(No Model.) 2 Sheets—Sheet 1.

J. RUSCOE.

GAS RETORT LID.

No. 439,040. Patented Oct. 21, 1890.

Fig. 1.

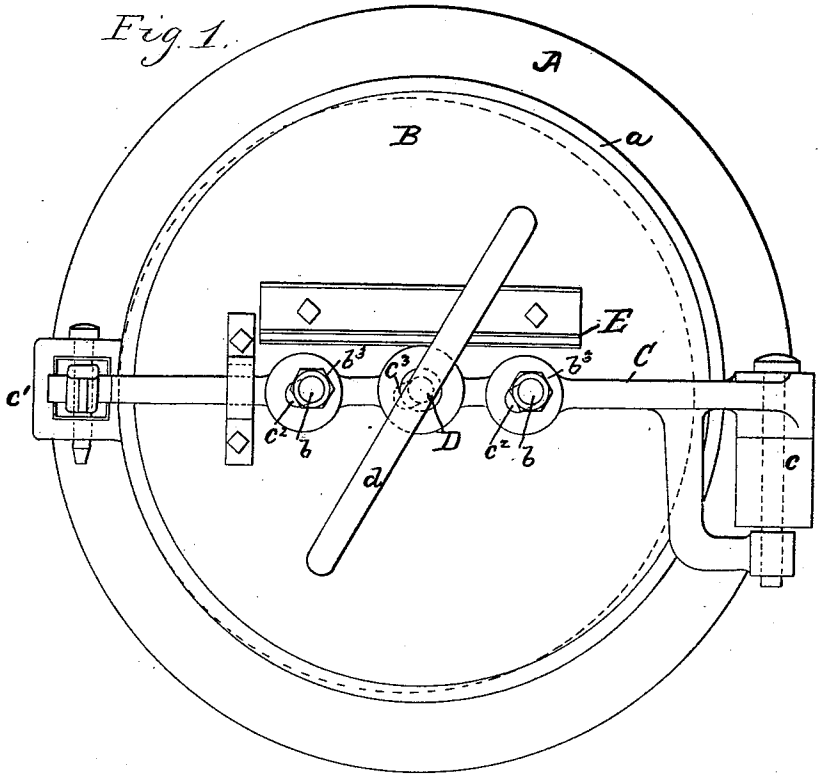
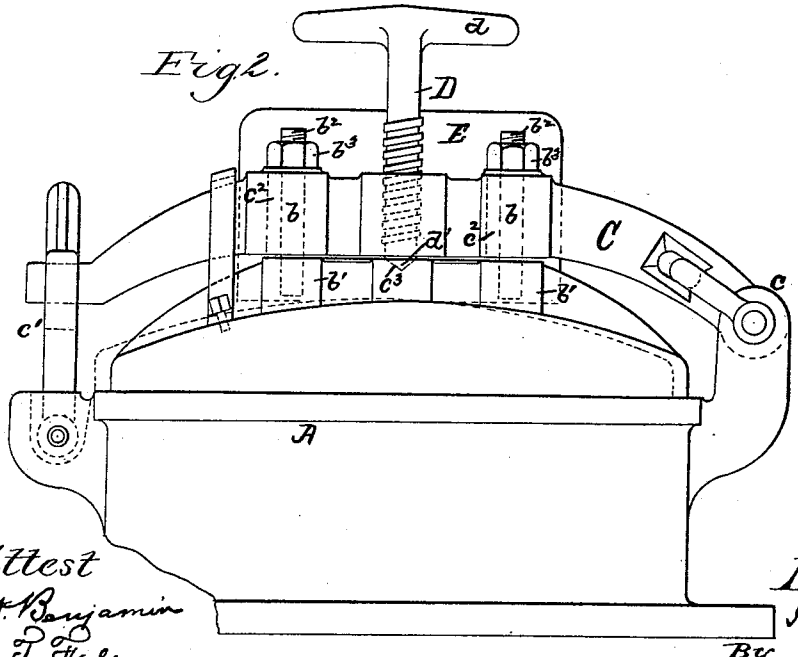


Fig 2.



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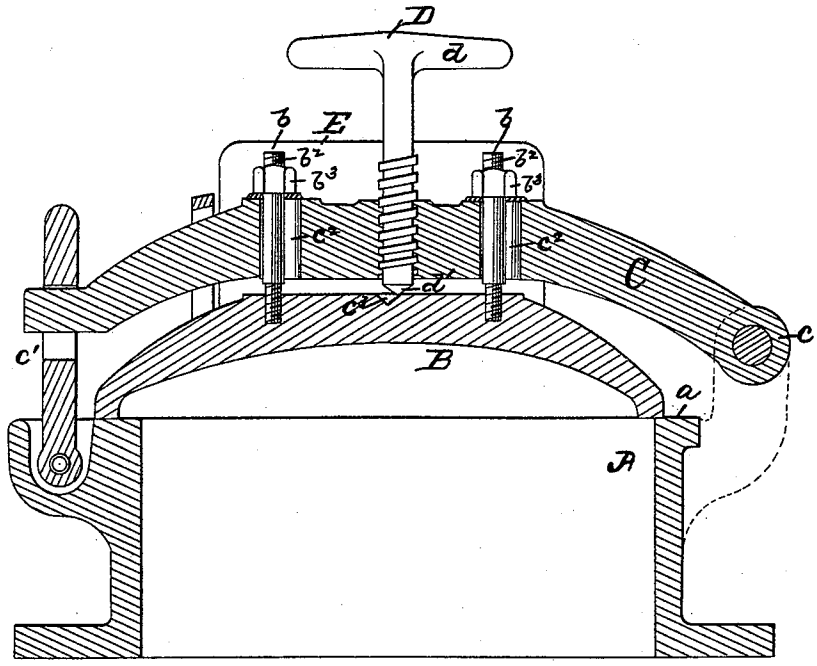
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Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN RUSCOE, OF HYDE, ENGLAND, ASSIGNOR OF ONE-HALF TO JAMES R. FLOYD & SONS, OF NEW YORK, N. Y.

