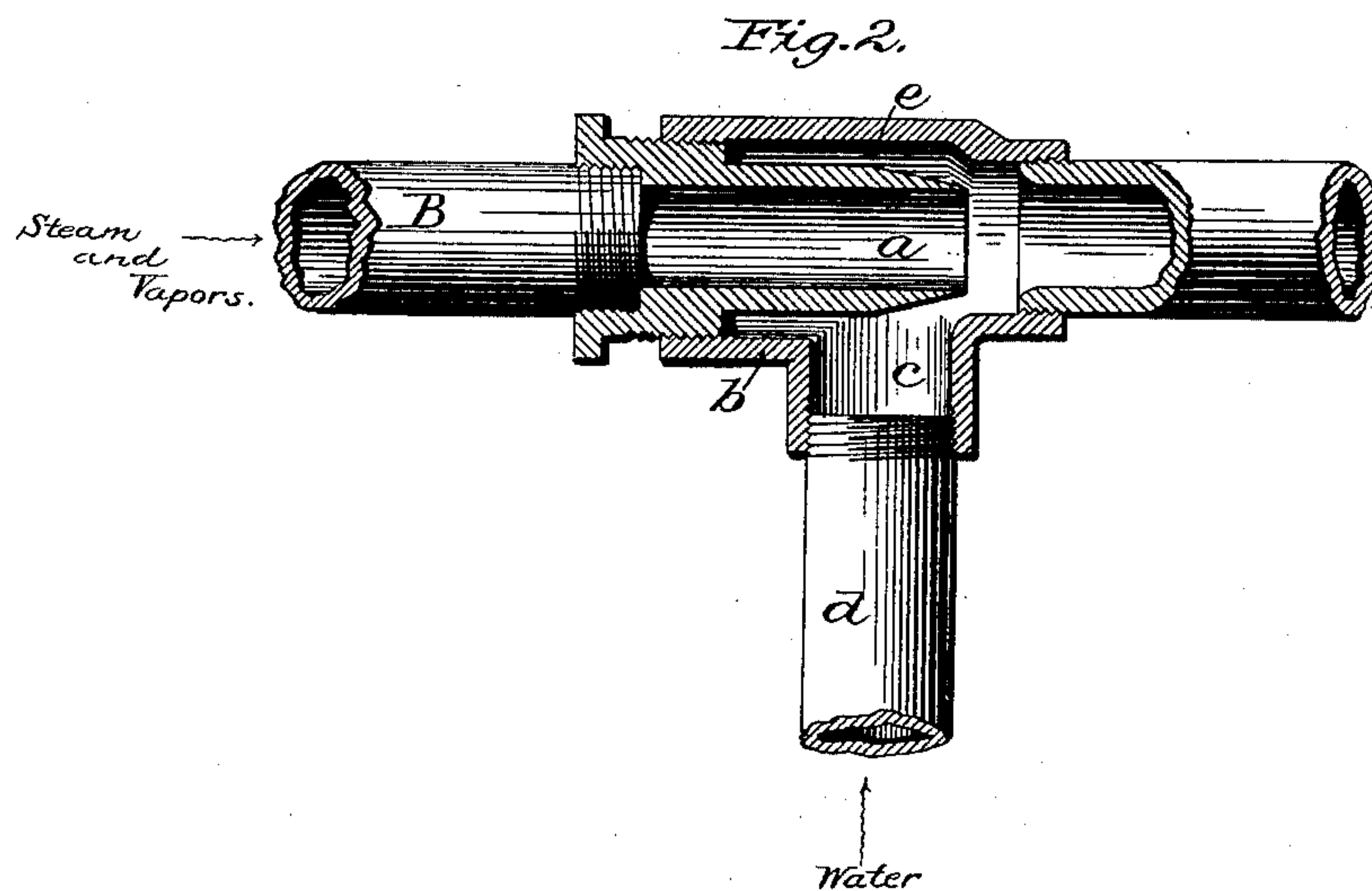


Patented May 19, 1885.



