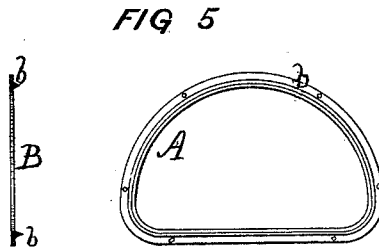
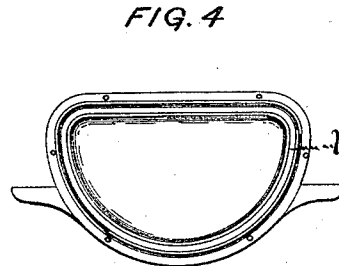
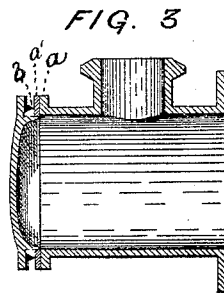
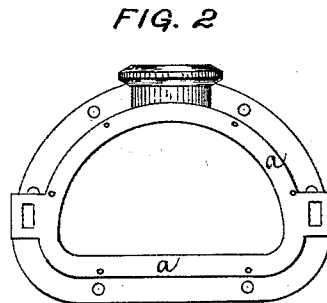
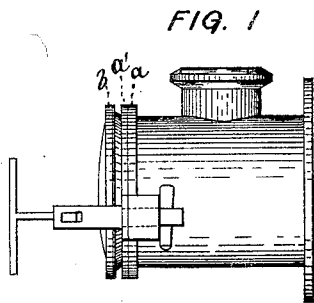


A. C. WOOD.

GAS-TIGHT JOINTS FOR RETORT-LIDS.

No. 176,158.

Patented April 18, 1876.



Witnesses.

J. J. Greengough
P. B. McLeeman

Inventor.

Austin C. Wood

UNITED STATES PATENT OFFICE.

AUSTIN C. WOOD, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN GAS-TIGHT JOINTS FOR RETORT-LIDS.

Specification forming part of Letters Patent No. **176,158**, dated April 18, 1876; application filed February 15, 1876.

To all whom it may concern:

Be it known that I, AUSTIN C. WOOD, of Syracuse, Onondaga county, New York, have invented an Improved Gas-Tight Joint for the Lids of Gas-Retorts, of which the following is a specification:

Much difficulty and expense have been incurred in attempts to readily, cheaply, and conveniently make a gas-tight joint between the lid and mouth-piece of a gas-retort, and several plans have been devised to accomplish the object so desirable, and to facilitate the work, but they have all incurred too much expense, are imperfect in their action, and involve the substitution of a new lid and mouth-piece, by which great delays and large expenditures are necessary for making the change, and where this has been done the new devices of the best character have only proved a partial success.

The object of my invention has been to make a cheap and efficient joint applicable to the common and well-known lid and mouth-piece now in general use. After careful experiment I have, with large practical experience in gas manufacturing, succeeded in accomplishing this most difficult result.

The construction is as follows: Referring to the accompanying drawing, in which Figure 1 is a side elevation of a mouth-piece and lid of ordinary construction with my improvements attached. Fig. 2 is a front elevation of the mouth-piece. Fig. 3 is a vertical section of Fig. 1. Fig. 4, an ordinary malleable-iron lid. Fig. 5 is my steel packing-ring with a sharp knife-edge projection thereon. A, plan; B, section. The face of the rim *a* of the mouth-piece is planed off to a broad, true, and level surface, or, in cases where the mouth-

piece is already set that my improvement is to be applied to, I add a supplementary rim, *a'*, Fig. 1, thus finished, which I firmly affix and cement to the mouth-piece gas-tight. Onto the cover I securely fasten, in a similar manner, a steel packing-ring, or its equivalent, as seen at *b*, in the several figures. This ring is made of any desired width conforming in figure to the mouth-piece rim *a*, aforesaid. From the face of this ring *b* a cutting-edge is raised so sharp and hardened as to cut into the cast-iron face of the rim *a* or *a'*, and thus form a perfect and durable gas-tight joint, when the cover is brought into place to close the mouth of the retort. The lid is forced up and held in place by the usual cotter-bar and screw, as seen in the drawing, or by any other convenient device.

I am aware that soft lead rings have been essayed to make a tight joint for the lid of a gas-retort by forcing into it a cast-iron triangular rib, but, in practice, when heated it is too plastic, is soon cut through, and then leaks gas. It is obvious that the location of the steel knife-edged ring *b* and the surface *a* or *a'* can be reversed without changing the character of the invention, but I prefer to use it as described.

Having thus fully described my improved cutting-ring for gas joint, I claim—

The tempered-metal cutting-ring *b*, constructed, arranged, and combined with the mouth-piece and cover of a gas-retort, substantially as and for the purposes herein described.

AUSTIN C. WOOD.

Witnesses:

P. B. McLENNAN,
J. J. GREENOUGH.