(No Model.)

H. J. HUTTNER.

Furnace for Roasting Quicksilver Ores.

No. 234,985. Patented Nov. 30, 1880.

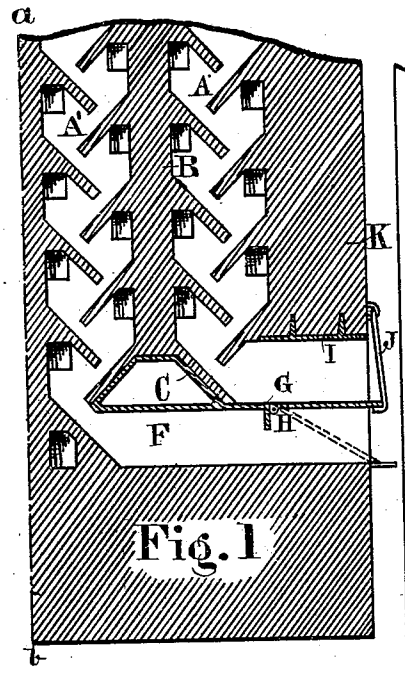


Fig. 1

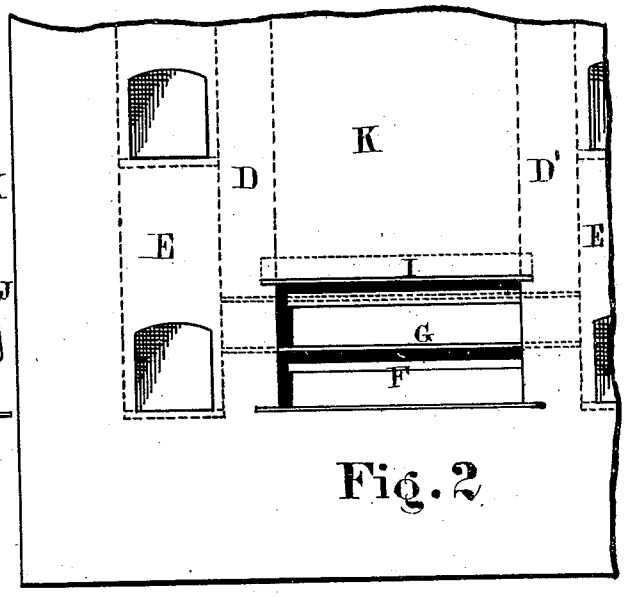


Fig. 2

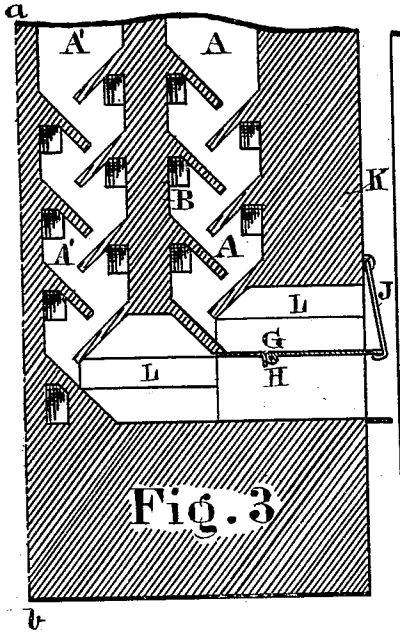


Fig. 3

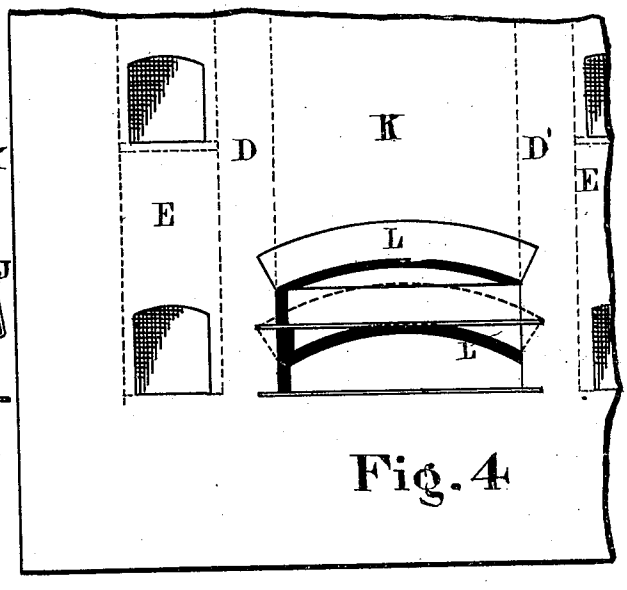


Fig. 4

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY J. HUTTNER, OF SAN FRANCISCO, CALIFORNIA.

