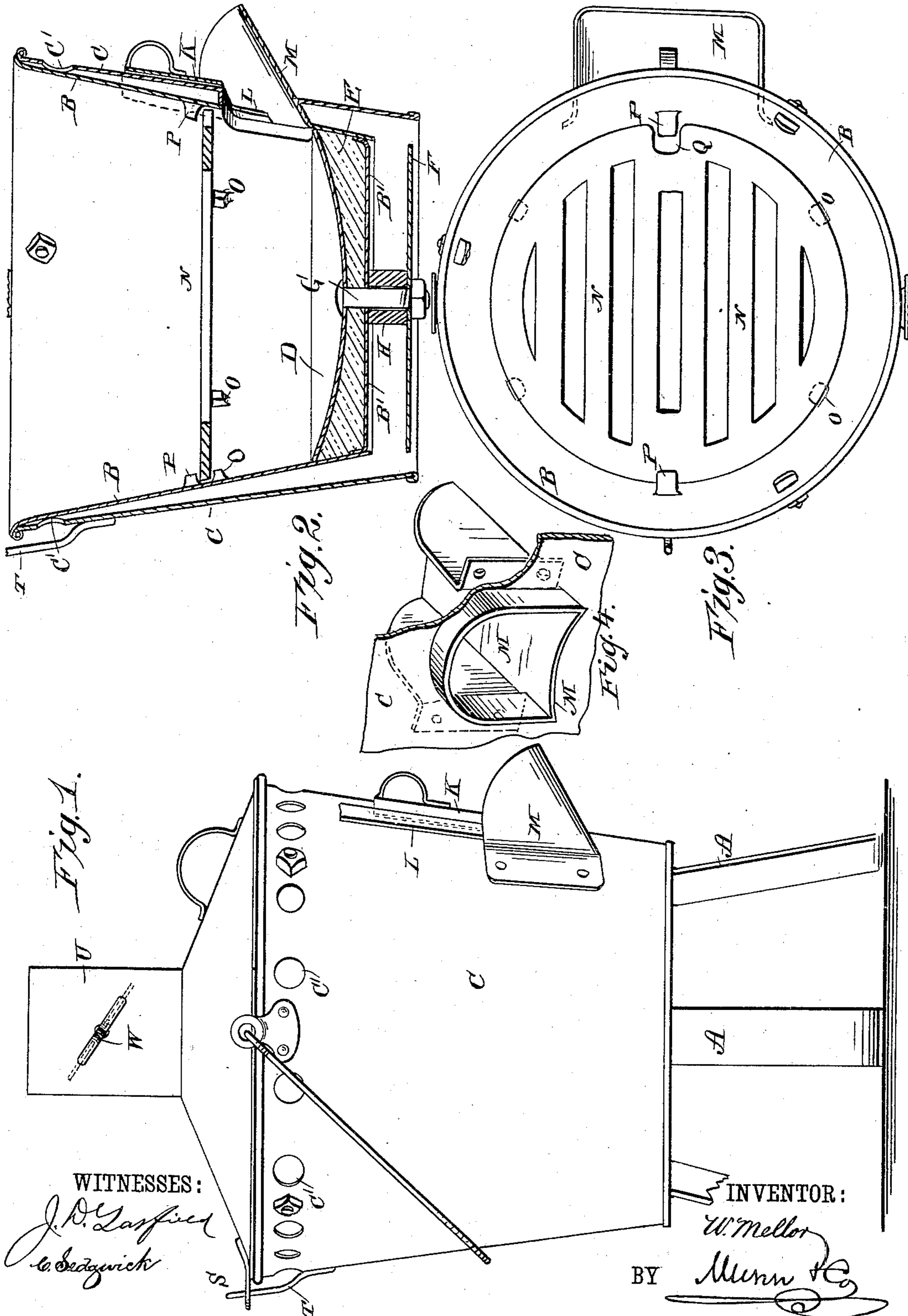


(No Model.)

W. MELLOR.
SOLDERING IRON HEATER.

No. 370,552.

Patented Sept. 27, 1887.



WITNESSES:
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WILLIAM MELLOR, OF NEW YORK, N. Y.

SOLDERING-IRON HEATER.

SPECIFICATION forming part of Letters Patent No. 370,552, dated September 27, 1887.

Application filed January 13, 1887. Serial No. 224,264. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MELLOR, of the city, county, and State of New York, have invented a new and Improved Soldering-Iron Heater, of which the following is a full, clear, and exact description.

My invention has for its object to furnish for the use of plumbers, roofers, and others an improved furnace which is easily adaptable for melting solder or for heating soldering-irons, the radiation of heat, and hence danger of fire, from which is almost entirely obviated, and which is exceedingly convenient in use and simple in construction.

