

J. R. SMEDBERG.
Closing Gas Retorts.

No. 153,385.

Patented July 21, 1874.

Fig. 1.

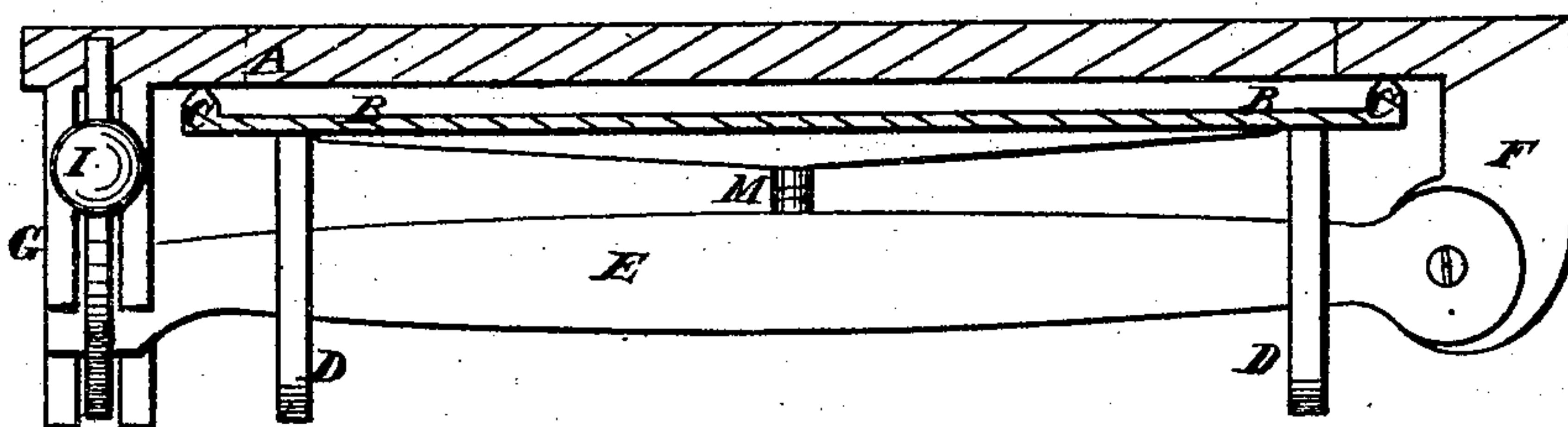


Fig. 2.

