June 10, 1930. H. H. MORETON 1,762,878

GAS HEATER

Filed June 14, 1928

Fig. 2.

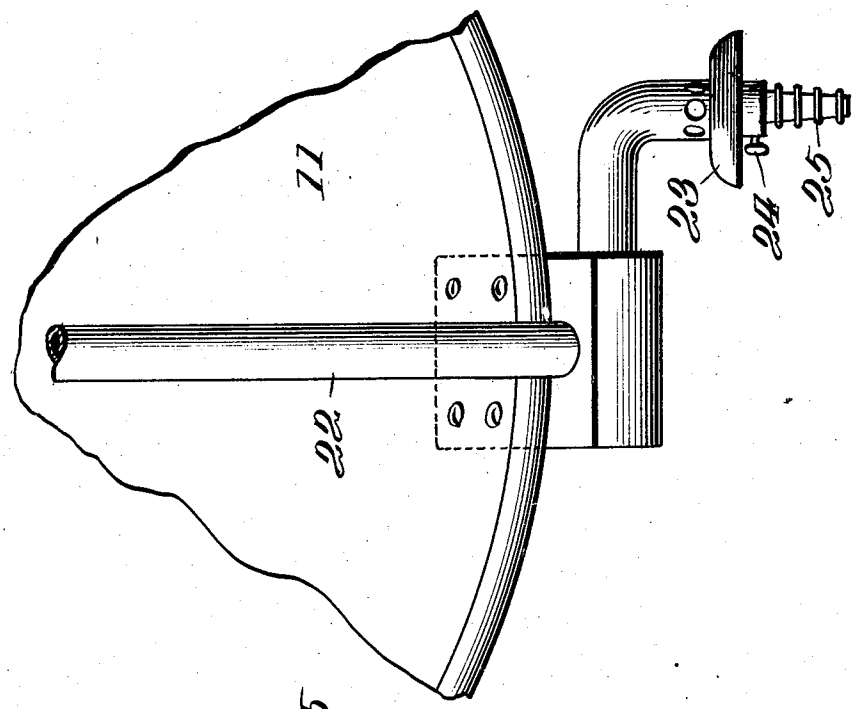
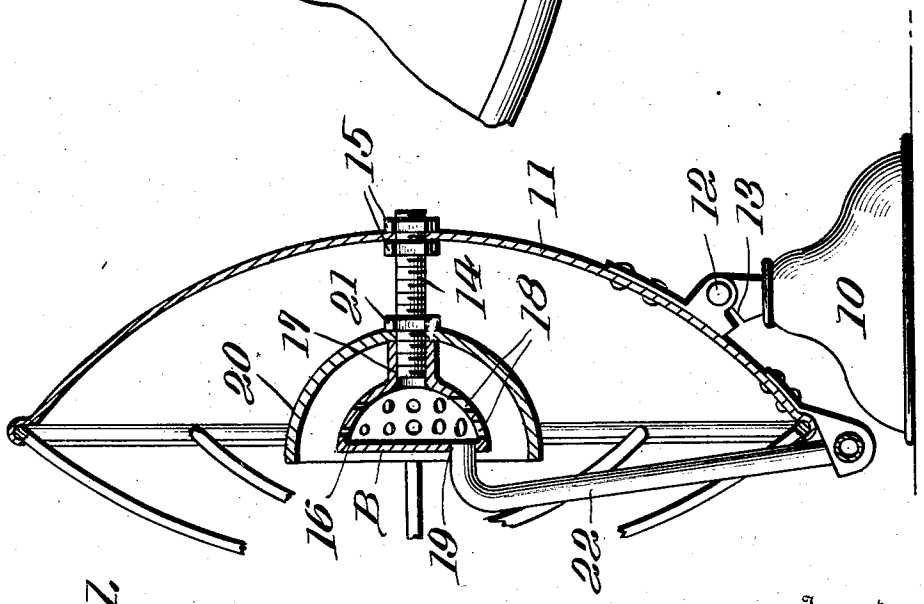


Fig. 1.



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UNITED STATES PATENT OFFICE

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GAS HEATER

Application filed June 14, 1928. Serial No. 285,478.

This invention is a gas heater of the type in which a reflector is employed for projecting heat rays into the space to be heated.

One of the objects of the invention is to provide means for supporting a heat-intensifying element at a predetermined focal position with respect to a circular heat reflector element, and in association with an initial heat-producing means. A further object is to provide a simple and efficient form of gas burner for applying initial heat to the said heat-intensifying element.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawing:—

Figure 1 is a longitudinal sectional view illustrating a heater constructed in accordance with the invention. Figure 2 is a detail view illustrating the piping for supplying the combustible mixture to the burner.

Referring to the drawing, 10 designates a base upon which is pivotally mounted a reflector 11, which is preferably constructed of a circular disk of concavo-convex form said reflector 11 may be constructed of any desired metal capable of performing its functions. Friction means 12 is provided, so that the reflector may be held at any desired angle with respect to the surface on which the base 10 rests, means being provided, however, as indicated at 13, to limit downward adjustment of the reflector so as to prevent the heat being directed upon said surface.

