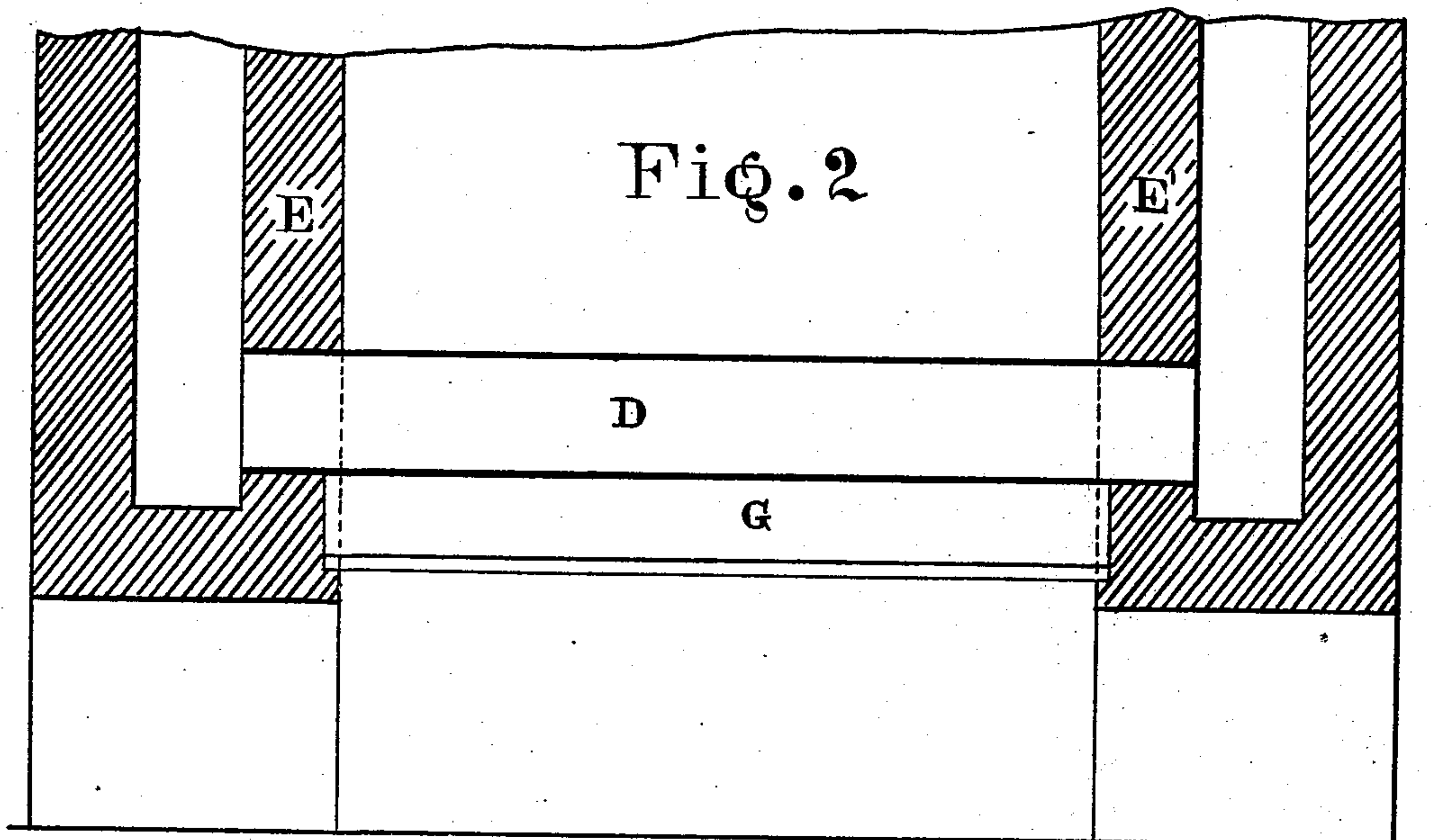
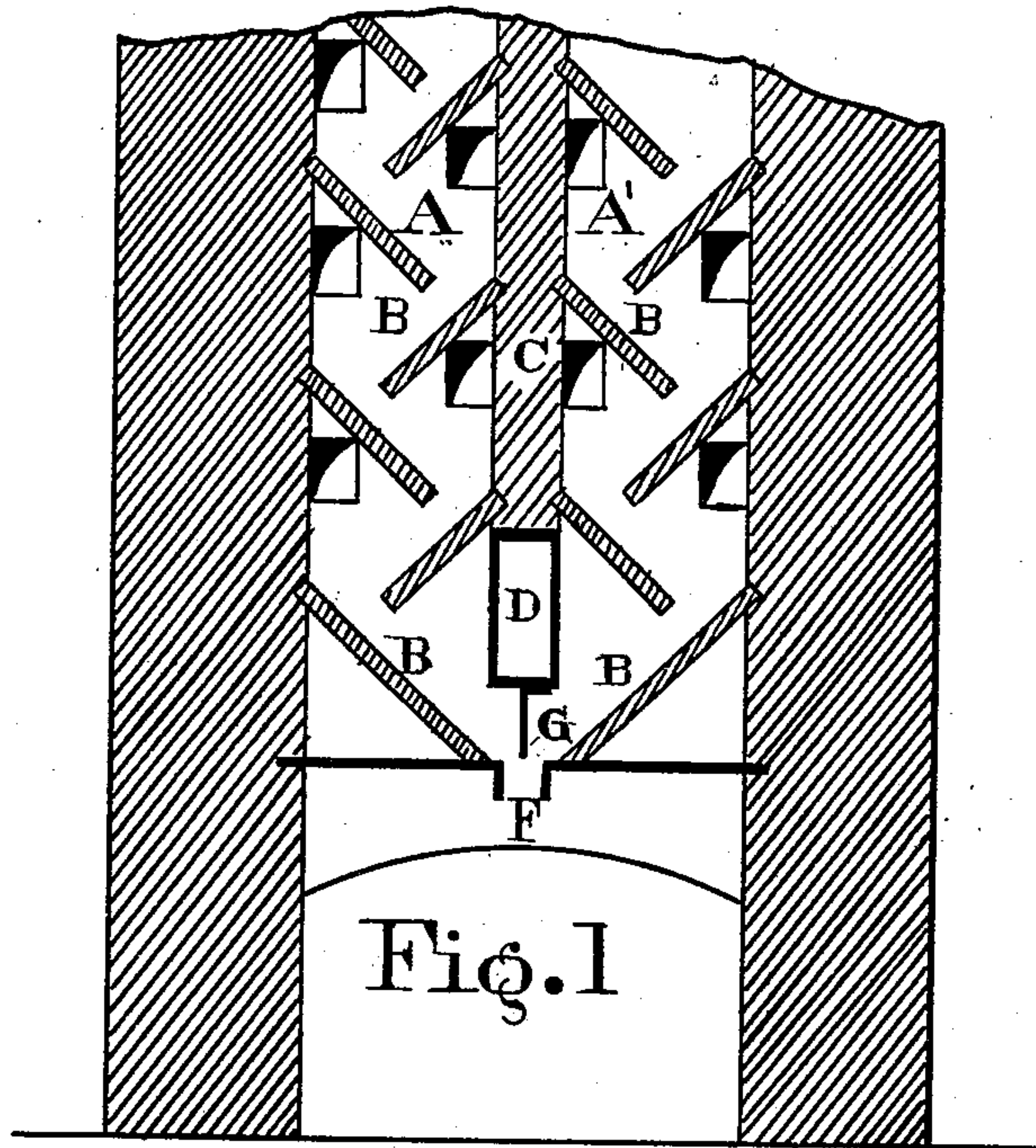


