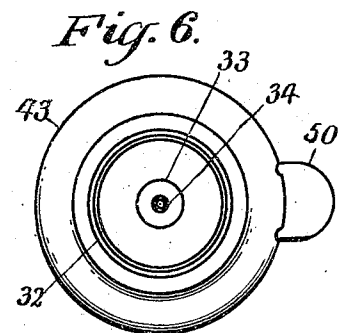
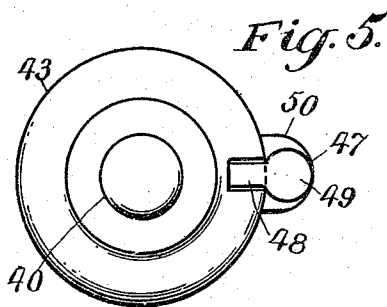
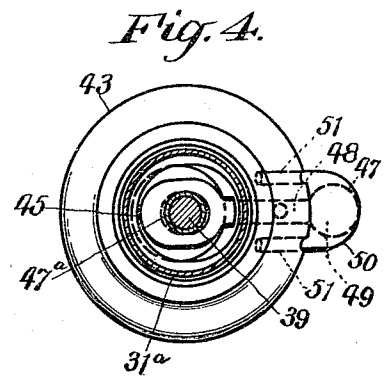
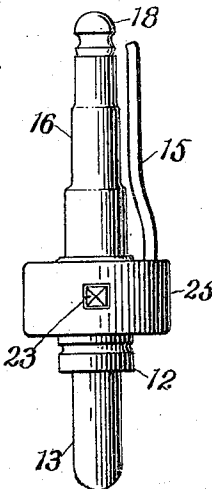
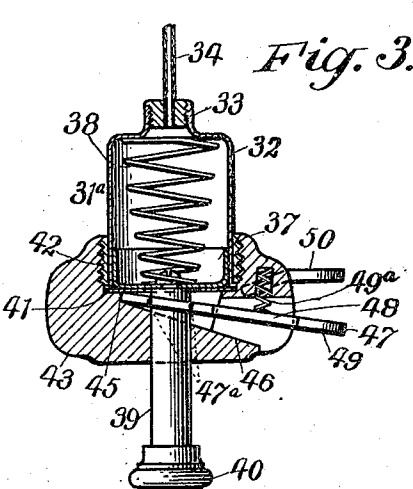
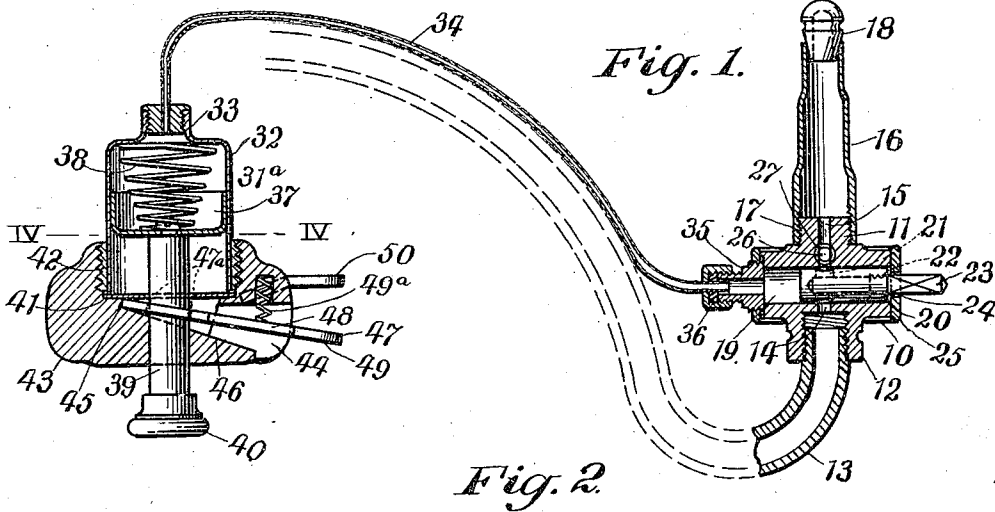


