Dec. 18, 1934. N. J. SURGES 1,984,708

GAS BURNER DEVICE

Filed Sept. 25, 1933

Fig. 1.

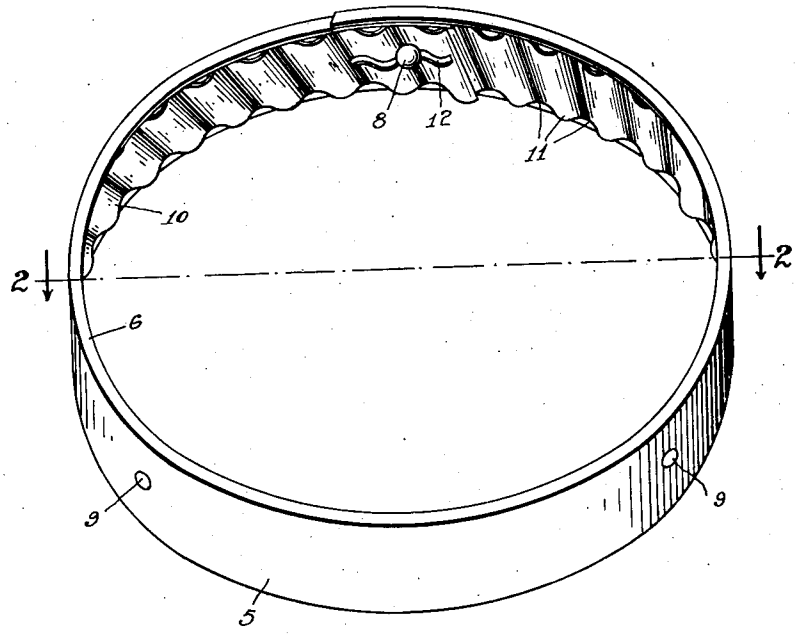


Fig. 2.

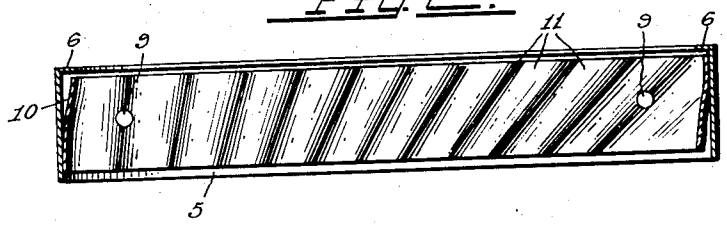


Fig. 3.

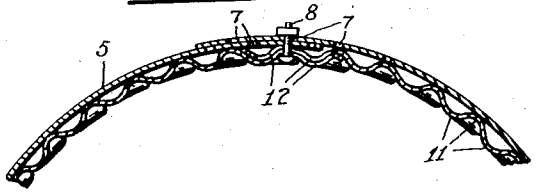
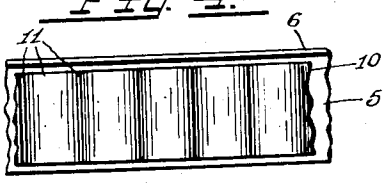


Fig. 4.



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UNITED STATES PATENT OFFICE

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GAS BURNER DEVICE

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Application September 25, 1933, Serial No. 690,847

3 Claims. (Cl. 158—113)

My invention relates to gas burner devices, and more particularly to a ring device that is adapted to be used in connection with the multiple burners of gas stoves, oil stoves and the like. Certain objects of the invention are to provide a gas burner device comprising an outer ring having an inturned flange around its upper edge, and an inner ring connected to the outer ring and having corrugations that are preferably inclined to the vertical whereby the flame from the burner is given a whirling motion by the corrugations and directed inwardly by the flange thus increasing the efficiency of the device by preventing lateral dissipation of the flame, by adding oxygen to the flame, and by circulating and spreading the flame evenly over the bottom surface of the receptacle or cooking utensil. Further objects are to provide adjusting means for both of the rings whereby the device is made to fit burners of various sizes.

