(No Model.)

2 Sheets—Sheet 1.

D. M. SHOEMAKER.

TINMAN'S FURNACE.

No. 265,157. Patented Sept. 26, 1882.

Fig. 1.

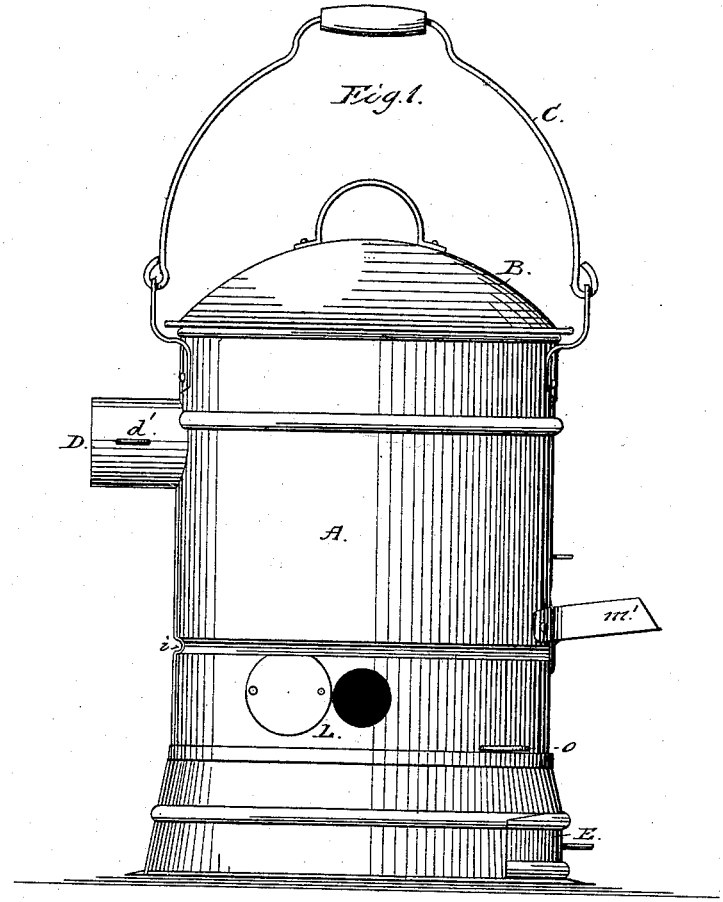
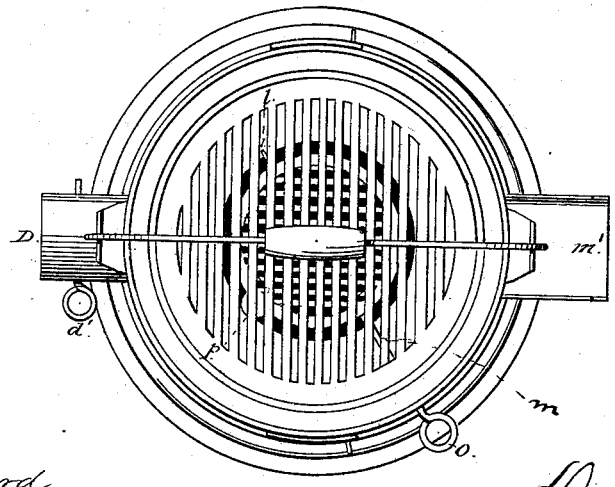


Fig. 2.



Attest;
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Jno. R. Young.

Inventor;
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(No Model.)

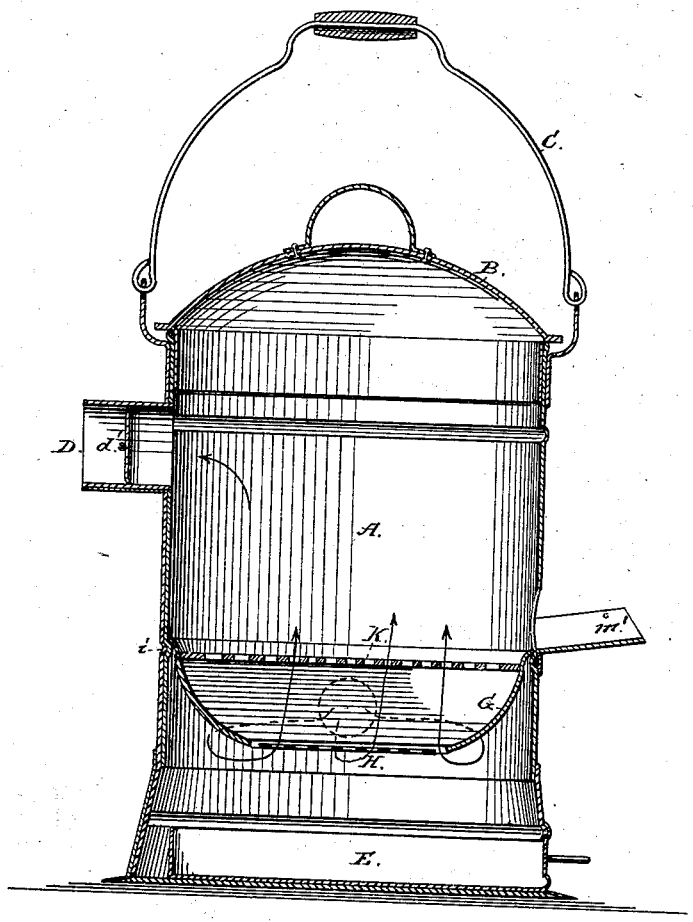
2 Sheets—Sheet 2.

