N. JAMIN.

FASTENINGS FOR GAS-RETORT LIDS.

No. 190,867. Patented May 15, 1877.

Fig 1.

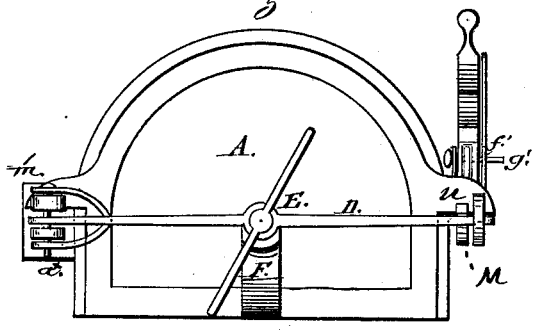


Fig 7.

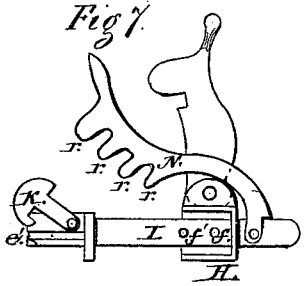


Fig 8.

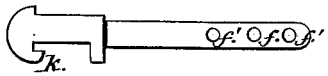


Fig 9.

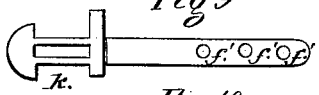


Fig 10.

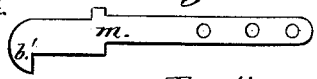


Fig 11.

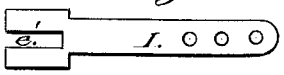


Fig 12.

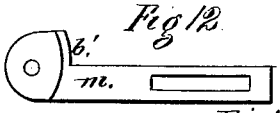


Fig 2.

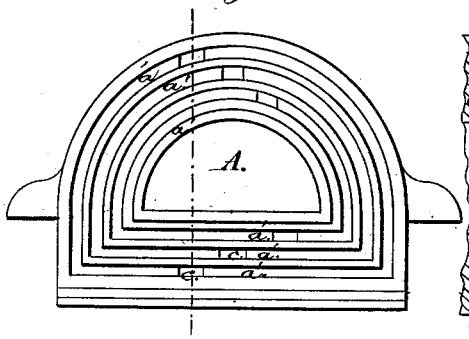


Fig 3.

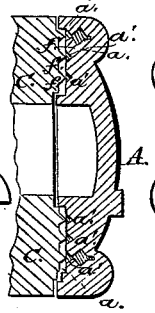


Fig 4. Fig 5. Fig 6.

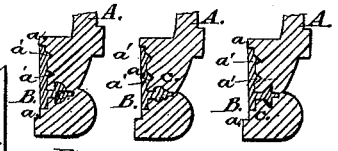


Fig 15.

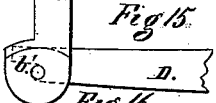


Fig 16.

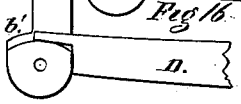


Fig 13.

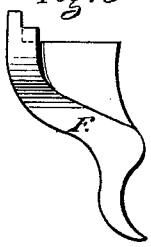
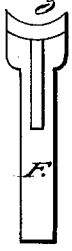


Fig 14.



Witnesses.

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Wm. R. Whitney.

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atty

UNITED STATES PATENT OFFICE.

NICOLAUS JAMIN, OF NEW YORK, N. Y.

IMPROVEMENT IN FASTENINGS FOR GAS-RETORT LIDS.

Specification forming part of Letters Patent No. **190,867**, dated May 15, 1877; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, NICOLAUS JAMIN, of the city, county, and State of New York, have invented certain Improvements in Gas-Retorts, of which the following is a specification:

My invention relates to devices for closing and securing the lids of gas-retorts; and consists in the combination of an adjustable latch-carrier, provided with holes for the reception of a suitable pin, with a slotted guide box or socket on the mouth-piece of a retort; and it further consists in the combination of a supplementary multi-toothed latch with the latch-carrier, whereby provision is made for the speedy readjustment and fastening of the lid in case of the accidental or sudden fracture of its normal fastening.

I have shown and described my invention as applied to a gas-retort mouth-piece and lid, in which the mouth-piece has sharp ribs, which are forced against and into a leaden lining, held upon the face of the lid by dovetailed grooves; but this does not form a part of this invention.

Figure 1 is a front view of a gas-retort lid, fitted and constructed according to my invention. Fig. 2 is a face or inside view of the lid, with the leaden facing or lining removed; and Fig. 3 is a sectional view, at right angles to Fig. 2, of the same, arranged in due relation with the mouth-piece of the retort, and with the aforesaid lining or facing in position; and Figs. 4, 5, and 6 are similar sections, showing slight modifications of the same. Fig. 7 is an elevation, in a plane at right angles to Fig. 1, of the adjustable latch-carrier and its adjuncts. Figs. 8, 9, 10, 11, 12, 13, 14, 15, 16 are detached views, showing certain modified forms of various parts embraced in my novel combinations.

