5, as shown in Fig. 1.

The valve body 1 has the downwardly tapering centrally disposed opening forming the valve seat 9, and a plurality of threaded sockets 10 communicating through the ducts 11 with said opening and arranged to receive the ends of the radially extending conduits 12 or 13, leading to respective burners of any convenient type (not shown).

The inverted, truncated cone-shaped valve plug 14, having the threaded stem 15, is rotatably seated by gravity in the valve seat 9 and has the central bore 16 in communication with the chamber 3 and provided with the ports 17 leading from said bore and arranged to register with the ducts 11 in the valve body 1 to open the passage for illuminant from the supply pipe 4 to the burners

through the chamber 3, ports 17, ducts 11 and conduits 12 or 13. The rotary movement of the valve plug 14 is effected by the key 20, comprising the grip ring 21 and the shank 22 in threaded engagement with the sleeve 23, which is also in threaded engagement with the valve stem 15 and secured thereto by the screw 25 extending transversely through said stem and sleeve, as best shown in Fig. 1. Said valve plug 14 is limited in its rotary movement by the stop pins 26 and 27, arranged to alternately engage the respective opposite ends of the semi-annular boss 30 extending upwardly from the upper surface of said valve body 1, in its respective open and closed positions. The valve plug 14 is conveniently adjusted axially in its seat 9 in the usual manner by the nuts 32 and 33 adjustably engaging the washer 34, carried by the reduced extension 35 of said valve plug 14, as shown in Fig. 1.

The form of conduits 13, as best shown at the right-hand side of Fig. 1, includes the longitudinal partition 38 forming the separate passageway 39 arranged to convey illuminant to a pilot light adjacent to the burner (not shown), and said passageway communicates with the chamber 3, independent of the valve plug 14, through the by-pass ducts 40, which extend through the valve body 1 and may be conveniently tapped therethrough when said valve body 1 is separated from the cover 2, and, as may be observed, said ducts may then be readily cleaned of any obstruction which may be accidentally lodged therein. However, it may be noted that, as shown at the left-hand side of Fig. 1, the by-pass ducts 40 may be closed if desired by simply substituting for the conduit 13 the pipe 12, having the imperforate wall as shown, whereby said pipe or conduit is wholly controlled by the valve plug 14 and the ducts 40 are closed by said imperforate wall.

In the form of this invention illustrated in Figs. 4 and 5, the valve body 45 is provided with separate screw threaded sockets 46 and 47, respectively, for the main illuminant conduits 48 and by-pass ducts 50, which extend radially inwardly and then upwardly in communication with the chamber 3. In other respects the form shown in Figs. 4 and 5 is identical with the form illustrated in Figs. 1 to 3, inclusive.

I do not desire to limit myself to the precise details of construction and arrangement herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention as defined in the appended claims.

Having thus described my invention, I claim:

1. A valve comprising a casing forming a chamber having an inlet and a plurality of outlets, a tapered valve plug seated by grav-

ity in said casing and arranged to control said outlet, and separate by-pass ducts extending through said casing substantially parallel with the axis of said valve plug.

2. A valve comprising a casing, including a valve body, a valve cap with an aperture disposed centrally therein forming a chamber, and a downwardly tapered valve plug fitted in said valve body and having its larger end opening in communication with said chamber, and in alinement with said aperture, said open end being surrounded by said chamber.

3. A valve comprising a casing, including a valve body and a separable valve cap with a centrally disposed aperture therein forming an enlarged chamber, and a tapered valve plug fitted in said valve body and having its larger end extending above the valve seat in alinement with said aperture and terminating in said valve chamber.

4. A valve comprising a casing, including a valve body and a valve cap forming a chamber, having inlet and outlet ducts, and by-pass ducts connected therewith, a plurality of conduits each having separate substantially parallel passages respectively connected with said by-pass ducts leading from said casing, and a hollow tapered valve plug seated in said valve body, and having its larger end opening into said chamber, and arranged to open and close communication from said chamber to said conduits.

5. A valve comprising a casing inclosing an enlarged chamber provided with inlet and outlet ducts, and separate by-pass ducts, an inverted truncated cone-shaped valve plug seated in said casing by gravity, and arranged to control said outlet ducts, conduits having double substantially parallel passages respectively connected with said outlet ducts controlled by said valve and said by-pass ducts leading from said casing independent of said valve.

