

E. BICKFORD.
Smoking Meats.

No. 35,580.

Patented June 17, 1862.

Fig. 1.

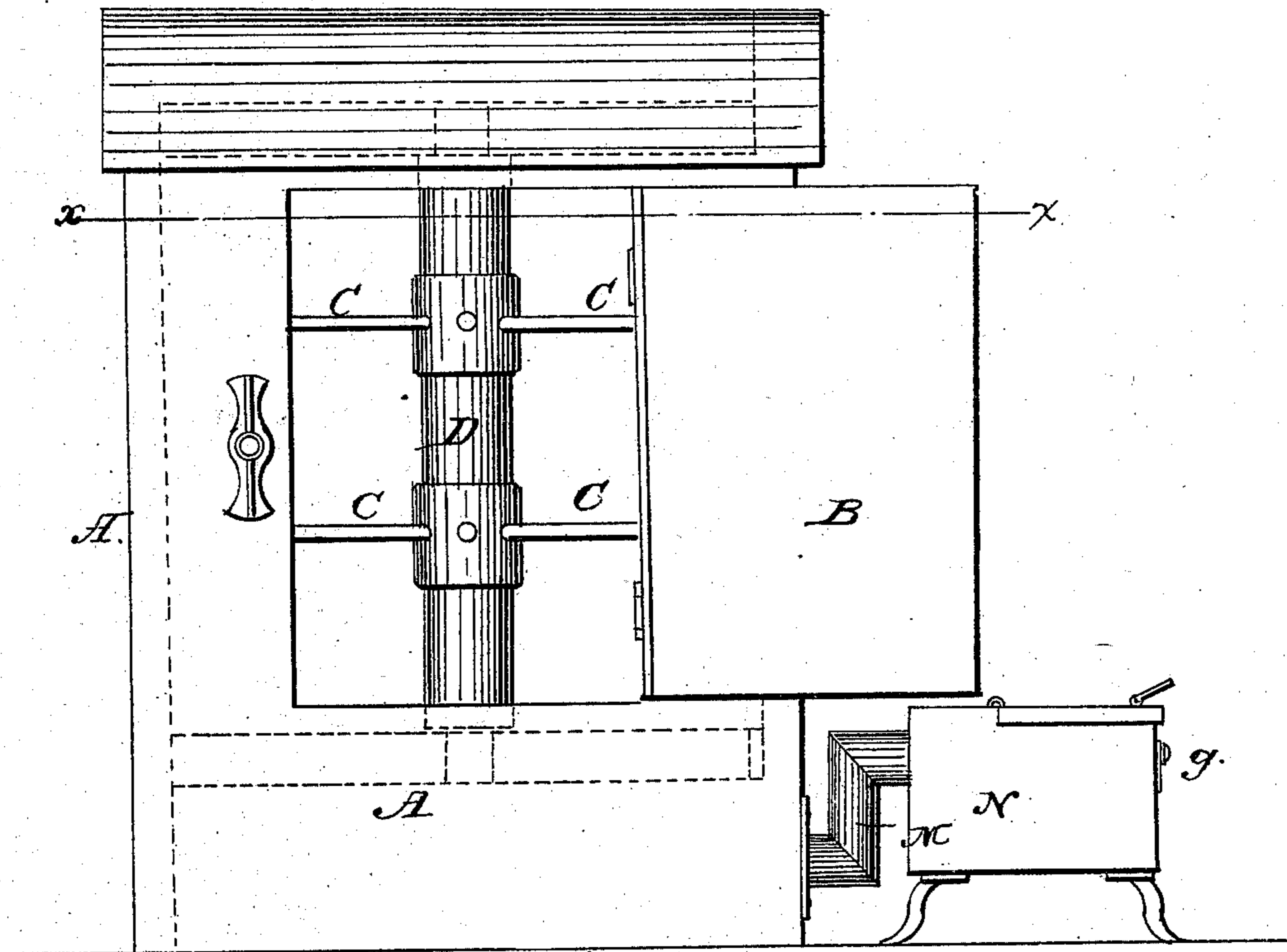
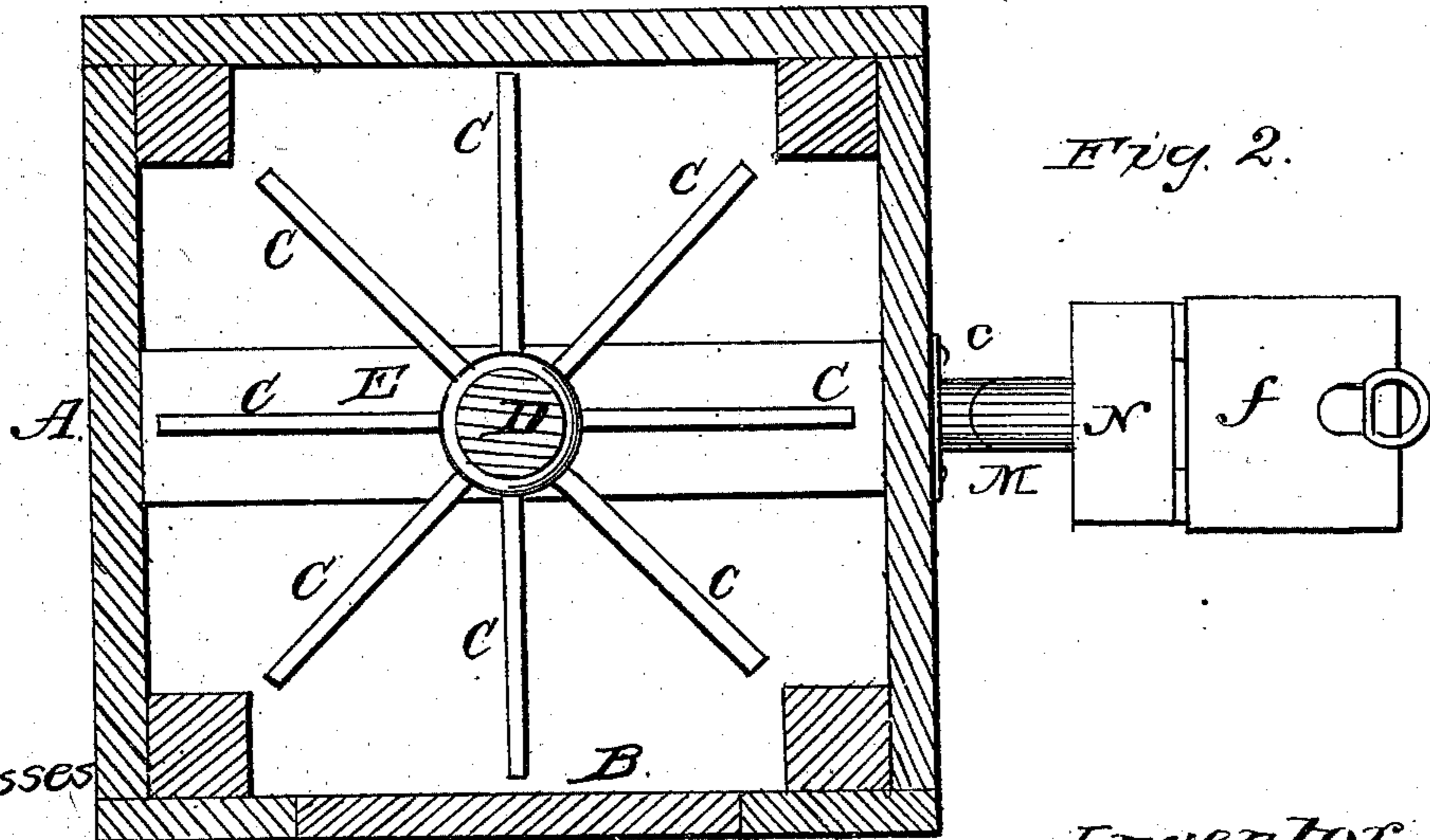