(No Model.)

J. B. RANDOL.  
Ore Roasting Furnace.

No. 243,402.

Patented June 28, 1881.



WITNESSES

*Wm. L. Donnellan*  
*Charles Monmonie*

INVENTOR

*James B. Randol*  
*per George Pardy*  
*Atty*



# UNITED STATES PATENT OFFICE.

JAMES B. RANDOL, OF NEW ALMADEN, CALIFORNIA.

## ORE-ROASTING FURNACE.

SPECIFICATION forming part of Letters Patent No. 243,402, 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.

My invention relates to that class of furnaces used for reducing quicksilver ores which have two compartments in which the ore is roasted side by side, discharging their débris through a slot common to both directly below the division-wall separating them; and it consists in the application of a certain partition set below the girder carrying the division-wall, which separates the débris from each compartment, thereby improving the discharge, as hereinafter described.

In the accompanying drawings, which represent a portion of a Huttner and Scott furnace, patented October 31, 1876, No. 183,934, (improved,) Figure 1 is a transverse sectional elevation, and Fig. 2 is a longitudinal sectional elevation of same.

Like letters of reference refer to like parts in both figures.

In the drawings, A A' are the ore-chambers, in which the slanting shelves B are placed, which receive the ore as it descends through the flames.

C is the division-wall separating the compartments A A'. This wall is supported upon the hollow girder D, which rests in the side walls E E'. Underneath this girder the débris from the two compartments finds its exit through the narrow slot F in the bottom of the furnace, under which it is thence carried away in cars, into which it falls. The girder D is of necessity as wide as the wall it is intended to support—generally nine inches—and the slanting shelves at the bottom must meet at the very edge of the narrow discharge-slot. This being a condition requisite to maintain a proper space for the débris to run between each lower edge of the girder and the face of the slanting

shelves, the bottom of the girder must be such a distance above the slot as to leave a space below in which the discharging débris from each compartment will meet, and, when not at once discharged, accumulate until the space is entirely filled. When the discharging of the débris is again resumed it has been found almost impossible to obtain a regular and equal discharge from each compartment, sometimes one compartment discharging freely and the other being completely stopped. This difficulty arose from the banking up of the débris upon one side or the other of the slot, as the chance might be, the débris being kept back on that side while the discharging progressed on the other. Now, to obviate this difficulty I have provided the thin partition G, which extends down from the bottom of the girder to within about an inch of, or level with the slot, the entire length of the slot and directly over the center of the same. This partition is made of either plate-iron or tile, or it may be a continuation of and cast with the girder, the object being simply to provide a suitable means of separating the two streams of discharging débris, and preventing one from flowing into and interfering with the other until finally discharged.

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

In an ore-roasting furnace, the combination of the ore-chambers A A' and division-wall C, supported on the girder D, with the thin vertical partition G, projecting to, or nearly to, the slot F in the bottom of the roasting-chamber, and operating to separate the roasted ore descending from both compartments, and secure its even and free discharge through the slot F, substantially as and for the purpose herein described.

JAMES B. RANDOL.

Witnesses:

GEORGE PARDY,  
JOHN RAFFERTY.