A. G. SHERMAN.

BURNER REGULATOR.

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1,423,627. Patented July 25, 1922.

Fig. 1

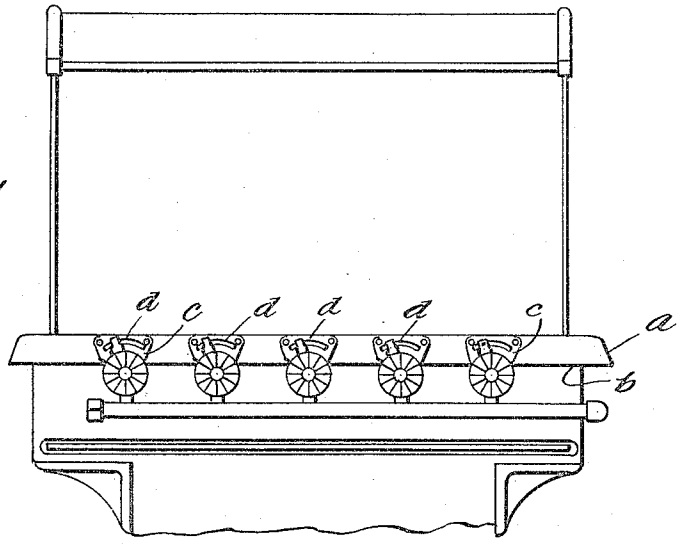
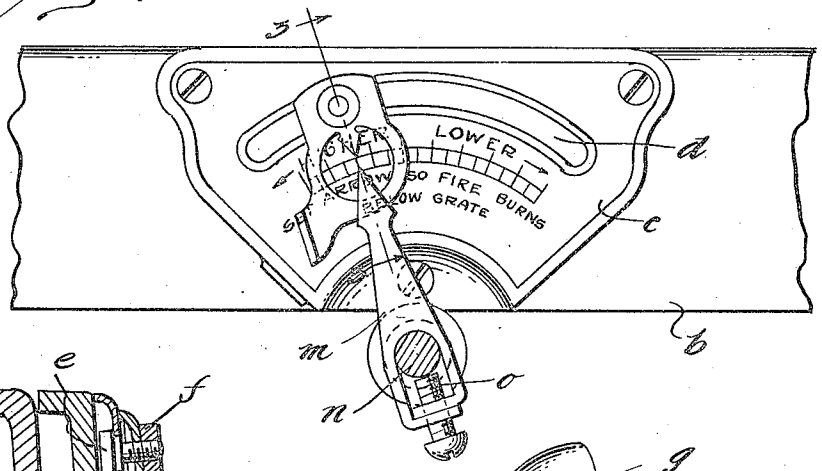


Fig. 2



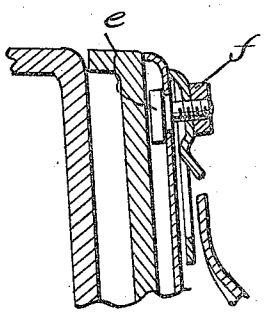


Fig. 3

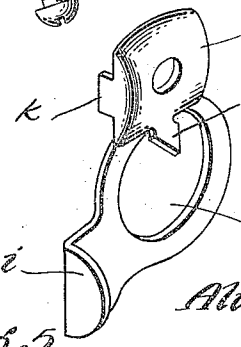


Fig. 4



Fig. 5

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UNITED STATES PATENT OFFICE.

ALVIN G. SHERMAN, OF DETROIT, MICHIGAN, ASSIGNOR TO DETROIT VAPOR STOVE COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

BURNER REGULATOR.

1,423,627. Specification of Letters Patent. Patented July 25, 1922.

Application filed February 27, 1922. Serial No. 539,436.

To all whom it may concern:

Be it known that I, ALVIN G. SHERMAN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Burner Regulators, of which the following is a specification.

This invention relates to oil, vapor or gas stoves and has for its object a fixture for support on the front of the stove in proximity with the valve and the valve handle to determine the amount of valve opening. In connection with oil vapor stoves it is very desirable that the valve opening be always the same. In these stoves conditions do not vary as much as they do in ordinary gas stoves where the pressure varies. Furthermore, it is highly desirable that more fuel oil than can be properly vaporized and consumed be not allowed to flow into the burner; otherwise the burner is liable to leak, not only becoming dangerous but causing objectionable smells and soil.

In a vapor oil stove the fuel oil ordinarily feeds by gravity and consequently conditions are more or less uniform. Hence it is desirable that the maximum opening of the valve be fixed at the factory by experts who are better qualified to determine what are the ideal conditions. However, it is also desirable that this adjustment may be easily changed where conditions change during the use of the stove as by wear of the valve or the valve seat or different grades of fuel. These objects are accomplished by a fixture which I have designed which embodies several separate functions. The fixture serves not only as a dial provided with proper graduations to indicate the opening of the valve but it also is provided with a movable arrow and stop movable along said graduations, the arrow to fix the point of desirable flame and the stop to fix the maximum amount of valve opening. These features will better appear when the description has been given.

