E. B. GIBBUD.

Tinman's Furnace.

No. 49,517. Patented Aug. 22, 1865.

Fig. 1

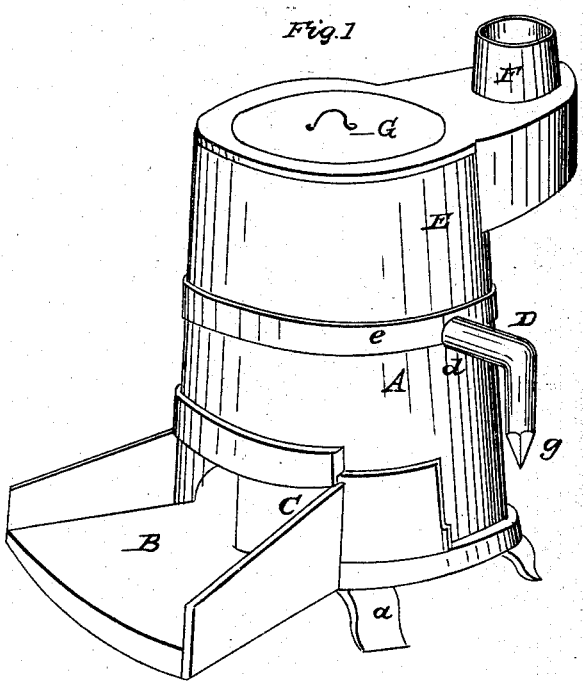
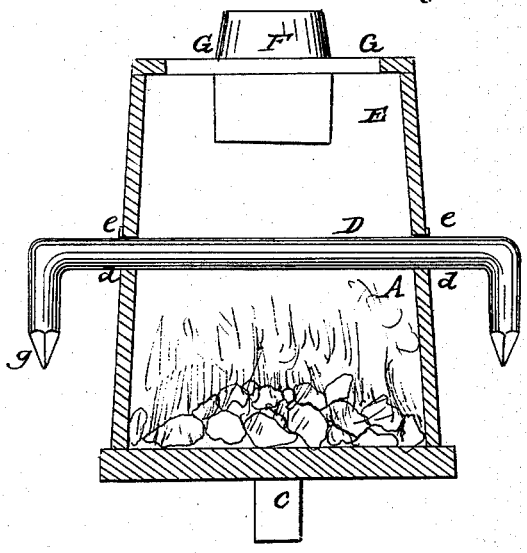


Fig. 2.



WITNESSES

Asa Wilmot

Jos P. Bristol

INVENTOR

Eli B. Gibbud

by R. Fitzgerald

his Attorney

N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

ELI B. GIBBUD, OF WATERBURY, CONNECTICUT.

TINMAN'S FURNACE.

Specification forming part of Letters Patent No. **49,517**, dated August 22, 1865.

To all whom it may concern:

Be it known that I, ELI B. GIBBUD, of the city of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Combined Tinman's Furnace and Copper; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make part of this specification, in which—

Figure 1 is a perspective view of the whole apparatus, showing one end of the copper, &c. Fig. 2 is a section of the same, cut vertically through the center in the direction of the bar or rod of the soldering-copper, showing the shape of the copper and its relative position as to the fire.

My improvement consists in making the body of the furnace in two parts, one sitting upon or above the other, and being made movable by a hinge on the back side or otherwise, so as to be susceptible of receiving the rod or bar of the soldering-copper; and in making the soldering-copper of a rod or bar of copper bent at each end and the points properly shaped for use and extended out on each side of the furnace to a convenient distance, to be used both at the same time, if necessary, and so placed in or across the body of the furnace that the whole of it will be heated to and kept at the proper temperature.

I make the furnace of cast-iron or of any other suitable material, in two parts, substantially in the form or shape shown in Fig. 1 and indicated in section in Fig. 2.

I make the lower part, A, with a suitable hearth, as B, a suitable damper, as C, and set it on suitable feet, as *a*, *b*, and *c*, all as shown in Fig. 1; and at its upper extremity I make two half-round notches diametrically opposite, as indicated at *d* and *d*, Fig. 2, and *d*, Fig. 1, in which I lay the bar or stock of the copper D, as shown in Fig 2 and indicated in Fig. 1.

I make the upper portion, E, in a suitable form to fit onto the lower part, as shown in Fig. 1, with half-round notches to fit the bar or stock of the copper, as shown in Fig. 1 and indicated in Fig. 2, and a band or projection, as *e*, around its lower extremity to steady the joint, and a suitable chimney or outlet, as F, for the smoke and gas to escape and to furnish draft, and a suitable opening, as G, Fig. 1, for feeding in the coal, and I secure it to the lower part by a hinge on the back side or otherwise.

I make the soldering-copper of a rod or bar of copper of the suitable size or length, and bend the two ends downward, as shown at D, Figs. 1 and 2, and fit or shape the points for soldering, substantially as shown at *g* and *g*, Fig. 2, and at *g*, Fig. 1. This bar or rod D may be made of iron and the copper ends suitably attached, if found more convenient at any time; but I prefer the copper rod as before described, or a copper rod with a swell in the central part, so as to increase the conducting-power and make the heat more steady.

Having made the several parts as before described, I raise or turn up the upper part, E, of the furnace and lay in the copper D, as shown in Fig. 2, and shut down the upper part again, as in Fig. 1, when each end of the copper will protrude or project, as shown at *g* and *g*, Fig. 2, and one end at *g*, Fig. 1; and I put in the coal and ignite it in the usual way, and thus heat the copper from the central part, as indicated in Fig. 2; and I regulate the fire as needed by the damper C, Fig. 1, or by any other convenient means, so as to keep the two ends *g* and *g* of the copper of the desired temperature for soldering.

To solder with this apparatus, I tin the end of the coppers in the usual way, and then bring the work up to the end *g* of the copper and pass it along as the work requires, (in a manner well known to tinmen;) and the apparatus may be so located on a bench or other convenient stand in such a position as to render it perfectly convenient for two workmen to work at the same time, one using each end of the copper.

Among the conveniences or advantages of my improvement are the two very important ones, first, that the copper may be always kept hot, and, secondly, that the points *g* and *g* will never be burned so as to need filing and tining anew, which so often happens when the end of the copper is placed in the fire for the purpose of heating.

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

The furnace, in combination with the copper D, when they are constructed, arranged, and fitted for use substantially as herein described.

ELI B. GIBBUD.

Witnesses:

JOHN W. PAUL,

ROBT. CRAM.