Aug. 5, 1941. A. P. LIVAR 2,251,711

ROUND BURNER HEAD

Filed Aug. 24, 1938

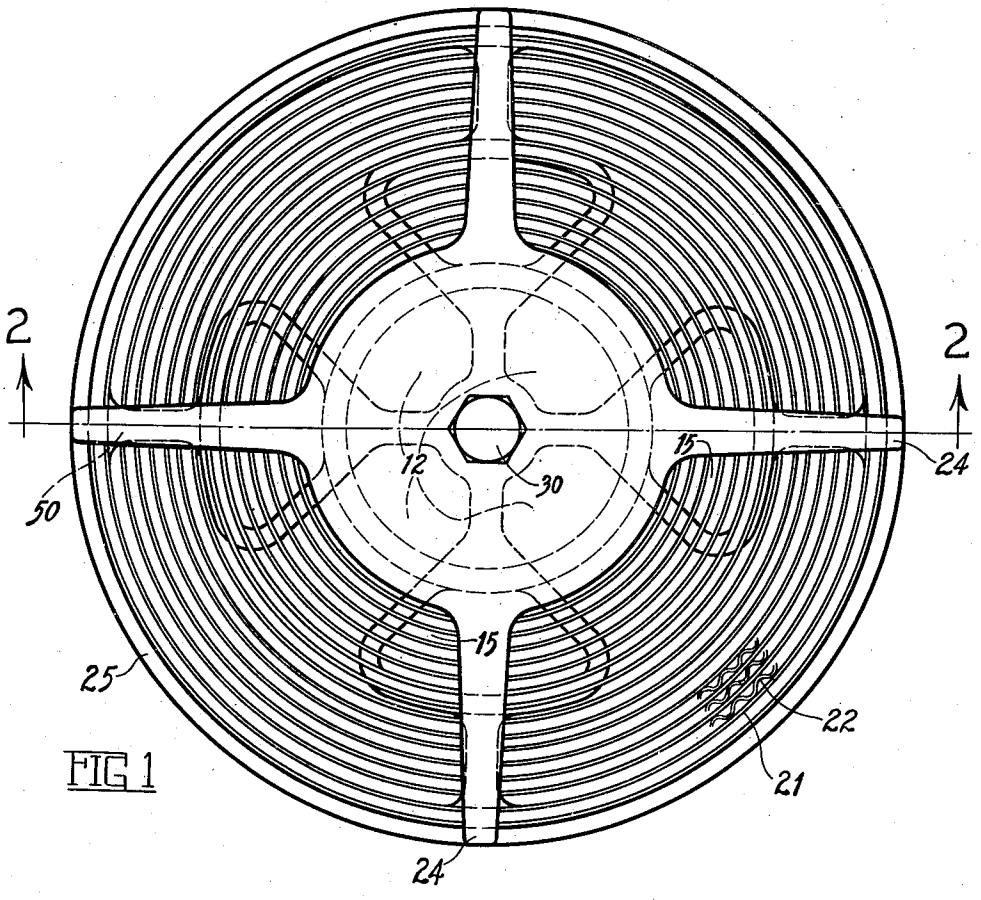


FIG 1

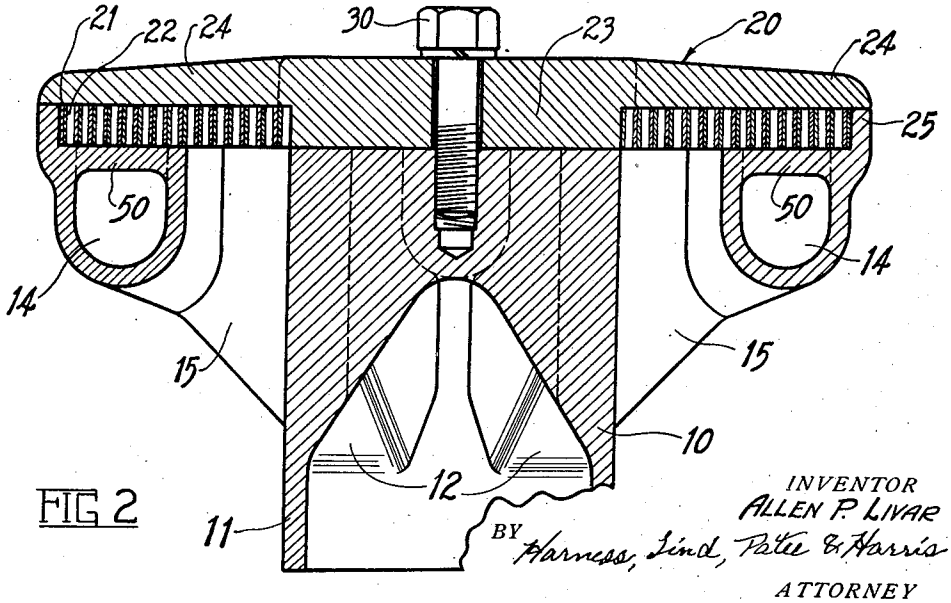


FIG 2

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ROUND BURNER HEAD

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Application August 24, 1938, Serial No. 226,405

1 Claim. (Cl. 158—116)

This invention relates to an improvement in gas burner heads comprising a modification of the gas burner head disclosed and claimed in my co-pending application, Serial No. 226,404, filed concurrently herewith, the particular improvement having to do with the application of the principles of gas burning set forth in the aforesaid application to a burner head which will be more compact than the type shown in the aforesaid application.

The object of the present invention is to devise a burner which may be easily manufactured and which requires but a few easily manufactured parts, this burner to be easily adaptable to use with various types of gases at present on the market.

The objects and advantages of the invention will be readily apparent from the following description taken in connection with the accompanying drawing wherein like numerals refer to like parts throughout.

In the drawing, Fig. 1 is a plan view of a preferred form of the present invention; and,

Fig. 2 is a vertical section taken along line 2—2 of Fig. 1.

In Figs. 1 and 2 there is disclosed a burner head 10 having a depending flange 11 which is adapted to fit the end of an inspirator tube and to form therewith the inlet for a mixture of gas and primary air, as is usual practice in gas burning. The head 10 comprises a central space from which radiate trough-like passages 12 through which the gas mixture is conducted to a continuous circumferential trough 14. The troughs 12 preferably taper outwardly and the continuous trough 14 preferably tapers outwardly from the junctions with the troughs 12. The walls between the troughs 12 and the inner wall of trough 14 form the walls of secondary air passages 15 leading through the burner head in order that secondary air may be conducted to proximity with the burning gases adjacent the center of the burner head. The lips of the troughs 12 and the trough 14 terminate in a common plane in order that a foraminous burner plate 20 may rest upon the surface of the burner head. The burner plate 20 is preferably a metallic mat formed by spirally winding an alternate plain strip 21 and corrugated strip 