

(No Model.)

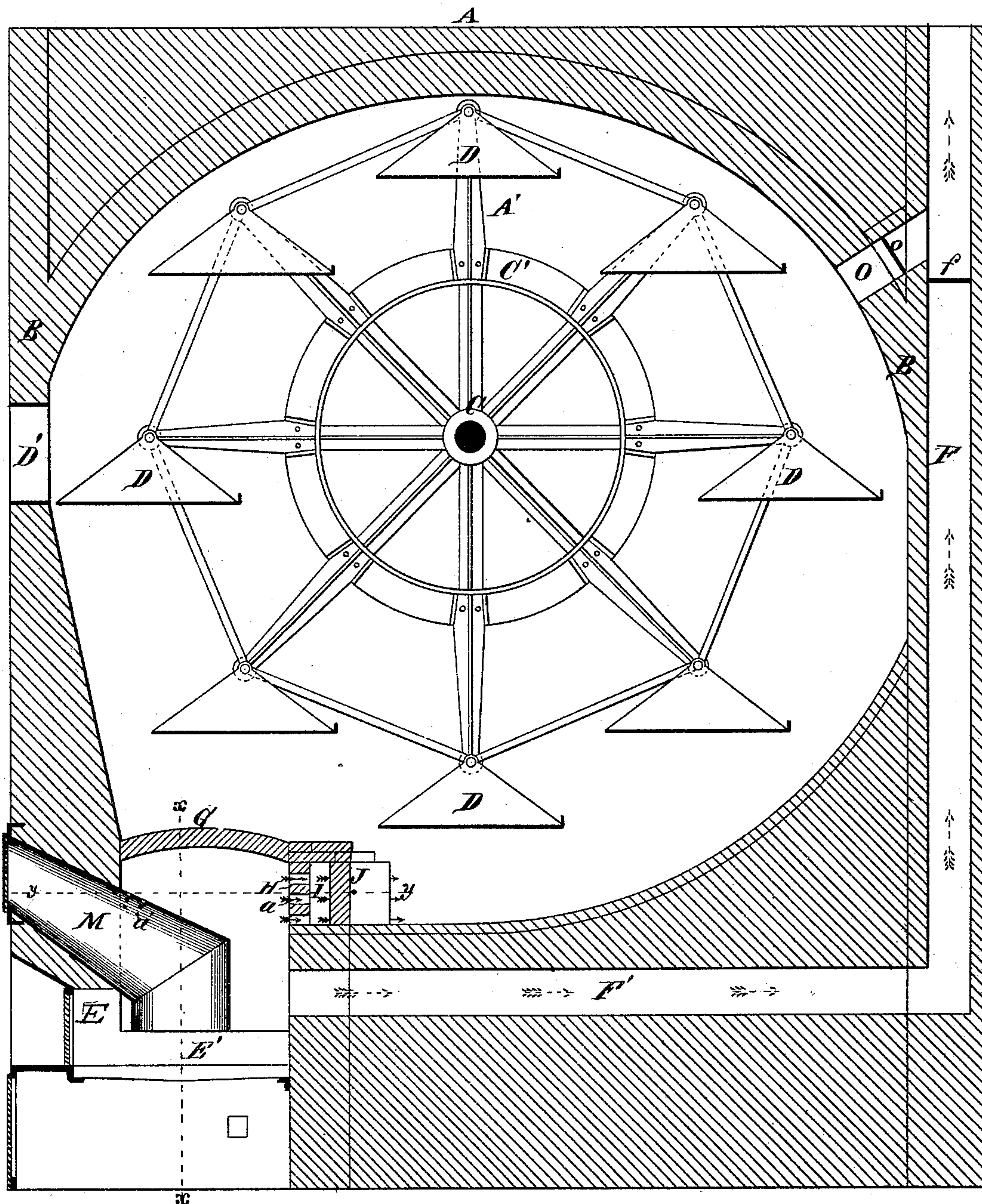
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S. HALL.
Baker's Oven.

No. 232,264.

Patented Sept. 14, 1880.

Fig. 1.



Attest:

H. V. Drake
of 120 South

Inventor:

Samuel Hall
by Charles Pickles
att'y.

