G. E. SHARPE.

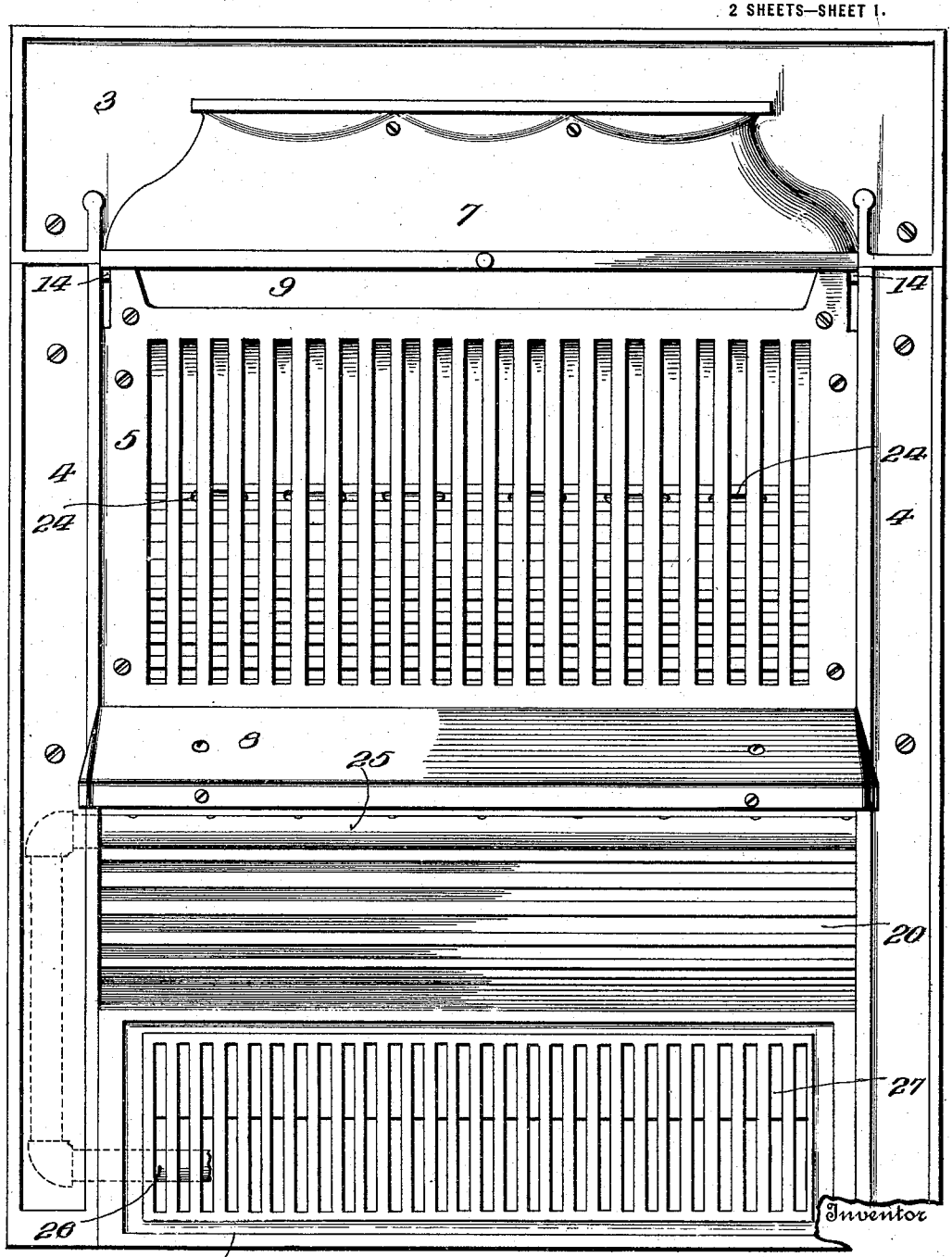
GAS HEATER.

APPLICATION FILED FEB. 25, 1915.

1,148,057.

Patented July 27, 1915.

2 SHEETS—SHEET 1.



Witnesses

J. Ince

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Fig. 1.

