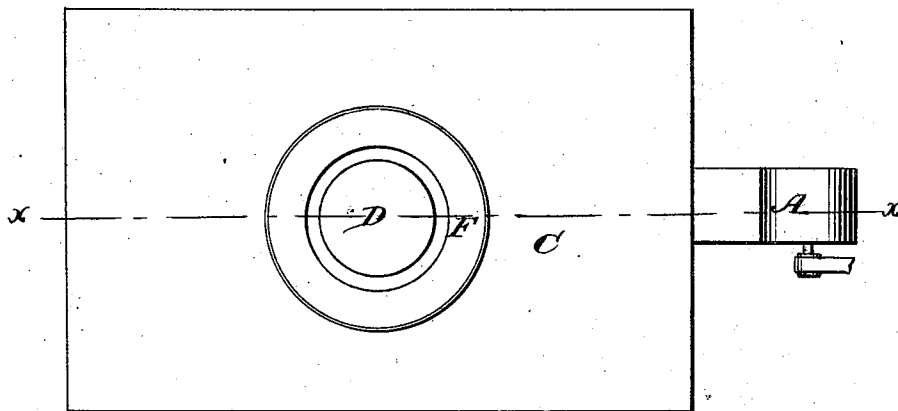


**S. S. DAISH.**  
**Sand and Gravel Heaters.**

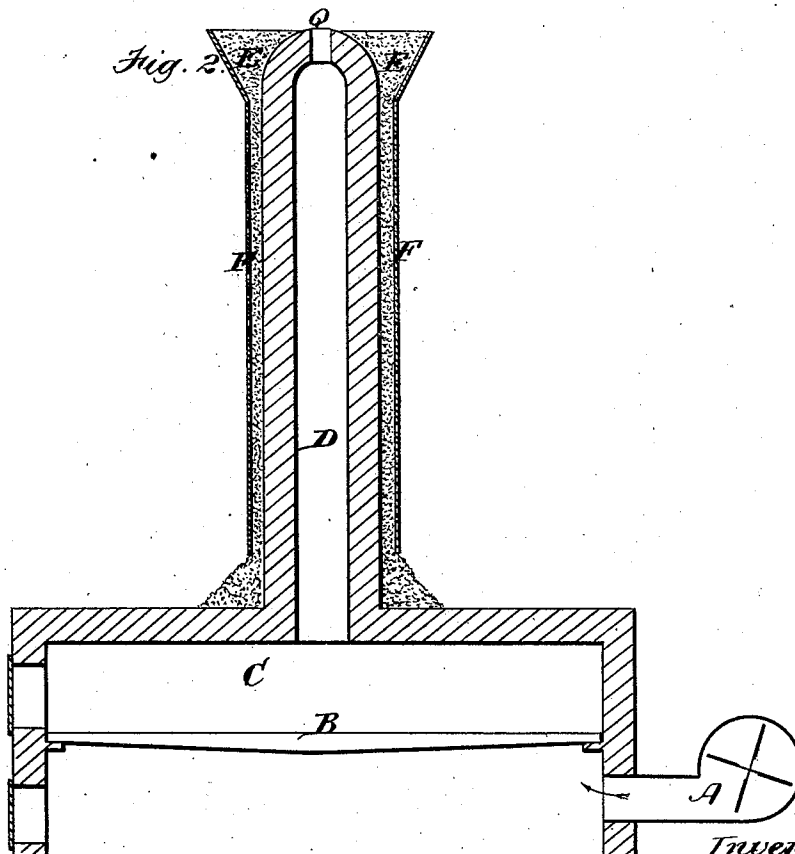
No. 155,367.

Patented Sept. 29, 1874.

*Fig. 1.*



*Fig. 2.*



Witnesses.  
C. P. Damm  
E. S. Kanner.

Inventor.

*S. S. Daish*

# UNITED STATES PATENT OFFICE.

SILAS S. DAISH, OF WASHINGTON, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN SAND AND GRAVEL HEATERS.

Specification forming part of Letters Patent No. **155,367**, dated September 29, 1874; application filed September 8, 1874.

*To all whom it may concern:*

Be it known that I, SILAS S. DAISH, of Washington, District of Columbia, have invented certain Improvements in Sand and Gravel Driers, of which the following is a specification:

The object of my invention is to rapidly dry sand and gravel, and to prevent the usual sweating while in course of drying.

In the accompanying drawings, Figure 1 is a plan view, and Fig. 2 a vertical section on line *x x*, Fig. 1.

Like letters refer to corresponding parts in both figures.

A is the blower; B, grate-bars; C, fire-box; D, dome or cylinder; E, gravel to be heated; F, outside shell or screen, compelling the gravel to pass down in close proximity to the dome.

My drier consists substantially of a furnace about eight feet square, with fire-box in center. Immediately over this fire-box is a dome, made of plumbago or other material, about twenty inches in diameter, and from five to eight feet high, with oval top, the outside shell or screen to be twenty-eight inches diameter, more or less, as the case may require, and to be perforated so as to allow the escape of steam.

In connection with my furnace I have a blower, which is sufficient to make the blast,

and enables me to burn all smoke and gas and keep the heat in the dome D, and the grate-bars comparatively cold.

When this heater is in working order, the sand or gravel will be dumped in at the top, and will pass between two cylinders, the inside cylinder to be very hot, and the outside cylinder to be well perforated—both cylinders standing on a hot furnace; thus the sand or gravel will pass about eight feet over a hot surface, and at the same time to have all necessary outlet for steam, and landing on a hot furnace where the evaporation is completed.

The material may be seen all the time while in process of drying, and may be heated to any degree of heat required.

Any suitable outlet for products of combustion may be provided, as, for instance, at Q in drawings.

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

In combination with the cylindrical dome D, resting upon the furnace B C, the perforated cylinder F, as and for the purposes shown and described.

SILAS S. DAISH.

Witnesses:

WM. E. CHAFFEE,  
HARRY COLEMAN.