

Evaporating Pan.

No. 80,342.

Patented July 28, 1868.

Fig:1.

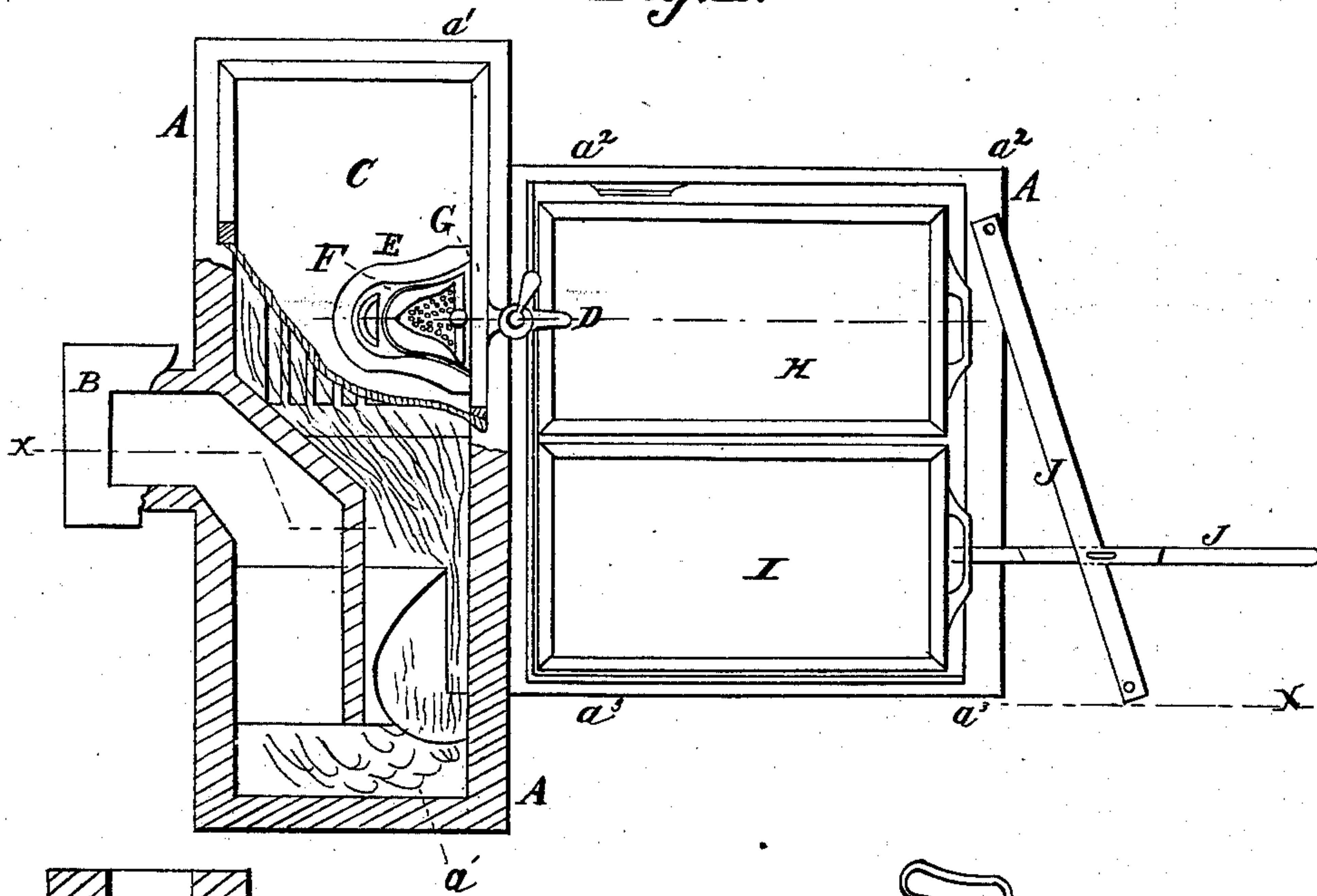


Fig.3.

