

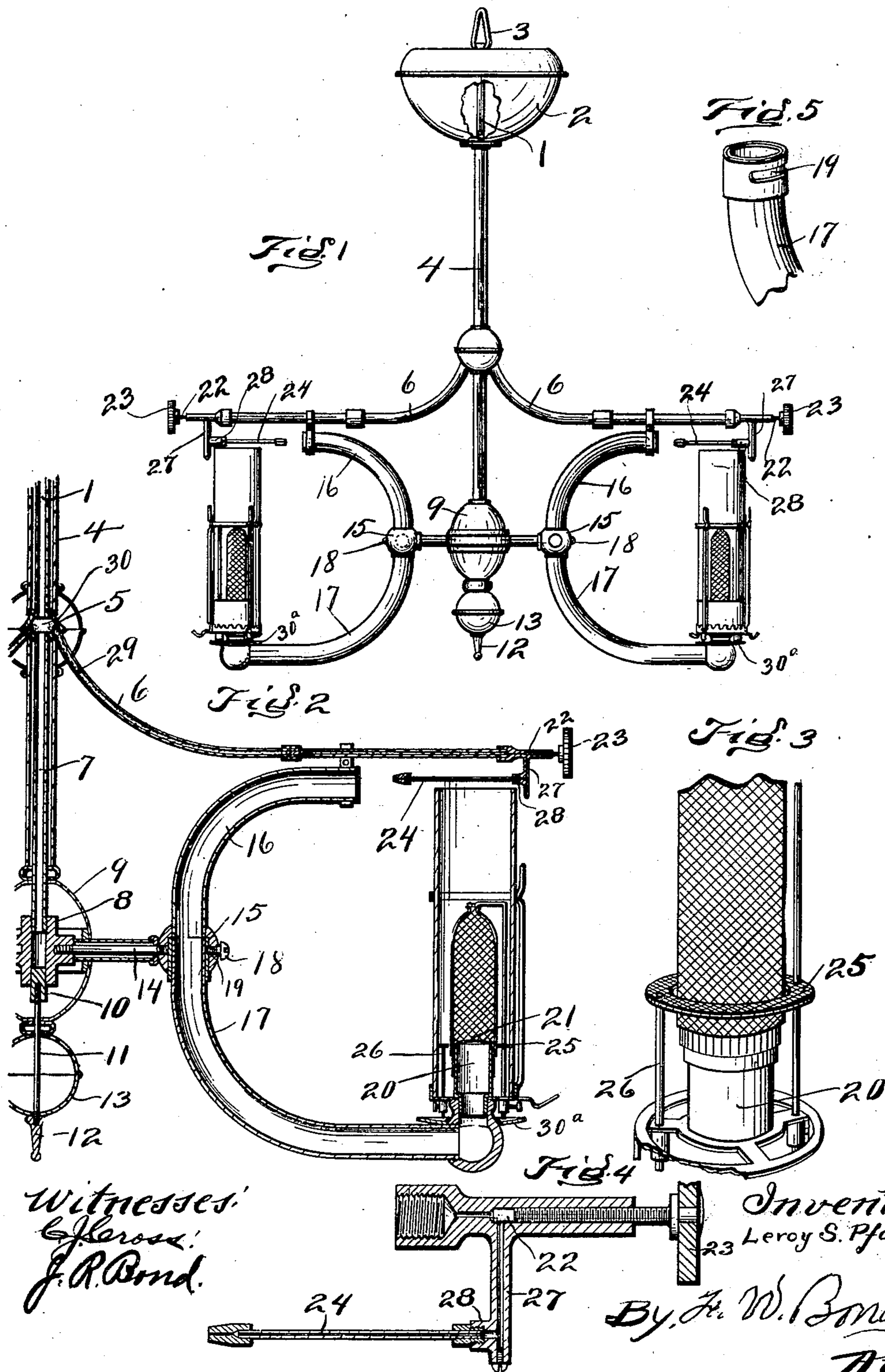
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Patented June 11, 1901.

