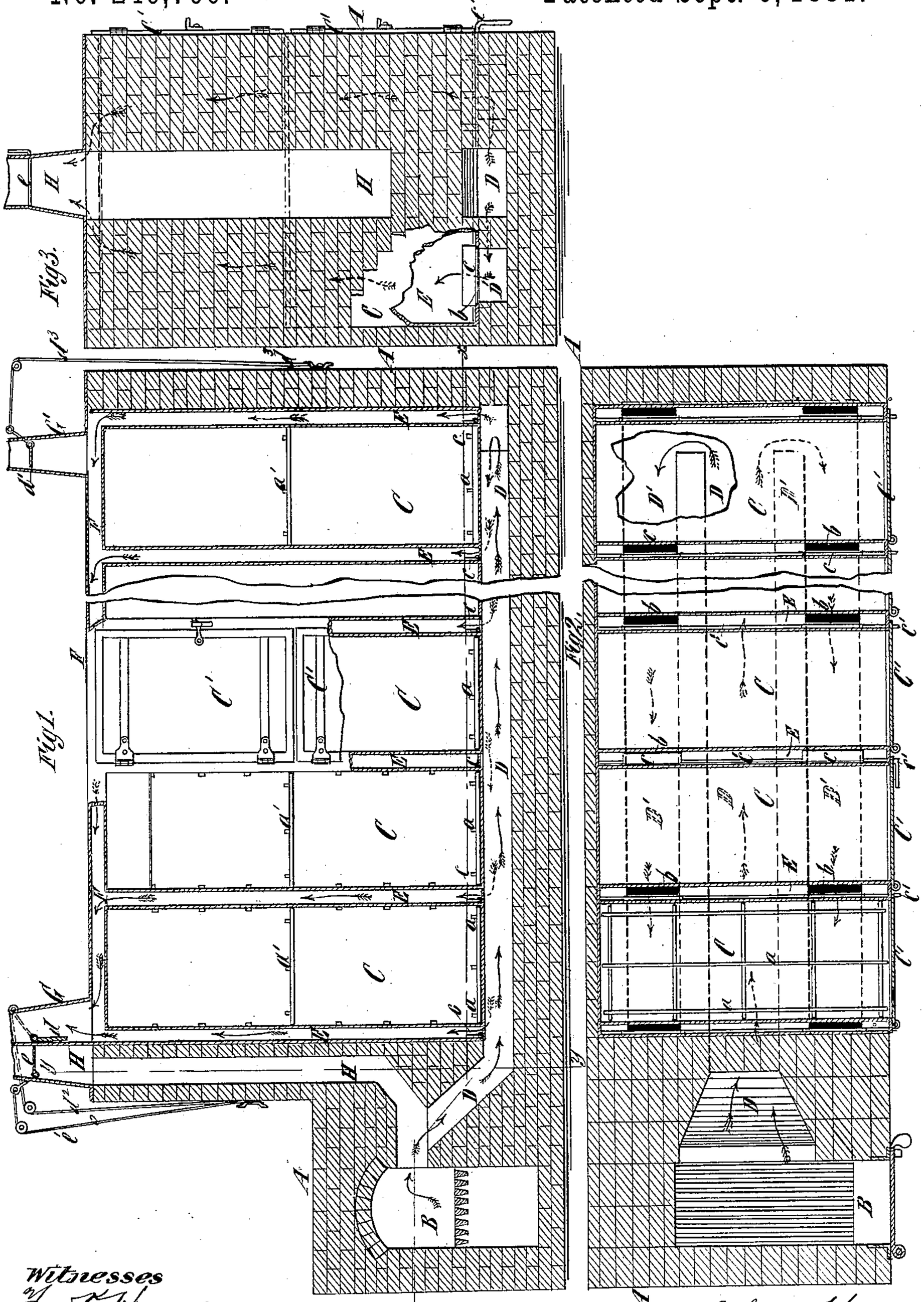
(No Model.)

J. D. HASS.

JAPANNING OVEN.

No. 246,766. Patented Sept. 6, 1881.



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JOHN D. HASS, OF NEW YORK, N. Y.

JAPANNING-OVEN.

SPECIFICATION forming part of Letters Patent No. 246,766, dated September 6, 1881.

Application filed April 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. HASS, of the city and county of New York, in the State of New York, have invented certain new and useful Improvements in Japanning-Ovens, of which the following is a specification.

