

CHARLES F. HOLMES.

Baker's Oven.

No. 125,735.

Patented April 16, 1872.

Fig. 1.

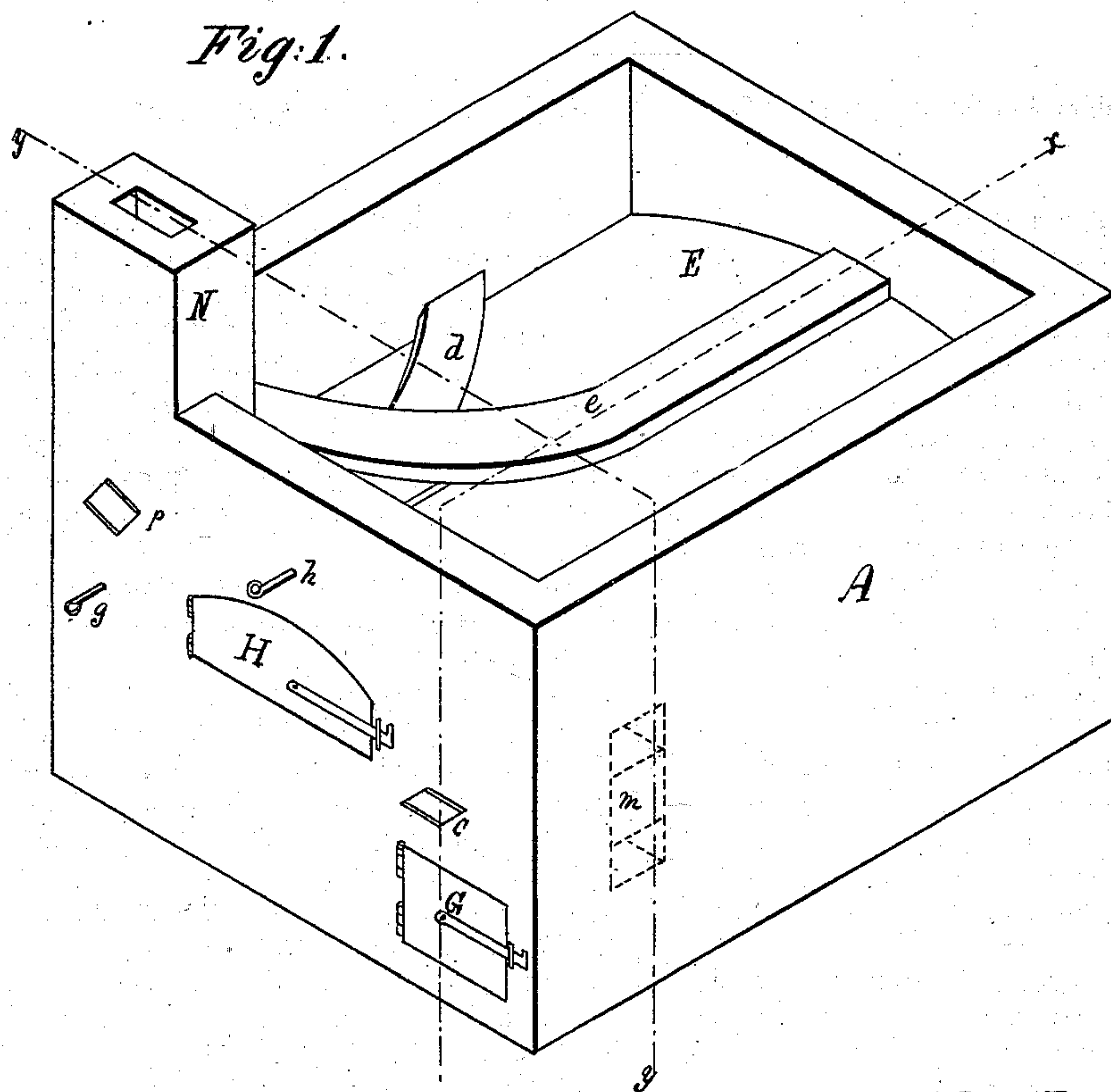


Fig. 2.

