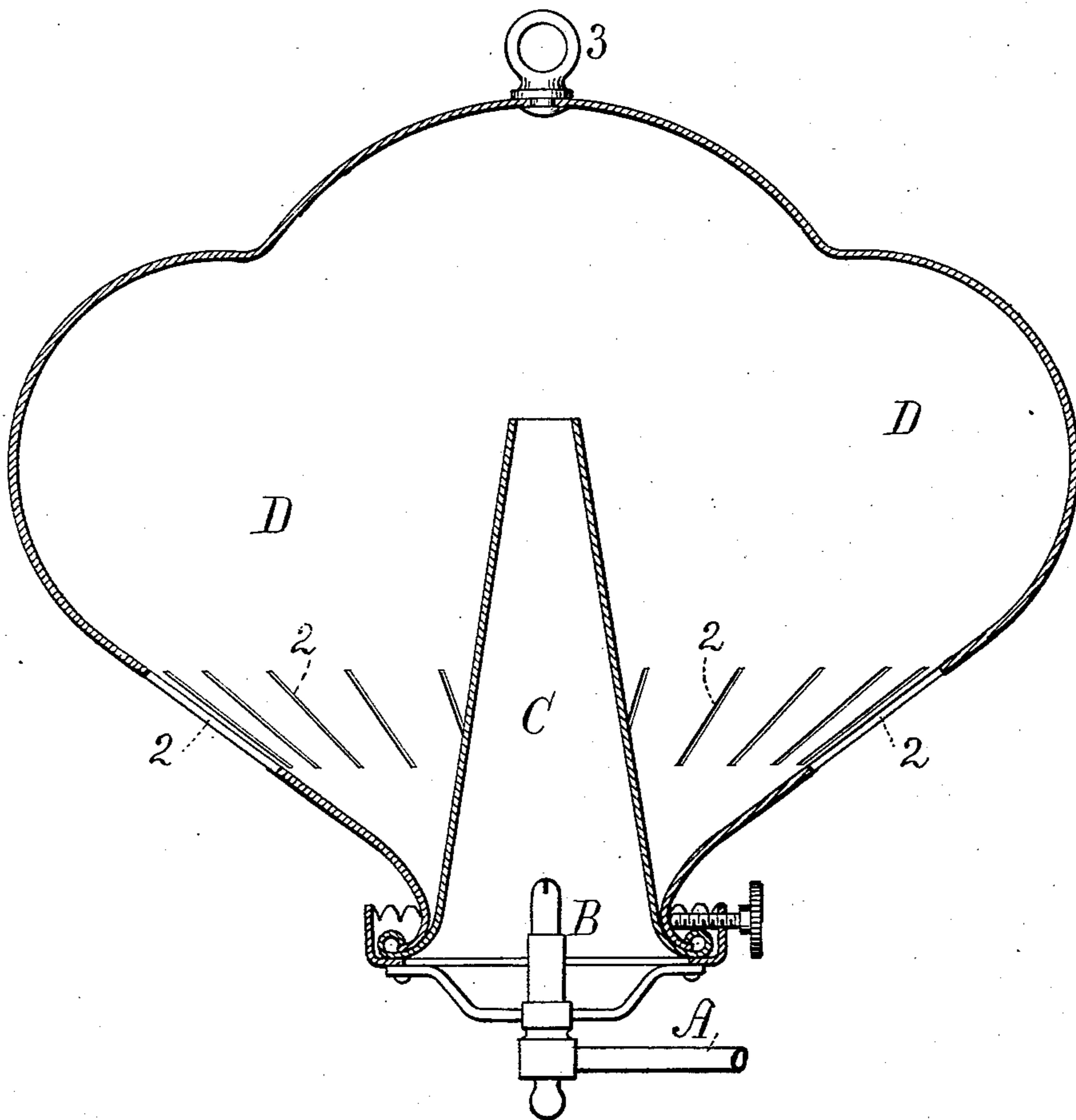


(No Model.)

T. BATTY.  
GAS STOVE AND HEATER.

No. 571,916.

Patented Nov. 24, 1896.



Witnesses:  
J. Staib  
Geo. T. Pinckney

Inventor:  
Thomas Batty  
per Lemuel W. Serrell  
Atty.

# UNITED STATES PATENT OFFICE.

THOMAS BATTY, OF COLCHESTER, ENGLAND, ASSIGNOR TO ALBERT THEODORE OTTO, OF CHICAGO, ILLINOIS, AND FREDERICK RIPLEY BLOUNT, OF NEW YORK, N. Y.