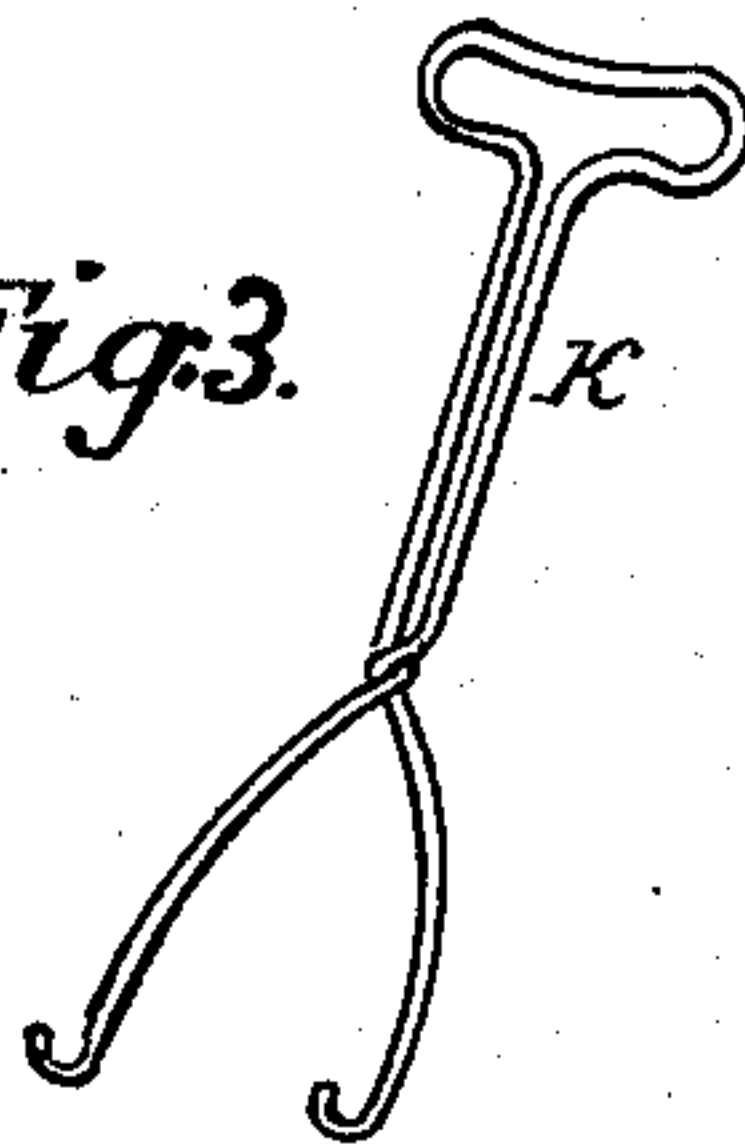
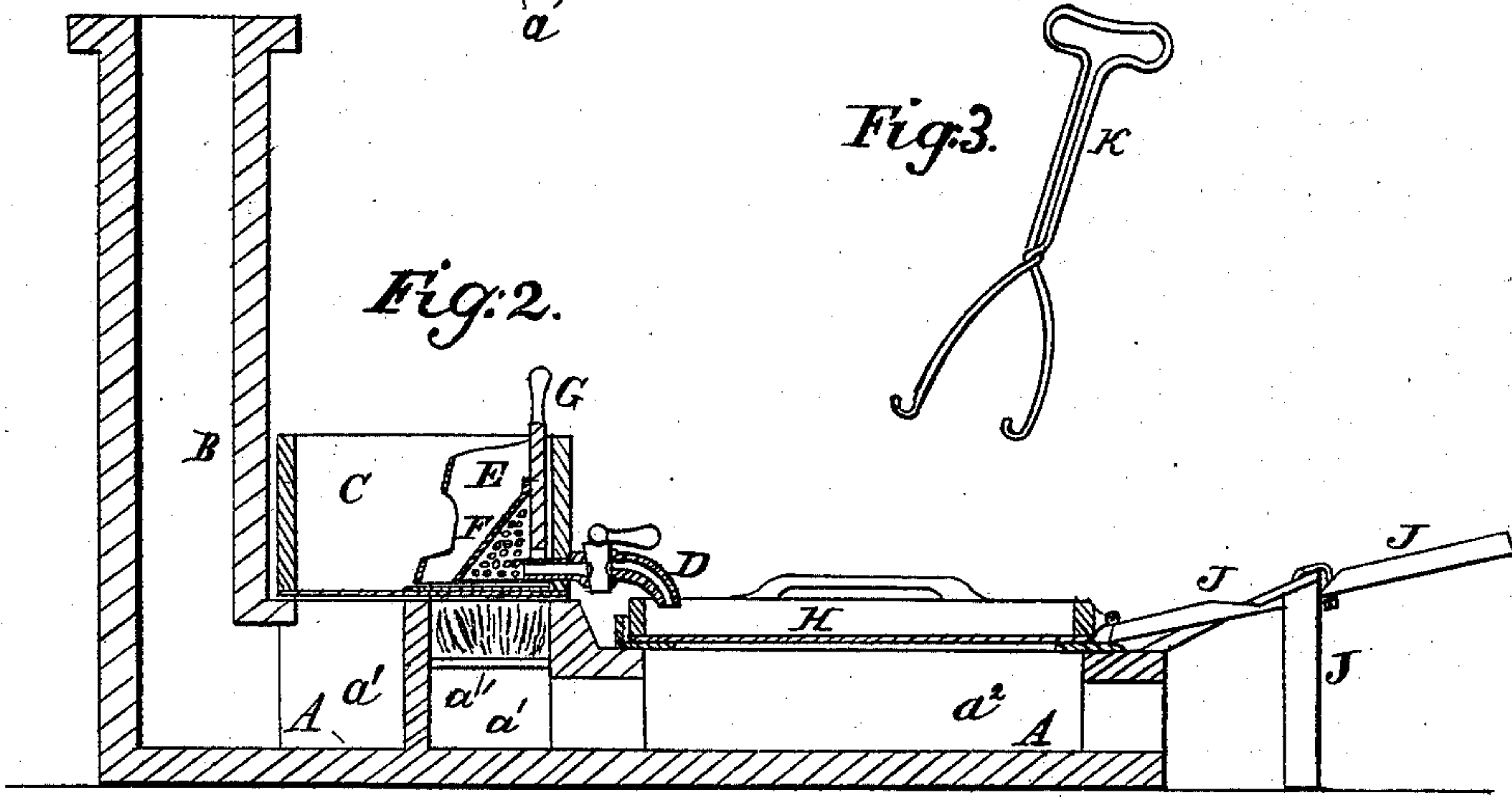


Fig. 2.



