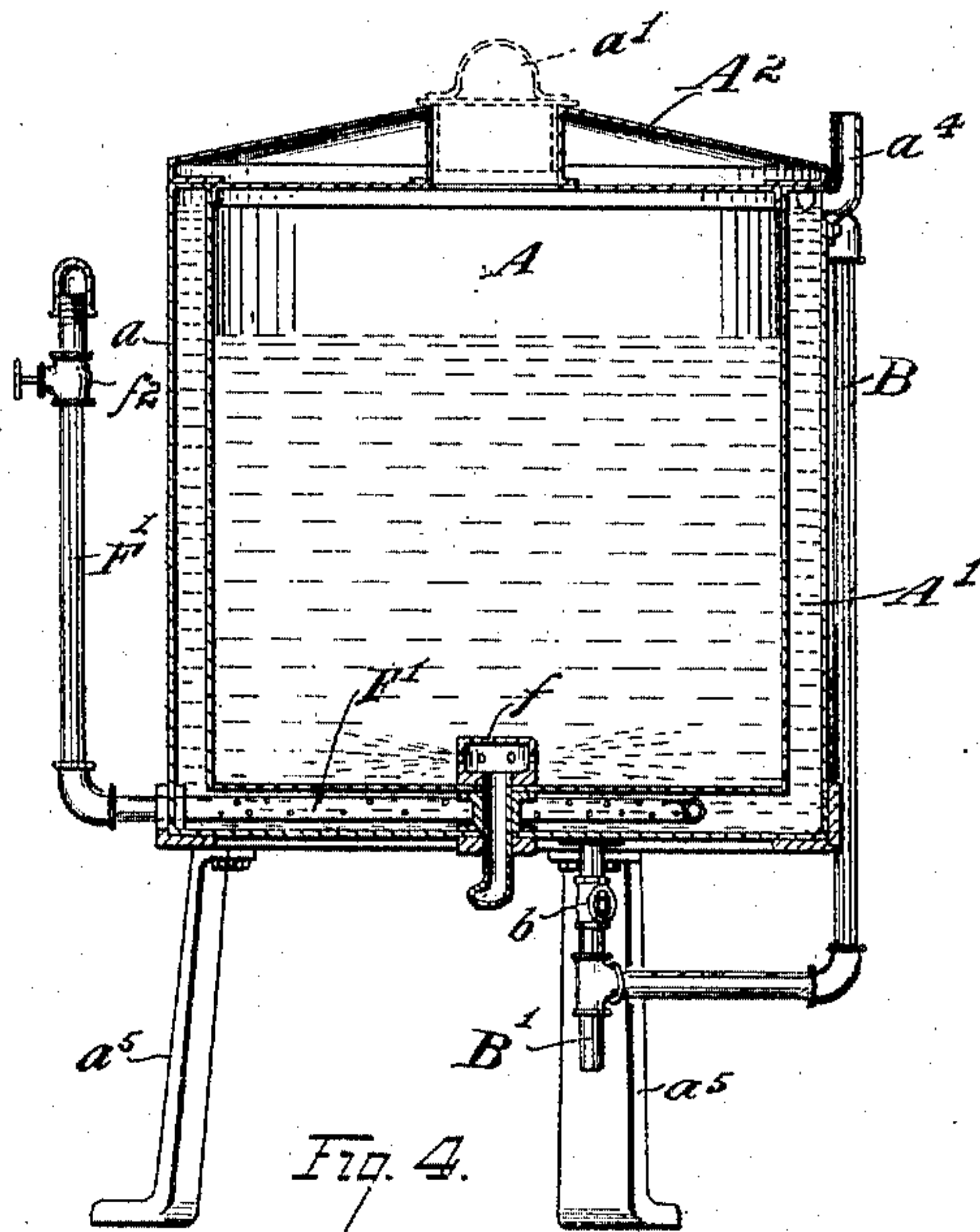
