

(No Model.)

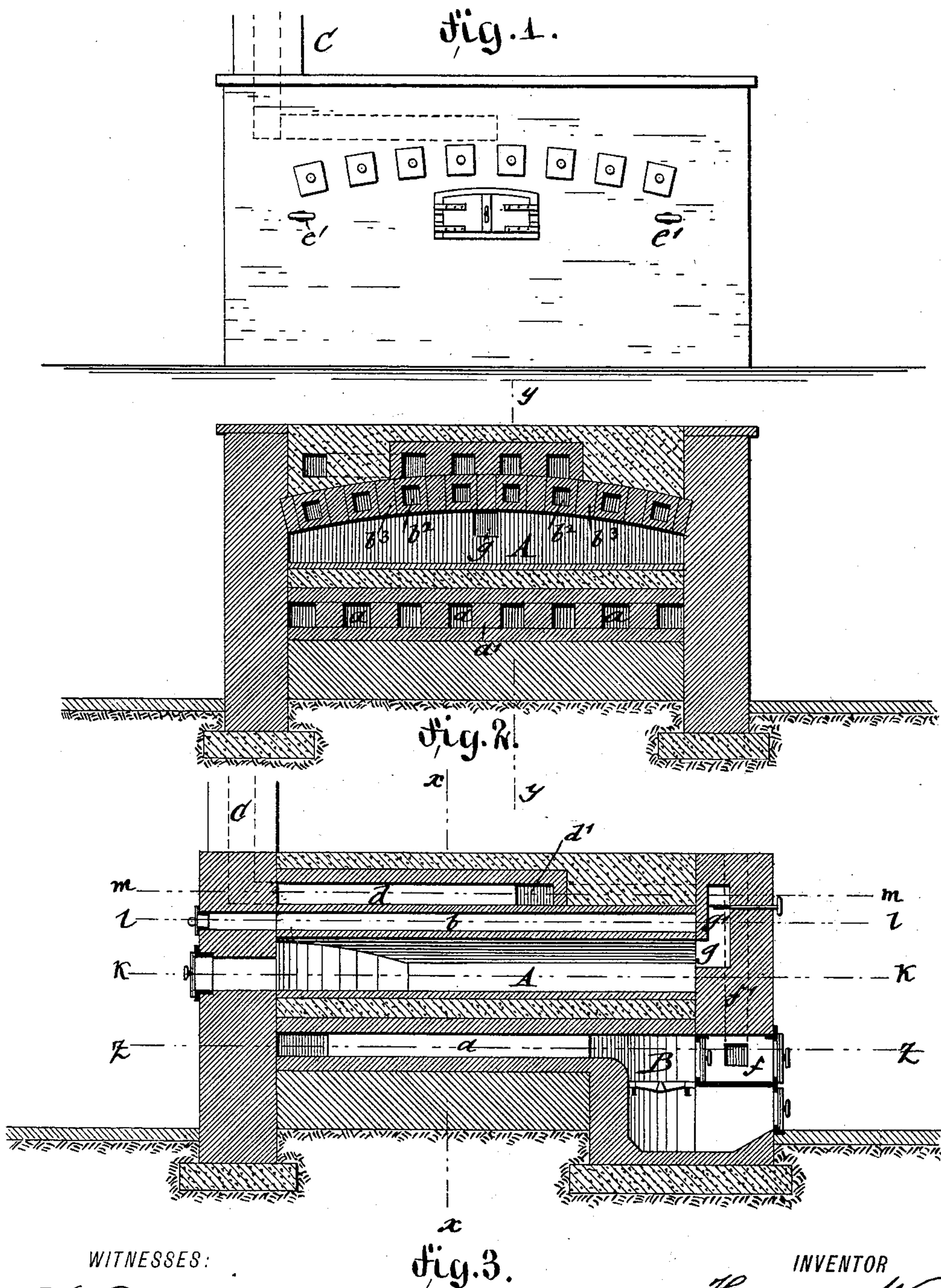
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H. WILD.

BAKER'S OVEN.

No. 366,363.

Patented July 12, 1887.



WITNESSES:

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Fig. 3.

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Fig. 4.

