A. GRUENSTERN.

WASHBOILER.

APPLICATION FILED JUNE 4, 1913.

1,103,671. Patented July 14, 1914.

Fig. 1.

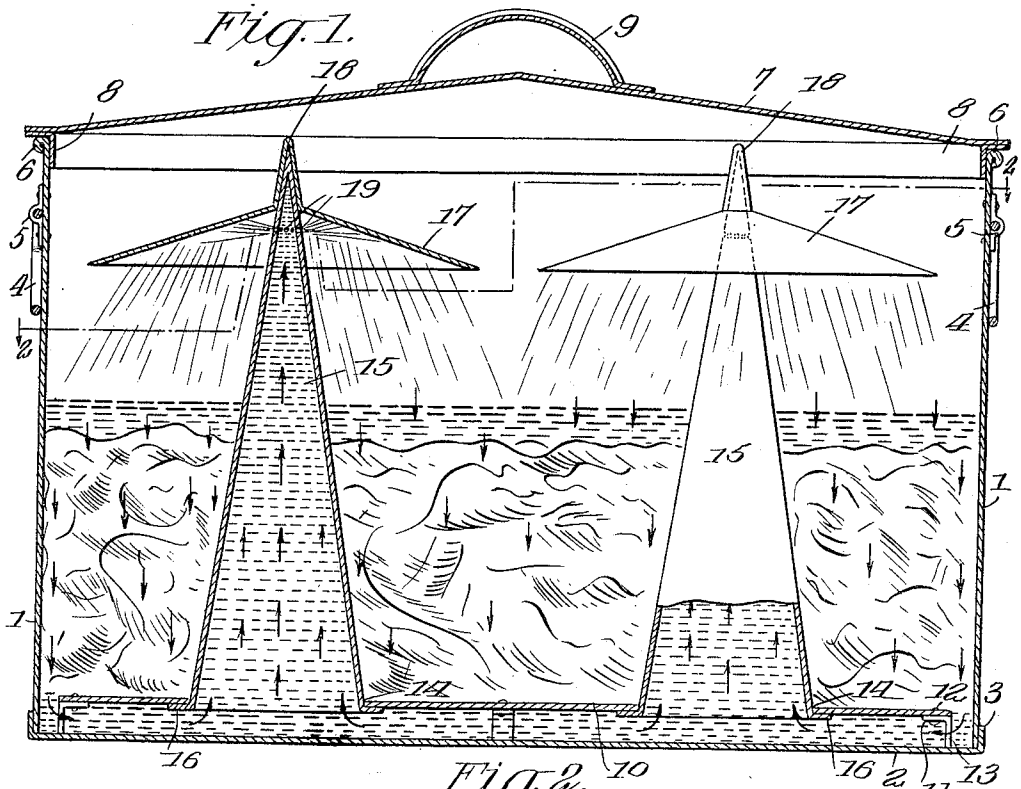
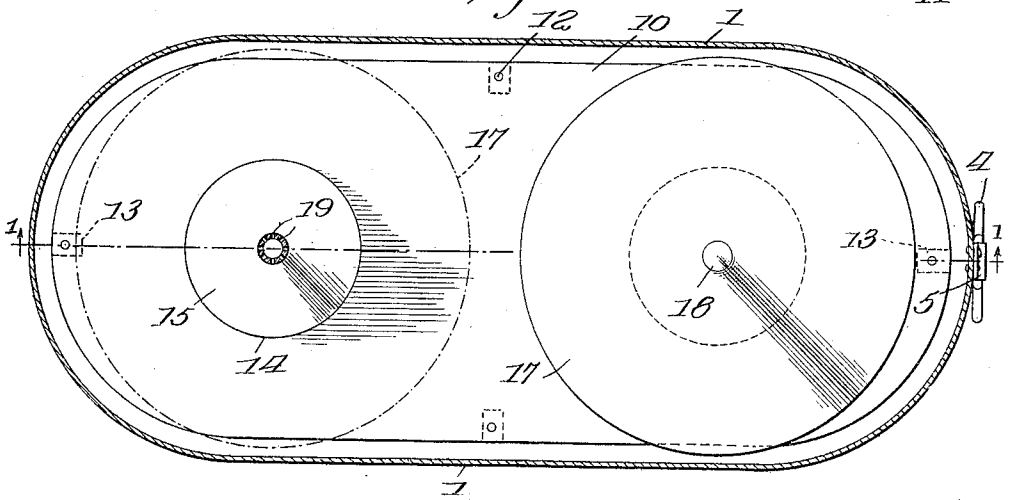


Fig. 2.



WITNESSES

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WASHBOILER.

1,103,671. Specification of Letters Patent. Patented July 14, 1914.

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To all whom it may concern:

Be it known that I, ALBERT GRUENSTERN, a citizen of the United States, and a resident of Everett, in the county of Snohomish and State of Washington, have invented a new and useful Improvement in Washboilers, of which the following is a specification.

My invention is an improvement in wash boilers, and has for its object to provide a boiler of the character specified, wherein means is provided for cleansing clothing mechanically by the circulation of liquid holding in solution a cleansing medium.