Fig. 2.



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2 Sheets—Sheet 2.

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Fig. 3

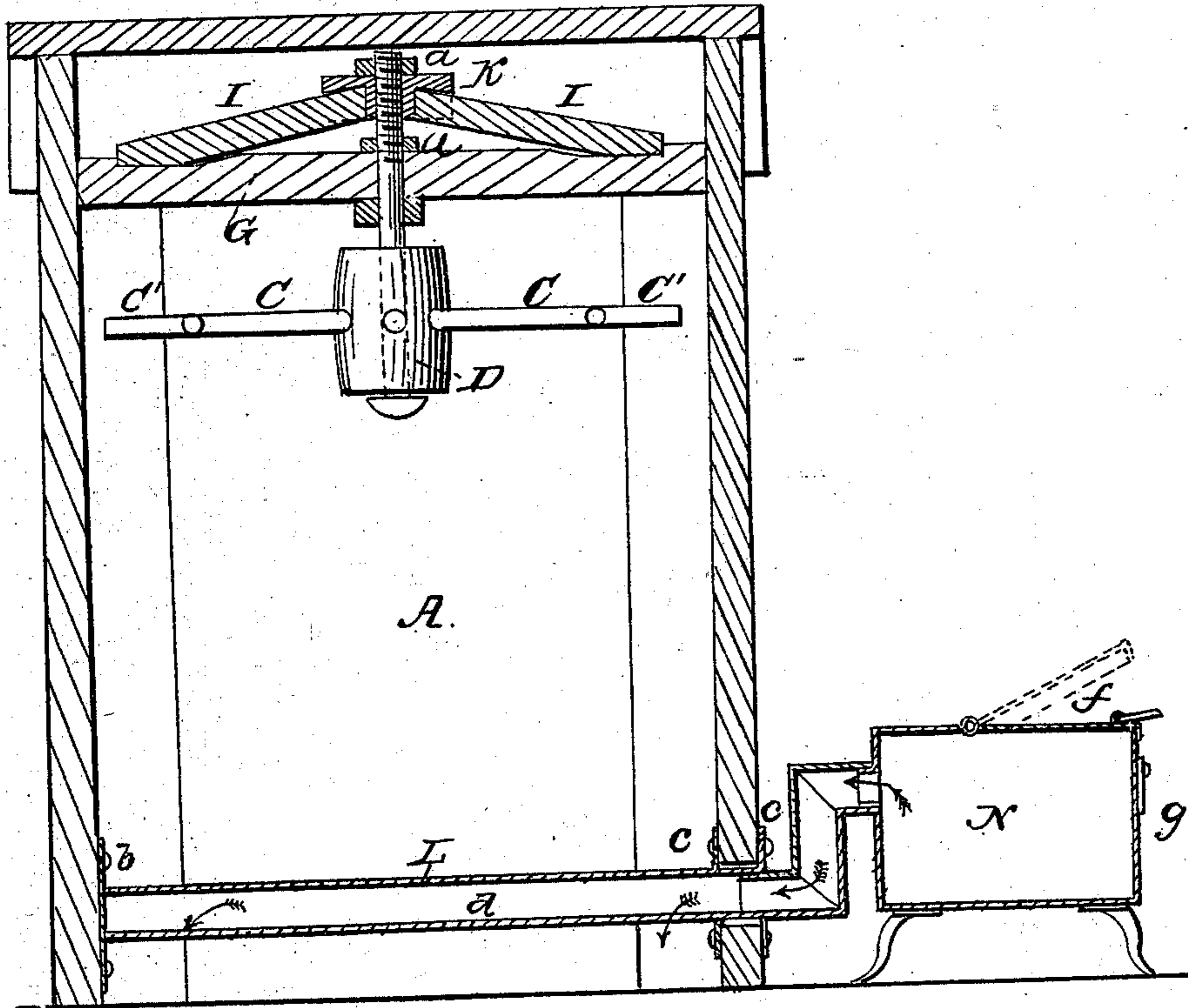
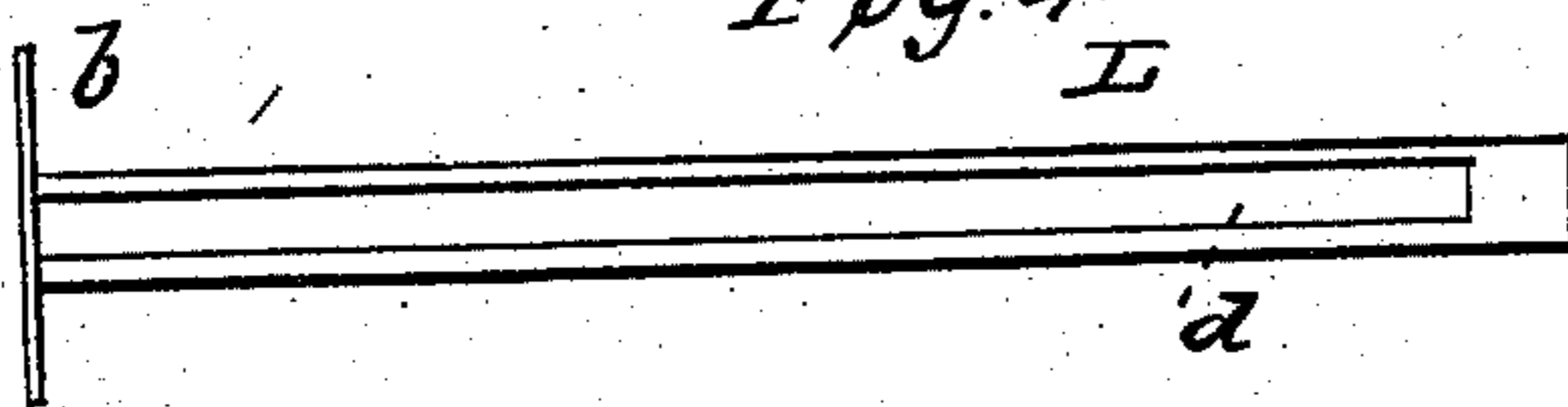


