J. R. FLICK.

GAS BURNER ATTACHMENT.

APPLICATION FILED APR. 8, 1920.

1,395,404. Patented Nov. 1, 1921.

Fig. 1.

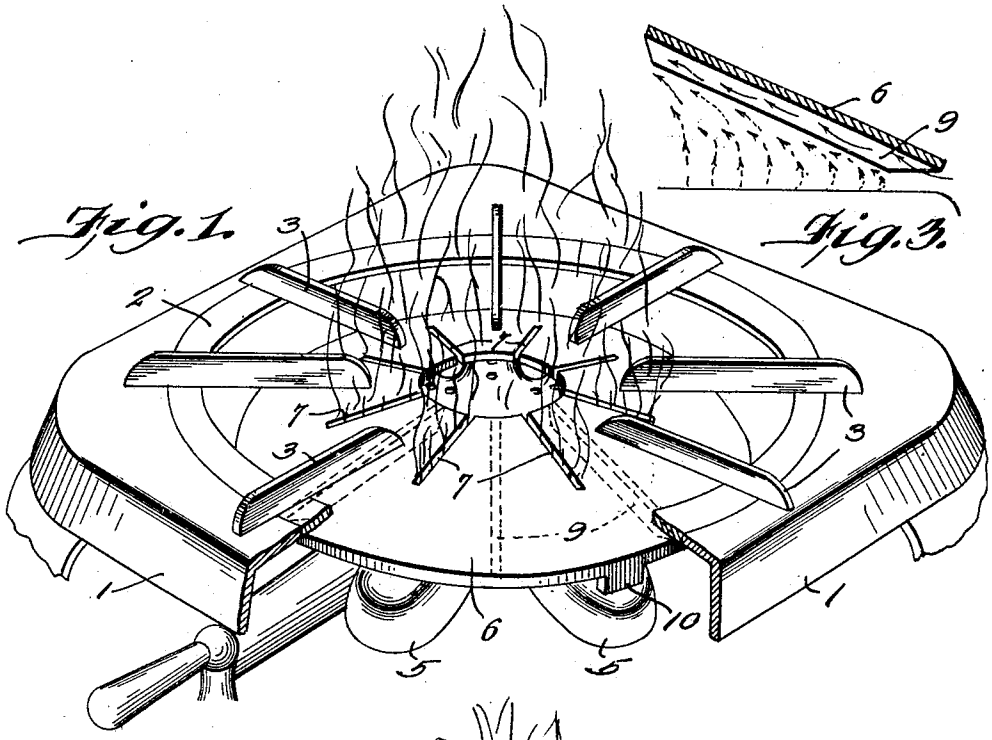
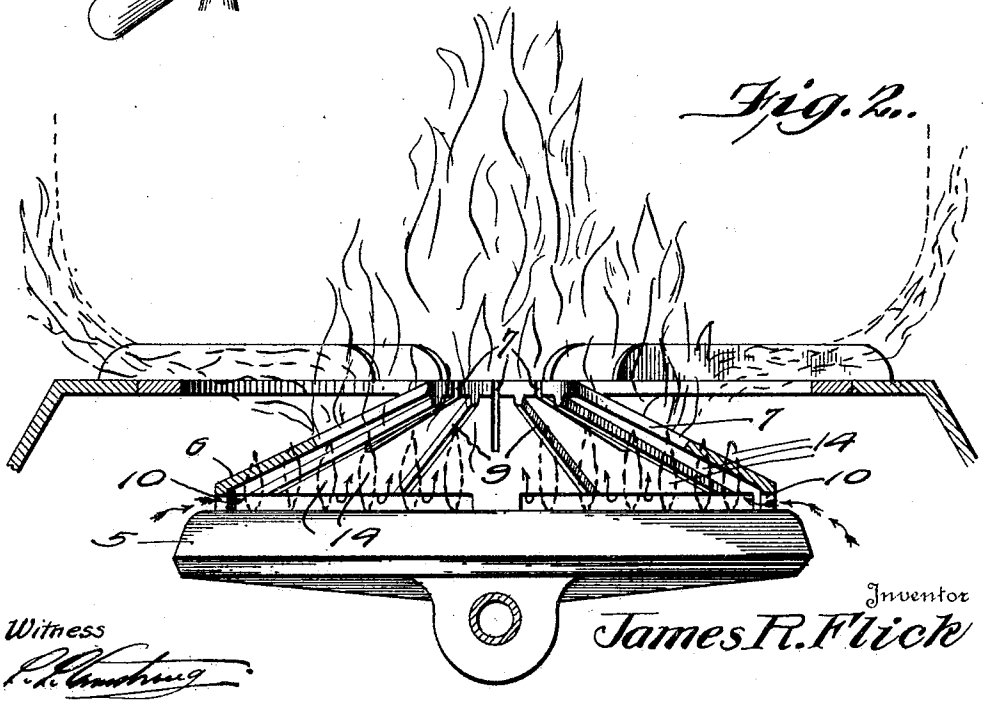


Fig. 3.

