

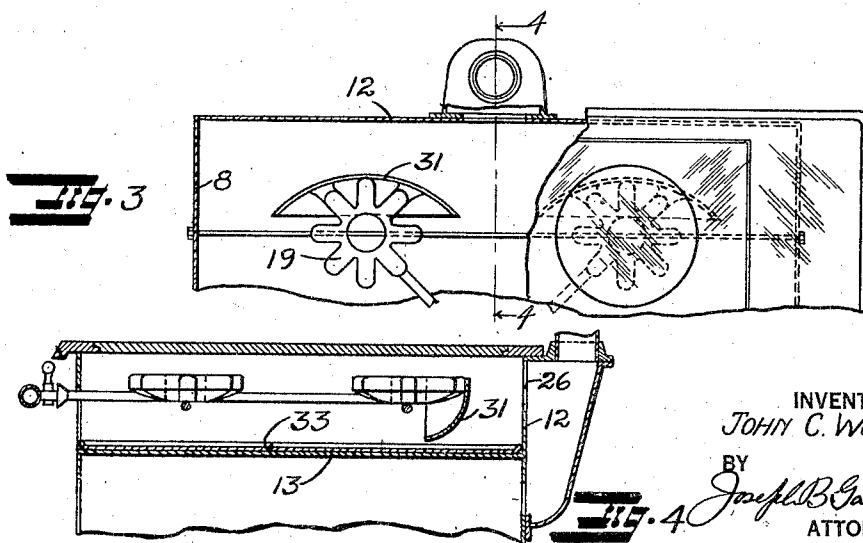
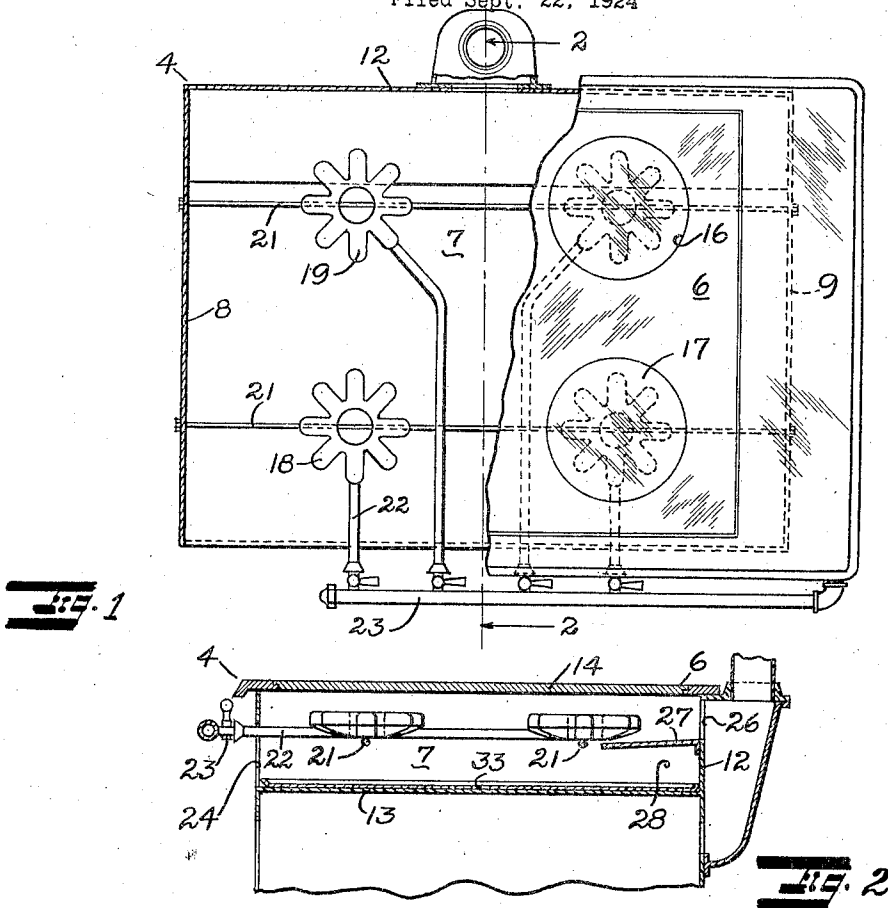
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AIR DEFLECTING MEANS FOR CLOSED TOP BURNER CHAMBERS OF GAS STOVES

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AIR-DEFLECTING MEANS FOR CLOSED-TOP BURNER CHAMBERS OF GAS STOVES.

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My invention relates to means in connection with the burner chamber of a closed-top gas-stove, for directing the air flowing through said chamber so that all the burners therein may receive the required amount of fresh air for proper combustion.

Most gas stoves, and particularly ranges, are equipped with front and rear gas burners which are positioned in what may be termed a burner chamber. Where a grate has been superposed over the burners to provide a cooking top, no difficulty has been experienced in the matter of the adequate external supply of air at the burners. However, when the burner chamber has been covered with a closed or solid top, it has been found that the rear burners receive less fresh air for combustion than do the front burners, since the burner compartment is usually open only at the front. In accordance with such difficulty, it is an object of my invention to provide means for insuring an adequate supply of fresh air at front and rear burners alike and thus insure proper combustion of the fuel.

Another object of the invention is to provide means of the character described which will allow the use of a drip pan of usual form and maximum size.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of my invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that I do not limit myself to the showing made by the said drawings and descriptions, as I may adopt variations of the preferred form within the scope of my invention as set forth in the claims.

