N. JAMIN.

Process of Forming a Tight Joint Between the Mouth-Piece and Lid of Gas Retorts.

No. 169,001. Patented Oct. 19, 1875.

Fig 1.

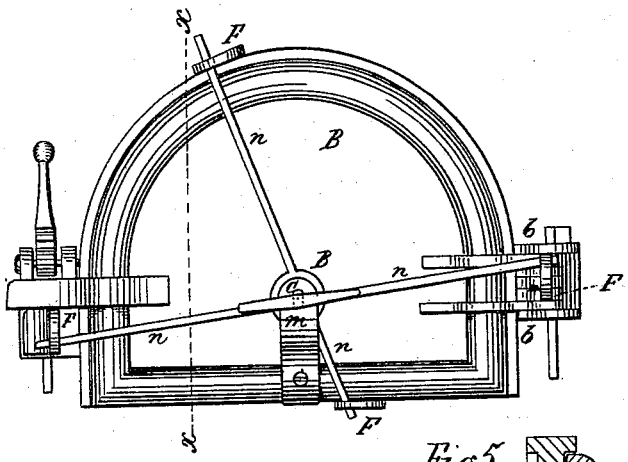


Fig. 2.

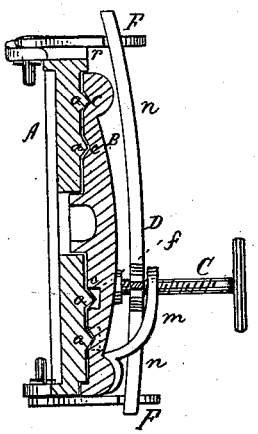


Fig 5.

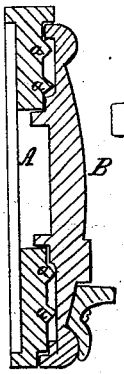


Fig. 3.

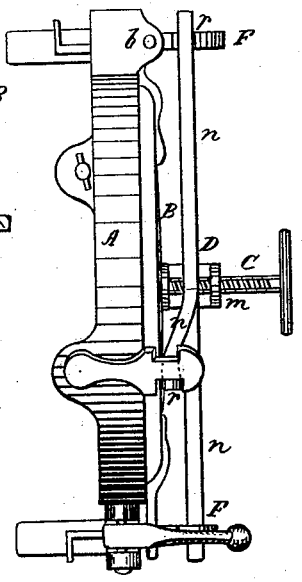


Fig 6.

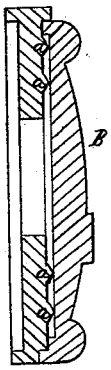
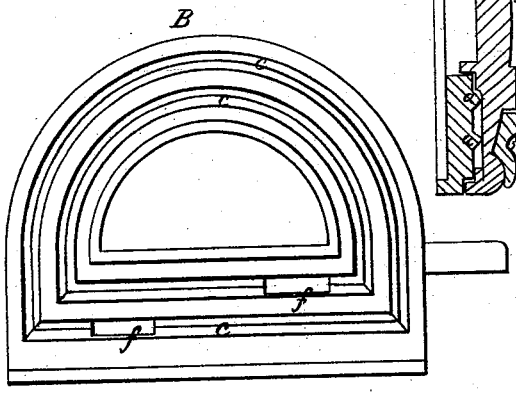


Fig 4.



Witnesses.

W M Edwards

A Nicollet

Inventor

Nicolaus Jamin

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UNITED STATES PATENT OFFICE.

NICOLAUS JAMIN, OF NEW YORK, N. Y.

IMPROVEMENT IN PROCESSES OF FORMING A TIGHT JOINT BETWEEN THE MOUTH-PIECE AND LID OF GAS-RETORTS.

Specification forming part of Letters Patent No. **169,001**, dated October 19, 1875; application filed October 30, 1874.

CASE B.

To all whom it may concern:

Be it known that I, NICOLAUS JAMIN, of the city, county, and State of New York, have invented certain Improvements in Lids for Gas-Retorts, of which the following is a specification:

The object of this invention is to provide efficient means of forming a tight joint between the lid and the mouth of a gas-retort; and, to this end, the invention consists in a novel process of luting the joint between the lid and the mouth of the retort by means of lead liquefied by the heat generated during the use of the retort, and, consequently, expanded in suitable grooves or receptacles formed around and between the mouth and retort-lid for the reception of the lead.

Figure 1 is a front view of a gas-retort with the lid attached in a closed position, according to my invention. Fig. 2 is a vertical section of the same, taken in the vertical plane indicated by the line *x x* of Fig. 1, and at right angles to the latter. Fig. 3 is a plan or top view of the same; and Fig. 4 an inside face view of the lid detached from its place. Figs. 5 and 6 are sectional views, showing certain modifications.

A is the mouth-piece of the retort, made of iron, and attached to the retort-body in the ordinary, or in any suitable way. In the flat outer or front face of this mouth-piece are provided one, two, or more angular ribs, *a*, arranged concentric with the mouth or opening of the retort. B is the lid, which is hinged at one side to the mouth-piece A, as shown at *b*, and the flat inner face of which is formed with one, two, or more angular grooves, *c*, the same corresponding in number, shape, and size, and position with the angular ribs *a* on the face of the mouth-pieces. These grooves are deepened or recessed at intervals, as represented at *f* in Fig. 4, and in dotted outline in Fig. 2.

When the lid is brought to its place preliminary to the use of the retort these recesses *f* are filled with pieces or ingots of lead or other soft metal, and this soft metal, being subsequently melted by the heat produced during the use of the retort, runs into and fills all the minute crevices in the joint formed between the inner face of the lid B and the corresponding face of the mouth-piece A, thereby luting or sealing the said joint against the escape and consequent waste of the gas generated within the retort aforesaid.

Fixed upon the lid B is an arm or bracket, *m*, through which passes a screw, C, the rounded or threadless inner end of this screw fitting into a socket in the outer surface of the lid, and its threaded portion working through a nut formed in the hub or center of a spider, D, which latter is constructed with radial arms *n* extending beyond the periphery of the lid. Upon the adjacent circumference of the mouth-piece A are pivoted catches or latches F, into the notches *r* of which the extremities of the aforesaid arms *n* are placed. This done, the screw C is turned to bring the spider outward, so that (its arms being held by the latches F) the lid is forced snugly inward against the face of the mouth-piece, with the angular ribs of the latter fitting into the angular grooves of the former.

The spider having a bearing at different points along the circumference of the coincident lid and mouth-piece forces the latter into snug contact with the former at all parts of such circumference when the lid is actuated through the said spider by the screw C, as just herein fully set forth. This arrangement of parts, therefore, brings the lid and mouth-piece into as close contact, and forms as tight a joint, as can be secured by purely mechanical means, while the thermal action of the retort itself when in use, by melting the leaden or other soft-metal ingots, supplements the said means to secure a joint practically impervious to the outward passage of gas from the retort when in active operation.

When desired, the inner surface of the lid B may be made as shown in Figs. 5 and 6, the ribs on the mouth-piece abutting

against said surface of the lid, the intermediate spaces being provided with the filling, as hereinbefore set forth.

What I claim as my invention is—

The improved process of providing a tight joint between the mouth of a gas-retort and the lid thereof, by means of lead liquefied by the heat generated during or by the normal use of the retort, and confined in grooves or receptacles provided between the mouth and lid aforesaid, substantially in the manner described.

NICOLAUS JAMIN.

Witnesses:

JAMES A. WHITNEY,

A. NICOLLET.