

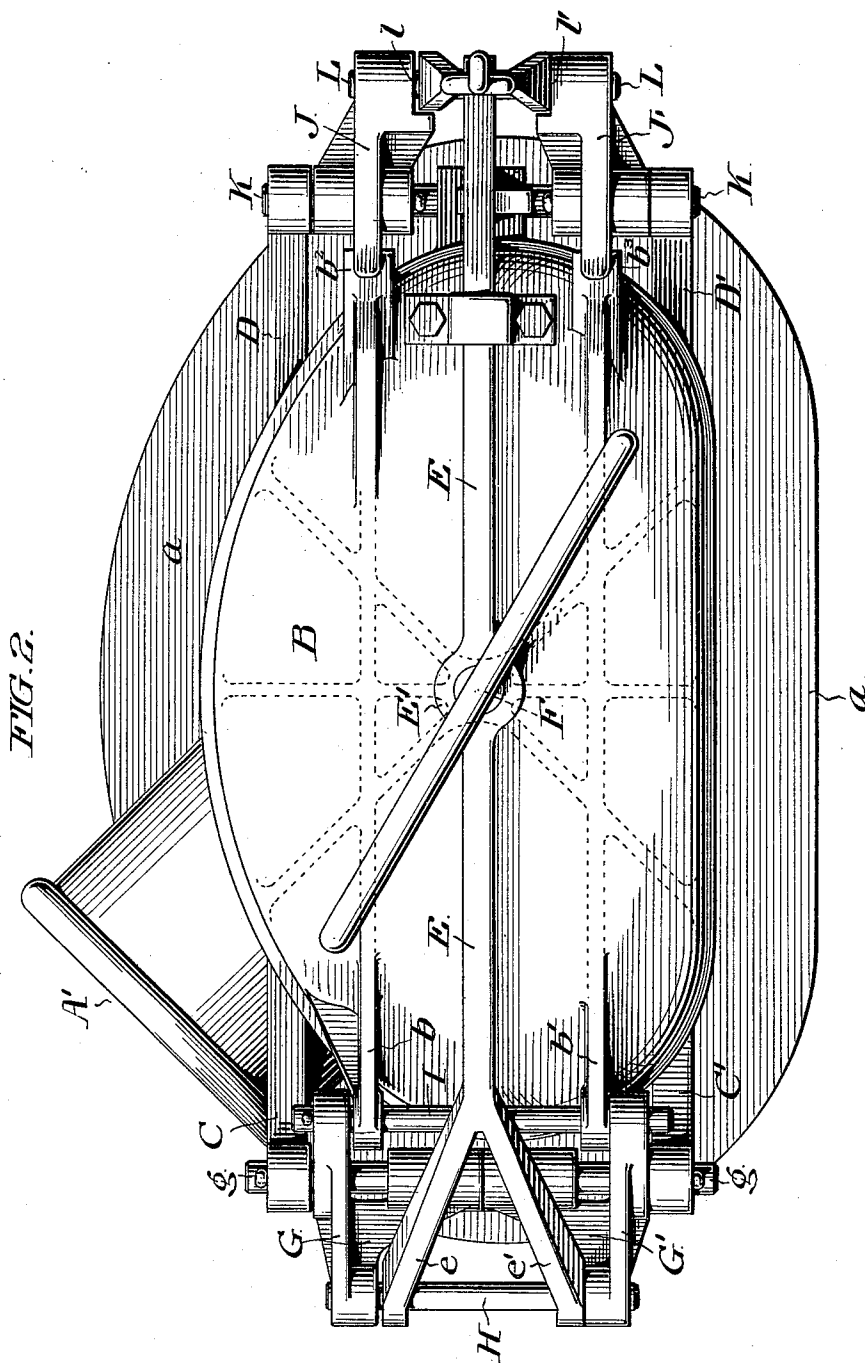
(No Model.)

4 Sheets—Sheet 2.

F. V. MATTON.
PRESSURE DEVICE FOR RETORT LIDS.

No. 507,917.

Patented Oct. 31, 1893.



WITNESSES
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(No Model.)

