(No Model.) 2 Sheets—Sheet 1.

A. B. HENTHORN.

EVAPORATING PAN.

No. 258,062. Patented May 16, 1882.

Fig. 1.

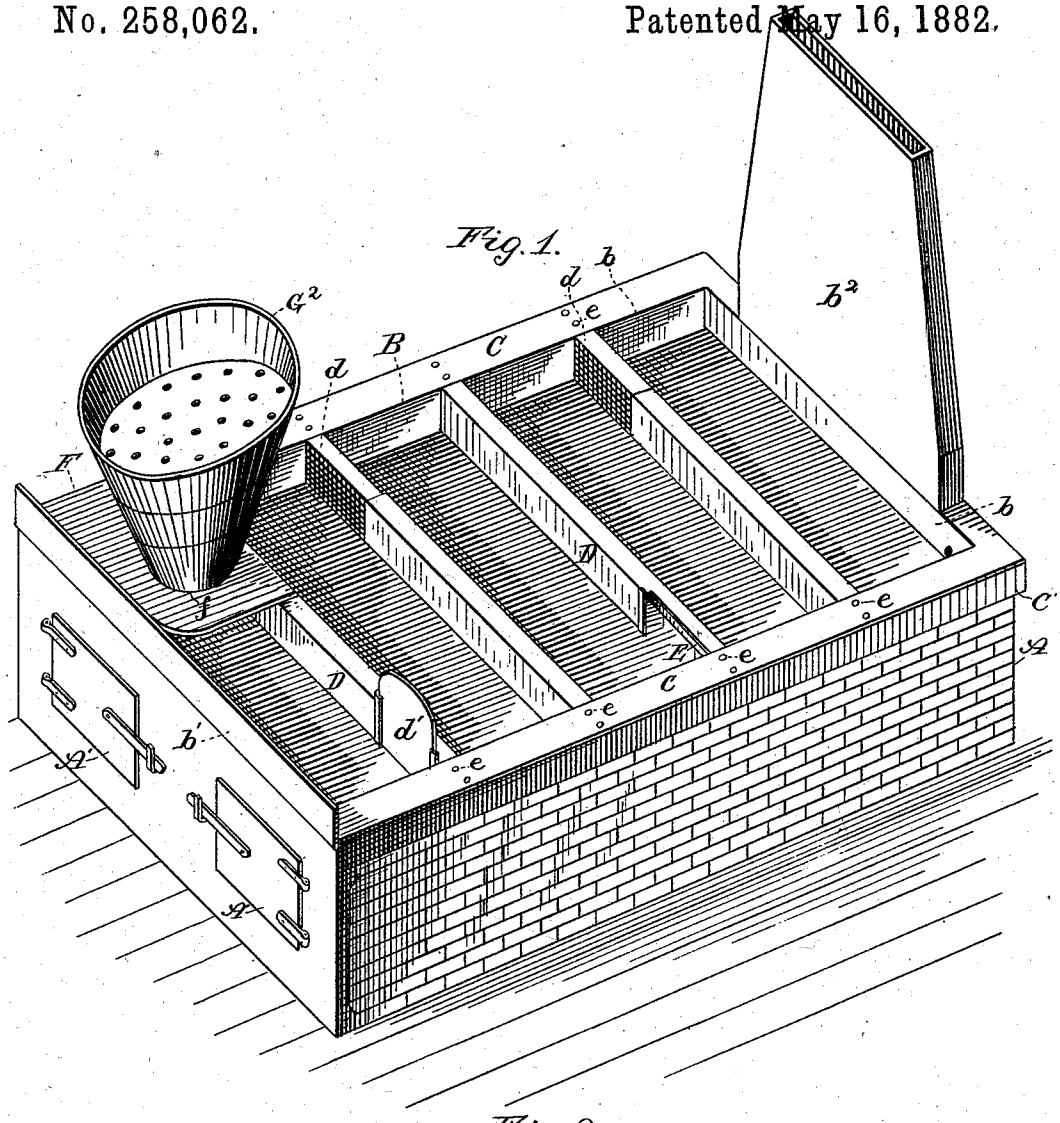
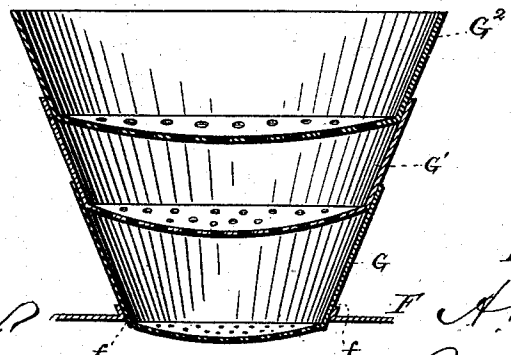