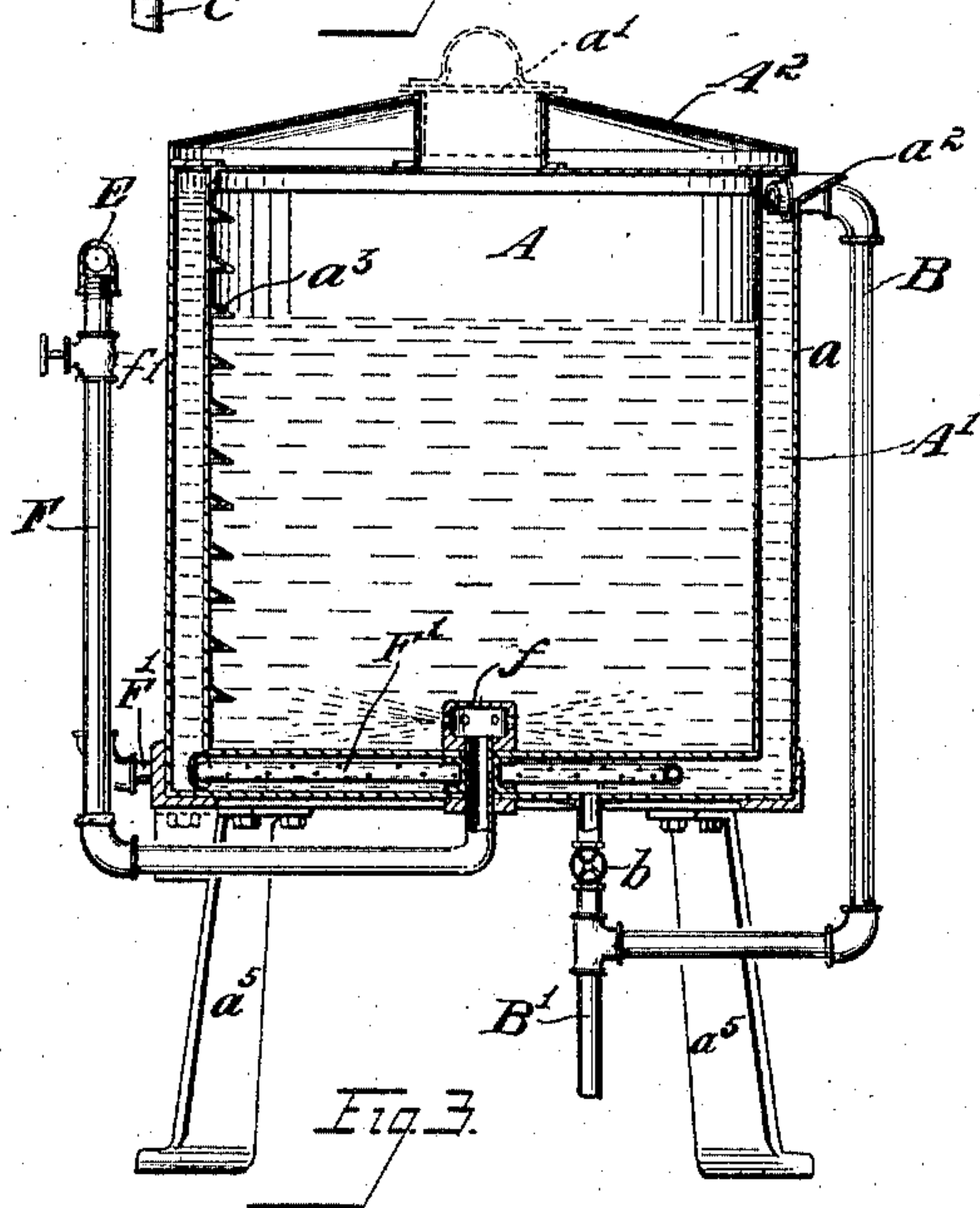