Fig. 2.



Witness

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UNITED STATES PATENT OFFICE.

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GAS-BURNER ATTACHMENT.

1,395,404. Specification of Letters Patent. Patented Nov. 1, 1921.

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To all whom it may concern:

Be it known that I, JAMES R. FLICK, a citizen of the United States, residing at Vineland, in the county of Cumberland and State of New Jersey, have invented certain new and useful Improvements in Gas-Burner Attachments, of which the following is a specification.

This invention relates to attachments for the burners of gas stoves and its object is to increase the amount of air which is mixed with the gas and to provide for a more thorough mixture, thereby causing a more perfect combustion and an increase in the amount of heat generated.

In the following description of my invention, I shall refer to the accompanying drawings, in which Figure 1 is a perspective view of a gas stove burner with an attachment embodying my invention in position thereon, the stove being partly broken away; Fig. 2 is a central vertical sectional view of the same; and Fig. 3 is a fragmentary detail view of a portion of the attachment.

The frame 1 of the stove having the separable ring 2 with the grid arms 3 projecting inwardly over the burner opening, is of the usual construction. Likewise the burner 5 may be of any usual construction, since my attachment is adapted to be used with all known forms.

My attachment 6 is preferably a cast iron shell and is frusto-conical, the base being about the same in diameter as the burner and the apex being somewhat smaller than the central opening of the stove grid. A plurality of equally spaced slots 7 extend radially from the central opening to about half the distance from the apex to the base. Between the slots I provide depending ribs 9 which depend only a short distance below the inner conical surface and extend from the base to the apex. The spaces between the ribs constitute shallow mixing channels which converge upwardly toward the central apex opening, the slots 7 being centrally disposed between the ribs. The shell is preferably provided with feet 10 which rest upon the burner and raise the marginal rim of the base slightly above the burner.

I have indicated in Fig. 2 in dotted lines at 14 the normal flames of a gas burner. When my attachment is placed over the burner, a strong draft is created which draws the air up from below and the suction causes the air to be drawn inwardly around the base of the shell, this air being guided and directed upwardly in the shallow channels between the ribs where it mixes with the unconsumed and partially consumed monoxid gas rising from the burner. A portion of this combustible gaseous mixture pours out through the slots 7 and a large portion is directed through the central opening. The flames mount high above the shell and burn with a clear blue flame indicating substantially perfect combustion. The flames issuing from the slots merge into central flame. It is important that the slots should enter the central opening and constitute lateral branches continuous therewith as any break or obstruction between the central flame and the lateral slots would interfere with the proper operation and efficiency of this attachment. This is especially noticeable when a cooking vessel is placed over the burner, as indicated in broken lines at 15. The shape and width of these lateral branches 7 may be changed, the essential feature being that they extend into or merge with the central opening. The central flame then spreads out over the entire bottom of the vessel and is directed in a uniform manner by the radial slots. As stated above, it is essential for the proper and efficient operation that these slots should enter the central opening and form lateral branches thereof.

It will be observed that the ribs 9 are narrow and substantially of uniform depth and extend parallel with the inner surface of the shell. They serve to direct the gases and streams of air upwardly and define shallow mixing channels which converge and thus enhance the tendency of the gaseous mixture to pass through the slots, yet they leave the space over the burner substantially unobstructed so that they do not interfere with the functioning of the burner, irrespective of its shape.

I have described in detail the particular construction illustrated in the accompanying drawings for the purpose of disclosing one embodiment of my invention but various changes and modifications can be made without departing from the invention.

I claim:—

1. An attachment for the burners of gas stoves, comprising a frusto-conical casing or shell provided with slots extending radially from a central opening, narrow radial ribs extending from the inner surface of the

shell and symmetrically arranged intermediate said slots to provide shallow converging channels, the inner edges of the ribs being substantially parallel with the inner surface of the shell.

2. An attachment adapted to be placed over the burners of gas stoves, comprising a frusto-conical casing or shell having a central opening and lateral branch openings extending radially therefrom, and narrow depending ribs symmetrically arranged between said lateral branch openings to divide the space adjacent the inner wall of the shell into shallow mixing channels while leaving the central space over the burner substantially unobstructed.

In testimony whereof I affix my signature.

JAMES R. FLICK.