

Sept. 17, 1940.

P. M. FORSTER

2,215,176

BURNER HEAD

Filed March 2, 1940

Fig. 1.

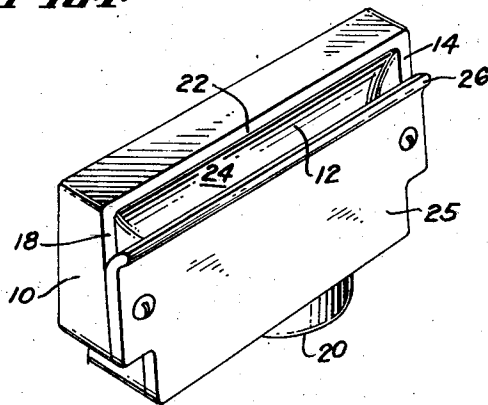


Fig. 3.

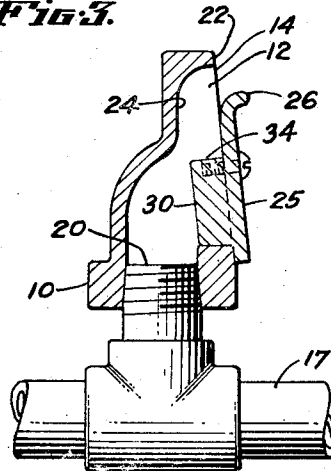


Fig. 2.

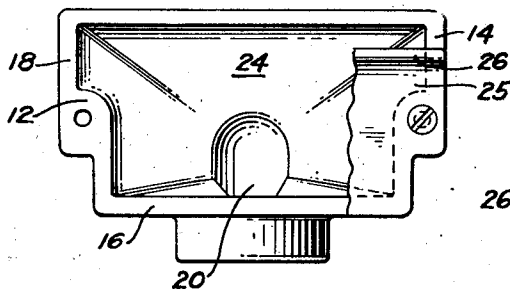


Fig. 5.

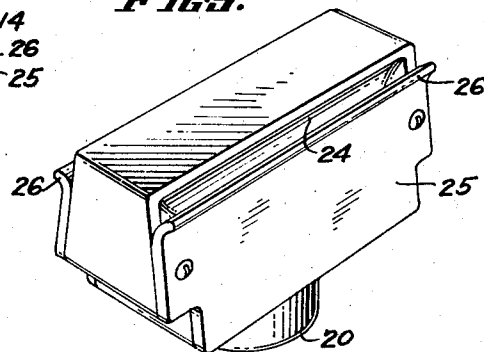


Fig. 4.

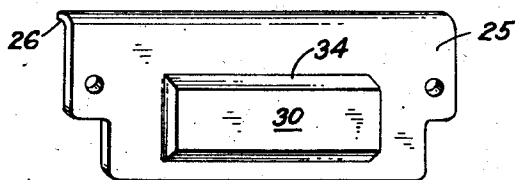


Fig. 7.

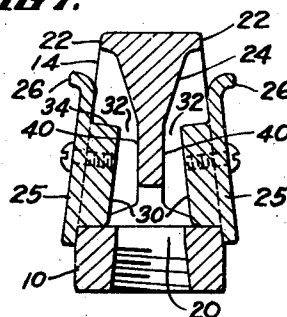
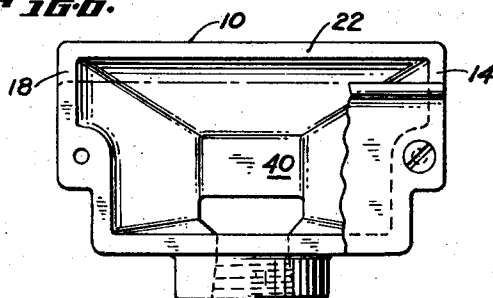


Fig. 6.



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2,215,176

BURNER HEAD

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Application March 2, 1940, Serial No. 321,861

4 Claims. (Cl. 158—116)

My invention relates to improvements in burner heads.

The object of my invention is to provide a flat, long orificed burner head with means to distribute the gas from a circular inlet pipe substantially evenly along said orifice by the time it reaches there; to provide an inner distribution throat for the gas before it even reaches the burner orifice; to provide an adjustable inner throat means; to provide a burner which will produce a wide spread flame and a flame that never leaves the burner head; to provide a burner head capable of use in pairs or in larger numbers along a manifold; and to provide a burner in which the parts are readily accessible for cleaning and original manufacture.

My invention has other objects and advantages which will become apparent from a study of the device as set forth in the drawing and specification. It is not intended that the invention be limited to the identical structure shown, except as required by the claims.

Referring to the drawing:

Fig. I is a view in perspective of the single orifice type;

Fig. II is a view in front elevation of the same structure with a part of the closure member broken away;

Fig. III is a side view in vertical cross-section showing the unit mounted on a manifold;

Fig. IV is a view in perspective of the closure member showing one of the throat forming members;

Fig. V is a view in perspective of the double orifice type;

Fig. VI is a view like Fig. II of the double orifice type; and

Fig. VII is a side view in vertical cross-section showing the double orifice type.

