

FIG. 1.

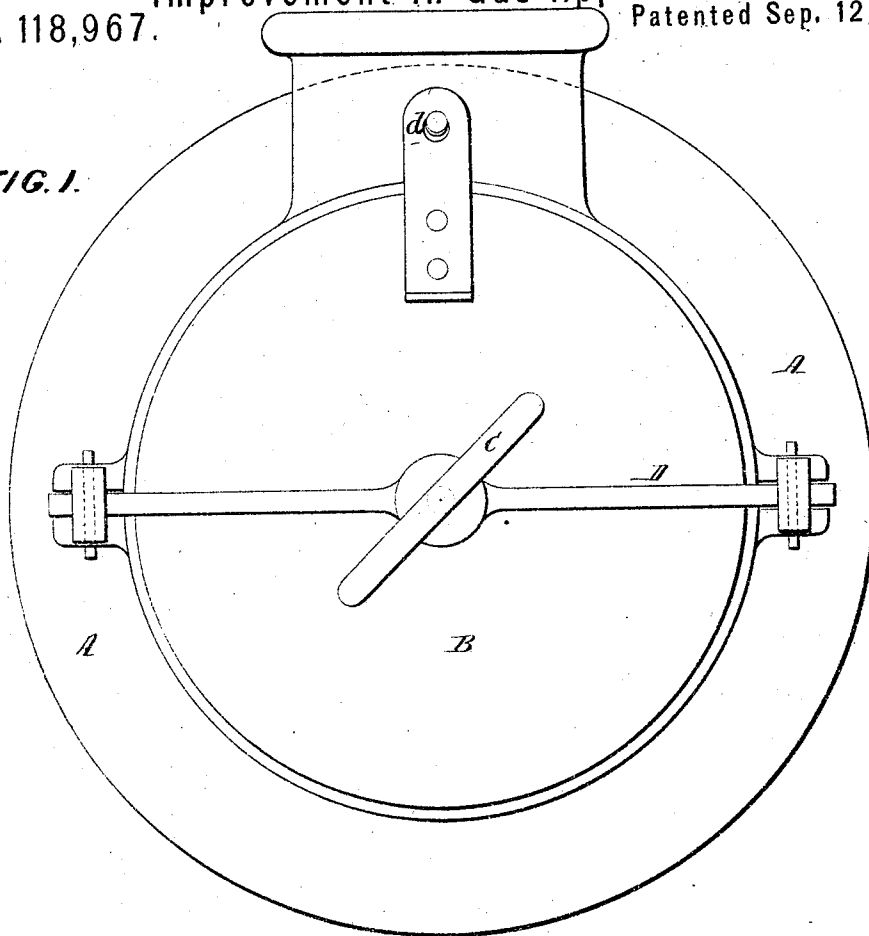
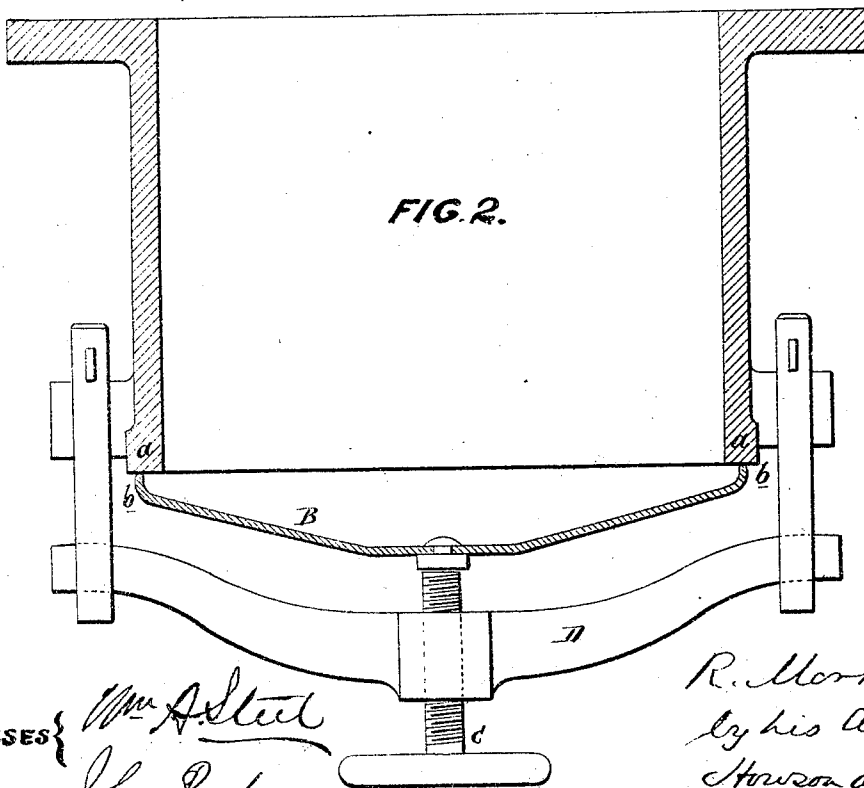