FURNACE FOR ROASTING QUICKSILVER ORES.

SPECIFICATION forming part of Letters Patent No. 234,985, dated November 30, 1880.

Application filed June 14, 1880. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. HUTTNER, of San Francisco, State of California, have invented a new and useful Improvement relating to the Furnace for Roasting and Desulphurizing Quicksilver Ores invented by myself and Robert Scott, and patented to us October 31, 1876, by Letters Patent of the United States numbered 183,934, of which the following is a specification.

In the patent above mentioned a furnace is described having a chamber (marked A in said patent) which is divided by a partition-wall commencing at and solid upward from the foundation, thus forming two compartments. From both of these compartments the roasted ore must be drawn at the bottom. The manner of doing this described in the said patent is to draw from the compartments of the furnace in diametrically-opposite directions through the discharge-holes. (Marked D in said patent.) Sometimes it has been found that this arrangement of the discharge is seriously objectionable, both with single furnaces with but two compartments and in those cases where these furnaces are built in nests of two or more, back to back, because in the case of single furnaces with the old construction the ore must be drawn on each side of the furnace, which is not always convenient, and in case of furnaces placed back to back the drawing of the débris from the inner chambers must necessarily be done underneath the furnace, thus largely increasing the cost of construction and adding to the inconvenience of operating. It is the object of my present invention to obviate these difficulties.

It will not be necessary for me to describe the furnace in all its details in this specification, because a full description can be found in the patent numbered 183,934 aforesaid, this invention being simply an additional improvement thereupon.

In the accompanying drawings, Figure 1 is a half cross-section of a furnace, showing the lower portion of a chamber illustrating the discharging-passages, the dotted line *a b* being the central dividing-line from the other half of the furnace. Fig. 2 shows a front view of the same. Fig. 3 is a view taken similarly to Fig. 1, but the construction is slightly modified, Fig. 4 being a front view of the same.

In all the figures of the drawings the same letters of reference refer to like parts.

A is the front and A′ is the rear compartment of the furnace in which the ore is submitted to the action of the heat. B is the partition-wall separating these compartments. C is a strong cast-iron girder or lintel having a cross-section, as shown. This girder stretches across from wall D to wall D′ of the furnace, and passing entirely through these walls, being without closed ends, a current of air from the flues E will pass through the girder and keep it cool. This girder supports the partition-wall B and leaves a passage-way, F, below it leading from the rear compartment.

G is a shelf, being part of and extending from the girder to a little beyond the face of the wall, so as to keep the débris from the two compartments separated until finally discharged. If desired, this shelf may have a hinged joint, as shown at H, so that the shelf may be dropped down to form an incline, as indicated by the dotted lines in Fig. 1, thus giving less fall to the débris from the upper discharge as it is raked into the cars below.

I is a strong ribbed cast-iron lintel about the same length as the girder C, stretching from wall D to D′, and supporting the front wall, K, of the furnace, so as to admit of the discharge-opening below it. J are hooked braces, which are used to hang up the hinged shelf when drawing the ore from the lower discharge.

As a substitute for the cast-iron girders or lintels, I may use stone lintels, or I may, as I have shown in Figs. 3 and 4, build the walls B and K upon one or more arches, L, leaving openings beneath, as before described. In case this latter plan is adopted there must still be a provision made for the shelf G, which is provided with or may be without the hinged joint, as at H. The remaining details are unchanged.

The shelf G, which, as before stated, is used to separate the discharging débris, permits the operator to easily know the quantity discharged from and whether any stoppage or irregularity of action occurs in either compartment.

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

1. In an ore-roasting furnace, the combination, with the walls D D′, of the girder C or arch for supporting the partition-wall B and forming a discharging-passage, F, underneath, whereby both roasting-compartments can be discharged from the front of the furnace, substantially as described.

2. In combination with the girder or arch and partition-wall, the shelf G, for keeping separate the débris or spent ore of one compartment from that of the other, whereby the operator can note the quantity discharged from each compartment, and thus discover any stoppage or irregularity of action in either compartment.

HENRY J. HUTTNER.

Witnesses:
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