United States Patent

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[54] **GAS BURNER**
2 Claims, 5 Drawing Figs.

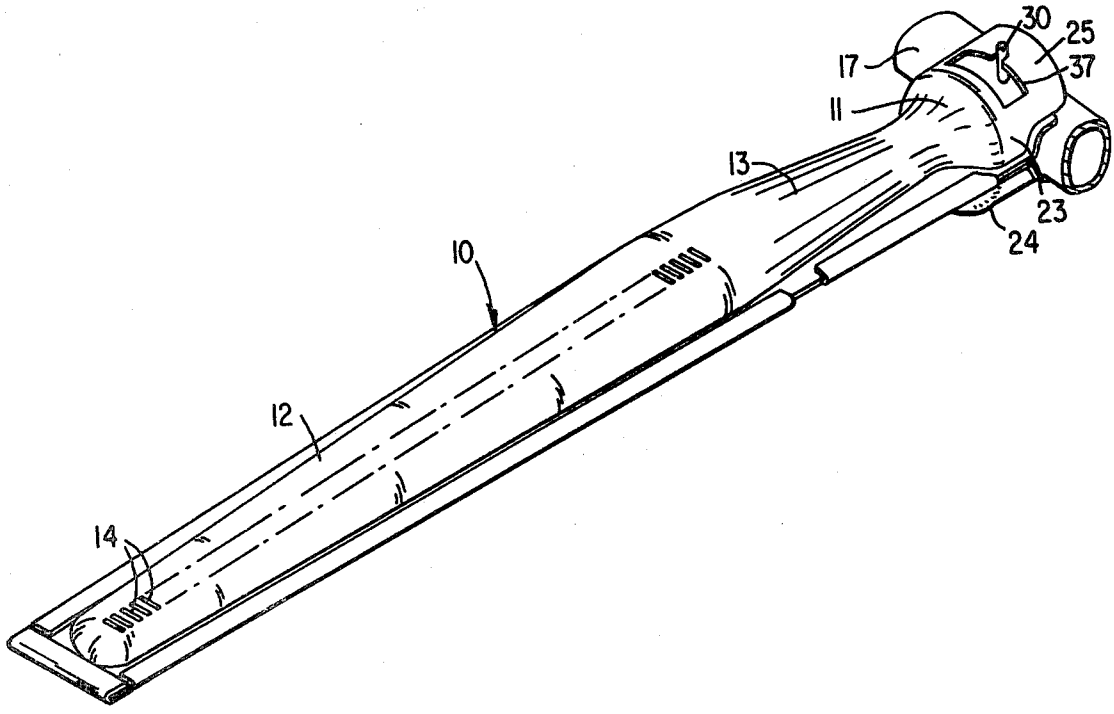
[52] U.S. Cl. **239/600,** 239/566
[51] Int. Cl. **B05b 1/20,** B05b 1/00
[50] Field of Search 239/266, 267, 566, 568, 600; 285/197; 431/154, 354, 355

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ABSTRACT: The open intake end of the gas burner body is contoured for arcuate abutting engagement of not more than 180° with the supply manifold. A pin extends upwardly from the manifold into a slot formed in the upper side of the burner end and extending in a direction transversely of the manifold. The pin and slot, in conjunction with the arcuate engagement, provide the sole means to position and maintain the burner in accurate registration with the manifold orifice. Upon partial rotation of the burner about the manifold, it may be manually removed from the manifold.



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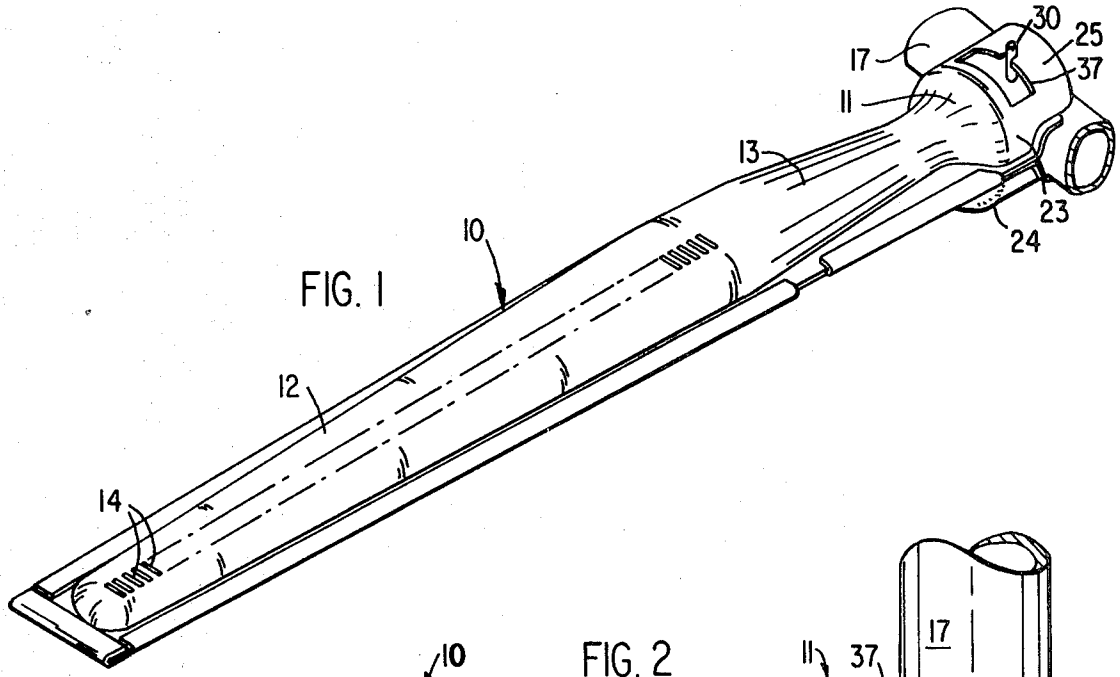


