(No Model.)

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C. F. WOHLSCHLEGEL.

POTTERY KILN.

No. 510,223. Patented Dec. 5, 1893.

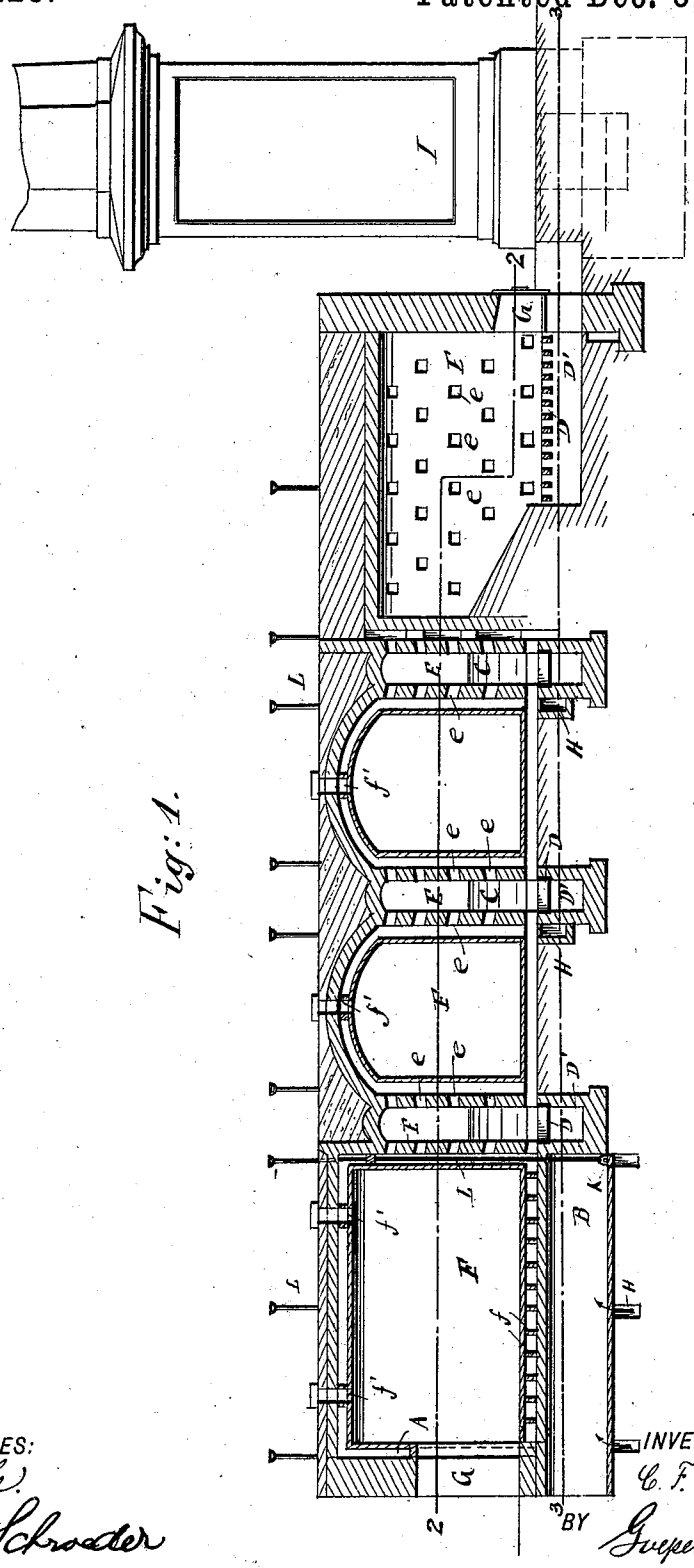

Fig: 1.

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C. F. WOHLSCHLEGEL.

POTTERY KILN.

No. 510,223. Patented Dec. 5, 1893.

