

No. 743,714.

PATENTED NOV. 10, 1903.

W. E. GUESE.
VALVE FOR VAPOR STOVES.
APPLICATION FILED JULY 23, 1903.

NO MODEL.

Fig. 1.

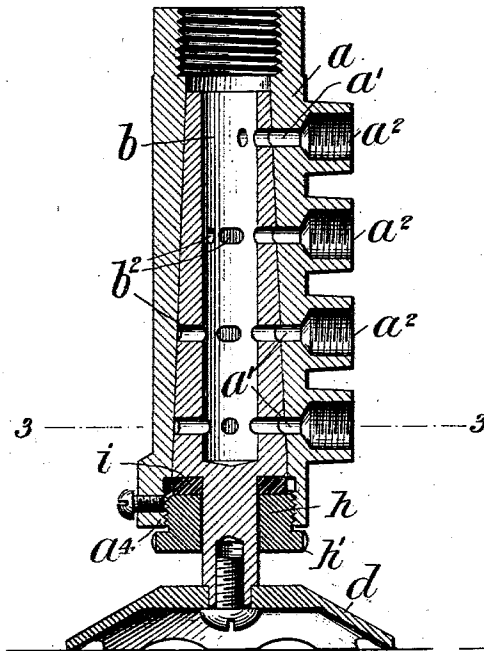


Fig. 2.

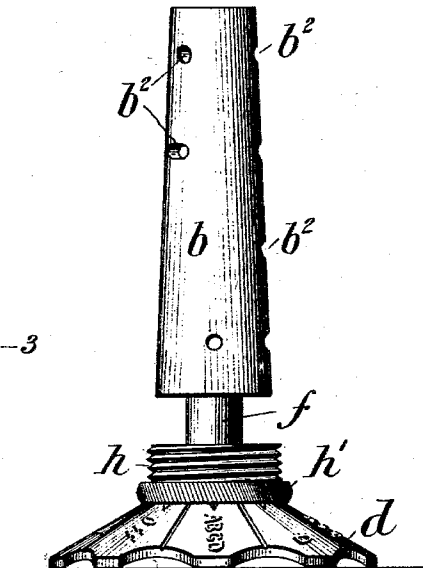


Fig. 3.

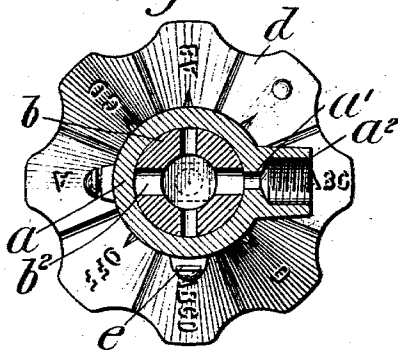


Fig. 4.

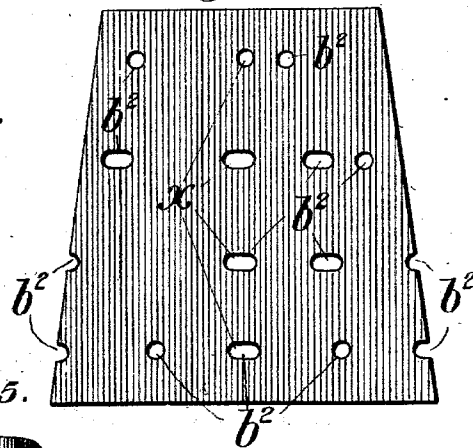
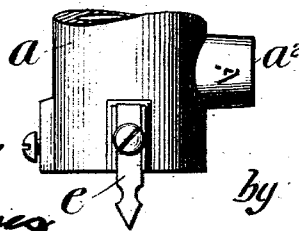


Fig. 5.



Witnesses:
William E. Guese
Engine P. Garges

Inventor:
William E. Guese.
by *Owen & Owen*
his Attys.

UNITED STATES PATENT OFFICE.

WILLIAM E. GUESE, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO
GEORGE A. FOX, OF TOLEDO, OHIO.

VALVE FOR VAPOR-STOVES.

SPECIFICATION forming part of Letters Patent No. 743,714, dated November 10, 1903.

Application filed July 23, 1903. Serial No. 186,783. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. GUESE, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Valves for Vapor-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to valve mechanism primarily intended to be used in connection with vapor-stoves of that type in which a single valve is utilized to control a plurality of burners.

The primary object of my invention is to provide a valve mechanism which in addition to opening the supply to the full extent either to any one or any combination of burners or partly opening the supply to any one or any combination of burners may be operated to open the supply to the full extent to certain of the burners of a combination, while the supply to other burners or a single burner of said combination will be open but partially, so that certain of the burners or a single burner will operate at low flame, while other burners will simultaneously operate with a flame of normal size.

Other objects of my invention will appear and the advantages of the same be appreciated when the invention is fully disclosed.

While the invention is susceptible of modification, I have shown in the accompanying drawings and shall hereinafter describe in connection therewith what is now conceived to be the preferred embodiment of the same.

In the drawings, Figure 1 shows the improved valve mechanism in sectional elevation. Fig. 2 is a side elevation of the valve proper. Fig. 3 is a transverse sectional view, and Fig. 4 is a diagram, of the valve.

The invention includes generally a barrel having a bore, forming a valve-casing designed to communicate at one end with the main gas-supply and having a plurality of laterally-directed discharge-orifices arranged lengthwise

of the same and a hollow valve having a plurality of radially-directed openings designed to register with said orifices, certain of said openings being arranged in sets or combinations and certain of the openings comprising the sets being of different contour from other openings of the sets.

