Oct. 29, 1929. J. W. BIERS 1,733,934

GAS BURNER

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Fig. 1.

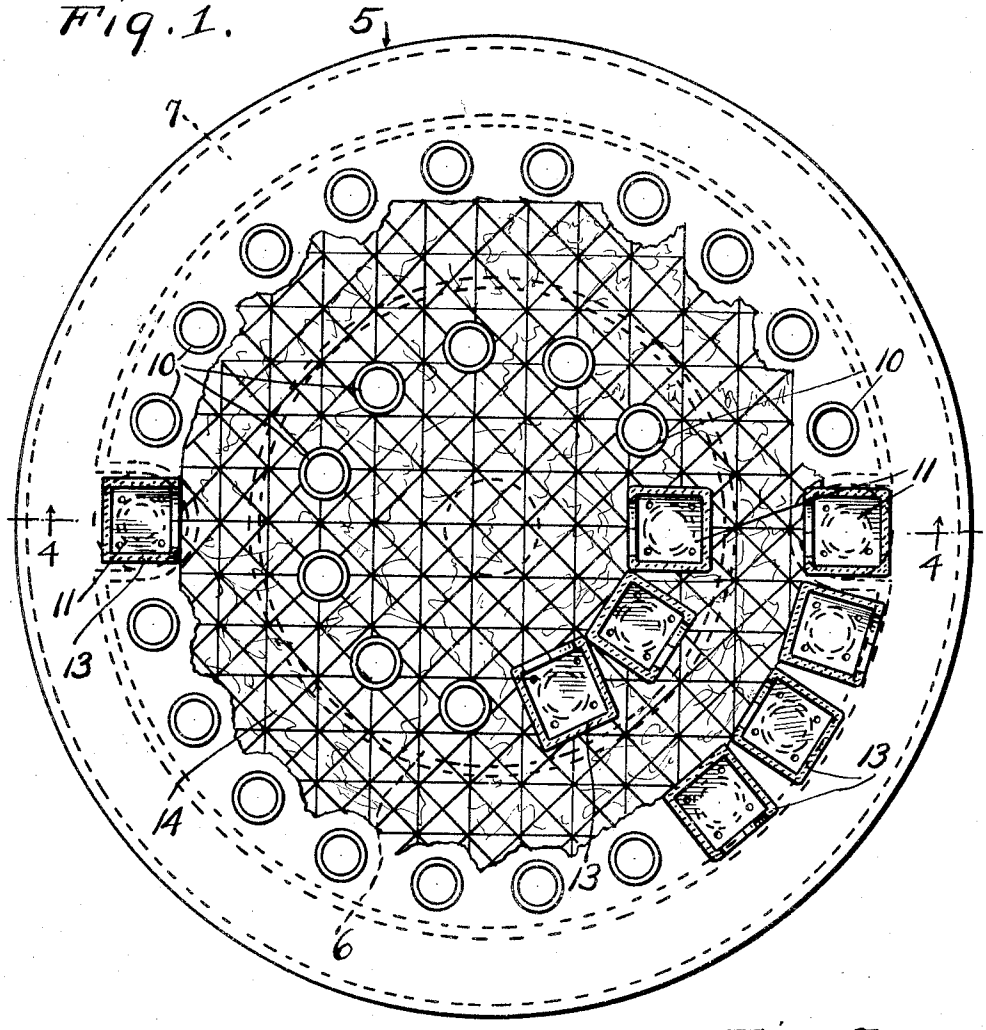


Fig. 6.

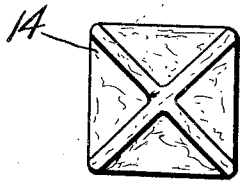


Fig. 8.

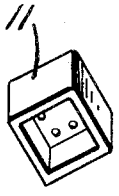


Fig. 7.



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Fig. 2.

