

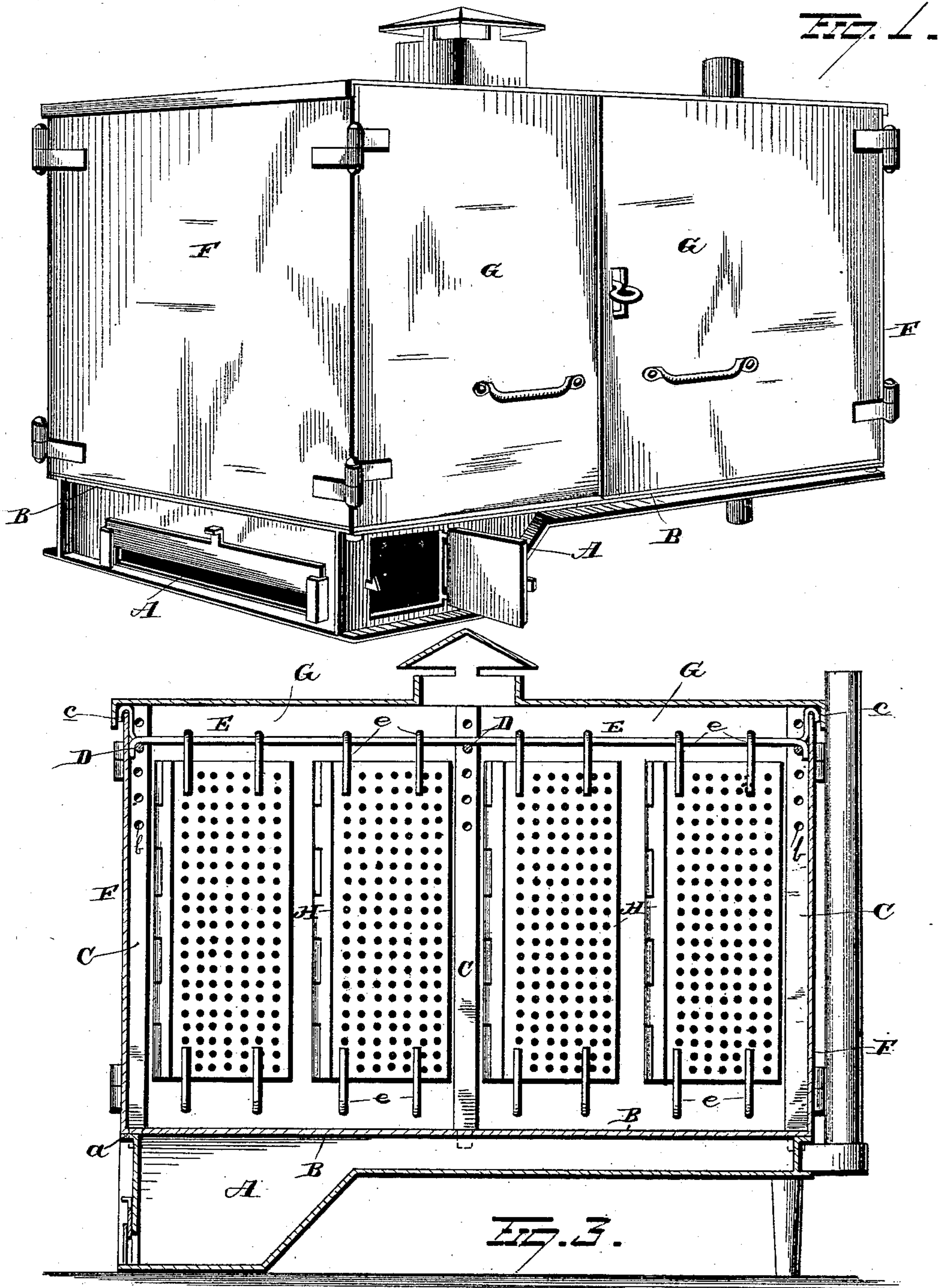
(No Model.)

2 Sheets—Sheet 1.

A. M. JERVIS.  
FRUIT EVAPORATOR.

No. 299,986.

Patented June 10, 1884.