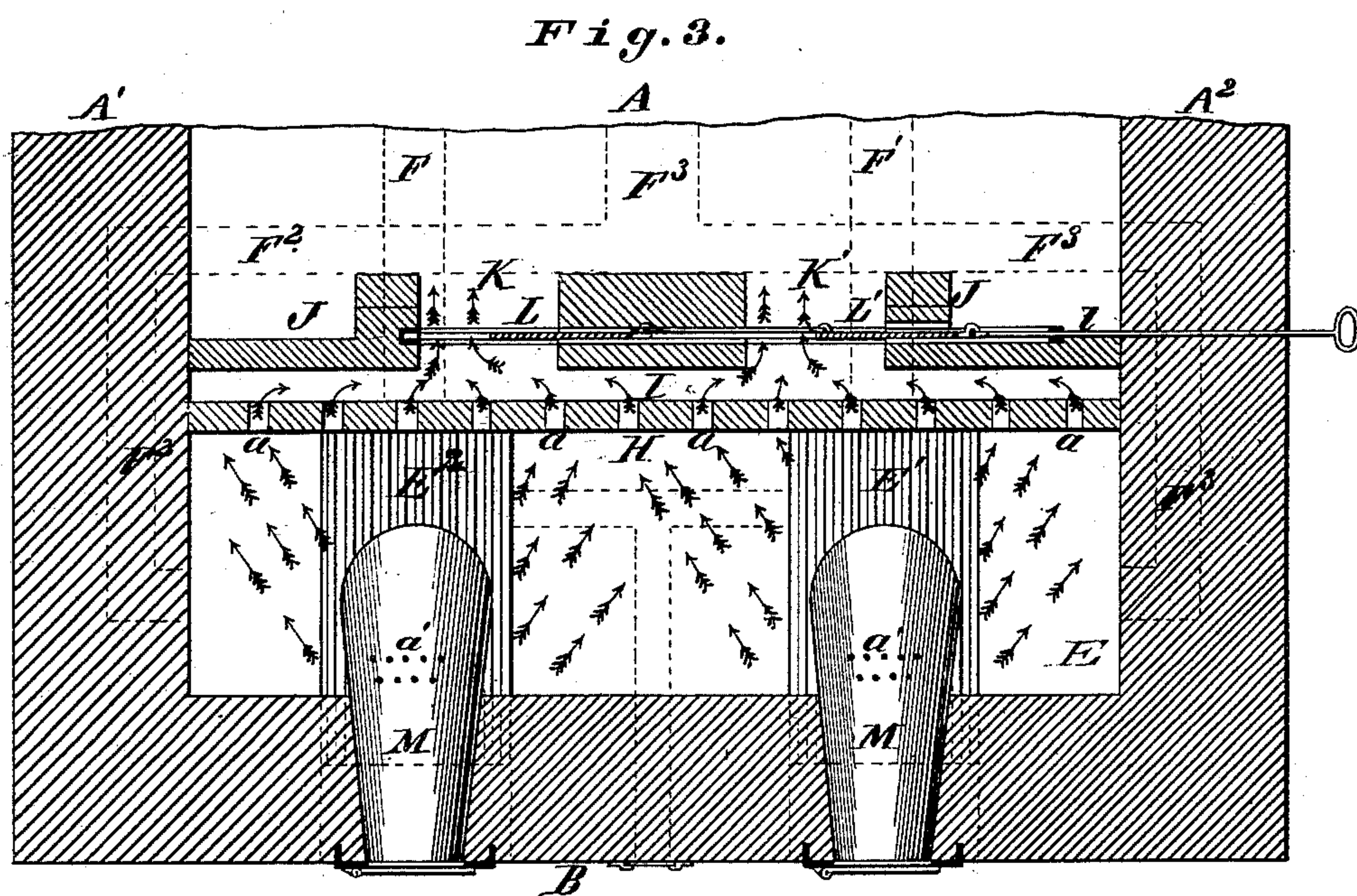
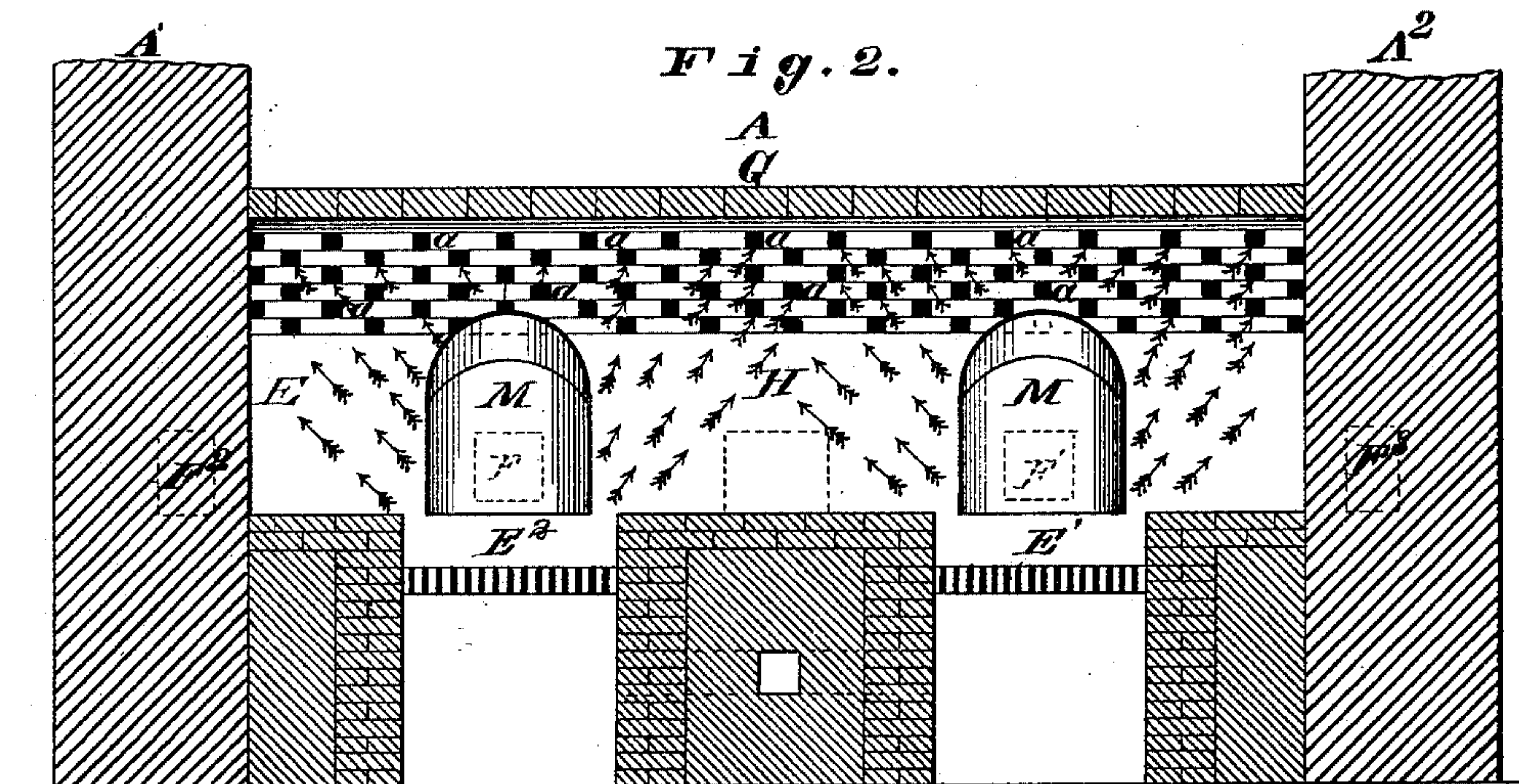
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Baker's Oven.