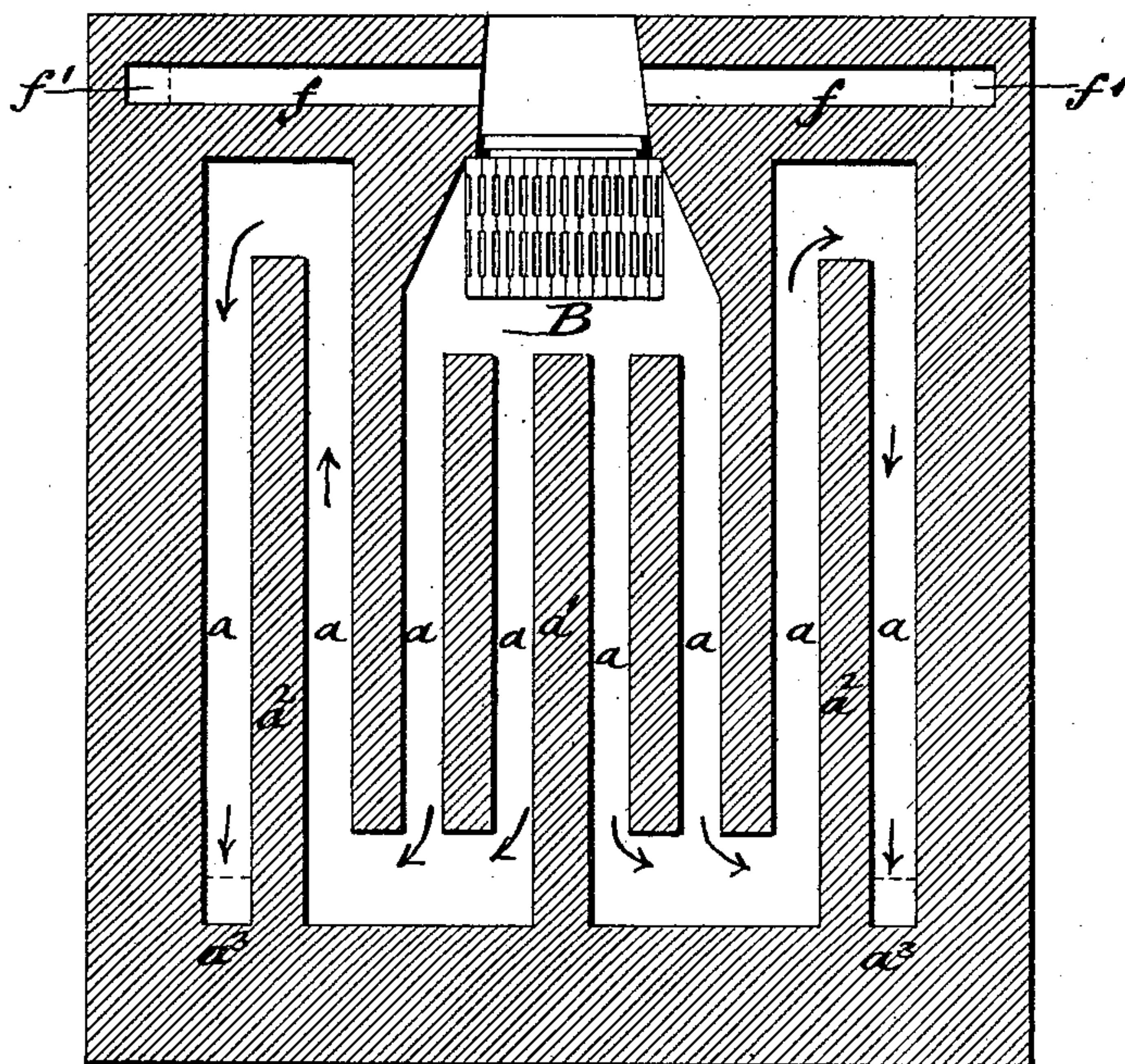
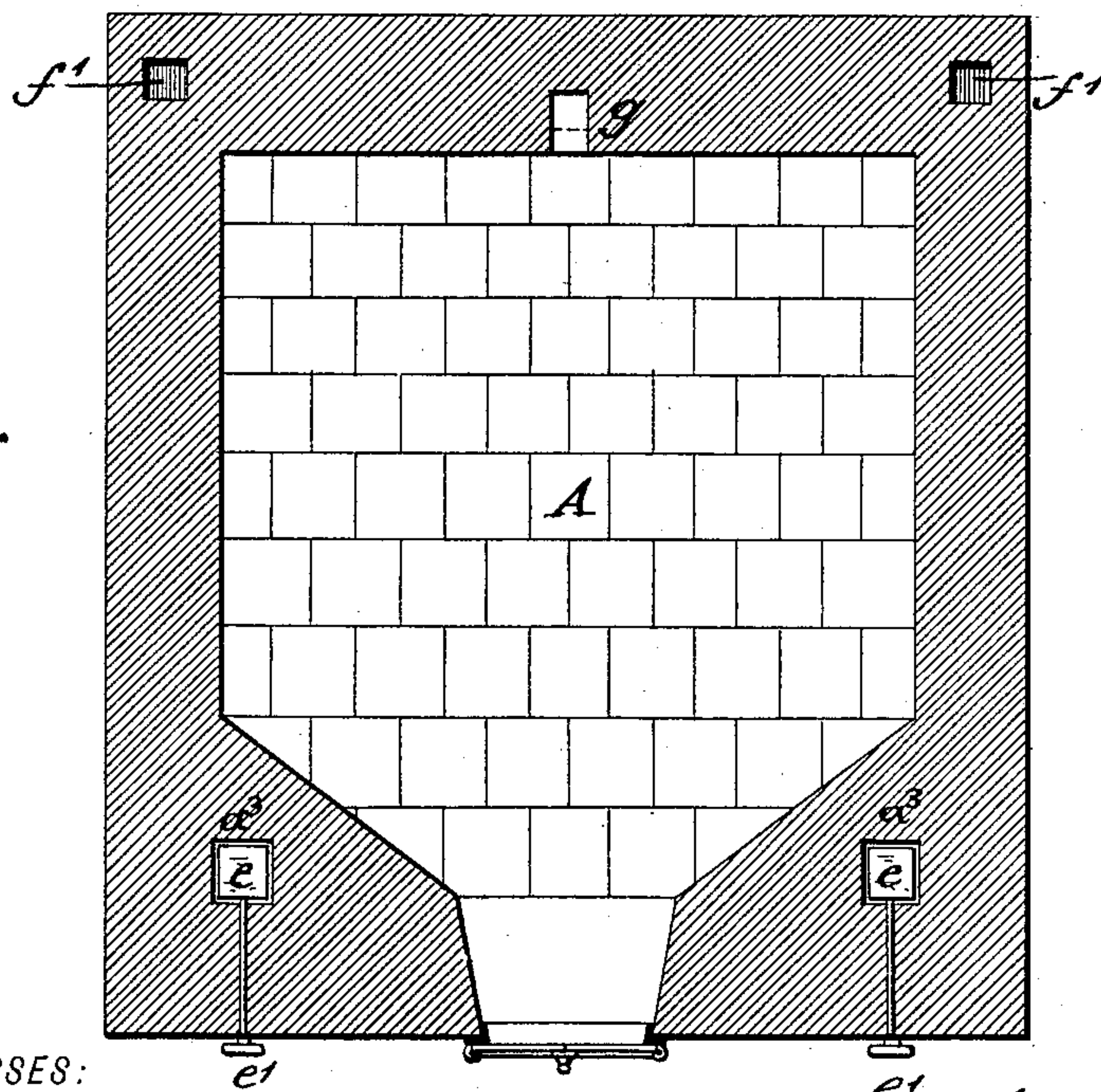