L. S. PFOUTS.
INCANDESCENT VAPOR BURNER.

(Application filed Nov. 24, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

LEROY S. PFOUTS, OF CANTON, OHIO.

INCANDESCENT VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 676,405, dated June 11, 1901.

Application filed November 24, 1900. Serial No. 37,578. (No model.)

To all whom it may concern:

Be it known that I, LEROY S. PFOUTS, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Incandescent Vapor-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a side elevation showing the different parts properly assembled and the fount broken to illustrate the arrangement of the feed-pipe. Fig. 2 is a vertical section showing one burner and its different parts. Fig. 3 is an enlarged view of the burner, showing a portion of the mantle properly connected and also showing the match-receiving disk. Fig. 4 is an enlarged view of the valve and generating-tube. Fig. 5 is a view showing the top or upper end of the lower section of the mixing-tube.

The present invention has relation to incandescent vapor-burners; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the feed-pipe to which the fount 2 is connected, and for the purpose of providing a means for suspending the lamp or chandelier the feed-pipe 1 is continued upward through the fount, and at its top or upper end a link or hook, such as 3, is provided.

For the purpose of giving the lamp or chandelier a pleasing appearance the feed-pipe 1 is incased by the pipe or shell 4, which pipe or shell may be of any design.

To the bottom or lower end of the main feed-pipe 1 is connected the coupling 5, to which coupling are connected any desired number of branch feed-pipes, such as 6, it being understood that the branch feed-pipes 6 are to correspond in number with the num-

ber of burners designed to be attached to a lamp proper or chandelier.

To the coupling 5 is connected the sediment-pipe 7, which sediment-pipe extends downward, and to its bottom or lower end is connected the coupling 8, which coupling is so formed that it will provide a support for the various mixing-tubes designed to be employed.

For the purpose of giving a pleasing appearance to the lamp or chandelier the shell 9 is provided, which shell surrounds the coupling 8 and may be of any design, as its only object is to cover the coupling and give a pleasing appearance to the lamp or chandelier.

For the purpose of providing a means for removing the sediment that may accumulate from time to time the bottom or lower end of the coupling 8 is provided with screw-threaded plug 10, to which screw-threaded plug is connected the top or upper end of the rod 11, which rod is extended downward and its bottom or lower end screw-threaded, upon which is located the screw-threaded nut 12, said nut being for the purpose of clamping the members of the shell 9 together and at the same time holding the members of the shell 13 in proper relative position.

If desired, filling-rings or ornaments may be placed between the shells 9 and 13.

To the coupling 8 are attached any desired number of rods or bars, such as 14, which rods or bars are screw-threaded at their ends, the inner ends thereof being connected to the coupling and the outer ends thereof connected to the couplings 15.

To the couplings 15 are connected the sections 16 and 17 of the mixing-tube proper. The section 16 of the mixing-tube at its upper section is securely attached to the proper coupling 15 by means of screw-threads or in any other desired manner. The bottom or lower section 17 of the mixing-tube is loosely connected to the coupling 15, and for the purpose of holding said section 17 in proper relative position a set-screw, such as 18, is provided, and for the purpose of allowing the lower section 17 to be rotated or

turned horizontally the top or upper end of the section 17 is provided with the slot 19, said slot being located and arranged substantially as illustrated in Fig. 5. It will be understood that by providing the slot 19 the lower section will be held in proper position and at the same time allowing said section to be turned, carrying with it the burner and its different parts, so as to bring said burner from under the generating-tube.

To the lower end of the section 17 of the mixing-tube is connected the cylinder or head 20, which cylinder or head is of the ordinary construction and forms no particular part of the present invention within itself. The top or upper end of the cylinder or head 20 is provided with the ordinary gauze disk 21, which gauze disk is attached in the ordinary manner.

The outer ends of the branch feed-pipe 6 are each provided with the shut-off valves 22, which shut-off valves are provided with the ordinary operating-knobs 23.

