

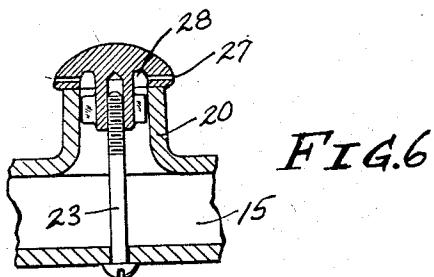
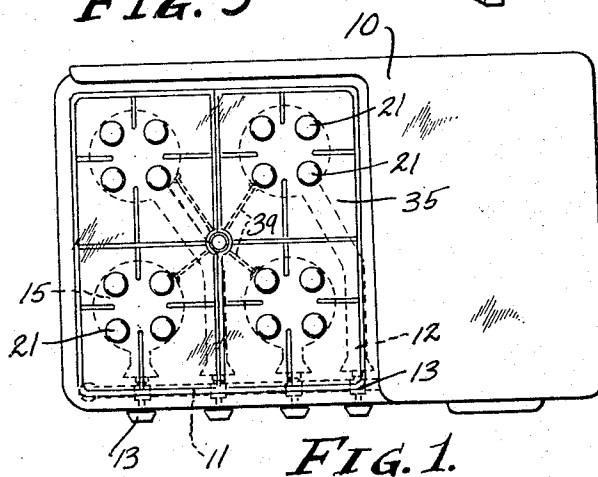
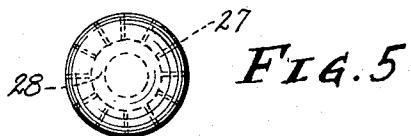
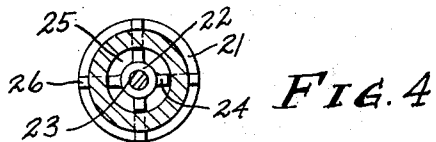
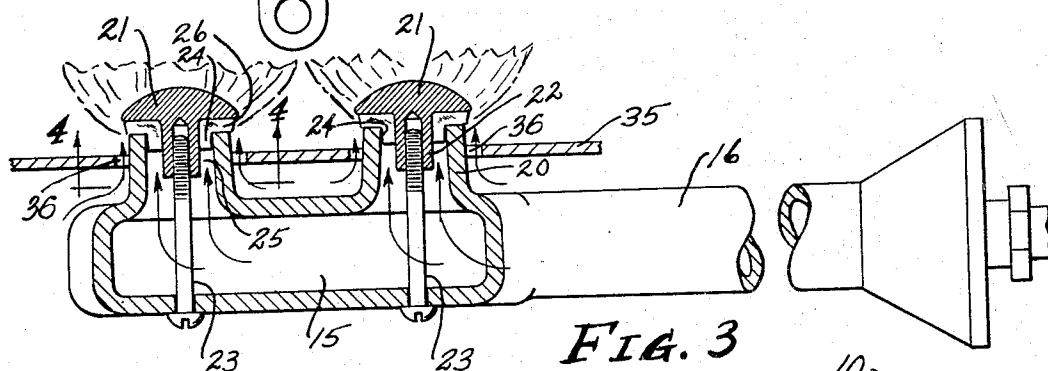
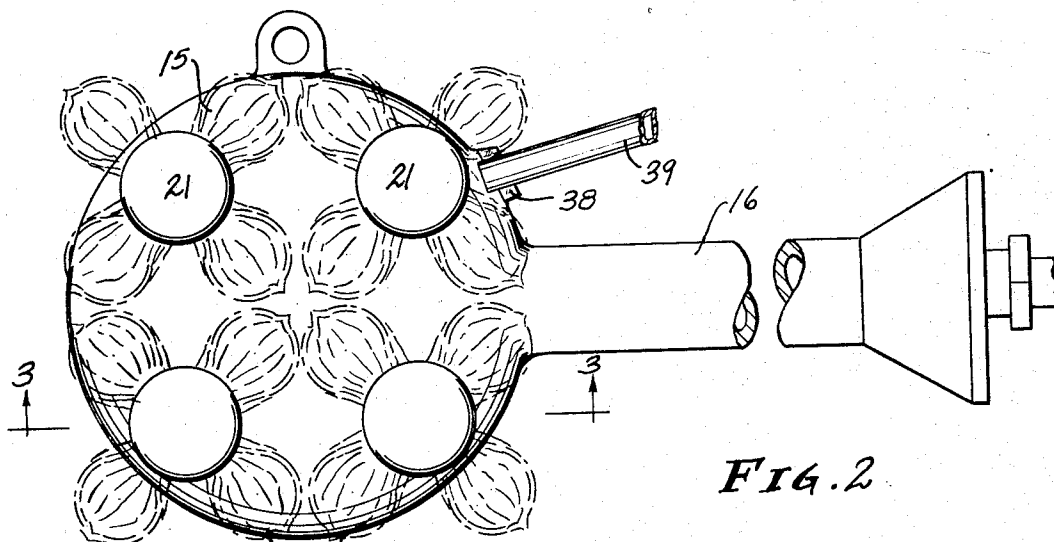
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A. H. TINNEMAN

2,087,416

BURNER

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BURNER

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2 Claims. (Cl. 158—104)

This invention relates to gas burners, and particularly to those, which are used in gas ranges. Heretofore, the usual construction of the gas burner has included a hollow casting in which the gas outlets have been arranged along the top in geometrical pattern. As the openings have been small, they have been clogged easily, whenever the contents of a vessel have been spilled upon them. Furthermore, the construction did not permit the necessary supply of secondary air to support combustion, and so it has been necessary to space the burner from the top surface of the stove at an objectionably great distance to insure proper combustion. This has resulted in an inefficient burner.