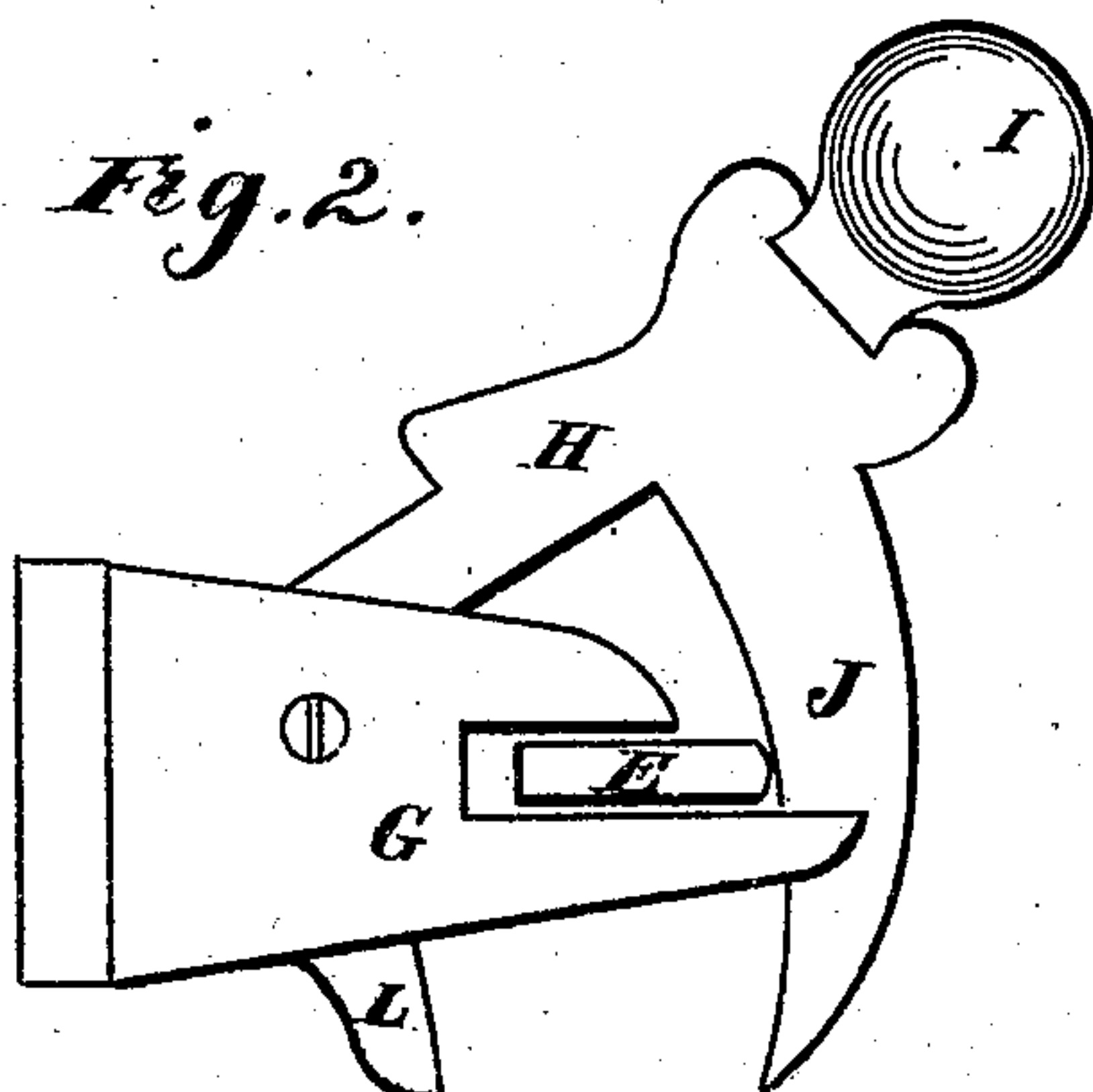
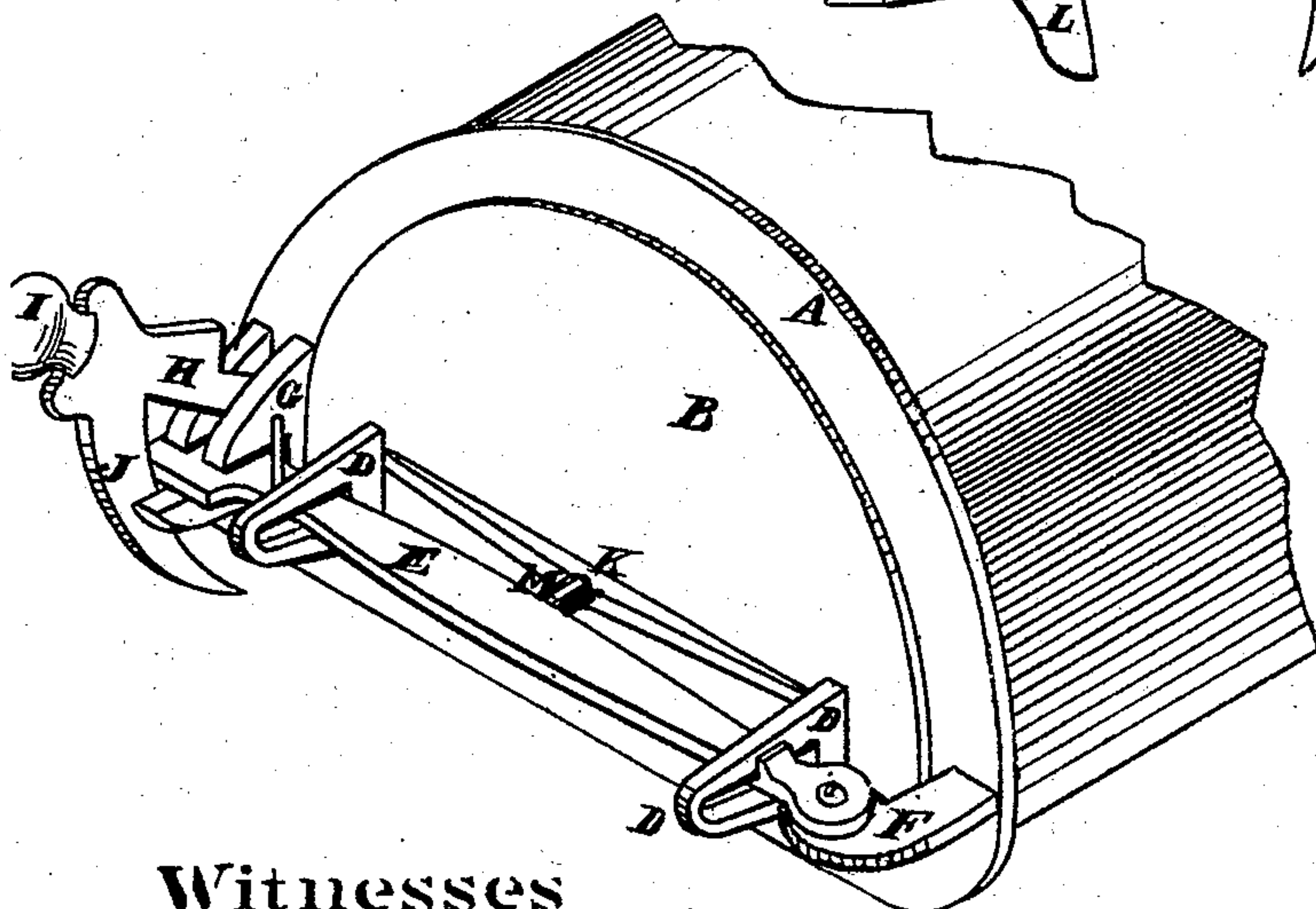