Fig. 4



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UNITED STATES PATENT OFFICE.

EBENEZER BICKFORD, OF OGDEN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR SMOKING MEATS.

Specification forming part of Letters Patent No. 35,580, dated June 17, 1862.

To all whom it may concern:

Be it known that I, EBENEZER BICKFORD, of Ogden, in the county of Monroe and State of New York, have invented a new and Improved Apparatus for Smoking Meats; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a front elevation of a smoke-house for the purpose of exhibiting my improvements applied thereto, showing the door of the house open; Fig. 2, a horizontal section thereof in the plane indicated by the line *x x*, Fig. 1, and showing the door closed; Fig. 3, a central vertical section of the same, showing a modification of the interior arrangement for hanging the meats; Fig. 4, a plan view of the under side of the interior conducting-pipe for the smoke.

Like letters designate corresponding parts in all the figures.

In the ordinary manner of smoking meats at present a suitable house or apartment is provided, having hooks, nails, or pins secured to its inner sides, on which to hang the hams, shoulders, or other pieces, or having cross-bars extending from one side to the other, on which they are suspended. Convenience and economy require that this house shall be small, and therefore it is difficult and laborious to hang the heavy pieces in its most distant parts through the small doorway, and when so hung they generally are in contact with the walls of the house or each other, and thus do not receive the full benefit of the smoke. The fire producing the smoke is sustained in the same apartment, and thus the meats are subjected to considerable heat, by which they are injured; also, to sustain the fire, the door has to be frequently opened, thus losing much of the smoke and rendering the duty of attending it a very disagreeable one.

It is the object of my improvement to obviate these difficulties; and the invention consists in the use of one or more sets of horizontal radial arms, secured to a vertical revolving shaft or hub inside the smoke-house in such a manner that the arms present themselves conveniently at the door of the house for hanging the meats; and also in conveying the smoke from an outer stove or generator into

the smoke-house through a conducting-pipe arranged in such a manner as to shield the pieces as much as possible from heat and from impurities.

I make use of the ordinary smoke-house, A, provided with a door, B, as usual, and centrally therein I secure one or more sets of horizontal radial arms, C C C, to a vertical shaft or hub, D. These arms are of suitable size and length for the purpose designed, their ends generally reaching nearly to the door and to the walls of the apartment. If it is desired to smoke a large number of pieces at once, a single shaft, as represented in Figs. 1 and 2, is preferable, and the sets of arms are secured one above another at suitable distances apart in a position most convenient to the doorway. The shaft is secured in place by its journals resting in bearings E E, above and below, as shown most clearly in Fig. 2, and by the dotted lines, Fig. 1; but if only a small number of pieces are to be cured at once the modification shown in Fig. 3 is found most convenient, the arms being attached to a hub, D, instead of a shaft, the hub turning freely on a pendent support, F, secured to a frame-work above. This frame-work usually consists of two right-angled cross-pieces, G and H, halved together in the middle, and the ends thereof resting on the plates of the frame of the house or other suitable supports. Into one of these cross-pieces, at suitable positions, braces I I are notched and bolted or otherwise rigidly secured at one end, while the opposite end of each extends upward, inclining toward the other, till they meet, or are secured in a block, K, inclosing the pendent support, as represented. Nuts *a a*, or their equivalent, are secured to the pendent support on the upper side of the timbers to sustain the hub and arms.