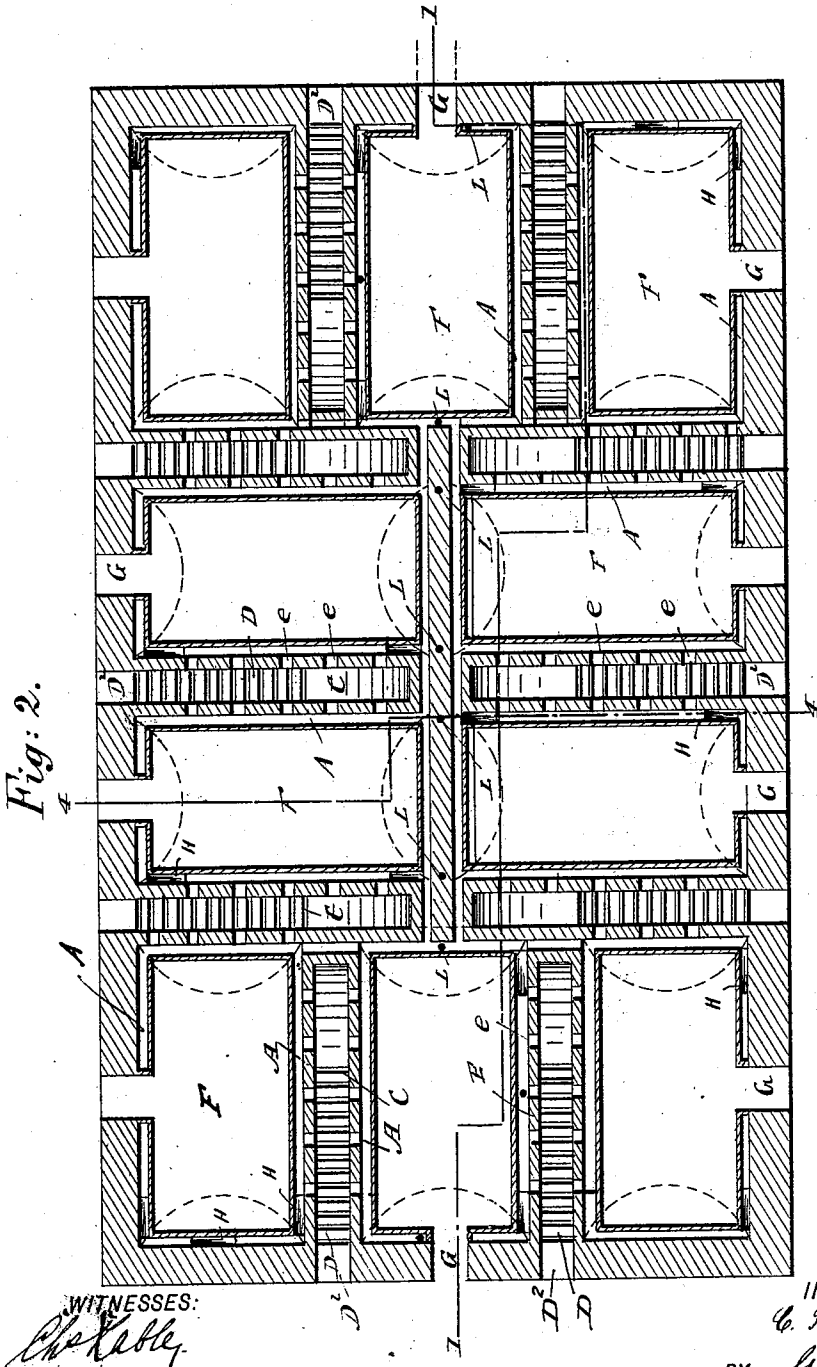

Fig: 2.

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C. F. WOHLSCHLEGEL.

POTTERY KILN.

No. 510,223. Patented Dec. 5, 1893.

