

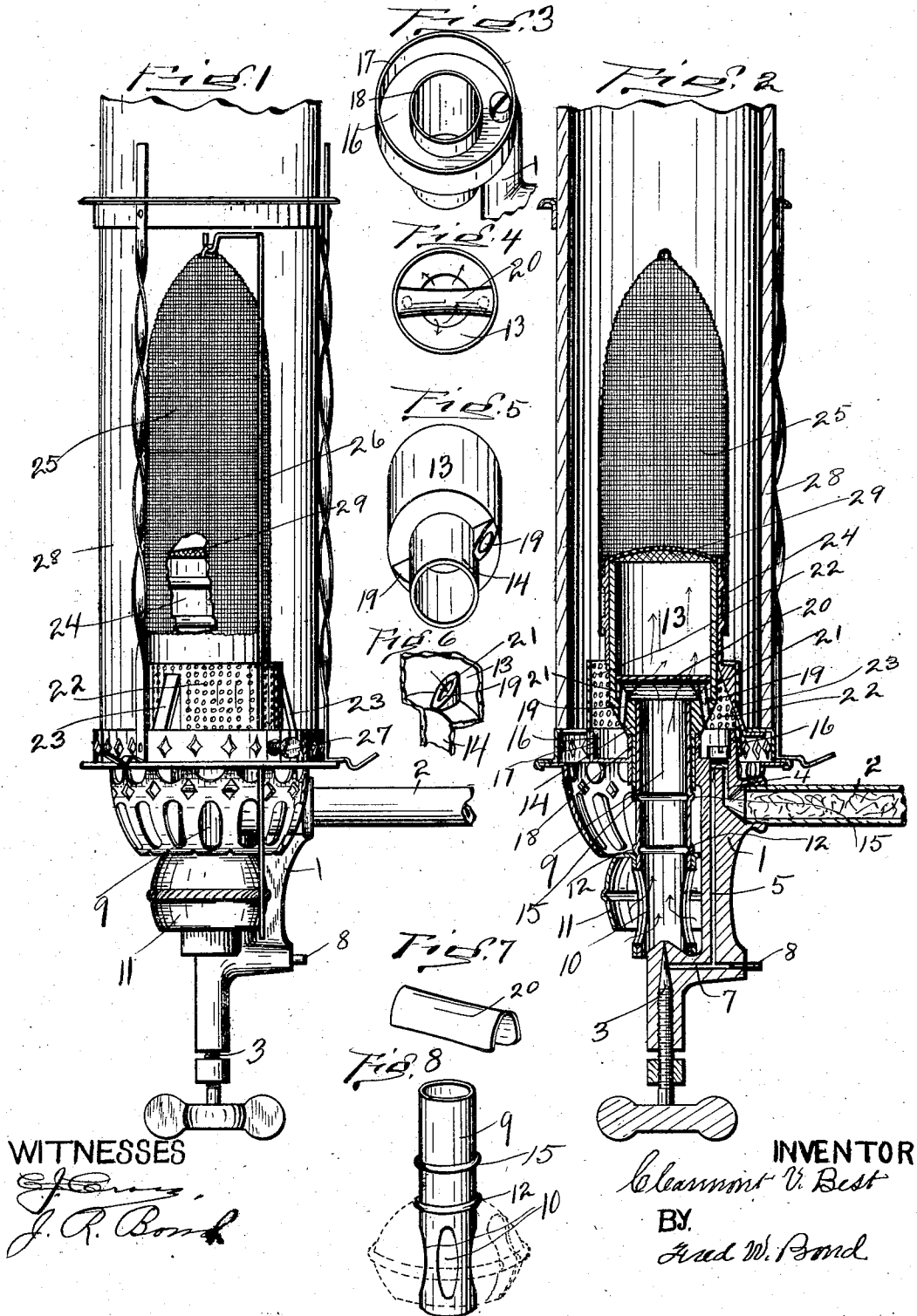
No. 615,010.

Patented Nov. 29, 1898.

C. V. BEST.
INCANDESCENT VAPOR BURNER.

(Application filed July 27, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

CLEARMONT V. BEST, OF CANTON, OHIO.

INCANDESCENT VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 615,010, dated November 29, 1898.

Application filed July 27, 1898. Serial No. 686,995. (No model.)

To all whom it may concern:

Be it known that I, CLEARMONT V. BEST, 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 parts broken away. Fig. 2 is a vertical section of the burner, showing the different parts properly connected. Fig. 3 is a top view of the support or base and heating-plate. Fig. 4 is a top view of the cylinder or head, showing the deflector properly located therein. Fig. 5 is a perspective view of the cylinder or head, showing the bottom or reduced portion thereof, also showing the location of the subjets. Fig. 6 is a view showing a portion of the cylinder or head and illustrating the inner or inlet end of the subjet. Fig. 7 is a detached view of the deflector. Fig. 8 is a detached view of the mixing-chamber, showing its shield located thereon, said shield being shown in dotted lines.

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 numbers of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the body, to which the feed-pipe 2 is attached in the ordinary manner, and may be supplied with the ordinary filtering material.

