C. GLADDING.

Stone-Ware Kiln.

No. 197,626. Patented Nov. 27, 1877.

FIG. 1.

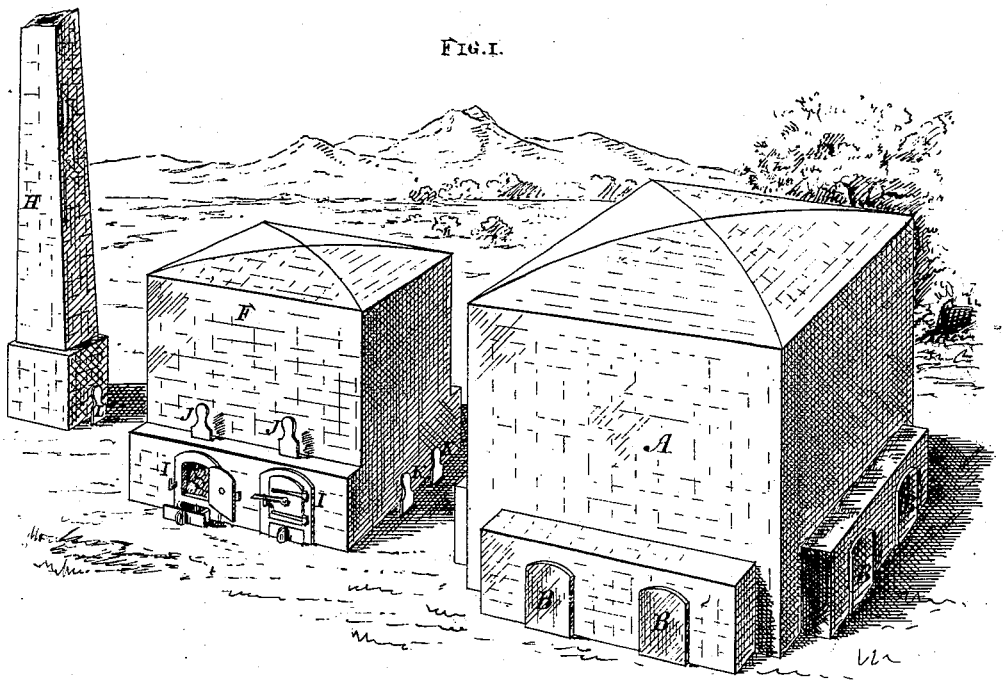
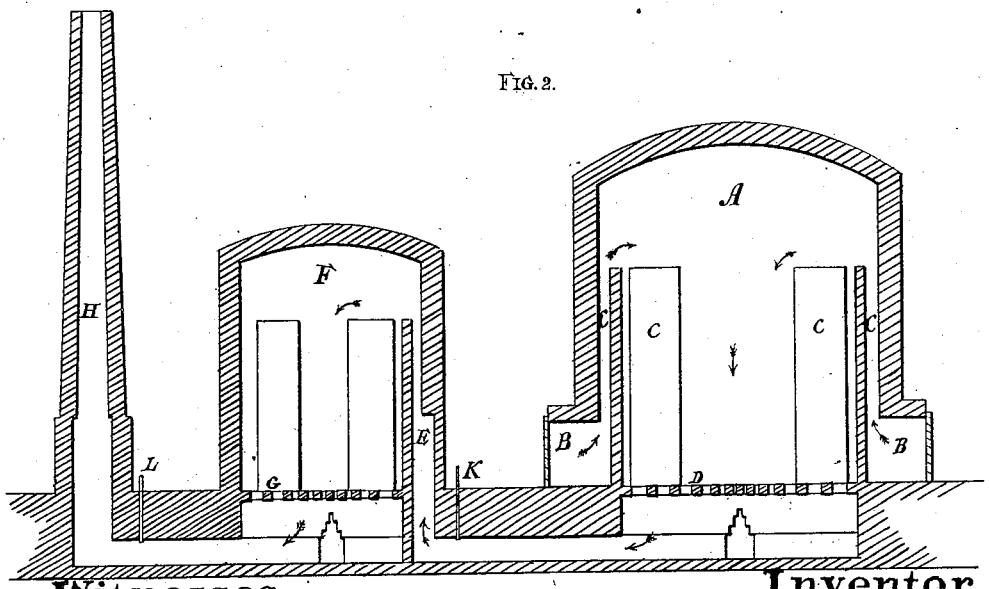


FIG. 2.



Witnesses

Geo. H. Strong

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Inventor

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UNITED STATES PATENT OFFICE.

CHARLES GLADDING, OF LINCOLN, CALIFORNIA.

IMPROVEMENT IN STONEWARE-KILNS.

Specification forming part of Letters Patent No. **197,626**, dated November 27, 1877; application filed July 30, 1877.

To all whom it may concern:

Be it known that I, CHARLES GLADDING, of Lincoln, county of Placer, and State of California, have invented an Improved Stoneware-Kiln; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in the construction of stoneware and pottery kilns; and it consists in the employment of certain dampers whereby the heat is regulated and the charged secondary furnaces are prevented from burning until desired, and by which all ingress of cold air to the kilns is prevented while these fires are being lighted.

In the accompanying drawings, Figure 1 is a perspective view of my furnace. Fig. 2 is a longitudinal section.

A is the main kiln, which is provided with a suitable number of furnaces, B, surrounding it, the kiln being made square, round, or in any convenient shape. The heat from these fires ascends through flues C built in the kiln to near its top, and then descends among the pottery or other contents of the kiln, escaping through slotted openings D in the floor. These openings are connected with flues E in the secondary kiln F, and the waste heat is thus carried to the upper part of this kiln and descends among the contents of this kiln, partially burning them, and thus utilizing all the heat before it finally escapes through the slotted openings G in the floor of this kiln on its way to the chimney H, which produces the required draft.

After the burning in the kiln A is completed it will often require additional heat to complete the burning in the kiln F, and in order to effect this without any admission of cold air, which would crack or injure the contents, I construct furnaces I, which communicate with the interior of the kiln F in the same manner as described for the kiln A.

These furnaces are all charged with the necessary fuel ready for lighting at the time when the kiln is filled and sealed up, and this obviates the necessity of opening any passages for the entrance of cold air after the burning commences.

In order to prevent the fuel in the secondary kiln-furnaces from being ignited by the heat of the first kiln, I employ dampers J, which entirely shut off all communication between the furnaces and the kiln. By this means I reserve these fires until the first kiln is burned off.

While the dampers are still closed the ash-pits of the furnaces I may be opened, and the fuel in these ignited. After these fires are burning well the dampers J may be opened, and the heat, passing into the kiln F, will complete the work which was commenced by the waste heat from the kiln A.

The passages between A and F are provided with dampers K, and the kiln F to the chimney M has a damper, L, so that the heat and draft may be perfectly regulated. A supplemental passage extends directly from the kiln A to the chimney, so that either kiln may be used separately.

The proportional size of the kiln F as compared with A should be about sixty per cent., in order to utilize the waste heat to the best advantage.

The slotted floor-openings G in the kiln F should have an area of about ninety per cent. of the area of the openings D in the kiln A, and when this latter kiln is made eighteen feet square, or with an equivalent area, with the other parts proportional, as above, the chimney M should have an area of about nine feet, and fifty feet of height. I have found that these proportions give the best results.

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

The combination, with the kiln A, with its furnace, flues, and passages, as described, of the secondary kiln F, having the independent charged furnaces I, provided with the cut-off dampers J, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand and seal.

CHARLES GLADDING. [L. S.]

Witnesses:
JOHN DONNELLY,
A. J. GLADDING.