Fig. 5.



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Fig. 6.

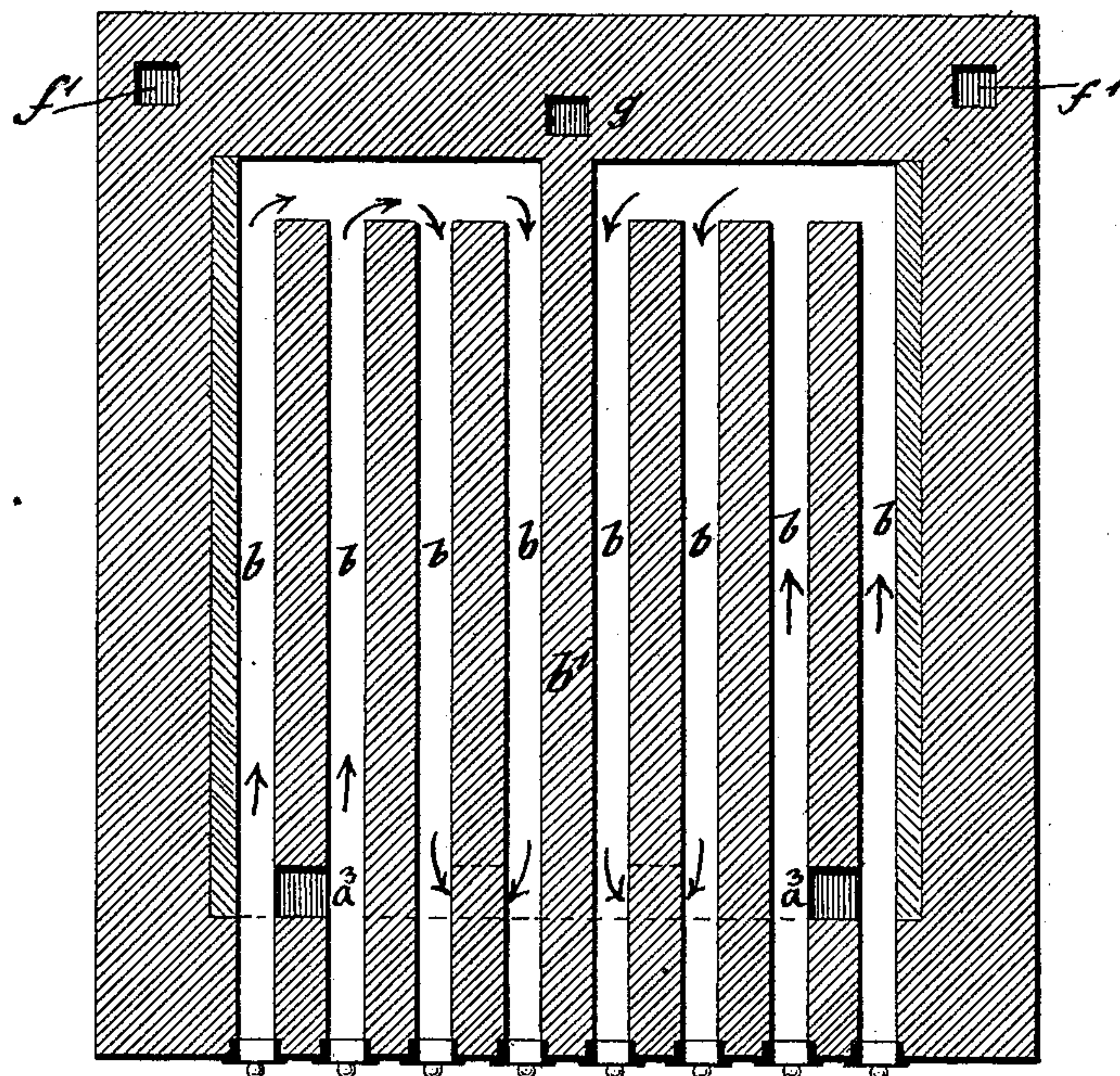
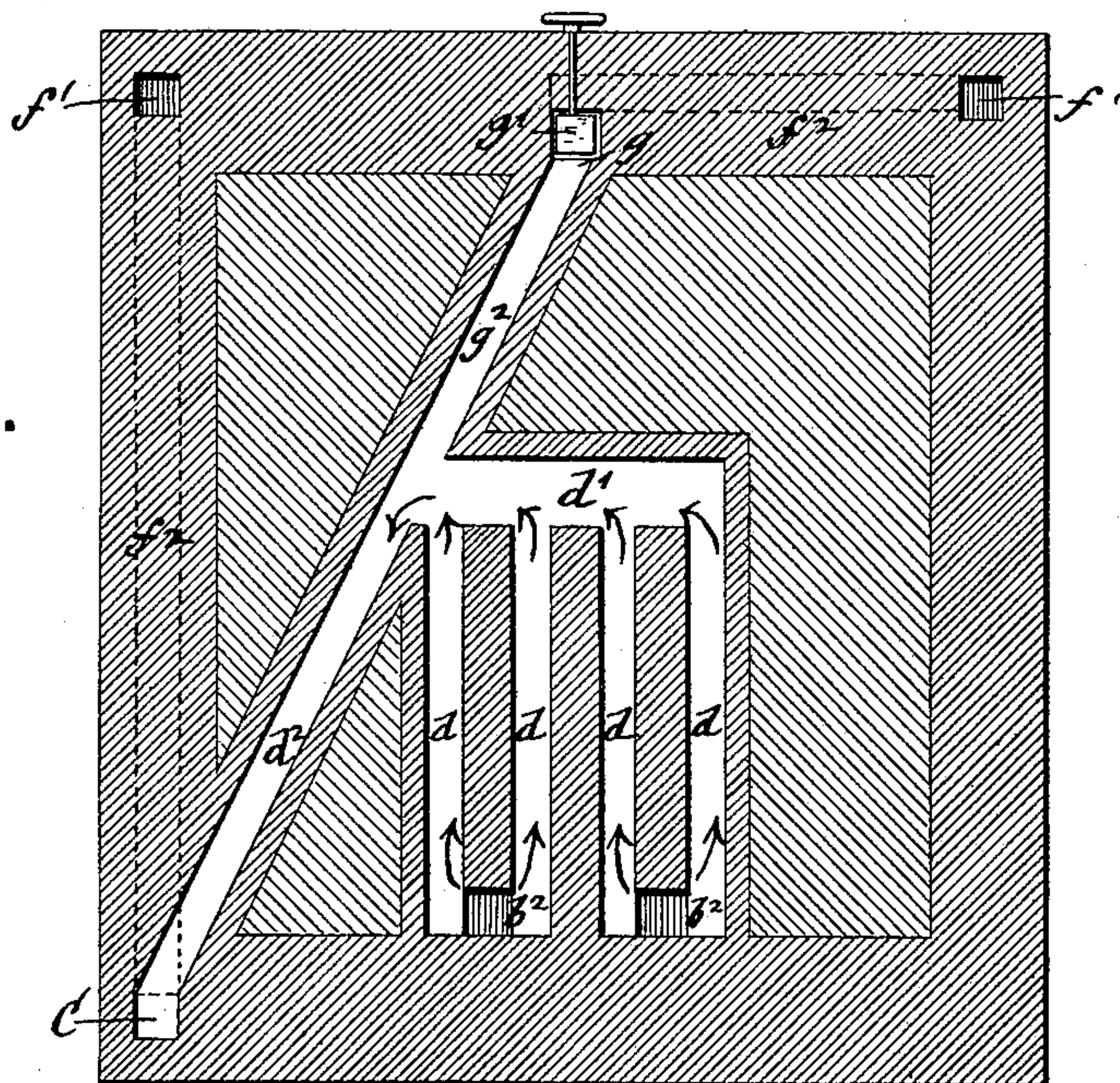


