

J. J. CRAVEN.

Devices for Securing Man-Hole Covers.

No. 140,893.

Patented July 15, 1873.

Fig. 1.

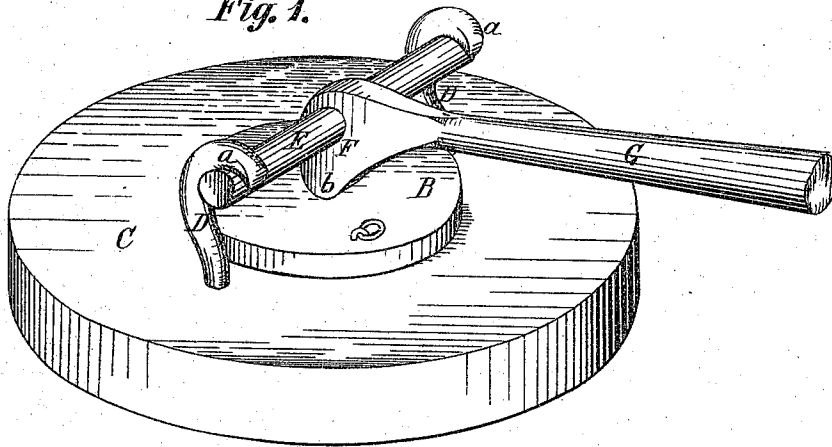


Fig. 2.

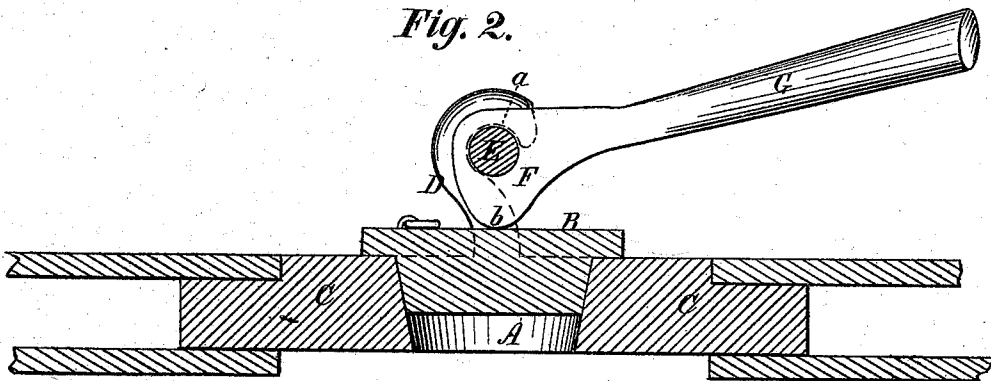
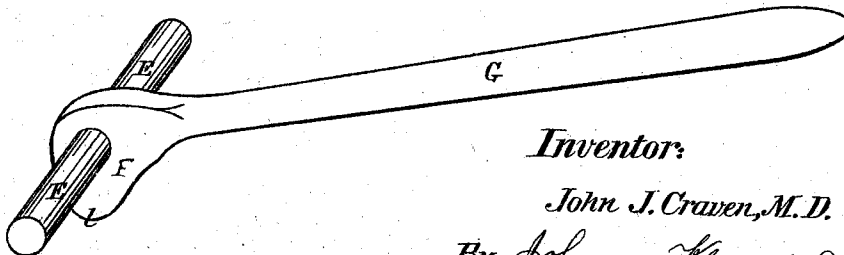


Fig. 3.



Witnesses:

West Wagner
Harry M. Phillips

Inventor:

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By Johnson, Klauke & Co.
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UNITED STATES PATENT OFFICE.

JOHN J. CRAVEN, OF (BERGEN DISTRICT,) JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN DEVICES FOR SECURING MAN-HOLE COVERS.

Specification forming part of Letters Patent No. **140,893**, dated July 15, 1873; application filed January 13, 1873.

To all whom it may concern:

Be it known that I, JOHN J. CRAVEN, M. D., of Bergen District, Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Devices for Securing Man-Hole Covers in Rendering Apparatus, &c., of which the following is a specification:

My improvement relates to devices for securing the covers for the openings in rendering-tanks, boilers, and other vessels against interior pressure; and the improvement which forms the subject-matter of this patent consists of an eccentric or cam operated by a handle or bar arranged upon an axis-pin, whose bearings are in the open curved ends of arms projecting from the cover seat or frame, so as to obtain a direct locking contact and pressure of the eccentric at right angles to the axis of its pin, directly upon the cover, the object and advantage of which arrangement is to make the fastening device removable from the cover and opening in the vessel, and thereby render the opening unobstructive, and the cover free to be removed and replaced, and the fastening adjusted in its bearings and locked home against the pressure, the said securing and unfastening device being quickly and easily removed and replaced by simply taking out the axis pin from its open bearings and again inserting it therein.

In the accompanying drawings, Figure 1 represents a view in perspective of my improved fastening device as applied to a man-hole cover and its frame; Fig. 2, a section of the same; and Fig. 3, a view of the axis-pin with its eccentric and handle-bar.

In rendering-tanks, especially wherein animal matter is treated under a high pressure of steam, man-holes are required for the introduction of the matter and the removal of the residuum from the vessel, and it is necessary to secure the covers to the openings against the pressure within. Many devices have been adopted for this purpose, but they have been more or less difficult and inconvenient to manage, besides being expensive, liable to breakage, and occupying much time and labor in managing them, and are more or less in the way of free access to the openings. These objections are entirely overcome by my improved fastening device.

The man-hole or opening A in the vessel for the cover B, is usually made in a frame or seat, C, upon which the cover is made to fit steam-tight. To this seat, on opposite sides centrally of the opening, are secured short arms D, the outer ends of which are curved, so as to form open bearings *a* to receive the ends of a strong cylindrical pin, E, which crosses the center of the cover B, and has secured in the middle of its length an eccentric or cam, F, the acting point *b* of which, when in contact with the cover, is centrally in line with the latter and the axis of the pin E, so that the clamping action of the eccentric is always in line with the holding-bearings *a*, and the pressure of the eccentric exerted directly upon the center of the cover. The eccentric F is provided with a handle-bar, G, which may be integral with it or made separate. When of the latter the eccentric has a series of sockets into which the handle-bar may be inserted to clamp and hold it. The holding-pin bearings *a* are made open at the side next to the handle to allow the pin E to be easily adjusted under their curved ends when securing the cover, and to be taken out when the cover is to be removed. The pin and its eccentric when thus secured between the bearings and the cover will be held securely in position by their direct central action, the eccentric being made to attain that result; but to guard against any accidental displacement of the lever its outer end may be secured by a hook or other hold.

In large man-hole covers two such removable holding-pin and eccentric devices may be employed, arranged to act upon the cover on either side of its center.

Having described my invention, I claim—

The removable holding-pin E, and its eccentric F and handle-bar G, in combination with bearings *a* for said pin, and the cover B, substantially as described, whereby the holding device can be entirely removed from the vessel and quickly inserted in place.

In testimony whereof I have hereunto set my hand this 10th day of January, 1873.

JOHN J. CRAVEN, M. D.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.