

No. 647,222.

H. A. DEITERS.  
GAS BURNER.

Patented Apr. 10, 1900.

(Application filed Dec. 14, 1899.)

(No Model.)

Fig. 1.

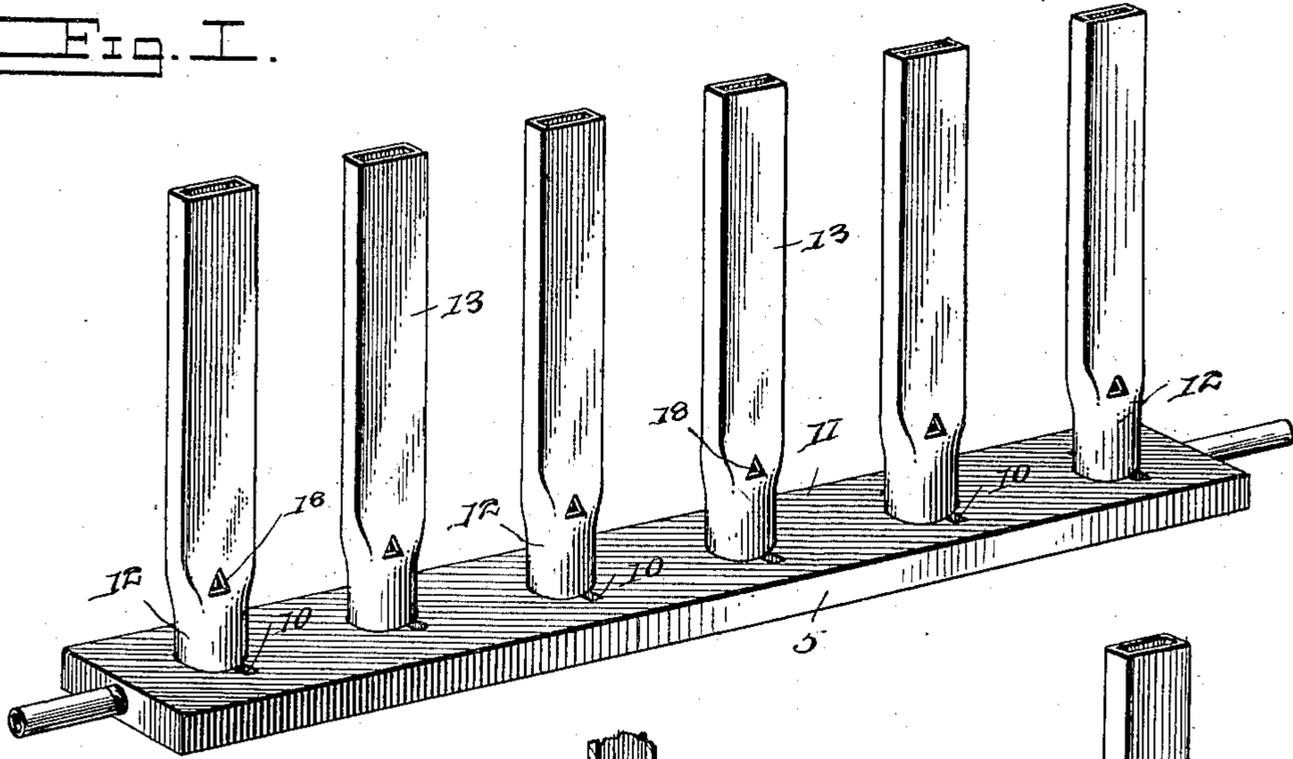


Fig. 3.

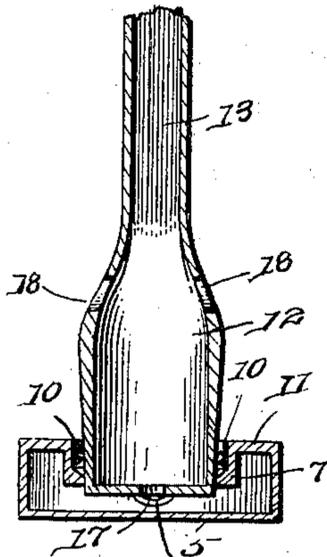


Fig. 4.

