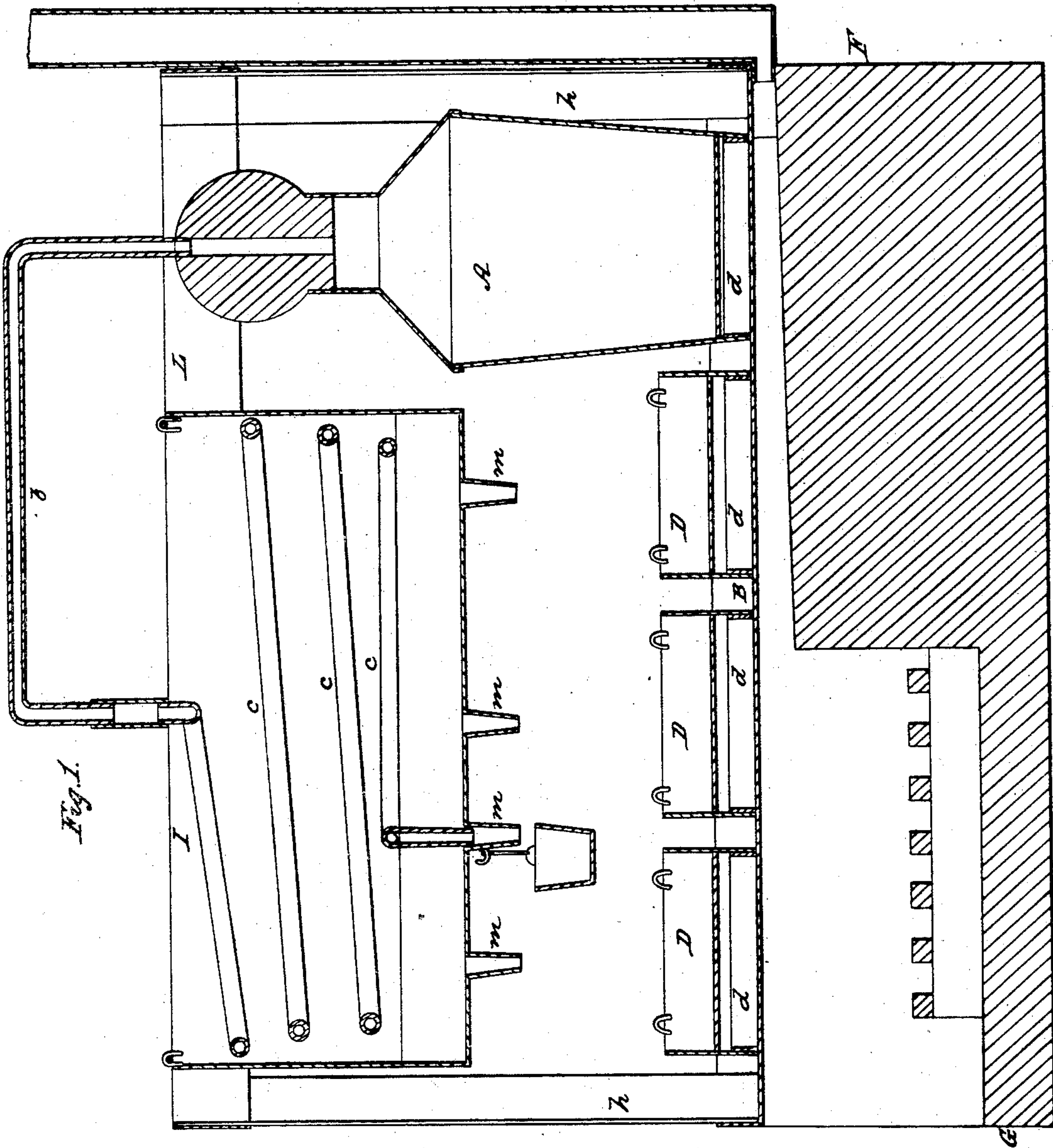


J. K. LEEDY.
Sugar Evaporator.

No. 37,916.

Patented March 17, 1863.



Witnesses:

J. Wolf
C. Alexander

Inventor:

J. K. Leedy
C. H. Alexander atty

UNITED STATES PATENT OFFICE.

JOHN K. LEEDY, OF BLOOMINGTON, ILLINOIS.

IMPROVEMENT IN SUGAR-EVAPORATORS.

Specification forming part of Letters Patent No. **37,916**, dated March 17, 1863.

To all whom it may concern:

Be it known that I, J. K. LEEDY, of Bloomington, in the State of Illinois, have invented certain new and useful Improvements in Sorghum-Juice Evaporators; and I hereby declare that the following is a true and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 in the drawing, which makes a part of this specification, represents a longitudinal vertical section of my evaporator.

The letter A represents a still with the tube *b* attached to the cap and connected with the worm *c*.

B is a water tank or trough extending the whole length of the furnace, upon which it rests, and has four square openings to receive the pans or boilers and the still. Around these openings the rims marked *d* are fastened, their bottom edges resting on the tank B, which also has a rim around it equal in height to rims *d*. The pans marked D have their bottoms as far removed from their lower edge as the width of the rims *d*, so that when the pans are in position they fit on the rims and rest on the bottom of the tank B. The pans D have four eyes on each and on opposite sides, intended to admit rods through them for removing the pans.

F represents a side view of the furnace, built of brick or other suitable material. The sides of F extend some distance beyond the fire-grate and flues, and are designated by the letter C. The object of this arrangement is to retain the heat within the two projecting walls that its action may be direct on the bottom of the first pan. Midway of the length of the furnace, the space between its sides is built up with solid masonry to within a small distance of the bottom of the tank B, leaving only sufficient space for the smoke to pass into the chimney at the opposite end of the furnace.

The frame of my machine consists of metal plates, and is formed of four corner-posts extending upward as far as needful, to make room for the reservoir I. The sides of the supports or corner-posts *h* are constructed at right angles to each other, so as to be adapted in shape to the ends of the furnace on which

they rest. To the upper ends of *h*, and on their outer sides, the metal rim L is firmly secured. Inside of L the reservoir I is placed, being in length about two-thirds of that of the furnace. The reservoir is made of sufficient depth to contain the worm of the still, and its bottom, instead of being flat, slopes downward at an angle of about forty-five degrees, so as to collect the sirup immediately over the tubes *m*, which convey it to the pans underneath. In operating my machine the saccharine juice will be put into the pans D and into the still A, or else it may be first put into the reservoir I, and, when heated by the worm of the still, drawn into the pans where the process of boiling is carried on. The scum is taken from the pans and put into tubs containing the necessary quantity of water, and left exposed until the vinous fermentation commences. It is then transferred to the still and the product of distillation caught in a bucket and placed under the tube with which the worm communicates, and equally distributed in the pans, thereby giving strength and body to the sirup.

The still may, when necessary, be removed from one end of the tank to the other, and the reservoir slid in a corresponding position by means of rods passing through the eyes on its upper edge. The object of the water-tank B is to prevent the escape of heat from the furnace.

Having thus described my machine, what I claim, and desire to secure by Letters Patent, is—

1. The water-tank B, constructed in the manner and for the purpose herein specified.
2. The bottom of the pans arranged in the manner herein set forth, in connection with the rims on which they rest.
3. The movable reservoir and movable still, as herein fully described.
4. The extension of the side walls of the furnace, for the purpose herein described.

In testimony that I adopt the foregoing as my own I hereby affix my signature in the presence of two witnesses.

JOHN K. LEEDY.

Witnesses:

M. W. BUTLER,
SAMUEL BOTTS.