WITNESSES  
*Geo. J. Downing*  
*George Cook.*

INVENTOR  
*A. M. Jervis.*  
*B. H. Symmons.*  
Attorney

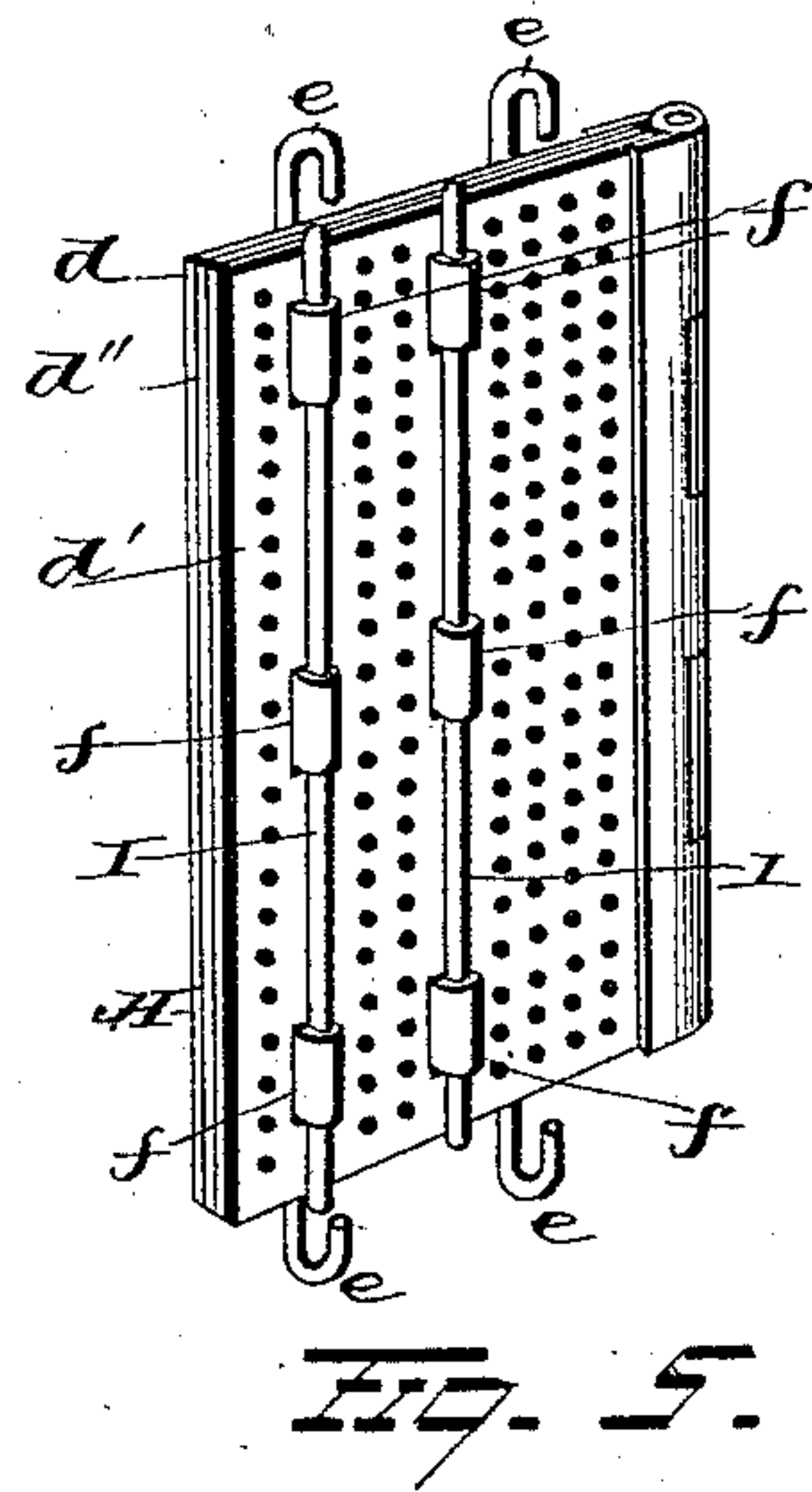
