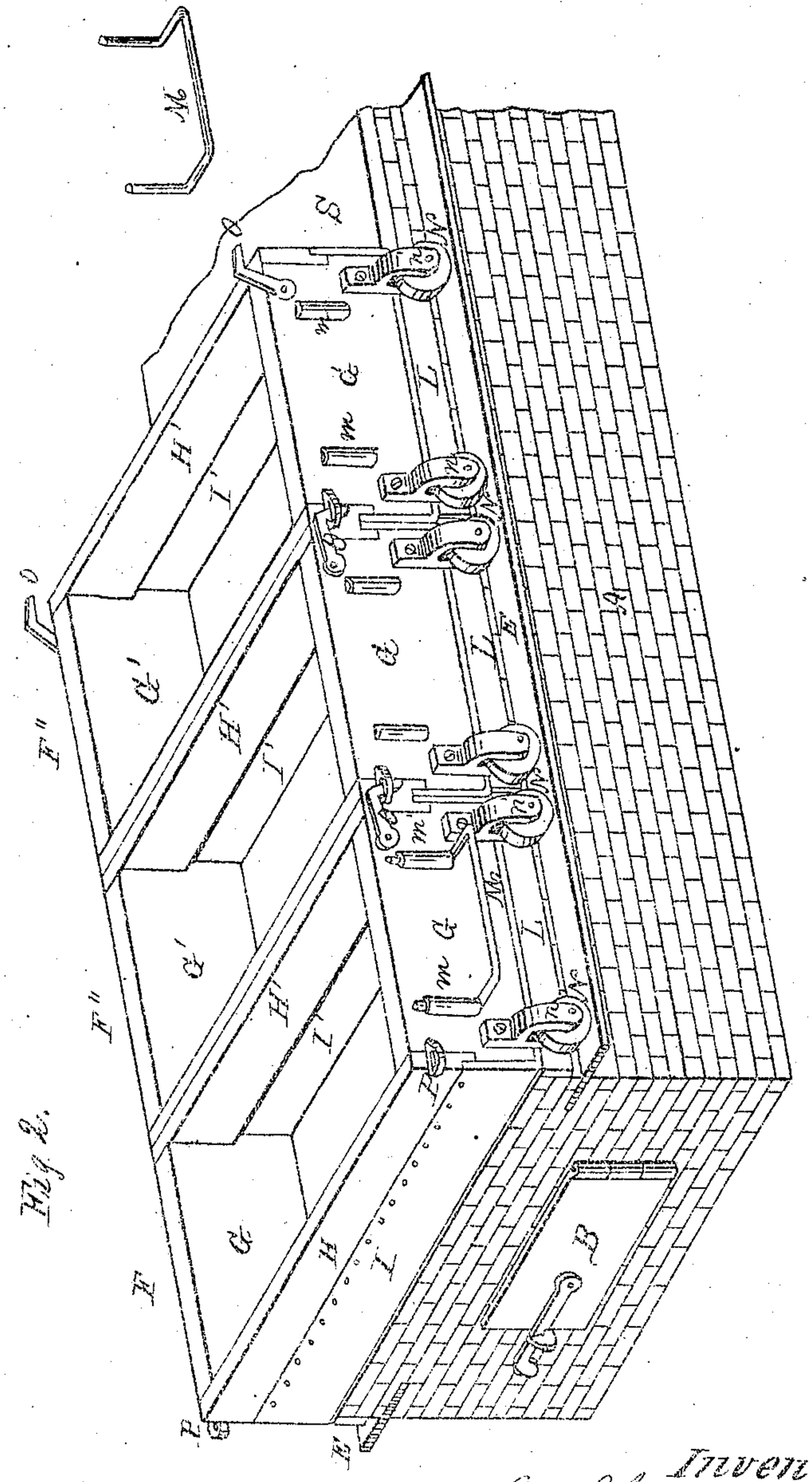
Sheet 1-2 Sheets.

T. Thomasson

Evaporator.

No. 54231. Patented Apr. 24. 1866



Witnesses.

Jas H Layman
F. A. Edenborn

Inventor:

T. Thomasson
by Knight Bros
Attys

Sheet 2. 2 Sheets.

T. Thomasson.
Evaporator.

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Fig. 1.

