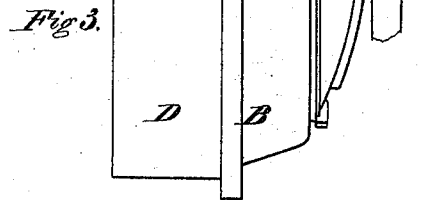
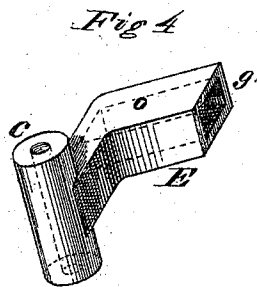
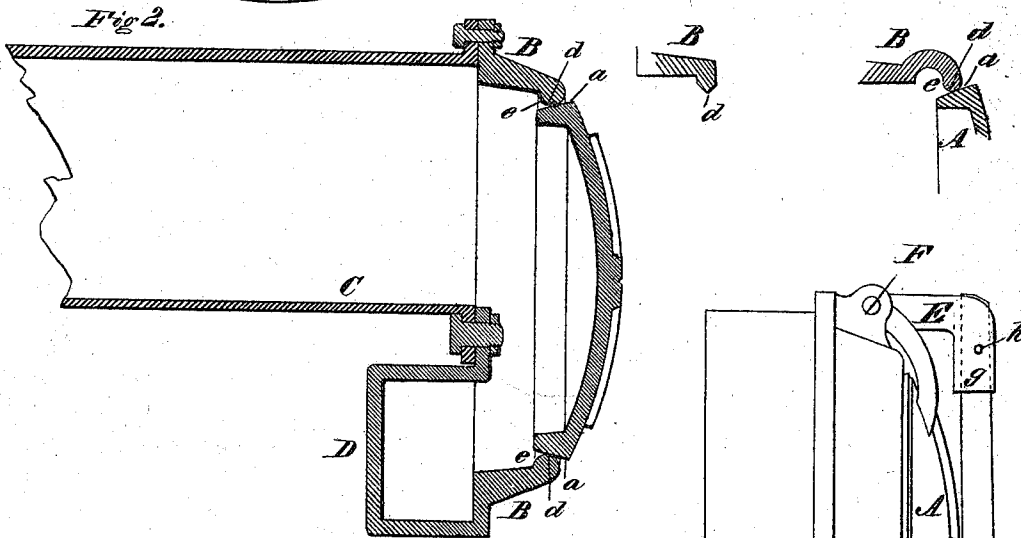
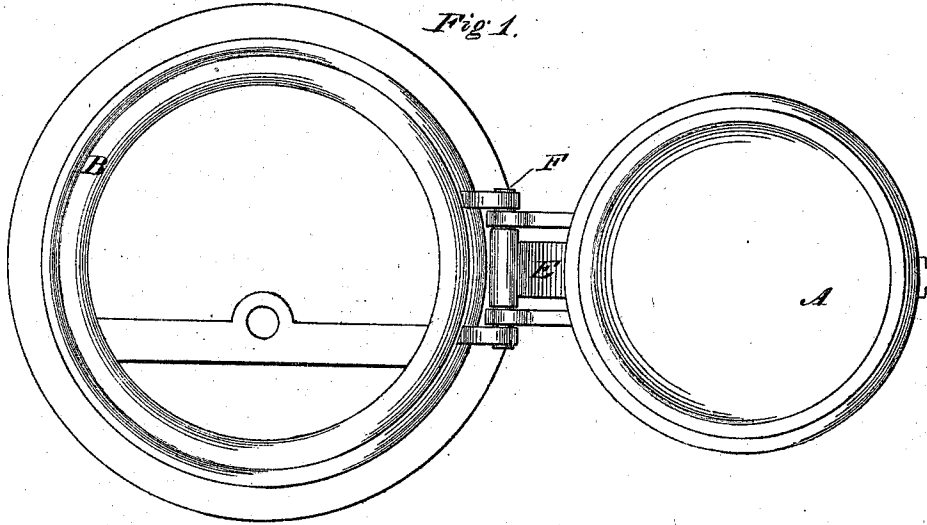


G. A. McILHENNEY.

Closing Gas-Retorts.

No. 142,253.

Patented August 26, 1873.



