

(No Model.)

H. RALL.

LARD AND OIL RENDERING TANK.

No. 318,502.

Patented May 26, 1885.

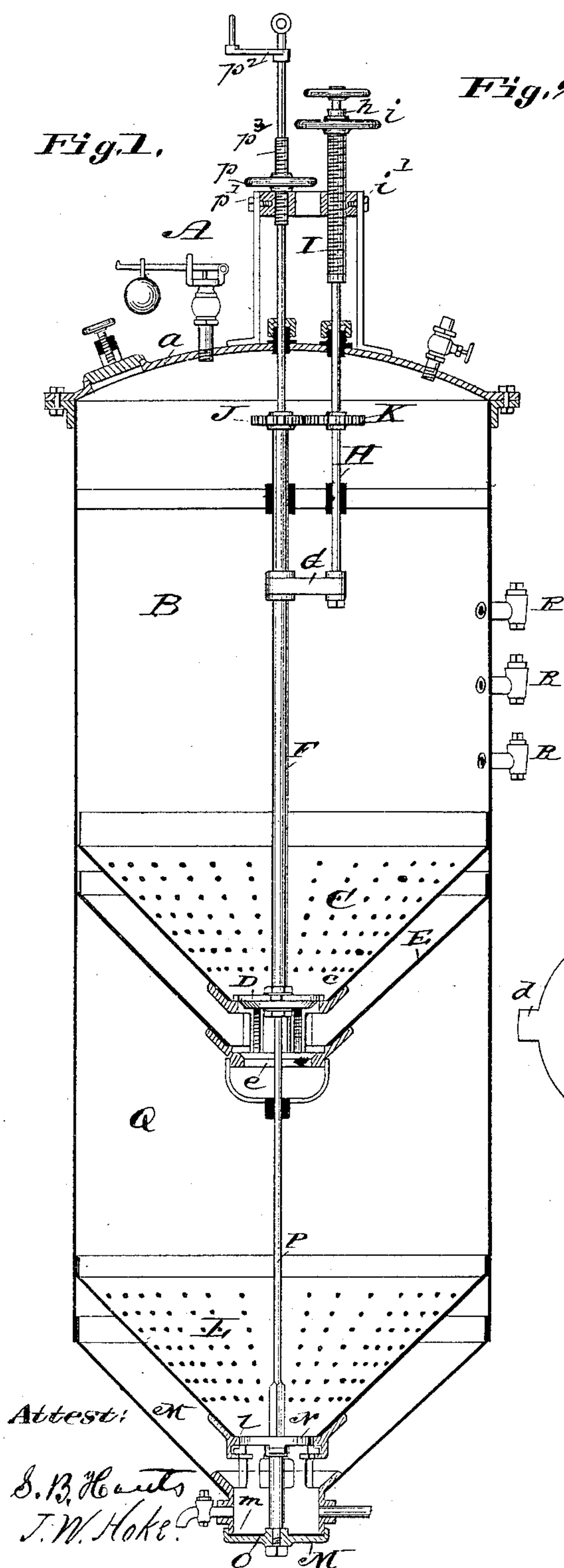


Fig. 2.