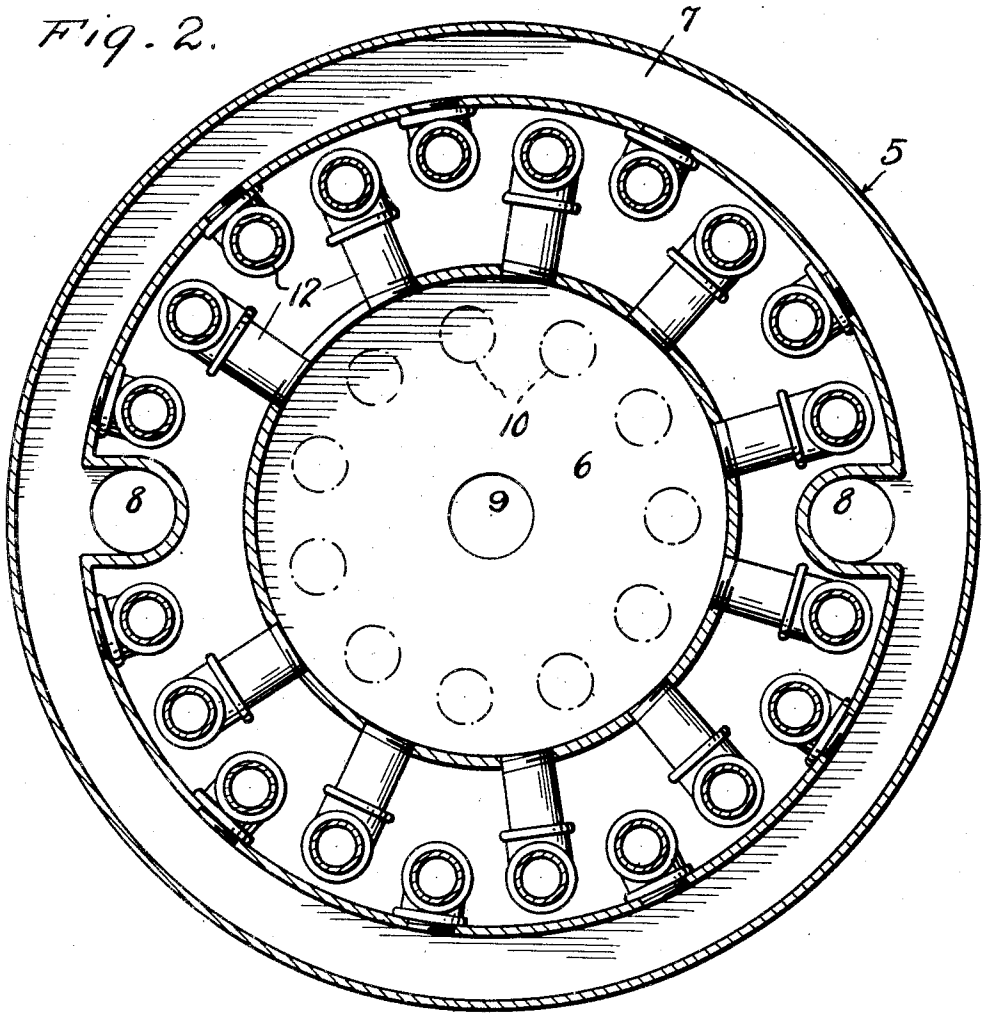
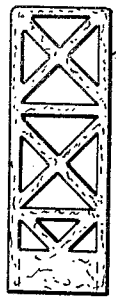


Fig. 5.



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Fig. 3.

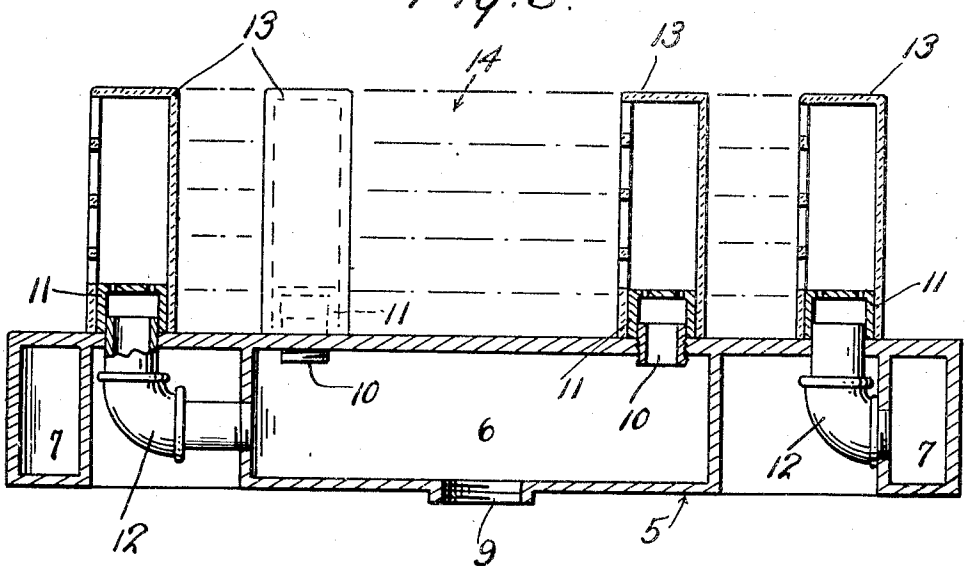
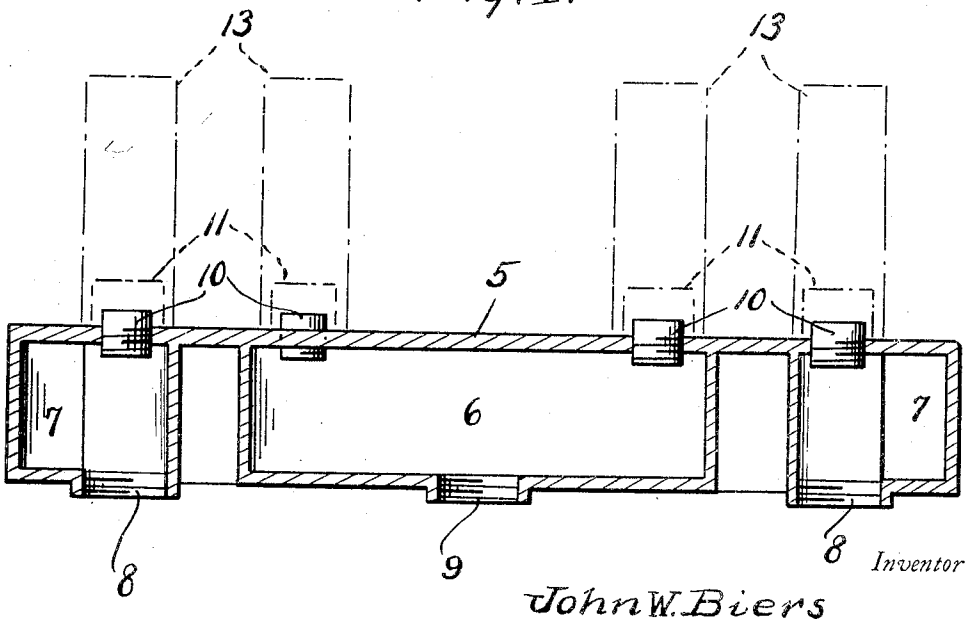