## GAS STOVE AND HEATER.

SPECIFICATION forming part of Letters Patent No. 571,916, dated November 24, 1896.

Application filed October 17, 1895. Serial No. 565,925. (No model.) Patented in England March 14, 1889, No. 4,423, and October 24, 1893, No. 20,010.

*To all whom it may concern:*

Be it known that I, THOMAS BATTY, a subject of the Queen of Great Britain, residing at Colchester, in the county of Essex, England, have invented an Improvement in Gas-Heaters, of which the following is a specification.

Letters Patent for this invention have been granted to me in Great Britain, dated March 14, 1889, No. 4,423, and October 24, 1893, No. 20,010.

Numerous gas-stoves and heating devices have heretofore been made in which atmospheric air is mixed with illuminating-gas, so that the resulting flame will be similar to that from a Bunsen burner, and the heat from the flame has been communicated to ovens and to ornamental devices from which the heat is radiated.

The present invention is a new article of manufacture, consisting of a thin sheet-metal radiator and heater, the upper portion of which is rounding and the lower portion an inverted cone with numerous narrow slots, and within this vessel is a mixing-chamber in which the air and gas are intimately commingled, and the entire device is adapted to rest upon an ordinary gas-burner bracket or shade-holding ring, so that the commingled air and gas will issue through the narrow slots and burn beneath the inverted cone for the twofold purpose of heating the vessel, so that the air and gas within the same will become highly heated as well as commingled, and thereby perfect combustion will be promoted, and the thin sheet-metal vessel also gives off the heat from the flame by radiation and convection, so that the heater is admirably adapted to warming the atmosphere in a room or compartment without the development of objectionable smell or the undue consumption of the oxygen in such room.

In the drawing I have represented the improvement by a vertical section.

The mixing-cone C is open at the bottom and top and it is firmly united with the conical bottom of the sheet-metal chamber D, and this chamber D is rounding in the upper part and provided with an eye 3, by which it can

be easily handled, especially when hot, and in the conical portion of the vessel there are narrow slots 2 cut in the sheet metal, such slots advantageously being radial, or nearly so, and the slots are sufficiently narrow to prevent the flame passing through them.

The bottom or mouth of the vessel D and the cone C are permanently connected together and advantageously of a size to rest upon an ordinary shade holder or ring upon the gas-pipe A, the burner B passing up and within the cone C, so that when the gas is turned on such gas mixes with the atmospheric air within the cone C and passes up into the interior of the sheet-metal vessel D and descends and passes out through the slots 2, and the same is to be ignited in order that the flame may burn on the outer and under side of the vessel, and thereby the heat of the flame will be communicated to the sheet-metal vessel D, so that the same becomes highly heated and imparts such heat to the gases and air within the same for the promotion of a perfect combustion, and at the same time the vessel D, having a large extent of surface, throws off the heat by radiation and the atmosphere circulates freely around such vessel, taking off the heat by convection.

This heating apparatus being of thin sheet metal, such as iron, is not injured by the heat, and it is sufficiently light to be placed upon an ordinary gas-burner and supported thereby, and it can be easily lifted on and off such burner in either a hot or cold condition by a piece of wire or a hook or similar device passed through the ring 3, and this is very convenient, because the heater can be suspended by the ring after it has been lifted off the burner and while in a highly-heated condition without the risk of injury which might arise from placing the heated chamber upon a support, especially if that support was liable to injury by the heat.

I claim as my invention—

1. As a new article of manufacture a gas heating device composed of a hollow thin sheet-metal chamber conically contracted in the lower part and provided with narrow slots, and a conical mixer open at both ends and

rising within the vessel and united at its lower  
end to the mouth of such vessel, the heater  
being adapted to rest upon an ordinary shade-  
ring over and around a gas-burner, so that  
5 the air and gas will mix and pass down  
through the narrow slots and burn below the  
conical portion of the vessel to heat the same  
and warm the room or compartment by radia-  
tion and convection, substantially as set forth.

10 2. As a new article of manufacture a port-  
able heater of thin sheet metal having a  
rounded upper portion and a suspending-ring,  
and a lower conical portion slotted for the

passage of the combustible gas, a mixing-  
cone within the vessel open at the top and 15  
bottom and permanently connected at the  
bottom with the mouth of the thin sheet-  
metal heating vessel and adapted to being  
supported over an ordinary gas-burner to  
form a heater, substantially as set forth. 20

Signed by me this 16th day of September,  
1895.

THOS. BATTY.

Witnesses:

FRANCIS H. WEATHERALL,  
NATHANIEL HOLLAWAY.