22 about the central core 23 of a strip-supporting member comprising the core 23 and radial arms 24. The outer convolution formed by the combined plain and corrugated strips is confined by an upwardly extending flange 25 on the burner head 10. As seen in Fig. 1, the convolutions of the plain strip 21 are spaced by the corrugations of the corrugated strip 22 whereby to form a series of small jet orifices extending vertically with respect to the surface of the burner head. The corrugations preferably have such small radii that the average diameter of the orifices so formed is at least several times less than the length of the orifices, in order that flash-back or puffing may be prevented. The gas escapes from the troughs 12 and 14 through the orifices formed by the spiral windings and burns above the surface of the windings. The secondary air which is conducted through the passages 15 passes through the orifices located above the passages 15 due to the inspirating effect of the burning gas. The burner plate may be fastened to the burner head by means of a bolt 30 passing through the plate and into a threaded opening in the center of the burner head. A plurality of integral bridges 50 are preferably provided across the trough 14 in order to provide intermediate supporting members for the pack of strips.

Having described a preferred form of the invention it should be apparent to those skilled in the art that modifications in arrangement and detail thereof may be devised without departing from the spirit of the invention. All such modifications as come within the scope of the following claim are considered to be a part of my invention.

I claim:

A gaseous fuel burner comprising a head having a fuel inlet and communicating troughs for conducting a fuel mixture, said troughs having lips lying in a common plane and the walls of said troughs forming a plurality of passages through said head for conducting secondary air, a burner plate resting on said lips and covering said troughs and said passages and comprising a transversely corrugated strip of thin metal and a contiguous plain strip of thin metal, said strips being spirally wound to form a foraminous mat having orifices for said mixture and orifices for said secondary air, and means to locate said burner plate on said burner head comprising a spider having a core upon which said strips are wound and radially extended arms loosely engaging the outer edges of said strips.

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