For the purpose of allowing the fuel to find its way to the outer ends of the branch feed-pipe 6, or nearly so, I locate the shut-off valves 22 at the ends of said branch feed-pipe 6. The object and purpose of so locating the valves is to allow the fuel to find its way over the burner after the valves 22 have been closed and at the same time to prevent any great quantity of fuel finding its way to the generating-tube 24 after the cut-off valves have been closed, by which arrangement the light is instantly extinguished. It will be also understood that by locating the valves 22 as just above described I am able to have complete control of the fuel, thereby preventing any flooding or overflow, inasmuch as very little fuel is located between the valve and the tips of the generating-tube 24.

For the purpose hereinafter described I provide a ring 25, which ring is supported by means of the rod 26 or its equivalent and is located at a point practically horizontal with the gauze disk 21, but in practice may be a little below or above, but should be in close proximity with the gauze disk 21.

In use, when it is desired to light the burner the generating-tube 24 is heated by means of a match, after which the cut-off valve is opened, allowing the fuel to pass through the heated generating-tube 24, thereby generating gas and allowing the same to pass into the mixing-tube and find its way to the top or upper end of the head 20, after which the remaining portion of the lighted match used to heat the generating-tube is dropped onto the disk 25, by which arrangement the gas is ignited at the point where it escapes from the cylinder or head 20, by which arrangement no explosion takes place owing to the fact that the gas is ignited before it is allowed to accumulate or escape.

To the shut-off valve proper is connected the downward-extending tube 27, which down-

ward-extending tube is provided with the boss 28, which boss provides a means for detachably connecting the generating-tube 24, thereby providing a means for cleaning the generating-tube in case the same should become clogged from any cause.

For the purpose of preventing any sediment or foreign substance from entering the various branch feed-pipes the wicks 29 are extended into the chamber 30, which chamber is formed by spacing the feed-pipe 1 a short distance from the sediment-pipe 7.

For the purpose of preventing the ashes and unburned portions of matches from falling upon the floor or carpet the cup or shield 30^a is provided, which cup or shield is connected to the mixing-tube and is located directly under the burner proper and preferably at the bottom or lower end of the cylinder or head 20.

The ring 25 is formed of such a size that the mantle will be passed through said ring and connected to the burner in the ordinary manner. By this arrangement the mantle is in proper position with reference to the ring so that the gas will become ignited at the bottom or lower portion of the mantle, as above described. It will be understood that the mantle-rod is to be extended through the ring 25, as illustrated in the drawings; or, if desired, a notch may be cut in the periphery of the ring to allow for the mantle-rod, these matters being questions of judgment rather than those of invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an incandescent vapor-burner, a mixing-tube carrying a burner, a match-receptacle located at or near the upper end of the burner and upon the outside of the mantle; and a match-cup located below the match-receptacle and below the burner, substantially as and for the purpose specified.

2. The combination of a tank, a feed-pipe connected thereto, said feed-pipe provided with a chambered collar, a sediment-pipe connected to the chambered collar, a coupling connected to the bottom or lower end of the sediment-pipe, a supporting-arm connected to the coupling at the lower end of the sediment-pipe, and a plug located at the bottom of the sediment-pipe, and a collar connected to the supporting-rod and fixed to one member of the mixing-tube, and the other member of the mixing-tube pivotally connected to said collar, and a burner carried by the pivoted member of the mixing-tube, a branch pipe leading from the chambered collar and a vapor-generator at the end of such branch pipe arranged to deliver vapor into the upper end of the mixing-tube, substantially as and for the purpose specified.

3. The combination of a fount, a feed-pipe extending therefrom and continued over the burner, a mixing-tube carrying a burner, said

burner provided with a cylinder or head hav-
ing a gauze disk at its upper end, a flat ring
or disk located at or near the upper end of
the cylinder or head, and means for adjust-
5 ing the flat disk up or down parallel with the
cylinder or head, substantially as and for the
purpose specified.

In testimony that I claim the above I have
hereunto subscribed my name in the presence
of two witnesses.

LEROY S. PFOUTS.

Witnesses:

J. A. JEFFERS,
F. W. BOND.