Fig. 7.



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UNITED STATES PATENT OFFICE.

HERMANN WILD, OF BROOKLYN, NEW YORK.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 366,363, dated July 12, 1887.

Application filed November 17, 1886. Serial No. 219,114. (No model.)

To all whom it may concern:

Be it known that I, HERMANN WILD, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a specification.

This invention relates to an improved construction of bakers' ovens of that class in which the baking-chamber is heated by means of longitudinal flues arranged below the bottom and in the arched crown of the baking-chamber, whereby a uniform degree of heat is established and a very effective and economical construction of bakers' ovens obtained.

The invention consists of a baker's oven the baking-chamber of which is heated up by longitudinal flues arranged below the bottom of the same, and by longitudinal flues arranged in the arched crown, said crown being composed of hollow communicating fire-brick and separating solid bricks. The products of combustion pass through the bottom and crown flues and from the latter through auxiliary top-flues to the chimney, as will more fully appear hereinafter, and finally be pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front view of my improved baker's oven. Fig. 2 is a vertical transverse section on line *x x*, Fig. 1. Fig. 3 is a vertical longitudinal section on line *y y*, Fig. 2; and Figs. 4, 5, 6, and 7 are horizontal sections, respectively, on lines *z z*, *k k*, *l l*, and *m m*, Fig. 3.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the baking-chamber of my improved baker's oven, which chamber is built in the usual manner of fire-bricks with a flat bottom and arched crown. Below the bottom or floor of the baking-chamber are arranged longitudinal flues *a a*, which communicate with the fire-place B, the bottom flues being divided by a central partition-wall, *a'*, into two symmetrical groups, as shown clearly in Fig. 4. The products of combustion pass from the fire-place B, that is preferably arranged at the rear end of the oven, through the flues *a* toward the front wall, thence back again and around a partition-wall, *a''*, at each side of the oven toward the front wall, as indicated by arrows in Fig. 4. The products of

combustion are then conducted through vertical flues *a''* to a series of longitudinal flues, *b b*, which are arranged in the arched crown and separated by a central partition, *b'*, into two groups, as shown in Fig. 6.