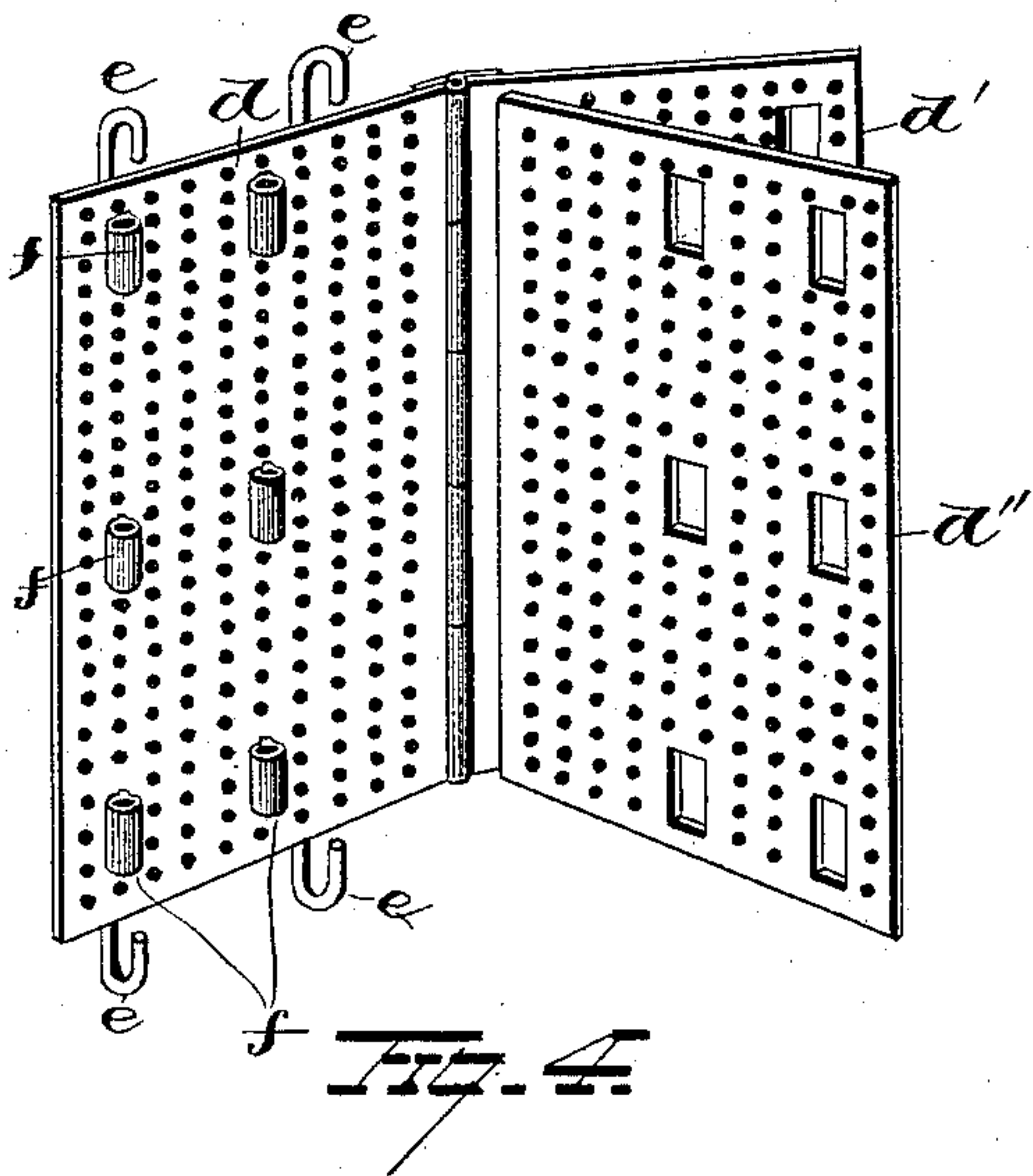
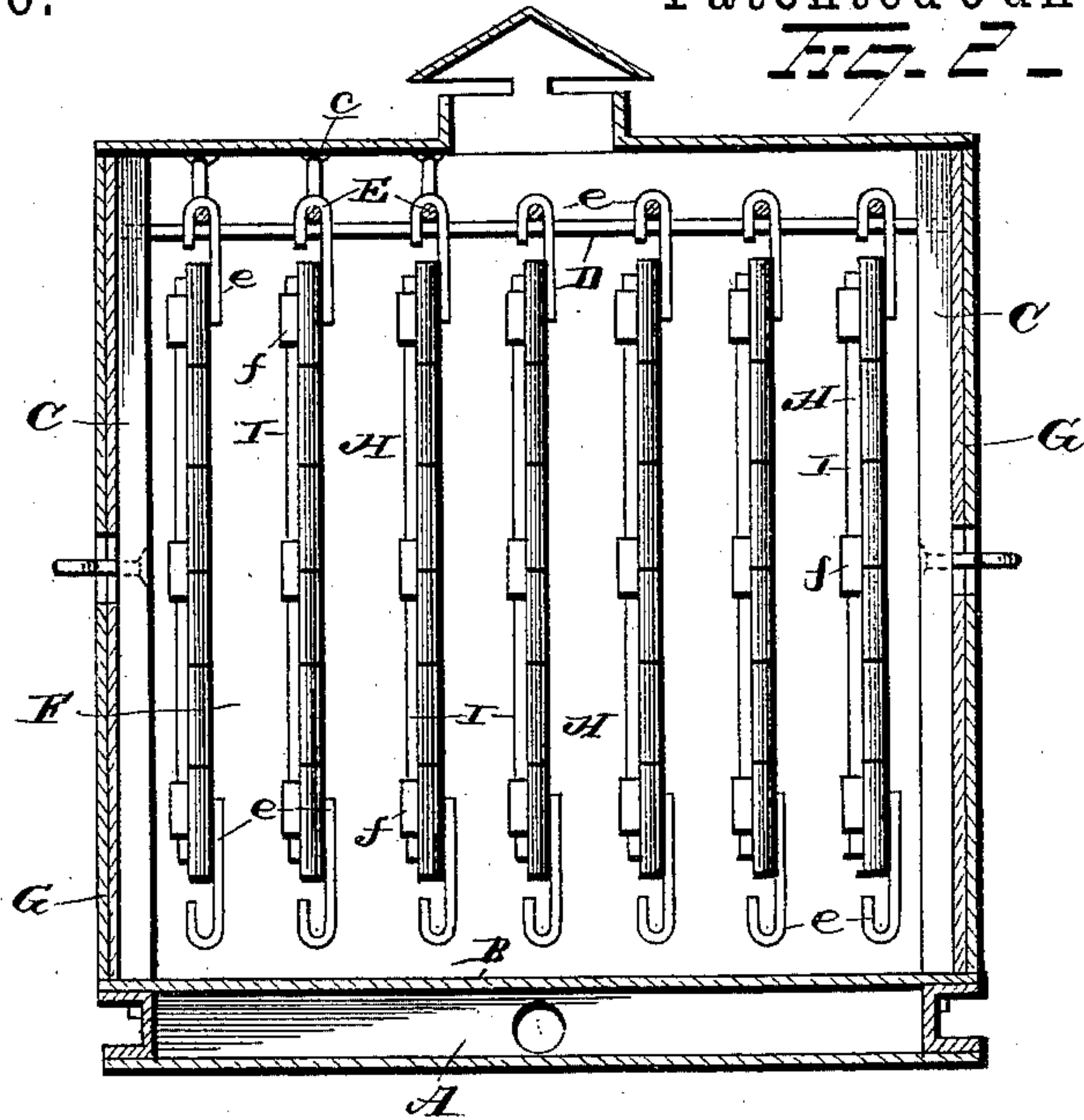
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Attorney



