

No. 647,661.

Patented Apr. 17, 1900.

E. V. LANYON.  
METALLURGICAL FURNACE.

(Application filed June 21, 1899.)

(No Model.)

Fig. 1.

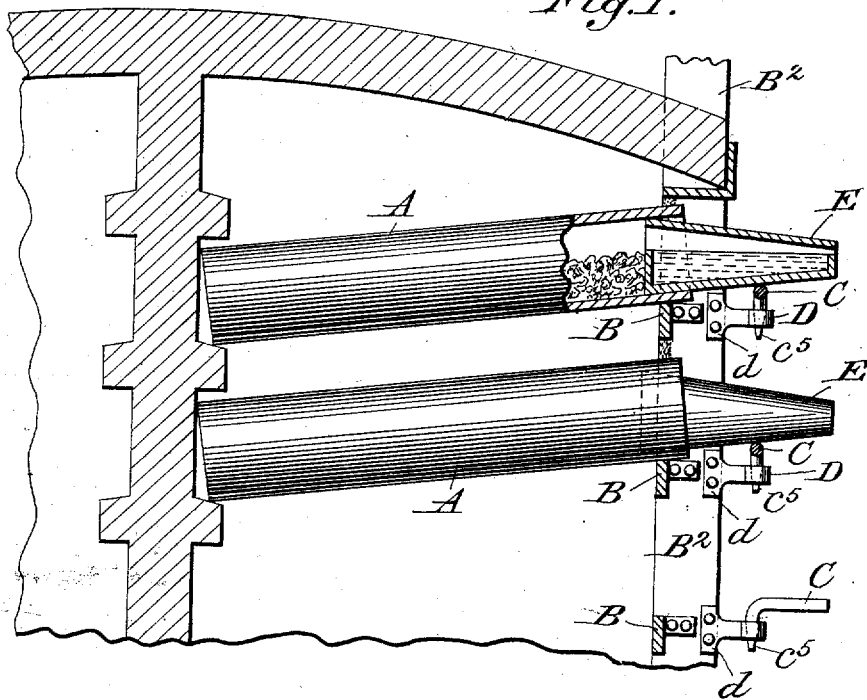


Fig. 2.

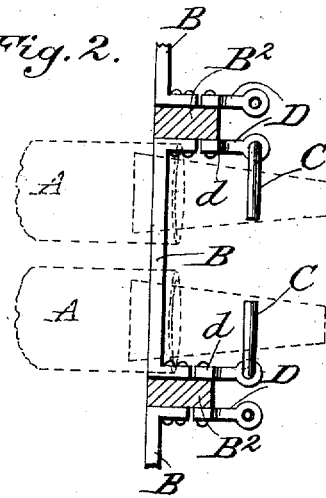
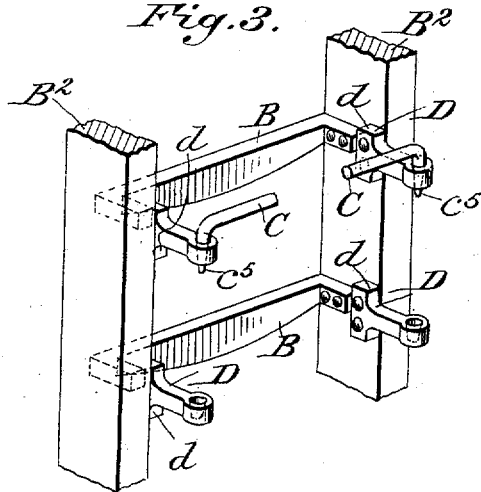


Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## METALLURGICAL FURNACE.

SPECIFICATION forming part of Letters Patent No. 647,661, dated April 17, 1900.

Application filed June 21, 1899. Serial No. 721,326. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN V. LANYON, a citizen of the United States, residing at Pittsburg, county of Crawford, and State of Kansas, have invented certain new and useful Improvements in Metallurgical 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 improvements in metallurgical furnaces.

In such metallurgical furnaces in which a distillation of metal takes place it is usual to employ a condenser connected to the means for distilling the metal, which condenser requires support in order to retain it in its proper operative relation to the said distilling means.

It is the object of my invention to provide such a support for the condenser as will be readily movable and easily operated in order that if occasion should demand the removal of the condenser or retort, or both, the support may easily be swung out of its operative position in order to give ready access to the condenser or to the retort, or to both.

With this broad object in view and some others which will be fully understood by those skilled in the art a device embodying my invention, broadly considered, consists in means for distilling metal, a condenser connected thereto, and a swinging supporting-arm arranged to support the condenser.

