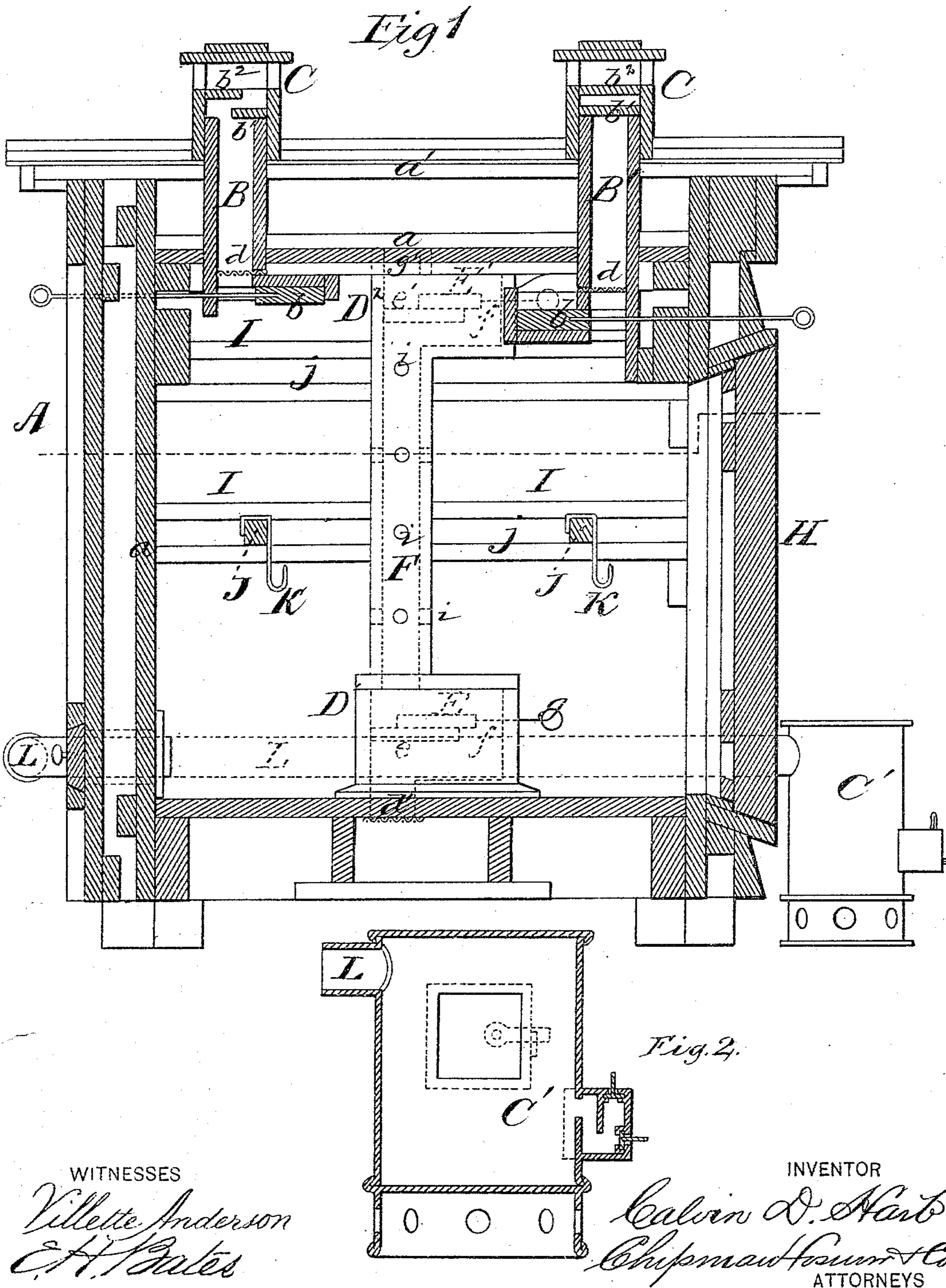


C. D. HARB.
SMOKE-HOUSE.

No. 169,693.