With the above and other objects in view which will appear as the description proceeds, the invention consists of the novel construction, adaptation, combination and arrangement of parts hereinafter described and claimed. These objects are accomplished by the device illustrated in the accompanying drawing; wherein:

Figure 1 is a view in perspective of the device; Figure 2 is a view in vertical section taken substantially on a broken line 2—2 of Fig. 1; Figure 3 is a view in horizontal section taken through the adjusting portion of the device; and Figure 4 is a fragmentary view in elevation showing an inner ring with vertical corrugations.

Referring in detail to the drawing throughout which like reference numerals indicate like parts, the numeral 5 designates the outer ring which has an inturned flange 6 all around its upper edge. The ends of said ring overlap and are each provided with holes 7 which may be brought into coincidence and secured by a small bolt 8 thus providing means whereby the diameter of said ring may be altered to fit various sizes of burners as will be understood.

Secured to the inside of the outer ring 5, by means of rivets 9, is an inner ring 10 whose upper edge is disposed slightly below the flange 6 as shown in Fig. 2. Said inner ring is provided all around with corrugations 11 which are preferably inclined to the vertical as shown in Figs. 1, 2 and 3, although these corrugations may be made vertical, as shown in Fig. 4, if so desired. The ends of the inner ring overlap adjacent and corresponding with the overlapping ends of the outer ring as most clearly shown in Fig. 3 of the drawing. Slots 12 are provided in each of the ends of the inner ring and are arranged to register with the holes 7 of the outer ring. This arrangement permits the bolt 8 to be passed through said slots and holes and to thus serve as a single fastening and adjusting means for both rings.

To adjust the device, the bolt 8 is removed and the device as a whole is either expanded or contracted to the required diameter. Two of the holes 7 in the respective overlapping ends of the outer ring 5 are brought together, and likewise the slots 12 in the overlapping ends of the inner ring 10, with the corrugations 11 fitted together, so that the bolt 8 may be passed through said holes and slots and tightened up thus fastening the device together as a single unit.

In the operation of the device, the outer edge of the flame from the gas or other burner is deflected from the vertical in its upward movement by the slanting corrugations 11 of the inner ring 10, and this portion of the flame strikes the flange 6 at a slant. At the same time the up-draft created by the flame between the inner and outer rings draws air upwardly through the corrugated passages behind the inner ring. This up-draft of air also strikes the flange 6 at a slant and deflects the flame inwardly toward the center of the device in a whirling or tortuous movement due to the annular walls of the rings. The additional amount of oxygen introduced into the flame from the outside by this means is believed to be a very important factor in increasing the efficiency of the device and the flame. The heat is considerably increased and the continuous whirling motion of the flame prevents burning of the cooking utensil which is so often caused by a stationary flame.

While I am aware that other devices for gas burners have been made prior to my invention, I am not aware that any previous invention has been made embodying an outer and an inner ring adjustably connected and in which the inner ring is provided with inclined corrugations, nor with an inwardly extending flange for the outer ring cooperatively disposed with respect to the inner corrugated ring.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:—

1. A gas burner device adapted to rest above the top of a burner and comprising an outer ring, and an inner ring connected to the outer ring and having corrugations that are inclined to the vertical and extend the full height of said inner ring.

2. A gas burner device adapted to rest above the top of a burner and comprising an outer ring, an inner ring connected to the outer ring and having corrugations that are inclined to the vertical and extend the full height of said inner ring, said outer ring having a flange extending inwardly around its upper edge, and said flange disposed above the upper edge of the inner corrugated ring whereby a small space is left therebetween.

3. A gas burner device comprising an outer ring of resilient metal with overlapping ends, an inner ring of resilient metal connected to the outer ring and having inclined corrugations and overlapping ends, said outer ring having a flange extending inwardly from its upper edge and in spaced relation above the upper edge of the inner corrugated ring, and adjusting means whereby the diameter of the two rings is simultaneously varied.

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