

T. Boute.

Evaporating Pan.

N^o 76,392.

Patented Apr. 7, 1868.

Fig. 1.

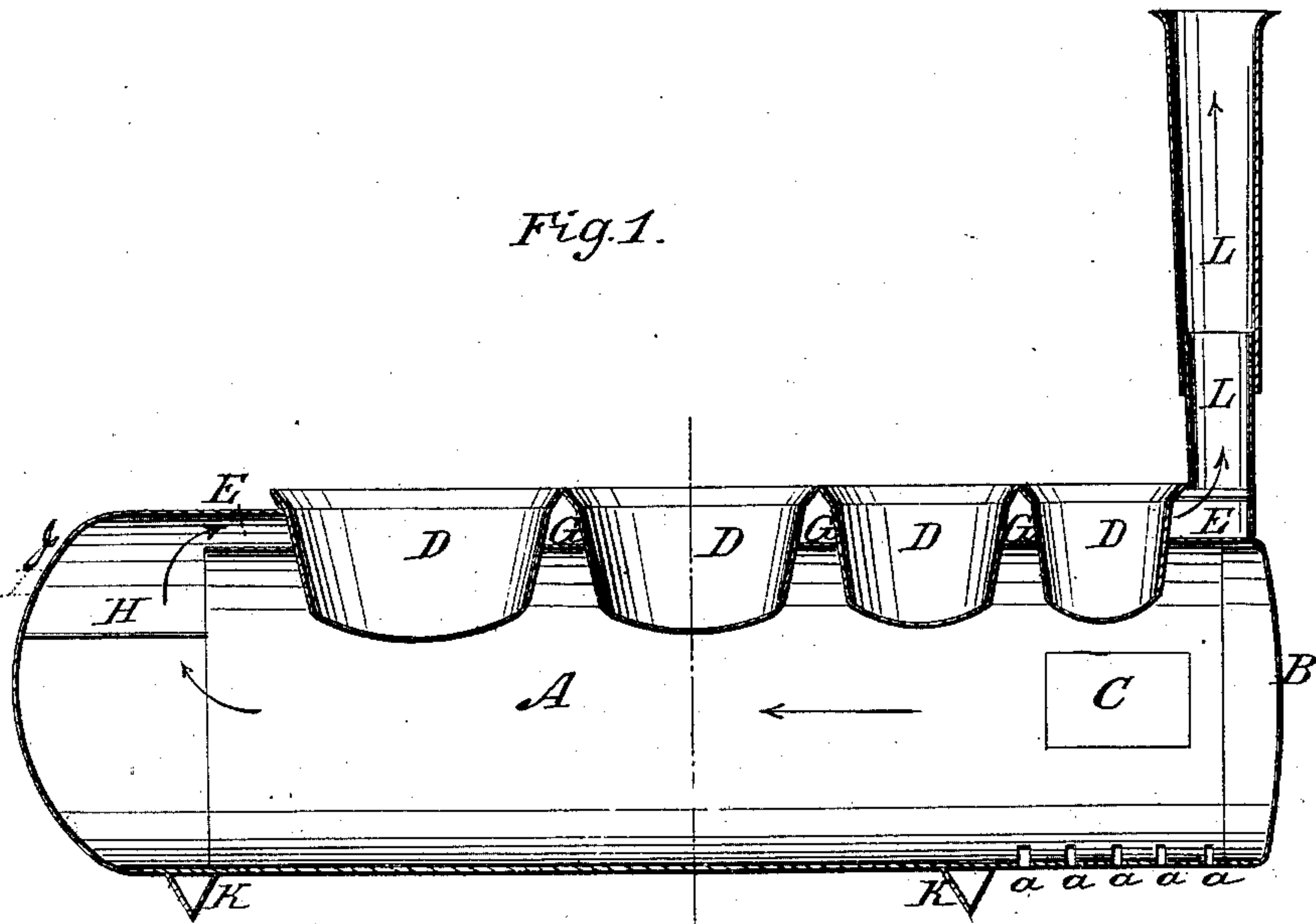
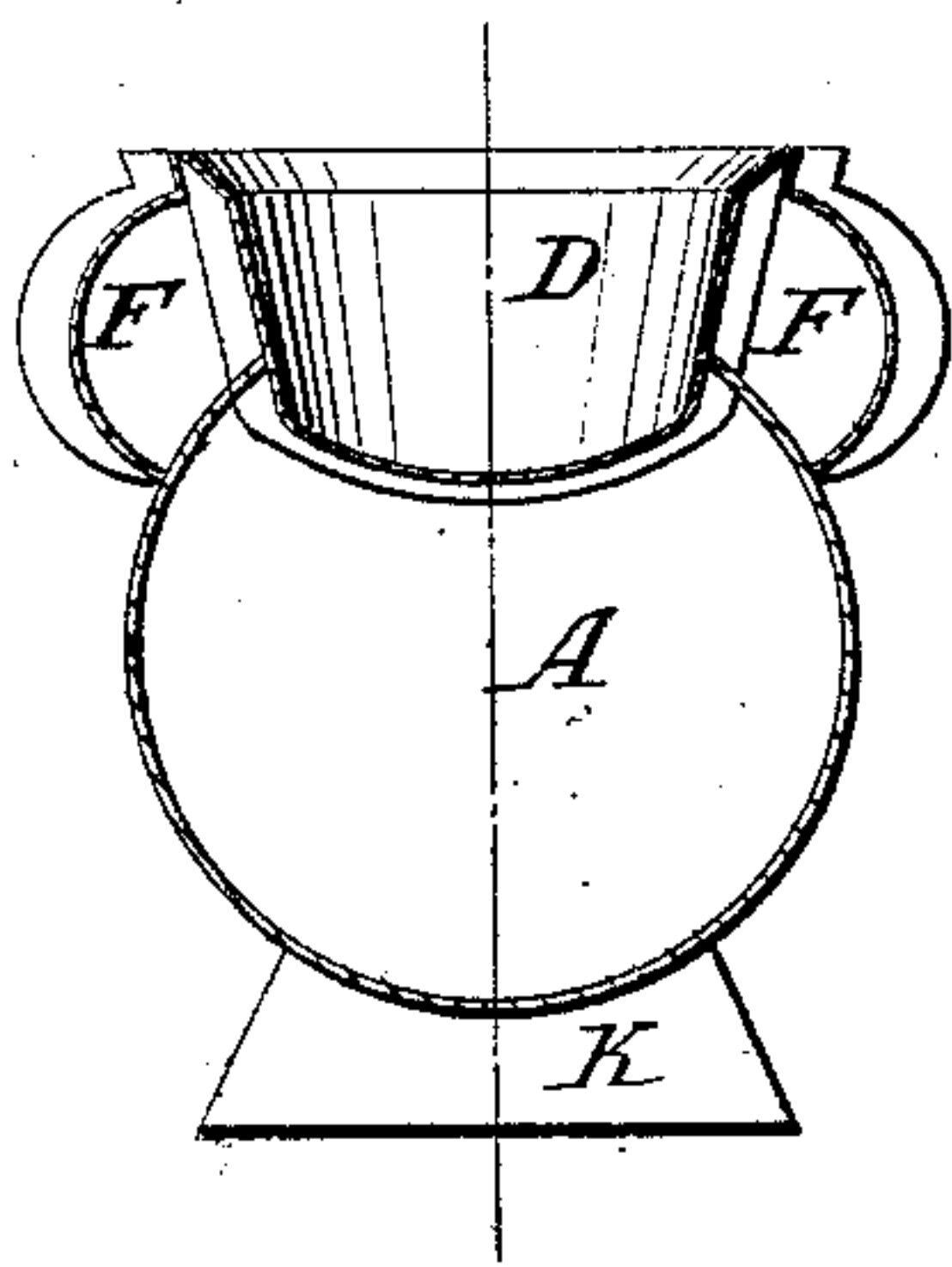


