(No Model.)

J. R. FARNUM.

MOUTH PIECE AND LID FOR RETORTS.

No. 309,938. Patented Dec. 30, 1884.

Fig. 1.

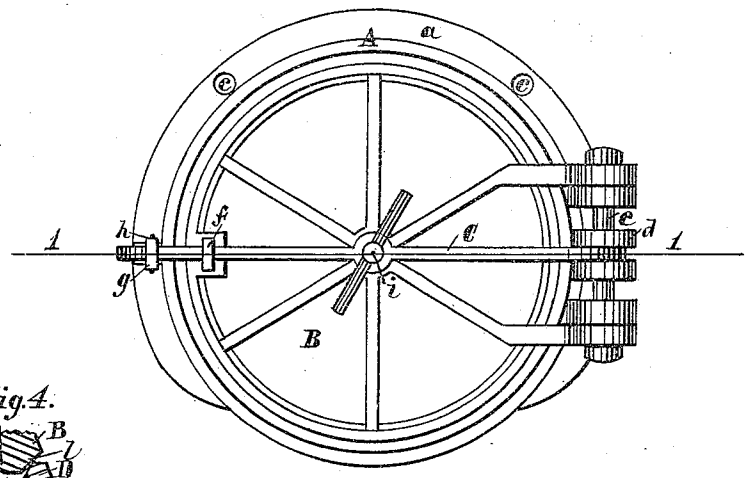


Fig. 4.

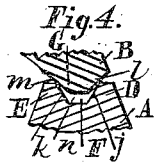


Fig. 2.

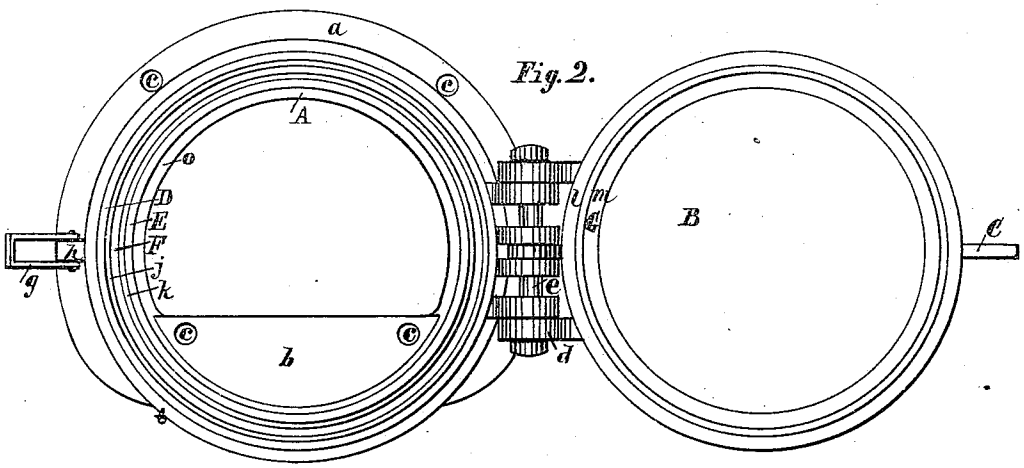
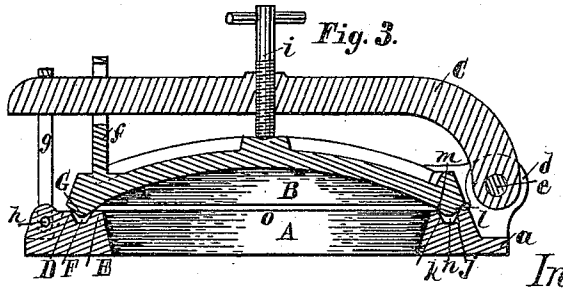


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN R. FARNUM, OF WALTHAM, MASSACHUSETTS.

MOUTH-PIECE AND LID FOR RETORTS.

SPECIFICATION forming part of Letters Patent No. 309,938, dated December 30, 1884.

Application filed October 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. FARNUM, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Mouth-Pieces and Lids for Gas-Retorts, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to render the joint between the lid and mouth-piece of a retort less liable to leak than the joints between the lids and mouth-pieces of retorts as heretofore constructed; and it consists in the construction of those parts of the mouth-piece and lid, which, meeting, form said joint, as hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a front view of a mouth-piece and lid of a gas-retort embodying my invention, the lid being closed. Fig. 2 is a front view of the same, the lid being opened. Fig. 3 is a section taken on the line 1 1 in Fig. 1. Fig. 4, drawn on a larger scale, is a section of parts immediately at the joint.

The mouth-piece A consists of a frame, preferably circular in general form for convenience in constructing the parts at the joint, having the external flange, *a*, and internal flange, *b*, corresponding in shape and position to the end of the retort, on which the mouth-piece may be fastened by means of bolts or screws inserted at the holes *c*. The lid B is of a form, circular in this case, corresponding to the shape of the mouth-piece A. The lid is hinged to the mouth-piece by a hinge at *d*, having the pivot-pin *e*, as shown. On this pin is also pivoted a lever, C, which, extending across the lid and being held loosely in a slot in a stand, *f*, on the lid, is in position, when the lid is closed, to have swung over its end a link, *g*, pivoted to the mouth-piece at *h*. After the lid is closed and the link *g* has been swung over the end of the lever, the screw *i*, which screws in the lever, may be turned so as to press against the lid at or near its center and force the lid closely against the mouth-piece.

The parts where the lid bears against the mouth-piece and which form the joint between the same I construct as follows: There are two ribs, D and E, extending around on the face of the mouth-piece, there being thus formed a groove, F, between them. There is a rib, G, extending around the lid, which enters part way into the groove F when the lid is closed. Each of the sides *j* and *k* of the ribs D and E, which face each other, being the sides of the groove F, is at an angle with the plane of the mouth-piece, and each of the sides *l* and *m* of the rib G is at an angle with the plane of the lid; but the said angle formed by the side of either of the ribs D and E is greater than said angle formed by the opposite side of the rib G. Therefore, the rib G bears against the opposite edges of the ribs D and E. The rib G, being also suitably proportioned with reference to the groove F, enters only part way into this groove, forming, when the lid is closed, a chamber, *n*. Thus a close joint may be secured either when the parts are new or after usage. The places of bearing are at the edges rather than throughout broad surfaces, therefore no dirt or other obstructions can remain thereon. There are two lines of bearing around the mouth-piece and lid rather than one only. The chamber *n* may receive dirt pushed from the bearing-edges in closing the lid. The edges or places of bearing are in such position that they are not likely to be injured by a bar or other instrument thrust into the retort. If the place of bearing of lid on the mouth-piece was at the inner part of the latter at the face, edge, or side *o* of the rib E, it would be worn by said bar or instrument, and thus the joint be so injured that wasteful leakage would result, as commonly occurs with retort mouth-pieces and lids heretofore used.

I claim as my invention—

1. The combination of a mouth-piece of a retort having two ribs thereon, so as to form a groove between the same, with a lid having a rib thereon to enter said groove, the ribs being formed so that the opposite edges only of the two ribs on the mouth-piece will bear against the sides of the rib on the lid, substantially as specified.

2. The combination of a mouth-piece of a retort having two ribs thereon, so as to form a groove between said ribs, with a lid having a rib thereon to enter said groove, said ribs being of such relative construction that when the lid is closed the opposite edges only of the ribs on the mouth-piece will bear against the rib on the lid, and the rib on the lid will not enter said groove to the bottom thereof, but leave a chamber therein, substantially as set forth.

JOHN R. FARNUM.

Witnesses:
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