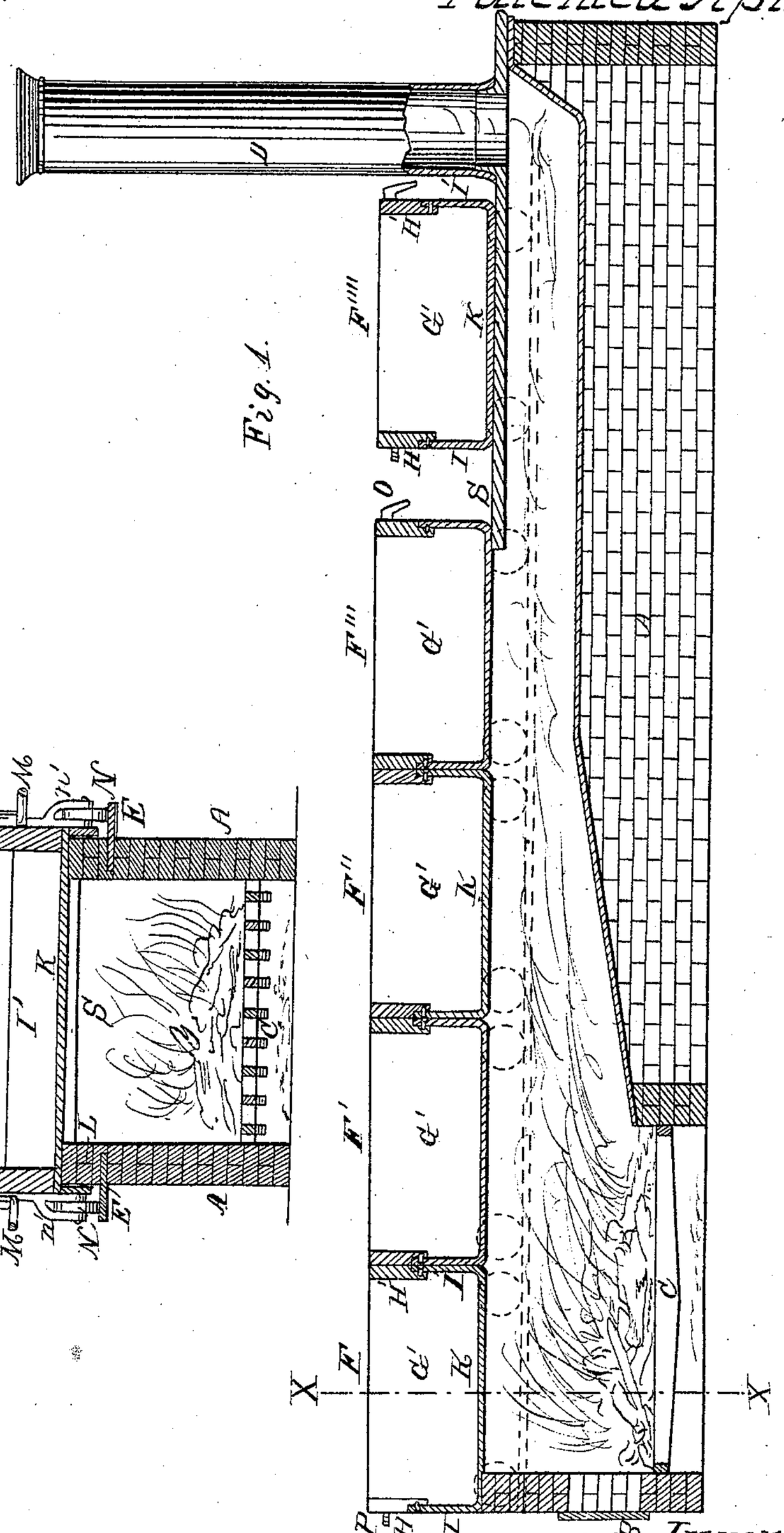

Fig. 3.

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UNITED STATES PATENT OFFICE.

TOWER THOMASSON, OF NEOGA, ILLINOIS.

IMPROVED EVAPORATOR.

Specification forming part of Letters Patent No. **54,231**, dated April 24, 1866.

To all whom it may concern:

Be it known that I, TOWER THOMASSON, of Neoga, Cumberland county, and State of Illinois, have invented certain new and useful Improvements in Evaporators; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

The object of this invention is to prevent the mixing of green or crude sap with partially-cooked sirup in the evaporator-pans, which, as is well known, is one of the most frequent causes of burning and of the coarse flavor peculiar to sorgo, thus making the evaporation of the cane-juices a very tedious, unsatisfactory, and expensive operation.

This great objection to the universal cultivation of sorghum, imphee, and other canes is entirely obviated by my improved train of evaporating-pans, which are simple in their arrangement, cheap of construction, and can be operated much more rapidly that the customary fixed pans.

In the accompanying drawings, Figure 1 is a longitudinal section through an evaporator provided with my train of pans. Fig. 2 is a perspective view of three of my pans, showing the mode of connecting them; and Fig. 3 is a transverse section taken at the line X X of Fig. 1.

A represents the furnace, constructed either of masonry or sheet metal, as may be most desirable, and provided with customary fire-door B, grate C, and smoke-pipe D.

Firmly secured in the side walls of the furnace, and a little below the top of the same, are metallic bars E E′, which I term the "railway," and said railway is parallel with the top of the furnace-walls.

In the place of a number of pans permanently attached to the furnace, I provide a train of pans, F F′ F″ F‴ F⁗, whose length corresponds to the width of the furnace, while the width and depth of said pans may be of any desired dimensions.