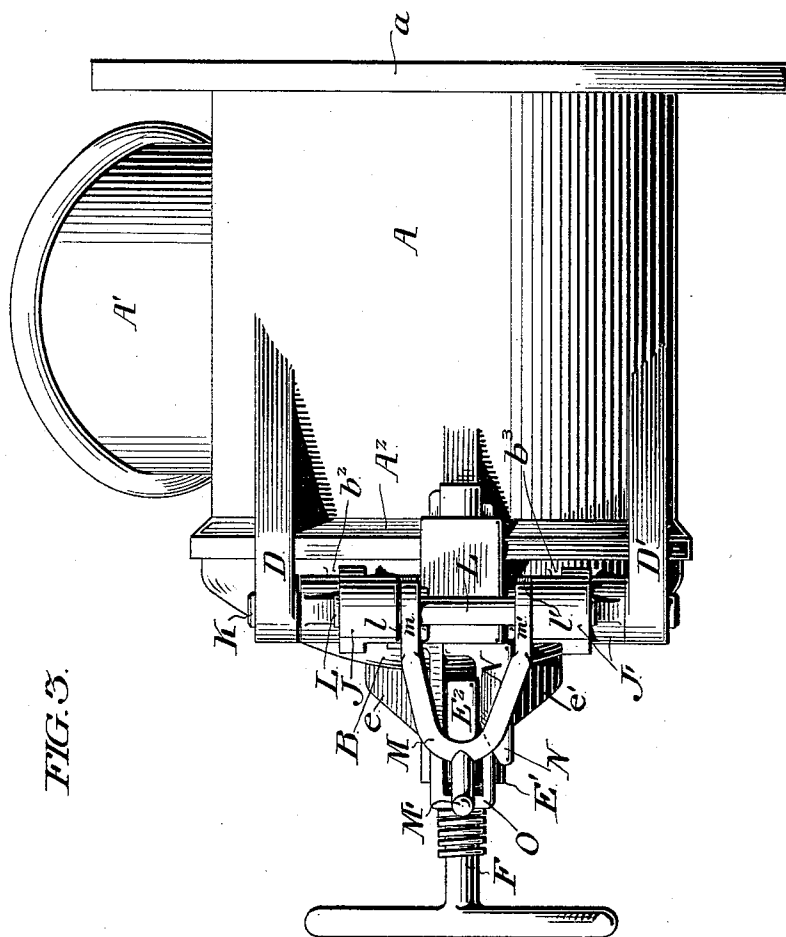
4 Sheets—Sheet 3.

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PRESSURE DEVICE FOR RETORT LIDS.

No. 507,917.

Patented Oct. 31, 1893.



WITNESSES

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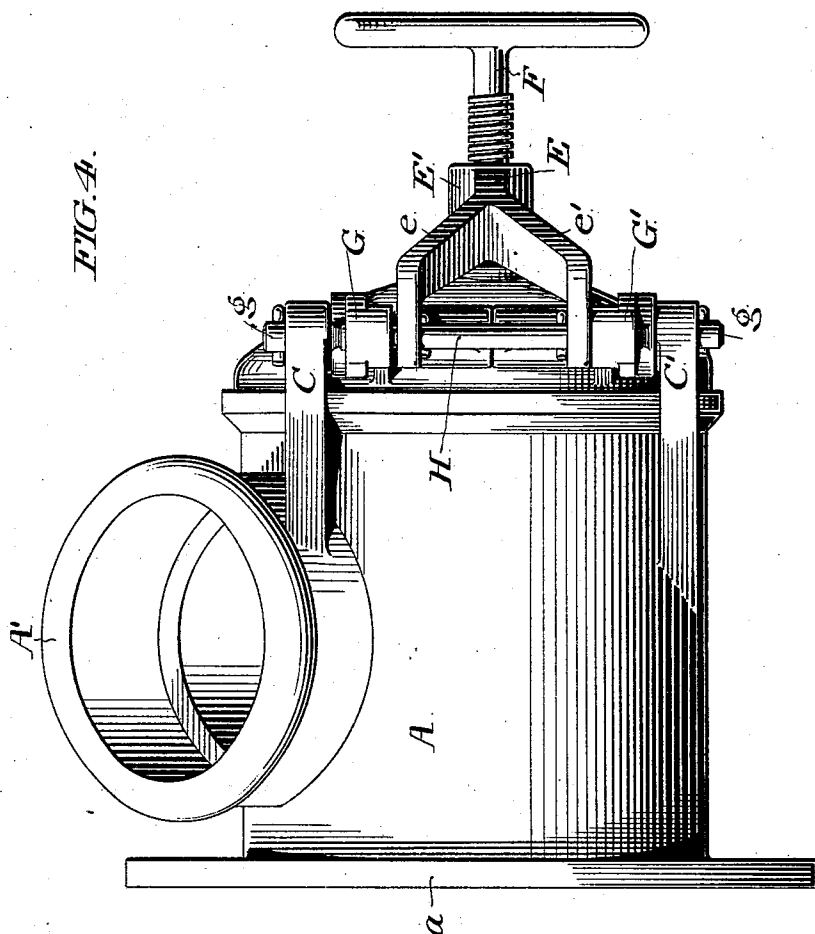
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4 Sheets—Sheet 4.

