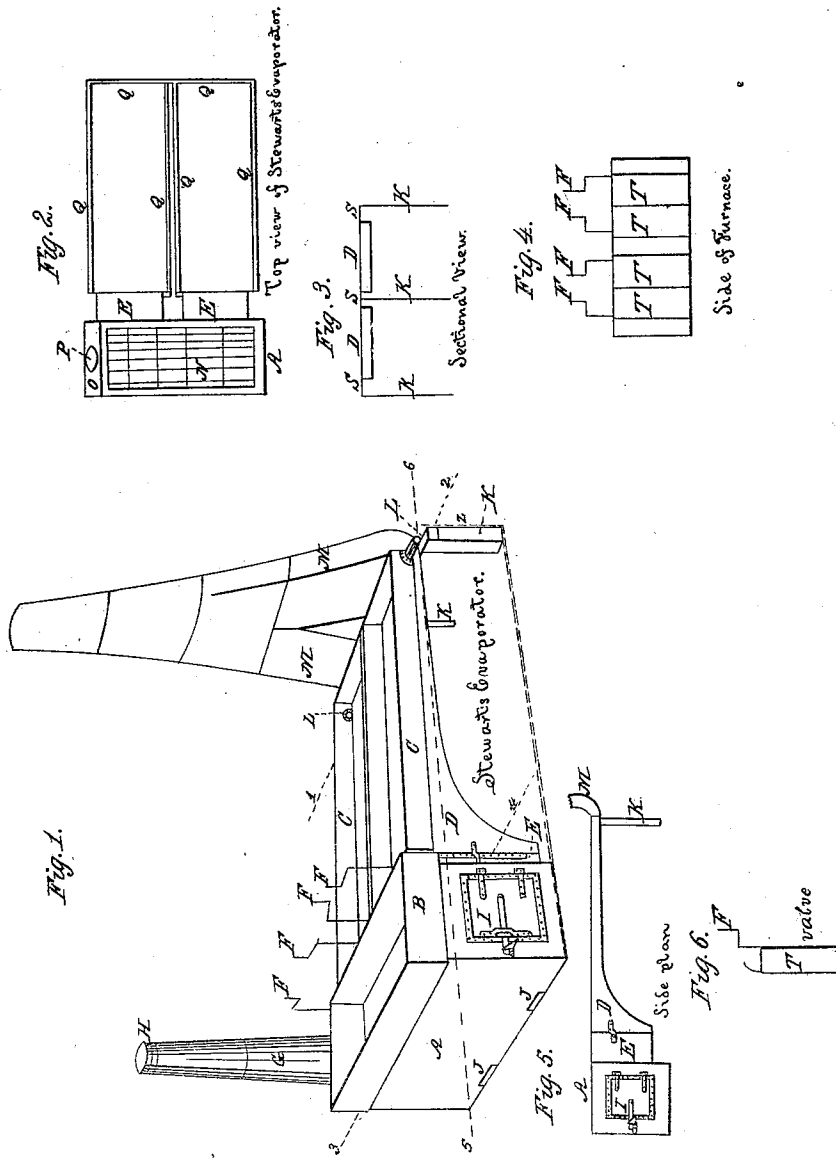


D. S. STEWART.
Evaporating Pan.

No. 40,862.

Patented Dec. 8, 1863.



Witnesses:
J. C. Parsons
Wm. B. Richards

Inventor:
D. S. Stewart

UNITED STATES PATENT OFFICE.

D. S. STEWART, OF WAPELLO, IOWA.

IMPROVED EVAPORATOR FOR SORGHUM-JUICE.

Specification forming part of Letters Patent No. 40,862, dated December 8, 1863.

To all whom it may concern:

Be it known that I, DANIEL S. STEWART, of Wapello, in the county of Louisa and State of Iowa, have invented a new and useful (either portable or permanent) Machine for Evaporating the Juice of the Chinese Sugar-Cane; and I do hereby declare the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a top view; Fig. 3, a transverse section on the line 1 2; Fig. 4, a transverse section on the line 3 4; Fig. 5, a longitudinal section on the line 5 6; Fig. 6, a valve, hereinafter more fully described.

To enable others skilled in the art to make and use my invention, I proceed to more fully describe the same.

Letter A in Fig. 1 represents the furnace, of sheet-iron, cast-iron, or brick, with the door I to admit fuel, and the openings J J to admit air to support combustion, on which is placed the pan B for heating and skimming or evaporating.

Letter D represents a flue, of which there are two, side by side, built of brick or sheet-iron. If built of brick, it should be on the dotted line *z z*, with the curve as in the bottom of the sheet-iron flue, except made of brick.

C C, Fig. 1, represent two evaporating-pans with sheet-iron bottoms and wood or sheet-iron sides, and placed on the two flues D D.

M M represent the two chimneys of the two flues D D, which chimneys come together, as represented in the drawings.

Fig. 2 is a top view showing the grate in the bottom, a part of the top of the furnace O, with the chimney-hole P, the throats E E, and the bars Q Q Q Q to support the evaporators.

Fig. 3 represents a transverse sectional view on the line 1 2, showing the ends of the flues D D, and the curved iron bar S S S to support the flues D D, when made of iron. It also

represents the legs K K K to support the bar S S S, and the flues and pans C C.

Fig. 4 represents the valves T T T T, with the handles F F. These valves are placed in the throats E E, Fig. 2, in the end of the throat next the furnace A, Fig. 1.

Fig. 5 represents a longitudinal section on the line 5 6 in Fig. 1. A represents the end of the furnace, E the throat, D the flue, and M the chimney. The throats are made long enough to admit of opening and closing in them the valves T T in Fig. 4.

L L in Fig. 1 represent the spouts from which the molasses is drawn. These drawings are on a scale of one-half inch to the foot, (except Fig. 1;) but the size of the machine may be varied at pleasure.

In Fig. 1 will be seen a cap on the chimney G, with which to close said chimney when the valves T T are open, and which can be opened when the valves are closed.

When using this machine, the heat can be entirely stopped or regulated at will under either or both of the pans C C instantly by means of the valves T T.

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

1. The combination and arrangement of the pans B C C, the furnace A, and flues D D, substantially as and for the purposes set forth and described.

2. The arrangement of the valves T T, in combination with the flues D D, for the purpose of varying the heat under the pans C C, as described.

3. The entire apparatus herein described, consisting of the pans B C C, arranged as shown, the furnace A, with flue G, the flues D D, and chimneys M M, and valves T T, the whole combined and operating as and for the purpose described.

D. S. STEWART.

Witnesses:

W. B. RICHARDS,
J. C. PARSONS.