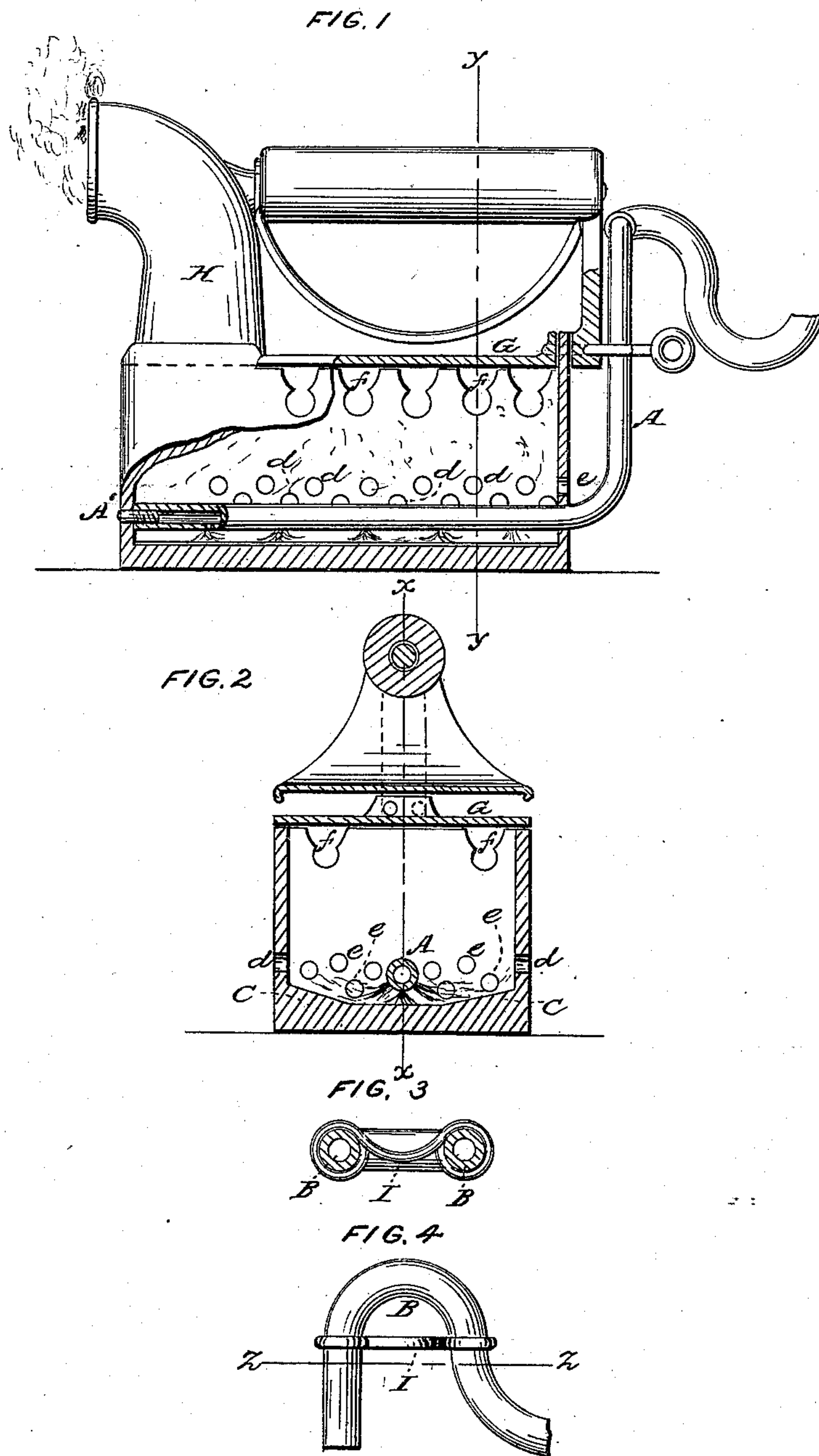


R. DRAKE.  
Sad-Iron Heater.

No. 99,542.

Patented Feb. 8, 1870.



WITNESSES:  
Geo. W. Mabee  
Jno. H. Drake

INVENTOR:  
R. Drake  
PER *Mumford*  
Attorney

# United States Patent Office.

ROBERT DRAKE, OF NEWARK, NEW JERSEY.

Letters Patent No. 99,542, dated February 8, 1870.

## IMPROVEMENT IN SAD-IRON HEATERS

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ROBERT DRAKE, of Newark, in the county of Essex, and State of New Jersey, have invented a new and useful Improvement in Gas-Burning Sad-Irons; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to new and useful improvements in sad-irons, which are heated by the combustion of gas therein, and consists in the peculiar mode of introducing the gas into the interior, and in the formation of the interior of the bottom or face of the sad-iron, and in the devices in combination therewith for insuring a perfect flow and combustion of the gas, as will be hereinafter more fully described.

In the accompanying drawing—

Figure 1 represents a vertical longitudinal section, through the line *z z* of fig. 2.

Figure 2 is a vertical cross-section, through the line *y y* of fig. 1.

Figure 3 is a section of fig. 4, through the line *z z*.

Figure 4 is a side view of a device for holding the flexible tube, used for conducting the gas to the sad-iron, in proper position.

Similar letters of reference indicate corresponding parts.

I obtained Letters Patent of the United States for a gas sad-iron on the 6th day of June, 1865, but I have found that by the arrangement described therein, I cannot produce a perfect combustion of the gas, as no adequate provision is made for a sufficient supply of air, the gas being discharged and ignited in a single jet.

In my present improvement I introduce the gas through a number of small orifices or perforations in a tube, A, which passes through the back end of the iron, and screws on to a pin which is fast in the front end or toe of the iron, as seen in the drawing at A'.

The bottom of the interior or combustion-chamber of the sad-iron is curved transversely, as seen in fig. 2, and the gas-jets impinge against the upward-in-

clining sides C C, and meet a full supply of oxygen, which passes into the chamber opposite the jets, as seen in the drawing at *d*.

*e* represents air-orifices, through the rear end of the iron, for increasing the supply of oxygen. By this arrangement, a reverberatory action of the flame is produced, and a perfect combustion is obtained.

*f* represents air-apertures directly beneath the cover G of the iron.

The escape of heated air through the chimney or tube H, serves to produce a draught of air through the chamber, and thus insure a full supply for the perfect combustion of the gas.

The perforated tube A is connected with the flexible tube B, which is attached to the gas-supply pipe or ordinary gas-burner.

To prevent this flexible tube B from breaking or becoming collapsed, and thereby interfering with the flow of gas through the tube, I apply a stay, I, made of wire, bent so as to form two eyes, through which eyes the tube is passed, as seen in fig. 4. This preserves and maintains a proper curve in the tube, and prevents it from breaking or collapsing by its own weight, and obstructing the flow of the gas.

The general construction of the sad-iron having been described in my present patent, and forming no part of my present claim, and being also shown in my present drawing, any further description is deemed unnecessary.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent is—

The combination, in a gas-burning sad-iron, of the perforated tube A, fastened in the combustion-chamber, as shown, the air-orifices *d*, *e*, and *f*, and the inclined surfaces C C, arranged substantially as and for the purposes herein described.

The above specification of my invention signed by me, this 16th day of June, 1869.

ROBT. DRAKE.

Witnesses:

FRANK BLOCKLEY,  
ALEX. F. ROBERTS.