(No Model.)

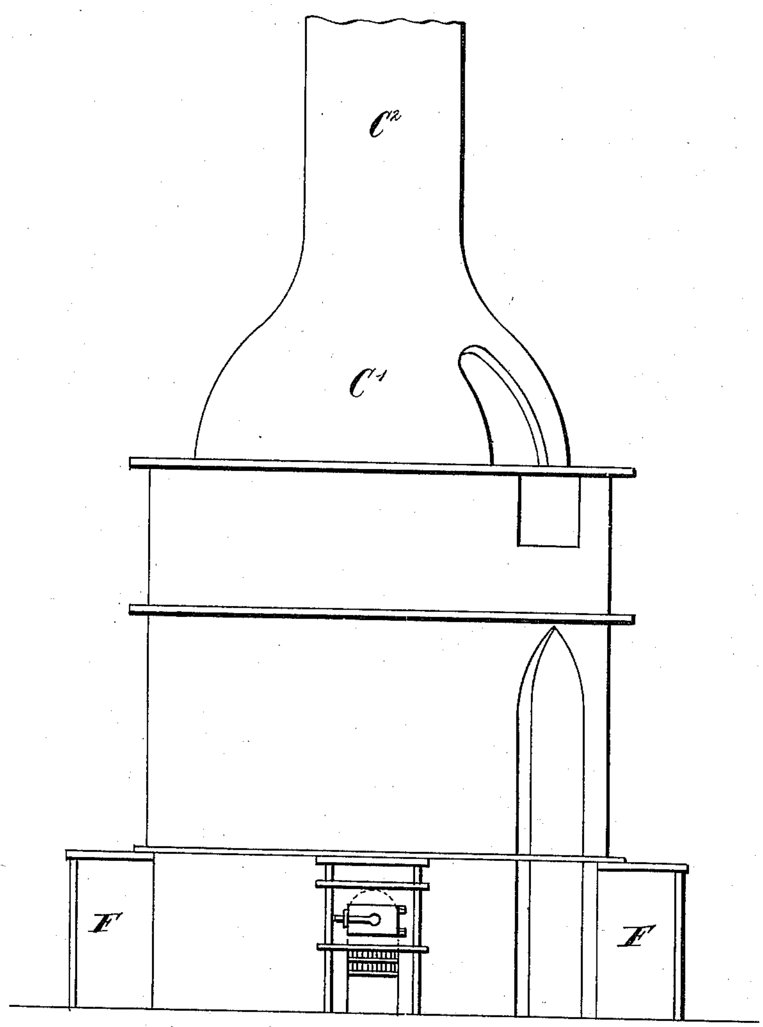
3 Sheets—Sheet 1.

L. BOISSONNET.

PORCELAIN KILN.

No. 383,695. Patented May 29, 1888.

Fig. 1.



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his att'y.

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(No Model.) 3 Sheets—Sheet 2.

L. BOISSONNET.

PORCELAIN KILN.

No. 383,695. Patented May 29, 1888.

Fig. 2.

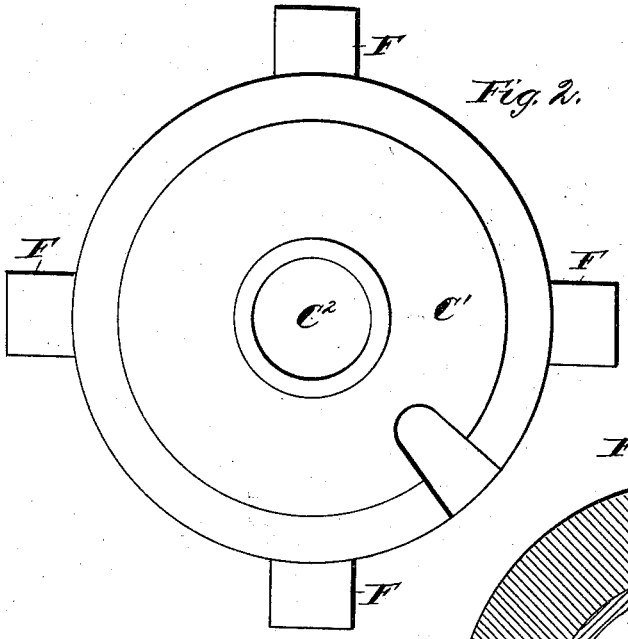


Fig. 5.

