(No Model.)

J. B. LAURENT.

SOLDERING IRON FURNACE AND GAS HEATER.

No. 530,488. Patented Dec. 4, 1894.

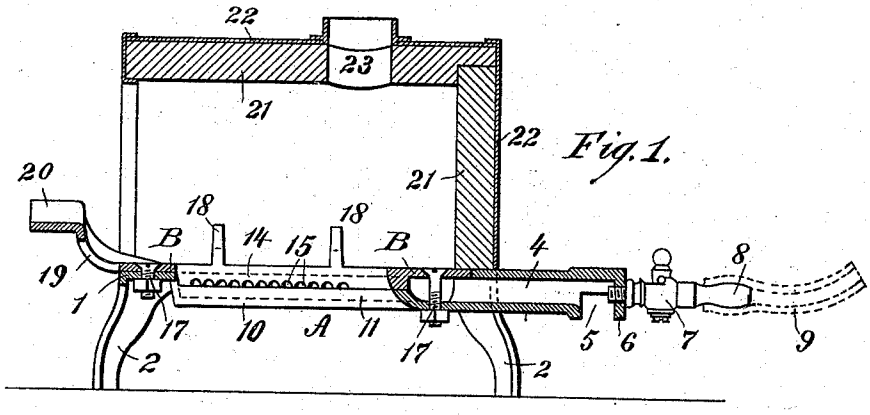


Fig. 1.

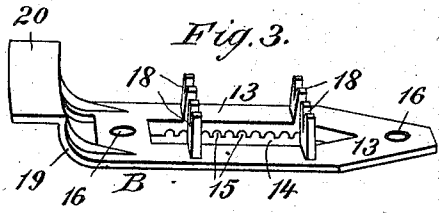


Fig. 3.

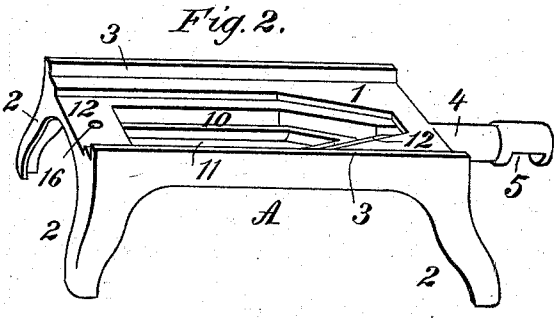


Fig. 2.

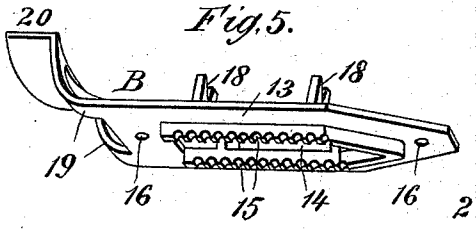


Fig. 5.

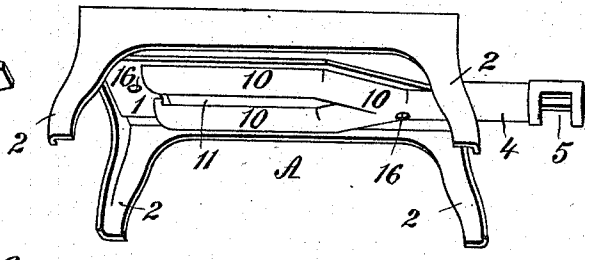
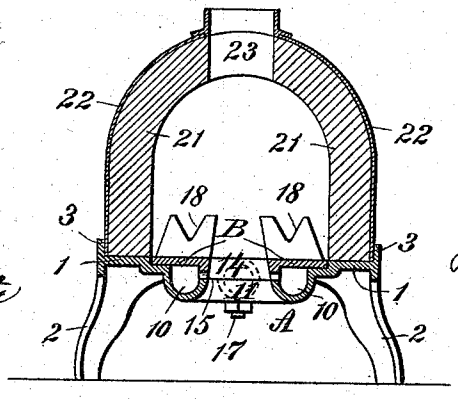


Fig. 4.

Fig. 6.



WITNESSES:

Donn Twitchell

W. W. Faitoute

INVENTOR

Joseph B. Laurent

BY

Alvin K. Goodwin

ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH BINJAMIN LAURENT, OF NEW YORK, N. Y.

SOLDERING-IRON FURNACE AND GAS-HEATER.

SPECIFICATION forming part of Letters Patent No. 530,488, dated December 4, 1894.

Application filed March 5, 1894. Serial No. 502,345. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BINJAMIN LAURENT, a citizen of the United States, residing at the city of New York, county and State of New York, have invented certain new and useful Improvements in Soldering-Iron Furnaces, of which the following is a specification.

My invention relates to soldering iron furnaces or heaters and has for its object to lessen their cost without sacrificing their efficiency.

To this end the invention consists in certain constructions and combinations of parts of the furnace whereby its base portion, including the burner and the soldering iron supports, is formed in but two parts requiring few and inexpensive fastenings; all as hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, similar reference characters indicate like parts in the several views.

Figure 1, is a central longitudinal vertical sectional elevation of my improved furnace or heater. Fig. 2, is a top perspective view of the main lower part of its base. Fig. 3, is a like view of the upper portion of the base. Figs. 4 and 5 are bottom perspective views of the parts shown in Figs. 2 and 3 respectively; and Fig. 6, is a transverse vertical section of the furnace or heater.

The base or lower portion of my improved furnace is made in but two parts, a main bottom portion A, and a corresponding upper or cap portion B. The part A, has a comparatively flat plate portion 1, from which integral supporting legs 2, project downward. Upwardly projecting flanges 3, 3, rise one from each side edge of the plate 1, and give lateral steadiness to the fire brick lining and metal top which rest upon the plate inside of the flanges.