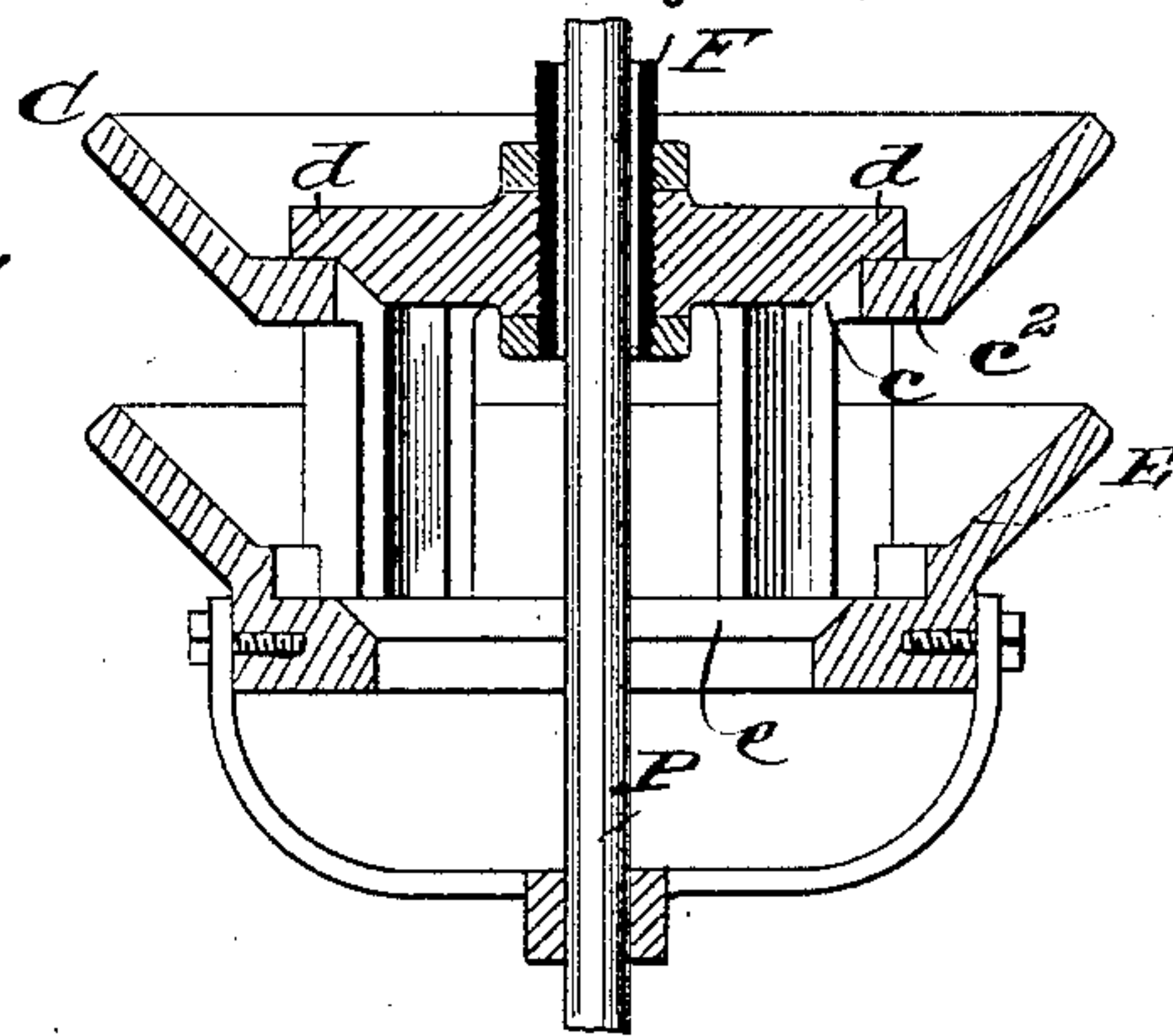


Fig. 3.