# UNITED STATES PATENT OFFICE.

ABNER M. JERVIS, OF JONESBOROUGH, ASSIGNOR OF TWO-THIRDS TO  
ROBERT H. DUNGAN, MADISON L. PEOPLES, AND LANDON C. PEOPLES,  
ALL OF WASHINGTON COUNTY, TENNESSEE.

## FRUIT-EVAPORATOR.

SPECIFICATION forming part of Letters Patent No. 299,986, dated June 10, 1884.

Application filed September 13, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ABNER M. JERVIS, of Jonesborough, in the county of Washington and State of Tennessee, have invented certain new and useful Improvements in Fruit-Evaporators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in fruit-evaporators, the object of the same being to provide improved means whereby the capacity of the kiln is greatly increased without a proportionate increase in the first cost thereof. A further object is to provide an improved drying-kiln that will combine simplicity and economy in construction with durability and efficiency in use; and with these ends in view my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective showing the manner of arranging the trays. Fig. 2 is a view in vertical transverse section of the same. Fig. 3 is a view in longitudinal vertical section. Fig. 4 is a view in perspective of one of the trays in open adjustment, and Fig. 5 is a similar view of the tray locked.

A represents a furnace or heater of any desired construction, the upper plate, B, of which forms the bottom of the drying-kiln. This heater is provided with suitable dampers, doors, and smoke-exit flue, and the upper plate, B, thereof is perforated at its four corners, and at intermediate points, if necessary, for the attachment of the upright standards C. These standards are preferably made of metal, and the lower ends thereof are reduced in size to enable them to be introduced into the perforations *a* of the plate B, and the upper ends are provided with a series of perforations, *b*, arranged one above the other, for the attachment of the transverse rods D, which latter, besides assisting in holding the standards in position, also form supports for the longitudinal rods E, on which the trays are

suspended. The rods D are sufficiently high to enable the trays to swing clear of the plate B, and are vertically adjustable for the purpose of enabling the trays to be elevated or lowered, as circumstances demand. In the present instance I have shown three pairs of standards C, each pair being connected together by a transverse rod D; but the number of standards and rods is dependent entirely on the size and capacity of the kiln.

