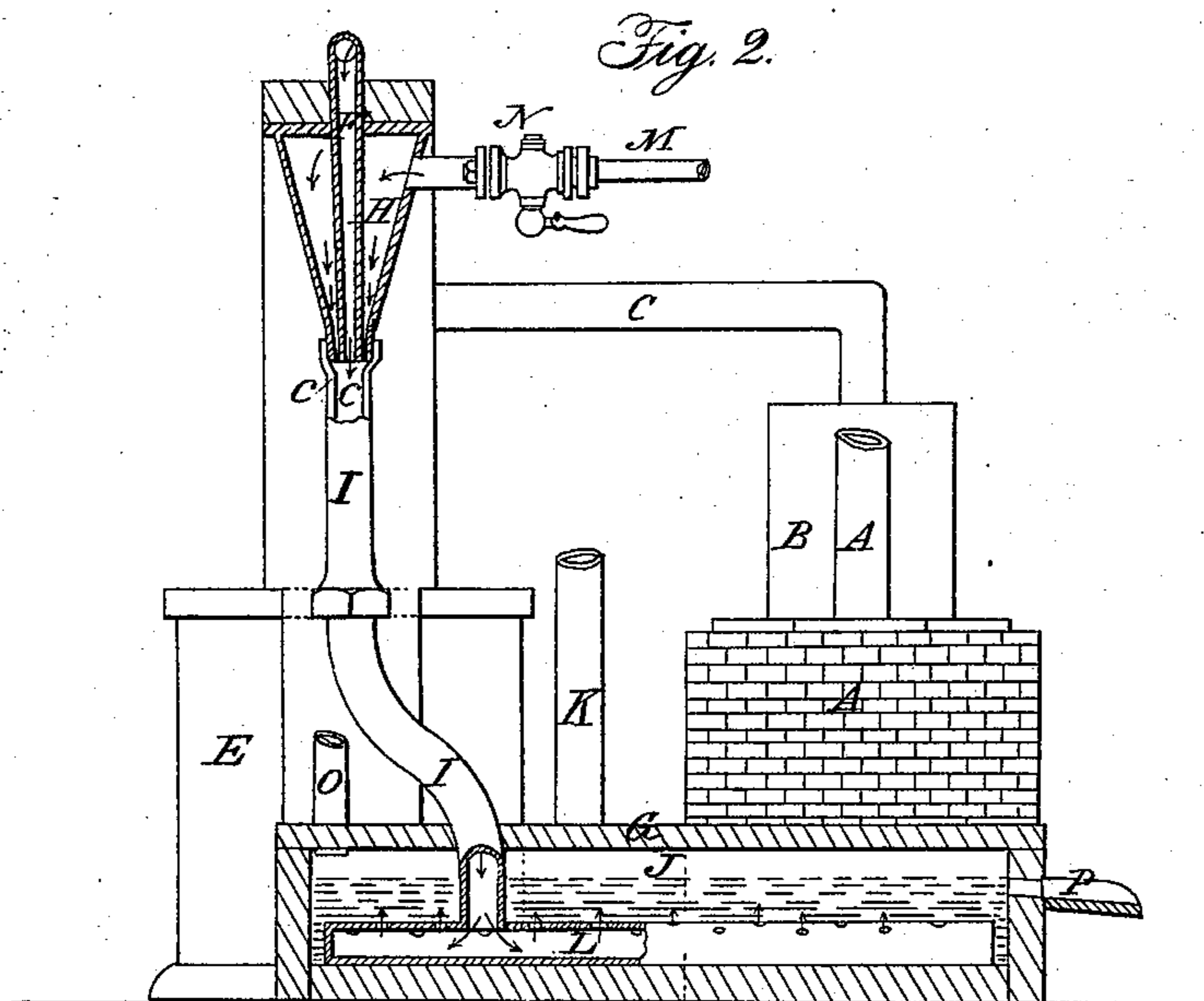
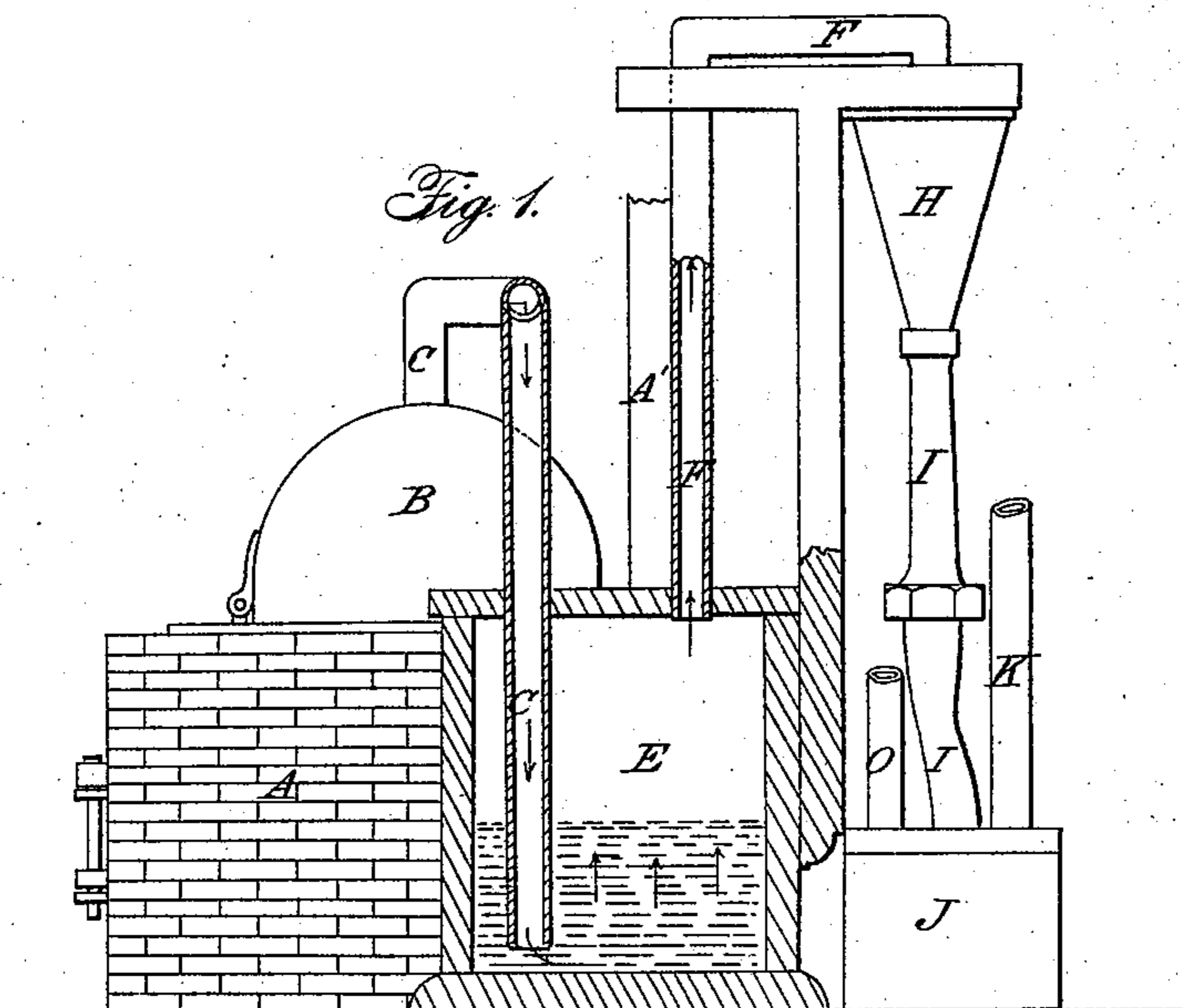


