

(No Model.)

D. JARVES.
RETORT.

No. 587,057.

Patented July 27, 1897.

Fig. 2.

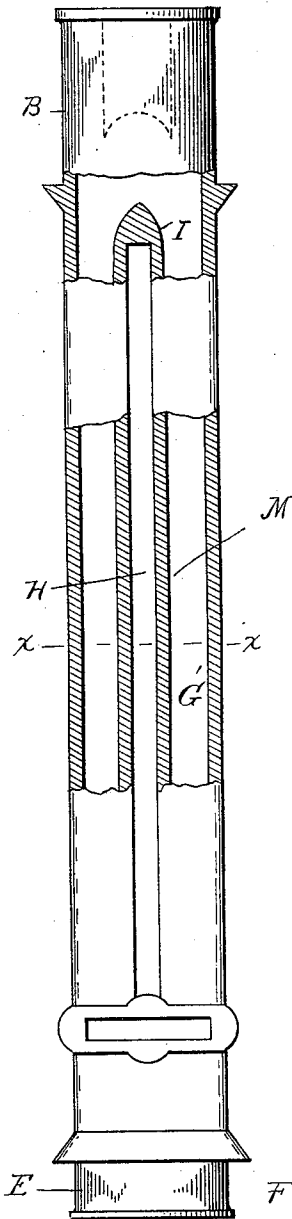


Fig. 1.

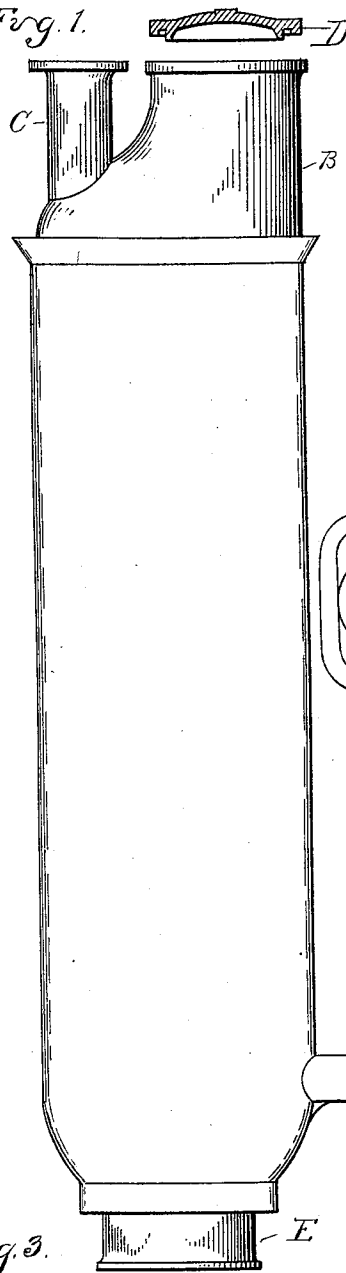


Fig. 4.

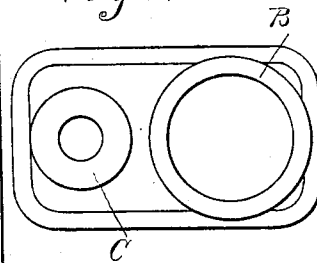
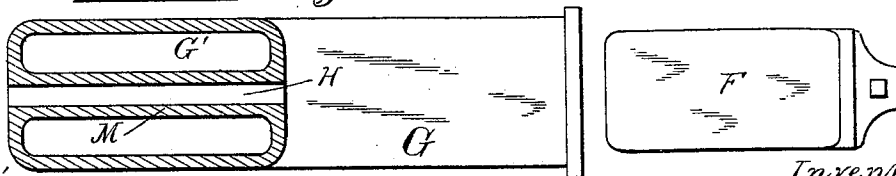


Fig. 3.



Witnesses
Otto H. Bantel
Med. Leg. Ex.

Inventor
Derrig Jarvis
By *W. C. M. [Signature]* Attys.

UNITED STATES PATENT OFFICE.

DEMING JARVES, OF DETROIT, MICHIGAN.

RETORT.

SPECIFICATION forming part of Letters Patent No. 587,057, dated July 27, 1897.

Application filed February 3, 1897. Serial No. 621,749. (No model.)