In the drawings:—Figure 1 is a section on the line 1—1 of Fig. 2, and Fig. 2 is a section on the line 2—2 of Fig. 1.

The present embodiment of the invention is shown in connection with a boiler of usual form, comprising a body or side wall 1, of elliptical form, having a bottom 2 provided with a continuous marginal flange 3, lapping upon the outer face of the side wall at the lower end thereof, and soldered to the side wall or body of the boiler. The body of the boiler is provided at its ends with handles 4, journaled in bearings 5, secured to the boiler body, and the upper edge of the body is beaded as shown at 6. A cover 7 is provided, the said cover having a lateral flange 8, which engages within the beaded upper end of the body, the cover resting upon the said bead as shown. The cover is also provided with a handle 9, for convenience in manipulating the same.

The boiler shown and described is of ordinary construction, and it will be obvious that another form of boiler might be used.

The invention comprises a plate 10, arranged within the boiler and parallel with the bottom 2, but spaced apart therefrom as shown, by means of supporting legs. Each of the said legs is an angular plate, having one of its portions 11 lapping upon the under face of the plate 10, and secured thereto by rivets 12 or the like, and a portion 13 extending at right angles from the plate and engaging the inner face of the bottom of the boiler to hold the plate in the position specified. The plate 10 is provided with a plurality of circular openings 14, the said openings being spaced apart from each other, and near the respective ends of the boiler, and a conical member 15 is connected with the plate at each opening. Each of the said members is provided at its base with a lateral annular flange 16, and each of the said members is passed through the opening, the flange 16, engaging the under face of the plate. The flange may be soldered to the plate if desired, or may be secured thereto in any other suitable manner. A concavo-convex disk 17 is connected with each of the conical members, each of the said disks being of frusto-conical form as shown. Each disk is provided with an integral cap 18 at the small end thereof, the said caps being shaped to fit the apices of the conical members 15. The disks are of greater diameter than the conical members at their bases and extend beyond the bases of the members as shown. Each of the conical members 15 is provided near its apex with an annular series of openings 19, the said openings being just below the adjacent disks 17. The openings are so placed that when heated water or steam is ejected from the conical member. the said heated water or steam will strike the under or inner face of the adjacent disk, and will be deflected outwardly and downwardly as shown in Fig. 1. The conical members 15, the disks 17 and the caps 18 are supported by the said plate 10, and the entire mechanism may be removed from the boiler when desired. This mechanism, it will be obvious, may be placed in any boiler of elliptical form, and the plate 10 is of such size with respect to the boiler that the edge thereof will be spaced apart from the side wall of the boiler, as shown more particularly in Fig. 2, a sufficient distance to permit the free passage of water, but sufficiently closed to prevent the garments being washed from passing down between the edge of the plate and the boiler.

In use, the boiler is filled with water to about one-half its depth, as indicated in Fig. 1, and the clothing to be washed is placed on the plate 10 around the conical members 15. The disks 17 and the caps 18 may be removed from the conical members to permit the clothing to be inserted. The boiler is heated in any suitable manner, and it will be obvious that that portion of the water below the plate 10 will be more highly heated than that portion above the same, because this portion of the water is at the point more highly heated, being nearer the source of heat and in addition the plate 10 acts to

some extent as a non-conductor of heat, shutting off that portion of the water above the plate from the direct heat. The water within the conical members is not however, so insulated by the plate and that portion of the water within the said members will be heated to a higher degree than the portion outside the same above the plate. Since water when hot tends to rise, the said water will rise faster and higher within the conical members than outside the same, so that the said members will be filled to their tops. The shape of the said members also assists in causing the said members to fill to their tops, that is, to cause the water within the said members to rise to a higher level than outside the same. The water will be forced out through the openings 19, against the inner surface of the disks 17, and will drop back outside the conical members. This water being cooler than that within the conical members will sink gradually beneath the plate, there to be again heated and to again rise. In this manner the water carrying a cleansing medium is passed through the interstices of the clothing, thoroughly removing the dirt, which sinks and rests upon the plate 10, thus further assisting the insulating action of the said plate.

It will be evident that the improved mechanism may be made of any desired shape to fit any form of boiler. The elliptical form of boiler is the form most commonly used, and the plate 10 is shaped to fit this boiler for that reason. The plate 10 is a false bottom, and the conical members are tapering conducting pipes for conducting the water from the space below the false bottom to above the water level. The said pipes provide a constant circulation of water after a predetermined degree of heat is attained.

I claim:—

The combination with the wash boiler, of an imperforate plate of lesser area than the bottom of the boiler and having means for engaging the boiler to support the plate in spaced relation above the bottom of the boiler, a hollow conical member extending upwardly from the plate near each end thereof, each of the said members having a closed top and having openings near its apex, the plate having an opening registering with the base of each of the conical members, and a conical deflector for each conical member, each of the said deflectors having a conical socket at its center for engaging the top of the conical member, said socket being arranged to support the deflector with its concave face downwardly and in position for engagement by the material discharged through the opening of the conical member.

ALBERT GRUENSTERN.

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