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

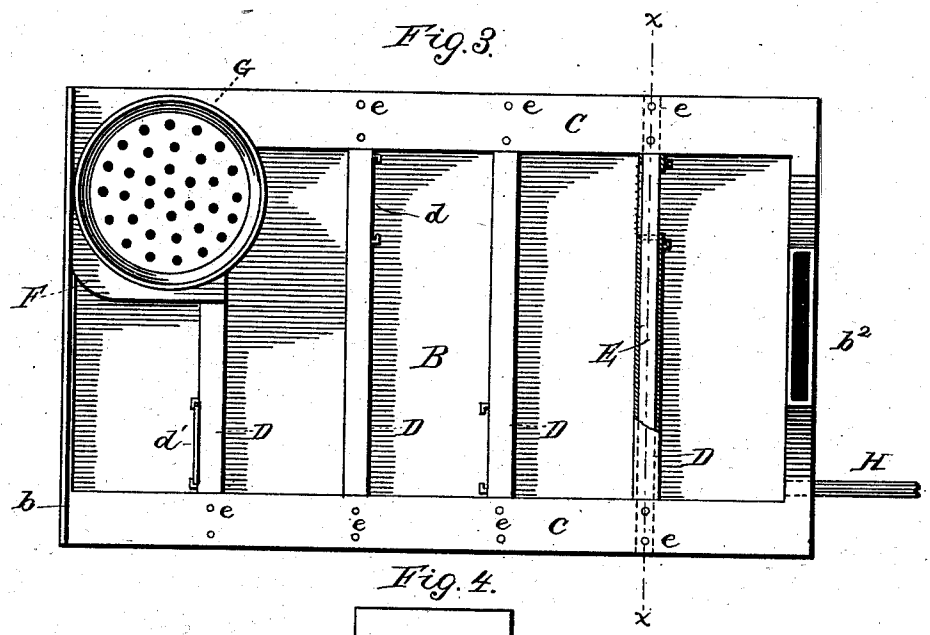
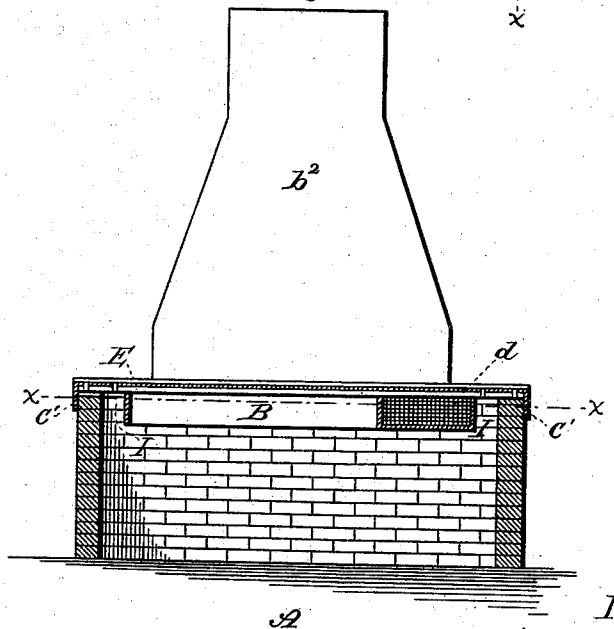


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALLEN B. HENTHORN, OF BURDENVILLE, KANSAS.