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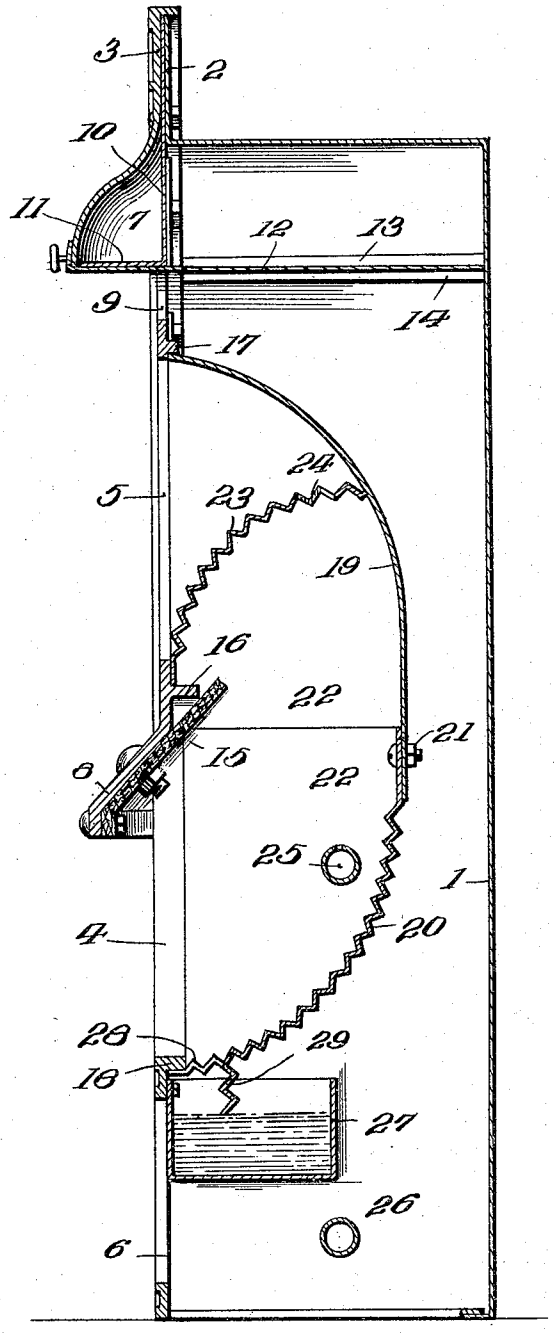


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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GAS-HEATER.

1,148,057. Specification of Letters Patent. Patented July 27, 1915.

Application filed February 25, 1915. Serial No. 10,621.

To all whom it may concern:

Be it known that I, GEORGE E. SHARPE, a citizen of the United States, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Gas-Heaters, of which the following is a specification.

This invention relates to gas heaters and has for its object the provision of a simple and inexpensive heater which may be located within a fire-place or at some other point within a compartment.

The invention also has for its object the provision of a heater in which the maximum heat may be obtained from the minimum expenditure of fuel and which may be so constructed as to effect circulation of the air within the room around the heating members.

Other incidental objects of the invention will appear as the description of the same proceeds, and the invention resides in certain novel features which will be particularly pointed out in the claim following the description.

In the accompanying drawings: Figure 1 is a front elevation of a heater embodying my present improvements; Fig. 2 is a central vertical section of the same.

In carrying out my invention, I employ a housing 1 which is preferably constructed of sheet metal so as to avoid unnecessary weight and cost and also aid in heating the surrounding air. This housing may be open at its bottom and is provided around its front with a lateral flange 2 through which suitable bolts are inserted to secure the same to the front of the heater, the said front comprising a top 3, sides 4, an upper screen or grille 5, and a lower screen or grille 6.

The top 3 is provided with a downwardly and outwardly projecting hood 7, and the upper screen or grille is also provided with a downwardly and outwardly projecting hood 8 at its lower edge. The screens or grilles extend between the side members 4 and may be of any preferred design, the present drawings showing them as consisting of plates having vertical slots formed therein. The upper edge of the upper screen or grille is recessed or cut-away, as shown at 9, so as to provide a space between the hood 7 and the said screen through which the heated air may escape from the housing into the room. The hood 7 imparts an ornamental finish to the heater and also serves to throw the heated currents away from the heater so that, when the device is used within a fire-place, the liability of the mantel being damaged will be minimized.

In order to protect the hood from the warping action of the heat, I provide a shield consisting of a vertical member 10 and a horizontal member 11, the vertical member of said shield being secured to the top 3 of the heater front and the horizontal member extending forwardly from the lower edge of the vertical member to the lower edge of the hood. This arrangement is clearly illustrated in Fig. 2, which figure also shows an additional plate or shield 12 which is slidably mounted between guides 13 and 14 upon the sides of the housing and extends forwardly under the hood. This slidable plate 12 may be used as additional means to protect the hood and the mantel against the action of the heat, as the slide may be pulled forward and will then extend appreciably in front of the hood and will tend to throw the heated currents toward the floor of the room.

The hood 8 is provided with an asbestos lining 15 which will effectually protect the said hood against the action of the heat and will prevent warping of said hood. This hood is formed integral with the upper screen or grille 5, as clearly shown in Fig. 2, and the said grille is provided immediately above said hood on its inner side with a horizontal flange or rib 16 and near its upper edge is provided with a similar flange or rib 17. The upper edge of the lower screen or grille is extended inward slightly, as shown at 18, and the reflector shell extends between and is secured to the said inwardly projecting edge or flange 18 and the flange 17 on the upper grille, while an upper reflector 23 is secured to the upper grille and supported by the flange 16 and extends therefrom to the upper portion of the reflector shell. The said reflector shell consists of upper and lower sheet metal plates 19 and 20, which are secured together at their meeting edges by bolts 21 and are spaced from the housing 1 so as to provide a flue or air space to permit circulation of the air from and back into the room. The reflector shell is constructed of sheet metal, which will become quickly heated, and is provided with sides 22 which extend to the front of the heater so as to furnish a complete shell

which will house the burner and the currents rising directly therefrom and thereby tend to eliminate the objectionable odor which has heretofore accompanied the use of gas heaters.