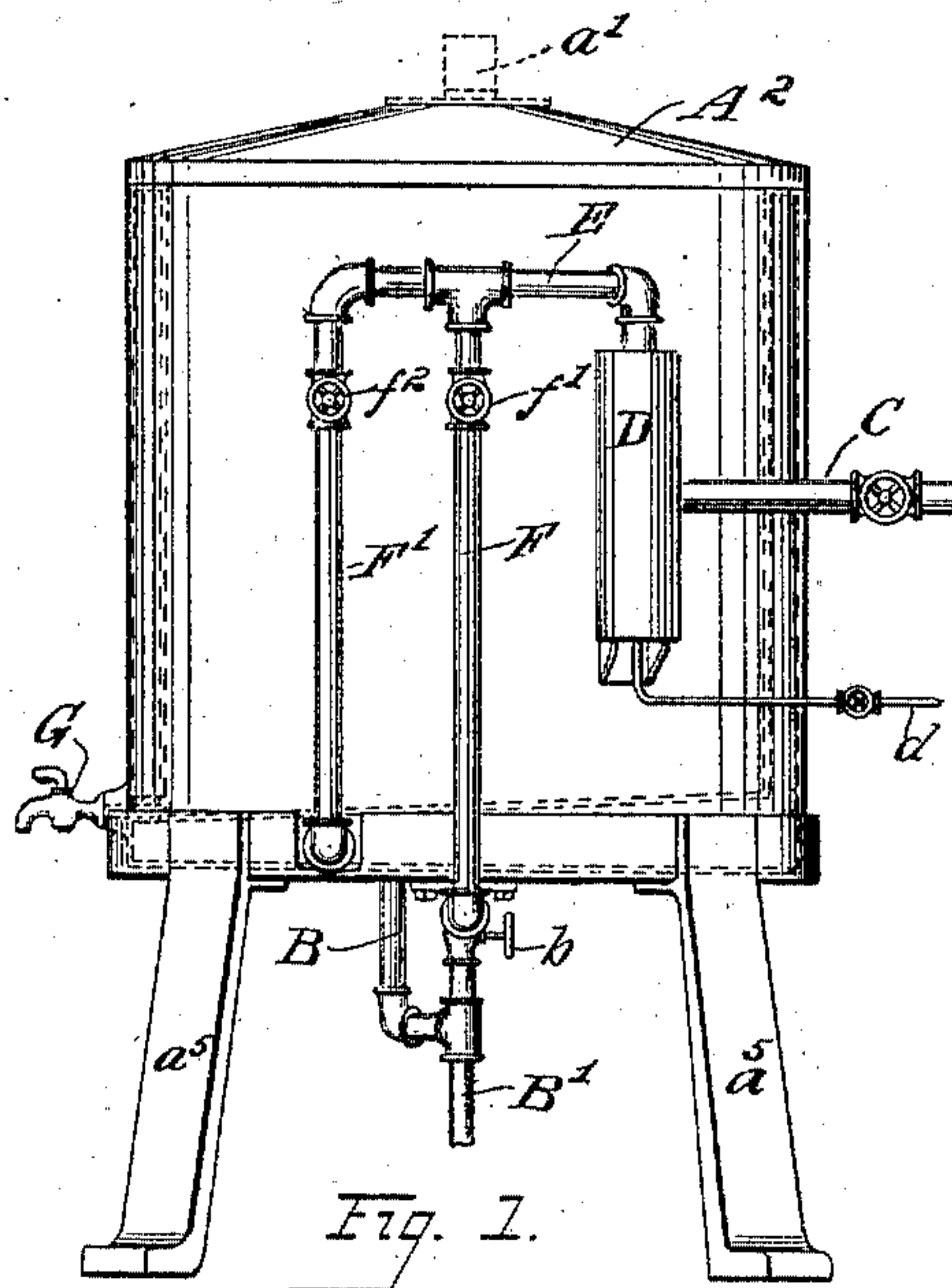
