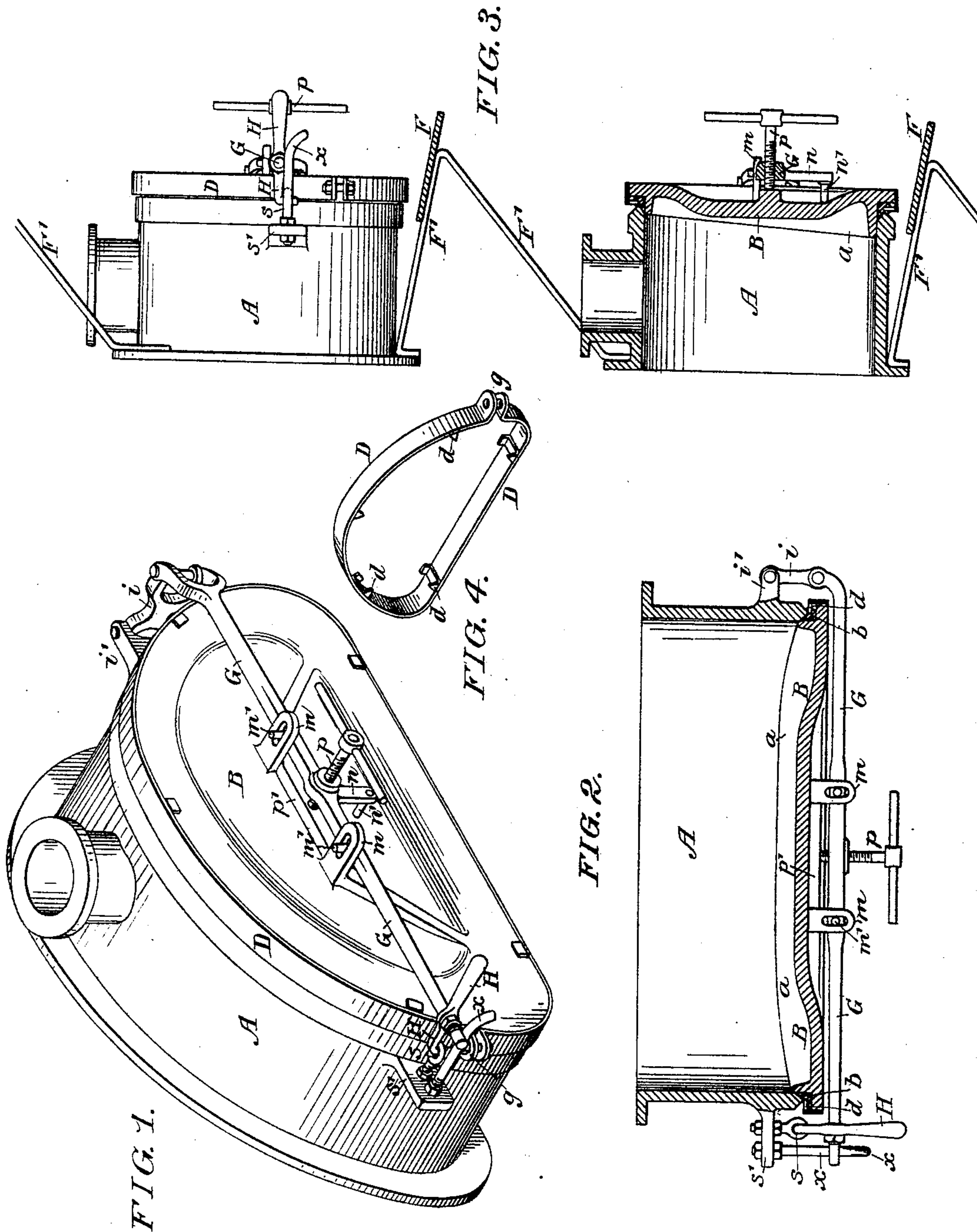


(No Model)

T. B. TINNEY.
GAS RETORT LID.

No. 582,560.

Patented May 11, 1897.



Witnesses:
C. D. Goodwin
F. E. Bechtold

Inventor:
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UNITED STATES PATENT OFFICE.

THOMAS B. TINNEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO WILLIAM McDONALD, OF SAME PLACE.

GAS-RETORT LID.

SPECIFICATION forming part of Letters Patent No. 582,560, dated May 11, 1897.

Application filed June 5, 1896. Serial No. 594,426. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. TINNEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Gas-Retorts, of which the following is a specification.

One object of my invention is to provide the mouthpiece ends of gas-retorts with means to prevent contact of tar with the packing on
10 the lid of the retort when the latter is being removed, a further object being to provide means for holding the packing-ring in place on the lid without perforating said ring for the reception of screws or pins, and a still
15 further object being to provide simple and efficient means for holding the lid in place on the mouthpiece, such means permitting the ready removal of the lid, so as to completely expose the said mouthpiece. These objects
20 I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the mouthpiece of a gas-retort constructed in accordance with my invention. Fig. 2 is a sectional
25 plan view of the same. Fig. 3 is a view showing the mouthpieces of two superposed retorts, illustrating a tar-shield forming part of my invention; and Fig. 4 is a perspective
30 view of a retainer employed in connection with a packing on the lid or cover.

A represents the mouthpiece of a gas-retort, which may be of the usual character and adapted to be closed at the outer end by a lid
35 or cover B, which has an internal flange *a* fitting snugly into the mouth of the retort, said flange being gradually widened from top to bottom, as shown in Figs. 2 and 3, so that it projects into the retort to a considerably
40 greater extent at the bottom than at the top. Surrounding the flange *a* is a packing-ring *b*, of asbestos or other heat-resisting material, this ring being compressed between the front end of the mouthpiece and the flange *d* of the
45 lid when the latter is properly adjusted and secured in its place, thereby forming a gas-tight joint between the mouthpiece and lid.