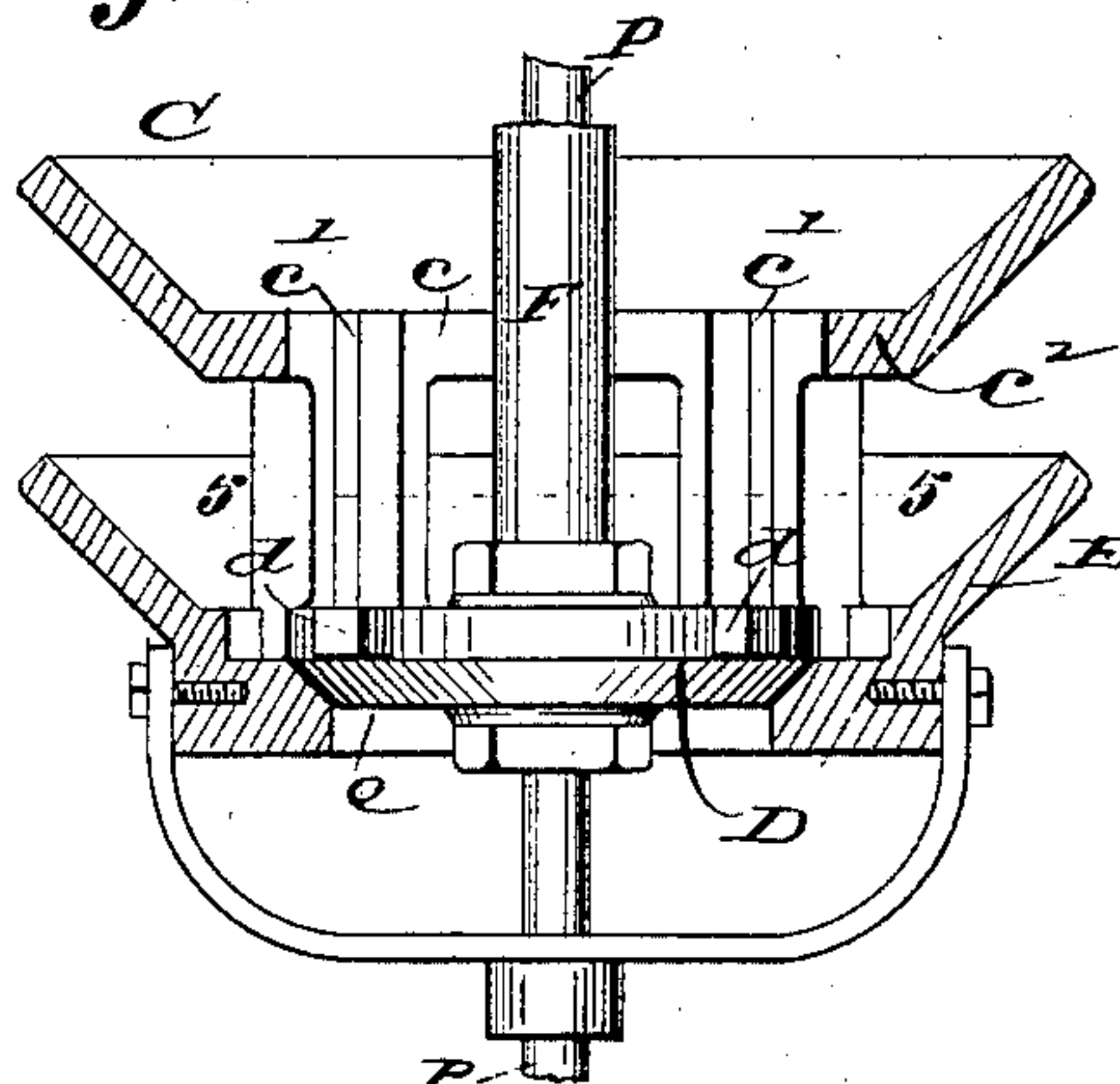


Fig. 4.