The braces I I serve to prevent any sagging or strain of the cross-pieces when the weight on the arms is considerable. Additional sets of hubs and supporting-arms might be secured on the pendent support, if desirable, by increasing its length and inserting supporting washers or nuts between the hubs; but attaching the several sets of arms to the single revolving shaft, as at first described, is preferable, as such a device is cheaper.

When the apparatus is to be used, the door of the smoke-house is opened and the hams,

shoulders, or other pieces of meat secured or suspended respectively on the arms C C C, as they present themselves when the shaft or hub is turned. This is easily done, as the arms reach nearly to the entrance. The advantage of thus suspending the pieces is apparent. There is no extra exertion required, as in hanging them on hooks or pins on the sides of the apartment, that are difficult to reach through the small doorway; but they are secured in place at the entrance, and are readily turned to the farther or any side. By hanging on these arms they are prevented from coming in contact with the wall or each other, thus allowing the smoke to circulate around and on all sides of them. When properly cured, they are as easily removed from the smoke-house.

As near the bottom of the smoke-house as is convenient, and generally centrally situated, is a pipe, L, for conducting and distributing the smoke, as represented most clearly in Figs. 3 and 4. This pipe extends from side to side of the apartment, being secured at one end by a head, b, and the other end passing out through a hole made in the wall for the purpose, and resting in suitable supports, as at c. In the under side of this pipe, inside the apartment, is made a longitudinal slot or opening, d, or its equivalent, Fig. 4, extending nearly or quite its whole length, and of a width sufficient to allow the smoke to pass freely therefrom into the smoke-house; but at the same time not so great but that the smoke will be conveyed its whole length, flowing equally from all its parts, and thus is equalized through the whole apartment. In the outer end of this conducting and distributing pipe is inserted the end of the smoke-pipe M of a stove or other suitable receptacle, N, for containing the smouldering fire that generates the smoke. This stove may be very small, and of any ordinary or desirable construction, if air-tight. In the drawings, it is represented as made of sheet-iron, nearly square, and having a hinged lid, f, on top, turning back to admit fuel, and a register, g, for regulating the draft for supporting the combustion. When the fire is smouldering in

this stove or generator, the smoke passes back into the conducting and distributing pipe L, being conveyed its whole length and flowing equally at all points therefrom through the opening d into the apartment, and thus equalizing its density therein. The conducting and distributing pipe, by having its opening on the under side, prevents sparks, particles of soot, dust, and dirt from rising with the smoke, by turning them downward, and thus keeps the meats in a cleanly condition. It also prevents in a great degree the heat passing through the pipe from injuring the meats, by acting as a shield interposed between, and deflecting it downward. The advantage of this conducting and distributing pipe in connection with an outer stove is obvious. The smoke-house is as readily filled with smoke as if the fire were burning inside, and the fire requires much less attention, as it is readily governed by the register of the stove.

Where the fire is in the same apartment with the meats to be cured, the latter become blackened, tried, and the outside baked or roasted, so as to be nearly worthless. Where the fire is maintained in the smoke-apartment, there is always much loss of smoke in opening the door to replenish it, and it is very disagreeable to the eyes and lungs of the attendant. This arrangement is very cheap and not liable to disarrangement of any kind.

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

In combination with the smoke-house A, the conducting and distributing pipe L, provided with an opening, d, or its equivalent, extending nearly or quite its whole length, when the same is used to convey and distribute the smoke from an outer stove or generator, substantially as herein described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

E. BICKFORD.

Witnesses:

R. F. OSGOOD,
D. C. JOHNSON.