6. A valve comprising a casing having inlet and outlet ducts, and separate unobstructed by-pass ducts, conduits leading from said casing and having double passages of equal cross section respectively connected with said outlet ducts and said by-pass ducts, a downwardly tapering valve plug seated in said casing and arranged to control said outlet ducts, independent of said by-pass ducts.

7. A valve comprising a casing including a hollow cap having an inlet, and a valve body carried by said cap and forming a closed chamber having separate outlet and by-pass ducts connecting said chamber with sockets in said casing, a plurality of conduits secured in said sockets each having separate passageways respectively connected with said outlet and said by-pass ducts, a downwardly tapered valve plug seated by gravity in said casing and having ports

arranged to register with said outlet ducts, means to shift said valve plug to register said ports with said outlet ducts, and means within said casing arranged to limit the rotary movement of said valve plug.

8. A valve comprising a casing inclosing an enlarged chamber having an inlet and a plurality of outlets, a hollow valve plug tapered downwardly and seated by gravity in said casing, and having an opening at its larger end connected with said chamber, and a plurality of ports arranged to register with said outlets, and separate means arranged to engage independent abutments to limit the movement of said valve plug in its respective position.

9. A valve comprising a casing inclosing a chamber having an inlet and a plurality of outlets, a valve plug tapering downwardly and seated by gravity in said casing, and having a passageway opening through its larger end into said chamber, and a plurality of ports arranged to register with said outlets, and a plurality of conduits longitudinally divided into passages respectively connected with said chamber through said valve plug, and independent thereof.

10. A valve comprising a casing having an inlet and a plurality of outlets, of a plug seated by gravity in said casing, and having ports arranged to register with said outlets, a plurality of conduits each divided by a longitudinal partition forming a passageway connected with said outlets controlled by said valve plug, and a passageway connected directly with said inlet independent of said valve plug.

11. A valve comprising a casing having an inlet and a plurality of outlets, a valve plug seated in said casing and having a plurality of ports arranged to register with said outlets, a plurality of conduits divided longitudinally to form separate passageways respectively connected with said inlet through said valve plug and controlled thereby, and with said inlet directly, independent of said valve plug.

12. A valve comprising a casing having an inlet and a plurality of outlet sockets arranged to communicate with said inlet, means arranged to control said communication, a plurality of conduits respectively engaged in said sockets and divided longitudinally to form separate passageways respectively connected through said controlling

means with said inlet, and independent of said controlling means.

13. A valve comprising a casing having a tapered opening therein and connecting an inlet with a plurality of outlets, a tapered valve plug seated in said opening and arranged to control said outlets and communicating with said inlet through its larger end, a plurality of conduits communicating with each of a plurality of said outlets and provided with a longitudinal partition forming separate passageways therethrough, respectively connected with said inlet through said valve, and with said inlet independent of said valve plug.

14. In a valve, the combination with a valve body having a threaded boss forming a shoulder and provided with outlet and by-pass ducts, of a hollow cap having an inlet, in threaded engagement with said boss, and forming a chamber above said valve body, a tapered valve plug seated in said valve body, and having ports connected through its larger end with said chamber and arranged to register with said outlet ducts, conduits connected with said chamber through said outlet ports in said plug, and conduits connected with said chamber through said by-pass ducts independent of said valve plug.

15. In a valve, the combination with a valve body having a threaded boss forming a shoulder and provided with outlet and by-pass ducts, of a hollow cap having an inlet in threaded engagement with said boss, and forming a chamber above said valve body, a gasket interposed between said shoulder and the edge of said cap, a tapered valve plug seated in said valve body, and having ports connected through its larger end with said chamber, and arranged to register with said outlet ducts, and a plurality of conduits each divided longitudinally to form separate passageways respectively connected with said chamber through said valve plug, and controlled thereby, and with said chamber independent of said valve plug.

In witness whereof I have hereunto set my hand this 16th day of November, A. D. 1909.

LAURENCE P. DICKEY.

Witnesses:

ALSTON B. MOULTON,
ALEXANDER PARK.