The mixing chamber of the burner is formed or cast mainly with the lower plate 1, and has an outer projecting tubular portion 4, which is cored out in the casting, and has an outer atmospheric air inlet 5, beyond which is an end flange or piece 6, to which the gas cock 7, is screwed or attached. This cock has a nozzle 8, for connection of a gas feed or supply pipe which may be a flexible tube 9. From its tubular part 4, the mixing chamber branches or forks laterally and forward to form two chambers 10, 10, which lie preferably about parallel with each other and are semi-tubular or closed at the bottom and front end and open at the top.

The central portion of the plate 1, is cut away to form an opening 11, giving free passage from below the furnace of atmospheric air to maintain combustion at the burner. The plate 1, also preferably has a top recess or rabbet 12, around the outer margin of the side branches 10, of the mixing chamber. This recess receives the main plate portion 13, of the part B, which projects over and forms a top wall or cap for the branched chambers 10, and has a central opening 14, corresponding with the opening 11, of the main part A, and for like purpose, or to allow free passage of air to the burner flames.

The flame apertures of the burner may be produced by forming or casting notches along opposite inner edges of the side parts or walls of the branched mixing chambers and in either of the parts A, or B, I show said flame apertures 15, cast in pendent flanges, ranging along opposite sides of the opening 14, of the part B, but these notches may be produced in the part A, with like effect. The parts A, B, also have holes 16 cast in them to receive bolts 17, which bind both parts together in a manner allowing their separation to remove carbonaceous deposits and thus keep the interior of the mixing chamber and the flame apertures thoroughly clean and clear to promote maximum efficiency of the burner with minimum consumption of gas. On the part B, are also formed or cast the upwardly projecting notched supports 18, on which a pair of soldering iron points or but one point may rest within the furnace, and on or with said part B, are also cast brackets 19, 19, which support an integral ledge or shelf 20, which sustains the handle portions of one or more irons being heated in the furnace. The fire brick lining 21, has usual form and is sustained within the outside metal top casing 22, which like the lining, has a top opening at 23, for escape of surplus hot products of the burner.

The operation of the furnace is substantially the same as others of its class. Atmospheric air entering the burner mixing

chamber at its outer opening 5, meets gas entering at the cock 7, and the intermingled gas and air pass forward to the branches 10, 10, of the mixing chamber and flame hotly at the apertures 15, directly beneath and around the points of soldering irons sustained on the supports 18, 20, of the furnace.

It is obvious that with the base portions A, B, formed or cast with the branched mixing chamber and burner and provided with soldering iron supports formed or cast integral with the base, the furnace or heater may be more cheaply made than if the iron supports were separately formed and fastened to the base or to the upper casing portions of the furnace. Furthermore, a series of mixing chambers 4, 5, 10, 10, with sufficient number of supporting legs 2, may be cast in one piece, and a series of detachable base portions 13, having soldering iron supports 18, 20, may be fitted over the mixing chambers and all within one or more upper casings, thus permitting cheap manufacture of a multiple heater or furnace accommodating two or more pairs of soldering irons.

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

1. A furnace or heater of the character described, having a base portion formed in two parts or castings, one part having integral therewith the outer portion of the mixing chamber and the inner forked or branched portions of said chamber which are separated by an air inlet opening; the other part of said base forming a cap to said branched portions of the mixing chamber and having a central opening and an integrally formed support for the handle of a soldering iron; burner flame apertures being provided along opposing walls of the side portions of the mixing chamber, substantially as described.

2. A furnace or heater of the character described, having a base portion formed in two parts or castings, one part having integral therewith the supporting legs, the outer portion of the mixing chamber, and the inner forked or branched portions of said chamber which are separated by an air inlet opening; the other part of said base forming a cap to said branched portions of the mixing chamber and having a central opening and an integrally formed support for the handle of a soldering iron; burner flame apertures being provided along opposing walls of the side portions of the mixing chamber, substantially as described.

3. A furnace or heater of the character described, having a base portion formed in two parts or castings, one part having integral therewith the outer portion of the mixing chamber and the inner forked or branched portions of said chamber which are separated by an air inlet opening; the other part of said base forming a cap to said branched portions of the mixing chamber and having a central opening and an integrally formed support for the handle of a soldering iron, and also having integral studs projecting within the furnace casing to support the point of a soldering iron; burner flame apertures being provided along opposing walls of the side portions of the mixing chamber, substantially as described.

4. In a furnace or heater of the character described, the base formed of two parts, one part having integral therewith the legs 2, the tubular stem 4 and the branches 10, 10, of the burner mixing chamber; and also having air inlet opening 11; and the other part forming a cap to said branches 10, 10, and having an air inlet opening 14, and an integral tool support 20; burner flame apertures being provided at the joint between the two parts, substantially as described.

5. In a furnace or heater of the character described, the base formed of two parts A, B; the part A, having opening 11, integral legs 2, and the tubular stem 4, 5, and branches 10, 10, of the burner mixing chamber; and the part B, having opening 14, and integral tool supports 18, 20; flame apertures 15, 15, being provided at the joint of the parts A, B, substantially as described.

6. In a furnace or heater of the character described, the base formed of two parts A, B; the part A, having opening 11, and recess 12, and also having integral legs 2, and tubular stem 4, 5, and open-topped branches 10, 10, of the burner mixing chamber; and the part B, having opening 14, and integral tool supports 18, 20; flame apertures 15, 15, being provided at the joint of the parts A, B, substantially as described.

JOSEPH BINJAMIN LAURENT.

Witnesses:

ALVIN K. GOODWIN,

MOSES W. FAITOUTE.