The ends G G′ of my pans are constructed of stout plank, as are also the upper portions, H H′, of the sides, while the remaining or lower portions of the sides, I I′, and also the bottoms K, are composed of sheet metal.

Projecting downward from and firmly attached to each end of the pans are flange-plates L, which, bearing against the side walls of the furnace, serve to retain the pans in a proper position, and also prevent fire and smoke from escaping under the ends of said pans.

Each end G G′ of the pans F F′, &c., is provided with pockets *m m′*, for the reception of a handle, M, by which the pans are moved from place to place, and finally lifted off from the furnace. By making the handles M detachable a single pair will suffice for any number of pans, but if preferred the handles may be permanently attached to each pan.

Secured to each end of the pans F F′, &c., are two brackets, *n n′*, affording journal-bearings for the wheels or rollers N, which run upon the railway E E′, and thereby compel said railway to sustain the entire weight of the pans and their contents.

The ends of the pans are provided near their tops with a hook, O, and staple P, by which said pans are connected and uncoupled in a moment. That portion of the hook O which engages with the staple P enters said staple at a suitable angle in order that it may draw the two contiguous pans closer together as the hook is driven farther into the staple.

The rear end of the furnace is provided with a slab or casting, S, which I call the "receiving-platform," and said platform is somewhat longer than any of the pans F are wide.

Operation: The pans F F′, &c., are arranged on the furnace A, as shown in Fig. 1, the first pan, F, being placed immediately over the fire, while the last pan, F⁗, is over the receiving-platform S, and the latter pan is supplied with green juice from a suitable tank. The pan F being subjected to the most intense heat of the fire, the sirup contained in it is the first to become thoroughly cooked, and therefore it is the first to be removed from the furnace. To effect this purpose the operators proceed to link the hindmost pan, F⁗, to the pan immediately in front of it, and then to draw forward the entire train of pans until the second pan is made to take the place of the first pan, which is then disconnected from the train and lifted from the furnace. Or it may be done by the operators disconnecting the hook O from the staple P, taking hold of the handles M, and then drawing the pan along on the railway E E′, toward the front end of the furnace, until it clears the latter, when the pan is lowered

to the ground, and the operators proceed at once to move the other pans forward to their proper positions. The rear pan, F'''', is at once connected to the last pan, F''', of the train, and then the entire train is immediately moved forward until it again covers the entire furnace, the pan F'' being thus brought forward to the hottest part of said furnace.

This uncoupling of the first pan, F, from the other pans, the removing of said pan from the furnace, the connecting of the last pan, F'''', and the re-covering of the furnace with the pans is the work of a few minutes.

The rear pan, F'''', having been connected to the train, and having been moved forward with said train until it occupies the previous position of the pan F''', an extra pan is now placed over the receiving-platform S, and is filled while in that position.

This operation of removing the front pan, connecting the rear pan, and moving the entire train forward on the railways E E', is continued until the entire quantity of sirup has been evaporated.

It will be perceived that each batch of sap is cooked in its proper pan without intermingling with the scum and other crudities of the more uncooked portions.

The pans being constructed as described, with wooden ends G G', and the upper halves, H H', of their sides also being of wood, they are thus maintained in their proper shape and cannot be twisted and sprung by the action of the heat.

This mode of forming the pans insures a close joint when two pans are connected, thereby preventing the escape of fire and smoke between them.

The entire bottom K and also the lower halves of the sides of the pans being composed of sheet metal, the sides of the pans are not liable to be burned, and the pans are also as light and portable as is consistent with the proper stiffness.

Of the many advantages which my improved pan possesses over those now in use the following may be enumerated.

First, its freedom from scorching the sirup, as the juice which is contained in one pan is separate and distinct from that contained in either of the others, and there is no necessity for adding green juice while the boiling process is being conducted, thus making the boiling process a continuous operation in each separate pan.

Another advantage consists in the fact that the pans are so light and portable that they can be readily removed from the furnace, either to empty them of their cooked contents or for the purpose of cleansing them, and without interfering with any of the other pans or without drawing the fire from the furnace.

My pans can be manufactured at a mere nominal cost, and they are so simple in their construction that any country wagon-maker or carpenter can make them.

I claim herein as new and of my invention—

1. The provision, in an evaporating apparatus, of a train of portable and separate pans, F F' F'' F''' F'''', or their equivalents, adapted to be linked together and to be used in connection with the railway E E', substantially as described and set forth.

2. The evaporating-pan F, when constructed with wooden ends G G', metallic bottom K, and partially wooden and metallic sides H H' and I I', in the manner described.

3. The hooks O and staples P, or devices substantially equivalent, for connecting a train of evaporator-pans.

4. In combination with the elements of the first and second claim, the receiving-platform S, for the purpose described.

In testimony of which invention I hereunto set my hand.

TOWER THOMASSON.

Witnesses:
GEO. H. KNIGHT,
JAMES H. LAYMAN.