FIG. 1

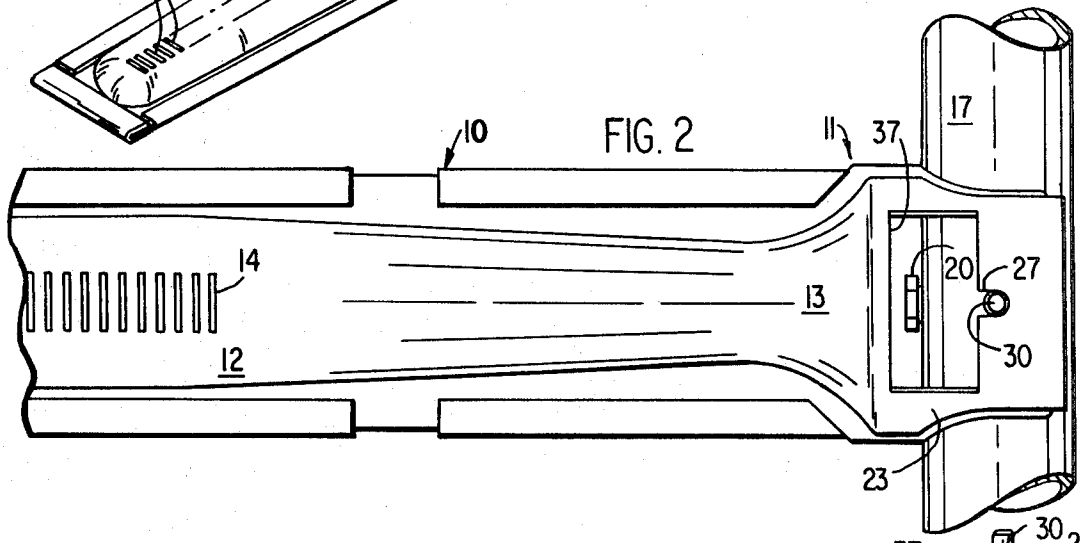


FIG. 2

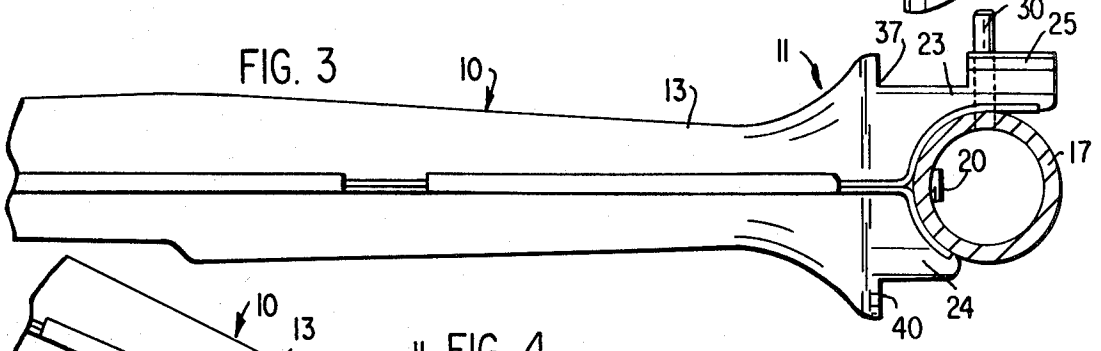


FIG. 3

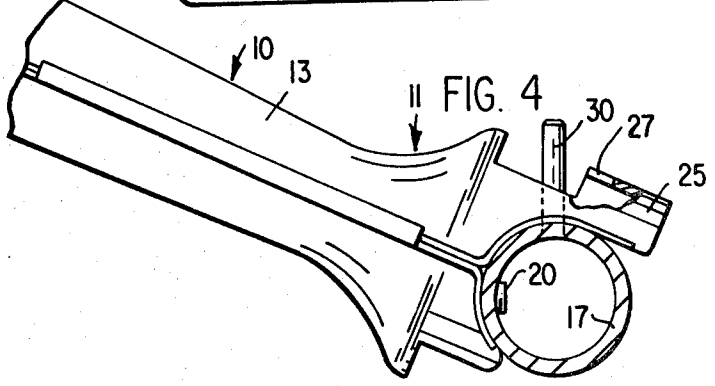


FIG. 4

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GAS BURNER

BACKGROUND OF THE INVENTION

Conventionally burner bodies are supported at least in part by supporting members built into the appliances in which the burners are mounted. There have been instances in which burners have been mounted on and supported by the gas-supplying manifold. However, in such cases the burners have been attached to the manifold by screws or other fastening means requiring the use of tools to mount and remove the burners from the manifolds.