A device embodying all the specific features of my invention comprises, furthermore, a retort, a bearing-bar or retort plate arranged to support the retort, a condenser connected to the retort, a buckstay, to which the bearing-bar or retort-plate may be connected, and a swinging supporting-arm movably connected to said buckstay and arranged to support the condenser.

My invention will now be described in connection with the accompanying drawings and then particularly pointed out in the claims.

In the drawings, Figure 1 is a detail transverse section of a part of a metallurgical furnace embodying my invention. Fig. 2 is a plan view of a retort-plate, two buckstays, and supporting-arms embodying my inven-

tion; and Fig. 3 is a perspective view of the same.

Referring to the drawings, A represents retorts, constructed in the usual manner, with closed rear ends and open front ends, these retorts being supported at the front by bearing-bars or retort-plates B, each of which preferably has its ends secured to buckstays B<sup>2</sup>, which extend vertically at intervals along the side of the furnace in the usual way, as will be fully understood by those skilled in the art. The ends of the bearing-bars or retort-plates B are turned outward and secured to the buckstays B<sup>2</sup>, preferably by riveting, as shown in the drawings. Each buckstay is provided with a lug D, secured to the buckstay in any suitable way, as by providing the lug with a base d, which is screwed or bolted to the side of the buckstay, as shown. In each lug is formed a conical socket arranged to receive the conical pintle c<sup>5</sup> of a swinging supporting-arm C, these supporting-arms in the present instance being made L-shaped.

In order to support the outer ends of the condenser E, the supporting-arm C may be swung beneath it when required, as shown in Fig. 3, the conical shape of the under side of the condenser being especially advantageous in connection with a swinging supporting-arm, since even though the condensers may vary slightly in size or in the relative angles which their under sides make with the front of the furnace the movable and swinging supporting-arms may be pushed or swung back to whatever distance may be necessary in order to bring such arms into close contact with the bottoms of the respective condensers, and thereby retain them without danger of their settling at the front ends and breaking the luting. In addition to this advantage it is obvious that by my construction the supporting-arms may be readily moved out of the way of the condensers and retorts in order to permit access to or removal of the same, and hence there is but little danger of the supporting-arms being accidentally broken, as would be the case if such arms were fixed in place.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a metallurgical furnace, the combi-

nation with means for distilling metal, and a condenser connected thereto, of a swinging supporting-arm arranged to support the condenser.

5. 2. In a smelting-furnace, the combination with a retort, of a condenser connected to the retort, and a swinging supporting-arm arranged to support the condenser.

10 3. In a smelting-furnace, the combination, with a retort, of a condenser connected with the retort and having a sloping under side, and a swinging supporting-arm arranged to swing under and into close contact with said sloping under side of the condenser.

15 4. In a smelting-furnace, the combination, with a retort, a bearing-bar carrying the retort, and a buckstay supporting the bearing-bar, of a condenser connected to the retort, and a supporting-arm movably attached to the buckstay and arranged to support the condenser.

20 5. In a smelting-furnace, the combination, with a retort, a bearing-bar carrying the retort, and a buckstay supporting the bearing-bar, of a condenser connected to the retort, and a supporting-arm pivotally connected to the buckstay and arranged to support the condenser.

25 6. In a smelting-furnace, the combination, with a retort, a bearing-bar carrying the retort, and a buckstay supporting the bearing-bar, of a condenser connected to the retort

and having a sloping under side, and a supporting-arm pivotally connected to the buckstay and arranged to swing under the sloping 35 side of and support the condenser.

7. In a smelting-furnace, the combination with a retort, a bearing-bar carrying the retort, and a buckstay supporting the bearing-bar and provided with a socket, of a condenser connected to the retort, and a supporting-arm having a pintle rotatable in the socket 40 of the buckstay and arranged to support the condenser.

8. In a smelting-furnace, the combination 45 with a retort, a bearing-bar carrying the retort and a buckstay supporting the bearing-bar and provided with a lug, having a socket, of a condenser connected to the retort and a supporting-arm provided with a pintle inserted in the socket in the lug and arranged 50 to swing under and support the condenser.

9. In a smelting-furnace, the combination, with a buckstay, a retort supported adjacent thereto and a condenser connected with the 55 retort, of a movable supporting-arm mounted on the buckstay and arranged to support the condenser.

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

EDWIN V. LANYON.

Witnesses:

DEE LANYON,  
E. H. RUBLE.