To all whom it may concern:

Be it known that I, DEMING JARVES, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Retorts, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention applies to that class of retorts designed for carbonizing organic matter, especially in the manufacture of bone-black from bones and other animal matter; and the invention consists mainly in the particular construction of what I call an "upright twin retort," in which the body is divided into two individually separate compartments arranged side by side, but separated by an open flame-space, while the top and base section is common to both, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved retort with the cover and slide-gate detached. Fig. 2 is a front elevation, partly broken away to show the vertical walls in section. Fig. 3 is a horizontal cross-section on line *xx*, Fig. 2. Fig. 4 is a top plan.

The general character and form of my retort are substantially the same as heretofore described by me in Letters Patent No. 317,135.

My retort is of the upright rectangular pattern. It is contracted on top to form two cylindrical necks B and C, the former for feeding the material into the retort and the latter for the escape of the gas and vapors generated by the process of carbonizing.

The neck B is of the full lateral width of the retort, and it is located in line with the front face of the retort, whereby it affords sufficient space directly back of it for the neck C, which is smaller.

The upper end of the neck B is suitably formed to receive a cover D, secured therein with a gas-tight joint by luting, as in the usual practice.

The lower end or base of the retort is also contracted and terminates in a cylindrical discharge-mouth E, which is of the full width of the retort and directly below the center thereof.

Directly above the base-section the retort is of rectangular cross-section and adapted to

support in position therein a slide-gate F, which is adapted to close the bottom of the retort and can be withdrawn out in front through the hollow extension or box G, which is made sufficiently long to project outside the kiln in which the retort is supposed to be inclosed.

The body of the retort between the base and neck—that is, the portion of the retort which in practice is exposed to the heat of the fire within the kiln—is centrally divided into two like compartments G' by partitions M, forming an open space H, which extends from front to rear the whole height, or nearly so, of the entire body portion. The body portion thus forms two like hollow rectangular columns, merging on top and bottom into the top and base of the retort.

The two inner walls of the two compartments unite on top and form a double incline I, which directs the material equally into the two compartments and prevents the lodgment of the same when the retort is filled through the common feed-opening placed directly above it.

In practice my improved retort is of the same size and general outline as the old retort, and it involves no change from the usual manner of setting the same in benches in a kiln, so that the upper part on top projects through the roof and the lower portion or base through the floor, while the body portion is exposed to the heat or flame within the kiln. The operation of filling and emptying is also the same, but there is a decided advantage in its use over the old form in which the body forms but one compartment. This lies in the more perfect operation of carbonizing the material in two separate compartments where the heat can penetrate the mass more readily and evenly, thus overcoming the great difficulty heretofore experienced with a single-chamber retort where the mass in the center either was not carbonized enough or could not be reached by the heat sufficiently to cause it to completely carbonize, especially with material which packs very solidly, while the outer portion had to be often overheated in order to reach the center.

It must be understood that a mere reduction of the size or form of the retort would be inexpedient and form no solution of the diffi-

culty, as the material available for making bone-black is generally of a size and shape which would not permit of making the feed and discharge openings any smaller, and while my separate compartments are of smaller size, still the material after passing in through the feed-opening is now directed and guided by the double inclines on top of the central portion into the separate compartments in a slanted or up-ended condition, so that it will not wedge or obstruct. There are also other well-understood reasons which would make it inexpedient to alter the general outline and size of the retort from the dimensions accepted and found suitable by long practice, and thus my improvement solves the difficulty in a practical manner not heretofore obtained.

What I claim as my invention is—

1. An upright retort having a substantially rectangular body portion provided with vertical partitions dividing it into two substantially rectangular compartments and forming an open space between said compartments, a top portion having at its top a feed-opening and forming a single compartment increasing in cross-section from said feed-opening to said

body portion, and a base portion forming a single compartment decreasing in cross-section from the body portion to a discharge-opening in its bottom.

2. An upright retort comprising a substantially rectangular body portion provided with separated vertical partitions dividing it into two substantially rectangular compartments and forming an open space between said compartments, a top portion having at its top a feed-opening centrally above the said partitions, said top portion forming a single compartment increasing in cross-section from said feed-opening to the body portion, a base portion forming a single compartment and decreasing in cross-section from said body portion to a centrally-arranged discharge-opening, said partitions uniting on top between the compartments into a double inclined portion for guiding the material into the compartments, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DEMING JARVES.

Witnesses:

M. B. O'DOHERTY,
OTTO F. BARTHEL.