

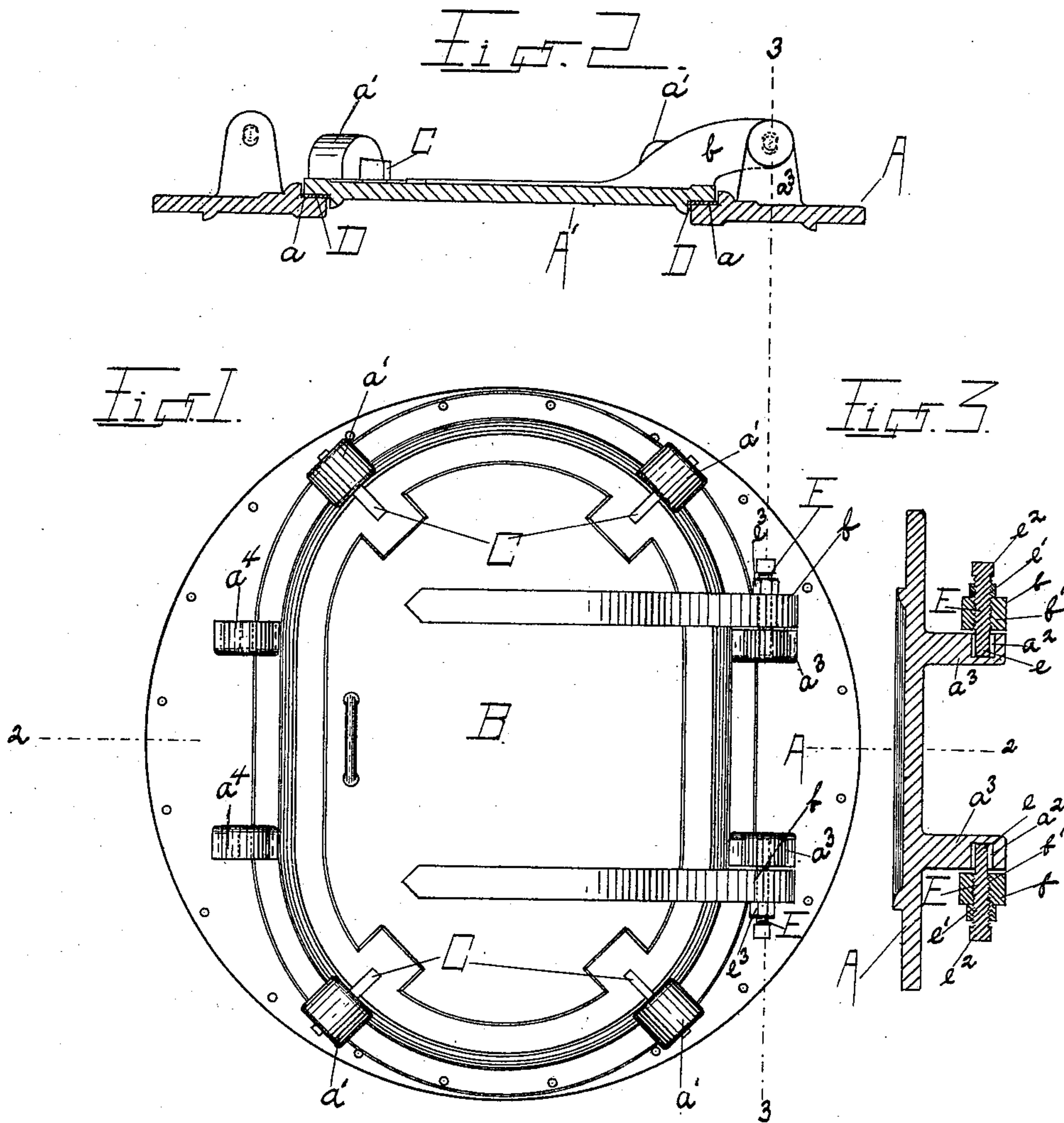
No. 615,261.

Patented Dec. 6, 1898.

H. E. DAVIS.
RETORT DOOR.

(Application filed Apr. 13, 1898.)

(No Model.)



WITNESSES:

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HILANCE E. DAVIS, OF WARREN, PENNSYLVANIA, ASSIGNOR TO THE
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RETORT-DOOR.

SPECIFICATION forming part of Letters Patent No. 615,261, dated December 6, 1898.

Application filed April 13, 1898. Serial No. 677,480. (No model.)