The longitudinal crown-flues *b b* are constructed of a series of hollow communicating bricks, *b''*, which are separated by intermediate solid bricks, *b'''*, as shown clearly in Fig. 2. The longitudinal crown-flues *b b* pass through the front wall of the casing and are closed by detachable caps, so as to be conveniently cleaned of soot and ashes. The products of combustion pass backward and forward through the crown-flues *b b*, and then through short vertical connecting-flues *b''* into auxiliary top flues, *d d*, as indicated by arrows in Figs. 6 and 7.

The auxiliary top flues, *d*, are of less length than the crown-flues *b b*, and communicate by a transverse flue, *d'*, at their rear ends and a diagonal flue, *d''*, with the chimney C, as shown clearly in Fig. 7. The vertical corner flues, *a''*, are provided with dampers *e*, which are operated by damper-rods *e'* from the front of the oven, so as to regulate the draft in the flues *a b d*.

The fire-place B is provided with inner and outer doors that inclose the space in front of the grate-bars, from which space extend in the rear wall of the oven lateral flues *f*, which communicate by vertical flues *f'* and horizontal flues *f''* with the chimney, as shown in dotted lines in Fig. 7.

The flues *f f' f''* serve not only for the purpose of drawing off the dust and ashes produced in raking up the fire, but also for ventilating the space in front of the fire-place, so that no coal-gas generated by the partial combustion of fuel can escape and annoy the attendants.

The baking-chamber A is provided with a flaring mouth of the usual construction, and is closed by hinged doors arranged in the front wall of the oven. In the rear wall of the baking-chamber is arranged a vertical flue, *g*, which connects the baking-chamber by a horizontal flue, *g''*, with the top flue, *d''*, so as to convey the steam and moisture in the baking-chamber to the chimney and release thereby the baking-chamber of excessive

pressure. When the moisture has been drawn off from the baking-chamber, a damper, *g*', in the flue *g* is closed and the full heat retained in the baking-chamber for completing the baking operation. The essential feature of my improved baker's oven consists in the simple construction of the crown-flues, by which the upper part of the baking-chamber is retained at a constant temperature. As these flues are constructed entirely of hollow refractory bricks, which form a part of the arched crown of the chamber itself, no iron beams or other supports are required. The bottom and crown flues keep up a uniform heat in the baking-chamber and facilitate the erection of the furnace, as all the parts forming the flues are ready to be put up in regular order by the oven-builder. The heat of the products of combustion is fully utilized by drawing the same successively through the bottom flues, crown-flues, and auxiliary flues above the crown-flues, which latter serve to keep that portion of the oven next adjoining the front wall at the same temperature as the rear part of the oven, which is naturally kept warmer by the more direct action of the fire on the walls of the rear part. The auxiliary flues also serve to utilize the heat still contained in the gases of combustion after they have passed through the crown-flues, so that the oven is economical in fuel, while it is conveniently operated owing to the absence of obnoxious gases.

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

1. The combination of a baking-chamber, longitudinal flues arranged below the bottom

of said baking-chamber, longitudinal flues arranged in the crown of the baking-chamber and connected with the bottom flues, said crown-flues being constructed of hollow communicating bricks and separated by intermediate solid bricks, substantially as set forth.

2. The combination of a baking-chamber, a series of longitudinal flues arranged below the bottom of the baking-chamber, and divided into two groups opening to the same fire-chamber by a central longitudinal partition, a series of longitudinal flues arranged in the arched crown of said chamber and divided into two groups by a central longitudinal partition and connected with the bottom flues, and a series of auxiliary flues arranged above the crown-flues and connected therewith and with the chimney, substantially as set forth.

3. The combination of a baking-chamber, longitudinal bottom flues below the bottom of the same, longitudinal flues arranged in the arched crown of the baking-chamber, vertical flues connecting the bottom and crown flues, a series of auxiliary flues arranged above the crown-flues at the front part of the oven, vertical flues connecting the crown-flues with said auxiliary flues, and a diagonal flue connecting the auxiliary flues and the oven-flue with the chimney, 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.

HERMANN WILD.

Witnesses:

PAUL GOEPEL,
MARTIN PETRY.