B. COLUMBUS.

HEATER.

APPLICATION FILED APR. 24, 1912.

1,053,012.

Patented Feb. 11, 1913.

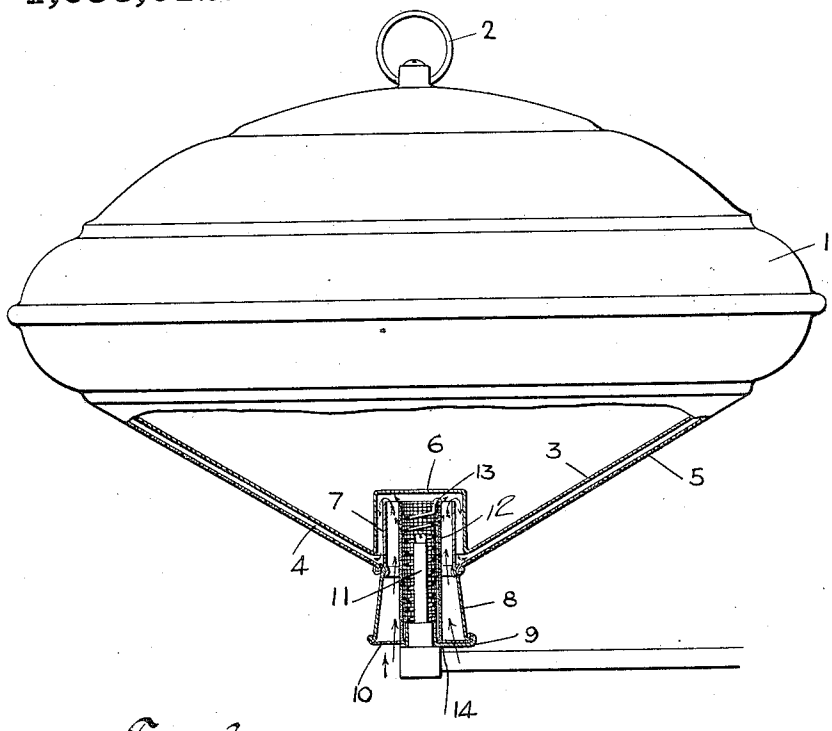
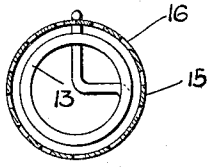


Fig. 1.

Fig. 3.



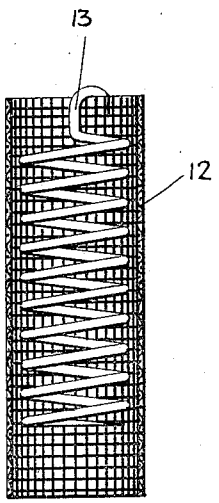


Fig. 2.

WITNESSES

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BERNHARD COLUMBUS, OF NEW YORK, N. Y.

HEATER.

1,053,012. Specification of Letters Patent. Patented Feb. 11, 1913.

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To all whom it may concern:

Be it known that I, BERNHARD COLUMBUS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Heater, of which the following is a full, clear, and exact description.

My invention relates to an improvement in heaters of the kind that is designed to be applied to a gas fixture in a building to provide a ready and convenient source of heat for rooms and apartments; and in its preferred form it comprises certain features of construction by means of which the stream of gas that is supplied to the heater is impeded upon entering the same, and more evenly distributed to the interior of the heater, so as to make the heating effect of my invention more efficient and more uniform in practice.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the same characters of reference indicate the same parts in all the views.

Figure 1 is a side elevation, the lower part being broken away to show in section the interior construction; Fig. 2 is a vertical sectional view of a part of my heater which acts to impede to a certain extent and evenly distribute the incoming gas; and Fig. 3 is a transverse sectional view of a modification of the device shown in Fig. 2.

Referring particularly to the drawings the numeral 1 represents the body of my heater, which is preferably in the form of a hollow shell having a ring 2 at the top to suspend the same. The bottom thereof presents a conical surface, and inside of the same is a conical wall 3, spaced from the conical bottom to provide an interior space 4.

The cone-shaped bottom of my heater is provided with a number of perforations 5, to enable the gas supplied to the interior of the heater to issue therefrom; and when the same is lighted a jet of burning gas will be formed at every one of the perforations or apertures 5, the combined heating of which warms the room or apartment and makes it comfortable.