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PRESSURE DEVICE FOR RETORT LIDS.

No. 507,917.

Patented Oct. 31, 1893.



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UNITED STATES PATENT OFFICE.

FREDERICK V. MATTON, OF CAMDEN, NEW JERSEY, ASSIGNOR TO THE
CAMDEN IRON WORKS, OF SAME PLACE.

PRESSURE DEVICE FOR RETORT-LIDS.

SPECIFICATION forming part of Letters Patent No. 507,917, dated October 31, 1893.

Application filed January 4, 1893. Serial No. 457,294. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK V. MATTON, a subject of the King of Sweden, and a resident of Camden, in the State of New Jersey, have invented certain new and useful Improvements in Pressure Devices for Retort-Lids, whereof the following is a specification, reference being had to the accompanying drawings.

In said drawings Figure 1 represents a top or plan view of the neck of a retort and its lid with my improvements applied thereto. Fig. 2 is a front end elevation thereof; and Figs. 3 and 4 are opposite side elevations thereof.

The primary object of my invention is to provide a retort lid with means whereby it may be effectively sealed, or caused to form a close joint with the mouth of the retort, the organization of the parts being such that pressure from a single screw or equivalent device is utilized in the best manner to produce this result.

In the drawings A represents the neck of the retort, which is attached to the main body thereof (not shown) by means of the flange *a*. The outlet for the products of distillation is indicated at *A'*. The lid, B, conforms in general outline to the approximately oval mouth of the neck and fits truly against the peripheral flange, *A'*, thereof. Upon the opposite sides of the neck, A, pairs of brackets, C C', and D D', respectively, are mounted, the ends of said brackets being both forwardly and outwardly prolonged, so as to project in front of the plane of the mouth at points a short distance beyond the opposite sides thereof. A vertical pin, *g*, extends across between the brackets C C', and upon said pin at points adjacent to the inner faces of said brackets, are pivotally mounted a pair of short links, G G', each of which is in effect a lever with unequal arms. The lid, B, is pivotally secured to the inwardly extending short arms of said links by means of a pin, I, which passes freely through their inner ends and finds bearings in the projecting ribs, *b b'*, formed on the outside surface of the lid. A cotter-bar, E, bifurcated at one end, as indicated at *e, e'*, extends horizontally across the lid and neck, the said bifurcated arms, *e e'*, being pivotally attached to the outwardly extending long arms of the links G and G', by means of the

pin H. Thus the lid while directly supported upon the pin I, is in fact hinged, as a whole, upon the pin *g*. Near the middle of the cotter-bar, E, is a boss, E', internally threaded to engage with a hand screw, F, whose inner end rests upon a bearing surface, *f*, at the central portion of the lid, B.

A pivot, K, extends across between the brackets, D D', and upon said pivots are mounted a pair of levers J J', whose inwardly projecting shorter arms, *j*, bear against the projecting ribs, *b² b³*, formed upon the outer face of the lid, B, at the extremity opposite to the hinge. Mounted at the outer ends of the longer arms of said levers, J J', is the pin, L, upon which are pivoted the bifurcated arms, *m m'*, of a swinging latch, M. The inner portions of said bifurcated arms, *m m'*, are squared to fit loosely within rectangular recesses, *l l'*, formed in the proximate sides of the lever arms, J J', at the outer ends thereof. The bifurcation of the latch, M, extends through a sufficient portion of the whole length thereof to enable it to receive the free end, E², of the cotter-bar, E, and said latch terminates in an outwardly projecting curved finger, M'. The lid B is provided with a closed guide piece, O, through which the cotter-bar, E, passes and by which its outward movement with relation to the lid is limited. A guide finger, N, having an inclined upper surface, is rigidly mounted upon the neck, A, in such relation to the cotter-bar, E, as that when the latter is thrown inward in the act of closing the lid, B, the under surface of the bar shall engage with the incline and ride up thereon, thus bringing the free end, E², of the bar to the proper position for engaging the latch, M.

