

(No Model.)

2 Sheets—Sheet 1.

G. H. PERKINS.
HEATER FOR SOLDERING IRONS, &c.

No. 519,305.

Patented May 1, 1894.

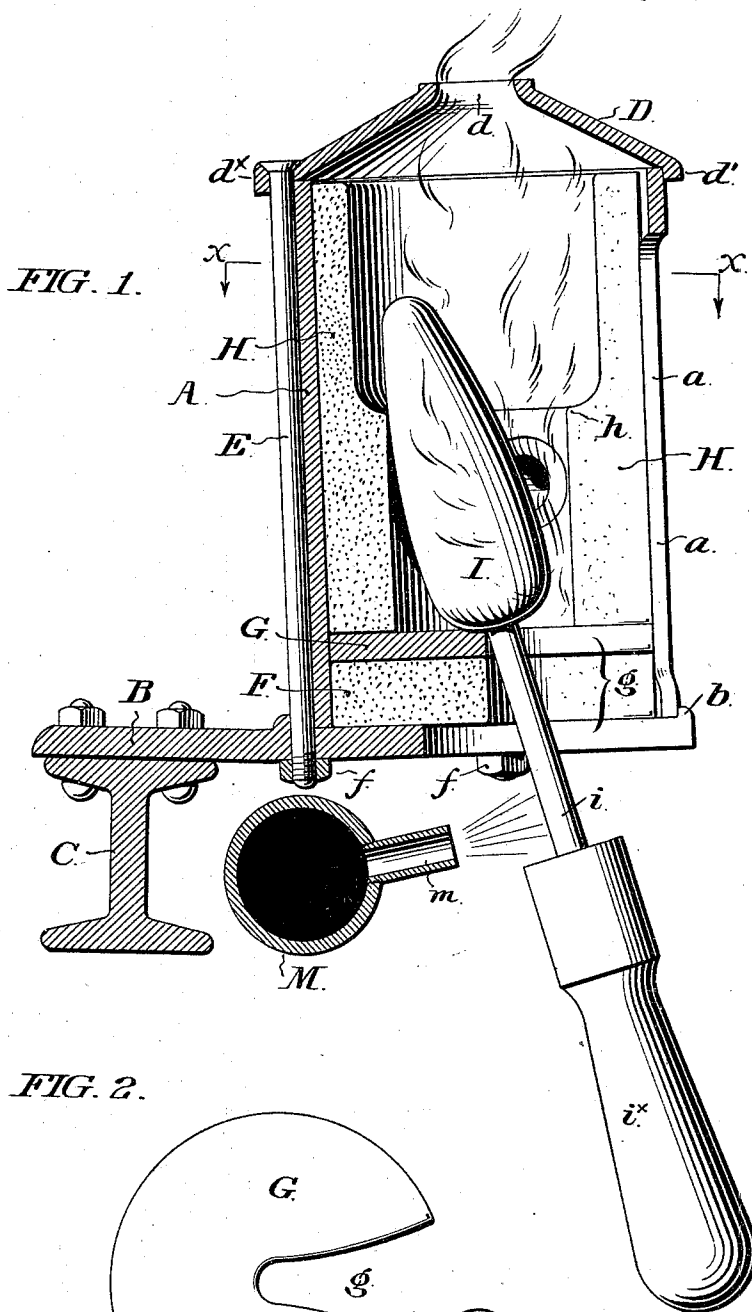


FIG. 2.

WITNESSES:

J. Norman Dixon
Jas. Loughran.

George H. Perkins,

INVENTOR

By his Attorneys
M. C. Smith &
Boman Taylor

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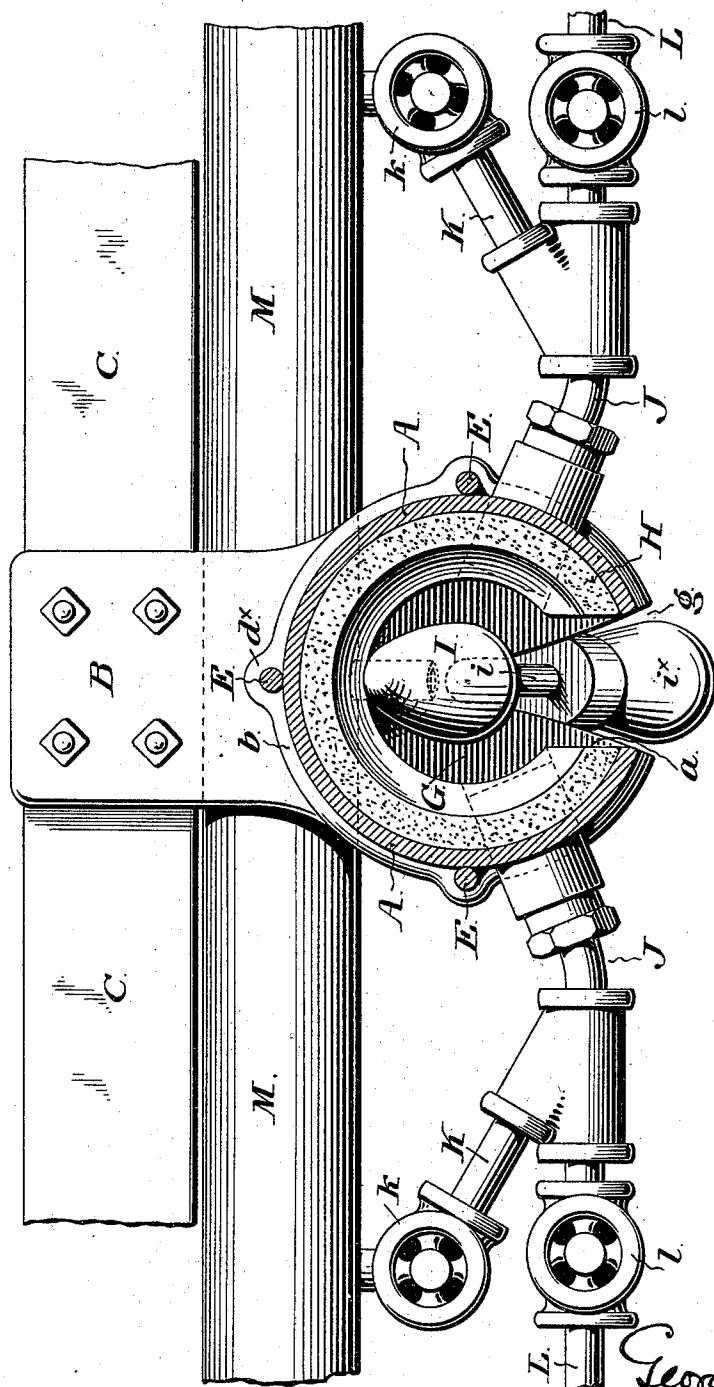


FIG. 3.

WITNESSES:

J. Norman Dixon
Jas. Loughran

George H. Perkins
INVENTOR
By his Attorneys
W. C. Stratton &
J. Bonser Taylor

UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO THE ATLANTIC REFINING COMPANY, OF SAME PLACE.

HEATER FOR SOLDERING-IRONS, &c.

SPECIFICATION forming part of Letters Patent No. 519,305, dated May 1, 1894.

Application filed August 26, 1893. Serial No. 484,088. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. PERKINS, a citizen of the United States, residing in the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Heaters for Soldering-Irons and Similar Implements, of which the following is a specification.

My invention relates to the class of heaters which are employed and kept in continuous operation for the heating of such soldering irons as are used in the sealing of cans or in the performance of kindred work carried on on an extended scale and continuously in manufacturing establishments.

Soldering iron heaters as heretofore constructed have been measurably imperfect because the operation of heating an individual iron has consumed an undue amount of time, and because also in the heating of the iron proper or copper the metal tang and the wooden handle of the implement which has been introduced in an approximately horizontal position, have also been heated to an extent frequently rendering the iron too hot to handle, and occasioning the scorching or burning of the handle, so that in establishments where large numbers of irons have been employed the expense and loss of time involved in replacing the burned handles have been quite large.

It is the object of my invention to provide an apparatus of an inexpensive and durable character for heating soldering irons, in which the operation of heating the iron may be expeditiously and thoroughly performed, and in which, also, the wooden handle will be prevented from becoming unduly heated or burned by being so disposed with reference to the heater itself as to be protected from exposure to the direct radiation of heat from the flame,—and, preferably, also will be kept in a cool condition by the subjection of its tang or handle to an air blast during the period in which the iron proper or copper is within the heater.

In the accompanying drawings I show and herein I describe a good form of a convenient embodiment of my invention, the particular subject-matter claimed as novel being hereinafter definitely specified.

In the accompanying drawings, Figure 1 is a central, vertical, sectional, elevation of a heater embodying a preferred form of my invention, illustrating in elevation a soldering iron in place therein. Fig. 2 is a plan view of the bottom plate; and Fig. 3 is a sectional plan of the apparatus shown in Fig. 1, section being supposed on the dotted line $x-x$ of said figure.

Similar letters of reference indicate corresponding parts.

The heater illustrated in the accompanying drawings is supposed to be one of a series or battery of heaters, mounted upon a common supporting rail, and supplied through common pipes with air and gas as hereinafter described.

In the drawings, A is the cast casing or body of the heater, shown as a cylindrical casting erected preferably at an inclination from the vertical, upon a bracket plate B projecting from a supporting rail C to which it is rigidly affixed.

The body of the heater is provided with a cover or cap D, being preferably a conical plate embodying a central aperture d for the escape of smoke and gases. The cap D preferably has a depending flange d' which encircles and embraces the upper edge or chine of the cylindrical body,—and upon the upper face of the bracket plate is cast or formed a circular upwardly extending bead or rib b which similarly encircles and embraces the lower edge of said cylinder.

