C. C. MATLOCK.

GAS LIGHTER FOR BURNERS.

APPLICATION FILED MAY 14, 1920.

1,362,538. Patented Dec. 14, 1920.

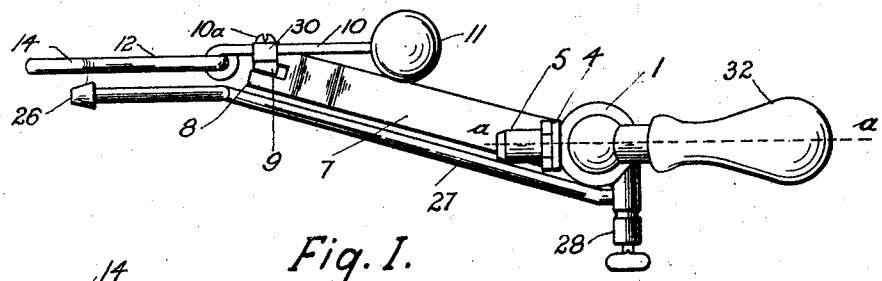


Fig. I.

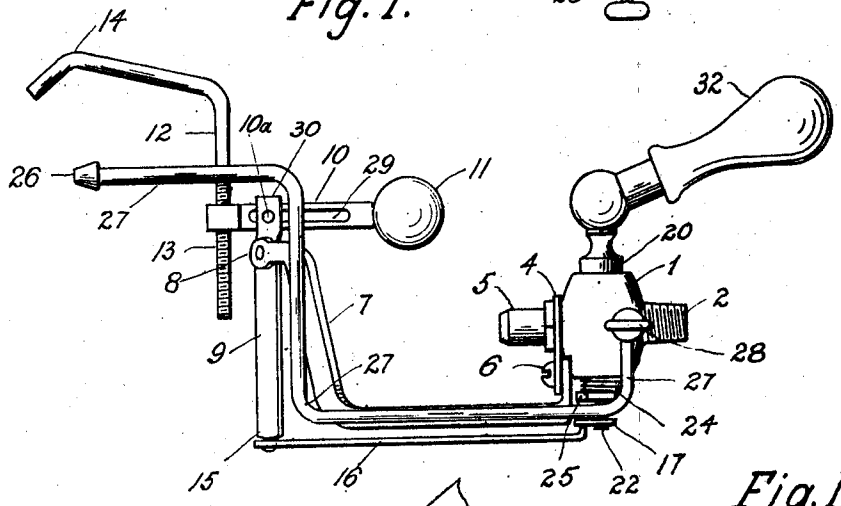


Fig. II.

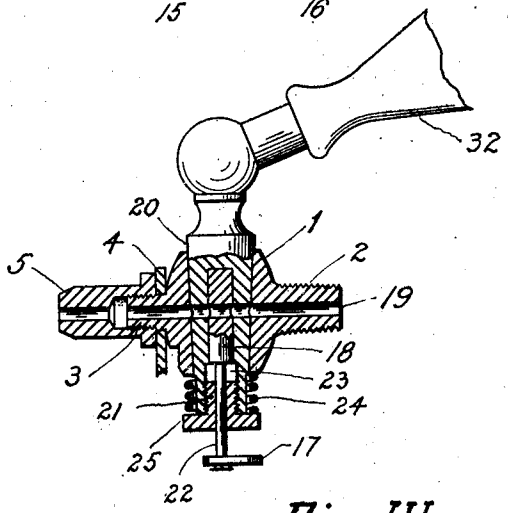


Fig. III.

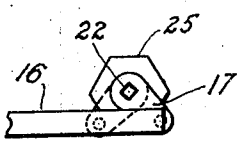


Fig. IV.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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GAS-LIGHTER FOR BURNERS.

1,362,538. Specification of Letters Patent. Patented Dec. 14, 1920.

Substitute for application Serial No. 137,519, filed December 18, 1916. This application filed May 14, 1920. Serial No. 381,514.

To all whom it may concern:

Be it known that I, CASWELL C. MATLOCK, a citizen of the United States, residing at Eugene, in the county of Lane and State of Oregon, have invented new and useful Improvements in Gas-Lighters for Burners, of which the following is a specification.

My invention relates to improvements in automatic gas-regulators, controllers and lighters for burners, particularly as applied to gas-ranges, gas-plates, gas-tables and other like apparatus.

The objects of my invention are to regulate automatically the admission of gas to the burner; to provide means for causing the flow of gas, when a vessel is placed over the burner, to shut off the supply when the vessel is removed, and lastly to provide means for ignition, when the flow of gas is established.

I attain these objects by the mechanism illustrated in the accompanying drawing, in which Figure I is a plan view; Fig. II a side elevation; Fig. III an enlarged section along the line *a—a* in Fig. I; and Fig. IV a bottom view of Fig. III illustrating the position of the crank when the rotary-valve is open for the flow of gas, while the dotted line shows the same when closed.

Similar numerals indicate corresponding parts throughout the several views.