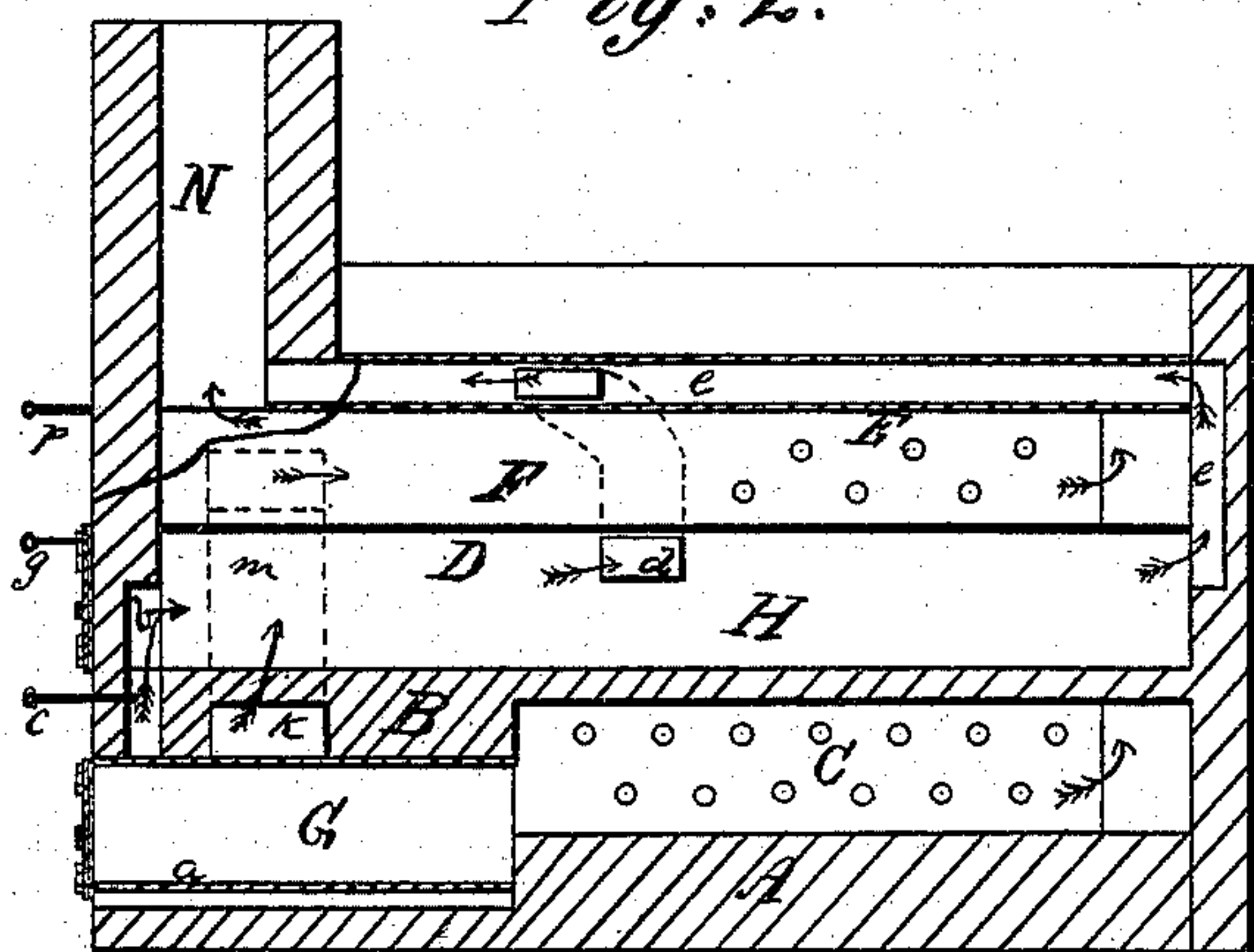
