

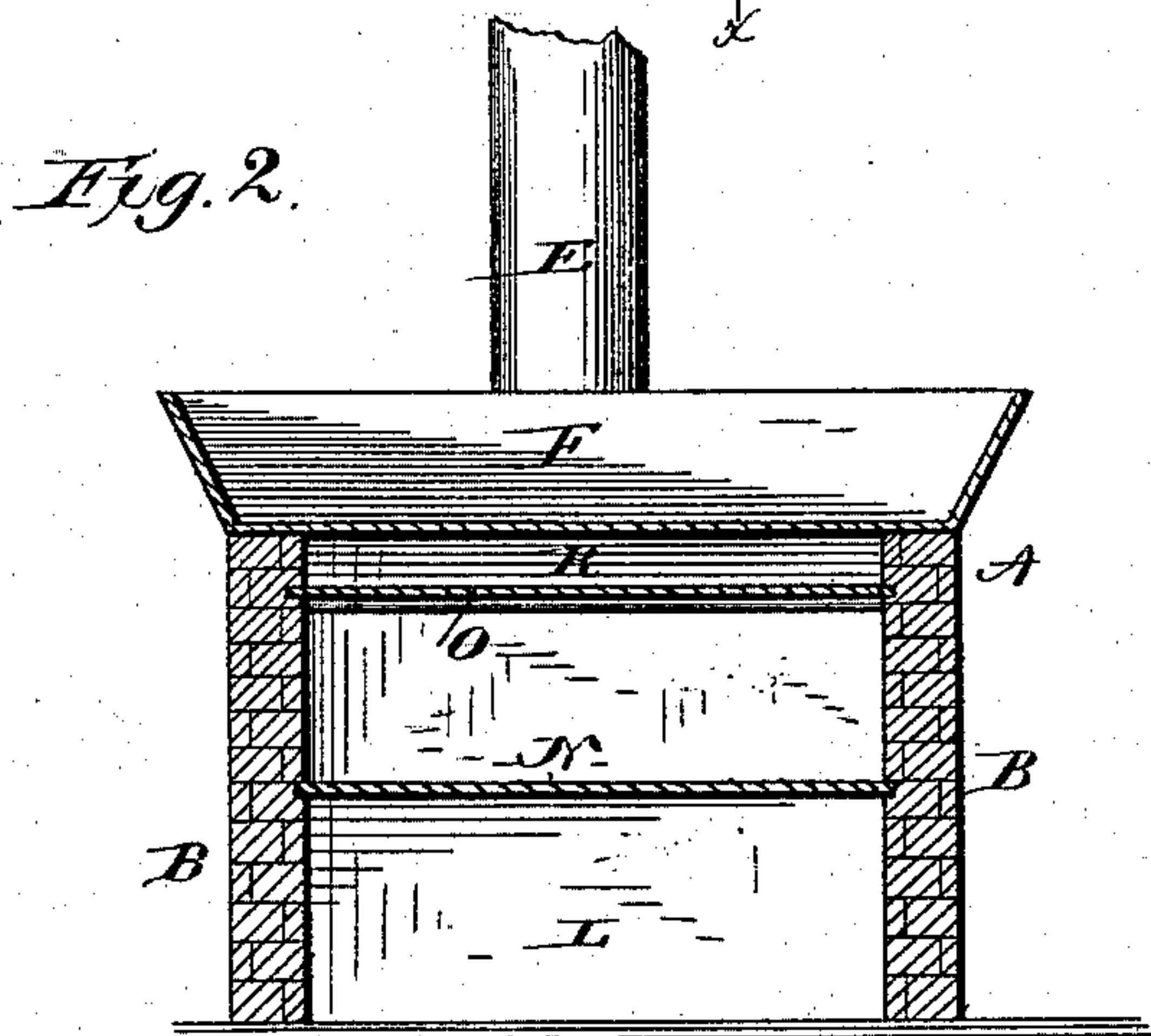
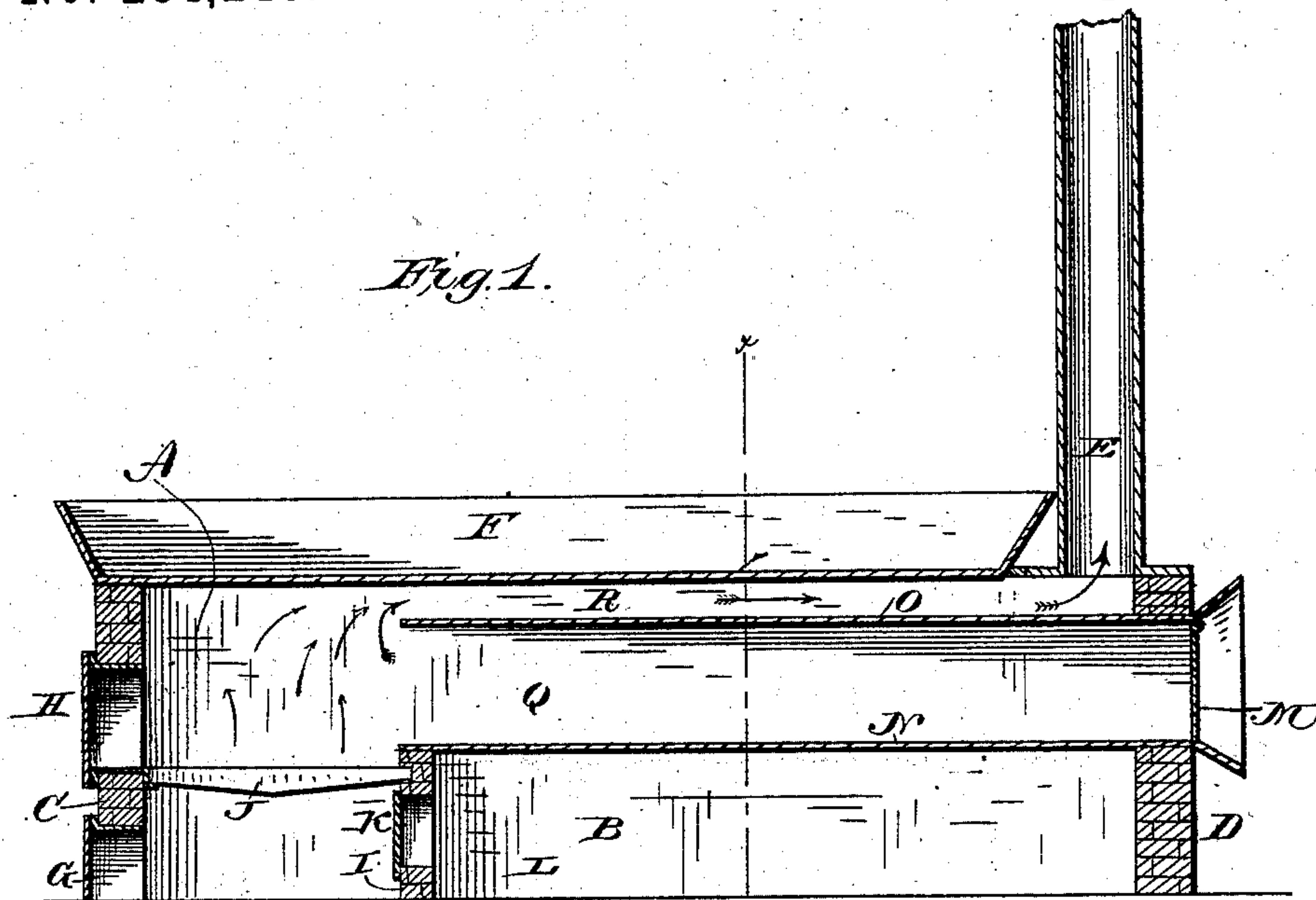
(No Model.)