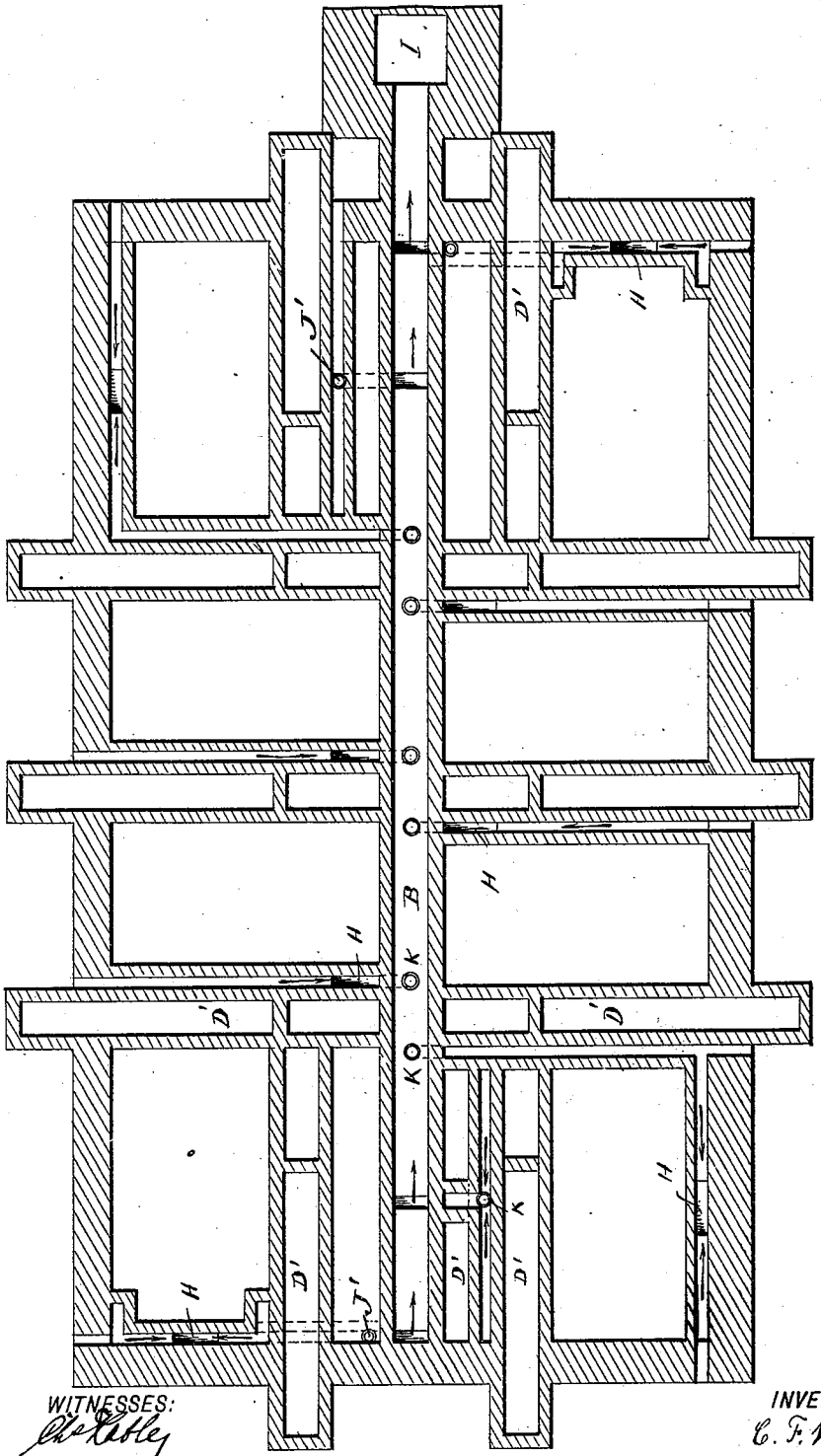

Fig. 3.

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4 Sheets—Sheet 4.

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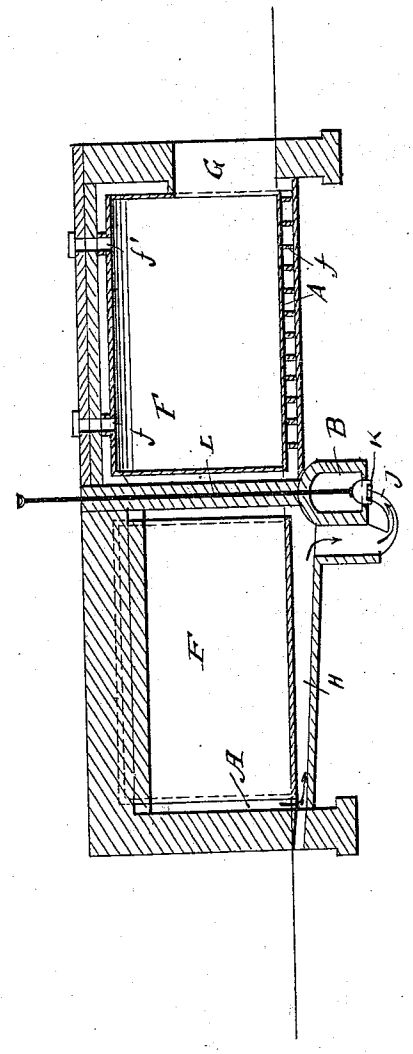
No. 510,223. Patented Dec. 5, 1893.

Fig: 4.



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UNITED STATES PATENT OFFICE.

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POTTERY-KILN.

SPECIFICATION forming part of Letters Patent No. 510,223, dated December 5, 1893.

Application filed August 9, 1893. Serial No. 482,727. (No model.)

To all whom it may concern:

Be it known that I, CARL F. WOHLSCHLEGEL, a subject of the Emperor of Germany, and a resident of Rossville, Richmond county, in the State of New York, have made certain new and useful Improvements in Brick-Kilns, of which the following is a specification.

The object of my invention is to provide a new and improved brick kiln, which is so constructed that the brick to be burned in the same are never subjected to the direct flame, but are heated in muffles and thus are burned uniformly throughout.

In the accompanying drawings, Figure 1 is vertical longitudinal sectional view of my improved kiln, on the line 1 1, Fig. 2. Fig. 2 is a sectional plan view on the line 2 2, of Fig. 1. Fig. 3 is a sectional plan view on the line 3 3, Fig. 1, and Fig. 4 is a vertical transverse sectional view, on the line 4 4, Fig. 2.

Similar letters of reference indicate corresponding parts.

