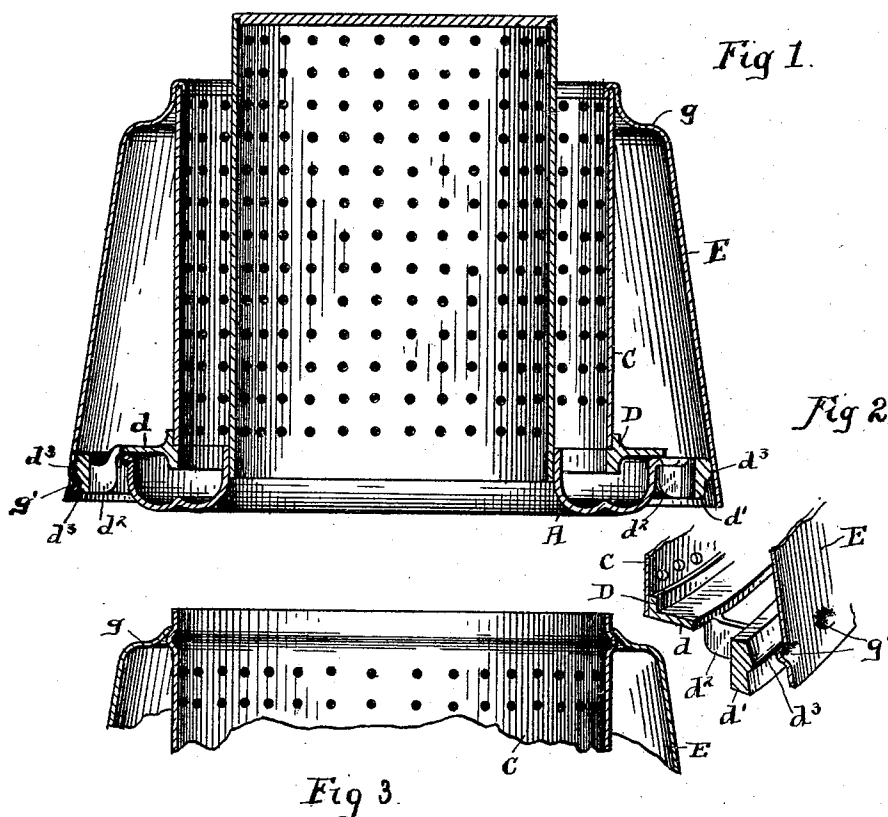


(No Model.)

J. A. LANNERT, W. R. JEAUVONS & W. H. WILDER.
OIL AND VAPOR BURNER.

No. 479,747.

Patented July 26, 1892.



ATTEST.
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OIL AND VAPOR BURNER.

SPECIFICATION forming part of Letters Patent No. 479,747, dated July 26, 1892.

Application filed March 26, 1892. Serial No. 426,471. (No model.)

To all whom it may concern:

Be it known that we, JOHN A. LANNERT and WILLIAM R. JEAVONS, residing at Cleveland, county of Cuyahoga, and State of Ohio, and WILLIAM H. WILDER, residing at Florence, in the county of Hampshire, State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Oil and Vapor Burners; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in the class of oil or vapor burners represented in patent to Thissell and Wilder, No. 464,627, dated December 8, 1891; and the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical central section of our improved burner, showing one form or manner of connecting the hood at its upper and lower portions. Fig. 2 is a perspective view of a fragment of the supporting-frame immediately over the burner-bowl and a sectional portion of the hood, this view showing particularly the connection of the hood and said frame or base. Fig. 3 is a central sectional view of the upper part of the outer combustion-tube and the upper part of the hood and showing a modified construction of said parts where they are connected. Fig. 4 is a perspective view of a fragment of a modified form of supporting-frame immediately over the burner-bowl and a fragment of the outer tube and the hood and showing a modification of the connection between the hood and said frame. Fig. 5 is a perspective view of the same parts shown in Fig. 4, with still a further modification of the connections between the frame and the hood.