Valerius D. Anderson,
by Dodger Son
his Attys.

UNITED STATES PATENT OFFICE.

VALERIUS D. ANDERSON, OF CLEVELAND, OHIO.

RENDERING-TANK.

SPECIFICATION forming part of Letters Patent No. 318,156, dated May 19, 1885.

Application filed March 12, 1885. (Model.)

To all whom it may concern:

Be it known that I, VALERIUS D. ANDERSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Rendering-Tanks, of which the following is a specification.

My invention relates to apparatus for rendering lard, fats, oils, &c., and is designed to facilitate the condensation of the steam and vapors and the consequent suppression of odors arising from the rendering-tank.

The invention consists in the combination, with the escape-pipe of a rendering tank or vessel, of a blast nozzle or injector introduced into said pipe in such manner that the escaping steam, vapors, &c., shall pass through it, and a branch pipe or inlet through which water is admitted, in order that it may be taken up by and mingled with the steam in proper quantity to completely condense the steam and vapors before they escape from the pipe.

In the drawings, Figure 1 is a side elevation of my apparatus, and Fig. 2 a longitudinal central section of the same.

Prior to my invention it has been customary to employ in connection with each rendering tank or vessel a large and expensive steam-condenser, and even with such provision it is found difficult and often impossible to condense all the vapors and steam and lower the temperature sufficiently to prevent offensive odors being given off. By my plan the escaping steam, gases, and vapors blowing through the nozzle create a suction in the water-pipe directly proportionate to the force of the blast, and consequently draw in a volume of water exactly proportionate to the volume of steam, &c., to be condensed. In this way a proper relation as to quantity is constantly and automatically maintained between the steam and vapors and the water, and the action of the apparatus is consequently uniform and perfect.

The construction and arrangement will be readily understood upon referring to the drawings, in which A indicates a rendering tank or vessel, B, the escape-pipe, through which the steam and vapors pass off, and C the blast nozzle or injector, which constitutes the essential element of my invention.

As best shown in Fig. 2, this device con-

sists of an inner nozzle, *a*, forming a part or continuation of the escape-pipe B, and an outer shell or body, *b*, concentric with the nozzle *a*, and provided with a lateral inlet-passage, *c*, which connects by a pipe, *d*, with a suitable water reservoir or supply. The interior diameter of the shell or body *b* is enough larger than the external diameter of the nozzle *a* to leave an annular chamber or space, *e*, between them into which the water is drawn and from which it is carried forward by the suction of the steam, being sprayed by and mingling intimately with the steam, and consequently acting to condense the same in a most thorough and efficient manner.

From the pipe B the condensed steam and water may be blown directly into the atmosphere or into a suitable chamber or receiver provided for the purpose. In practice, however, it is found sufficient, ordinarily, to discharge them directly into the atmosphere, and the odors, heretofore so difficult of suppression, are found to be completely destroyed.

It is obvious that the water may be allowed to enter under head or pressure and in regulated quantity, if desired, but the plan illustrated and described is preferred.

Having thus described my invention, what I claim, is—

1. In combination with a rendering tank or vessel, an escape-pipe opening therefrom, a blast pipe or nozzle connected with said pipe, and a shell or jacket encircling said nozzle and communicating with a water-supply, substantially as and for the purpose set forth.

2. The combination, with a rendering tank or vessel, of an escape-pipe, a nozzle applied to said pipe, a water-supply, and a pipe extending from the water-supply to a point near the discharge end of the nozzle whereby the escaping steam from the tank is caused to draw up water and mingle it with the steam.

3. The combination of tank A, escape-pipe B, water-pipe *d*, and blast device C, consisting of nozzle *a* and shell or body *b*, having interior space, *e*, and inlet *c* connected with pipe *d*.

VALERIUS D. ANDERSON.

Witnesses:

WALTER A. BIDDLE,
L. W. FORD.