Witnesses:

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United States Patent Office.

N. EVINGER, OF TERRE HAUTE, INDIANA.

Letters Patent No. 80,342, dated July 28, 1868.

IMPROVEMENT IN EVAPORATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, N. EVINGER, of Terre Haute, in the county of Vigo, and State of Indiana, have invented a new and useful Improvement in Evaporators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top or plan view of my improved evaporator, part being broken away to show the construction.

Figure 2 is a detail sectional view of the same taken through the line $x x$, fig. 1.

Figure 3 is a detail view of the hand-hook.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved apparatus for evaporating cane or other saccharine juice, for the manufacture of molasses and sugar, and it consists in the construction, combination, and arrangement of the various parts as hereinafter more fully described.

A is the furnace, which is made with three separate fire-chambers, a^1 , a^2 , and a^3 .

The main fire-chamber, a^1 , has its grate in its forward end, and its rear part is divided by a partition, as shown in fig. 1, so that the flame, smoke, and other products of combustion may pass back to the rear end of the said furnace-chamber a^1 , then turn, and pass back to near the middle of said chamber, where it passes out into the chimney B, being all the time directly beneath the boiler or pan C.

The parts a^2 and a^3 of the furnace are placed, side by side, at the side of the part a^1 , and the products of combustion pass from them directly into the chamber a^1 , from which they escape, in the manner hereinbefore described.

The lower part of the rear end of the chamber a^1 is partially filled up, as shown in fig. 1, so as to contract the flue and keep the hot products of combustion close to the bottom of the pan or boiler C.

The pan or boiler C is made deep and large enough to cover and fit upon the top of the part a^1 of the furnace A, and is provided with a stop-cock, D, through which the juice, at the proper time, can be drawn off into the other pans.

The inner mouth of the discharging-orifice, in which the cock D is placed, is covered with a semi-tubular cover or cap, E, having an opening in its forward side, through which the juice passes to reach the discharging-orifice.

The discharging-orifice is also covered with a semi-conical strainer, F, attached to a sliding gate, G, said sliding gate having an opening in its lower end, corresponding in position with the said discharging-orifice. This enables the strainer to be removed, when desired, for cleaning or other purposes.

H and I are two shallow pans, placed over the parts a^2 and a^3 of the furnace, and which are provided with handles at their sides and one end, as shown in figs. 1 and 2.

J is a frame or rack, placed at the front of the parts a^2 and a^3 for convenience in shifting and emptying the pans H and I.

K is the hand-hook, the lower end of which is forked, and has a hook formed upon the end of each of its two branches, so that the positions of the pans H and I may be shifted upon the furnace readily and safely by taking hold of one of the handles of said pans with the said hook.

In using the evaporator, the juice is allowed to flow in a continuous stream from the cane-mill, or from a suitable reservoir, into the deep boiler or pan C, where it is slowly boiled, causing the scum to rise and the gum and other sediment to settle.

When sufficiently boiled, it is drawn off, through the cock D, into the pan H.

When it is desired that the juice should granulate, the cap or cover E is used, which keeps back the gum and other sediment that would prevent or retard granulation.

The juice, when in the pans H and I, is boiled much more rapidly, as there is now no danger of its scorching or burning.

When the juice in the pan I is boiled down sufficiently, the said pan, by means of the hand-hook K, is drawn from the furnace upon the frame or rack J, where it is tilted, and the sirup or molasses poured out.

The pan H is then drawn from the part a^2 of the furnace to the part a^3 , and the pan I is placed upon the part a^2 , to receive another supply of juice from the pan or boiler C, in the manner hereinbefore described.

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

1. The furnace A, constructed in three parts, a^1 a^2 a^3 , and arranged substantially as herein shown and described, and for the purpose set forth.

2. The combination of the three pans or boilers C, H, and I, constructed as described, with each other and with the parts a^1 a^2 a^3 of the furnace A, substantially as herein shown and described, and for the purpose set forth.

3. The straining-device, constructed as described, of the sliding gate G, carrying the semi-conical strainer F, enclosed by the semi-tubular cover E, all arranged in relation with the faucet D and side of the pan C, as herein described, for the purpose specified.

4. The combination of the frame or rack J with the parts a^2 and a^3 of the furnace A, and with the pans H I, substantially as herein shown and described, and for the purpose set forth.

5. The hand-hook K, constructed substantially as herein shown and described, when used in connection with the pans H I, as and for the purpose set forth.

N. EVINGER.

Witnesses:

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