GAS-RETORT LID.

SPECIFICATION forming part of Letters Patent No. 439,040, dated October 21, 1890.

Application filed March 26, 1890. Serial No. 345,331. (No model.) Patented in England April 25, 1887, No. 5,993.

To all whom it may concern:

Be it known that I, JOHN RUSCOE, of Hyde, in the county of Chester, Kingdom of Great Britain, a subject of the Queen of Great Britain, have invented certain new and useful Improvements in Gas-Retort Lids, (for which I have obtained a patent in England April 25, 1887, No. 5,993,) of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of gas-retorts the lids of which are self-sealing when closed upon the retort-mouth, and in which the lids have a sliding movement across the retort-mouth when in the act of being closed.

My invention consists in the combination, with the retort mouth-piece, of a cross-bar hinged thereto at one end and adapted to engage an eye on the mouth-piece at the opposite end and provided with slotted apertures the longitudinal axes of which are parallel to each other and are inclined or diagonal to the line of the vertical diameter of the mouth-piece, a lid provided with fixed studs on its exterior face and adapted to respectively enter and have play laterally in said slotted apertures in said bar, whereby said lid is mounted on said bar so as to be capable of a sliding movement diagonally across the mouth-piece when in the act of being closed, together with a conical recess on the exterior face of the lid and a conical-ended screw working in said cross-bar and adapted to impinge upon the rim of said recess when said lid-studs are at the lower ends of said slotted apertures in the cross-bar and to be seated centrally within said recess when said studs are at the upper ends of said apertures, whereby the lid, when in the act of closing, is given an upward diagonal sliding movement at its rim over the rim of the mouth-piece, as hereinafter set forth.

In the drawings, Figure 1 is a front elevation of a retort mouth-piece and a lid containing the features of my invention. Fig. 2 is a plan of the same looking from the under side of the mouth-piece; and Fig. 3 is a horizontal section of the same looking toward the upper part of the mouth-piece and taken on line x x, Fig. 1.

A is the retort mouth-piece, having the external plane face a surrounding the mouth, and to and across which the lid B works.

C is the cross-bar which supports the lid, hinged, as at c, to the mouth-piece at one end and adapted to engage at its opposite end a catch or eye c' in the mouth-piece, and preferably hinged thereon, as shown. At b b are shown studs projecting forwardly from the exterior face of the lid and preferably fixed in bosses b' b', formed on the lid, as shown. The cross-bar C is provided with slotted apertures c^2 c^2, adapted to permit said studs b b to pass through and play loosely in them and to project beyond the forward face of the bar, where they are given threaded ends b^2 and are held to the bar adjustably by nuts b^3, working to the exterior or forward face of the bar, as shown.

In a threaded aperture in the bar C a screw D has bearing, its inner end being directed toward and adapted to impinge upon the forward face of the lid B. This screw is preferably provided with an operating-handle d beyond the forward side of the bar, and its opposite or bearing end is furnished with the conical bearing-point d'.

Upon the forward or exterior face of the lid, and preferably in a boss formed thereon for the purpose between the lugs or studs b b, is formed the conical countersunk recess c^3, adapted to receive the bearing-point d' of screw D. This recess c^3 is arranged on the lid-face relatively to the studs b and their slots c^2 in the cross-bar and the screw D, so that when the studs b are at one end of said slots c^2 the point d' of the screw will impinge upon the lid at a point just within the rim of the recess c^3, and so that when said studs are at the opposite end of said slots the point d' of the screw will be central over or in said recess c^3. The slots c^2 are formed in the bar C, with their longitudinal axes parallel to each other and inclined or diagonal to the vertical diameter of the mouth-piece, as shown in Fig.

1, as by this means the lid, when in the act of closing, is given a sliding movement diagonally across the mouth-piece from below upward, which direction of movement I have found most desirable in effecting by this means a tight joint of the lid-rim to the mouth-piece.

I am aware that retort-lids have been heretofore adapted to have a sliding movement across or over the mouth-piece of the retort when in the act of closing, and I am also aware that a conical-ended screw working in a conical recess in the lid has been heretofore employed to give the lid a sliding movement across the mouth-piece, and I therefore make no claim herein to these devices, broadly; but I limit my claim hereunder to the combination, with a retort mouth-piece and a lid having a sliding movement over said mouth-piece by means of a conical screw working in a conical recess in the lid, as set forth, of a cross-bar hinged at one end to the mouth-piece and adapted to engage at its opposite end an eye or catch on the mouth-piece and provided with slotted apertures the longitudinal axes of which are inclined or diagonal to the vertical diameter of the mouth-piece, and studs fixed on said lid and having play laterally in said slotted apertures in the cross-bar, whereby the said sliding movement of the lid in closing is in the direction diagonally across the mouth-piece from below upwardly, as described.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the mouth-piece of a gas-retort, of a cross-bar hinged thereto at one end and adapted to engage an eye or catch on the mouth-piece at its opposite end and provided with slotted apertures the longitudinal axes of which are parallel to each other and are inclined or diagonal to the line of the vertical diameter of the mouth-piece, a lid provided with fixed studs on its exterior face and adapted to respectively enter and have play laterally in said slotted apertures, and a conical-pointed screw working in said cross-bar between said slotted apertures and adapted to impinge upon the rim of a conical recess provided on the exterior face of the lid when said lid-studs are at the lower ends of said slotted apertures and to be seated centrally within said recess when said studs are at the upper ends of said apertures, as and for the purpose set forth

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