The valve-casing (designated in the accompanying drawings by the letter *a*) has a tapering bore *b* and a plurality of orifices *a'*, leading from the latter through the shell of the same, each of which discharges into a nipple *a²*, cast integral with the casing, with which the supply-pipes leading to the burners are coupled. One end of the casing is suitably coupled to the pipe or conduit leading from the main gas-supply, while the opposite end thereof is suitably threaded internally for a purpose to be hereinafter described. In the particular exemplification of my invention shown in the accompanying drawings the valve mechanism is constructed to control four burners, and consequently four orifices *a'* are provided.

The valve working within the casing is designated by the letter *b'*, is provided with a central bore opening out through one end thereof, and is closed at its opposite end. Through the wall of this valve a plurality of openings *b²* lead, which are designed to register with the orifices *a'* as the valve is rotated. These openings are so disposed that communication may be opened by manipulating the valve through any one of the orifices alone or any combination of the same and so that communication may be partially opened through any one of said orifices, while others or another of the orifices will be simultaneously open to the full extent. For this purpose in the present exemplification of my invention certain of the openings are arranged in a plurality of sets or series, while others of said openings are arranged out of alinement with said sets and with each other, so that they may be brought into register with the orifices pertaining thereto singly, and one or more of the openings of each set are elongated transversely of the valve in relation to other orifices of the set. Each elongated opening is preferably of substantially the same width as

the ordinary openings, but approximately twice the length of the same, and the openings of each set are arranged so that their forward or leading edges will be in alinement lengthwise of the valve.

For manipulating the valve the same is preferably provided with a hand wheel or disk *d*, which preferably carries a dial provided with indicating characters arranged with reference to the openings *b*², and the casing *a* is provided with a pointer *e*, coacting with the dial to indicate the position of the openings in relation to the orifices.

The disk *d* may be secured to the valve and the latter retained in the casing in any desired manner; but the particular means illustrated in the accompanying drawings for this purpose, which constitute a subordinate feature of my invention, has proven to be durable, inexpensive, and highly efficient. As shown in said drawings, a stem *f* extends axially from the closed end of the valve, to the outer end of which the disk *d* is attached by a screw passing axially through the latter and entering a threaded socket in said outer end. Loosely mounted upon the stem is a sleeve *h*, exteriorly threaded at one end and provided at its opposite end with a flange *h'*, having a milled peripheral edge. When the valve is inserted in the casing, the threaded portion of the sleeve *h* is engaged with internal threads at the end *a*⁴ of the casing *a*, and said stem screwed up until the end of the latter firmly presses the valve to its seat. Interposed between the closed end of the valve, which provides a shoulder about the stem, and the adjacent end of the sleeve, which coacts therewith, is a packing-ring or washer *i*.

In manipulating the valve mechanism the valve is rotated by means of the disk *d*, and if it be desired, for instance, to open communication through all of the orifices the valve is turned until the space on the dial carrying the characters indicating the combination of the four burners is brought into register with the pointer on the casing. When in this position, the opening of the set *x* contiguous to the open end of the valve and the front portions of the other openings of said set *x* will be in register with the orifices, and a full supply of gas may then pass from the interior of the valve to the burners.

In order to partially cut off communication through the orifice which registers with the first opening while maintaining full communication through the other orifices, the valve is given a slight forward turn, which will carry said first opening partly out of register with its orifice, while the rear portions of the other openings will be brought into register with their orifices, and thus only a part of the full supply can pass to one of the burners, while a full supply of gas may pass to the other three.

The construction and operation of my invention will be readily understood upon refer-

ence to the foregoing description and accompanying drawings, and it will be appreciated that the parts and combinations recited may be varied within a wide range without departing from the spirit and scope thereof.

Having thus described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a valve-casing having a plurality of ports leading therefrom disposed in alinement longitudinally of the same, each being in communication with an independent burner, of a single plug-valve mounted in the casing for controlling said ports having a plurality of sets of openings arranged in alinement longitudinally of the plug, each set including an opening elongated transversely of the plug and a second opening relatively smaller transversely of the plug than the other, the leading edges of all of the openings of each set being substantially in alinement, whereby the supply to said ports may be simultaneously opened to the full extent to any one or any combination of said ports, or partially opened to any one or any combination of said ports, or simultaneously opened to the full extent to certain of the ports, and but partially opened to others or a single port, substantially as described.

2. The combination with a valve-casing having a plurality of ports leading therefrom disposed in alinement longitudinally of the same, each being in communication with an independent burner, of a single plug-valve mounted in the casing for controlling said ports having a plurality of sets of openings arranged in alinement longitudinally of the plug; each set including an opening elongated transversely of the plug and a second opening relatively smaller transversely of the plug than the other, the larger and smaller openings of one set being differently disposed from the corresponding openings of the other sets, whereby the supply to said ports may be simultaneously opened to the full extent to any one or any combination of said ports, or partially opened to any one or any combination of said ports, or simultaneously opened to the full extent to certain of the ports, and but partially opened to others or a single port, substantially as described.

3. The combination with a valve-casing having a plurality of ports leading therefrom disposed in alinement longitudinally of the same, each being in communication with an independent burner, of a single plug-valve mounted in the casing for controlling said ports having a plurality of sets of openings arranged in alinement longitudinally of the plug, each set including an opening elongated transversely of the plug and a second opening relatively smaller transversely of the plug than the other, the larger and smaller openings of one set being differently disposed relative to the casing-ports than the corresponding openings of the succeeding set, whereby

the supply to said ports may be simultaneously opened to the full extent to any one or any combination of said ports, or partially opened to any one or any combination of said
5 ports, or simultaneously opened to the full extent to certain of the ports, and but partially opened to others or a single port, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 10 two witnesses.

WILLIAM E. GUESE.

Witnesses:

GEORGE A. FOX,
WILBER A. OWEN.