F. GUTZKOW.

RETORTS FOR DISTILLING MERCURY ORES.

No. 181,333, Patented Aug. 22, 1876.

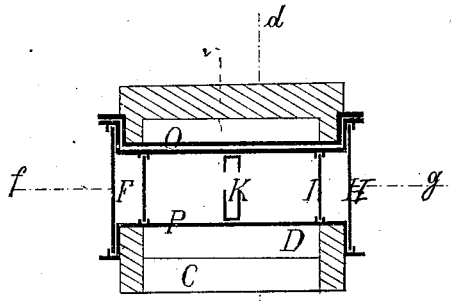

Fig. 1. Plan through a b.

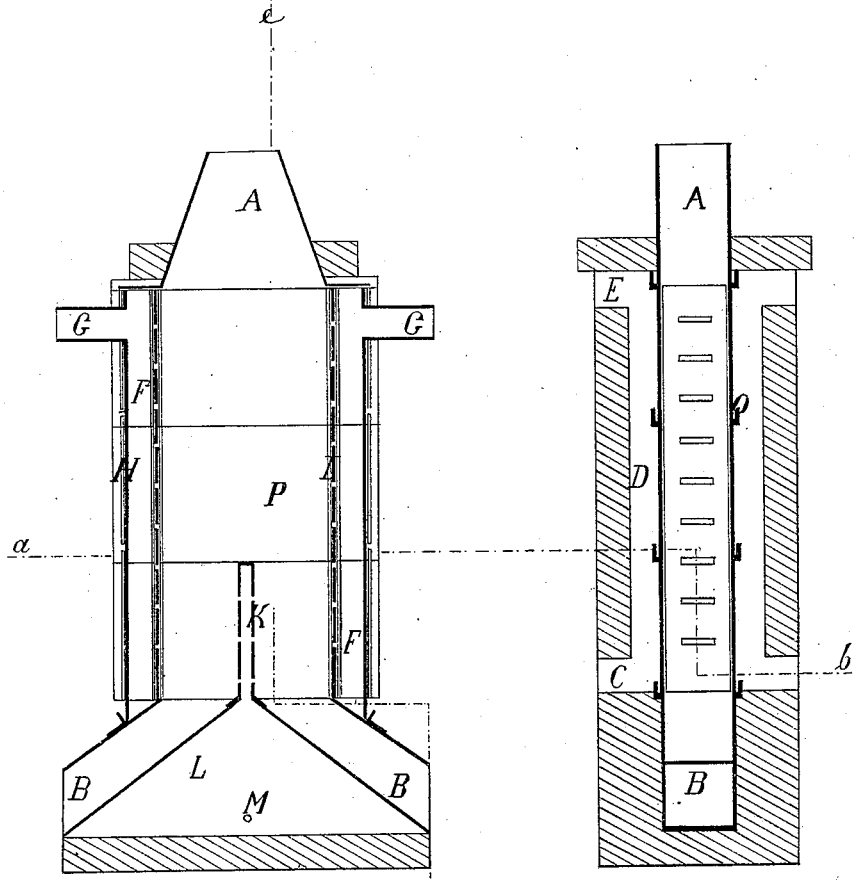

Fig. 2. Section through f g e

Fig. 3. Section through d e

Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK GUTZKOW, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN RETORTS FOR DISTILLING MERCURY ORES.

Specification forming part of Letters Patent No. **181,333**, dated August 22, 1876; application filed April 3, 1876.

To all whom it may concern:

Be it known that I, FREDERICK GUTZKOW, of San Francisco city and county, State of California, have invented an Improved Retort for Distilling Quicksilver; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

The nature of my invention consists of an improved retort for separating solid substances from their gaseous contents, in particular for separating quicksilver from its ore by distillation. The retort stands vertically, and admits a continuous working.

Figure 1 is a cross-section on the line *a b* of Fig. 2. Fig. 2 is a vertical section through *f g* of Fig. 1. Fig. 3 is a vertical section through *d e* of Fig. 1.

The ore is filled in at A, and the residue from distillation withdrawn at B. The heat of the fuel employed enters at C, circulates in the chamber D, and escapes at E into the chimney. The gas or vapor from the ore passes into the chamber F, which is formed within the retort by the vertical perforated plates I and the vertical solid plates H, and leaves at G for the condenser. A perforated box, K, reaches up vertically through the center of the retort to any desired height, and allows the admission of compressed air through M into the retort when desired for roasting purposes. In open communication with K is a chamber, L, underlying the retort, to collect the ore which may have entered K through its openings. The sides of the retort are formed of flanged plates P, made of cast-iron, clay, or other material, the object being to allow a speedy and cheap replacing of worn-out plates without disturbing the furnace itself. Each section-plate P rests on the lower one in a recess formed by a flange or rim, O, being cast on or otherwise secured to the said lower section-plate P. The body of the retort is completed by uniting the series of side plates P (reaching from bottom to top) to the end plates H by means of screws or other devices. The escape of the distilling vapors through the points between the plates P H is prevented by a natural or artificial draft kept up within the condenser, which withdraws them from the chambers F communicating therewith as soon as they emerge from the body of the retort through the perforations in plates I.

I claim—

In a reducing-retort, the straight removable end plates I, in combination with the flanged side plates P, to form the body thereof, substantially as described.

FREDERICK GUTZKOW.

Witnesses:

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