(No Model.)

S. W. LOWELL.

STEAM HEAT EVAPORATOR.

No. 254,669. Patented Mar. 7, 1882.

Fig. 1.

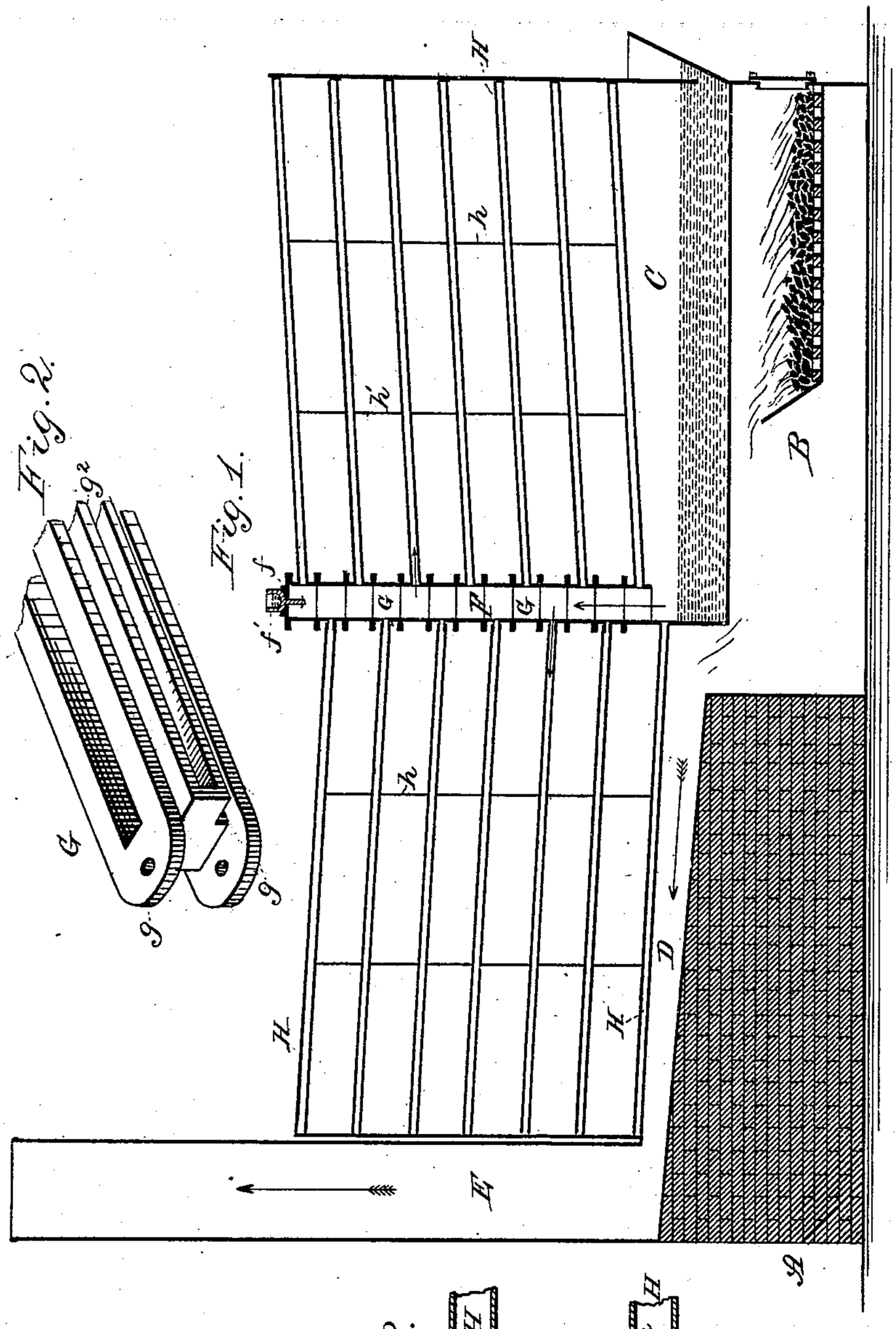


Fig. 2.

Fig. 3.

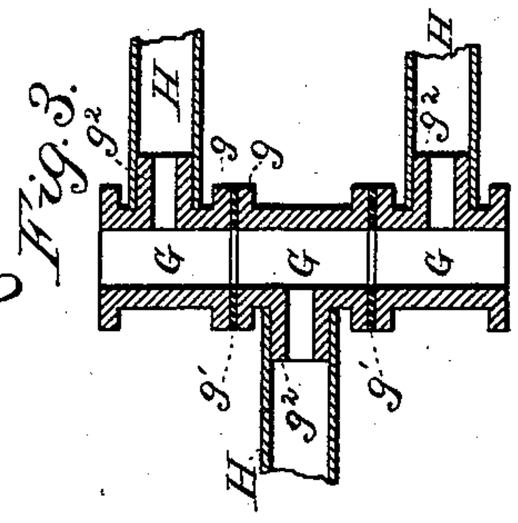


Fig. 4.