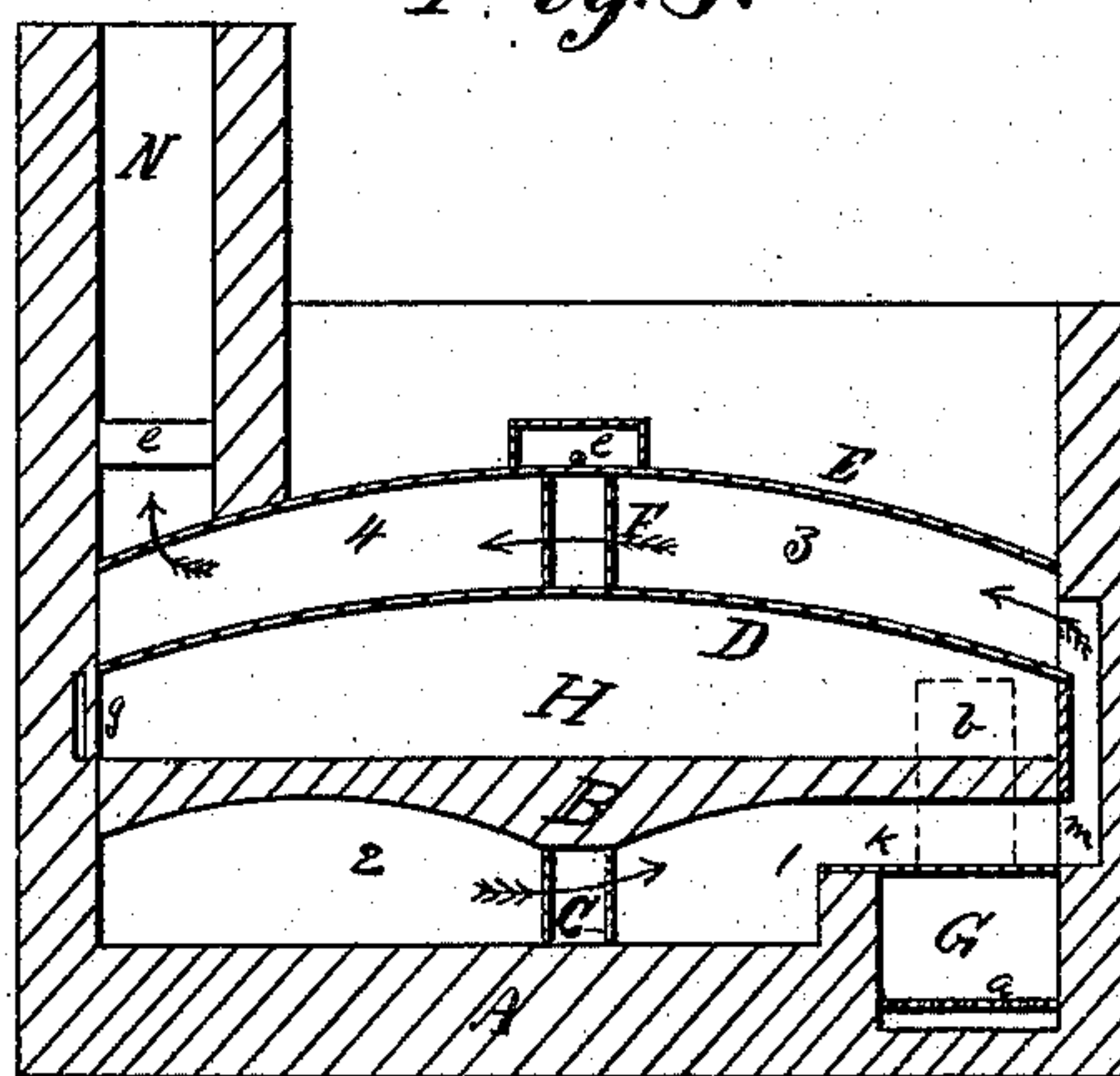


