(No Model.)

J. B. RANDOL.

Ore Roasting Furnace.

No. 243,403. Patented June 28, 1881.

Fig. 1

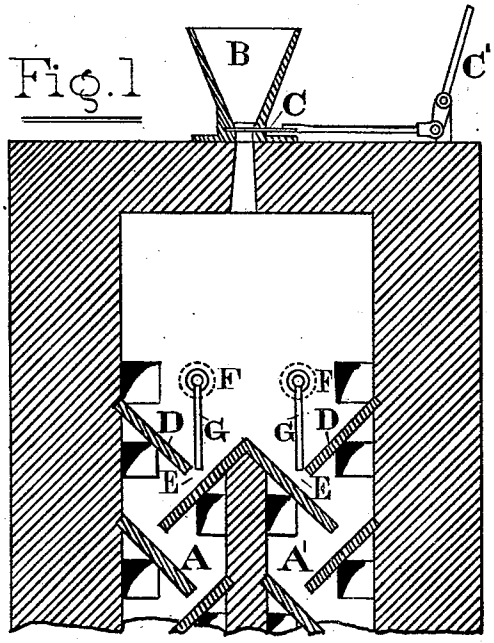
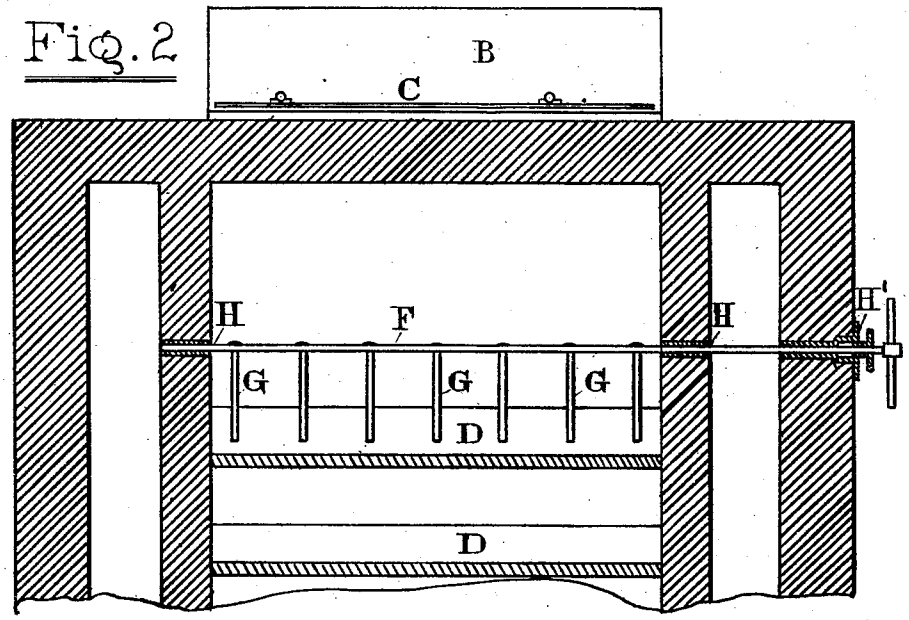


Fig. 2



Witnesses.

Wm L Dornillan

Charles Mountain

Inventor.

James B. Randol

by George Pardy

Atty

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UNITED STATES PATENT OFFICE.

JAMES B. RANDOL, OF NEW ALMADEN, CALIFORNIA.

ORE-ROASTING FURNACE.

SPECIFICATION forming part of Letters Patent No. 243,403, dated June 28, 1881.

Application filed August 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. RANDOL, of New Almaden, Santa Clara county, State of California, have invented a new and useful Improvement in Ore-Roasting Furnaces, of which the following is a specification.

The invention relates more particularly to that class of furnaces used for the reduction of quicksilver ores which are fed from above with a continuous or intermittent stream of ore, and which ore, descending through narrow passages in the ore-chamber, has, or may have, a tendency to become clogged by baking, or otherwise stopped in its descent, thereby suspending the operation of the furnace until such stoppage is removed; and it consists in the application of certain rakes or stirrers permanently secured in convenient form within the furnace, as below described.

To make my invention the more clearly understood I will refer its application in the present instance to the furnace patented to Huttner and Scott, October 31, 1876, No. 183,934, which furnace is shown in the accompanying drawings, in which—

Figure 1 is a part of a transverse sectional elevation of a Huttner and Scott furnace with my improvement attached. Fig. 2 is a part of a longitudinal section of same.

Similar letters of reference refer to like parts in both figures of the drawings.

A A′ are the ore-chambers, in which the ore is roasted.

B is a hopper freely supplied with ore of mixed fineness, varying from fine earthy matter to pieces as large as hen's eggs, or larger.

C is a valve or slide operated by the handle C′, which regulates the feeding of the ore into the furnace.

D D are the slanting shelves upon which the ore slides in its descent.

E E are narrow slots through which the ore passes, formed between the edge of one shelf and the face of the opposing shelf next below. As the ore is fed from the hopper there is a liability in these furnaces of their becoming choked at the slots E at the edge of the top shelf, and unless the slot is kept open the entire action of the furnace is stopped, as before suggested. To obviate this difficulty I employ a rake, F, extending from end to end of this slot E, permanently secured within the ore-chamber, and having a handle passing out through the front wall, so as to be conveniently operated by the attendant, when necessary. These rakes are simply rods of iron with dependent prongs G (inserted in the slot E) secured thereto about every twelve inches apart. Where they pass through the wall a suitable metal thimble, H, with stuffing-box provided with packing-gland and packing, may be provided, so as to permit them to be freely drawn out and pushed back with the least possible friction. These rakes may be vibrated from side to side as well as back and forth. Therefore it would be well to provide them with handles having a good leverage, so that any obstruction likely to occur at the point where they are applied may be completely removed.

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

In combination with an ore-roasting furnace, the rake F, permanently secured in the ore-chamber, and having a handle passing through the walls of the furnace, for the purpose of stirring or loosening the ore at any point liable to obstruction, substantially as and for the purpose herein described.

JAMES B. RANDOL.

Witnesses:

GEORGE PARDY,

JOHN RAFFERTY.