The object of my invention is to provide a desirable oven for baking or drying japanned articles, in which the articles to be baked or dried are subjected to an even and uniform degree of heat.

The invention consists in the combination, with a number of closed chambers, in which the articles to be baked or dried are placed, and a fire-place for heating, of a novel arrangement of flues for conducting the products of combustion and heated air from the furnace to act effectively upon the said chambers for heating the contents thereof, and dampers for controlling the passage of air through said flues, all as hereinafter more fully described.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section through an oven embodying my invention, a portion of the oven being broken away to reduce the length thereof. Fig. 2 represents a horizontal section upon the dotted line *x x*, Fig. 1, similarly broken away; and Fig. 3 represents a transverse section upon the dotted line *y y*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A designates the inclosing-shell or interior of the oven, which is preferably formed, in the usual manner, of brick-work.

B designates a fire-place or furnace, which is provided with the usual grate and fire-doors.

C designates a number of chambers arranged within the shell of the oven, as seen most clearly in Fig. 1, and at a little distance apart. The chambers are provided with doors C′, through which baskets, crates, or boxes containing the articles to be baked or dried may be introduced. Upon the floor of the chambers C are rails *a*, upon which a wheeled basket, crate, or box may be run into said chamber. About midway of their vertical height the chambers C are provided with other rails, *a′*, which provide for running baskets or boxes into the chambers one above another. When closed the chambers C are perfectly tight, and no smoke or gases can enter them, and thus impair the quality of the articles being baked or dried.

D designates a flue leading directly from the fire-place or furnace B to the opposite end of the oven, and under the chambers C, at about the middle of the width thereof, as seen in Fig. 3, and from the rear end of the oven the flue D communicates with two other flues, D′, one upon each side thereof, through which the smoke and gases may pass from the rear end of the oven to the front end thereof, at which is the fire-place or furnace B. The arrangement of these return-flues and the course of the smoke and gases are very clearly indicated by the arrows in Fig. 2.

The closed chambers C are slightly separated from each other and from the two ends of the oven, thus forming a number of upright flues, E, into which the products of combustion pass from the flues D′ through openings *b*, which are controlled by dampers *c*. The two dampers *c* of each flue E are connected to one transverse shaft, which may be rocked to open or close the dampers. Over the chambers C is a space or flue, F, into which all the products of combustion enter from the flues E, and from which the products of combustion are discharged through chimneys G G′, controlled by dampers *d d′*, which may be opened by suitable chains or cords, d^2 d^3.

It is obvious that by closing any of the dampers *c* the heated products of combustion will be excluded from the flue E, in which such dampers are situated, and the two chambers which form the flue between them would be less exposed to heat than the others. If, for example, the two chambers C farthest from the fire-place are to be more highly heated than those nearer the fire-place, the dampers *c* must be closed to exclude the heated products of combustion from the flues E of the chambers C nearest the fire, and the damper *d′* may be opened to permit the escape of the heated products of combustion through the chimney G′.

In order to provide a more direct draft in kindling the fire, I construct a flue or chimney, H, leading directly from the fire-place or furnace and controlled by a damper, *e*, which may be opened by a chain or cord, *e′*. When the fire is being kindled the damper *d*, controlling the chimney G, is closed and the damper *e* is

opened, thus affording a more direct draft, and after the fire is fully kindled the damper *e* may be closed and the damper *d* opened to permit the escape of the products of combustion through the chimney G.

One great advantage of my invention is that all the heated air and products of combustion from the fire-place are delivered directly into the flue or flues below the chambers, and as all such air and products of combustion can only escape by entering the flues between the chambers at the very bottom thereof, and thence passing upward throughout the whole height of the chambers, the oven is very effective.

It is also obvious that by opening the dampers *c* which lead to the flue E between the first two chambers nearest the fire-place the heat can all be concentrated on these chambers, and in like manner any one chamber or two chambers can be effectively heated without wasting heat upon the other chambers.

By my invention I provide an oven in which japanned articles may be heated very evenly and uniformly, and in which provision is afforded for readily regulating the heat so as to heat all the parts.

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

1. The combination of the fire-place B, the closed chambers C, the flue D and return-flues D′, the flues E, and the dampers *c*, substantially as specified.

2. The combination of the fire-place B, the closed chambers C, the flue D and return-flues D′, the flues E, the dampers *c*, and the outlet-openings G G′, with dampers *d d′*, substantially as specified.

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