Referring to said drawings:—

Figure 1 is a plan view of a stove embodying one form of the air deflecting means of my invention, parts being broken away to more clearly disclose the construction.

Figure 2 is a vertical section of a portion of the stove, the plane of the section being indicated by the line 2—2 of Figure 1.

Figures 3 and 4 are fragmentary views similar to Figures 1 and 2 respectively, showing another form of the invention.

As illustrated in the drawings, the device of my invention is embodied in a stove provided with a closed or solid gas cooking-

top 6. The latter comprises a top-gas-burner compartment 7 whose sides are defined by walls 8 and 9 and a rear wall 12. The bottom of the compartment is preferably defined by a plate 13, while the top is closed by a cooking plate 14, here shown provided with openings 16 normally closed by means of lids 17. The compartment 7 is desirably shallow so that a maximum space may be available below the compartment for other uses.

Arranged in the compartment 7 are front and rear gas burners 18 and 19 respectively, here shown supported in spaced relation from the top and bottom of the compartment by means of cross rods 21 and in alignment with the lid openings 16. The proper gas mixture for the burners is arranged to be supplied thereto through pipes 22 connected to the gas manifold 23 at the front of the stove. Air for completing combustion is arranged to enter the compartment through the opening 24 at the front thereof, and the products of combustion are arranged to discharge through a vent 26 located at the rear of the compartment and with at least a portion thereof in a higher plane than is the top of the opening 24. With the burners in operation, it will now be noted that a draft will be set up from the opening 24 to the vent 26 to draw air through the compartment for completing the combustion process at the burners. Since the portion of the indrawn air passing the burners crosses the front burners first, the major portion of the oxygen in such air is used to complete the combustion process at these burners, with the result that the air which reaches the rear burners seldom provides sufficient oxygen for them. In addition to the foregoing, it is found that the portion of the indrawn air passing adjacent the bottom of the compartment, by virtue of the fact that it is cooler than the layers of air above it, tends, with the usual compartment design, to maintain its path adjacent the bottom and beneath the burners to finally escape from the compartment without having served as an aid to the combustion at any of the burners.

In accordance with my invention, means are provided for deflecting the layer of fresh air moving adjacent the bottom of the compartment so that it will be caused to move directly through the combustion space of

the rear burners, and thus supply the needed oxygen thereto. As shown in Figures 1 and 2, said means includes a substantially horizontal plate 27 spaced from the bottom of the compartment and extending rearwardly to the rear-wall 12 from a point beneath and closely adjacent the rear burners. The plate 27 lies below the vent 26 and preferably extends completely across the compartment. By reason of such plate, a dead-air space or pocket 28 which is open at the front is formed between the plate and the bottom of the compartment. It will now be noted that when the fresh air moving along the bottom of the compartment approaches the pocket, the air, not being able to enter the pocket, will be deflected upwardly and across the burners directly into the combustion space.

In Figures 3 and 4, deflection of the bottom layer of air is arranged to be effected directly by contact with one or more deflector plates 31 rather than by contact with a body of dead air. As here shown, one of said plates is provided for each of the rear burners and preferably extends downwardly from the rear portion of the latter to a point closely adjacent the bottom of the compartment. The plates 31 preferably present a concave surface to the incoming air. It will be clear that with the plates thus formed and positioned that the bottom layer of air will be deflected upwardly and concentrated against their burners.

It will further be noted that the deflecting means of my invention does not interfere with the insertion and use of the usual type of drip-pan in the compartment. As a matter of fact, the bottom of the compartment may be in the form of a removable drip-pan or a permanent plate on which a removable drip-pan 33, as illustrated, may rest.

I claim:

1. In a gas-stove provided with a closed top-burner chamber having a fresh air inlet opening adjacent the front and bottom thereof and a discharge opening adjacent the top and rear thereof, front and rear burners in said chamber spaced from the

top and bottom thereof, the front major portion of the chamber being entirely unobstructed, and a plate at the rear of the chamber lying between the bottom of said chamber and discharge opening and having a deflecting portion thereof underlying said rear burner and extending transversely of the stream of fresh air flowing through said chamber.

2. In a stove provided with a closed top-gas-burner chamber having a fresh air inlet adjacent a side and bottom thereof and a discharge opening adjacent a side and top thereof, a gas burner disposed in said chamber to permit an unrestricted flow of air thereagainst both above and below it, and a baffle plate in said chamber extending forwardly from a point rearwardly of said burner and in spaced relation therefrom and arranged to cause the air passing thereover to be directed against said burner.

3. In a stove, a closed-top-gas-burner chamber having an air inlet at one side and a vent at another side and provided with a bottom having the front major portion thereof entirely unobstructed and having a portion adjacent the vent positioned in a higher plane than the portion adjacent the inlet, and a pair of burners arranged in substantially coplanar relation, one of said burners being positioned entirely over said lower bottom portion and the other of said burners being positioned at least partially over said higher bottom portion.

4. In a stove provided with a closed top-gas-burner chamber having a fresh air inlet adjacent the front and bottom thereof and a front major portion thereof entirely unobstructed and having a discharge opening adjacent the front and rear thereof, front and rear top-gas burners in said chamber, and a deflecting member defining a raised bottom at the rear of said chamber underlying a portion of said rear burners and removed from under said front burners.

In testimony whereof, I have hereunto set my hand at Oakland, California, this 10th day of September, 1924.

JOHN C. WEISMAN.