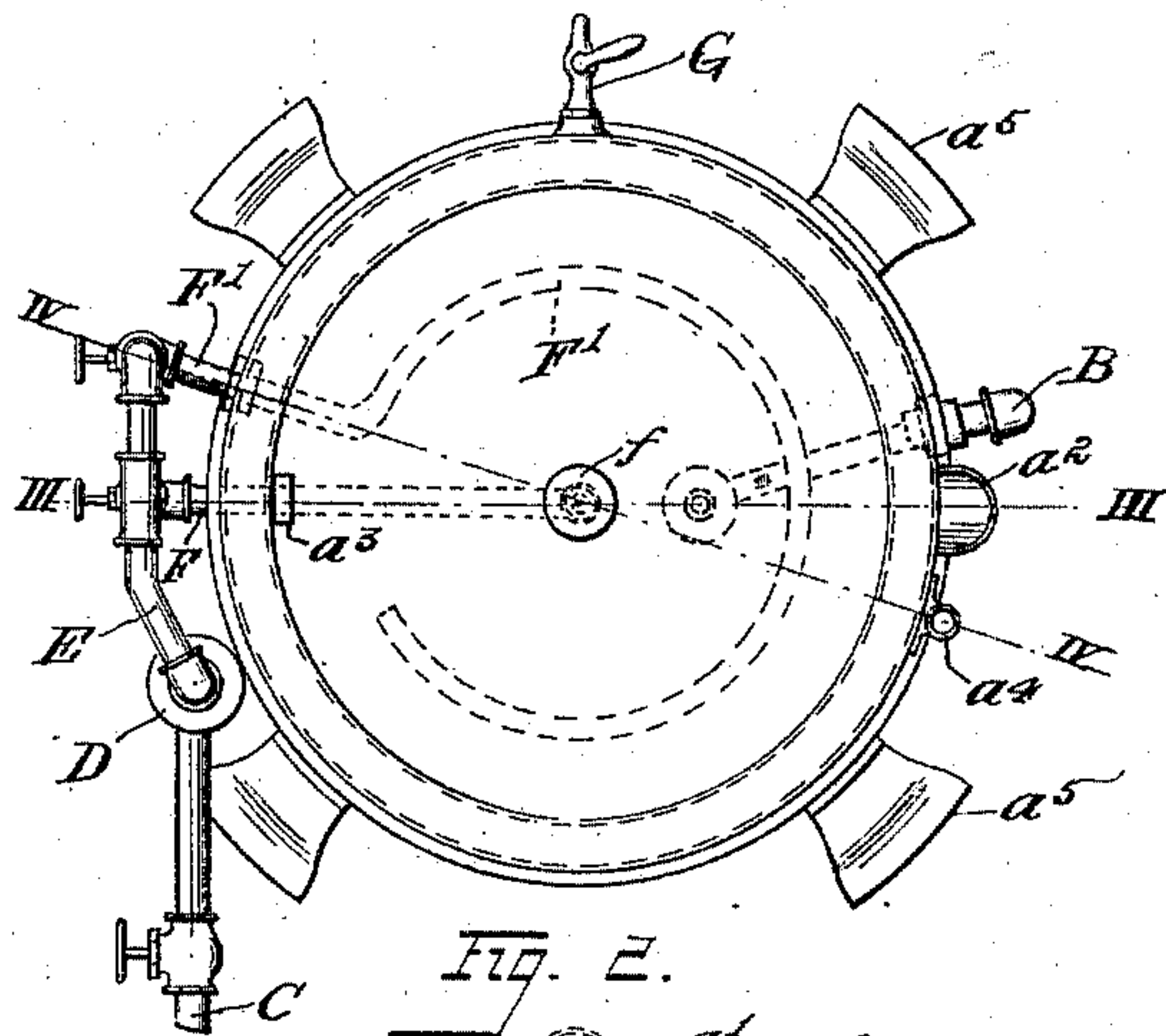