F. O. H. FINCKE.
PRESSURE GAS VALVE AND CONTROLLING MEANS THEREFOR.
APPLICATION FILED AUG. 14, 1908.

950,150.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



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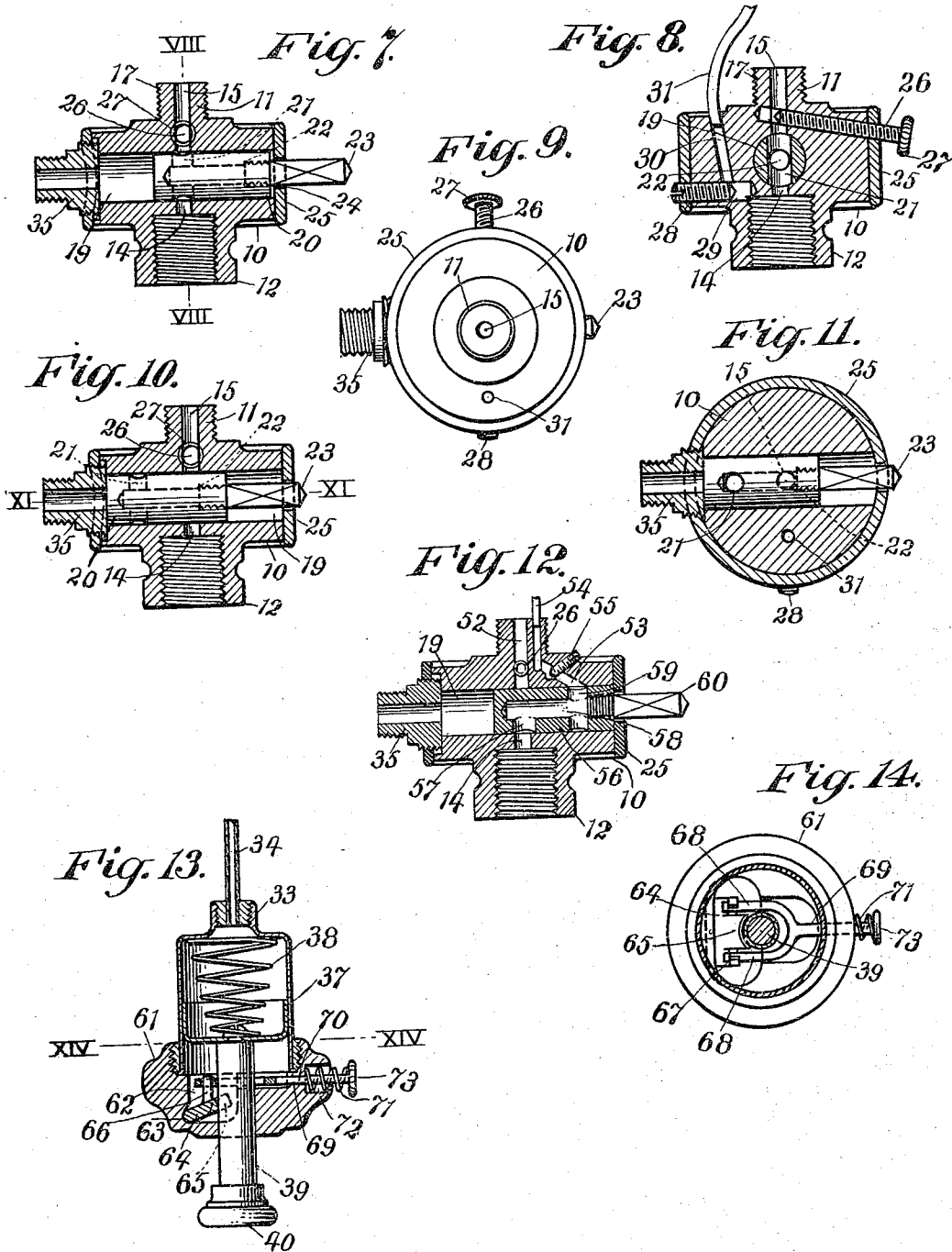
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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PRESSURE GAS-VALVE AND CONTROLLING MEANS THEREFOR.

950,150.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed August 14, 1908. Serial No. 448,533.

To all whom it may concern:

Be it known that I, FRED O. H. FINCKE, a subject of the Emperor of Germany, and a resident of College Point, county of Queens, and State of New York, have invented certain new and useful Improvements in Pressure Gas-Valves and Controlling Means Therefor, of which the following is a full, clear, and exact, description.

This invention relates more particularly to means by which the gas to a burner or burners may be automatically turned on or off from a distant point.

The primary object of the invention is to provide a simple and efficient device in which a piston may be operated to control the gas to one or more burners by means located at a distance therefrom, which means has a movable part adapted to force the piston controlling the gas-supply to the burner in either direction to cause the light to be extinguished or the gas to be ignited at the will of the operator, thus overcoming the objections incident to the use of matches and other means of a similar character for lighting the gas.

