

(No Model.)

G. F. KREISCHER.
ENAMELING FURNACE.

No. 492,405.

Patented Feb. 28, 1893.

Fig. 1.

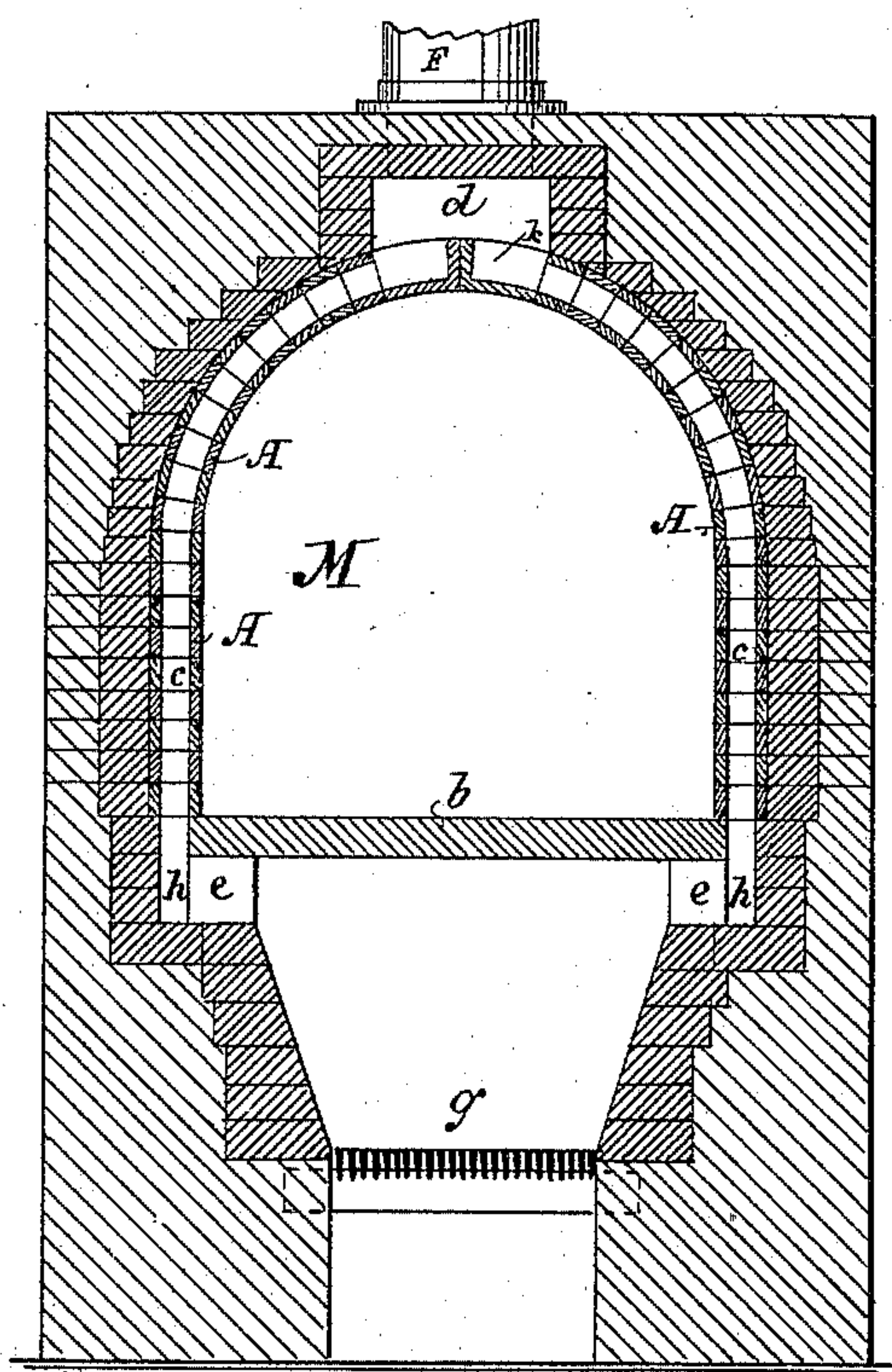


Fig. 2.