J. COMMUNY.
Treating Cane-Juice.

No. 30,870.

Patented Dec. 11, 1860.



Witnesses:

J. W. Coombs
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UNITED STATES PATENT OFFICE.

JEAN COMMUNY, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN APPARATUS FOR APPLYING SULPHUROUS-ACID GAS IN PURIFICATION OF CANE-JUICE.

Specification forming part of Letters Patent No. 30,870, dated December 11, 1860.

To all whom it may concern:

Be it known that I, JEAN COMMUNY, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Apparatus for the Application of the Fumes of Sulphur for the Bleaching, Defecation, and Prevention of Fermentation of Cane-Juice or other Vegetable Juices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 are elevations at right angles to each other, both partly in section, of an apparatus with my improvement.

Similar letters of reference indicate corresponding parts in both figures.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is a fire-place or furnace for burning wood, coal, or other fuel, having a chimney, A', and having set within or above it the cast-iron furnace or retort B, for burning the sulphur to produce the fumes, said furnace A being intended to facilitate and render perfect the combustion of the sulphur.

C is a pipe of cast-iron or other metal, leading from the top of the sulphur furnace or retort B into the water contained in the close purifying-box E.

F is a pipe rising from the top of the furnace or retort B, and bent over in the form of a siphon, and having its open mouth, *a*, Fig. 2, and the part above it surrounded by a large pipe or box, H, of the form of an inverted frustum of a cone which is closed at the top, and which has between its truncated end and the mouth *a* of the pipe F an extremely narrow annular opening, *c*, Fig. 2. From the bottom of the conical pipe or box H a pipe, I, leads to the juice-box J, which is fitted with a tight cover, G, provided with a chimney or escape-pipe, K. The pipe I connects with a closely-perforated horizontal pipe, L, running along the whole length of the interior of the bottom of the juice-box; or, instead of this pipe, a perforated false bottom may be provided within the juice-box, and the pipe I be made to open into the juice-box below this false bottom.

O is an inlet for the admission of the juice to the box J, and P is an outlet for the overflow of the juice.

M is a pipe to convey steam from a boiler into the conical pipe H, fitted with a stop-cock, N.

The operation of the apparatus is as follows: The steam admitted by the pipe M to the pipe or box H is forced by the pressure in the boiler in an annular jet through the narrow opening *c*, surrounding the mouth of the pipe F, causes a strong draft from the retort or furnace B through the pipe F, and produces a partial vacuum in the upper part of the purifying-box E, and causes a draft from the furnace or retort B to the said box, thereby causing the fumes of sulphur and nitrogen generated in the said furnace or retort to pass through the pipe C and upward through the water in the said box E, and from the upper part of the said box through the pipe F, from the mouth *a* of which the fumes and gas, meeting the surrounding jet of steam issuing from the pipe or box H, are carried by and along with the steam through the pipe I and the perforated pipe L or false bottom of the juice-box into the juice which is flowing through the said box from the inlet O to the outlet P. The steam is condensed in the juice; but the fumes and gas from the sulphur circulate in fine streams among the juice, and are in a measure absorbed thereby, and all not absorbed escapes by the chimney or escape-pipe K to the atmosphere.

The apparatus is capable of some modifications, of which it is only necessary to mention that the purifying-box may be dispensed with, and the pipe C pass, like the pipe F represented, directly into the steam-pipe, and that the relative positions of the meeting jet of steam and current of fumes and gas may be reversed, the steam being made to pass through the inner tube and the fumes and gas through the outer one.

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

The combination, with the discharging-pipe F, of the receiving-box H and conducting-pipe I, in the manner and for the purposes substantially as herein shown and described.

JN. COMMUNY.

Witnesses:

E. MONKEGAT,
M. B. DUBRUSSON.