In the drawings,—

Fig. 1 is a fragmentary front elevation of an oil vapor stove.

Fig. 2 is a front elevation of the regulating fixture.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a perspective of the slide used on this fixture.

Fig. 5 is a perspective of the slide clamping bolt.

The stove is provided with the usual stamped metal top *a* provided with a turned-down flange *b*. To this flange *b* is bolted a dial plate *c*, preferably ornamental in appearance and provided with a segmental slot *d*. This plate has turned-in flanges so that when the plate is bolted to the top flange a space intervenes between the main body of the dial plate and the flange, as is indicated in Fig. 3. This provides clearance for the head of the button *e* but is shallow enough to prevent the bolt falling down behind the plate when it is loose. The bolt head is shouldered as shown in Fig. 5 so that it keys in the slot and will prevent the bolt turning with the nut. The shank of this button is threaded and a knurled nut *f* screws onto this threaded shank. This button shank passes through a slide *g*.

This slide is provided with an arrow *h* pointing down into the opening *j* which exposes the graduations on the dial. The lower portion of the slide is formed into a ring to afford this opening *j* and also to carry the stop *i* which fixes the maximum opening movement of the valve. In the upper part of the slide guide lugs *k* are turned down and these are adapted to fit into the segmental slot *d* so as to securely spline the slide to the dial plate so that the same cannot turn thereon. Preferably the dial plate is provided with a suitable inscription as well as a calibration. At the top of the calibration are the words "Higher" and "Lower" followed by an arrow pointing in the direction in which, by turning the valve, a lower or higher flame can be secured. Below the graduations is a legend "Set arrow so fire burns below grate." This serves as an ever-present instruction to the user of the stove how to adjust the same with the aid of the dial and the slide to meet any new conditions that may arise.

The pointer arm *m* is secured to the valve stem *n* by means of the set screw *o*. The set screw when turned down tight holds the arm securely and non-rotatably to the valve stem. By loosening the knurled nut *f* and moving the adjusting slide along the segmental slot a new adjustment may be secured which affords a flame just below the grate—the best results for ordinary cooking. However, the location of the stop *i* at a somewhat

advanced point in the direction of the opening of the valve affords the maximum opening which can be attained and which will give a greater flame where such is desired. This stop, however, affords a guard to prevent the careless opening of the valve to allow the flow of more fuel oil than can be properly consumed which would otherwise result in objectional odors and soil.

What I claim is:

1. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle for the valve, a pointer arm connected with the handle to turn therewith, a dial supported in front of the pointer arm to indicate the opening of the valve, and a movable stop on said dial.

2. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle connected with the valve, a pointer arm connected with the handle, a dial provided with indications to show the valve opening, and a slidable arrow fixable along said indications to fix the point of desirable valve opening.

3. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle therefor, a pointer arm connected with the handle, a dial provided with graduations to indicate the valve opening and located in front of the pointer arm, and a movable slide fixable along the dial and provided with an arrow to indicate the desirable valve opening and provided further with a stop in advance of the arrow to govern the permissible valve opening.

4. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle therefor, a pointer arm connected with the handle to turn therewith, a plate supported in front of the pointer arm, and an arrow slidable and fixable along said plate to vary the desirable valve opening.

5. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle therefor, a pointer arm connected with the handle to turn therewith, a plate supported in front of the pointer arm, and a stop adjustable along the plate to vary the permissible valve opening by engaging with the pointer arm.

6. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle therefor, a pointer arm arranged to turn with the handle, a plate supported in front of the pointer arm, a slide adjustable along the plate and provided with an arrow to indicate the desirable valve opening and provided with a stop which co-operates with the pointer arm to limit the valve opening, which stop is located in advance of the arrow indicating the desirable valve opening.

7. In a gas or vapor stove, the combination of a valve for guarding the fuel feed, a handle secured to the valve, a pointer arm connected with the handle to turn therewith, a plate supported in front of the pointer arm and provided with a segmental slot, a slide splined in said slot, and a button and nut for fixing the position of the splined slide along said slot, said slide being provided with means co-operating with the pointer arm for governing the amount of valve opening.

8. In a gas or vapor stove, the combination of a valve regulating the fuel feed, a handle therefor, a pointer arm connected with the handle to turn therewith, a plate supported behind the pointer arm and provided with a segmental opening, a slide splined in said opening and provided with means by which it may be clamped along said opening, the said slide being provided with an arrow to indicate the desirable valve opening and also provided with a stop co-operating with the pointer arm and in advance of the indicating arrow, said stop serving to limit the opening movement of the valve.

In testimony whereof I affix my signature.

ALVIN G. SHERMAN.