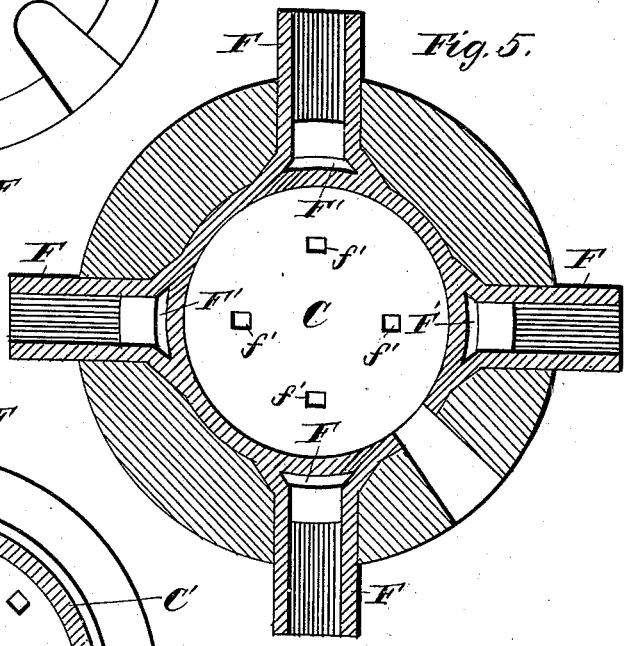
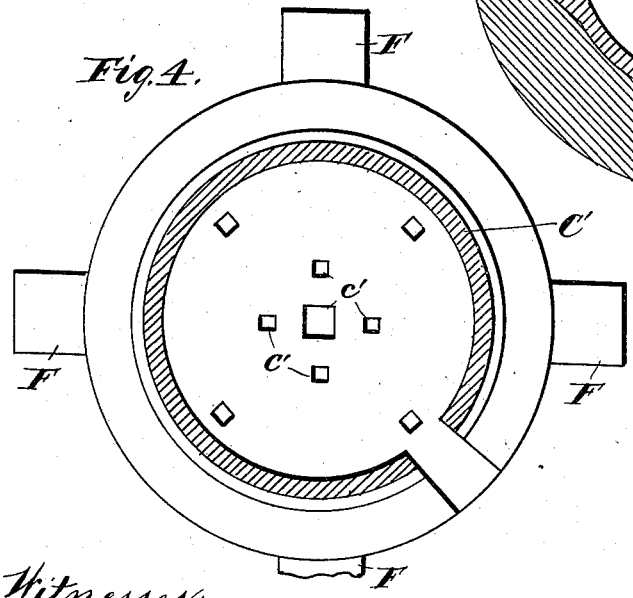


Fig. 4.



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(No Model.) 3 Sheets—Sheet 3.

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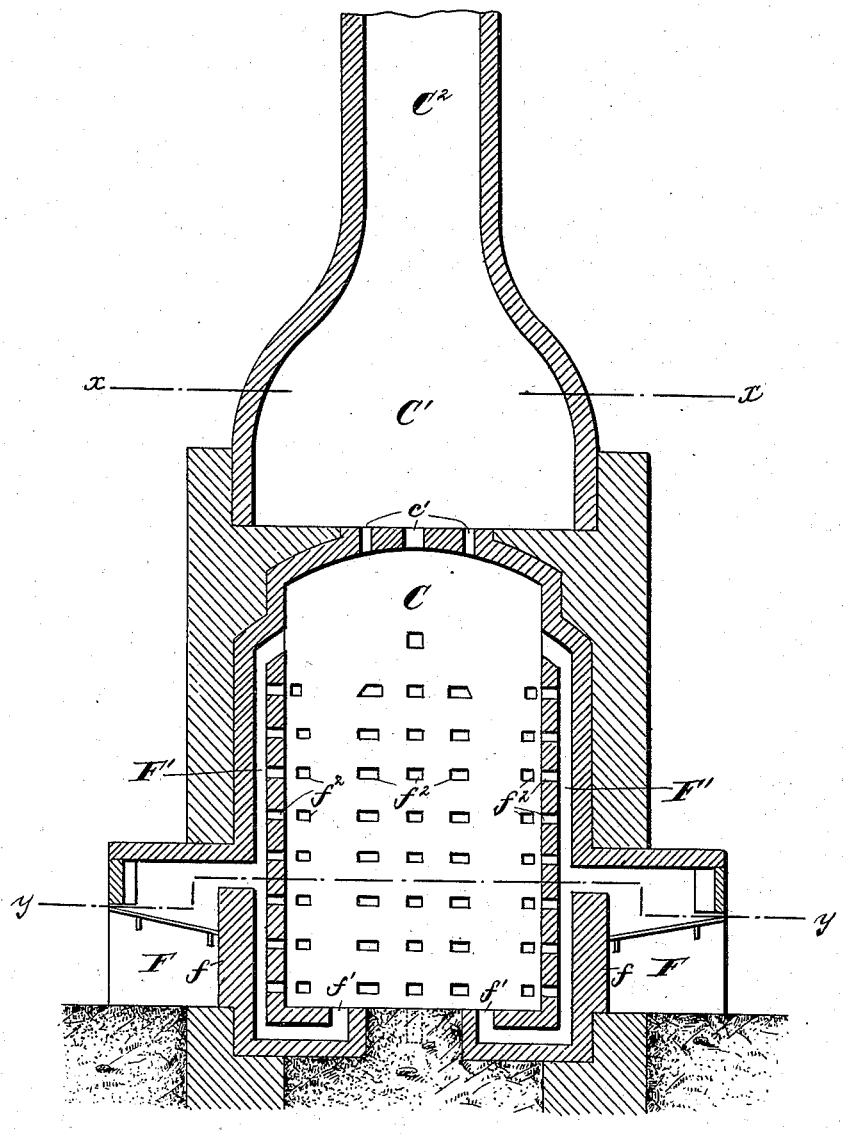
PORCELAIN KILN.

