

(No Model.)

J. W. REID.
HEAT DISTRIBUTER.

No. 469,597.

Patented Feb. 23, 1892.

Fig. 1.

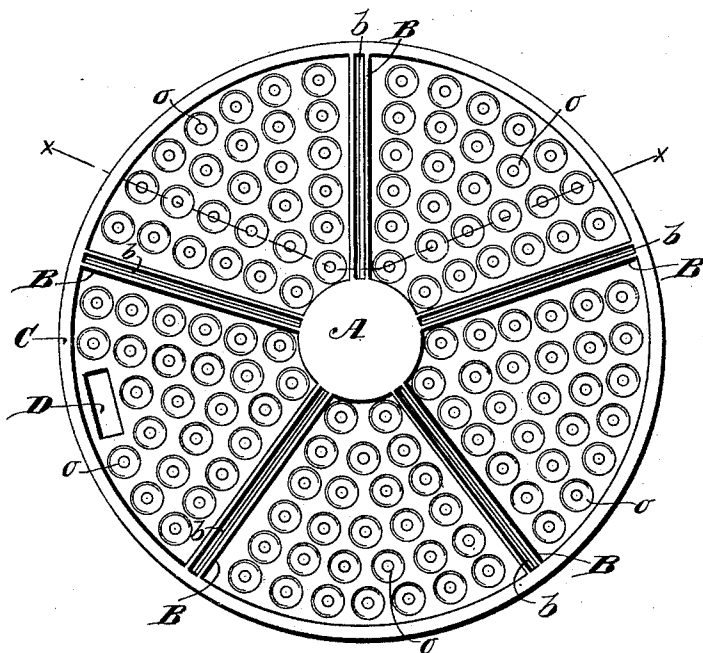
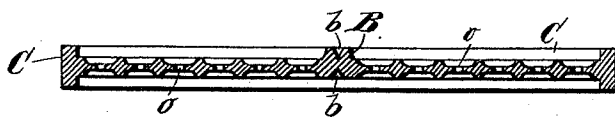


Fig. 2.



Witnesses:
Robert Emmett,
J. A. Ruthford.

Inventor:
James W. Reid.
By
Edward Taggart
Atty.

UNITED STATES PATENT OFFICE.

JAMES W. REID, OF GRAND RAPIDS, MICHIGAN.

HEAT-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 469,597, dated February 23, 1892.

Application filed June 20, 1891. Serial No. 396,955. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. REID, a citizen of the United States, residing at the city of Grand Rapids, in the county of Kent and State of Michigan, have invented a certain new and useful Heat-Distributor, of which the following is a specification.

My invention relates to a device for distributing and applying, as desired for the purposes of ordinary domestic cooking, the heat derived from a gas or gasoline or other stove where the heat of the flame is usually applied directly to the utensil to be heated; and its object is to distribute and apply the heat evenly and economically. This object I accomplish by the device shown in the accompanying drawings, in which—

Figure 1 is a top plan view of the heater, and Fig. 2 is a vertical section on line *x x* of Fig. 1.

The heater itself is a metal plate, which I have shown circular in form, but which may be square or of any other suitable form, and which may be constructed of iron, steel, or of any other metal which will readily conduct and radiate heat. The central part of this plate I prefer to leave solid, as shown by *A*, for greater strength, and for the same purpose I provide radiating arms or ribs *B B*, running from the central disk to the circumferential rim. The remainder of the surface of the plate, or such part thereof as desired I provide with a series of perforations, (shown by *o o o*.) These are upon their upper or under parts, or both, enlarged, so as to give a surface opening of concave form, or substantially such form. When both surfaces are thus treated, the plate in cross-section will take the form shown in Fig. 2, and as the outer edges of one perforation nearly or quite reach the outer edges of the adjacent ones there will be left between the rows only a comparatively narrow strip of metal.

The ribs *B B* may be provided with a groove or grooves, as *b b*, and this groove, together with the shape of the perforations, permits the free expansion and contraction of the plate consequent upon its alternate heating and

cooling, but without danger of cracking or breaking.

An opening *D* is provided, so that the heater may be lifted and moved by an ordinary stove-hook.

The circumferential rim *C* extends both above and below the plate, as shown by the cross-section. The lower extension serves to raise the plate off the surface of the stove and away from the flame, and also to confine the heat of the flame and prevent its escape around the edge, thus forming a lower heat-chamber, which distributes and equalizes the heat. The rim also extends above the upper surface of the plate and with the ribs forms a support for the utensil to be heated and makes an upper heat-chamber. The perforations are small—from one thirty-second to one-fourth of an inch in diameter—and so prevent the flame from passing up through to any considerable extent, while they are large and numerous enough to permit the heat to rise freely. The peculiar concave form shown also largely increases the amount of radiating-surface within a given circumference, and therefore increases the heating efficiency of the device.

It is evident that the heater can, if desired, be attached so as to form a permanent bottom for any utensil, or that it is capable of effective use as a broiler, toaster, or for similar uses.

Having thus described my invention, what I claim to have invented, and desire to secure by Letters Patent, is—

The heater for gas or similar stoves, composed of the metal plate having a surrounding rim extending below its lower surface and above its upper surface and having perforations to permit the heat to ascend and having radial ribs on one surface, such radial ribs having grooves to act as expansion-checks, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

JAMES W. REID. [L. S.]

Witnesses:

ARTHUR C. DENISON,

HARRY P. VAN WAGNER.