In order to hold the packing-ring in place on the flange *a* of the lid without perforating
50 said ring for the reception of retaining screws or pins, I provide the lid with a clamp D,

which is preferably made of sheet metal and has spurs or lugs at each edge, the spurs on the inner edge engaging with the packing-ring *b* and serving to press the same into con-
55 tact with the flange *a*, as shown in Figs. 2 and 3, while the spurs on the outer edge of the clamp bear upon the outer side of the lid.

The clamp D is split and provided with lugs *g*, which can be drawn together by means
60 of a suitable bolt, thereby confining the clamp to the lid and also causing it to exercise the proper retaining influence upon the packing-ring *b*.

Directly beneath the outer end of each
65 mouthpiece A is an inclined plate F, which projects outwardly some distance beyond the mouthpiece and is supported upon angular frames F', mounted upon or secured to an
upper and lower mouthpiece, as shown in
70 Fig. 3. The purpose of this plate F and of the widened flanges of the lids B is to prevent contact with the packing-ring *b*, carried by either lid, of tar either from the retort to
75 which the lid is applied or from the retort above the same.

In an ordinary form of gas-retort lid the tar can escape from the retort as soon as the lid is loosened, and hence can come into contact with the packing-ring, and as the tar
80 hardens immediately upon cooling by exposure to the air it forms a hard substance upon the packing-ring and detracts from the uniform flexibility or elasticity of the latter necessary to insure the desired tight joint be-
85 tween the mouthpiece and the lid. In the same way tar is likely to leak or drop from an upper mouthpiece onto the packing-ring carried by the lid of the mouthpiece below with the same objectionable result. The plate
90 F, however, effectually prevents the dropping of tar from one mouthpiece onto the packing-ring carried by the lid of the mouthpiece below, while the widening of the lower portion of the internal flange *a* of each lid insures the
95 removal of the lid to such an extent beyond the end of the mouthpiece before said lower portion of the flange is removed and the escape of tar permitted that any excess of such tar to the packing-ring of the lid is effectually
100 prevented.

The lid B is mounted upon a cotter-bar G,

which is forked at one end and is at said end pivoted to the outer end of a link *i*, the opposite end of which is pivoted to lugs *i'* on the mouthpiece.

5 The lid B has outwardly-projecting lugs *m*, slotted for the reception of vertical pins *m'* upon the cotter-bar, and said bar has a downwardly-projecting arm *n* with a forwardly-projecting toe or finger *n'*, bearing against
10 the outer face of the lid B, as shown in Figs. 1 and 3.

The central portion of the cotter-bar constitutes a nut which receives a screw-stem *p*, bearing upon a rib *p'* on the outer face of the
15 lid.

The free end of the cotter-bar G—that is to say, the end opposite that which is hung to the link *i*—has a hooked and weighted catch H, which engages with an eye *s*, projecting
20 from a lug *s'* on the mouthpiece. Hence when the lid is swung into position so as to close the end of the mouthpiece it can be temporarily retained in position by the engagement of the catch H with the eye *s* until the
25 screw-stem *p* can be tightened in order to secure the lid firmly in place.

When it is desired to remove the lid, the screw-stem *p* is backed off, which loosens the catch H, and as the outer end of said catch
30 is heaviest it automatically releases its hold upon the eye *s*, so that the cotter-bar is instantly freed and can be swung back, so as to carry the lid away from the end of the mouthpiece, the complete exposure of the
35 latter being permissible owing to the use of the swinging link *i*, which permits the lid to be moved to a lateral position wholly beyond the mouthpiece. When the lid is being swung into place, the projecting end of the
40 cotter-bar engages with a guide-bar *x*, projecting from the same lug which carries the eye *s*, this bar *x* being inclined at its outer end, so that it lifts the cotter-bar into proper vertical position and supports it in such position while it is being locked to the eye *s*.
45

The lugs *m* and the pin *m'* and finger *n'* provide three points of support for the lid upon the cotter-bar. Hence said lid is always held in its proper vertical position on the

bar, while it can be readily lifted therefrom 50 by a direct vertical movement, the finger *n'* offering no obstacle to such movement.

Having thus described my invention, I claim and desire to secure by Letters Patent— 55

1. The combination of a series of superposed retort-mouthpieces, with tar-shields each adapted to receive the tar from a mouthpiece above and prevent it from coming into contact with the lid of a mouthpiece below, 60 said tar-shields consisting of plates carried by angular frames supported upon upper and lower mouthpieces, substantially as specified.

2. A retort-lid having a flange projecting inwardly therefrom some distance from the 65 outer edge of the lid, said flange extending entirely around the lid and being wider at the bottom than at the top, said widened portion fitting snugly to the bottom of the mouthpiece, and a packing-ring mounted upon the 70 seat formed by said inwardly-projecting flange and bearing upon the outer end of the mouthpiece, substantially as specified.

3. The combination of the retort-lid having an inwardly-projecting flange and packing-ring mounted thereon, and a split retaining-band engaging with the retort-lid and packing-ring and serving to hold the latter in position on the lid, the ring projecting beyond 80 said band so as to engage with the mouthpiece, substantially as specified.

4. The combination of the retort-mouthpiece having a retaining-eye thereon, a hinged cotter-bar having a hooked catch adapted to engage said eye, said catch being weighted 85 so as to be self-releasing when the cotter-bar is relieved from strain, a lid mounted upon the cotter-bar, and a screw-stem carried by the cotter-bar and serving to press said lid against the end of the mouthpiece, substantially as specified. 90

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

THOS. B. TINNEY.

Witnesses:

JOS. H. KLEIN,
F. E. BECHTOLD.