Other objects of the invention are to provide a simple and efficient valve casing for the burner in which the said casing may be constructed of a plurality of independent members so that the parts may be easily made and held together and the parts of such a form that they can be readily finished into an attractive and effective casing; to provide a simple and efficient piston for controlling the supply of gas to the burner; to provide means whereby the operating device for moving the piston may be readily attached thereto; and to provide means which may be applied to the ordinary type of burner or may be attached to the usual Bunsen burner.

A further object of the invention is to provide a simple and efficient device for operating the gas-supply controlling piston, which is provided with simple locking means to positively hold the piston in one position and which permits the piston to be automatically moved in the opposite direction to extinguish the lights.

With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a vertical section, partly in elevation, of one form of device embodying my invention. Fig. 2 is an elevation of the burner and casing. Fig. 3 is a vertical section of the pumping or operating device for the gas-controlling piston, the position of the parts being different from that shown in Fig. 1. Fig. 4 is a sectional plan taken on the line IV—IV of Fig. 1. Fig. 5 is an inverted plan view. Fig. 6 is a plan view of the pumping device. Fig. 7 is an enlarged vertical section of one form of casing for the gas-controlling piston. Fig. 8 is a section, taken on the line VIII—VIII of Fig. 7. Fig. 9 is a plan view. Fig. 10 is a view similar to Fig. 7 except that the gas-controlling piston is in a different position. Fig. 11 is a sectional plan, partly in elevation, taken on the line XI—XI of Fig. 10. Fig. 12 shows a different form of piston and passages controlled thereby. Fig. 13 is a vertical section of an operating device showing a different form of locking means for the piston thereof; and Fig. 14 is a sectional plan view taken on the line XIV—XIV of Fig. 13.

The member 10 of the casing is cylindrical in form and is provided with a burner part 11 and a gas-supply part 12 to which the tube 13 of the gas bracket or chandelier is attached, and in the gas-supply part is a passage or port 14, while in the burner part is a passage or port 15 above which is arranged the burner 16 having the usual screw-threaded end adapted to engage the threaded end of the stem or projecting part 17 of the casing, the said burner 16 being provided with the usual gas tip 18. The member 10 is somewhat enlarged centrally thereof, and is provided with a transverse opening 19 therethrough in which is adapted to move a piston 20 for controlling the gas between the source of supply and the burner. This piston is provided with a transverse opening 21 and a longitudinally-extending opening 22, and said opening 21 is adapted to be brought into alinement with the ports 14 and 15 to permit the gas to pass to the burner tip, and when the controlling piston is forced to one side as shown in Fig. 10 the gas will be entirely cut off from the burner. The outer end of the piston opening 22 is closed by a plug or guide 23, which has one end threaded to close the end of the opening 22 in the piston, and its outer end may be square or of other form and

guided in a similarly formed opening 24 in an annular sleeve or ring 25. This sleeve or ring is held to the member 10 by a beading or turning over the edges thereof and
 5 extending through the sleeve member and the member 10 above the piston 20 and at an angle thereto is a needle or other valve 26. This valve 26 may have a threaded stem to engage a threaded opening, and its outer
 10 end is provided with a button or fingering part 27, and its inner end is arranged to control the passage 15 to the burner so that the gas may be properly regulated independent of the usual gas cock. A second needle valve
 15 28 extend through the sleeve or ring 25 and in advance of the valve 28 is an opening 29, which communicates with the source of gas supply and with the passage 30, to which
 20 the gas to the pilot being controlled by said valve 28. By this means the casing and sleeve may be readily made and held together and the parts quickly fitted so as to make an effective and inexpensive valve,
 25 and at the same time provide ready means for holding the several parts together and properly supporting the piston for controlling the gas.

To operate the gas-controlling piston from
 30 a distant point I provide a pumping or operating device 31^a, which has a cylinder 32, and this cylinder 32 has a contracted portion 33 which is connected by a tube or pipe 34 to a nipple or coupling 35. This nipple 35
 35 is held in a threaded opening in the sleeve 25 and communicates with the opening or chamber 19 in which the controlling piston 20 moves, and said nipple has its end provided with a packing gland 36 which is
 40 adapted to hold the tube or pipe 34 properly to said nipple. Within the casing 32 of the device 31^a is a piston 37, and this piston is cup-shaped and is normally forced in one direction by a spring 38 arranged within
 45 the cylinder between the contracted portion 33 and the piston 37, and projecting from one side of the piston 37 is a rod 39 on the outer end of which is a button or pushing device 40 whereby the rod and piston may
 50 be forced in one direction against the action of the spring 38. The cylinder 32 rests upon a plate 41 through which the rod 39 passes, and around the cylinder is a threaded part or ring 42 which engages a threaded
 55 opening in a part of the casing or support 43, the latter being of wood or of any other suitable material. This casing or part 43 is provided with a chamber or recess 44 which is substantially wedge-shaped and inclines at the inner part thereof to provide
 60 a pivoting point 45, at which point and between the surface 46 and the plate 41 is held a locking lever 47. This lever 47 has an opening through which the rod 39 passes
 65 and said opening is made to provide a de-