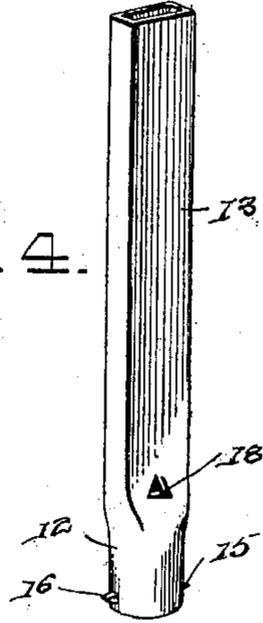
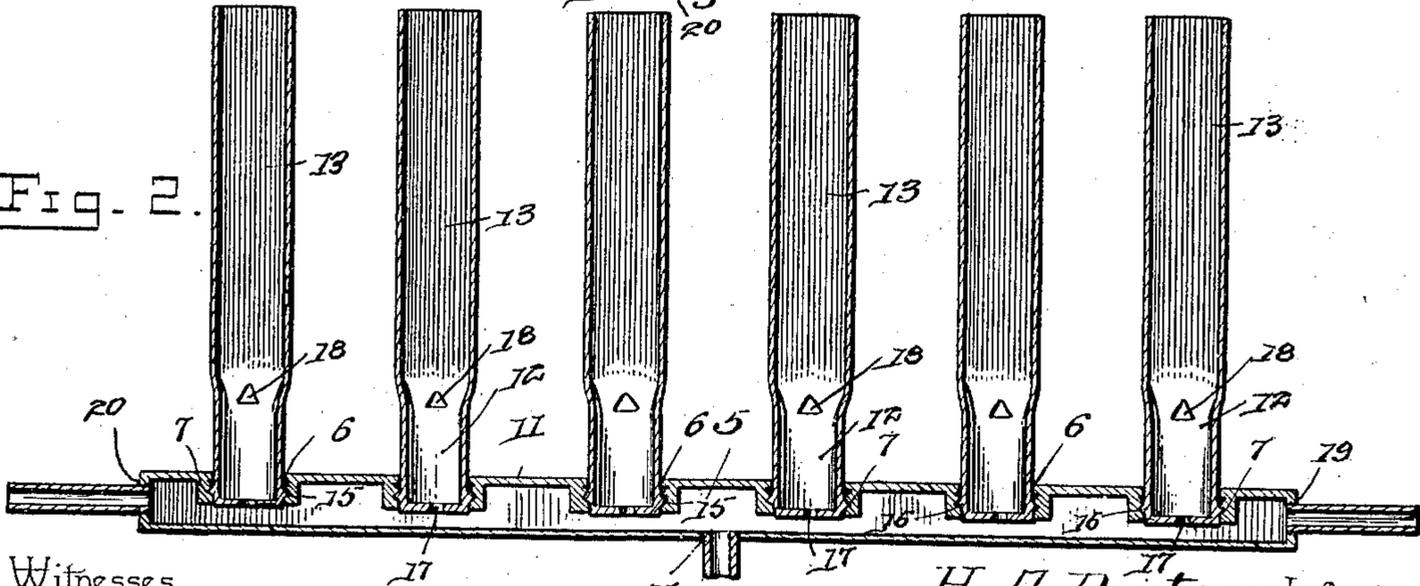


Fig. 2.



Witnesses  
F. C. Alden.

By F. W. S. Attorneys.

H. A. Deiters Inventor

Geo. H. Chandler.

Chandler & Co.

# UNITED STATES PATENT OFFICE.

HARRY A. DEITERS, OF SPENCER, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO OTTO BARTH, OF SAME PLACE.

## GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 647,222, dated April 10, 1900.

Application filed December 14, 1899. Serial No. 740,316. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY A. DEITERS, a citizen of the United States, residing at Spencer, in the county of Roane and State of West Virginia, have invented a new and useful Gas-Burner, of which the following is a specification.

This invention relates to gas-burners in general, and more particularly to that class employed in connection with natural gas, although it is also well adapted for burning other gases, one object of the invention being to provide a structure which will be cheap and in which no carbonizing will take place, and a further object being to permit the introduction of the gas to the base at any desired point and to facilitate the application and removal of the individual burners.