The upper plate 19 of this shell is hidden from direct view by the upper screen or grille and is, therefore, preferably made smooth and given a bright finish to reflect the light of the burning gas through openings in the upper reflector or baffle plate. As the lower plate 20 is exposed to view through the open space between the hood 8 and the screen or grille 6, said plate is preferably highly polished and is corrugated, as illustrated, so as to impart an ornamental appearance to the heater and also to increase the reflecting surface by which heat will be thrown directly into the room. The upper reflector 23 is preferably corrugated and highly polished inasmuch as this reflector will be visible through the upper screen and will serve to arrest and retard the hot currents rising from the burner so as to choke the flow of the same and prevent them escaping in a large volume. This upper reflector or baffle plate is constructed with an opening or openings 24 near its rear edge so as to permit the heated currents to pass to the upper portion of the plate 19 and thence pass into the room. It will be noted, however, that this upper reflector will prevent the gaseous currents flowing in large volumes directly into the room and as it rises in an arcuate form from the lower edge of the grille to the upper plate 19, it will also hide the lower portion of the said plate from view and will prevent the flame playing directly upon the upper portion thereof so that the said plate and the burning gas jets will be practically invisible. The openings 24 in the upper reflector, however, permit some of the gas to pass up against the upper plate 19, and also permit some of the light from the burning gas jets to escape so that it will play upon the upper portion of the plate 19 and add to the cheerful appearance of the heater.

The burner 25 is located in front of the upper portion of the lower corrugated reflector 20 and is fed from a supply pipe 26 which leads through the bottom of the housing and up at the side of the same, as shown in dotted lines in Fig. 1. This supply pipe may be provided with a cut-off valve at any convenient point so that the flow of gas may be established or arrested as may be desired.

To the inner side of the lower screen or grille at the upper edge of the same, I secure a pan or water box 27 which may be filled with water from which vapor will arise as the temperature of the heater and the room increases, and said vapor will supply the burnt out portions of the air around the burner so as to maintain the proper combustion and tend to destroy the noxious odors. The reflector 20 is provided with an opening 28 at its lower edge through which the said pan may be filled and is also provided with a depending lip or flange 29 which extends into the water box to hide the rear wall of the same and thereby prevent the said wall detracting from the ornamental appearance of the heater. While the water is at a high level, this lip aids in the vaporization thereof as it conducts heat directly thereto.

It will be noted from the foregoing description taken in connection with the accompanying drawings, that I have provided a device which may be placed at any point in a room and which will effectually create a circulation of the air within the room and raise the temperature of the same. The burner is located within a shell, which will quickly become heated, and an air space is provided under, back and above said shell so that the colder air in the room will flow through the grille 6 and then rise through the space between the back of the housing and the reflector 20 and upper plate 19, finally escaping between the upper edge of the said plate 19 and the hood 7 into the room. Inasmuch as the shell, comprising the reflector 20 and plate 19, quickly becomes heated, the air circulating around the same will be rapidly raised in temperature. A circulation of the air within the room is thus created so that the room will be heated evenly throughout. The upper reflector tends to throw back the heat rising from the burner so that the said heat will strike the lower reflector 20 and will be then thrown out into the room close to the floor of the same so that the said heat will not be all collected immediately adjacent the ceiling of the room. This upper reflector also serves as a baffle inasmuch as it holds back the great volume of fumes and gaseous currents rising from the burner so that better combustion is secured and the shell is heated up intensely in a short time.

Having thus described the invention, what is claimed as new is:—

A heater comprising a casing having an open front, an upper screen secured across the upper portion of the open front of the casing and having its upper edge spaced from the top of the casing, a lower screen secured across the lower portion of the casing and spaced vertically from the upper screen, a reflector shell secured to the upper edge of the said lower screen and extending in arcuate form upwardly therefrom to the upper portion of the upper screen and having its upper edge secured to said screen below the upper edge of the same, said reflector shell being spaced from the bottom, back and top of the casing, a reflector secured to the upper screen near the lower end thereof and

extending upwardly and rearwardly therefrom to the said reflector shell, a burner disposed in front of the reflector shell and above the lower screen, and a water box secured to the inner side of the lower screen at the upper edge thereof and extending rearwardly therefrom below the reflector shell, the lower front end of the reflector shell being provided with an opening and having a lip depending into the water box in advance of the rear wall of said box whereby an opening is provided for the admission of water into the box and the box is hidden from view through the space between the upper and lower screens.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. SHARPE. [L. S.]

Witnesses:
JOHN A. HUSTON,
WM. L. SHARPE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."