J. C. SEMONES.

BAGASSE FURNACE.

No. 284,246.

Patented Sept. 4, 1883.



WITNESSES  
Frank L. Ouraud,  
J. B. Little,

John C. Semones,  
INVENTOR  
by Allen Snow & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

JOHN C. SEMONES, OF MINDEN, NEBRASKA.

## BAGASSE-FURNACE.

SPECIFICATION forming part of Letters Patent No. 284,246, dated September 4, 1883.

Application filed January 30, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. SEMONES, a citizen of the United States, residing at Minden, in the county of Kearney and State of Nebraska, have invented a new and useful Bagasse-Furnace, of which the following is a specification, reference being had to the accompanying drawings

This invention relates to furnaces for drying and burning bagasse or other wet fuel, and has for its object to provide a simple and efficient furnace that will thoroughly dry the fuel and feed it to the fire as desired.

In the drawings, Figure 1 is a vertical longitudinal sectional view of the furnace when used for evaporating sirup, &c. Fig. 2 is a vertical transverse sectional view of the same.

Referring to the drawings, A designates the furnace, which consists of the sides B B, front wall, C, and rear wall, D. The furnace is provided with a chimney, E, at its rear end, and its top is formed by the evaporating-pan F. The front-piece is provided with the usual ash-pit door, G, above which is the usual fire-door, H.

I is a transverse partition near the front of the furnace and extending about half-way to the evaporating-pan. Between this partition and the front piece are arranged the grate-bars J, and in the said partition, under the grate-bars, is a door, K, leading into a chamber, L, in rear of the ash-pit, which chamber receives its heat through the said doorway from the fire-chamber in the front of the furnace.

In the rear wall, D, is a door, M, through which the bagasse is fed onto a drying-plate, N, that extends to the partition I and forms the top of the chamber L. Another plate or partition, O, extends from the top of the door M as far in the furnace as the plate or partition N, and these plates N and O form the feeding and drying chamber Q, into which the bagasse is placed through the door M. This top drying-plate, O, forms a heat-chamber, R, under the evaporating-pan, and into this cham-

ber R opens the chimney-flue E. It will be observed that the chamber Q opens at its inner end onto the grate of the furnace. The drying-plates N and O are thoroughly heated by the fire of the furnace, which passes up through the chamber under the evaporating-pan to the chimney-flue, as indicated by the arrows. The bagasse or other wet fuel is fed through the door M into the drying-chamber Q, and is completely dried therein by the heat of the fire-chamber, which is diffused through the chambers L and R as it is gradually moved along in the chamber to the grate, on which it is pushed from the end of the chamber as it becomes necessary to feed the fire.

The advantages of my invention are obvious. The bagasse is dried gradually until it reaches the end of the drying-chamber, when it is in prime condition to be consumed by the fire.

I am aware of the English Patent No. 7,858 of 1838, which shows a furnace in which the bagasse is adapted to be fed gradually through a drying-chamber onto the fire, and such I do not therefore claim, broadly, as of my invention.

I claim as my invention—

The combination of the furnace having a cross-piece or partition near one end, from which extend the grate-bars of the fire-chamber, the longitudinally-extending drying-plate or partition arranged from an opening in the rear end of the furnace to the said transverse partition, and forming a bottom heating-chamber, a corresponding plate or partition forming the top of a central longitudinal chamber, and a top heating-chamber leading to the chimney-flue, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN C. SEMONES.

Witnesses:

E. G. GODFREY,  
JENS H. JENSEN.