A is the retort-lid, formed with a broad peripherical recess or depression, *a*, in its inner face or surface. The bottom of this recess *a* may be formed with concentric grooves *a'*, the purpose of which will hereinafter presently appear. In its bottom are also provided sub-sockets or counter-bores, *c*, which are enlarged or made of dovetail form within. Molten lead is poured into the recess *a*, and on cooling forms a leaden facing or lining, B, to the lid, the lead, of course, solidifying in the sub-sockets *c*, which, from their dovetail shape, lock the confined portions, and consequently hold the leaden facing B firmly in place without screws, bolts, or similar fixtures. Upon the front of the mouth-piece C of the retort, in peripherical lines concentric with the retort-mouth and with each other, (and coincident with the leaden facing of the lid, when the latter is put in place, as hereinafter described,) are formed projecting acutely angular or sharp-edged ribs *f*, the position of which, with reference to the leaden facing of the lid, is more clearly indicated in Fig. 3.

It is manifest that when the lid is shut forcibly against the mouth-piece to close the retort the angular or sharp edges of the ribs *f* will automatically cut into the lead and form a tighter joint than can be made by the separate mechanical manipulation of the two surfaces to fit them for intimate contact with each other.

D is the cotter, which carries a screw, E, at its center, so that, when the cotter is fixed at each end, by turning the screw inward the lid may be forced back against the mouth-piece. F is a bracket, (shown on a larger scale in Figs. 13 and 14,) attached to the outer surface of the lid to support the aforesaid screw. *m* is a catch, the shank of which passes into and through a slot formed in the laterally-projecting lug *m'* of the mouth-piece C, and there keyed fast.

This catch may be made as represented in Fig. 1, so that the end of the cotter may be affixed thereto by a pin, $a^{\times}$, passed through coincident holes in the catch and the end of cotter, or it may be made, as shown in the detached Figs. 10, 12, 15, 16, with simply a shoulder, *b'*, behind which the end of the cotter is made to catch and hold. The means of securing the other or opposite end of the cotter are as follows:

A slotted guide box or socket, H, is provided upon the mouth-piece C in such manner that the bar I passing through such guide may lie parallel with the retort—in other words, at right angles to the mouth-piece thereof. In the front end of this bar is a deep recess, *e'*, above which is pivoted a latch, K. The bar I is provided with a longitudinal series of holes, *f'*, through which, and also through a

suitably-situated hole in the guide H, is passed a pin, g', as indicated in Fig. 1. By this means the bar and the parts attached to, or carried by, the same may be adjusted to and from the front end of the retort to secure a proper relation of the fastening devices to the adjoining end of the cotter, the bar I constituting, therefore, the adjustable latch-carrier of the apparatus. In fastening the end of the cotter the said end is passed into the recess e' of the latch-carrier, whereupon the latch K is shut down over and past the aforesaid end of the cotter, and firmly holds the same. Instead of a pivoted latch, K, as shown in Fig. 7, and just hereinbefore described, the latch may be constituted by a shoulder, k, provided upon the bar or carrier I, as shown in Figs. 8 and 9.

In order that the sudden breakage of the fastening devices just hereinbefore specified may not render the retort inoperative, the carrier I is provided with a multi-toothed supplemental hook or latch, N, which may be shut down over the end of the cotter-bar to hold the same. The series of teeth r of this supplemental latch permit the range of its adjustability to be much extended, one or the other of the teeth r being caught over and upon the end of the cotter, as may be necessary in holding the latter to its place.

It will be understood that both ends of the cotter being fixed or fastened, as hereinbefore set forth, the lid is forced to its place by the turning of the screw carried by the cotter, the latter being constructed with a nut, through which the said screw works. When desired, a simple catch, m, may be pivoted at the side of the mouth-piece in such position that it may be caught over a laterally-projecting lug, u, on the lid, to hold the same in its relative position to the mouth-piece, while the devices for closely fastening the lid to the mouth-piece are being applied to operation.

It will, of course, be understood that any soft metallic alloy or composition serving the same purpose as the lead in the lining or facing of the lid may be employed in the formation of the said lining or facing.

What I claim as my invention is—

1. In retort-lid fastenings, the adjustable latch-carrier I, provided with holes f', in combination with the slotted guide-box H and pin g', substantially as specified.

2. The supplementary multi-toothed latch N, in combination with the latch carrier I, substantially as described.

NICOLAUS JAMIN.

Witnesses:

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JAS. H. MATTHAEI.