EVAPORATING-PAN.

SPECIFICATION forming part of Letters Patent No. 258,062, dated May 16, 1882.

Application filed January 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALLEN B. HENTHORN, of Burdenville, in the county of Cowley and State of Kansas, have invented certain new and useful Improvements in Evaporating-Pans; 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 pertains to make and use the same.

My invention relates to pans for evaporating sirup and like materials, the object being to provide means whereby such materials may be subjected while in process of evaporation to a regular and uniform heat, thus avoiding any adherence of the sirup or other material to any portion of the pan, and in consequence obtaining a purer and better resultant liquid than is obtained where the evaporating receptacles are not all equally heated.

The invention consists in the improved construction hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a pan embodying my improvements. Fig. 2 is a vertical section through the strainers and their supporting-plate. Fig. 3 is a plan view of the pan partly in section, and Fig. 4 is a transverse section on the line *x x* of Fig. 3.

A represents a furnace, which may be of any desired construction, and provided at one end with doors A′ for the admission of fuel.

B represents the pan, adapted to fit upon the furnace, and having the side and end walls *b*. It is also provided at one end with a guard-flange, *b′*, and at the opposite end with a flue, b^2, for the escape of the products of combustion from the furnace. On each side of the pan projects a flange, C, from which depends a rim or flange, C′, adapted to overlap the side wall of the furnace, and thus hold the pan in position.

D represents hollow partitions dividing the pan into different compartments. These partitions may of course be of any desired number, and are provided at alternate ends with perforated portions *d*, which latter may or may not be provided with gates *d′*.

E represents transverse metallic bars, of wrought-iron or other heat-retaining material, securely held between the sides of the hollow partitions D by means of bolts or rivets *e* passing through the flanges C and into the bars. These bars are designed primarily to impart heat to the partitions D, as they are exposed to the heat of the furnace, and are of a quality of metal which retains heat. Another function, however, of these bars is that they serve to securely brace the parts of the pan together. At one corner of the pan I arrange a plate, F, preferably of triangular form, with two of its sides secured respectively to the adjacent side and partition of the pan. This plate is perforated, as shown at *f*, to receive a funnel-shaped strainer, G, within which fits a second strainer, G′, of coarser texture, the latter being adapted to receive a third and still coarser strainer, G^2. By thus straining the fluid a large portion of the sediment and impurities is removed, and a comparatively pure liquid is fed to the first pan-section, and as the liquid passes from one to another of the compartments through the perforations as the boiling proceeds the remaining sediment is retarded and the liquid further purified. A suitable pipe, H, is connected with the end of the pan for the discharge of the refined liquid.

It will be observed that the flanges C and C′, when the pan is in place upon the furnace, constitute chambers I to receive hot air, and by their construction the sides of the pan are exposed to heat, and thus a full and uniform heating of the bottom and sides is obtained; and the hollow partitions D are kept heated by the radiation of heat from the bars E, as well as from their direct exposure to the furnace. By this means a rapid heat is obtained, and the entire pan, including the portions above the liquid, is kept uniformly heated, and the defects incident to imperfect heating are avoided.

It will be apparent that my device may be manufactured at a small cost in view of its simplicity of construction, and also that many slight changes in construction may be resorted to without departing from the spirit of my invention.

Having fully described my invention, what I

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

1. In an evaporating-pan, the combination, with the hollow partitions, of metallic heat-retaining bars arranged within said partitions and secured to the sides of the pan, substantially as set forth.

2. The combination, with the furnace, of the pan provided with hollow partitions and flanges C and C′, and the heat-retaining bars E, arranged within said partitions and secured to the flange C, substantially as set forth.

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

ALLEN B. HENTHORN.

Witnesses:
JNO. D. PRYOR,
D. C. STEPHENS.