The reflector 11 is provided with a central opening through which one end of a support-member 14 is projected, said member being rigidly held in an axial position with respect to said reflector by means of clamping nuts 15. On the free end of the support member 14 is removably secured a burner B, which is constructed of an approximately hemispherical hollow body 16, provided with a sleeve 17 of reduced diameter, to engage the end of the member 14. Said hollow body 16 is provided with perforations 18, the perforations in the lower portion being larger than those in the upper portion thereof. The front wall of the hollow body 16 is also provided with an opening 19 at its lower portion.

Enclosing the hollow body portion of burner B is a heat-intensifying member 20, which is also of approximately hemispherical form and constructed of refractory material. Said heat-intensifying member is provided with a central opening so that the support 14 may pass through it, and said member 20 is clamped in position upon said support member by means of a nut 21, as clearly shown in the drawings.

Combustible mixture is supplied to the burner B by means of a connecting pipe 22, having a curved portion at its upper end extending into the opening 19. Said connecting pipe at its lower end is connected with a feed pipe leading from a Bunsen burner conventionally shown at 23. The supply pipe for the Bunsen burner is provided with a cock 24, and also with a nipple 25 by means of which it may be attached to the usual flexible tubing.

In operation, the Bunsen burner is adjusted to produce a mixture that will insure the maximum available heat at the burner B, and said burner B is so positioned that when the gas mixture is ignited, the flames will pass out of the perforations 18 and be directed against the heat-intensifying member 20. The heater element will be quickly heated to incandescence, and the heat rays emanating therefrom will be directed against the concave surface of the reflector. The heat-intensifying member 20 is positioned as nearly as possible at the focal center of the reflector surface so that the heat rays produced by the said member 20 will be reflected in such a manner as to insure a uniform and efficient distribution of heat into the space to be heated.

The advantages of the invention will be readily apparent to those skilled in the art to which it belongs. For instance, an important advantage is that the initial heat of the Bunsen flame produced by the burner B is greatly magnified by the transference of the heat from the said burner to the refractory heat-intensifying member 20, and that the magnified heat thus produced, because of

the focal position of said member, is uniformly distributed into the space to be heated. It will also be observed that a very simple means is provided for supporting the burner and the heat-intensifying member in the desired focal positions with respect to the reflector, and that the parts may be readily assembled or dismantled as occasion may require.

Having thus explained the nature of the invention and described an operative manner of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the forms of its use, what is claimed is:—

1. A heater of the character described comprising a reflector, a support member secured to said reflector, a burner carried by said support member, a heat-intensifying member also carried by said support member and enclosing said burner, and means independent of said support member for supplying combustible mixture to said burner, said heat-intensifying member being located in a predetermined focal position with respect to said reflector.

2. A heater of the character described comprising a reflector, an axially disposed support member secured at one end to said reflector member, a burner mounted on the free end of said support member, a heat-intensifying member also mounted on said support member and enclosing said burner and means independent of said support member for supplying combustible mixture to said burner, said heat-intensifying member being located in a predetermined focal position with respect to said reflector.

3. A heater of the character described comprising a reflector, an axially disposed support member secured at one end to said reflector, a gas burner formed of a hollow body provided with perforations, said gas burner being mounted on the free end of said support member, a heat-intensifying member enclosing the burner and mounted on said support member in a predetermined focal position with respect to said reflector member, and means independent of said support member for supplying combustible mixture to said burner.

4. A heater of the character described comprising a reflector, a straight axially disposed support member rigidly secured at one end to said reflector, a hollow approximately hemispherical burner mounted on the other end of said support member, the walls of said burner being provided with perforations, and a heat-intensifying member enclosing said burner and mounted on said support member in a predetermined focal position with respect to said reflector member.

5. A heater of the character described comprising a reflector, an axially mounted support member secured at one end to said reflector, a burner having a hub portion removably engaging the free end of said support member, said burner being formed with an approximately hemispherical hollow body portion provided with perforations, and a heat-intensifying member enclosing said burner and also mounted on said support member in a predetermined focal position with respect to said reflector member.

6. A heater of the character described comprising a reflector, an axially disposed support member secured at one end to said reflector, a hollow burner mounted on the free end of said support member and provided with an opening in its front wall, a heat-intensifying member also mounted on said support member and enclosing said burner, said heat-intensifying member being located in a predetermined focal position with respect to said reflector, and a pipe leading into the burner through said opening so as to supply combustible mixture to said burner.

7. A heater of the character described comprising a reflector, an axially disposed support member secured at one end to said reflector, a hollow burner mounted on the free end of said support member and provided with an opening in its front wall, a heat-intensifying member also mounted on said support member and enclosing said burner, said heat-intensifying member being located in a predetermined focal position with respect to said reflector, a combustible-mixture-supply pipe supported by said reflector member, and means connecting said pipe with said burner through said opening.

In testimony whereof I have hereunto set my hand.

HENRY H. MORETON.