Fig. 4.



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UNITED STATES PATENT OFFICE

JOHN W. BIERS, OF NEW YORK, N. Y.

GAS BURNER

Application filed September 28, 1928. Serial No. 308,942.

This invention relates to new and useful improvements in gas burners, and aims to provide a burner for use in the fire box of a steam, hot air, or hot water furnace in association with certain fuel elements called radiants and radiant brickettes, radiants being arranged in two circles, one radiant over each or each two burner openings and radiant brickettes filling in the spaces between rows of radiants. Every other radiant or every second radiant to be reversed, one or every second one facing the boiler side and the other or alternate one facing the radiant brickettes to obtain the maximum of efficiency and produce satisfactory results.

An important object of the invention resides in the economical production of a simply constructed burner through which the foregoing desirable results are obtained and which is practically indestructible from any cause arising within the scope of its intended use.

With the foregoing and other important objects in view as the nature of the invention will be better understood, the same comprises the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a top plan view of my improved burner.

Figure 2 is a detail horizontal transverse section.

Figure 3 is a detail vertical longitudinal section.

Figure 4 is a similar view taken substantially upon the line 4—4 of Figure 1.

Figure 5 is a side elevation of a well known design of burner radiant.

Figures 6 and 7 are elevations of different designs of radiant brickettes that may be employed in conjunction with the present device, and

Figure 8 is a bottom side perspective of one type of burner tip that may be employed in conjunction with the present device.

Now having particular reference to the drawings my novel burner consists of a circular and relatively shallow body 5 constructed to provide a central circular gas manifold 6, and an outer ring-like manifold 7, the bottom wall of the outer manifold 7 being provided at opposed points with inlet openings 8—8 while the bottom wall of the center manifold 6 is provided with an inlet opening 9.

Arranged within a circular row of openings in the top wall of the central manifold 6 toward the edge thereof are nipples 10 over the upper ends of which are detachably arranged suitable burner tips 11. Projecting through circularly arranged openings in the top wall of the body 5 between the outer and inner manifolds are the outlet ends of gas pipes 12, alternate ones of which communicate with the center manifold 6 and outer manifold 7, see Figures 2 and 3. Arranged over the outlet ends of these pipes 12 are similar burner tips 11, while detachably arranged over all of said burner tips are generally conventional radiant tubes 13. The open faces of alternate ones of the inner and outer rows of radiants 13 are toward the center of the body while the remaining ones have their open sides toward the side wall of the body 5. Arranged upon the top wall of the body 5 between the rows of radiants as well as within the center row and at the outer side of the outer rod are radiant brickettes 14 of any suitable structure, or design. It is preferable that the flow of the gas to the center manifold 6 be automatic so that the heat generated by the burner of substantially uniform and predetermined degree. Obviously the flame from the burners will cause the radiants and brickettes to glow and even after the central burners are off, heat will still radiate from the center radiants and brickettes with the results that the burner will operate under the minimum supply of fuel.

In view of the foregoing description when considered in conjunction with the accompanying drawings, it will be apparent that I have provided a novel, simple, and highly useful gas burner for stoves and furnaces of various types, and even though I have here-

in shown and described the invention as consisting of certain detail structural elements it is nevertheless to be understood that minor changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claim.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

In the gas burner, a body having a flat top wall provided with an inner and outer circular row of gas nipples, burner tips arranged upon the nipples, radiant tubes having openings in one face only loosely arranged over said tips with said faces disposed alternately, and radiant brickettes disposed upon said top wall between the radiant tubes to completely cover said top wall.

In testimony whereof I affix my signature.

JOHN W. BIERS.