Fig. 2.



Witnesses.

*Attest.
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United States Patent Office.

THERENCE BOUTTÉ, OF NEW IBERIA, LOUISIANA.

Letters Patent No. 76,392, dated April 7, 1868.

IMPROVED APPARATUS FOR EVAPORATING CANE-JUICE.

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, THERENCE BOUTTÉ, of New Iberia, in the parish of St. Martin, and State of Louisiana, have invented a certain new, useful, and improved Furnace for the Evaporation of Cane-Juice, and mode of setting sugar-kettles thereon; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal sectional view, and

Figure 2 a cross-section through the line *x x* of fig. 1.

My invention has for its object to reduce the consumption of fuel in the operation of making sugar, and at the same time to bring about a more rapid heating and evaporation of the cane-juice in the process of its reduction to sirup than has heretofore been effected, or than can be effected with any existing arrangement; and it consists of a consolidated metallic furnace and flue of novel construction and arrangement, conjoined with a new method of setting the sugar-kettles in the furnace, the whole constituting a portable apparatus which may be readily transported from plantation to plantation, if it should be found desirable to use it upon more than one. All existing arrangements are immovable, and hence the same kettles can only be used in the evaporation of the juice that has been expressed from the cane grown on the plantation on which the furnace with which said kettles are connected is located, which, it may be mentioned, is one among other reasons why men of small means cannot engage in the culture of sugar.

But my invention will be better understood by referring to the drawings, on which the same letters denote the same parts in both figures.

A is the furnace proper, which is constructed entirely out of metal, and of cylindrical form. It may be made of sheet iron, and hence a section of an old and (for its original uses) worthless steam-boiler will answer for it, so that it can be made at very small cost. Near the front end, which is closed either by a fixed or removable head, B, a series of transverse openings or narrow slots, *a*, is cut through the bottom of the furnace A, to establish a grate on which to build the fire. Upon one side of the furnace, and just opposite the grate, is a hinged door, C, through which the fuel is thrown into the furnace. Through the top of the furnace A large openings are made to receive the kettles D, which are inserted into them, as shown at both the figures. These openings conform to the form or shape of the kettles, in order that a tight joint may be made at the point of contact of the latter with the edges of the former. On top of the furnace A, and covering something more than one-third of the circumference of the same, is placed the return-flue E. This flue is divided by the kettles into two conduits, F, at all points that are opposite to them, but yet it is practically but a single flue at every point between the kettles, in consequence of the open spaces G, so that it will be perceived a complete envelopment of every kettle by the flame is insured in the flue E, as well as in the furnace proper below. The open space H connects the furnace A with the flue E at the rear ends of both, the said space being covered by the arched apron J, as shown at fig. 1. The flue E is curved at its sides, as shown at fig. 2, but it is flat upon its top, where it is perforated with as many apertures as there are kettles in the collection or system, that are just large enough to permit the kettles to go down into them until the flanches that project around their tops rest upon the upper surface of the flue E, as shown at both figures.

It will of course be understood that the centres of the apertures in the top of the flue E are exactly over the centres of the apertures in the top of the furnace A, for otherwise no perfect adjustment of the kettles in these apertures could be effected. The drawings exhibit four kettles in connection with the apparatus, but a greater or smaller number may obviously be used. A metallic smoke-stack or chimney, L, is connected with the flue at the front end of the furnace, which may be provided with a damper if the same shall be found to be necessary, or a damper may be placed in the flue or furnace. On the bottom of the furnace A, one at each end of it, are attached two legs or supports, K, upon which the apparatus stands, so that there is always some space between the said bottom and the ground or foundation on which the furnace is placed.

To prevent loss of heat from radiation, any proper envelopment of the furnace may be adopted. A temporary structure of bricks and mortar will answer every purpose, and, as I have demonstrated by actual practice, it may be put up in a few hours and at very slight cost. I have found, in fact, that a sufficient covering may be made with three thousand bricks, whereas no other existing sugar-kettle furnace can be constructed

with less than from twenty to thirty thousand. The kettles used in connection with my furnace-arrangement may all be of the same size, or they may be graduated from the largest to the smallest size, as shown (upon a reduced scale) on the drawings, which, in my opinion, is the very best arrangement; or they may vary in size in any way to suit the fancy of the builder, or he who has it built. So also the kettles may be of any form—round, square, hexagonal, or otherwise. I reserve the right to use any form or description of kettle that is in common use.

The operation of my invention is so obvious that no particular description thereof need be given. It will be sufficient to say that the juice is put into the kettles and fire into the furnace, and that by the action of the latter the juice is evaporated or reduced to sirup, and made ready to be transferred to the finishing-pans in half the time, and with a consumption of half the fuel that is required in the best existing evaporation-furnace of which I have any knowledge. This I have demonstrated by repeated trials.

The economy of time and fuel involved in the use of my invention is not the only merit or virtue to which it can lay claim. It is portable, and hence after it has performed its work in any given locality, by simply putting it on truck or other wheels, it may be easily transferred to another, and then to another, and so on indefinitely, and so do the work of several sugar-planters, who, not able separately to own an apparatus, may jointly readily do so.

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

The furnace A and flue E, when these parts are severally constructed, united, and operate as herein described, in combination with the kettles D, when the whole constitutes a portable cane-juice evaporating-apparatus, as and for the purpose set forth.

THÉRENCE BOUTTÉ.

Witnesses:

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