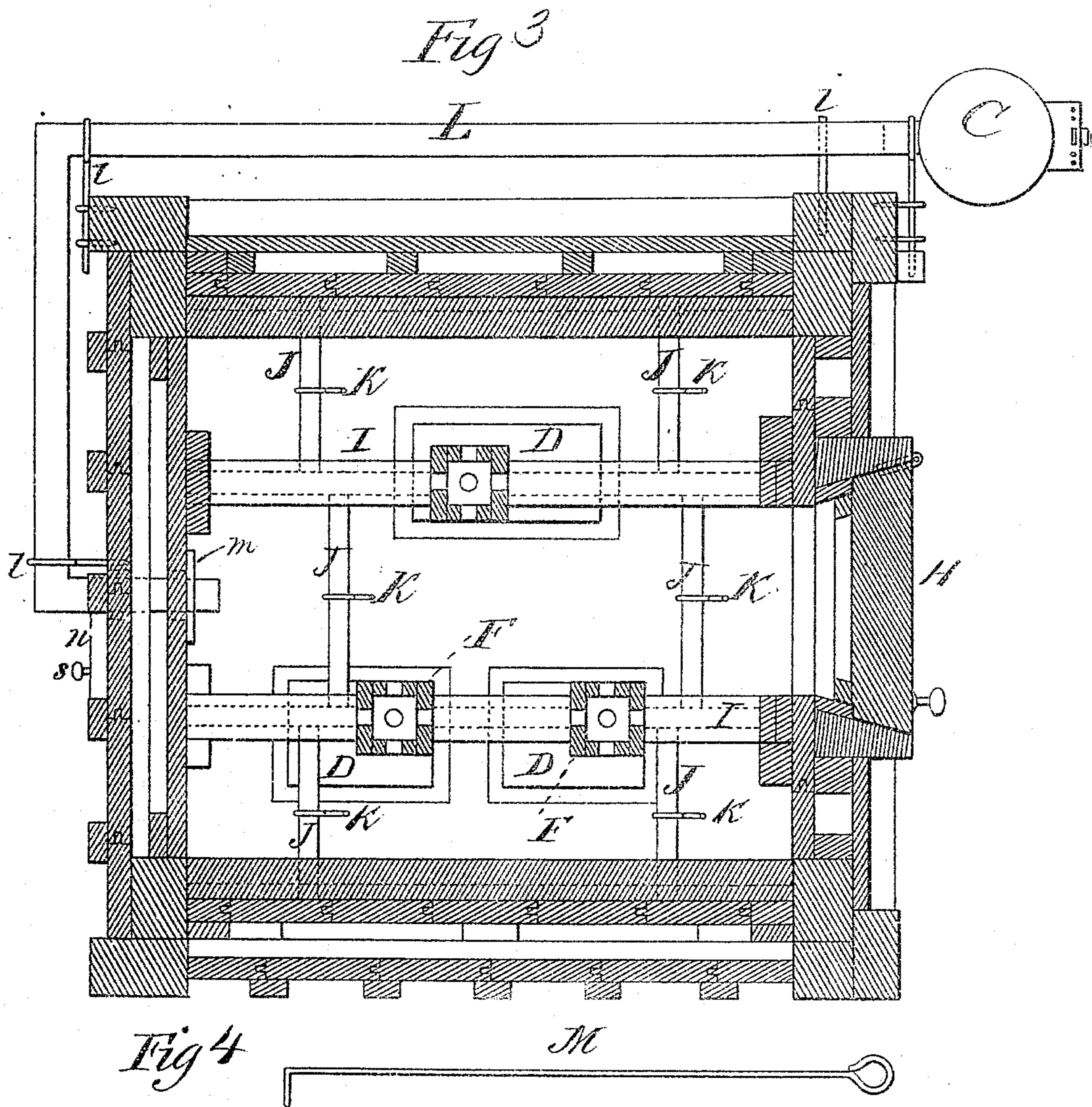
Patented Nov. 9, 1875.



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WITNESSES
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UNITED STATES PATENT OFFICE

CALVIN D. HARB, OF ANDOVER, INDIANA.

IMPROVEMENT IN SMOKE-HOUSES.

Specification forming part of Letters Patent No. 169,693, dated November 9, 1875; application filed August 14, 1875.

To all whom it may concern:

Be it known that I, CALVIN D. HARB, of Andover, in the county of Madison and State of Indiana, have invented a new and valuable Improvement in Smoke-Houses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of my smoke-house, and Fig. 2 is a sectional detail view thereof. Fig. 3 is a horizontal sectional view of my smoke-house, and Fig. 4 is a detail view.

This invention has relation to improvements in smoke-houses, the object of which is to cure meats, either fresh or salted, through the action of the products of combustion; and the nature of the invention consists in the arrangement and novel construction of the various devices used, whereby a very efficient and reliable apparatus is produced, as will be fully understood from the following description, and claimed hereinafter.