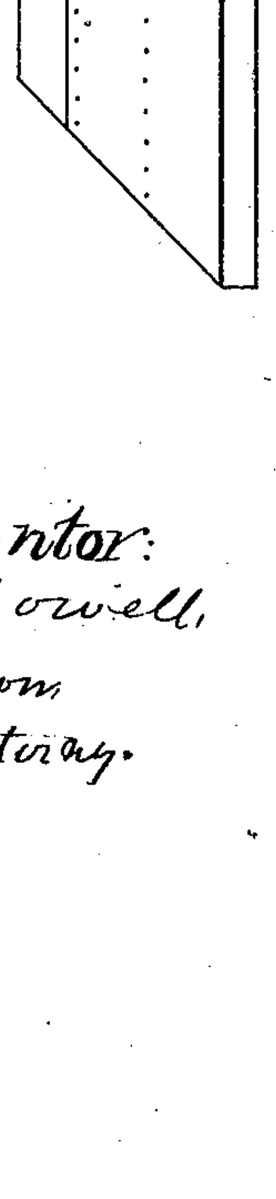
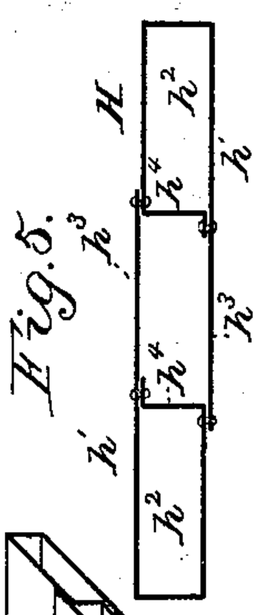


Fig. 5.



Witnesses:

J. W. Garner.

A. S. D. Haines.

Inventor:

Seth W. Lowell,

by H. A. Toms,

Attorney.

UNITED STATES PATENT OFFICE.

SETH W. LOWELL, OF HUME, NEW YORK, ASSIGNOR TO THE STEAM HEAT EVAPORATOR COMPANY, OF CHARLOTTE, MICHIGAN.

STEAM-HEAT EVAPORATOR.

SPECIFICATION forming part of Letters Patent No. 254,669, dated March 7, 1882.

Application filed January 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, SETH W. LOWELL, a citizen of the United States, residing at Hume, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Steam-Heat Evaporators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to steam-heat fruit-evaporators; and it consists in the construction and arrangement of its several parts, as will be hereinafter fully set forth, and pointed out in the claims.

In the drawings, Figure 1 is a vertical longitudinal section. Fig. 2 is a perspective of one of the castings. Fig. 3 is a vertical cross-section of the castings, showing the arrangement of the steam-sections thereon. Fig. 4 is one of the steam-sections. Fig. 5 is an end view of the same.

A is the brick foundation which supports the rear portion of the evaporator. In front of it is the furnace B, over which is the boiler C, as shown.

D is the smoke-flue. It connects the rear end of the furnace and the smoke-pipe E, as shown.

F is a hollow steam-column, which rises vertically from and communicates with the rear portion of the boiler. It extends the entire width of the evaporator, and is formed of separate flanged castings G, arranged one above the other, as shown. Its top is closed by the plate f, in which is placed a safety-valve, f', as shown.

G represents one of the castings. Its upper and lower edges are provided with horizontal flanges g, through the ends of which pass bolts that secure the castings together, as shown. The castings are secured to each other, as shown, and rubber packings g' are placed between the flanges.

Extending the entire length of the castings, upon either or both sides, is a flat projection, g^2. It is recessed its entire length, and communicates with the interior of the castings, as shown. Secured around these projections g^2 are the steam-evaporating sections H, as shown. They are formed of two sheets of metal, h' h'. Each sheet is bent into the form of a rectangular pipe, h^2, from one side of which projects the flap h^3, as shown. The two sheets are then riveted together, the ends of the flaps h^3 being secured to opposite ends of the rectangular pipes h^2, as shown. This forms a steam-evaporating section of three compartments, the partitions h^4 h^4 acting as braces. By this construction of the sections more steam-pressure can be exerted upon them and the fruit dried more rapidly by the increased heat secured than by any other in use. The construction shown also prevents the sections from warping. The sections extend outwardly from each side of the column F and are inclined slightly upward, so that the steam condensing in them will drain off into the boiler, and they have their outer ends closed, as shown.

Partitions h h are placed between adjacent sections, and form the evaporating-chambers for the fruit. In the drawings the steam-sections H project from alternate sides of the castings G. I do not confine myself to such arrangement, but provide that the steam-sections can project from both sides of the castings, if desired. Neither do I confine myself to one steam-column, F, placed centrally in the evaporator, but provide that columns may also be placed at each end, if desired.

The operation of the evaporator is readily understood. The steam generated in the boiler rises in the column F and passes into the steam-sections H, where its heat is transmitted to the fruit. The valve at the top of the column rises and allows the steam to escape when the pressure becomes too great. The column F can be extended to any height by adding to the number of castings.

What I claim is—

1. In a steam fruit-evaporator, the vertical steam-column F, communicating with boiler C, and consisting of the castings G, arranged one above the other, and adapted to convey the steam to the sections H, substantially as shown and described.

2. In a steam fruit-evaporator, the castings G, having horizontal flanges g g formed around their upper and lower edges, and provided with recessed projections g^2, extending the entire length of the castings, and adapted to convey

the steam from the column F to the sections H, substantially as shown and set forth.

3. In a steam fruit-evaporator, in combination with the boiler and steam-sections, the steam-column F, formed of the separate castings G, provided with recessed projections g^2, adapted to afford means of connection with said steam-sections, substantially as shown and described.

4. In a steam fruit-evaporator, the steam-sections H, formed of the sheets h' h', each bent into the form of a rectangular pipe, h^2, having flaps h^3 extending from them and secured to the opposite ends of the rectangular pipes h^2, substantially as shown and described.

5. In a steam fruit-evaporator, the steam-sections H, provided with partitions h^4, formed of the bent ends of the rectangular boxes, said partitions having their ends turned up and riveted to the horizontal portion of the sections, and adapted to give additional strength to the sections, substantially as shown and described.

In testimony whereof I hereby affix my signature in presence of two witnesses.

SETH W. LOWELL.

Witnesses:
L. O. SMITH,
RICHARD SMITH.