Referring to the several parts in Figs. 1 and 2, A represents the vapor-bowl, and D the frame above and about said bowl, substantially as shown. This base or frame D has an inner overhanging portion d , which partly covers the burner-bowl, and an outer ring portion d' , connected to the part d by webs d^2 at intervals. The outer combustion-tube C is

seated upon the inner portion of the frame B, and a hood E extends from the ring d' to the top of said tube C.

It is necessary in the class of burners to which this burner appertains that the outer tube be held firmly upon its seat against lateral or vertical movement, and it is also necessary that the upper part of the tube be protected against distortion by heat and from accident or other disturbance or injury incident to handling or use of the burner. To these ends protection is given to the said tube by means of the hood E, which, it will be observed, is provided with a shouldered strengthening portion g near its top and turned around its upper edge, so as to hook over and engage upon the upper end of the said tube C. At its bottom the said hood is formed with a series of substantially oval projections on its inside, produced by forming dents in the metal from the outside, said projections g' engaging an annular bead d^3 about the outside of the band or rim d' . The construction of the said bead and the oval projections are shown more clearly in Fig. 2. The said projections g' engage beneath the bead d^3 and prevent the said hood from being drawn upward, it being of course understood that the said hood is sprung over the ring d' , so that the said projections g' hold firmly beneath the bead d^3 . By thus uniting or connecting the hood and band and hooking the hood over the top tube C the hood is not only firmly secured in place, but also the tube C, and the said parts form together a rigid structure.

It will be understood, since this is an improvement on the patent above referred to, that the burner-bowl and the inner tube are movable up and down in respect to the other parts of the burner, so that initial starting may be effected as described in said patent and is well understood in this character of burners.

In Fig. 3 we show a modification of the connection between the outer tube and the hood. In this case the outer tube C has a bead formed about its top and the upper part of the hood is made to engage over this bead. Still other and different methods of connecting the hood and tube may be adopted without departing

from the spirit of the invention, it only being necessary in any case to have such connection between these parts that the hood will serve to firmly support the tube upon its seat and from
 5 injury and displacement, while the tube serves as a means of engagement and support for the top of the hood.

In Fig. 4 we show a modification of the frame or base D. In this instance the outer
 10 band d' is omitted, and the said frame is provided with projections or arms d^4 , and the hood is formed with holes to match the ends of said projections, so that the hood can be
 15 sprung over the projections and held firmly thereon, substantially after the manner and to the same effect as shown in Fig. 1. In this instance the projections d^4 take the place of the webs d^2 in Fig. 1.

In Fig. 5 we have still another modification
 20 of the manner of connecting the frame D and the hood. Here the arms d^4 are preferably rounded at their extremities and an annular groove is struck up in the hood which engages the said arms.

25 It is obvious from the foregoing description and the several views shown that still further changes in the connections between the several parts might be made and still remain within the scope and spirit of the invention.

30 Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A vapor-burner having combustion-tubes and a hood fixed firmly at its lower end and

connected with the top of the outer of said 35 tubes and holding it upon its seat, substantially as described.

2. A vapor-burner having combustion-tubes, a base for supporting the outer of said tubes, and a hood connecting the said base and the 40 said outer tube, substantially as described.

3. A vapor-burner provided with concentric combustion-tubes and a vapor-bowl, a base for supporting the outer of said tubes, and a hood locked on the said base and the top por- 45 tion of the outer combustion-tube, substantially as described.

4. In a vapor-burner constructed substantially as described, the base and the outer tube seated thereon, and a hood bent inward 50 at its top and engaging the said tube and locked on the said base at its lower portion, substantially as described.

5. In a vapor-burner of the kind described, the base for supporting the outer tube having 55 a projection about its outside, the hood constructed to engage on the said projection and to hook over the top of the outer tube, and the said outer tube, substantially as described.

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