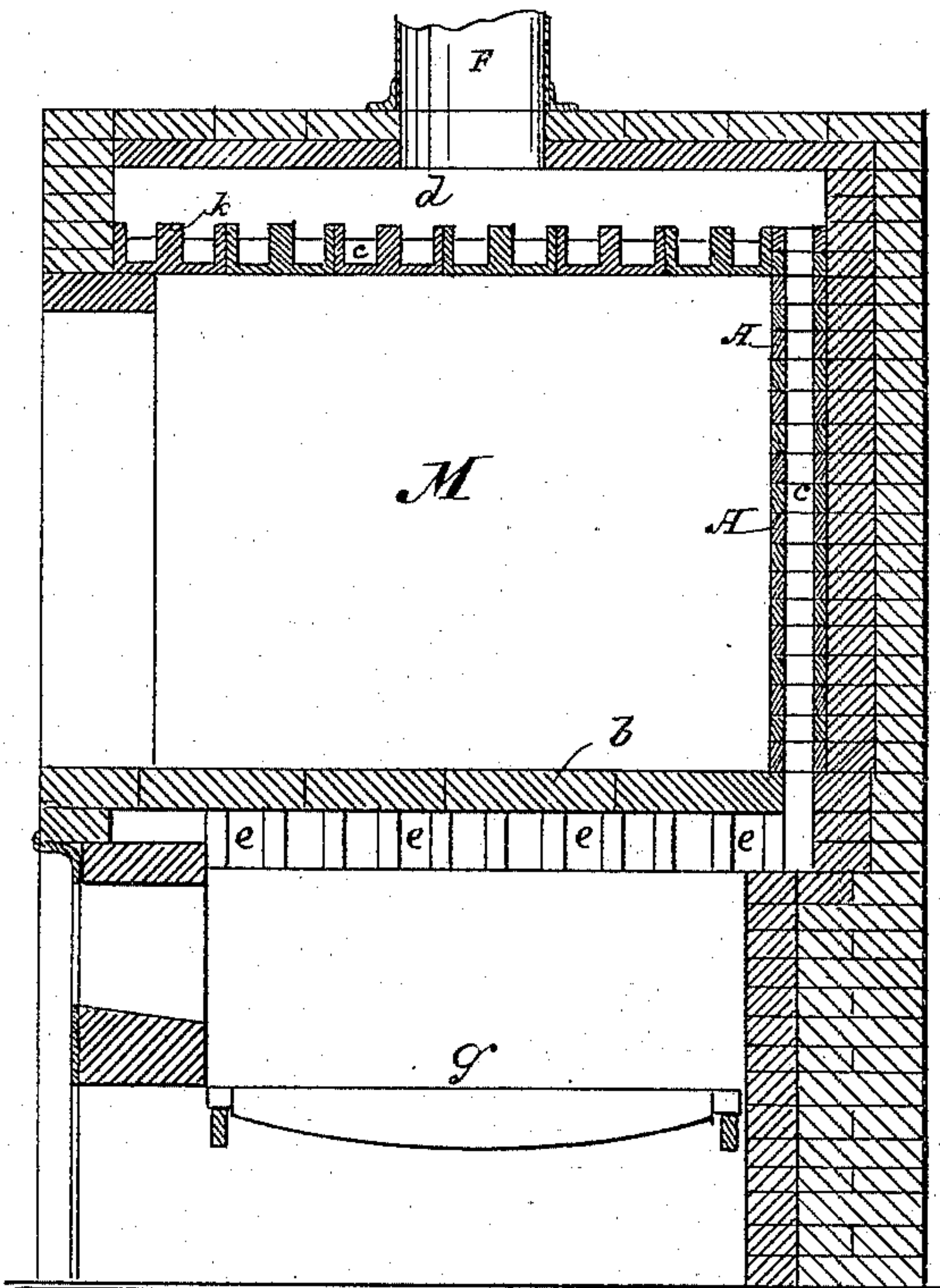


Fig. 3.