In the drawings forming a portion of this invention and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is a perspective view showing the complete burner. Fig. 2 is a central vertical section taken longitudinally of the base of the burner. Fig. 3 is a detail section taken transversely of the base and centrally of one of the burner-tubes, the upper portion of the burner-tube being broken away. Fig. 4 is a detail perspective view of one of the individual burners.

Referring now to the drawings, the burner of the present invention comprises a rectangular base 5, which is made, preferably, of cast-iron and in the upper side of which are formed perforations 6, having depending flanges 7 at their edges, these flanges being interiorly threaded, as shown in Fig. 3 of the drawings. The threads of the flanges reach only part way downwardly thereof, and communicating with the threads are radial slots 10, which are formed in the upper side or top of the base.

A burner-tube is provided for each of the perforations 6, and each of these burner-tubes consists of a cylindrical lower portion 12 and a cross-sectionally rectangular upper portion 13, the lower portion being of sufficient diameter for its lower extremity to fit snugly in the flange 7.

Upon the outer face of the lower portion of each burner are formed lugs 15 and 16 at diametrically-opposite points, and which lugs are adapted to pass through the radial slots 10, after which the burner-tube may be rotated to engage the lugs with the threads of the flanges 7. As the burner-tube is rotated with the lugs in engagement with the flanges the tube is drawn downwardly into the perforation and into the inclosure of the flange, and the lower portion of the burner-tube is slightly tapered, so that a tight joint is secured between the tapered portion of the burner-tube and the inner periphery of the lower portion of the flange, which is unthreaded.

As shown in Figs. 2 and 3 of the drawings, the lower end of each burner-tube is closed, except for a small central perforation 17, through which the gas from the hollow base 5 may pass into the burner-tube and out of the upper end thereof.

The upper portion of each tube is rectangular in cross-section, as above mentioned, the section being oblong, and in the broader sides of the upper portion of the burner and at diametrically-opposite points are formed triangular openings 18, the apex of each opening being disposed upwardly, as shown in Fig. 4. These openings 18 permit the entrance of air to the burner-tube, and thus insure complete combustion of the gases, so that a blue flame issues from the top of the burner-tube and carbonizing is prevented.

Openings 19 and 20 are formed at the ends of the base 5, and a third opening 21 is formed through the bottom, and with these openings are connected pipes, any one of which may be connected with a supply of gas, while the rest are closed.

It will be seen that with the present structure both the base and the burner-tubes may be made of cast metal, so that the cost of the structure will be little, also that when desired any one or more of the burner-tubes may be removed and their perforations in the base closed with suitable plugs, and also that any injured or broken parts may be renewed with a minimum of expense and labor. Further-

more, by providing each of the burner-tubes with an air-inlet a sufficient quantity of air may be mixed with the gas to secure complete combustion, and thus as the result there will  
5 be no carbonizing.

It will of course be understood that in practice the base may be made to accommodate any desired number of burner-tubes and that any suitable proportions may be observed to  
10 secure the best results.

What is claimed is—

1. A gas-burner comprising a hollow base provided with perforations, interiorly-threaded flanges upon the inner side of the base adjacent the perforations, slots in the base leading to the perforations, and a burner-tube for each perforation adapted to fit into the inclosure of the flange of its respective perforation, each of said tubes having oppositely-  
20 disposed lugs adapted to pass through the slots and engage the threads of the flanges, whereby the burner-tubes may be drawn into the inclosures of their respective flanges, means for supplying gas to the base, and

means for supplying air to each of the burner-tubes. 25

2. A gas-burner comprising a hollow base provided with perforations, interiorly-threaded flanges upon the inner side of the base adjacent the perforations, slots in the base leading to the perforations, and a burner-tube for each perforation, each of said tubes having its lower end tapered and provided with a closed bottom provided with a central perforation and having oppositely-disposed lugs adapted to pass through slots and engage the threads of the flanges, whereby the burner-tube may be drawn tightly to its seat, means for supplying gas to the base, and means for supplying air to each of said burner-tubes. 30  
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In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARRY A. DEITERS.

Witnesses:

C. F. DULING,  
W. L. STARKEY.