No. 232,264.

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Attest:

H. V. P. Draper
of Downton

Inventor:

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UNITED STATES PATENT OFFICE.

SAMUEL HALL, OF CHICAGO, ILLINOIS.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 232,264, dated September 14, 1880.

Application filed May 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HALL, a resident of the city of Chicago and county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Revolving Ovens, of which the following is a specification.

The object of my invention relates to the construction of the furnace for supplying the heat to the baking-chamber in as direct a manner as possible, and at the same time have the furnace under control by a system of dampers, so that the products of combustion can be at any time entirely shut off from the baking-chamber. My object in this is to obviate the nuisance of dust, gas, or smoke entering the baking-chamber when first starting the fire or at any time when supplying fresh fuel or shaking down the ashes in the furnace, and obviating the necessity of cleaning the shelves and keeping the goods clean while in the process of baking.

Another object is to furnish, in connection with the furnace, bridge-wall, flues, and damper, a suitable means of supplying the fuel to the furnace, whereby a sufficient amount will be in such a position as to be self-feeding, and of such quantity as will last for a run of ten hours, more or less.

My invention relates to that class of ovens known as "revolving" ovens, in which the baking is done on a moving surface, such as shown in the drawings, or on a horizontal turning table located in the interior of the oven or baking-chamber.

In the accompanying drawings, Figure 1 is a vertical section through a reel-oven. Fig. 2 is a vertical section through the furnace on line *xx*. Fig. 3 is a horizontal section through the furnace on line *yy*.