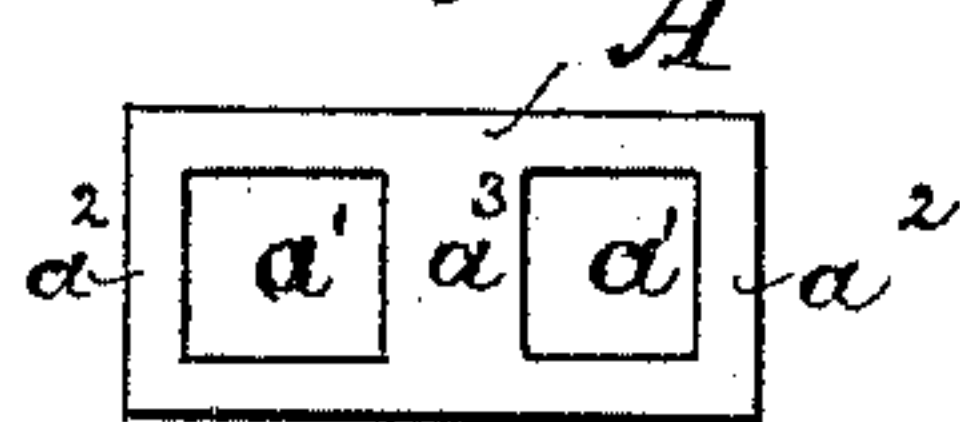


Fig. 4.

