

F. L. MILLER,
FASTENER FOR RETORT DOORS.
APPLICATION FILED JULY 6, 1917.

1,300,633.

Patented Apr. 15, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

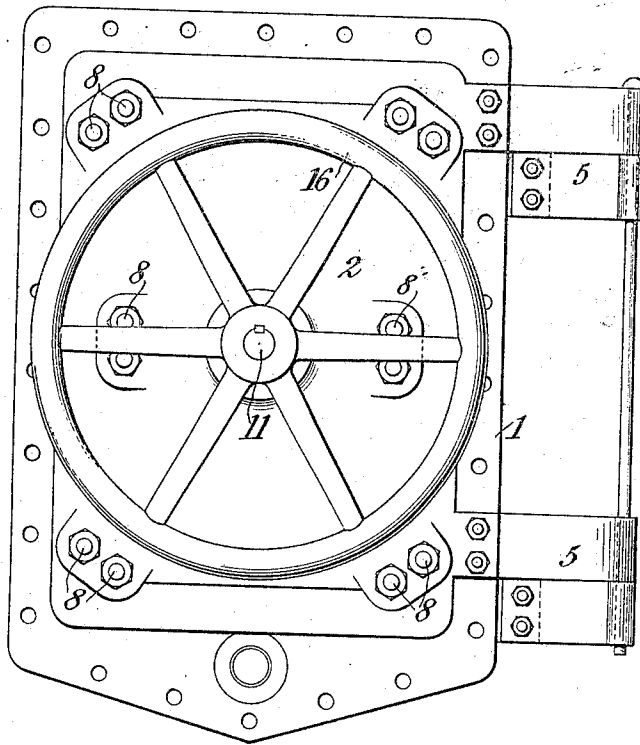
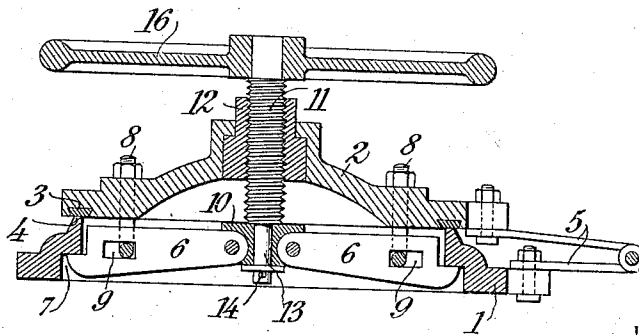


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 2.

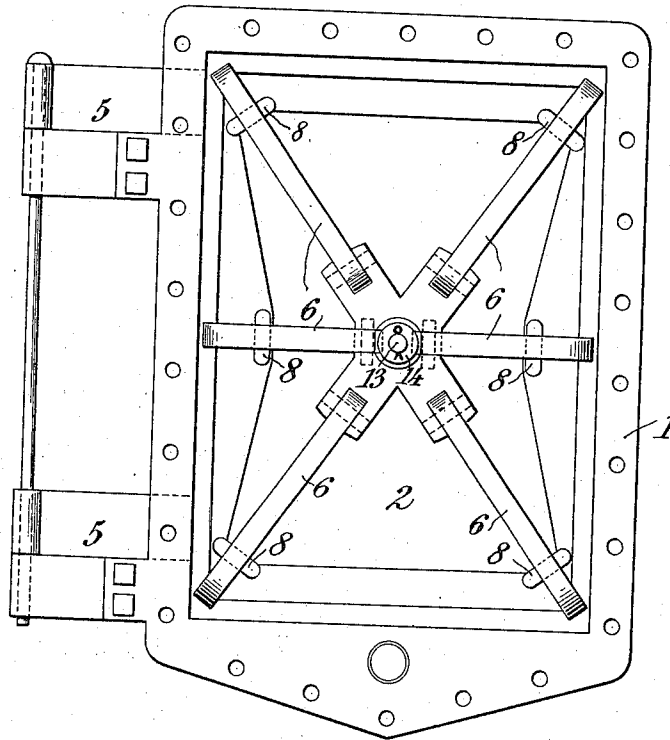
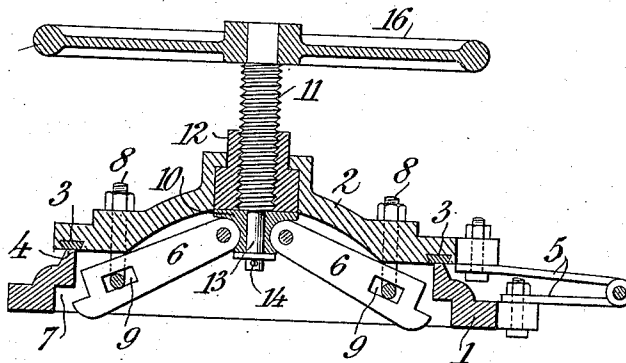


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK LOUIS MILLER, OF PARKERSBURG, WEST VIRGINIA, ASSIGNOR TO PERFECTION WOOD STEAMING RETORT CO., OF PARKERSBURG, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA.

FASTENER FOR RETORT-DOORS.

1,300,633.

Specification of Letters Patent.

Patented Apr. 15, 1919.

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To all whom it may concern:

Be it known that I, FRANK LOUIS MILLER, a citizen of the United States of America, residing in Parkersburg, in the county of Wood and State of West Virginia, have invented certain new and useful Improvements in Fasteners for Retort-Doors, of which the following is a specification.

This invention relates to closures or doors for retorts or other containers of fluid under pressure, and aims to provide improvements therein.

The present invention provides a closure or door of the kind above referred to, which is of simple construction, effective in operation, and consisting of simple and readily assembled parts.

An embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 shows a door on a retort, the door being in closed position and viewed in front elevation;

Fig. 2 is a view similar to Fig. 1, the door being applied to a retort and viewed in rear elevation;

Fig. 3 is a section on the line A—B, Fig. 1, showing the parts in closed position;

Fig. 4 is a view similar to Fig. 3, showing the parts in position for opening.

In said drawings, numeral 1 designates the open head of a steaming retort or similar opening, and 2 designates a plate or door preferably concave on its inner side, and adapted to close the opening in the head 1. A packing 3 is preferably provided between the head 1 and plate 2. This packing may be conveniently carried in a dove-tail slot formed in the plate 2, and the retort head 4 may be provided with a rim or sharpened edge 4 to make contact with the packing 3.

The door or plate 2 is preferably connected to the retort in such manner as to be swung to open and closed positions. A hinge 5 conveniently serves this purpose.

For locking the door or plate to the retort head the door or plate 2 is provided on its inner side with a plurality of locking levers 6. The retort head is provided with an inner shoulder or shoulders 7 with which the ends of the locking levers 6 are adapted to engage, in locking position, to hold the door or plate 2 locked.

The locking levers 6 are pivotally connected to the door 2, as by means of U-bolts

8 passing through slots 9 in the locking levers 6. These slots 9 are preferably elongated to permit of radial extension, and the reverse, of the locking levers 6.

The locking levers 6 are adapted to be radially extended, and the reverse, in order to bring their ends under the shoulder or shoulders 7, and in this position to be turned on their pivots in order to press the door against the retort head and close the opening against escape of fluid. To this end the locking levers preferably have their inner ends connected to a single spider 10, so that all of the locking levers may be moved together. The spider 10 is given axial movement by a shaft 11. This shaft 11 is screw-threaded, and preferably engages a nut 12 fixed upon the plate or door 2, and preferably has a swiveled connection to the spider 10, the shaft 11 conveniently having a reduced end 13. A washer and cotter pin 14 serve to hold the spider 10 upon the reduced portion 13 of the shaft.

A hand wheel 16 or the like serves for turning the shaft 11.

Operation: When the parts are in the position shown in Fig. 4 the door or plate 2 may be placed or swung in position to close the opening in the retort head 1. To lock the door in place the threaded shaft 11 is turned by means of the hand wheel 16, the threaded engagement of the shaft 11 with the nut 12 moving the shaft and spider 10 carried thereon axially inward. This axial movement of the spider straightens the locking levers 6, causing them to radially extend and to cause their ends to project under the shoulder or shoulders 7 upon the retort head. The slots 9 in the levers 6 permit of the radial movement of the levers 6. If, after the ends of the levers 6 are in contact with the shoulder or shoulders 7, the shaft 11 is further turned, the force of the screw is applied, through the pivots or U-bolts 8, to press the door tightly against the edges 4 of the retort head. In this manner the plate or door 2 closes the retort head against escape of fluid. The pivots or U-bolts 8 are adjustable, by means of nuts, to adjust the action of the locking levers 6.

To open the door the threaded shaft 11 is moved in the reverse direction, viz., axially outward, by turning the hand wheel 16, the shaft 11, through the spider 10, drawing the locking levers 6 upward and

radially inward, the ends of the locking levers 6 being thereby disengaged from the shoulder or shoulders 7, whereupon the door 2 may be moved or swung away from the opening in the retort head, to permit access to the retort.

Modifications may be made in the embodiment specifically illustrated and described, without departing from the spirit of the invention.

What is claimed is:—

1. Fastening means comprising a plurality of levers, means for simultaneously rocking said levers and advancing them substantially in the direction of their length, said means comprising a threaded shaft extending through the door to the inner side, a threaded part in said door with which said shaft engages, and a part on the inner side of the door axially movable by said shaft, said levers being pivoted to said axially movable part, said simultaneous movement of said levers acting to bring them successively into their engaging and binding positions, and vice versa, acting to bring them successively out of their binding and engaging positions.

2. Fastening means comprising a plurality of levers, means for simultaneously rocking said levers and advancing them substantially in the direction of their length, said levers having a sliding pivotal mounting upon said door, said means comprising a threaded shaft extending through the door to the inner side, a threaded part in said door with which said shaft engages, and a part on the inner side of the door axially movable by said shaft, said levers being pivoted to said axially movable part, said simultaneous movement of said levers acting to bring them successively into their engaging and binding positions, and vice versa, acting to bring them successively out of their binding and engaging positions.

3. Fastening means comprising a plurality of levers, means for simultaneously rock-

ing said levers and advancing them substantially in the direction of their length, said means comprising a threaded shaft extending through the door to the inner side, a threaded part in said door with which said shaft engages, and a part on the inner side of the door axially movable by said shaft, said levers being pivoted to said axially movable part, said simultaneous movement of said levers acting to bring them successively into their engaging and binding positions, and vice versa, acting to bring them successively out of their binding and engaging positions, said axially-movable part and the ends of the levers connected thereto, being moved in a direction away from said door to bring said levers into engaging and binding position.

4. Door fastening means comprising a plurality of levers made in the shape of a bell-crank and slotted near their outer ends, pivots on the inside of a door for said levers, said levers being adapted to move longitudinally, as well as rock on said pivot, when the inner ends of the levers are moved in or out, a nut to which the inner ends of the levers are pivotally connected, a threaded shaft on which said nut is swiveled, and a threaded part upon the door in which said shaft turns.

5. Door fastening means comprising a plurality of levers made in the shape of bell cranks, and axially movable means for simultaneously rocking said levers and advancing them substantially in the direction of their length, said simultaneous movement of said levers acting to bring them successively into their engaging and binding positions.

In witness whereof, I have hereunto signed my name.

FRANK LOUIS MILLER.

Witnesses:

BROOKS E. SHEA,
LOUISE CREED.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."