The operation of the device is as follows: Assuming that the door is closed, and the other parts are in the position shown in the figures, the screw, F, is actuated so as to thrust inward against the primary bearing surface, *f*, upon the lid. The correlative outward thrust of said screw upon the cotter-bar itself is transmitted through the levers G G', on the one side, and the links J J', on the other side, to the secondary bearing points which, in the present instance are four, in number, indicated at *b, b', b² and b³*. Thus the outward pressure or thrust of the screw

which otherwise would be expended, without useful result, directly upon the supports or bearings of the cotter-bar itself is utilized and by transmission to the lid at points properly situated for distribution, causes a close contact between the lid and the mouth throughout the whole of their respective peripheries. When the door is to be opened the screw is first thrown outward so as to release the strain upon the cotter-bar, which is then permitted to approach the lid sufficiently for the disengagement of the latch, M, from the free end, E², of the bar. Said latch having been disengaged by throwing its outer end away from the end of the cotter-bar, the lid and cotter-bar can be swung as a whole upon the pin g.

Having thus described my invention in the preferred form, I wish it to be understood that I do not limit myself to the precise organization shown, since the distinguishing feature of my invention lies in the fact that the outward thrust of what may be termed the primary sealing device, which in this instance is a screw, is transmitted to and made operative for effecting the action of a secondary sealing device so arranged as to bear upon the lid at a different point from the primary one.

I claim—

1. The combination with the retort-neck, the lid, and the cotter-bar; of a primary pressure device supported by said cotter-bar and adapted to bear directly against said lid; a support adjacent to the hinged side of the lid; a link pivotally mounted upon said support and connected at its respective ends to the cotter-bar and to the lid, whereby a secondary pressure derived from the outward thrust upon the cotter-bar is applied to the lid, substantially as set forth.

2. The combination with the retort-neck, the lid hinged at one of its sides, and the cotter-bar; of a primary pressure device supported by said cotter-bar and adapted to bear directly against said lid; a support adjacent to the non-hinged side of the lid; a lever pivotally mounted upon said support and bearing at one end against the outer face of the lid; and a latch connecting the other end of said lever with the free end of the cotter-bar,

whereby a secondary pressure derived from the outward thrust upon the cotter-bar is applied to the non-hinged side of the lid, substantially as set forth.

3. The combination with the retort-neck, the lid and the cotter-bar; of a primary pressure device supported by said cotter-bar and adapted to bear directly against said lid; a pivotally mounted link adjacent to the hinged side of the lid; pivotal connections whereby said link is attached at one end to the cotter-bar and at the other end to the lid; a lever mounted adjacent to the non-hinged side of the lid and having one end adapted to bear against said side thereof; and a latch connecting the other end of said lever with the free end of the cotter-bar, whereby a secondary pressure derived from the outward thrust upon the cotter-bar is applied to both the hinged and the non-hinged sides of the lid, substantially as set forth.

4. The combination with the retort-neck, and the lid; of a bifurcated cotter-bar; a screw mounted therein and adapted to apply primary pressure directly upon the lid; a pair of pivotally mounted links adjacent to the hinged side of the lid; and pivotal connections whereby said links are respectively attached at one end to the bifurcations of the cotter-bar and at the other end to the lid, substantially as set forth.

5. The combination with the retort-neck, and the lid; of a bifurcated cotter-bar; a screw mounted therein and adapted to apply a primary pressure directly upon the lid; a pair of pivotally mounted links adjacent to the hinged side of the lid; pivotal connections whereby said links are respectively attached at one end to the bifurcations of the cotter-bar and at the other end to the lid; a pair of levers adjacent to the non-hinged side of the lid, each of which is adapted to bear at one end against said side of the lid; and a bifurcated latch connecting the other ends of said levers respectively with the free end of the cotter-bar, substantially as set forth.

FRED. V. MATTON.

Witnesses:

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WM. J. HAMLIN.