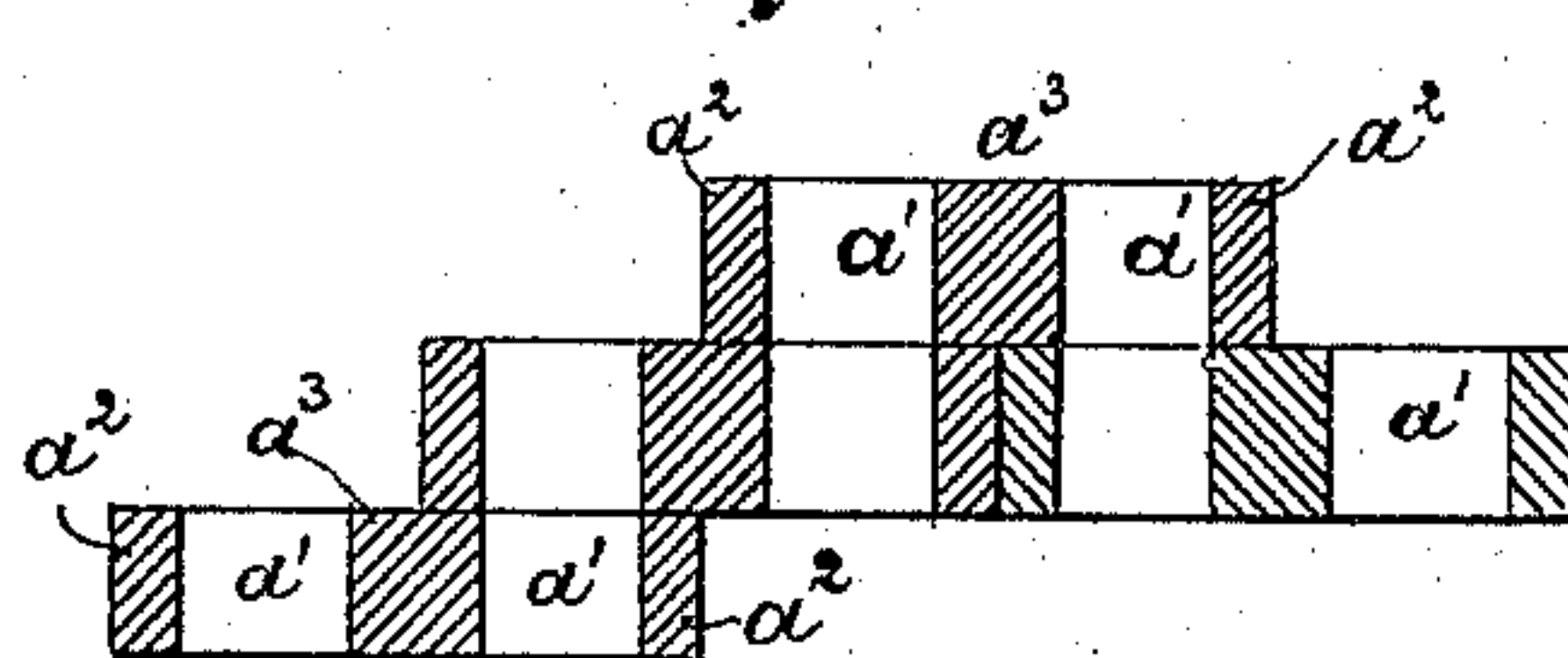
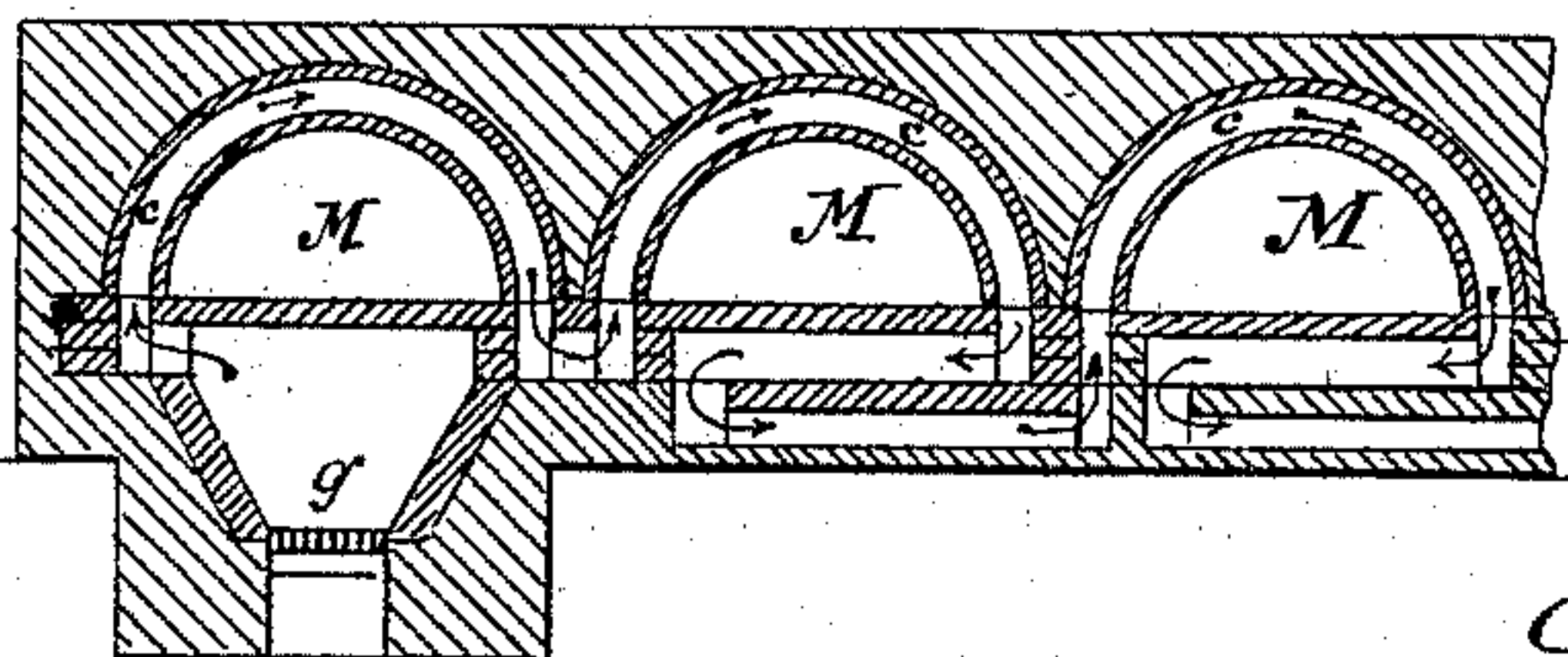


Fig. 5.