SUMMARY OF THE INVENTION

This invention has as an object a particularly simple structure economical to manufacture and by which a burner body is quickly and conveniently attached to a gas supply manifold and removed therefrom by manual manipulation only, without the use of tools or fastening means. Due to the structure embodied in the invention, the burner body is automatically located and maintained in exact registration with the orifice in the manifold.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in perspective of a burner structure embodying our invention;

FIG. 2 is an enlarged coplanar view of the upper right portion of the structure shown in FIG. 1;

FIG. 3 is a side elevational view with parts broken away of the showing in FIG. 2; and

FIG. 4 is a view similar to FIG. 3 with parts broken away showing the burner body rotated a about the manifold for manual removal therefrom.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The burner structure includes a body **10** having an open end portion **11** connected to an elongated main burner o portion **12** by a venturi section **13**. The upper surface of the main section **12** is formed with a plurality of flame openings **14**.

A manifold **17** of cylindrical cross section is provided with an orifice **20** in the side wall thereof. The open end of the body is of concave form, on a radius comparable to the manifold, to provide arcuate abutting engagement with the peripheral surface of the manifold, see FIG. **3**. The burner body shown is in the form of a pair of mating sections formed of sheet metal. The open end portion **11** of the burner body includes an upper side portion **23** and a lower side portion **24**. These upper and lower side portions are formed to provide for the arcuate abutting engagement with the manifold **17**, this engagement does not exceed 180°. As shown, the upper portion **23** includes an area **25** extending tangentially from the upper surface of the manifold **17**.

The upper side portion **23** of the open end of the burner body is formed with a slot **27** located in alignment with the axis of the burner body, and serves receive a pin **30** fixed to the manifold and extending upwardly from the upper surface thereof. The slot **27** is formed so, upon engagement of the outer end of the slot with the pin **30**, the burner is disposed horizontally from the manifold, and is held in abutting engagement therewith as shown in FIG. **3**. The slot **27** extends in a direction transversely of the manifold and is of sufficient

length to permit the manifold be rotated in a clockwise direction about the manifold from the position shown in FIG. **3** to the position shown in FIG. **4**. Upon movement of the burner to the position shown in FIG. **4**, the burner body may be moved radially outwardly from the manifold for separation therefrom.

The upper and lower portions **23, 24** of the burner end portion **11** are formed with openings for the admission of primary air into the burner. The upper side **23** of the end portion is formed with a rectangular opening **37** of substantial dimension and the lower portion **24** is formed with an opening **40**. The slot **27** communicates with the primary air opening **37** in the upper side **23** of the burner body and accordingly the opening **37** serves as an extension of the slot.

The burner body is mounted on the manifold by placing the open end of the burner body over the pin **30** with the burner body inclining upwardly from the manifold as shown in FIG. **4**. The burner body is then moved to a horizontal position, as shown in FIG. **3**, for engagement between the pin **30** and the outer end of the slot **27**. Accordingly, the pin and slot arrangement maintains the burner body **10** in horizontal position. It also serves to locate the burner axially on the manifold whereby the burner is located and is maintained in accurate registration with the orifice **20**. It will be observed that the burner body is attached to, and also removed from the manifold by simple manual manipulation, without the use of any tools or fastening members.

The structure described, in addition to providing the sole means for attaching the burner body to the manifold, also forms the sole means for supporting the burner body. Accordingly, the appliance in which the burner is used need not include any burner-supporting structure.

While we have described a preferred embodiment of the invention, it is to be understood the invention is not limited thereto since it may be otherwise embodied within the scope of the following claims.

We claim:

1. An atmospheric gas burner structure comprising a horizontally disposed gas supply manifold of circular cross section and having an orifice in the side wall, a horizontally disposed burner body having an open end portion abutting the manifold in registration with said orifice and extending radially from said manifold, said open end portion being of concave formation having arcuate engagement of not to exceed 180° with the peripheral surface of said manifold, said open end portion being formed with an opening for the admission of primary air to said burner body, the upper side of said end portion being formed with an elongated pin receiving slot extending in a direction axially of said burner and transversely of said manifold, a pin fixed to said manifold and extending upwardly from the upper surface thereof through said slot in engagement with one end thereof, said pin and slot in conjunction with said arcuate abutting engagement between the burner body and said manifold forming the sole means for locating and maintaining said burner body in registration with said orifice, all whereby upon rotation of said burner body about the axis of said manifold to move the opposite end of said slot toward said pin, said burner body is removable from said manifold by manual manipulation.

2. A burner structure as set forth in claim **1** wherein said primary air opening is formed in the upper side of said burner body end portion and said slot extends in communication with said opening.