tent or engaging surface 47^a to lock the rod when it is forced inward, the normal position of the lever 47 being at an angle with respect to the axis of said rod. The lever
 70 47 is provided with a stem portion 48 and the fingering portion 49, which stem portion is movable in a slot in the recessed part 44 and is normally forced downward by means of a spring 49^a having one end thereof
 75 abutting against said lever and its other end fitting a recess in the casing 43. A fixed fingering or gripping device 50 having two tines or projecting parts 51 is held convenient to the gripping portion 49 of the lever
 80 47 so that the said device 50 may be readily grasped to move said lever 47 to a substantially horizontal position, which will release the rod 39 thus permitting the spring 38 to force the spring and rod upward, the action
 85 of the lever 47 being substantially that of a cam to automatically lock the rod 39 in any position it may be placed in, still permitting the rod to be automatically forced outwardly by the spring 38 when said lever is held in a position to release the rod. When the
 90 pumping piston 37 is forced inward by the rod 39 it will force air through the pipe 34 into the chamber or opening 19 of the casing 10, and will force the piston to the position shown in Fig. 1 to permit the gas to flow
 95 to the burner and be ignited by the pilot, but when the handle 47 is moved to release the said rod the spring 38 will automatically force the piston in the opposite direction and by reason of the suction created
 100 thereby will force the controlling piston 20 in the opposite direction and thereby cut off the gas from the burner. By this means the gas may be ignited or extinguished from a distant point without the use of matches or
 105 other means for igniting the gas and without the necessity for operating the usual gas cock.

Fig. 12 shows a slightly different form of piston and arrangement of ports for the gas
 110 in the valve casing, and particularly with respect to the supply of gas to the pilot so that the gas to the pilot will be lighted only when the gas to the burner is cut off, and the supply of gas to the pilot cut off when
 115 the gas is burning at the burner tip. In this case the port 52 is opposite the port 14 as in the other figures, and a port or passage 53 is provided at one side which connects with the pilot 54, the said pilot leading
 120 within the burner instead of outside thereof, and the gas supply thereto being controlled by a valve 55. The piston 56, in this case, is provided with an opening 57 which communicates with the longitudinally-extending
 125 opening 58, and this opening connects with the transverse opening 59, the outer end of the longitudinally-extending opening 58 being closed by the guide 60. In the position shown the gas to the burner is cut off while
 130

the gas is supplied through the piston to the pilot. As soon as the operating device shifts the piston in the opposite direction there will be no communication with the gas supply and the pilot passage 53, but the communication will be direct through the transverse opening 59 which has been brought into alinement with the port 14 and port 52. During the movement of the piston to shut off the gas to the burner, the same will be ignited long enough to light the gas at the pilot so that the gas at the burner may be automatically lighted as in the other construction, although the gas to the pilot is automatically cut off while the burner is lighted, thus economizing in the use of the gas.

In Figs. 13 and 14 the pumping device is substantially the same as in the other figures except that a different form of locking means for holding the rod 39 is provided. As shown the part or casing 61 is provided with a recessed portion 62 which is cut away at 63 to provide a pivoting point for a lever 64 having a detent or engaging part 65. This detent 65 is normally held at an angle with respect to the axis of the rod 39 so as to have a cam-like rocking action with respect to the same and projecting upward from the detent are two lugs or parts 66 which enter slots 67 in the forked end 68 of a push rod 69. This rod 69 has its stem 70 extending through an opening in the casing 61 and around said stem is a spring 71 having one end arranged in a recess 72 and its other end abutting against a button or fingering portion 73 carried by the rod 69. As the rod 69 is forced inward it will force the detent 65 away from the rod 39 allowing the spring 38 to force the piston 37 and the rod 39 downward, but when the said rod is forced inward it will raise the detent which will automatically engage said rod as soon as said detent is released.

It will be understood that while the device is shown as controlling a single light it may be made to control a plurality of lights through the operation of a single piston or a plurality of pistons as desired.