The regulating-needle 3 is located and arranged in the ordinary manner and is operated as usual.

The body 1 is provided with the up-passage 4 and the down-passage 5, which passages may be and preferably are located as shown in Fig. 2, and, as shown, the upper end is covered by the usual screw-cap, which cap is so located when properly adjusted that it will not interfere with the flow of the liquid. The down-passage 5 connects with the hori-

zontal inlet-passage 7, which horizontal passage is closed at its outer end by means of the plug 8, which plug is of the ordinary construction.

The mixing-tube 9 is substantially of the form shown in Fig. 8, and as shown it is provided with suitable air-passages 10, which may be of any desired shape and consist of any desired number. The mixing-tube 9 rests upon the body 1 at its bottom or lower end, which body forms a support for said mixing-tube. For the purpose of protecting the air-passages 10 and at the same time retarding the inflow of air the shield 11 is provided, which shield is also supported upon the body 1, as illustrated in Fig. 1.

For the purpose of forming a close joint at the top of the shield 11 the mixing-tube 9 is provided with the annular bead or swaged ring 12, which ring is located as shown in Figs. 2 and 8.

The cylinder or head 13 is substantially of the form shown in Fig. 5, and when placed in proper position it is located substantially as shown in Figs. 1 and 2. The cylinder or head 13 is provided with the reduced portion or tube 14, which reduced portion or tube is provided with an inner diameter of about the same size as the outer diameter of the mixing-tube 9, said reduced portion or tube 14 being located, when placed in proper position, upon the upper end of the mixing-chamber 9, the bottom or lower end of said reduced portion coming in contact with the bead or swaged ring 15, as illustrated in Fig. 2, thereby providing a close joint at the bottom or lower end of the reduced portion 14.

The body 1 is provided with the heating-plate 16, which heating-plate is preferably formed integral with the body 1, and, as shown, it is provided with the flanges 17 and 18. The heating-plate 16 is located a short distance below the bottom or lower end of the cylinder or head 13.

The bottom or lower portion of the cylinder or head 13 is provided with the subjets 19, which subjets may be located as illustrated, or they may be differently located, as their only object is to provide an escape for gas, which object can be accomplished without any special reference to the exact location or angularity of the subjets, as it will be un-

derstood that the same objects hereinafter described can be accomplished without any reference to the angularity of the subjects.

In the bottom or lower portion of the cylinder or head 13 is located the deflector 20, which consists in a convex-concave plate formed of a length to correspond with the length of the inner diameter of the cylinder or head 13.

In Fig. 6 the inner diameter of the cylinder or head 13 is shown provided with the lugs 21, it being understood that there are to be two lugs, one diametrically opposite the other, which lugs are for the purpose of holding the deflector-plate 20 in proper position with reference to the subjects 19.

For the purpose of protecting the subjects 19 the perforated band 22 is provided, which perforated band is located substantially as shown in the drawings and is supported in proper position by means of the bars 23, which bars are connected at their bottom or lower ends to the chimney band or support 23 and at their top or upper ends to the supporting-cap 24, which supporting-cap holds the bottom or lower end of the mantle 25 in proper position, the top or upper end of said mantle being supported by the ordinary rod 26, which rod is connected in the usual manner by means of the set-screw 27.

In use the heating-plate 16 may be brought to the proper head by the use of an alcohol-lamp or its equivalent applied at the bottom of the lamp or lower portion thereof, after which the liquid is turned on in the usual manner and a light applied at the top of the chimney 28.

It will be understood that by the formation of gas in the mixing-tube it will go upward and strike the deflecting-plate 20, which causes a portion of the gas to escape through the subjects 19. The balance, passing the deflector-plate, passes upward through the cylinder or head and the gauze cap 29, so that the gas is properly distributed to produce perfect combustion.

By providing the deflector-plate and locating the same as shown a portion of the gas

will be consumed at the subjects. The largest portion, entering the cylinder or head, finds its way through the screen-cap into the mantle. The part consumed at the subjects heats the air between the chimney and the mantle, thereby producing a greater incandescence.

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

1. The combination of a body provided with a supply-pipe, passages leading from the supply-pipe to the lower portion of the mixing-tube, a mixing-tube provided with air-passages, a cylinder-head located directly above the mixing-tube and provided with a deflector, subjects located below the deflector and leading from under the deflector to the outside of the mixing-tube, substantially as and for the purpose specified.

2. In an incandescent vapor-burner, the combination of a body, a mixing-tube, and means for conveying fuel thereto, a cylinder or head located directly above the mixing-tube and provided with a deflecting-plate, subjects opening into the cylinder-head below the deflecting-plate, a perforated screen or band located around the subjects, and a heating-plate located below the subjects, substantially as and for the purpose specified.

3. The combination of a body and a supply-pipe, a mixing tube provided with air passages, and the beads 12 and 15, the shield 11 located around the mixing-tube, the cylinder or head 13 provided with the reduced portion 14, subjects located at the bottom or lower portion of the cylinder 13, and a deflector located in the lower portion of the cylinder and covering the inner openings of the subjects, 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.

CLEARMONT V. BEST.

Witnesses:
F. W. BOND
J. R. BOND.