A is an oven, having side walls, A' A², and front and rear walls B B. Journaled in the side walls is the horizontal shaft C, carrying the spider C', one of which being at each end of the shaft in the interior of the baking-chamber.

D are the shelves, hung in suspension from the ends of the arms forming the spider. D' is the oven-mouth, through which the articles to be baked are received and discharged.

Located in the bottom of the baking-cham-

ber are the furnace E and fire-pots E' E², having the usual furnace-door in front for the reception of fuel or for raking the fire. At the rear end of the furnaces are two flues, F F', leading direct to the open air, for the escape of the first products of combustion, such as smoke, dust, or gas, so that the same shall not pass into the baking-chamber.

G is the arch over the furnaces, extending from end to end of the baking-chamber, and arched from the bridge-wall forward, and of sufficient height to allow of a free passage from one furnace to the other, the fire-pot of the furnace being of just sufficient depth to hold the fuel.

At the rear end of the furnace, and of sufficient height above the fire-pot, there are perforations *a* in the bridge-wall H, forming the support for the arch G. These openings may extend from one end of the bridge-wall to the other, as the circumstances may require. There may be two or more rows of such openings, as may be desired, for the free passage of the heat out into the baking-chamber.

In the rear of the perforations is a flue, I, formed between the walls H and J, into which the heat is received before its passage through the flues K K' into the baking-chamber.

L L' are upright dampers for controlling the passage of heat into the baking-chamber, said dampers being connected by a rod and operated by the rod *l*, passing through the wall to the outside.

M is a self-feeding device for supplying fuel to the furnace, placed at such an incline that the fuel will fall of its own specific gravity, the lower end being of sufficient height above the gate-bars to allow of the necessary supply to produce a thorough combustion. The upper end of said feeder is open for the reception of fuel, said opening being closed by a tightly-fitting door to prevent the passage of air or gas.

About midway up the feeder, on the top, are perforations for the escape of gas should any collect in the feeder. Said gas, after escaping through the perforations, will come in contact with the heated air and flames, and be thus consumed.

The operation of my invention is as follows: The fire on being first ignited will emit more

or less gas and smoke, and to prevent its passage into the baking-chamber I close the dampers L L', which shut off all communication with the baking-chamber. The smoke and gas will then pass out through the flues F F' into the open air.

The dampers should be kept closed until the fire is in a red glow and has ceased to emit smoke and gas, when the dampers are opened, and the heat then passes direct into the baking-chamber.

The flues F F' may be arranged to enter the furnace at the sides and pass around and back into one central flue, as indicated in dotted lines F² F³.

Instead of having the perforations, the wall J may occupy the place of the bridge-wall H, when the heat will pass directly into the oven through the flues K K'.

The dampers need not necessarily be upright, but may be placed in a horizontal position.

O is an opening in the top of the baking-chamber, the purpose of which is to cool the oven quickly. I first close the dampers K K', and then open the damper o, when the heat passes out into the flue F, thence into the open air. I also place in the flue F a damper, f, for the purpose of preventing any escape of heat to the air without having first passed into the baking-chamber.

It is obvious that by an oven with furnaces of my construction, having the self-feeder, a large amount of time and labor will be saved, and also that by my arrangement of flues and dampers the baking-chamber will be thoroughly heated, and at the same time the dust, gas, and smoke prevented from entering.

It will be seen by my form of construction the two fires are in a chamber formed by the wall B, arch G, bridge-wall H, and the hearth, thus forming one large heating-chamber for the air before its passage into the baking-chamber.

My arrangement of flues and dampers may be used with one or more fires, the drawings showing but two fires.

My self-feeding device is applicable to any form of furnace now used in revolving ovens, my arrangement of flues not being necessary to its working.

Having thus described my invention, what I wish to claim is—

1. In a revolving oven, the furnace E, constructed with perforated rear bridge-wall, H, and arch G, extending from side wall to side wall, wall B, and hearth, together forming the combustion-chamber, in which are located two or more sets of grate-bars, as shown and described.

2. In a revolving oven, the furnace E, flue I, wall J, damper L, and flue K, as shown and described.

3. In a revolving oven, the furnace E, flue I, wall J, damper L, flue K, in combination with flue F, as shown and described.

4. The furnace E, provided with self-feeding device M, arranged as shown and described, in combination with flue I, wall J, damper L, and flues K and F, substantially as shown and described.

SAMUEL HALL.

Witnesses:

ROBT. W. GOODE,
CHARLES PICKLES.