Fig. 3.



Witnesses:

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att'y

UNITED STATES PATENT OFFICE.

CHARLES F. HOLMES, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. 125,735, dated April 16, 1872.

To all whom it may concern:

Be it known that I, CHARLES F. HOLMES, of the city and county of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Bakers' Ovens, of which the following is a full, clear, and exact description, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is an isometrical view of my oven. Figs. 2 and 3 are longitudinal and transverse sections of Fig. 1, taken in the lines *xx* and *yy*, respectively, a portion of Fig. 2 being broken out, as seen.

Similar letters indicate like parts.

The object I have in view is to produce a baker's oven specially adapted to burning bituminous coal, which may be accurately regulated, and in which the heat may be thrown directly into the oven proper, or may be utilized by radiation, as the different articles to be acted upon may demand.

A in the several figures represents the shell of the oven, which may be built of brick in any of the known ways. B, Figs. 2, 3, is the floor of the oven H, resting on arches, as seen in the latter figure, which spring from the sides of the shell and rest at the center on a partition, C, extending from the front of the oven to the back, a small space, as seen, being left between its ends and the front and back of the shell. The bottom of the oven may be built of fire-brick, and the crown D, Figs. 2, 3, I prefer to have made of brick and arched, as seen. Above this crown is a second arch, E, Figs. 1, 2, 3, and passing longitudinally between the two arches is a partition, F, which extends from the front of the shell to within a short distance of the back, as seen in Fig. 2. Both of the partitions C and F are perforated toward the rear of the oven, as seen in Fig. 2. The furnace G, Figs. 1, 2, 3, is situated in the front corner of the shell, while the chimney N is in the opposite corner of the front, as seen in the several figures. The furnace does not extend quite half way from the front to the back, and, as seen in Fig. 2, is open at its back a little above the grate-bars *a*. At the front of the furnace is a flue, *b*, Figs. 2, 3, leading directly into the oven H, this flue being controlled by the damper *c*, Figs. 1, 2. From the side of the oven a flue, *d*, Figs. 1, 2, passes up

over the arch E, and there connects with the flue *e*, Figs. 1, 2, 3, opening into the back of the oven. These flues are controlled by the dampers *g* *h*, respectively. Over the furnace is a flue, *k*, Figs. 2, 3, connecting with a vertical flue, *m*, Figs. 1, 2, 3, opening, as seen, into the space between the crown of the oven and the arch E. The longitudinal partitions C and F form four flues, as it were, of the space beneath the oven and that above it, which may be designated as 1 2 3 4. Flue 4 opens into the chimney, and is controlled by a damper, *p*, Figs. 1, 2.

When the fire is started, the dampers *c*, *h*, and *g* being closed and the damper *p* open, the heated products of combustion take the course indicated by the unbroken arrows, passing out of the back of the furnace into flue 1; thence around the end and through the perforations of partition C into flue 2, and to the front of the oven; they then cross into flue *k*, and from this through flue *m* into flue 3; passing to the back of this flue they enter flue 4 through the perforations and around the end of the partition F; and from this flue they pass to and out of the chimney N. Now, if it be desired to throw the heat directly into the oven, as is necessary in baking certain kinds of crackers requiring a quick heat, the damper *p* is closed and dampers *g*, *h*, and *c* opened; this throws the products of combustion directly into the oven H in the direction indicated by the broken or dotted arrows—that is, through the flue *b* into the oven, and thence through the flues *d* and *e* into and out the chimney N, the flue *d*, as seen clearly in Fig. 1, opening into the flue *e* on top of the arch E. The flues *d* and *e*, being placed one at the side and the other at the end of the oven H, cause the heat to be spread uniformly through the oven, and the circulation through the flues 1 2 3 4 preserves a uniform radiation of heat in all parts of the oven.

The great objection to the use of bituminous coal in baking is the sooty deposit it leaves, which in most ovens where the heat is thrown directly into the oven renders it almost impossible to use it.

By my arrangement I can use the heat either directly or by radiation, thus enabling me to throw it into the oven only when the fires are so thoroughly kindled as to give off a minimum

amount of smoke, and by taking the heat from the front of the furnace to obtain it as nearly pure as possible.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The shell A, furnace G, oven H, flues 1, 2, 3, 4, *k*, and *m*, and chimney N, all in combination and arranged and constructed substantially as and for the purpose shown and specified.

2. The shell A, furnace G, oven H, flues *b e d*, and chimney N, all in combination, and ar-

ranged and constructed substantially as and for the purpose shown and specified.

3. A baker's oven, consisting of a shell, A, furnace G, oven H, flues 1, 2, 3, 4, *k*, *m*, *b*, *e*, and *d*, with their dampers *g p h c*, and chimney N, all in combination, and arranged and constructed substantially as and for the purpose shown and specified.

CHARLES F. HOLMES.

Witnesses:

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