A further objection to the present type of burner construction is the fact that the flame is not distributed uniformly over the entire bottom of the kettle. A uniform distribution however, is most desirable, for it results in the highest degree of operating efficiency.

An object of my invention is to make a burner, which distributes the flame uniformly, and yet, which can be placed much closer to the top of the stove than any burner heretofore devised, and of which I am aware. In addition, my invention contemplates a burner, which does not utilize small upwardly extending openings that are apt to be clogged easily.

A further object of my invention is to make a burner in which the secondary air may be readily supplied, notwithstanding the fact that a shield plate may be disposed horizontally in the burner box, and directly beneath the gas outlets, wherefore the burner supply conduits may be entirely concealed from view.

Referring now to the drawing, Fig. 1 is a top plan view of a gas range having burners thereon, which embody my invention; Fig. 2 is a top plan view of the burner removed from the stove and shown on an enlarged scale; Fig. 3 is a section taken on a line 3—3 in Fig. 2; Fig. 4 is a section taken on the line 4—4 in Fig. 3; Fig. 5 is a top plan view of a spreader having a modified construction, and Fig. 6 is a section through part of the burner having the spreader shown in Fig. 5.

My invention is illustrated in connection with a gas range 10, which has cooking burners disposed therein in the conventional arrangement. To this end, a fuel supply manifold is indicated at 11, from which fuel conduits 12 extend to the various burners, while a valve 13 is used for controlling the fuel in each conduit.

The burners are all alike, and so the description will be confined only to one of them. Each

comprises a hollow body 15, which has a mixing tube 16 formed integrally therewith, and which is shaped in the usual manner to receive an air admitting rotary valve. The body has preferably a plurality of hollow upwardly extending conduits, or towers 20, all of which terminate in substantially the same horizontal plane. Preferably each such projection is tapered inwardly so as to make a frustro-conical form, the upper end of which is open.

A spreader or cap 21 is carried by each projection and comprises a dome-shaped member that has a shank 22, which is adapted to be inserted into the projection and to be fastened in place, as by a screw 23. The shank has a plurality of radially extending fins 24, which engage the inner wall of the projection and function to center the spreader with reference to the projection, and at the same time to provide a gas passageway 25 between the shank and the projection. The spreader also has radially extending fins 26 on the underside thereof, which may be disposed in the same planes as the fins 24. The fins 26 engage the top surface projection and thus provide a passageway which extends laterally and substantially entirely around the periphery of the spreader. Thus, the resulting flame from each spreader has substantially a four-leafed clover form.

I have illustrated each burner, as having four spreaders, which are arranged at the corners of a square, and which project upwardly from the burner body. In this way, the flame is substantially a solid sheet, which is distributed uniformly over the burner, and hence, it is apparent that my burner accomplishes a marked advance over the usual type of burner construction. To induce a flow of secondary air, I utilize a shield 35, which is in the form of a flat plate, that is supported within the burner box and intermediate the spreaders and the burner body. To this end, the plate has openings 36, through which the projections on the burners extend, wherefore, the burner bodies and their associated supply conduits are entirely concealed from view. There is adequate clearance between the projections and the walls of the openings to admit sufficient secondary air at the desired locations.

In Fig. 6, I have shown a modification of my invention wherein the spreader rests directly upon the top of the projection, and is provided with gas passageways 27, which extend laterally from an annular groove 28. This construction provides a flame pattern, which is inverted frustro-conical in form, but the resulting combination of

all of the spreaders of the modified form insures a uniform distribution of flame, similar to that which is produced by the form illustrated in Fig. 3.

5 To facilitate ignition of the various burners, I provide a central pilot tube which remains ignited at all times. The pilot tube is enclosed by a casing from which gas passageways 38 lead to the respective burners. Each burner is provided with
10 means such as lugs 38 to which the passageways may be fastened. Thus, the opening of any burner valve will allow the unburned gases to reach the pilot chamber and thereby ignite the burner.

15 I claim:—

1. In a multiple head gas burner, a hollow body adapted to receive primary air and gas, a plurality of conduits on the body arranged substantially about a common center for receiving
20 the air and gas mixture said conduits including burner heads provided with horizontal openings adapted to direct the respective flames radially therefrom, a plate arranged on said conduits and

below the burner heads, said plate being imperforate but provided with openings through which the conduits project to provide restricted ports to supply independent streams of secondary air to the associated burner heads from below the
5 burner plate for effective and complete combustion, said imperforate portion of the plate serving as a secondary air baffle.

2. In a multiple head gas burner, a hollow body adapted to receive primary air and gas, a plurality of conduits on the body arranged substantially about a common center for receiving the
10 air and gas mixture, said conduits including burner heads provided with horizontal openings adapted to direct the respective flames radially therefrom, an imperforate plate through which
15 said conduits project arranged below the burner heads, said plate being provided with means adjacent the respective conduits to supply secondary air from below the said plate for effective and
20 complete combustion, said imperforate portion of the plate serving as a secondary air baffle.

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