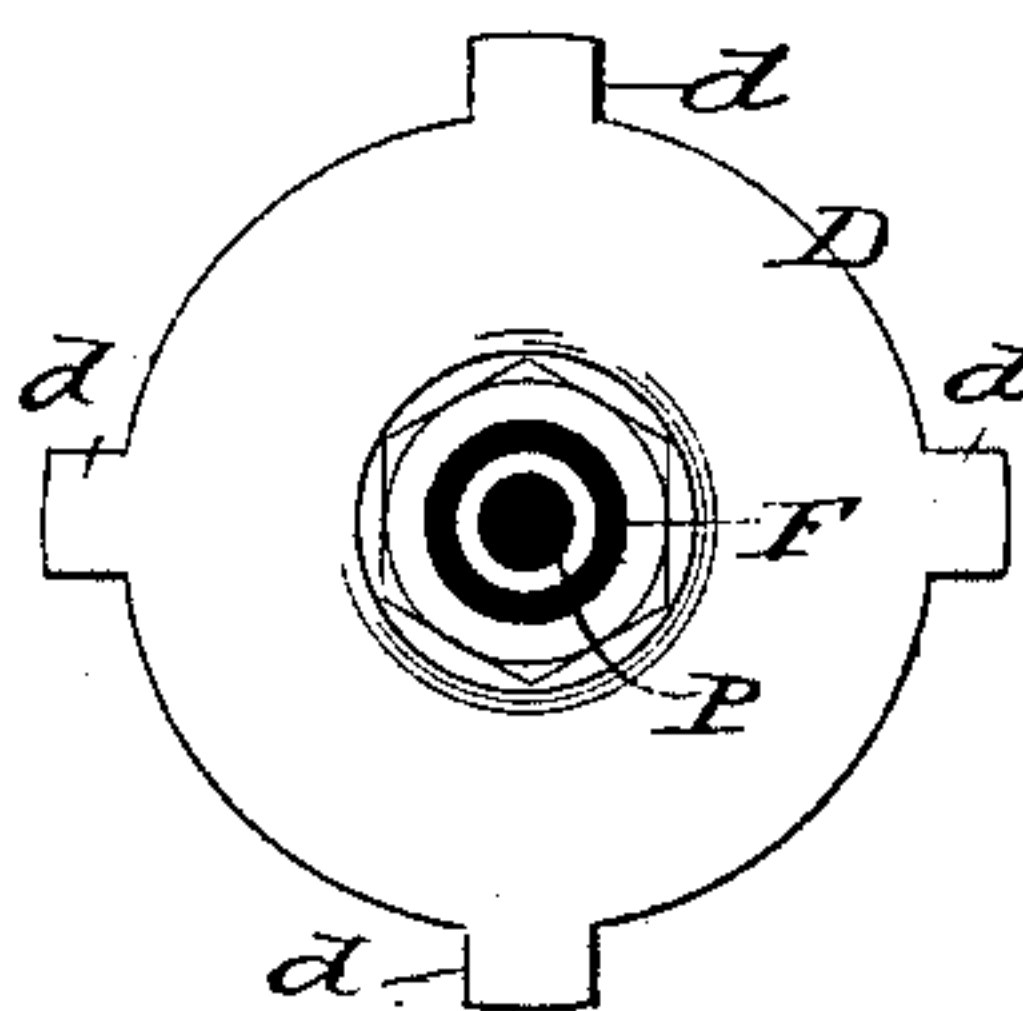
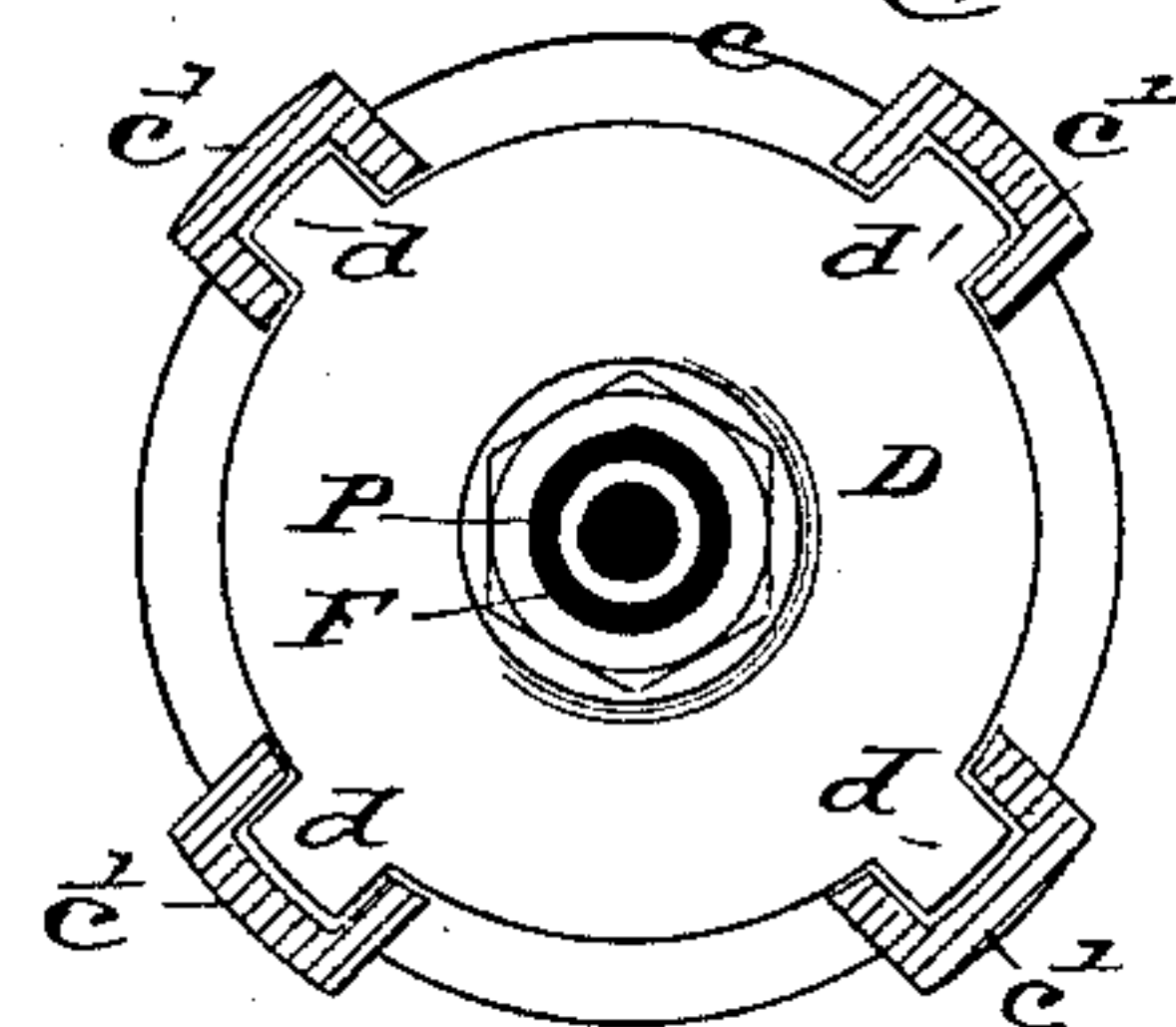