J. P. SHUPE.
HEAT RETAINING STARCH COOKER.
APPLICATION FILED JAN. 27, 1909.

967,451.

Patented Aug. 16, 1910.



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UNITED STATES PATENT OFFICE.

JOHN P. SHUPE, OF CLEVELAND, OHIO.

HEAT-RETAINING STARCH-COOKER.

967,451.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed January 27, 1909. Serial No. 474,408.

To all whom it may concern:

Be it known that I, JOHN P. SHUPE, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Heat-Retaining Starch-Cookers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to heat-retaining starch cookers for steam laundries, and its object is to provide a structure wherein a batch of starch of a required consistency may be prepared for such laundry purposes and such consistency thereof maintained indefinitely thereafter.

The said invention consists of means hereinafter fully described and particularly set forth in the claims.

The annexed drawing and the following description set forth in detail certain means embodying the invention, the disclosed means, however, constituting but one of various forms in which the principle of the invention may be applied.

In said annexed drawings:—Figure 1 is a front elevation of the device embodying my invention. Fig. 2 is a plan of such device with cover removed. Fig. 3 is a vertical axial section taken upon the plane indicated by line III—III in Fig. 2. Fig. 4 is a vertical axial section taken upon the plane indicated by line IV—IV, Fig. 2.

Referring to the drawing, A is a receptacle for receiving the starch mixture, having suitable legs a^5 , and which is provided by means of an exterior shell a with a water jacket A' which surrounds the receptacle laterally and at the bottom, as is shown. A removable cover A² is provided for closing the top of the receptacle and this cover in turn is provided with a removable auxiliary closure a' by means of which an opening may be provided in the latter while in place on the top of the receptacle. A spout a^2 is provided, by means of which water may be poured into the jacket, as will be understood, and a vent pipe a^4 is also provided which communicates with the interior of the jacket and by means of which any steam which may form therein is permitted to escape. A drain pipe B taps the upper portion of the water jacket, extends downwardly and then laterally and connects with a drain pipe B'.

This latter drain pipe taps the bottom of the jacket and is provided with a valve b located above the point at which the pipe B connects therewith. A constant open communication is therefore provided between the top of the water jacket and the drain pipe B', and by opening the valve b the entire contents of the water jacket may be discharged, as will be readily understood.

A main steam pipe C discharges into a header D, in which latter the water in the steam is permitted to separate itself and be conducted away by means of the drain pipe d , Fig. 1. The dry steam passes out of the header into a pipe E. With this latter pipe are connected a steam duct F and a steam duct F'. The duct F extends beneath the receptacle and upwardly through the water jacket and into the interior of such receptacle. The inner end of this steam duct F is provided with a laterally perforated nozzle f , by means of which steam may be introduced into the interior of the receptacle. A valve f' controls the flow of steam through this nozzle. The duct F' extends into the water jacket and beneath the receptacle as shown in Figs. 3 and 4. This inwardly projecting portion of this duct is elongated and in the form of a coil, as shown in dotted lines in Fig. 2. This elongated portion is laterally perforated to form a discharging nozzle by means of which steam may be discharged into the water jacket. A suitable valve f^2 controls the flow of steam through the duct F'.

The bottom of the receptacle A is inclined as shown in dotted lines in Fig. 1 and a discharge faucet G is connected with the outer end of a short pipe passing through the water jacket and communicating with the lowermost part of the receptacle, whereby the contents of the latter may be completely drained, if desired.