The invention consists in the construction, combination, and arrangement of various parts of the furnace, as hereinafter fully described, and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation of my improved plumbers' furnace. Fig. 2 is a sectional elevation of the body of the same. Fig. 3 is a plan view with the cover removed. Fig. 4 is a detail perspective view partly in section.

B designates the downwardly-tapering side wall of the furnace-body, and B' the bottom thereof, attached to the side wall, B, in any suitable manner.

On the bottom of the furnace-body is placed a thick layer, E, of powdered shell-lime or a similar heat-resisting material, which is retained in place by an upwardly-concaved plate, D, fitting closely in the furnace-body, and which also forms the fire-pot when the furnace is used for heating soldering-irons. A headed bolt, G, is passed centrally downward through the plate D, layer E, and bottom B', and also through a tubular spacing-piece, H, and a circular plate or shield, F, held against the lower end of the same, and on the lower end of the bolt is screwed a nut for clamping the several parts firmly together. The layer of powdered filling E is thus held in a tightly-closed chamber formed between the wall of the furnace-body, the bottom B', and the plate D, and enables a fire to be built with perfect safety in the fire-pot.

About midway of the depth of the furnace-body a series of lugs, O, are riveted or other-

wise secured to and around the interior of the wall B thereof, on which a grate, N, rests, as usual. Two diametrically-opposite lugs, P, are likewise secured to the wall B, just above the grate N, either of which will pass through a notch, Q, formed in the periphery of the grate, so that the grate may easily be removed or locked in place by turning it to bring the notch Q into or out of register, respectively, with either lug P. A bottomless shell, C, surrounds the furnace-body, is united to the wall B of the same at the top, as shown, by a close lap or folded joint, and is secured in place by bolts passed through both the wall and shell. The shell C diverges downwardly from the wall B, and extends downward below the bottom B' of the body to or about the plane of the circular shield F, which, being about the diameter of the bottom B', leaves an annular opening between its edge and the interior of the shell C. A row of apertures, C', is formed in the shell near the top thereof. An opening is formed in the wall B of the furnace-body at the level of the concave plate D, and a corresponding opening in the shell C, to permit the introduction of the soldering-irons into the fire-pot, formed by said plate D. The narrow open space thus left between the wall and shell is closed at the top and sides by a strip formed by bending over the metal of either the wall or shell, and at the bottom by the inner part of the inclined bottom of the guard M. This guard projects outward and upward, and its sides are bent upward and flanged to receive the rivets by which they are attached to the shell C, as shown most clearly in Fig. 1.

The opening in the shell, and hence in the wall B, can be regulated by a door, K, sliding vertically on the outside of the shell in guides L, secured at the sides of the opening in the same.

The open top of the furnace-body can be closed by a cover carrying an ordinary chimney, U, and damper W, and having attached thereto at its rear edge a projecting plate, S, apertured to receive an upwardly-projecting pin, T, soldered or fastened to the top of the outer shell, C. The cover can thus be wholly removed or swung to one side at will.

With this construction of furnace the grate N can be readily removed and a fire of coke or charcoal built in the fire-pot formed by the

plate D, for heating the irons, or the grate replaced and a fire built thereon for melting pots of solder, the bottom plate, D, then forming the ash-pit. In either case the draft may
 5 be easily regulated by the sliding door K or the damper W in the chimney U, and if while melting solder any of the same should be spilled the peculiarly-constructed fire-pot and guard M would prevent its escaping and doing
 10 damage.

Through the space left between the body-wall B and the shell an upward current of air is constantly passing, the cold air entering the annular opening between the shield F and
 15 shell C, circulating between said shield and the bottom of the furnace-body and the shell and the wall B, becoming heated and escaping by the top apertures, C'. This upward current is uninterrupted by the air-supply entering
 20 the side opening, as the same is entirely cut off from the annular air-space by the construction described. All dangerous radiation of heat from the wall and bottom of the furnace-body is thus effectually prevented.

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

1. The combination, in a furnace of the class described, of the furnace-body having an im-
 30 perforate bottom, an outer bottomless shell, C,

united to the wall B of the furnace at the top, diverging downwardly therefrom and extending below the bottom of the furnace-body, a shield, F, supported at a distance below the
 35 bottom of said body to leave an opening between its edge and the shell, and escape-apertures in the upper part of the outer shell, whereby a continual circulation of cold air will be maintained around and below the furnace-body
 40 and lateral radiation from the bottom of the fire-pot by reflection from the shield be prevented as set forth, substantially as shown and described.

2. The combination, in a furnace of the class described, of the furnace-body, the shell C,
 45 united to the wall B of the same at the top and diverging downwardly therefrom, a fire-pot in the bottom of said body, corresponding openings in the wall B thereof and in the shell
 50 C, a metal strip or piece closing part of the space between the wall and shell at said opening, and a guard, M, closing the remainder of said space, projecting outward and upward and having its sides bent upward and secured to
 55 the shell C, substantially as shown and described.

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Witnesses:

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