Fig. 5.



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HENRY RALL, OF ST. LOUIS, MISSOURI.

LARD AND OIL RENDERING TANK.

SPECIFICATION forming part of Letters Patent No. 318,502, dated May 26, 1885.

Application filed August 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY RALL, of St. Louis, Missouri, have made a new and useful Improvement in Lard and Oil Rendering Tanks, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a central vertical section of the improved tank, and Figs. 2 to 5 details upon an enlarged scale, Fig. 2 being a vertical section of the valve and the parts immediately therewith connected used in separating and connecting the upper and lower compartments of the tank, the valve being lifted as when the watery portion of the contents of the upper compartment are being discharged into the lower compartment; Fig. 3, a view similar to that of Fig. 2, the valve being seated as when the two compartments are to be entirely separated; Fig. 4, a top view of the valve above named, and Fig. 5 a longitudinal section on the line 5 5 of Fig. 3.

The same letters of reference denote the same parts.

The present invention consists, principally, in dividing a lard, oil, or similar tank, in which lard, &c., is rendered, into two compartments, an upper compartment and a lower compartment, the upper compartment being for the retention of the lard and the lower compartment being for the reception of the water and the residue from the rendering operation, and which, after the rendering, are drained and dropped from the upper compartment into the lower compartment, leaving the lard in the upper compartment thence to be drawn off while the lower compartment and its contents are being washed out preparatory to a second operation.

The improvement also relates to the means by which the tank is divided, and the valve mechanism by which communication between the two compartments is established, cut off, or regulated.

A, Fig. 1, represents a lard, oil, or other tank in which the improvement is embodied. With the exception of its improved features, the tank is of the customary form and similar to one patented by me January 8, 1884.