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UNITED STATES PATENT OFFICE.

GEORGE A. McILHENNEY, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN CLOSING GAS-RETORTS.

Specification forming part of Letters Patent No. **142,252**, dated August 26, 1873; application filed July 9, 1873.

To all whom it may concern:

Be it known that I, GEORGE A. McILHENNEY, of Washington, in the county of Washington and District of Columbia, have invented certain Improvements in Closing Gas-Retorts, of which the following is a specification:

My present invention relates to improvements more especially applicable to the lid and mouth-piece for which Letters Patent were granted to me on the 8th day of April, 1873, No. 137,704. The invention consists in so shaping the mouth-piece as to give a space or clearance around the lid inside of its line of bearing, in providing the mouth with a receptacle for tar, and in a cast-iron shoe to support and form a hinge for the cotter-bar.

Figure 1 is a face view of my improved lid and mouth, the lid being open. Fig. 2 is a vertical central section through my lid and mouth in position on a retort, the lid being closed; Fig. 3, a top plan view of the lid and mouth-piece, and Fig. 4 a perspective view of the shoe.

The lid A is made with a rounded or beveled outer edge, *a*, and is arranged to fit tightly within the mouth-piece B with a very narrow line of bearing, but so as to form a gas-tight joint without the use of luting, as in my original patent above referred to. In said patent the lid had a narrow line of bearing in the mouth, but there was no appreciable space around that portion of the lid which projected inward beyond the bearing, and hence it often happened in practice that the coke, tar, &c., adhering to the interior of the mouth, would prevent the lid from being forced home to its seat. In order to overcome this difficulty, I now reduce the diameter of the mouth at the point *d*, where the lid bears therein, so as to leave a space or clearance around the edge of the lid inside of the bearing, as shown at *e*, Fig. 2. Or, in other words, I make the mouth with a narrow lip or flange, *d*, around its interior, to form a bearing for the lid, so that there will be a

space, *e*, between the lid and mouth inside of their point of contact. When the parts are thus constructed the tar, coke, &c., adhering to the interior of the mouth, offer no hindrance to the insertion of the lid, as they never in practice protrude beyond the lip or bearing. It is, of course, immaterial in what form or shape the lip or bearing is made, provided it gives a narrow seat for the lid, and leaves a space or clearance around the lid inside of the seat or bearing. Two of the modified forms of the lip are shown in the drawing. In order to prevent tar, &c., from accumulating in the mouth, I provide it at the bottom with a box or receptacle, D, to receive the tar. In the drawing I have shown a circular lid applied to a D-retort, the back of the mouth-piece being shaped to fit the retort, as in my original patent. In this case the box or receptacle is formed on the back of the mouth-piece, and extends back under the end of the retort; but when the mouth-piece is of the same form as the retort, the box will be made on the bottom of the mouth. The box may be made of any form and size desired, and may be provided with any suitable outlet. The lid and cotter-bar are hinged to the mouth-piece, so that they can be easily and quickly manipulated. The cotter-bar is supported by a cast-iron shoe or socket E, which is mounted on the hinge-pin F of the lid, between the two hinges thereof, as shown. The shoe consists simply of a sleeve or tube, *c*, to receive the hinge-pin, and a horizontal hollow arm or socket, *g*, to receive the end of the cotter-bar, which is secured therein by a pin, *h*. After driving the pin *h* out, the cotter-bar may be removed from the shoe and another bar inserted in a moment. The shoe forms a very cheap and strong support for the bar, and permits it to be readily and easily operated.

The use of the shoe permits the employment of light, straight, and cheap cotter-bars, and does away with the heavy and very expensive hinged bars heretofore in use, made entirely of wrought-iron.

Having thus described my invention, what I claim is—

1. The retort having its mouth provided with the lip *d* or its equivalent, forming a narrow bearing for the lid, and leaving a space or clearance, *e*, around the same, inside of its line of bearing, as and for the purpose described.

2. The retort provided with a box or recep-

tacle, *D*, substantially as and for the purpose described.

3. The cast-iron shoe *E*, constructed and applied as shown, to receive and hold the cotter-bar.

GEORGE A. McILHENNEY.

Witnesses:

PHILIP T. DODGE,
J. McKENNEY.