The cylinder, cap, and bracket plate, are firmly united, conveniently by means of tie bolts E, which pass vertically through openings in lugs d^x formed on the edge of the cap,—and also through corresponding openings in the bracket plate, below which latter they are equipped with nuts f the tightening of which effects the tightening together of the three members mentioned.

The floor of the furnace is provided with a base F of fire brick which rests upon the bracket plate, and upon this base is superimposed a slotted plate G of metal which I term the tang plate. The side walls of the furnace body are provided with a lining H of fire brick, which extends from the base G to the upper edge of the cylinder A.

The front wall of the furnace casing is provided with a vertical slot or opening *a* extending from its lower end to a point near its top, and of a breadth slightly in excess of the diameter of the head or copper of the soldering iron,—and the base portion of the furnace, which is composite of the bracket plate B, the base F, and the tang plate G, is provided with a radial horizontal slot or opening *g* which is in effect a right angular continuation of the vertical opening *a*,—extends from its outer edge to its center, and is of a V shape. The breadth of the slot *g* at the periphery of the base portion is equal to that of the slot *a*, while at its center or inner extremity it is equal to the diameter of the tang of the soldering iron.

The fire brick lining H of the side walls of the furnace casing is thicker at its lower portion than at its upper, a circumferential shoulder *h* being formed at the upper edge of said thicker portion.

As illustrated, the bracket plate B is slightly inclined upward from the horizontal, and the fire chamber in consequence slightly inclined backward from the vertical, the inclination being, so to speak, toward the side opposite that in which the opening *a* is formed.

The soldering iron illustrated is of the usual form, comprising a copper or head proper, I, being an oval body of metal, a tank, *i*, and a wooden handle *i'*.

J J are inlet pipes which lead into the interior of the heater, and each of which is in communication with an air supply pipe K controlled by a valve *k*, and with a gas supply pipe L controlled by a valve *l*, in order that each inlet pipe J may supply directly into the heater a mixture of gas and air which being ignited within the heater is adapted to heat an iron placed therein.

M is an air feed pipe in communication with any suitable supply of air under pressure, and with which the pipes K K are connected.

The commingled gas and air being supposed ignited, and the furnace heated, a soldering iron held in a vertical position is introduced therein by having its head passed through the vertical slot *a* while its tang enters the V-shaped slot in the base as far as the narrow inner end of said slot. Upon release of the handle, the implement will retain itself from dropping from its position by reason of the fact that the diameter of the base of its head is in excess of the breadth of the inner end of the slot *g*, and, when in position, the head of the implement, owing to its weight and the gravitative action due to the inclination of the floor, will tilt over against the rear wall of the furnace, and therefore obviate the possibility of the iron accidentally falling out. In its applied position, an intermediate portion of the head I of the iron will rest against the shoulder *h*, of the

casing lining, leaving the point of the head which is tinned, in position to be surrounded by the flame and to be therefore thoroughly heated.

As will be obvious, when the implement is supported in the position shown in Figs. 1 and 3, its tang and handle will depend below the furnace, and be protected from the heat from the burning gas and air by the interposed bottom plate. A further provision for keeping the tang and handle cool which my invention comprehends, is the provision of an air blast, the nozzle or outlet from which is in such position relatively to the implement in place within the heater that the escaping air will be directed against the tang and handle.

In the drawings, *m* is the nozzle or outlet referred to, which is shown as located beneath the heater and in line below the slot for the implement, and in communication with the pipe M.

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

1. A heater for soldering irons and kindred implements, which consists of a casing constituting a fire chamber embodying in its side wall an opening of sufficient size to admit the head of the implement and in its bottom a slot constituting an extension of said opening but of width less than the diameter of the head, combined with means for supplying fuel to said chamber, substantially as set forth.

2. A heater for soldering irons and kindred implements, which consists of a casing constituting a fire chamber embodying in its side wall an opening of sufficient size to admit the head of the implement and in its bottom, which is inclined from the horizontal, a slot constituting an extension of said opening but of width less than the diameter of the head, combined with means for supplying fuel to said chamber, substantially as set forth.

3. A heater for soldering irons and kindred implements, which consists of a casing constituting a fire chamber embodying in its side wall an opening of sufficient size to admit the head of the implement and in its bottom which is inclined from the horizontal, a slot constituting an extension of said opening but of width less than the diameter of the head, a lining of fire brick within said chamber embodying a shoulder situated at a distance from the floor of the chamber less than the length of the head of the implement, combined with means for supplying fuel to said chamber, substantially as set forth.

4. In combination with a heater for soldering irons and kindred implements, comprising a casing constituting a fire chamber and adapted to receive the head of the implement, means of keeping the implement handle cool comprising a pipe in communication

with a source of supply of air under pressure,
the discharge nozzle of which is in such posi-
tion that the handle of an implement will
when its head is within the fire chamber, ex-
5 ist in front of said nozzle, substantially as set
forth.

In testimony that I claim the foregoing as

my invention I have hereunto signed my name
this 30th day of June, A. D. 1893.

GEORGE H. PERKINS.

In presence of—

F. NORMAN DIXON,
JAS. LOUGHRAN.