

(No Model.)

P. F. DUNDON.

DISCHARGE DOOR FOR STEAM DIGESTERS AND RETORTS.

No. 418,867.

Patented Jan. 7, 1890.

FIG. 1.

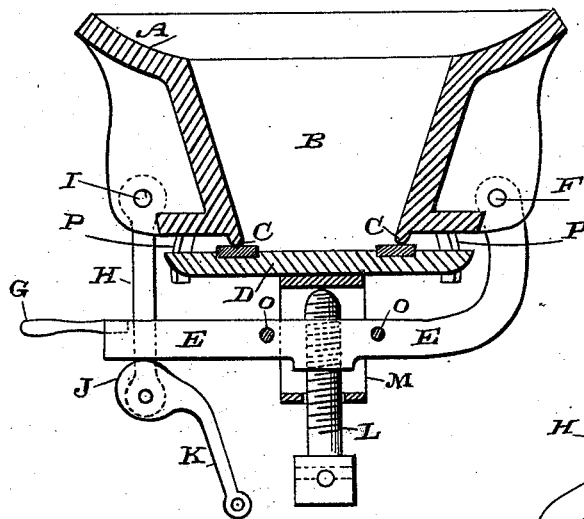


FIG. 3.

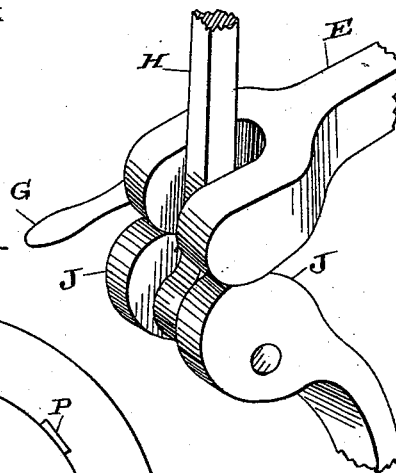
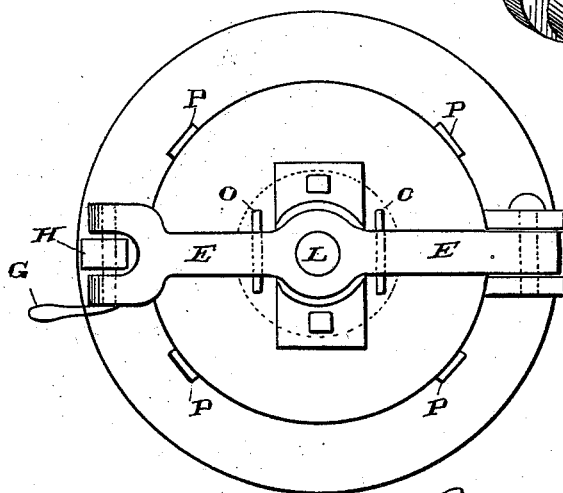


FIG. 2.



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# UNITED STATES PATENT OFFICE.

PATRICK FRANCIS DUNDON, OF SAN FRANCISCO, CALIFORNIA.

## DISCHARGE-DOOR FOR STEAM DIGESTERS AND RETORTS.

SPECIFICATION forming part of Letters Patent No. 418,867, dated January 7, 1890.

Application filed August 21, 1889. Serial No. 321,509. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK FRANCIS DUNDON, of the city and county of San Francisco, State of California, have invented an Improvement in Discharge-Doors for Steam Digesters and Retorts; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a drop bottom or door for discharging the contents of digesters or steam-tanks which are used for rendering lard, tallow, and other like matters.

It consists of a door or bottom suitably fixed to the bottom of the digester, a lever-arm, and a supplemental eccentric-lever for locking the same and the door when closed, and a screw which acts against the door to produce any desired compression upon it after the lever is locked in place, together with certain details of construction.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view showing a section of the bottom of the tank or digester with the drop bottom or door, the lever, eccentric, and screw by which it is held in place. Fig. 2 is a bottom view of the same. Fig. 3 is a perspective view of a part of the lever, link, and eccentric.

The tank or digester may be made in any suitable or desirable shape to suit the work to be done, the bottom being preferably slightly depressed or concave, as shown at A, and terminating in a conical discharge-opening B. Around the bottom of this opening is a suitably-shaped projecting bead C, against which the door or bottom D is fitted to close.

A groove or channel is cut in this bottom corresponding with the projecting bead C, and within this is fitted a gasket of lead or other suitable soft material, which may be melted in, and the upper surface afterward faced off so as to make a joint with the projecting bead when the door is closed against it.

E is a curved arm or bar, hinged at one side to the bottom of the digester, as shown at F, and curving from this point downward below the door D and extending straight across beneath said door, being provided at its outer end with a suitable handle G, by which to move it.

H is a link hinged to the opposite side of

the digester, as shown at I, and having its lower end adapted to receive an eccentric J, which is pivoted to the link, or, if preferred, between the two straps H, which may be used in place of the single one. The eccentric J has an arm or extension K, which serves as a lever by which to turn it. The link H, swinging on its pivot I, is swung beneath the lever-arm E after the latter has been brought up into position beneath the door D. Through the center of the arm E extends a screw L, the point of which is adapted to press against the central portion of the door D, and this screw holds the door in place when the arm E has been brought up to the proper position, so that the link H is swung beneath it. The arm K of the eccentric J is turned so as to present the lowest portion of the eccentric beneath the arm E, and after the link H is in place the lever K is turned so as to cause the eccentric to act upon the arm E and force it upward, so that acting upon the bottom D it will force the latter into close contact with the bottom of the tank or digester. This bottom may be forced as tightly against the bead C as may be desired by turning the screw L after the bar E has been locked in place by the eccentric J, thus providing a simple and rapid means for closing and locking the bottom of the digester.

When the work has been completed within the digester and it is necessary to discharge it, this is effected without loosening the screw L or any necessity of going beneath the digester by simply drawing the lever-arm K backward, so that the eccentric will be turned and release the bar E, the eccentric being slipped away so as to allow the bar E and the drop-bottom D to fall away, thus allowing the contents of the digester to be discharged.

The door D is secured to the bar E by means of a bracket M, which is bolted to the door and extends down around the bar E, as shown, the screw L passing through an opening in the bracket and through the bar E, as above described, so that the whole may drop and may be lifted together without being separated from each other. Pins O prevent the bracket and door from moving out of place, and guides P, projecting down from the bottom flange, keep the door in the proper position when being closed.

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

1. The digester or tank having the conical  
5 or tapering discharge with the projecting  
bead, in combination with the door and gasket  
fitting against the said bead, a lever-arm  
hinged to one side of the digester, extending  
across and beneath the door, and having a  
10 screw passing through its center so as to bear  
against the door, the swinging link, and the  
locking-eccentric, substantially as described.
2. A digester or tank having a conical dis-  
charge and projecting bead, and the door  
15 having a gasket and adapted to fit against  
said bead so as to form a tight joint, in com-  
bination with an arm or lever hinged to one  
side of the digester, extending across beneath

it, a screw passing through an arm so as to  
bear against the center of the door, and a 20  
yoke or bracket whereby the door is loosely  
connected with the arm, a swinging link at-  
tached to the opposite side of the digester, and  
an eccentric journaled in said link and adapt-  
ed to swing beneath the front end of the lever- 25  
arm, said eccentric having an arm or exten-  
sion whereby it may be turned so as to lock  
or release the lever-arm and the door when  
closed, substantially as described.

In witness whereof I have hereunto set my 30  
hand.

PATRICK FRANCIS DUNDON.

Witnesses:

CHAS. D. WHEAT,  
S. H. NOURSE.