Gas-cock 1, at its screw-end 2, is, in the conventional manner, connected with the gas-supply, while end 3 carries a plate 4 which is firmly held in place by tip 5. This tip 5 extends into the entrance orifice of a burner such as is commonly found on gas-plates. To the lower end of plate 4 is, by means of screw 6, rigidly attached a metal frame 7 whose extreme left end forms a hinge 8. This hinge furnishes a fulcrum for the vertical lever 9. At the upper end of lever 9 a slotted cross-bar 10 is firmly held in place by means of set-screw 10^a. The extreme right end of bar 10 is held down by a counter weight 11, whereas the left end carries the female thread for the arm 12. The upper part of arm 12 is bent forward, and by means of screw-end 13 the relative vertical position can be adjusted in such a way that the highest point 14 of said bend will extend beyond the upper surface of the grill-work of a gas-table. When thus adjusted, the weight of a kettle or other vessel, placed on the gas-table, will impart a downward motion to arm 12. The pivotal point being at 8, the downward motion of arm 12 will raise the counter-weight 11 and also swing the lower end 15 of lever 9 to the right; thereby imparting through link 16 and crank 17 a rotary motion to the rotary-valve 18 and thus opening the canal 19 for the unobstructed flow of gas from the house-supply to the gas-burner. An upward motion of arm 12, such as caused by the dropping down of counter-weight 11, when the vessel is removed from point 14, would impel end 15 to the left, whereby a corresponding motion on lever 16 and crank 17 would force the rotary-valve 18 to rotate through an arc of 90 degrees, thus arresting the gas-supply through canal 19. It will be seen, that by proper adjustment of arm 12 a lesser rotary motion can be imparted to valve 18 and the flow of gas permanently and automatically controlled to any desired degree.

The plug 20 of gas-cock 1 has a rotation independent of the rotary-valve 18, so that, when shut off, no gas will flow even though a vessel may be placed on the gas-range and the rotary-valve thereby turned to the "open" position.

The lower part of plug 20 is threaded to receive the bearing gland 21 for the stem 22 of the rotary-valve 18.

A helical spring 24 between the projecting edge 25 of the gland 21 and the lower part of the gas-cock housing insures smooth motion and gas-tight connection between plug 20 and its housing.

In order to effect ignition of the gas, when issuing from the burner, there is a lighter 26 placed near the path of the escaping gases. This lighter 26 is fed independently by the house-supply through the metal tube 27 and is controlled by the by-pass valve 28, which latter, though forming an integral part with the gas-cock 1, is placed back sufficiently far, that interference with the independent supply to the lighter 26 is avoided.

Referring to some details of construction, it will be seen in Fig. I that the gas-cock 1 is not in alinement with the lighter 26 and its adjacent part. The reason for this will be clear when it is remembered that in the common types of burners a connecting pipe occupies the space in a straight line from the tip 5 to the burner proper.

The slot 29 permits lateral adjustments of cross-bar 10 to suit the various styles of grill-work in gas-tables.

Hook 30 on the upper end of lever 9 prevents a pivotal motion between bar 9 and lever 10 in case set-screw 10^a should accidently become loosened.

Handle 32 provides the usual means of operating plug 20.

The arrangement here shown embodies the preferred form of my apparatus, but I reserve to myself the right to make such minor changes in construction as will not materially affect the principle of my invention.

Having thus fully explained and illustrated my invention, it will be apparent that my objects have been accomplished.

I claim:

1. In a valve structure for gas burners the combination with a gas-cock housing, a gas burner and a gas-canal extending therebetween, of a U-shaped frame with one vertical leg attached to said gas-cock housing, the horizontal portion of said U-shaped frame extending from said gas-cock, below the center line of the gas-canal and in a direction laterally divergent therefrom, a fulcrum located in the upper extremity of the other leg of said U-shaped frame, and means pivoted in said fulcrum for regulating and controlling the flow of the gas through the gas-cock.

2. The combination of a gas-cock, a gas-canal extending therefrom, a U-shaped frame attached to said gas-cock by one leg, the horizontal portion of said frame diverging laterally from the vertical plane of said gas-canal, a lever pivoted in the other leg of said frame, a cross arm secured to the upper end of said lever, a counterweight on one end of said cross arm, a rod adjustably secured in the opposite end of said cross arm, said rod extending upwardly, then bending forward, and connections between said lever and said gas-cock.

3. A U-shaped frame, having one leg attached to a gas-cock, having its horizontal portion proceeding below the center line of the gas-canal and in a direction laterally divergent therefrom, a fulcrum at the extremity of the other leg, a vertical lever pivoted in said fulcrum, the upper end of said lever being provided with means receiving impulses for opening and closing the gas-cock, the lower end of the lever transmitting the impulses by means of a link and crank to a rotary-valve within said gas-cock, substantially as described.

4. In a valve structure for gas burners, the combination with a gas-cock and a gas burner of a vertical lever, slotted cross-arm secured to the upper end of said lever, a counterweight at one end of said cross-arm, a rod adjustably mounted in the opposite end of said cross-arm and connections between said lever and said gas-cock.

In testimony whereof I affix my signature.

CASWELL C. MATLOCK.