Witnesses:

C. J. Lantry
Peter Rogers

Inventor:

Geo. F. Kreischer.
per Charles Raettig,
his Attorney.

UNITED STATES PATENT OFFICE.

GEORGE F. KREISCHER, OF NEW YORK, N. Y.

ENAMELING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 492,405, dated February 28, 1893.

Application filed June 23, 1892. Serial No. 437,733. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. KREISCHER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Enameling-Furnaces, of which the following is a specification.

My invention relates to enameling furnaces and more particularly to those furnaces which are composed of a retort or muffle, and the furnace proper and its flues the latter encircling the muffle, but having no opening into, or connection with the interior of the muffle; and my invention consists in a peculiar construction of the muffle, and its surrounding flues, which bring the flame very near to the inner surface of the muffle yet do not weaken the muffle, the latter being even stronger and more durable than the muffles used at the present time.

In the accompanying drawings Figure 1, is a transverse section through my enameling furnace. Fig. 2. is a longitudinal section through the same. Fig. 3. is a plan-view of a brick used in building the muffle. Fig. 4. is a section through a number of brick, showing the manner in which they are laid. Fig. 5. is a sectional view showing a modification of the furnace illustrating its application in the manufacture of gas.

Similar letters refer to similar parts throughout the several views.

The hollow brick A, Fig. 3, of which the muffle and the majority of the flues are constructed, is given the rectangular shape of an ordinary brick and is preferably provided with two square openings *a'* of equal size leaving three ribs standing, of which the center rib *a*² is double or twice the width of one of the end ribs *a*³. This mode of constructing the brick will permit a muffle to be built therewith in the ordinary manner by breaking joints and yet leave evenly distributed within the walls of the muffle small channels or flues *c*, which may be led into a larger channel *d* running along the top of the muffle and connected with the chimney F, as shown in Figs. 1. and 2., or the flame may be guided from the grate *g* through the channels *c*.

all the way around the retort and from there around a second and third retort &c. as shown in Fig. 5.

To support the bottom *b* of the retort ordinary fire brick are used preferably and arranged in the manner shown in Figs. 1. and 2. leaving the openings *e* leading into channels *h* arranged below the channels *c* and connecting the same.

Although my oven is principally employed for enameling processes I do not intend to confine its usefulness to this object alone, but employ it for burning porcelain, in the manufacture of gas, and in similar pursuits.

One mode of employing the hollow brick for gas retorts is illustrated in Fig. 5. where several retorts as thus constructed are shown connected with one grate.

The ordinary thickness of the walls of even small retorts in use at the present time, is rarely less than two inches, while in employing my improved brick the wall-thickness even of large retorts can be reduced to one inch or less for a large portion of the retort. The even distribution of the flues forming another element of advantage, which combined will permit quick work besides a considerable saving of fuel.

The hollow brick employed are made, according to the requirements in each case, straight curved or key-bricks, *k*, as shown in Figs. 1. and 2. but all these brick have in common the center rib *a*² being of double the thickness of one of the end ribs *a*³.

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

In a muffle-oven the combination with the bottom-tiles *b* of the side-walls of the muffle made of hollow brick, each provided with two square openings and having the center-partition double the size of an end-partition as and for the purposes herein shown and set forth.

Signed at New York, in the county of New York and State of New York, this 18th day of June, 1892.

GEORGE F. KREISCHER.

Witnesses:

CHAS. H. PULS,

CHAS. MCGREGOR.