Referring now to the single unit type burner head shown in Figs. 1 to 3, I show one form of the invention for a burner head comprising a hollow body member 10, having an open front face at 12, bordered by substantially flat surfaces 14, 16 and 18. An inlet 20 is located adjacent the lower face 16 by means of which gas is introduced into the burner head from a manifold 17. Longitudinally extending lip 22 may be formed diametrically opposite inlet 20. Depending from it is the flaring wall 24 which extends downwardly adjacent inlet 20.

A closure member 25 is fitted to the three sides 14, 16 and 18 of the open face 12 and has a longitudinally extending lip 26 complementary to lip

22 on body member 10. The space between those lips is calculated to give an opening, to pass the volume of gas capable of entering through the circular inlet 20.

In order not to have to rely on the narrow opening formed by the lips 22 and 26 to distribute the gas evenly therealong, I provide a throat forming member 30 preferably supported in the hollow body member 10 on the closure member 24 so that it is easily accessible for changing its contour in securing the proper distribution of the gases entering at 20. It is placed opposite the flaring wall 24 and with it forms an inner elongated throat in the region of the numeral 32 spaced inwardly from the orifice formed by lips 22 and 26. In this way the gases flowing through the burner head are spread substantially evenly by said inner throat 32 before they reach the orifice of the burner. The upper ledge 34 of the throat forming member 30 provides an expanded chamber below the burner orifice so that the gases after passing through the inner throat at 32 may be subjected to further turbulence which effects an evening of their distribution.

In Figs. V to VII I show a double burner head employing substantially the same principle as the one just described. The same reference numerals are applied where possible. In this construction, (see Fig. VII) the gases entering through the inlet 20 are divided by the wall 40 so that substantially an equal portion of them passes through the twin outlets.

The burner of my invention possesses many advantages, including that of providing an even distribution of the gases from the burner head. This even distribution also assists in preventing the flame from leaving the burner mouth 22, 26, regardless of the pressure and velocity of the gas.

What I claim is:

1. A burner head comprising a hollow body member having an open front face, an inlet located adjacent one edge of said face, a longitudinally extending lip forming the edge of said face diametrically opposite to said inlet, and a flaring wall extending from adjacent said inlet to said lip; a closure member fitted to said open face on three sides and having a longitudinally extending lip complementary to the one of said body member and spaced therefrom to form a narrow outlet orifice for said hollow body; and a throat forming member supported in said hollow body member on the closure member side thereof in a position complementary to said flaring wall to form an inner elongated throat

spaced inwardly from said outlet orifice whereby the gases flowing through said burner are spread substantially evenly by said inner throat before reaching the orifice of said burner.

- 5 2. A burner head comprising a hollow body member having a pair of oppositely disposed open faces, an inlet located below said faces, longitudinally extending lips forming the edge of said faces diametrically opposite to said inlet, 10 and a partition disposed between said open faces, and having flaring walls extending from adjacent said inlet to each of said lips; a closure member fitted to each of said open faces on three sides and having a longitudinally extending lip 15 complementary to the one on said body member and spaced therefrom to form a narrow outlet orifice for said hollow body; and a throat forming member supported on each side of said hollow body member on the closure member in a 20 position complementary to said flaring wall to form an inner elongated throat spaced inwardly from said outlet orifice whereby the gases flowing through each side of said burner are spread substantially evenly by said inner throats before 25 reaching the two orifices of said burner.

3. A burner head comprising a hollow body member having an open side face, a substantially circular inlet located adjacent one edge of said face, a longitudinally extending lip forming 30 the edge of said face diametrically opposite to said inlet, and a flaring wall extending from adjacent said inlet to said lip; a closure member fitted to said open face on three sides and having

a longitudinally extending lip complementary to the one of said body member and spaced therefrom to form a narrow outlet orifice for said hollow body; and a throat forming member supported in said hollow body member on the closure 5 member side thereof in a position complementary to said flaring wall to form an inner elongated throat spaced inwardly from said outlet orifice whereby the gases flowing through said burner are spread substantially evenly by said inner 10 throat before reaching the orifice of said burner.

4. A burner head comprising a hollow body member having an open face on each side, an inlet located adjacent one edge of said faces, a 15 longitudinally extending lip forming the edge of said faces diametrically opposite to said inlet, and a flaring wall extending from adjacent said inlet to each of said lips; a closure member fitted on three sides to each of said open faces, and having a longitudinally extending lip complementary 20 to the one on said body member and spaced therefrom to form narrow outlet orifices for said hollow body; and throat forming members supported in said hollow body member on the closure 25 member side thereof in a position complementary to said flaring wall to form inner elongated throats spaced inwardly from said outlet orifices, whereby the gases flowing through said burner are spread substantially evenly by said inner 30 throats before reaching the orifices of said burner.

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