The ends or end walls, F, of the kiln, which are preferably made of sheet metal, are rigidly secured to the end standards, C, while the side walls are formed by the doors G, hinged to the end walls. As the standards are removably secured to the heater, it follows that by simply removing the roof or cover and standards the walls of the kiln are also removed, leaving the heater, which latter can be used for numerous purposes. This construction enables me to take the kiln apart and pack it in a small compass when not desired for use, and also enables it to be conveniently transported when necessary.

The longitudinal rods E are supported on the rods D, and can, if desired, be provided with curved ends *c*, adapted to hook over the upper edge of the end walls, for the purpose of preventing the displacement of the said rods E. These rods are placed at suitable intervals apart, and are adapted to support the trays H, which latter are suspended below the rods. These trays are made of perforated sheet metal, and each consists of two leaves, *d* and *d'*, hinged together at one side, and a removable perforated leaf, *d''*, adapted to be interposed between the hinged leaves and locked therein. The leaf *d* is provided at opposite ends with the hooks *e*, by means of which the tray is suspended from the rod E, and is also provided with one or more series of bolt or rod keepers, *f*. These bolt or rod keepers register with suitable openings in the leaves *d* and *d'*, and when the leaves are closed are adapted to project outwardly sufficiently beyond the leaf *d'* for the reception of the locking-rods I. These locking-rods securely hold the leaves together and prevent the fruit which is placed between the leaves from falling out.



Fruit is first placed on either leaf  $d$  or  $d'$ —say, for instance,  $d$ —and the leaf  $d^2$  then placed on the fruit. This leaf is then covered with fruit in a similar manner and the leaf  $d^2$  turned  
 5 down thereon. The leaves are then locked together by the rods I, and the filled tray is ready to be placed within the kiln. After all the trays are filled they are suspended on the longitudinal rods E, sufficient space, however,  
 10 being left between the trays for the passage of the heated air. The doors G are then closed and locked. As these trays hang immediately over the heater, it follows that the fruit nearer the lower ends of the trays will be subjected  
 15 to greater heat than the fruit near the upper ends of the trays, and consequently the moisture therein will be evaporated before the moisture in the fruit near the upper ends of the trays. After the lower ends of the trays  
 20 have been subjected to heat for a sufficient length of time the doors G are opened and the trays turned upside down, so as to evenly expose the fruit therein to the action of the heat. By this means the fruit, when taken  
 25 from the kiln, is of uniform quality and color, and is ready for immediate shipment.

By this construction of trays and the manner of arranging them within the kilns I am enabled to greatly increase the capacity of the  
 30 kiln without altering its size or proportionately increasing its cost.

I am aware that it is not broadly new to construct fruit-trays of two leaves hinged to the opposite sides of a frame having a central  
 35 perforated partition, and also that it is not broadly new to construct a fruit-evaporator in which the furnace is detachable from the body of the drying apparatus, and hence I make no broad claim to such constructions.

40 It is evident that slight changes in the construction and relative arrangement of the several parts might be resorted to without departing from the spirit of my invention; and hence I would have it understood that I do not  
 45 confine myself to the exact construction shown

and described, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I 50 claim as new, and desire to secure by Letters Patent, is—

1. In a fruit-tray for evaporators, the combination, with two hinged leaves, one of which is provided with hooks, and a leaf interposed 55 between the hinged leaves, of devices for locking the leaves together, substantially as set forth.

2. In a fruit-tray for evaporators, the combination, with two perforated leaves hinged 60 together, hooks secured to the opposite ends of one of the said leaves, and a perforated leaf interposed between the hinged leaves, of devices for locking the leaves together.

3. In a fruit-tray for evaporators, the combination, with the perforated leaves, one of 65 which is provided with bolt or rod keepers, of bolts or rods adapted to be passed through the keepers, substantially as set forth.

4. The combination, with a suitable heater, 70 of the removable standards and end walls, and doors secured to the end walls.

5. The combination, with a suitable heater, of standards, end walls secured to the stand- 75 ards, and doors secured to the end walls.

6. The combination, with a suitable heater, an oven, and the removable standards C, provided at their upper ends with perforations, of the transverse rods D, seated in the perforations 80 of the standards, and the tray-supporting rods E, resting on the transverse rods, and provided with bent ends, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ABNER M. JERVIS.

Witnesses:

GEORGE COOK,  
S. G. NOTTINGHAM.