No. 383,695. Patented May 29, 1888.

Fig. 3.



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UNITED STATES PATENT OFFICE.

LOUIS BOISSONNET, OF ST. VALLIER, FRANCE.

PORCELAIN-KILN.

SPECIFICATION forming part of Letters Patent No. 383,695, dated May 29, 1888.

Application filed August 27, 1887. Serial No. 248,061. (No model.) Patented in France November 5, 1886, No. 179,457; in Belgium May 9, 1887, No. 77,375; in Spain May 13, 1887, No. 11,111; in England May 13, 1887, No. 7,038, and in Italy May 21, 1887, No. 21,706.

To all whom it may concern:

Be it known that I, LOUIS BOISSONNET, a citizen of the French Republic, residing at St. Vallier, in the French Republic, have invented certain new and useful Improvements in Porcelain-Kilns, (for which I have obtained Letters Patent in France bearing date November 5, 1886, No. 179,457; in Belgium bearing date May 9, 1887, No. 77,375; in Italy bearing date May 21, 1887, No. 21,706; in Spain bearing date May 13, 1887, No. 11,111, and in England bearing date May 13, 1887, No. 7,038,) of which the following is a full, clear, and exact description.

Referring to the drawings, Figure 1 is an elevation, and Fig. 2 a top plan view, of a kiln constructed according to my invention. Fig. 3 is a vertical transverse section thereof, and Figs. 4 and 5 are sections taken on lines *x x* and *y y* of Fig. 3.

The invention relates to porcelain kilns or ovens, and has for its object to provide means for the more uniform distribution of the heat throughout the kiln, the losses from burning or flashing being lessened and an economy in fuel effected.

To these ends the invention consists in the construction of the kiln, substantially as hereinafter described, and as set forth in the claim.

In the usual construction of this class of kilns the heat and products of combustion from the furnaces are admitted to the interior of the kiln through one or more, usually three, oblong narrow openings. In front of these are arranged two strong walls of fire clay connected with one another and with the kiln-wall by means of cross-divisions, also of refractory material, the object of this arrangement being to subdivide the heat and drive it or cause it to pass in all directions throughout the kiln. It is well known that these cross-divisions under the influence of varying temperatures become detached and fall to the floor of the kiln, thus destroying the flues formed thereby and by the massive walls erected in front of the furnace-openings, and consequently resulting in an uneven distribution of the heat in the kiln. On the other hand, the goods placed directly in front of these massive walls were not heated or fired as rapidly as those more directly in the line of the floor of the heat and products of combustion, the result of which was a considerable loss in fuel and a still greater loss in damaged goods, due either to overfiring or not firing enough.

As stated above, the object of this invention is to obviate these losses and effect an economy in fuel by a more uniform distribution of the heat throughout the kiln.

In its general construction my improved kiln is substantially the same as the style of kiln heretofore used. It is cylindrical in form, has the usual chamber, C, for strong firing, surmounted by the howel or crown C′ for raw burning, from which latter extends the chimney C^2. The kiln is provided with four furnaces, F, at the extremities of the two median lines, and the chamber C communicates with the chamber C′ by a plurality of flues or passages, *c′*. (More plainly shown in Fig. 3.)

The improvements consist in the arrangement of the furnaces relatively to the inner wall of the kiln, the said furnaces being so arranged and the inner wall of the kiln so constructed as to form in front of each fire-bridge *f* a vertical flue, F′, that extends nearly to the roof of the chamber C, and under its floor, into which it opens at *f′*, three rows of openings, f^2, being formed in the inner wall, which is usually of refractory brick, for the passage of the heat and products of combustion.

It is evident that by means of the described construction the heat and products of combustion not only radiate from the numerous openings in front of each furnace toward or to the center of the kiln, but also ascend vertically through the kiln after they pass through the floor-openings *f′*, thereby distributing the heat and products of combustion uniformly throughout the kiln.

Practical experience has demonstrated that a saving of eight per cent. in damaged goods and of about twenty per cent. in fuel is effected with my improved kiln, while, on the other hand, the kiln will hold a larger quantity of goods than is the case with a kiln of usual construction and of like interior diameter, as the space occupied by the vertical partitions in the old-

style kiln is in my improved kiln occupied by goods.

Having described my invention, what I claim is—

In a porcelain-kiln, the combination, with the outer wall and the furnace or furnaces, of an inner wall extending from the floor to near the roof of the kiln, and forming, with the outer wall and completely enveloping the firing-chamber, a heat-distributing chamber, said inner wall having heat-distributing openings in front of the furnace or furnaces only, said heating-chamber being open at top, and flues under the floor of the kiln communicating with the heat-distributing chamber and the firing-chamber, substantially as and for the purposes specified.

In testimony that I claim the foregoing I have hereunto set my hand.

LOUIS BOISSONNET.

Witnesses:
CAMILLE CHARROPPIN,
JULES PAROD.