

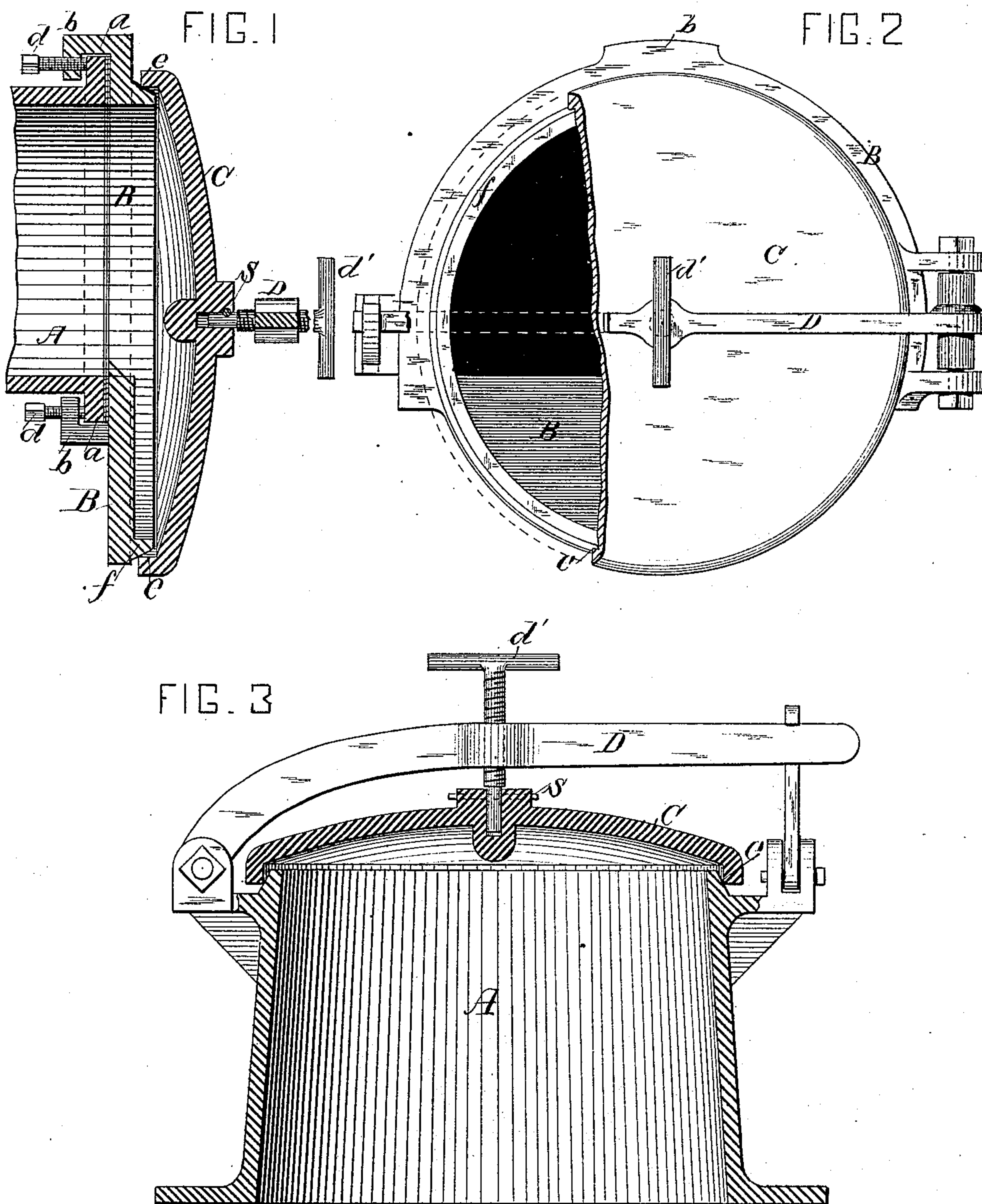
(No Model.)

J. BALMORE.

LID OR COVER FOR CLOSING GAS RETORTS.

No. 248,631.

Patented Oct. 25, 1881.



WITNESSES:

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LID OR COVER FOR CLOSING GAS-RETORTS.

SPECIFICATION forming part of Letters Patent No. 248,631, dated October 25, 1881.