In the annexed drawings, the letter A designates a rectangular building, of suitable dimensions, having double walls and a double roof, between which a space is left for the purpose of allowing air to circulate, for keeping the interior of the building cool, and of preventing the wooden materials of which the said building is made from rotting away. The double walls of this building are detachable from each other and from the floor, and the roof is in like manner detachable from the walls, so that, when necessary, the building may be transported in a "knocked down" condition at little expense. The walls of the building may be either weather-boarded, or the boards may be attached to the frame-work in a vertical position, and their joints closed by a batten-strip. B B' represent tubes or conduits, which pass through the walls *a a'* of the roof. These tubes are provided with chimney-tops C upon their upper ends, and at their lower ends with a sliding valve, *b*, by means of which they are closed partly or entirely, as the necessities of the case may require. They are also closed by means of a wire-cloth dia-

phragm, *d*, by means of which flies and other insects are prevented from getting into the interior of the house. In order that the interior of the house may be kept dark, the upper ends of these tubes are provided with boards *b¹ b²*, overlapping each other, and arranged one above the other, as shown in Fig. 1, so as to form a passage between them, which will in no way interrupt the upward currents of smoke when valves *b* are wholly or partially opened.

The smoke used in treating meats will be produced by causing hickory or other aromatic woods to smolder in a suitable stove, C', arranged near the front of the house, and communicating with the rear end and lower part thereof by means of a metallic pipe, D, connected with the stove and projecting through the rear end of the house, as shown in Fig. 1. In the floor of this house two or more openings, *d'*, are made, which are covered with wire-cloth, and are covered by means of square boxes, D¹, which are provided with a horizontal partition or shelf, *e*, of such a size as to leave a space, *f*, in one end thereof, unoccupied. This space may be closed or opened by means of a slide-valve, E, operated from the outside of the boxes by means of handles *g*. These boxes communicate with tubes F, which are provided throughout their whole length with spaced perforations *i*, and which communicate with boxes D², arranged in openings of corresponding shape in the inner wall *a* of the roof. These boxes, like boxes D¹, are provided with shelves *e'*, a space, *f*, and a slide-valve, E', closing the space, and also with a short conduit, *g'*, passing through the said wall.

By this means thorough ventilation of the interior of the house is obtained, since, by closing the upper valves E', a current of air will pass upward through boxes D¹ and tubes F, the upward draft through chimney-tubes B causing a constant supply of fresh air to be drawn into the chamber through apertures *i* in tubes F. When the upper valves E' are opened, the quantity of air discharged into the house will be greatly lessened, since the more direct draft up tubes B, through boxes D¹ D², will then prevail.

When the process of smoking the meat is progressing, the house will be closed by a

hinged door, H, which will be only opened from time to time to see how the stove is drawing. Where the draft is too great, thus causing the smoke conducted into the said chamber to escape into the open air through smoke-pipes B with great rapidity, valves E E' therein will be partly closed, thus confining the smoke by lessening the draft, and causing every part of the meat-chamber to be permeated thereby; and where the draft is defective, it may be regulated by opening the said valves.

As above mentioned, every aperture in the smoke-house is gauze-covered and darkened, the former appliance being designed to prevent flies from penetrating therein and depositing their larvæ on the meat; and darkened, so that when the door is opened, the said chamber being unilluminated from other points, flies will not be tempted to enter. These boxes and tubes are detachable from each other and from the house, as are also smoke flues and chimneys B B' C, so that when the necessity occurs, they may be taken down and shipped to any point with but little trouble and expense.

I represents stringers, extending from one end of the house to the other, and arranged in tiers at each side of the doors. These stringers are provided, upon their lateral edges, with grooves j, in which the ends of supporting-rods J are adapted to be received, and they are also separable from the said stringers, as are the latter from the house. Rods J are provided with a number of hooks, K, which are laterally movable on the said rods, so that when a very large quantity of meat is to be cured they may be pushed nearer together, thus affording more room to hang the meat from the said hooks.

In practice, pipe L will be removably secured to the house by means of suitable brackets l, and at that point where the said pipe passes through the rear end thereof I propose to use metallic plates m, within and without, for the purpose of preventing the pipe, when heated, from setting fire to the house. When pipe L is detached from the house, the opening left in the wall will be closed by a sliding door, n, the object of which is to exclude flies and light, and this door is fastened, when closed, by means of a screw, s.

I also use a long hook, M, by means of which the valves in boxes D¹ D² and pipes B B' may be opened or closed, to increase or lessen draft and ventilation without entering the house when it is full of meat.

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

1. The perforated ventilating-tubes F, and boxes D¹ D², provided with cut-off valves E E', in combination with a smoke-house having openings d' in its floor, substantially as specified.

2. The combination, with a smoke-house, of the conduits B B', having wire-cloth diaphragm d, and overlapping spaced shelves b¹ b², substantially as specified.

3. The combination, with a smoke-house, of the perforated tubes F, valved boxes D¹ D², valved conduits B B', having caps C, and diaphragms d, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses:

CALVIN D. HARB.

Witnesses:

J. W. SAULSBURY,
JAMES MOHAN.