T. BISCH.

LEAD FURNACE BOTTOMS.

No. 189,016. Patented April 3. 1877.

Fig. 1.

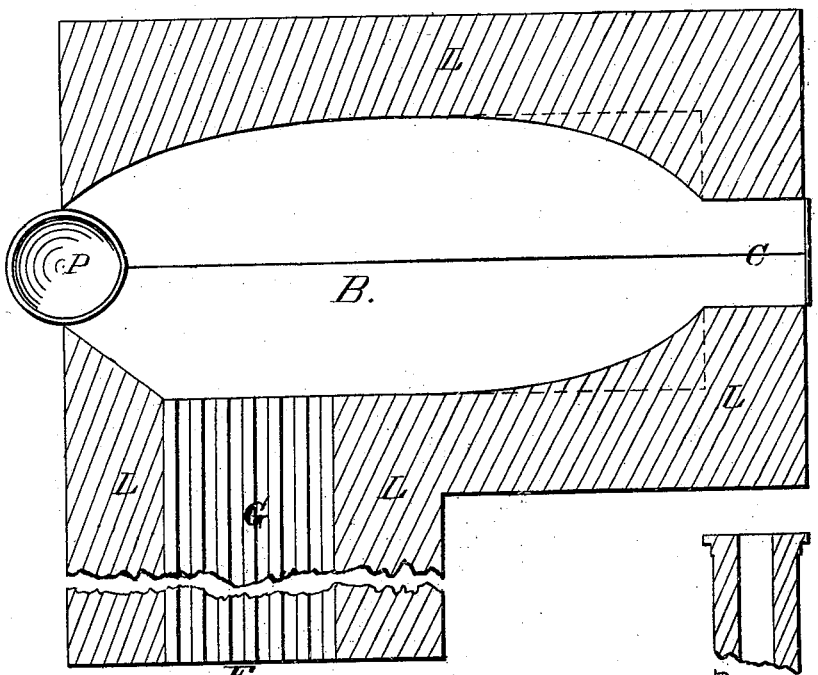


Fig. 2.

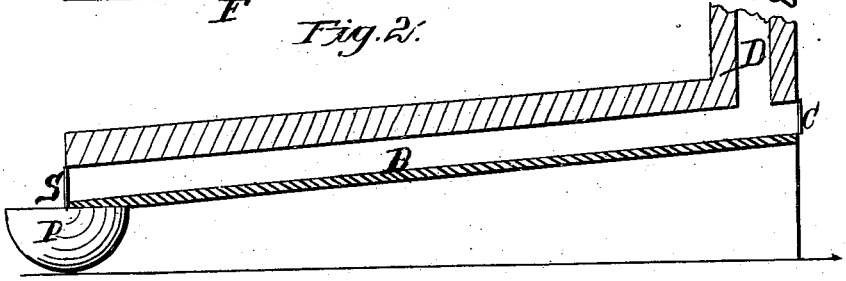
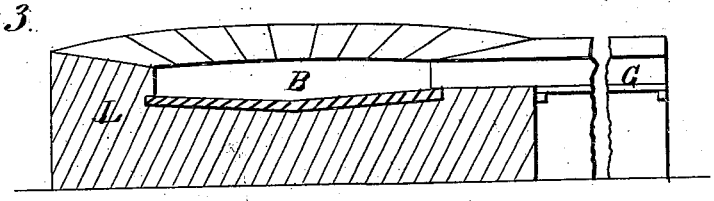


Fig. 3.



Witnesses.

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THEODORE BISCH, OF DE SOTO, MISSOURI.

IMPROVEMENT IN LEAD-FURNACE BOTTOMS.

Specification forming part of Letters Patent No. **189,016**, dated April 3, 1877; application filed October 28, 1875.

To all whom it may concern:

Be it known that I, THEODORE BISCH, of De Soto, in the county of Jefferson and State of Missouri, have invented a new and useful Improvement in Lead-Furnace Bottoms, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

The object of my invention is to supersede the present slag bottom in ell (L) or air furnace, in galena reduction in dry charges. Notwithstanding a galena charge upon the sole of an air-furnace is reduced at a low heat, and always without fusion, there is nevertheless a considerable quantity of silicious matter injuriously combined with the lead oxide formed, causing a reduced yield from even pure galena.

Slag bottoms, from unavoidable conditions, are used almost exclusively, lead slag being the best material that lead-smelters can easily procure, it being also already partially saturated with lead or other metals and oxides.

Another expensive attendant is in the constant need of repair from corrosion or abrasion.

My invention is only applicable to dry reduction, since the heat at which galena can be reduced in air-furnaces is so much under that at which iron actively absorbs sulphur, that the iron sole has no durable quality lost thereby.

From a practical use of air or ell furnaces for fifty years with slag bottoms, and a short experience with an iron bottom, I find that the iron bottom saves time, labor, and fuel, and affords a superior yield and quality of lead, leaving a residue or slag that is only silicated by the ore impurities, the yield being six per cent. larger and the metal softer.

My invention is illustrated in detail in plan view, Figure 1, longitudinal vertical section, (see Fig. 2,) and cross-vertical section, Fig. 3, in which—

B is the four-inch-iron sole-plate; C, charging-door; D, uptake; F, fire-door; G, grate of fire-chamber; L L, lining and walls; P, metal pot, with a portion of it inside of the furnace to keep the metal hot; S, front stirring-door. The pot P when in position has its lip seated in a cut-away in the under side of the sole-plate, to secure the delivery of the metal over its edge without leakage.

I do not claim an iron sole-plate as used in a boiling-furnace.

I claim—

In combination, the cast-iron furnace-sole, inclined from rear to front, and having its upper surface longitudinally synclinal, and the metal-discharging pot, the sole being suitably cut away at its discharge end to receive the pot, and form therewith a drip-proof seat, all substantially as and for the purpose herein set forth.

THEO. BISCH.

Witnesses:

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