From the foregoing it will be seen that a simple and efficient device is provided in which the parts are cylindrical and may be readily made and assembled and the whole device made very attractive; that simple means are provided for controlling the gas to the burner; that a simple device is arranged for automatically operating the controlling piston of the gas valve so as to shut off the gas or to light the same; that simple means are provided for locking the piston of the pumping device to hold the same in its proper position or to permit the piston to be automatically forced in one direction when the locking means is released; and that by the means shown a single or a plurality

of burners may be ignited from a distant point without the use of matches or similar means, and the lights may be extinguished without operating the usual gas cock.

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

1. In a device of the character described, a casing having ports therein for the passage of gas and having a cylindrical member provided with a burner part and a gas-supply part adapted to communicate respectively with the burner and with the gas-supply and having an opening there-through, a hollow piston having transverse openings adapted to register with the ports of the casing, a sleeve surrounding the casing and bound thereto, a square guide closing one end of the piston and serving to hold the same in its proper position relatively to the ports, a valve for controlling the burner port or passage, said casing having a passage for gas at one side of the piston, a pilot connected with said passage, a valve controlling the pilot passage, and means connected to the casing and sleeve for operating the piston to cut off the supply of gas to the burner or to permit the gas to be supplied thereto.

2. In a device of the character described, a casing having ports therein for the passage of gas and having a cylindrical member provided with a burner part and a gas-supply part adapted to communicate respectively with the burner and with the gas-supply and having an opening therethrough, a piston having transverse openings adapted to register with the ports of the casing, a sleeve surrounding the casing and bound thereto, and a guide closing one end of the piston and serving to hold the same in its proper position relatively to the ports, a valve for controlling the burner port or passage.

3. In a device of the character described, a casing having ports therein for the passage of gas and having a cylindrical member provided with a burner part and a gas supply part adapted to communicate respectively with the burner and with the gas-supply and having an opening therethrough, a piston having transverse openings adapted to register with the ports of the casing, a sleeve surrounding the casing and bound thereto, a guide closing one end of the piston and serving to hold the same in its proper position relatively to the ports, a valve for controlling the burner port or passage, and means connected to the casing and sleeve for operating the piston to cut off the supply of gas to the burner or to permit the gas to be supplied thereto.

4. In a device of the character described, a casing having ports therein for the passage of gas and having a cylindrical member provided with a burner part and a gas-

supply part adapted to communicate respectively with the burner and with the gas-supply and having an opening therethrough, a piston having means adapted to register
5 with the ports of the casing for the passage of the gas, a sleeve surrounding the cylindrical member and bound thereto, a guide closing one end of the piston and serving to hold the same in its proper position rela-
10 tively to the ports, a casing having a passage for the gas at one side of the piston, and a pilot connected with said passage.

5. In a device of the character described, a casing having ports therein for the passage
15 of gas and having a cylindrical member provided with a burner part and a gas-supply part adapted to communicate respectively with the burner and with the gas-supply and having an opening therethrough, a piston
20 having means adapted to register with the ports of the casing for the passage of the gas, a sleeve surrounding the cylindrical member and bound thereto, a guide closing one end of the piston and serving to hold
25 the same in its proper position relatively to the ports, a casing having a passage for the gas at one side of the piston, a pilot connected with said passage, and means connected to the casing for operating the piston
30 to cut off the supply of gas to the burner or to permit the gas to be supplied thereto.

6. In a device of the character described, a casing having ports therein for the passage of gas and having a member provided with

a burner part and a gas-supply part adapted 35 to communicate respectively with the burner and with the gas-supply and having an opening therethrough, a piston having transverse and longitudinally-extending openings, a sleeve surrounding the cylindrical member 40 and bound thereto, and a guide closing one end of the longitudinal opening of the piston and serving to hold the same in its proper position relatively to the ports.

7. In a device of the character described, 45 a casing having ports therein for the passage of gas and having a member provided with a burner part and a gas-supply part adapted to communicate respectively with the burner and with the gas-supply and hav- 50 ing an opening therethrough, a piston having transverse and longitudinally-extending openings, a sleeve surrounding the cylindrical member and bound thereto, a guide closing one end of the longitudinal opening 55 of the piston and serving to hold the same in its proper position relatively to the ports, and means connected to the casing for operating the piston to cut off the supply of gas to the burner or to permit the gas to be sup- 60 plied thereto.

This specification signed and witnessed this sixth day of August A. D. 1908.

FRED O. H. FINCKE.

Witnesses:

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