Fig. 3.



Witnesses

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JAMES R. SMEDBERG, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN CLOSING GAS-RETORTS.


Specification forming part of Letters Patent No. **153,385**, dated July 21, 1874; application filed June 9, 1874.

To all whom it may concern:

Be it known that I, JAMES R. SMEDBERG, of San Francisco city and county, State of California, have invented a Device for Closing the Mouth of Gas-Retorts; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to an improvement in the closing of the mouths of gas-retorts, and it is more especially applicable to that class of closures in which a rounded fillet is caused to press forcibly against the vertical face of the mouth-piece, although it will be readily seen that it can be employed with various forms of joint. It consists, principally, in the employment of a self-operating locking and compressing device and lever, in combination with a loosely-supported door, so arranged that the closing pressure will be received at or near its center and transmitted to all parts of the bearing-surface.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a top view, showing a section of door. Fig. 2 is a side elevation. Fig. 3 is a perspective view.

A is a retort-mouth face, which may be made perfectly true by a proper machine, when the retort is in position. This face may be of the  or any other shape, and the door B is fitted to close the mouth. Near the periphery of this door is a bead or rounded fillet, C, which is most advantageously made with a section showing two sides of a spherical or plane triangle. This fillet is readily fitted with a file by the use of a face-plate, so that when in position it will make a tight joint. The door B is not hinged at all, but has two stout slotted guides, D D, standing out from its outer face near each side, and the lever E passes through the slots, and is hinged to the lug or support F at one side. The door is thus suspended upon this bar, and is free to move considerably, and so accommodate its fillet to any change of angle between itself and the face of the retort. The free end of the bar or lever E fits into a horizon-

tal slot in the lug G, and the locking device is mounted upon a horizontal axis, so that it stands in a vertical slot in this same lug. This locking device consists of a bar or arm H, which extends some distance from its axis, and has its outer end weighted, as at I. J is a curved arm, which extends out from the arm H, and its curve is of such dimensions, and of such departures from a circular arc, that when the bar H falls, after the lever E has been swung nearly to its place, the arm J will pass outside this lever, and will compress or force it inward toward the door by reason of the form of the curve, which acts like an inclined plane. The door B having already reached its bearing upon the face of the retort, the center of the lever E will press upon the center of the door at K, and will thus force the fillet C strongly against the retort-face A, and make a tight joint.

In order to open the retort, it is only necessary to lift up the weighted arm H, when the lever E will be released from the curved arm J. At the same time the inclined projection L at the bottom or inside end of the arm H strikes the lever D, and forces it and the door slightly away from the retort-mouth.

The strain of the curved clutch upon the lever is transferred from the lever to the lid through the medium of a pin, M, with a rounded head, which fits loosely into a central hole in the lever, thus allowing the workman to increase the amount of compression by slipping additional washers on the pin before inserting it, or to compensate for wear due to the friction of parts by the same adjustment.

I am aware that a hook or catch has been employed in combination with a hinged door, and the ordinary screw for securing the door; but this catch only acted as a shoulder, against which the pressure of the screw was resisted, while my curved hook-lever acts at once as a holding and locking device, and dispenses altogether with the screw.

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

1. In combination with the door B for closing the mouth of the retort, and the lever E, operating as herein shown, the weighted

lever H, with its curved arm J, constructed to automatically lock and compress the door against the face A as soon as the door is closed, substantially as herein described.

2. In combination with the lever E, fitted to close and secure the door B, as shown, the pin M, with its adjustable washers, to increase the amount of compression, or compen-

sate for wear, substantially as herein described.

In witness whereof I hereunto set my hand and seal.

JAMES R. SMEDBERG. [L. S.]

Witnesses:

JNO. L. BOONE,

C. M. RICHARDSON.