Application filed August 24, 1881. (No model.)

To all whom it may concern :

Be it known that I, JOHN BALMORE, a citizen of the United States of America, residing at Harlem, New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Lids or Covers for Closing Gas-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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to lids or covers for closing gas-retorts and other vessels where a tight joint is required at the juncture of the lid and vessel.

The object of the invention is to seat the lid squarely and evenly upon the face of the mouth-piece or beveled projecting lip thereof, and thereby produce a perfectly-tight joint and secure greater efficiency and ease in operation.

Lids of this class having a rigid right-angled shearing-rim bearing upon a lip having its outer surface beveled, as in the Patent No. 180,104, granted to me July 25, 1876, have been hinged by lugs on the lid directly to their supporting-frames or mouth-pieces. This structure, though working well for a time, becomes defective in use, and by reason of wear on the joints the hinged side becomes difficult to move, and by reason of warping and wear of the parts the hinged side of the lid, where it bears on the lip of the mouth-piece, will not make a tight joint and will leak, thus giving rise to loss and a nuisance by escape of gas. I remedy this by mounting the lid by a swivel-joint on the end of the screw passing through the cotter-bar, and hinging the latter only to the supporting-frame, or directly to the mouth-piece. The lip having its outer surface beveled and forming the seat for the angular shearing-rim of the cover may be formed directly on the mouth-piece or upon a frame applied thereto, and the cotter-bar carrying the cover will accordingly be hinged to the mouth-piece or the frame.

The accompanying drawings illustrate my invention, in which Figure 1 is a vertical section. Fig. 2 is a front view with the lid par-

tially in section. Fig. 3 is a horizontal section, showing the cotter-bar and lid applied directly to the mouth-piece of the retort or other vessel.

The supporting-frame B is preferably made circular at its outer face, and is otherwise made to conform in shape to the mouth-piece of the retort. It is provided with embracing lugs or ears *b*, which slide over the flange *a* of the mouth-piece A, and are secured thereto by set-screws *d*. This construction permits the ready attachment or removal of the frame to or from the mouth-piece. The lip *f*, projecting outward from the face of the frame or mouth-piece, is beveled at a small angle on its outer surface from its base to its outer edge to form a bearing for the shearing-rim of the cover.

The cover C is provided with an inwardly-projecting rim, *e*, having an inner, sharp, angular edge conforming in contour to the lip *f*, so that when the cover is seated the shearing-edge will form, with the lip, a perfectly tight joint. The accurate seating of the cover is provided for by its swivel-joint attachment to the screw passing through the hinged cotter-bar. The cotter-bar D is hinged to the frame B, or directly to the mouth-piece A, and the cover is supported thereon by the screw *d'*, to which it is attached by a swivel-joint, S. The cover is provided near its center with a hub or boss, T, cast with it or otherwise secured thereto, and projecting upon both sides of the cover. A suitable socket, *t*, for receiving the end of the screw-shank, is sunk in the boss. The screw-thread is cut away from its shank at the end entering the socket, and the shank is held in the socket by a pin, *p*, passing through the boss and a groove in the shank. This construction permits the cover to turn freely on the screw-shank, and also permits a slight lateral play, by which it may be seated with perfect contact around its entire bearing-rim, and thus a perfectly tight joint secured without luting.

By forming the beveled bearing-surface of the lip upon its outer surface it is preserved from injury by the tools used in charging and discharging the retort. It is also kept clear from tar and cinder, which would be deposited upon its inner surface and interfere with the perfect contact of the rim of the lid with its metallic seat. The accurate seating of the lid

is secured by my present improvement, and results in a more perfect joint, greater durability, and greater ease in operation.

Having described my invention, what I claim is—

1. A retort lid or cover having an angular shearing-rim and connected by a swivel-joint to the screw passing through the hinged cotter-bar, in combination with its seat, consisting of a projecting lip beveled upon its outer surface for forming a tight joint, as described.
2. The supporting-frame provided with em-

bracing-lugs and having a lip beveled upon its outer surface, in combination with the hinged cotter-bar, the screw, and the cover connected thereto by a swivel-joint, substantially as described.

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

JOHN BALMORE.

Witnesses:

JOHN M. LANG,
S. VAN NOSTRAND.