Upon the interior of the receptacle are fixed a plurality of horizontal projections a^3 located in successive horizontal planes and are preferably equidistant from each other, placed vertically above one another and arranged to indicate five gallons and multiples thereof. Each of these projections is provided with an upper inclined portion, the inclination being as shown downwardly from the side of the receptacle and inwardly thereof. These inclined surfaces are provided with suitable figures (not shown) which may be engraved or otherwise formed

thereon. These figures indicate the volume of the receptacle at the planes in which the lower surfaces of the horizontal portions of the receptacle lie. The inclined surface which carries the numeral or figure, permits the latter to be readily observed from above and without the receptacle and this indicator being in the nature of a projection permits of the coincidence of the surface of the liquid and the lower surface of the horizontal portions of the projections to be readily observed.

In operation, the water jacket is filled with water and steam turned into same, in order to heat it. A quantity of water less than that required to make the batch of starch mixture is now introduced into the receptacle A and the steam permitted to discharge through the nozzle *f* and boil such water, the cover being in place during such operation, with the auxiliary closure *a'* removed. A quantity of the boiling water is then withdrawn through the faucet G and discharged into the dry starch, this quantity being made sufficient to dissolve the starch. This solution is then poured into the receptacle and the whole boiled until the starch is thoroughly cooked, the cover being on the receptacle as before, with the auxiliary closure *a'* removed. The additional water now required to make the mixture of the proper consistency is then added and the indicating devices *a''* utilized to procure the exact amount of such additional water required.

To illustrate the manner of using my invention more specifically:—It has been found that in order to make twenty-five gallons of the proper starch mixture, it requires twenty-two lbs. of dry starch. In order to make a batch of this quantity, about fifteen gallons of water are first introduced into the receptacle and boiled, as in the manner above described. After this water is boiled, a quantity is drawn off and run on to the twenty-two lbs. of dry starch, such that the latter may be completely dissolved therein. Such dissolving having been effected, the solution is then poured back into the receptacle and thoroughly boiled by means of introduced steam, as previously described. A further quantity of water is then added to the mixture until its upper surface reaches that projection which indicates twenty-five gallons. In this manner, a mixture is obtained which contains the exact proportions of starch and water required to give the desired predetermined consistency to the product. The steam is then shut off from the duct F, the auxiliary closure *a'* replaced and the steam permitted to con-

tinue to flow into the water jacket in order to maintain a constant temperature of the water therein. This maintains the starch mixture at a constant temperature and all evaporation thereof is prevented by means of the cover A². In this manner, the consistency of the mixture in the receptacle always remains the same and does not change by reason of a change of temperature thereof, the maintenance of such constant consistency being essential in laundry practice, as is well known by those skilled in the art.

What I claim therefore and desire to secure by Letters Patent is:—

1. In a device of the character described, the combination of a receptacle provided with an outer surrounding water jacket free from communication with the interior of said receptacle, but having free communication with the atmosphere; a steam duct discharging into the interior of said receptacle; an elongated steam duct projecting into said water jacket and having lateral perforations along substantially its entire length; and a removable cover for said receptacle.

2. In a device of the character described, the combination of a receptacle provided with an outer water jacket surrounding its sides and bottom and free from communication with the interior of said receptacle, but having free communication with the atmosphere; a steam duct discharging into the interior of said receptacle; a steam coil provided with lateral perforations projecting into said jacket and beneath the bottom of said receptacle; and a removable cover for the latter.

3. In a device of the character described, the combination of a receptacle provided with an outer water jacket surrounding its sides and bottom, and having said bottom inclined; said jacket being free from communication with the interior of said receptacle, but having free communication with the atmosphere; a steam duct discharging into the interior of said receptacle; a steam duct discharging into said jacket; a removable cover for the receptacle; a valve-controlled drain pipe communicating with the bottom of the water jacket; an overflow pipe communicating with the upper portion of the jacket and with said drain pipe, and below the valve therein; and valves for controlling the flow of steam through said steam ducts.

Signed by me, this 25 day of January, 1909.

JOHN P. SHUPE.

Attested by—

WM. ROTHENBERG,
WINIFRED WALTZ.