The inner wall 3 is provided at its lowest part with an upward-extending closed projection 6, and the bottom 5 is provided with another projection 7, which is open at its inner end and extends into the projection 6, the projection 7 terminating short of the end of the projection 6, and the walls of the projection 7 being spaced from the inner lateral surface of the projection 6 to form an annular space. 8 is a similar projection extending downward from the bottom of the heater and forming a continuation of the projection 7; and at the lower end of this projection 8 is rigidly secured an arm 9 having a perforation in its outer end to enable the same to be fitted over the jet of the gas fixture to support the heater in position. Except for the arm 9 the lower end of the projection 8 is open, but carries a sheet of gauze or wire 10 to permit of the entrance of air into the heater.

The numeral 11 represents the tip of the fixture, and this tip is surrounded by means of a foraminous cylinder 12, which extends from the foraminous sheet 10 through the projection 8 and projection 7, and terminates at the inner end of the latter. Inside of this cylinder is a coil of wire 13 surrounding the tip 11 and secured at its upper end to the cylinder, as shown. The cylinder 12 is secured in position by fitting its lower end to an annular flange 14 which surrounds the hole in the arm 9 receiving the tip 11.

In operation, the coil 13 acts as a retarding device which prevents the too rapid flow of gas into the heater and the impingement of the gaseous molecules against the inner end of the projection 6 with too great a force. The result is that the gas accumulates to some extent inside of the foraminous cylinder 12 for some distance from its inner end, and the pressure thereof not only causes part of the gas to escape from the inner end of the cylinder, but also causes the gas to pass out through the openings in the cylinder body and around the inner edge of the projection 7 into the annular space between this projection and the wall of the projection 6, from which space it is distributed evenly to the burner apertures 4. The flow of gas in this way exerts an aspirating action on the air within the projections 7 and 8 around the cylinder 12, and draws enough of the air into the heater with the gas to facilitate the combustion. Hence, when the gas is turned on and lighted at the bottom of the heater, the flame will spread over the whole of the under surface and the maximum heating effect will be obtained.

In the modification shown in Fig. 3, a sheet metal cylinder 15 will be employed having perforations 16 therethrough. The operation and utility of this construction are the same as in the case of the foraminous cylinder 12.

From the above description it will be seen that I have provided a simple and efficient device by means of which the gas entering the heater will be caused to flow in equal quantities in all directions from the center outward in the internal space 4. The space 4 and the perforations 5 will be so designed as to cause the gas to flow uniformly through the openings 5, distributing the same and causing it to issue not only through the perforations which are nearest the center of the space 4, but through the perforations which are farthest from the center as well.

I wish to have it understood that the above description is illustrative only, describing but one embodiment of my invention, and that I do not wish to be limited to the details thereof, except in so far as is expressly indicated in the accompanying claims.

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

1. In an improvement of the kind described, the combination of a heater, means for attaching the same to a gas fixture, said heater having an inward-extending projection with an open inner end and a second projection having a closed end adjacent the open end of the first projection, said projection being spaced from the first-named projection, and both of said projections being located adjacent the tip of the fixture when the heater is attached to the same, foraminous means located within said first-named projection surrounding the tip of the said fixture, and a spiral body located inside of said foraminous means and also surrounding said tip, whereby the incoming gas will be obstructed and distributed by said foraminous means and the spiral body.

2. In an improvement of the kind described, the combination of a body, means for attaching the same to the tip of a gas fixture, said body having an inward-extending projection having its inner end open and a second projection having its inner end closed adjacent said first projection, said projections being located adjacent the tip of said fixture when the body is attached thereto, a perforated cylinder extending into the first projection and surrounding the tip, and a spiral body located inside of said cylinder, whereby the incoming gas will be impeded and distributed uniformly to all parts of the heater.

3. In an improvement of the kind described, the combination of a heater, means for attaching the same to a gas fixture, said heater having an inward-extending projection with an open inner end and a second projection having a closed end adjacent the open end of the first projection, said second projection being spaced from the first-named projection, and both of said projections being located so as to be adjacent the tip of the fixture when the heater is attached to the same, and a spiral body supported inside of said projections to surround the tip of the fixture to obstruct and distribute the gas flowing from the fixture into said body.

4. In an improvement of the kind described, the combination of a body having an opening, means adjacent said opening for supporting said body upon a gas fixture, and a spiral member supported inside of said opening in position to surround the tip of said fixture to obstruct and distribute the gas flowing from said fixture into said body.

5. In an improvement of the kind described, the combination of a body having an opening, means adjacent said opening for supporting said body upon a gas fixture, a tubular member of foraminous material, and a spiral body supported in said opening in position to surround the tip of said fixture to obstruct and distribute the flow of gas supplied by said tip to said body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BERNHARD COLUMBUS.

Witnesses:
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