FIG. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

ROBERT MORTON, OF LONDON, ENGLAND.

## IMPROVEMENT IN GAS APPARATUS.

Specification forming part of Letters Patent No. 118,967, dated September 12, 1871.

### *To all whom it may concern:*

Be it known that I, ROBERT MORTON, of Lawrence Pountney Lane, in the city of London, England, engineer, have invented Improvements in Apparatus used in the manufacture of Gas, which improvements are applicable to other useful purposes, and of which the following is a specification:

This invention relates more particularly to the closing the mouths of gas-retorts without the necessity for luting, although it is equally applicable to other orifices which require to be closed fluid or liquid tight. In carrying out this invention the mouth of the retort, or other vessel to be closed, should be of sufficient thickness to enable the edge of the lip of the lid or cover to abut thereon, so as to form what is known as a metallic joint. The lid or cover to be applied is made of cast-iron, wrought-iron, or other suitable material, and is, by preference, dished so as to present a concavo-convex form with the lip or circumference turned up all round at or about at right angles to the face of the cover. This lip is by preference rounded on its edge to a semi-circular section, and the end of the retort or other vessel against which it is to be held, is made perfectly true and smooth by turning, scraping, grinding, or otherwise, as is well understood, so that the two metallic surfaces when brought in contact and pressed firmly together, will make a perfectly tight joint without the disadvantages of having to employ luting or packing of any kind. If desired, the edge of the lid or cover may be made of an acute or rounded V-shape in order that the amount of surface brought to bear against the faced front of the mouth-piece may be reduced to a minimum or a more circumferential line of contact. The improved lid or cover may be used in combination with the ordinary and well-known arrangement for holding and securing retort-lids, or with any other form of fastening suitable for the purpose.

And in order that the said invention may be fully understood, I shall now proceed more particularly to describe the same, and for that purpose shall refer to two figures on the annexed drawing.

Figure 1 of the drawing represents a front ele-

vation, and Fig. 2 a sectional plan of the mouth-piece of a gas-retort having my improved lid or cover applied thereto by the ordinary screw and cross-bar. A is the mouth-piece of the retort, which, for convenience, is made rather thicker at the front edge, as shown at *a*, in order to afford sufficient surface for the easy adjustment thereon of the improved lid or cover B. This lid or cover may be composed either of cast or wrought-iron. It is dished and has its lip or junction-edge turned up all round, as shown at *b b*, the part in contact with the end of the mouth-piece being, by preference, rounded, as shown, or V-shaped, in order that, when pressed firmly against the perfectly smooth and true surface of the mouth-piece, a good gas-joint will be obtained by the mere contact of metal to metal, without the aid of luting. When the lid or cover is loose or detached from the holding apparatus, as shown in the drawing, it may be provided with an attachment, such as a metal strap or loop, *c*, by which it can be hooked onto a pin, *d*, in the ascension branch, or otherwise supported in its correct position as regards the mouth-piece, until the securing or tightening screw C in the cross-bar D, or any other suitable tightening device, has been brought to bear upon it.

Having now described my invention, and how the same may be carried into effect, I would observe, in conclusion, that what I claim as novel and original is—

1. The system of closing the mouths of gas-retorts and other orifices, by the mere contact alone of the edge of the lid or cover with the end of the mouth-piece.

2. The construction of the lids or covers of gas-retorts with their edges turned up so as to form a metallic joint with the mouth-piece of the retort, substantially as hereinbefore described, and illustrated by the drawing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT MORTON.

Witnesses:

V. W. FRIGOUT,  
WM. D. WOOD.