The burning chambers A A are arranged at the two opposite sides of a main smoke channel B. Between each two chambers A a fire C is built, which has a suitable grate D, preferably made of fire-brick, and an ash pit D′ below each grate. Each fire-place has a firing door D^2. The side walls E of each fire-place are provided with a series of apertures *e*, through which the products of combustion can escape. With each chamber A an inner chamber or muffle F is built, the walls, floor and ceiling of which are about six inches from the walls, floor and ceiling of the chamber A, so that the flame and products of combustion can circulate entirely around said inner chambers F or muffles. The floor of the inner chamber is supported on bricks *f*, as shown on the left hand side of Fig. 1, and openings or chutes *f′* extend from the top of the inner chamber or muffle up through the top of the chamber A and through said chutes the bricks are passed from above for filling the chamber. Each chamber has an opening G which, when the inner chamber or muffle is filled, is closed by means of masonry. From the bottom of the space between the walls of the chamber A and the walls of an inner chamber F in said chamber A, a series of conduits H extend to the main smoke channel B, as, for example, shown in Fig. 4 in section, so that the products of combustion, after having passed around an inner chamber or muffle can pass through the said conduits H to the smoke channel B and from the same to the main smoke stack I. The ends of said channels H terminate in pipes J, the ends of which are located in the bottom of the main smoke channel B, and the ends of said pipes J can be closed by a bell-valve K attached to a vertical rod L extending up to the top of the kiln. When said bell-valves are raised, communication is established by means of the conduits H with one of the chambers A, and when said valves are lowered this communication is interrupted and the products of combustion cannot pass from said chamber A into the smoke channel, but must pass through the said openings in the chamber into the adjacent furnace and through the openings in the sides of the furnace into the adjacent chamber A, and so on. In some cases the bell-valve for the conduit cannot be arranged within the smoke channel, as shown in Fig. 4, but must be located at one side of the same, as is shown in Fig. 3. In this case the conduit extends from the space between the inner and outer chambers to the bottom of the smoke channel and the regulating valve is arranged a greater or less distance from the smoke channel end of the conduit. For example, if the fire is started in the fire place D nearest the lower left hand corner in Fig. 2, the bell-valves K of the conduits H of the several adjacent chambers A are closed, so that the products of combustion cannot pass from the space between the chamber A and the inner chamber F at the lower left hand corner of Fig. 2 directly into the smoke channel, but must pass through the openings *e* into an adjacent chamber around the muffle or inner chamber in the same, and then through the openings *e* of the walls of this second chamber and to a third chamber, and so on, whereby the heat is thoroughly utilized and the walls of the chambers heated to an extremely high degree. Then after these chambers are heated up to the desired degree the fire is started in the fire-place next to the one in which the fire was first started and the products of combustion from this sec-

ond fire are likewise conducted through a number of chambers before they are permitted to escape into the smoke-stack and so on. As the several fire-places are always arranged between two chambers A, and the walls of the fire-place are provided with openings *e*, and as the space between each inner and outer chamber A and F is connected by one or more conduits H with the main smoke channel B, the number of chambers that the products of combustion must pass before they escape into the smoke channel can easily be regulated and the person in charge at all times has full control of the kiln.

I have shown ten burning chambers connected with a single smoke channel, but it is evident that the number can easily be increased, especially for continuous operations, or for small plants the number can also be decreased.

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

1. A brick kiln, constructed with a series of burning chambers, fire-places between the burning chambers, the walls of which fire-places have openings to permit the products of combustion to pass into the chambers, an inner chamber or muffle in each burning chamber, the walls, floor and ceilings of each inner chamber or muffle being separated a short distance from the walls of the burning chamber, substantially as set forth.

2. A brick kiln constructed with a series of burning chambers, fire-places arranged between two burning chambers, the walls of which fire-places have openings to permit the products of combustion to pass through the fire-places into the burning chambers, an inner chamber or muffle in each burning chamber, the walls, floor and ceilings of which inner chambers or muffles are a short distance from the walls of the burning-chambers, conduits connected with the floors of the burning chambers at the space between the walls of the burning chambers and the walls of the muffles, and a smoke channel with which the conduits are connected and valves for controlling said smoke channel, substantially as set forth.

3. A brick kiln, constructed with a series of burning chambers arranged along the sides of a common smoke channel, a stack connected with said smoke channel, fire-places between the several burning chambers, the walls of the fire-places having openings through which the products of combustion can pass from the fire-places to the several burning chambers, an inner chamber or muffle in each burning chamber, the walls, floors and ceilings of which inner chambers or muffles are separated a short distance from the walls of the burning chambers, conduits extending from the floors of the burning chambers at a point between the walls of the burning chambers and muffles to the smoke-channel, a valve for each conduit and a rod extending from said valve to the top of the kiln, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CARL F. WOHLSCHLEGEL.

Witnesses:
OSCAR F. GUNZ,
CHARLES SCHROEDER.