To all whom it may concern:

Be it known that I, HILANCE E. DAVIS, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Retorts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to retorts; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

More particularly my invention relates to the arrangement of the door mechanism and is peculiarly adapted to that class of retorts which are charged through an open door, the door being closed and sealed during the operation of the retort.

The object of the invention is to provide an easily-operated door which will accurately adjust itself to position under the varying conditions due to irregularity in the quantity or quality of the packing used in sealing the door.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 is a front view of the frame and door of the retort, the body of the retort not being shown. Fig. 2 is a section on the line 2 2 in Figs. 1 and 3. Fig. 3 is a section on the line 3 3 in Figs. 1 and 2.

A marks the front of the frame of the retort; A', the door-opening therein; a, the door-seat at the edge of the opening; B, the door; a', wedge-lugs on the frame adjacent to the door-opening; C, tightening-wedges by which the door is pressed down upon its seat, and D the packing on the door-seat, usually prepared clay, which under pressure seals the door.

Hinge-lugs b are placed on the door. These lugs have the screw-threaded holes b', into and through which are screwed the hinge-pins E. These pins have unthreaded portions e at their ends, threaded portions e', and heads e². The threaded portions extend, preferably, just through the lugs b, and the unthreaded portions enter the sockets a² in lugs a³ on the frame. The ends of the pins

are adjusted by the screws to contact the bottoms of the sockets, and the pins are secured in this position by set-nuts e³. The sockets a² are elongated—that is, are oblong in cross-section—the longer diameters extending at right angles to the frame. The shorter diameters are approximately that of the unthreaded portion of the pins, so that the pins will enter and move freely therein, but have very little play in the direction of the shorter diameters. This prevents a lateral movement of the pins, and consequently sagging of the door when closed, and insures an accurate adjustment and positioning of the door upon its seat. At the same time the elongation of the sockets in the direction indicated allows a free movement of the door at the hinge toward and from the seat, so that there is no interference with the action of the wedges. This arrangement of adjustable hinge-pins allows a slight adjustment of the door in a vertical direction either for the purpose of initial adjustment or to take up any wear that may occur in the use of the retort. By adjusting the pins so as to make them contact with the bottoms of the sockets a² an excessive sagging of the door when open is prevented, because such sagging would increase the distance between the bottoms of the sockets at the points contacted by the pins; but while this adjustment prevents to some extent an outward movement of one of the pins without a corresponding movement of the other hinge it does not prevent their free movement in and out together, so that they do not impede the proper seating of the door by means of the wedges.

The door is preferably symmetrically shaped, so that it may be turned over and hinged at the opposite side of the door-opening and fit the same seat. For this purpose I provide the second set of hinge-lugs a⁴, which are similar in shape and function to the lugs a³.

What I claim as new is—

1. In a retort, the combination with the frame having a door-opening and a door-seat arranged for the application of a sealing material, said frame being provided with a hinge-lug; of a door having a hinge-lug thereon so arranged relatively to the lug on the frame as

to form a hinge therewith, one of said lugs being provided with a socket elongated in a direction toward or from the face of the door-seat with the door in a closed position, and
5 the other of said lugs being provided with a pin entering said socket and means independent of the hinge for pressing said door to its seat.

2. In a retort, the combination with the
10 frame having a door-opening and a door-seat arranged for the application of a sealing material, said frame being provided with a pair of hinge-lugs arranged in such relation to each other as to contain the same hinge axis; of a
15 door having a pair of hinge-lugs so arranged relatively to the lugs on a frame as to form a hinge therewith, one of said lugs being provided with a socket elongated in a direction toward or from the face of the door-seat with
20 the door in a closed position and its companion lug being provided with a screw-threaded hole; and a hinge-pin screwed through said hole into said socket and being adjusted to a position with its end in contact with the bot-
25 tom of the socket whereby the door may be

adjusted in the direction of the axis of the hinge by adjustment of said pin.

3. In a retort, the combination with the frame having a door-opening and a door-seat arranged for the application of a sealing ma- 30
terial, said frame being provided with a pair of hinge-lugs arranged in such relation to each other as to contain the same hinge axis; of a door having a pair of hinge-lugs so ar- 35
ranged relatively to the lugs on the frame as to form a hinge therewith, one pair of said lugs being provided with sockets, elongated in the direction toward or from the face of the door-seat with the door in a closed posi- 40
tion and the other pair of said lugs being provided with screw-threaded holes; and hinge-pins screwed through said holes and into said sockets with their ends adjusted to contact the bottom of said sockets.

In testimony whereof I affix my signature 45
in presence of two witnesses.

HILANCE E. DAVIS.

Witnesses:

A. H. McKELVY,
E. H. BESH LIN.