D. M. SHOEMAKER.

TINMAN'S FURNACE.

No. 265,157. Patented Sept. 26, 1882.

Fig. 3.



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UNITED STATES PATENT OFFICE.

DAVID M. SHOEMAKER, OF COLUMBUS, OHIO, ASSIGNOR TO L. S. AYRES, OF SAME PLACE.

TINMAN'S FURNACE.

SPECIFICATION forming part of Letters Patent No. 265,157, dated September 26, 1882.

Application filed May 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, DAVID MILTON SHOEMAKER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Tinmen's Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in tinmen's furnaces; and it consists of a combination of a double grate, imperforate or closed fire-pot, dampers, flues, and suitable shelf, as hereinafter described and claimed.

My improvement is illustrated in the accompanying drawings, in which Figure 1 is a perspective view; Fig. 2, a plan view with the cover removed, and Fig. 3 a vertical sectional view.

The same letters represent similar parts in the different views.

A is a cylindrical furnace, provided with cover B, handle C, and chimney D. The chimney is provided with the common form of damper, *d'*.

E is the ordinary form of ash-box, located at the bottom of the pot.

G is a circular fire-pot suspended from annular flange *i*, with downwardly and inwardly curved sides, and supporting at its bottom a lower grate, H. One side of said grate is supported by a lug or short rod, *l*, turning loosely in a bearing in one side of the fire-pot, and the opposite side by rod *m*, which runs through the walls of the furnace and terminates in handle *o*. By means of said handle the lower grate is tipped for the purpose of throwing out ashes and contents of fire-pot into the ash-box. The lower grate is also provided with a lug, *p*, which rests on the walls of the fire-pot.

K is an upper removable grate, resting loosely on the fire-pot and a little below the upper surface of its rim. The fire-pot and lower grate are also removable, and are easily taken out, when desired, for repairs or replacement of new parts.

L is a draft-inlet, which admits air from the outside to within the pot, behind the solid wall of the fire-pot and at a point below the upper grate. The furnace may be supplied with more than one of these side inlets. In practice I find the use of two preferable. Each of these inlets can be tightly closed by suitable doors, as shown.

m' is a projecting shelf, to be used for the support of soldering-irons when the device is used as a tinman's furnace. The irons, when used, will rest upon the upper grate, and the opening through which they are put can also be closed by a sliding or swinging door.

To operate the furnace fuel is introduced at its top onto the upper grate and lighted, the side inlets opened, admitting currents of air behind the pot, which descend under the lower grate and up through the same against the under surface of the fuel on upper grate. The upper grate is placed a sufficient distance above the lower grate to create a strong draft.

My improvement has many advantages over the old style of fire-pot. In many of the common fire-pots no grates at all are used. Charcoal and then coal is put in at the top and falls to the bottom. Very little draft is obtained, the fuel is but partly consumed, and great difficulty is had in burning fine coal. The burning mass being on the bottom of the pot, the bottom is so heated that the pot can only be set on some non-combustible support. By the use of my improvement a strong steady draft is obtained, so that either fine or coarse coal may be readily used, the fuel is thoroughly consumed, and all waste avoided; and I claim that by the use of my improvement about fifty per cent. of fuel can be saved over the ordinary form of fire-pot. The lower grate being a dumping-grate, very little time is necessary to clean the fire pot, and the bottom of the fire-pot is always cool, thus making it perfectly safe for use wherever placed.

It will be seen that the form of furnace may be changed from that shown in the drawings, and that my improvement may be used with many forms of stoves and furnaces without materially departing from the scope of my invention.

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

The combination of the body A, the imperforate fire-pot G, having the grates K and H located therein, one above the other, said body being provided with the air-inlets L, located opposite and about the imperforate fire-pot, and the exit-flue D *d'*, located above the fire-pot, and the intermediately-located shelf and entrance *m'*, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID MILTON SHOEMAKER.

Witneses:

JOHN G. DUN, Jr.,

HENRY GUMBLE.