B represents the upper compartment, in

which are placed the materials from which the lard, &c., is prepared. The materials during the rendering are supported upon the perforated bottom C and the valve D. The bottom is preferably of the conical tapering form shown, and it has an opening, *c*, through which the valve D works. Beneath the perforated bottom C, at a short distance, is another bottom, E, which is imperforate saving the opening *e*, which can be closed by lowering the valve D to seat at the opening, as shown in Fig. 3. The valve D is attached to the stem F. An arm, G, connects the stem F with a rod, H, which extends from its point of connection with the arm G upward through the roof *a* of the tank, and through a screw, I, which is adapted to be screwed, by means of its handle *i*, upward and downward through the bearing *i'*, which rests upon the tank. The upper end of the screw bears upward against a shoulder, *h*, upon the rod H. When then the screw is worked upward in its bearing, the valve D is lifted, and when the screw is worked downward the valve D is lowered. The valve D can be upheld upon the perforated bottom C, so that a strain upon the valve-stem F is avoided, as follows: The valve is provided with lugs *d d*, Figs. 2, 3, 4, 5, which, as the valve is raised, pass upward through corresponding recesses, *c' c'*, in the seat *c*, which surrounds the opening *c*. After the valve has been lifted sufficiently to clear the seat, it is rotated so as to bring the lugs *d d* out of coincidence with the recesses, and then lowered to rest upon the seat, as shown in Fig. 2. To lower the valve, it must first be turned around back again to bring the lugs above the recesses.

The rotation of the valve is effected as follows: The stem F is provided with a gear, J, which engages with a gear, K, on the rod H. By turning the rod H around within the screw I and arm G the gear J and valve D are rotated as desired. The gears J K rise and fall with the stem F and rod H, respectively, as the valve D is lifted and lowered.

The tank at its lower end is preferably constructed as in my Letters Patent above named, there being an inner perforated bottom, L, above the outer imperforated bottom, M, and two valves, N O, attached to the rod P, by

raising and lowering which the valves are caused, respectively, to close and open the apertures $l m$ in bottoms $L M$, respectively. The rod P passes upward through the valve-stem F , which for that purpose is made tubular, and through the roof of the tank, substantially in the customary manner. The nut p , which is adapted to bear upon the bearing p' , and which engages with the threaded portion p^3 of the rod P , serves to raise and lower the rod P and valves $L M$, as described, and by means of the handle p^2 the rod P and valves $L M$ can be turned around as in the original construction above named.

The operation of the improvement is as follows: The materials from which the lard, &c., is to be made are placed, as stated, within the upper compartment upon the bottom C and valve D . The steam and water for the rendering are introduced into the tank in the ordinary manner. After the lard has been prepared the valve D is (by raising or lowering the valve) unseated from its position shown in Figs. 1, 2, and the residue is allowed to sink into the lower compartment, Q , of the tank. The water bath within the tank, however, operates to float the lard and retain it in the upper compartment. After the residue has been thus separated from the lard, the valve D is lowered to close the opening e in the bottom E . Communication between the two compartments is now wholly cut off, the lard being in the upper and the residue in the lower compartment. The lard is then drawn off by means of the cocks from the upper compartment, and meanwhile the residue can be washed out from its lower compartment and that compartment cleansed preparatory to a second rendering. This in effect increases the capacity of the tank; but the chief advantage from the improvement is that much less of the lard is wasted in the present mode of

rendering than when the residue and the lard are drawn off from the same compartment.

I claim—

1. A lard-tank having an upper and a lower compartment, as and for the purpose described.

2. The herein-described improved mode of rendering lard, which consists in precipitating the residue from the chamber containing the lard before drawing off the lard.

3. A lard-tank having an upper and a lower compartment, said compartments being separated by means of the perforated bottom, the closed bottom, and the valve, substantially as described.

4. The combination of the tank A , the valve D , the stem F , the arm G , the rod H , the screw I , and the bearing i , substantially as described.

5. The combination of the tank A , the valve D , the bottom C , the stem F , the arm G , the rod H , and the gears $J K$, substantially as described.

6. The combination of the tank A , the valve D , the bottom C , the stem F , the arm G , the rod H , the screw I , the bearing i , and the gears $J K$, substantially as described.

7. The combination, in the tank A , of the perforated bottom C , the imperforated bottom E , the valve D , the stem F , and the upper and lower compartments, $B Q$, substantially as described.

8. The combination, in the tank A , of the upper and lower compartments, $B Q$, the valve D , the valve-rod P , and the tubular valve-stem F , substantially as described.

Witness my hand.

HENRY RALL.

Witnesses:

C. D. MOODY,
J. W. HOKE.